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NATIONAL INSTITUTE OF HEALTH
Bulletin No. 163

KEY-CATALOGUE OF PARASITES REPORTED FOR CARNIVORA (CATS, DOGS, BEARS, ETC.)

WITH THEIR POSSIBLE PUBLIC HEALTH IMPORTANCE

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U.S. TREASURY DEPARTMENT
PUBLIC HEALTH SERVICE
WASHINGTON, D.C.

IMPERIAL BUREAU
OF ANIMAL HEALTH.

Stiles
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U.S. TREASURY DEPARTMENT
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December 1934

KEY-CATALOGUE OF PARASITES REPORTED FOR CARNIVORA (CATS, DOGS, BEARS, ETC.) WITH THEIR POSSIBLE PUBLIC HEALTH IMPORTANCE

By

C. W. STILES and CLARA EDITH BAKER

IMPERIAL BUREAU OF ANIMAL HEALTH

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KEY-CATALOGUE

OF

PARASITES REPORTED FOR CARNIVORA (CATS, DOGS, BEARS, ETC.)

WITH THEIR POSSIBLE PUBLIC HEALTH IMPORTANCE[1]

By C. W. STILES, *Medical Director*, and CLARA EDITH BAKER, *National Institute of Health, United States Public Health Service*

INTRODUCTION

Division of labor.—In the present bulletin, which represents part 8 of the host catalogs, assistants have specialized in the preparation of the manuscript as follows:

PROTOZOA, Lucy Reardon, M. A.; *TREMATODA* and *CESTODA*, Mabelle Orleman Nolan, A. M.; *NEMATODA* and *ACANTHOCEPHALA*, Asenath Graves McKnight, A.B.; and Marion M. Farr, A. M.; *ARACHNOIDEA*, Eugenia Cuvillier, A. B.; *INSECTA*, Benjamin J. Collins, M. S.; *CARNIVORA*, Clara Edith Baker, A. M.

In the present article, the key to the hosts (carnivores) is marked with the sign #; the other entries (printed in double column where possible, otherwise with extra indention) refer to the parasites.

The key to the hosts is inserted in order to meet an urgent desideratum in laboratories in which carnivores are studied in respect to their parasitic infections and in which they are used as experimental animals. The systematic literature on carnivores is not readily accessible to parasitologists and bacteriologists and the older nomenclature of the order is so confused that it is frequently difficult for anyone except a specialist in mammalogy to classify these animals.

Dr. Gerrit S. Miller has kindly aided us in tracing various species and references involving obscure records.

How to use the catalog.—See pages 1–4, Bulletin 140, Key-Catalog of the Protozoa reported for man.

The pagination of the present Key-Catalog (Bul. 163) is continuous with that of Bulletin 159.

[1] Manuscript submitted for publication Aug. 26, 1931.

In order to make the text more useful to scientific workers, various abbreviations are used and an effort is made to designate the status of some of the names by use of type, as follows:

CAPS are used for systematic names above the superfamilies.

SMALL CAPS are used for valid, available, and in some cases for dead superfamily names (ending in OIDEA), family names (ending IDAE), and subfamily names (ending INAE).

Larger heavy face type is used for side headings for current generic and specific names of hosts; **slightly smaller heavy face type** is used for side headings for current generic names of parasites.

Italics are used for—

(1) Generic names which have a definitely *valid*, or an *available* status for the species quoted in connection with said generic name, or are considered *sub judice;* i. e., they are not definitely known to be dead.

(2) Specific names which have a definitely *valid*, or at least an *available* status for the animal in question, or are *sub judice;* i. e., they are not definitely known to be dead.

Roman type, lower case, is used for—

(1) Generic names which have a definitely *unavailable* (hence dead) status (as homonyms, or because of advances in classification) in connection with the species quoted with said generic name, especially under the host cited.

(2) Specific names which are definitely *unavailable* (hence dead) for the species in question, especially as applied to the reported occurrence in the host cited.

In order to simplify the lists of technical names, the synonyms—when a considerable number are more or less generally recognized—are placed in footnotes; if the synonyms are only few in number they are cited in the text in order to save expense in printing.

For special information, in connection with some of the names, the following signs and abbreviations are used—*but their absence from any given entry has no significance.*

† In this and the companion key-catalogs to the parasites of animals other than man, the dagger (†) is used before superspecific names to signify that characters, diagnoses, or other data regarding these superspecific groups are to be found in the key-catalogs of the parasites of man; when used before a specific name it signifies that the species in question has been reported for man. Thus the key-catalogs to the protozoa, the worms, and the arthropods of *Homo* are taken as bases for all the companion numbers. Groups not reported under *Homo* are taken as bases for all the companion numbers. Groups not reported under *Homo* are keyed under the order in which is classified the first host for which the parasites are cited in these keys. Thus all parasites in this bulletin are classified under # 407 *CARNIVORA*, p. 922.

* This species has been reported for this host for the United States.

\# This sign refers only to the hosts, and these have serial numbers which are independent of the serial numbers of the parasites.

? Doubts have been expressed or exist as to the name or to the specific or the generic determination.

[ ] The use of brackets around a specific entry signifies that the species has been classified, either as a synonym or otherwise, under the genus cited above but that our card catalog contains no citation of an actual binomial combination with the generic name in question, and the present citation is not to be construed

as a new binomial combination. Brackets around generic names in # host entries are used to distinguish *generic* synonyms from *subgeneric* (parentheses) names under which the specific name has been classified.

♂ Male.

♀ Female.

⚥ Hermaphrodite.

[a] Name is antedated by another available name, hence it is a synonym.

Abd. cav. Abdominal cavity.

[b] Better or preferred name, under present nomenclatorial data.

[c] A variant or changed spelling, used by some authors; it should be eliminated from future literature except in direct quotation or historical data, such as reviews and tables of synonymy.

[d] Dead name; it should be eliminated from future literature except in direct quotation or historical data, such as reviews and tables of synonymy. See also [b], [m], [p].

[e] Emendation of name originally printed with some other spelling.

Etd. or etd. Erroneous type designation, including pseudotype.

Exp. Experimental, experimentally.

Ext. External.

[h] Homonym, hence dead name; see also [d]. Art. 35 (International Rules).

[j] Name or systematic position or host determination is *sub judice* for this species or other unit quoted.

[l] Name used in a broad taxonomic sense (*sensu lato*), as of earlier authors, especially prior to 1870.

[m] Obvious misprint; see [d].

Misdet. Misdetermined.

Mt. or mt. Type by monotypy; i. e., only one definite species was cited at time of original publication of generic name. Same as haplotype, monogenotype, monobasic. Art. 30*c*.

Musc. Muscles or muscular.

[n] No opinion expressed here.

[nv] Not verified.

[o] Objective (absolute) synonym, as in case of renaming a genus or species, or the genus has the same type species as another genus.

[p] Polynomial name, hence dead name; see [d].

Periton. Peritoneum.

q. v. Quod vide, which see.

[r] Name used in restricted taxonomic sense (*sensu restricto*) as of later authors, especially since 1900.

[s] Subjective synonym, generally admitted as such, or at least by some authors.

seu Or.

S. South, or synonym.

So. or so. Synonym of.

Stom. Stomach.

Sub cut. Subcutaneous.

[t] Type species of genus, or type locality.

Tat. or tat. Type by absolute tautonymy. Art. 30*d* (International Rules).

T. h. or t. h. Type host.

Tod. or tod. Type by original designation. Same as orthotype, autogenotype. Art. 30*g*.

Tpd. or tpd. Type by present designation. Art. 30*g*.

Tsd. or tsd. Type by subsequent designation. Same as logotype, idiogenotype. Art. 30*g*.

Tvd. or tvd. Type by virtual tautonymy. Art. 30*i* (International Rules).

v Valid name under International Rules.

Ventric. Stomach.

To trace the names and literature of the parasites, consult the catalogs, etc., mentioned on pages 1–2, of Bulletin 140, Hygienic Laboratory, and also the following Key-Catalogs of the—

Protozoa Reported for Man<Bul. 140, Hygienic Laboratory, 1925.

Worms Reported for Man<Bul. 142, Hygienic Laboratory, 1926.

Crustacea and Arachnoids of Importance in Public Health<Bul. 148, Hygienic Laboratory, 1927.

Insects of Importance in Public Health<Bul. 150, Hygienic Laboratory, 1928.

Parasites reported for *PRIMATES* (monkeys and lemurs) with their possible public-health importance<Bul. 152, Hygienic Laboratory, 1929.

Parasites reported for *CHIROPTERA* (bats) with their possible public-health importance<Bul. 155, National Institute of Health, 1931.

Parasites reported for *INSECTIVORA* (moles, shrews, etc.) with their possible public-health importance<Bul. 159, National Institute of Health, 1932.

To trace the names of the hosts, see especially—

Miller, 1924*a*. List of North American Recent Mammals<Bul. 128, U. S. National Museum.

Palmer, 1904*a*. Index Generum Mammalium<North American Fauna, No. 23.

Sherborn, 1902*a*. Index Animalium, Sectio 1, 1758–1800; 1922a–1929a, Sectio 2, 1800–1850.

Trouessart, 1897*c*. Catalogus Mammalium tam Viventium quam Fossilium.

Trouessart, 1904*c*. Catalogus Mammalium tam Viventium quam Fossilium (supplement).

Carnivora<Zoological Record, 1864 to 1929.

In the side headings for the hosts, the synonymy is shown in condensed form; for instance (see p. 1126)—

♯483 **Fennecus** [or *Megalotis*, Vulpes [h]] (*Megalotis*) **zerda** (Zimm., 1780, Geograph. Geschichte, v. 2, 247 [Canis [1]]) Lesson, 1842, 39

shows that the species known as *zerda* Zimm., 1780, was originally proposed as Canis [1], was transferred by Lesson, 1842, 39, to *Fennecus*, has been classified generically also in *Megalotis* and Vulpes [h], and subgenerically in *Megalotis*.

We have endeavored, by use of [ ] and ( ), to avoid making new combinations of host names.

Classification.—In preparing the classification and keys to the carnivora we have consulted a great mass of the world's literature. For lists and summaries, see especially the following:

Gill, 1872*a*, Arrangement Families Mammals<Smiths. Misc. Coll., no. 230.

Miller, 1912*a*. Catalog of the Mammals of Western Europe, *CARNIVORA*, pp. 283–480, figs. 50–100.

Miller, 1924*a*. List of North American Recent Mammals<Bul. 128, U. S. Nat. Mus., pp. I–XVI, 1–673.

For general discussions of the carnivora, the reader is referred also to—

Cabrera, 1931, J. Mamm., v. 12 (1), Feb., 54–67.

Flower & Lydekker, 1891*a*. An Introduction to the Study of Mammals, Living and Extinct, pp. i–xvi, 1–763.

Leunis, 1883*a*. Synopsis der drei Naturreiche, v. 1, pp. I–XV, 1–1083.

Pocock, 1929*a*<Encycl. brittanica, ed. 14, v. 4, 896–901.

Pratt, 1923*a*. A Manual of the Vertebrates of the United States. *CARNIVORA*, pp. 273–296, figs. 156–159.

Purpose of the present bulletin.—See p. 413, Bul. 152.

The public health importance of cats, dogs, and various other carnivores is rather extensive. For instance, these animals come into consideration *A*, as food; *B*, as beasts of prey; *C*, as distributors of parasitic diseases to man and to various animals used by man as food; *D*, as domesticated animals; *E*, as scavengers.

A. Carnivores as food.—A number of carnivores are used as food by man; bear meat especially is relished by many persons. Various domesticated and wild dogs are used as food in different countries; while dog meat is not a recognized article of diet under the meat inspection laws of the United States there are special meat inspection regulations covering this subject in certain countries of Europe; for instance, dogs slaughtered for food must be killed and dressed in certain restricted portions of slaughterhouses; dog casings are forbidden in making of sausage; isolated instances of house slaughtering of pet dogs for food occasionally occur in the United States. In general the precautions advisable for thoroughly cooking pork should be applied in cooking dog meat. Dressed cats have occasionally found their way into the meat market, being sold as "rabbits", but this fraud has practically been eliminated by the food inspection laws.

B. Carnivores as beasts of prey or predatory animals.—The cat is one of the great destroyers of birds. Dogs, wolves, and their allies and some of the felines come into serious consideration in connection with the destruction of sheep and of some of the wild food animals such as deer. The name *Carnivora* indicates the food habit of these animals as flesh-eating animals and at times their depredations are important economically. Many of the wild carnivores are dangerous because of their attacks on man.

C. Carnivores as distributors of parasitic diseases.—A considerable number of parasites are distributed to man and livestock and to wild animals by various carnivores. Thus hydatid disease in man and many other animals, gid in sheep and their allies, one form of pseudotuberculosis in cattle, hydrophobia in man and livestock, several intestinal worms in man and a number of acarine infections in man and various other animals are disseminated by the carnivores, especially by the dog and its allies.

D. Carnivores as domesticated animals.—The dog plays many roles, for instance, as household pet, companion, watchdog, beast of burden, messenger, aid to the blind, hunting dog, following and capturing

criminals, etc. His long association with man as friend and companion and the various ways in which he helps man has blinded altogether too many people to the damage he does to mankind. The cat is a valuable aid in the destruction of certain household pests such as mice. Various other carnivores are domesticated or semidomesticated and trained to the hunt.

E. Carnivores as scavengers.—In practically every country both cats and dogs act as scavengers around the home, visiting the slop pails. In some countries semiwild dogs roam the streets and are important factors as scavengers. The question as to whether or not they become infected from the garbage pails depends upon the particular meat which they find; for instance, in case they eat pork or rats and mice, both cats and dogs are liable to become infected with trichiniasis, but since these two carnivores are not ordinarily used as food, they cannot play an important role in the spread of this disease to man.

The reliability of host determinations.—See p. 414, Bul. 152. Undoubtedly, some of the Latin names cited by authors on basis of the vernacular names cited by other authors are *sub judice*. Nevertheless we have quoted in this bulletin the Latin names in question since they are matters of public record. In an effort to record under the proper Latin names of the hosts parasites for which we have found only vernacular names of the hosts, we have encountered the greatest of difficulty. Generally we have entered these under an indefinite entry such as *Felis* species, *Canis* species, etc. It is to be taken for granted that some of the entries will prove to be duplicates and some *sub judice*. But it has been impossible to avoid this condition in view of the indefinite nature of certain original reports.

The following is a list of animal parasites which are reported both for carnivores and for man. Some of these parasites are more or less common in man, some are very rare, some are purely experimental either in man or in the carnivores.

†23 to †212. *PROTOZOA*—

†37. *Endamoeba coli* exp., [*dispar*[s] exp.], dysenteriae[d], *gingivalis, histolytica.*

†39. *Endolimax phagocytoides.*

†88. *Leishmania archibaldi* exp., *braziliensis* exp., *donovani, furunculosa*[s], *infantum, tropica.*

†94. *Trypanosoma brucei, gambiense, ninae-kohl-yakimov*[s] exp., *rhodesiense*[s].

†95. *Schizotrypanum cruzi.*

†131. *Trichomonas buccalis* exp., *hominis* exp.

†139. *Giardia enterica*, intestinalis[d], *lamblia* exp.

†142*f*. *Treponema*[1] *aboriginale, eurygyratum, icterohaemorrhagiae, icteroides*[s], *interrogans* exp., *microgyratum* exp., *morsus-muris, pallidum* exp., *vincenti.*

Pseudospirochaetes species Brumpt exp.

Spirochaeta[1] species Kermogant exp.

†161. *Isospora belli* exp., *bigemina, rivolta.*

†163. *Eimeria perforans, stiedae.*
†170. *Plasmodium vivax* exp.
†212. *Encephalitozoon rabiei.*
†212. Glugea [1] *lyssae* [o].
†221 to †282. *TREMATODA—*
<†239*A*″. *Microphallus minus.*
†246. *Fasciola hepatica.*
†248. *Fasciolopsis buski.*
†250. *Paragonimus pulmonale* [s], [*pulmonis* [s]], *ringeri, westermani.*
<†252. *Echinoparyphium koidzumii.*
†255. *Echinostoma revolutum.*
†262. *Echinochasmus japonicus, perfoliatus.*
†267. *Opisthorchis caninus, conjunctus, felineus, noverca,* Distoma [1] [*sibiricum* [s]], *Opisthorchis viverrini.*
†268. *Clonorchis endemicus* [s], *sinensis.*
†270. *Pseudamphistomum truncatum.*
†271*L*. *Centrocestus armatus,* [*formosanum*].
†272. *Heterophyes heterophyes, katsuradai, nocens.*
†273. *Metagonimus ovatus, yokogawai.*
<†271. *Monorchotrema taichui, taihokui.* *Pygidiopsis summus.*
†277. *Dicrocoelium dendriticum, lanceatum* [s].
†281. *Schistosoma haematobium, japonicum.*
†283 to †327. *CESTODA—*
†295. *Diphyllobothrium houghtoni, latum, mansoni.*
†308. *Dipylidium caninum.*
†314. *Hymenolepis diminuta, nana.*
†322. *Echinococcus alveolaris* [s], *echinococcus* [s], *granulosus, multilocularis, polymorphus* [s].
†324. *Multiceps multiceps, serialis.*
†325*b*. *Taenia* (*Taenia*) *hydatigena, marginata* [s], *pisiformis, solium.*
†325*c*. Taenia (*Hydatigera*) *crassicollis* [s], *taeniaeformis.*
†325*d*. Taenia (*Taeniarhynchus*) *saginata* [i].
†326. *Cysticercus cellulosae, tenuicollis.*
†329 to †495. *NEMATODA—*
†339. *Rhabditis pellio.*
†355. *Strongyloides fülleborni, intestinalis* [s], *longus* [s], *stercoralis,* [*strongyloides* [s]].
†366. *Trichinella* [*pubis*], *spiralis.*
†370. *Trichuris affinis* [s], [*dispar* [o]].
†372. *Hepaticola hepatica.*
†387. *Ancylostoma brasiliense, caninum, ceylanicum* [s], *duodenale, malayanum.*
†390. *Necator americanus.*
390*B*. *Uncinaria stenocephala.*
†417. *Haemonchus contortus.*
†426. *Dioctophyme renale.*
†439. *Dracunculus medinensis.*
449*A*. *Dirofilaria immitis.*
†464. *Thelazia callipaeda,* [*circumocularis,*] [palpebralis [h]].
†473. *Gnathostoma spinigerum.*
†481. *Ascaris lumbricoides.*
†484. *Toxocara* [*brachyoptera* [s]], *canis,* [*cati,*] *leptoptera* [s], [*tricuspidata* [s]].
†486. *Toxascaris* [*alata* [s],] [*caniculae* [s],] canis [d], [*felis* [s],] *limbata* [s], marginata [d s], *microptera.*
†492. *Enterobius vermicularis.*
†494. *Syphacia obvelata.*
†501 to †508. *ACANTHOCEPHALA—*
†505. *Moniliformis moniliformis.*
†508. *Macracanthorhynchus* [*gigas,*] *hirudinaceus.*
†540 to †563. *HIRUDINEA—*
†547. *Limnatis nilotica.*
†552. *Haemadipsa japonica, japonica taiwana, zeylanica.*
†729 to †996. *ARACHNIDA—*
†796. *Armillifer armillatus, moniliformis.*
†798. *Porocephalus crotali.*
†800. *Linguatula rhinaria* [s], *serrata, taenioides* [o].
†855. *Demodex folliculorum.*
†861. *Argas vespertilionis.*
†862. *Otobius megnini.*
†863. *Ornithodoros maroccanus, moubata, savignyi.*
†866. *Ixodes bicornis, cookei* [s], *cruciarius* [s], *hexagonus, holocyclus, pilosus, rasus, reduvius* [s], *ricinus, scapularis.*

†869. *Haemaphysalis leachi, leporis-palustris, punctata.*
†873. *Dermacentor* americanus [d], *andersoni, auratus, electus* [s], *occidentalis, reticulatus, variabilis,* venustus [d s].
†874. *Rhipicentor bicornis.*
†875. *Rhipicephalus appendiculatus, bursa, evertsi, haemaphysaloides, pulchellus, sanguineus, simus.*
†878. *Boophilus annulatus, australis, decoloratus, microplus.*
†880. *Hyalomma aegyptium aegyptium, impressum.*
†881. *Amblyomma americanum, cajennense, fossum, maculatum, ovale, rotundatum, striatum,* [*unipunctata* [s],] *variegatum.*
†891*l*. *Ceratonyssus musculi.*
†895. *Dermanyssus gallinae.*
†936. *Notoedres cati,* [*notoedres* [s],] [*minor* [o]].
†942. *Sarcoptes canis* [s], *minor* cuniculi [h], *ovis, scabei, scabei* canis [h], *scabei hominis* [s], *scabei leonis, scabei lupi, scabei vulpis.*
†949. *Tydeus molestus.*
†964. *Metathrombium poriceps.*
†970. *Trombicula akamushi, autumnalis.*
†974. *Microtrombidium pusillum.*
†977. *Trombidium striaticeps.*
†996. *Cheyletus eruditus.*
†1048 to †1706. *INSECTA*—
†1100. *Trichodectes canis.*
†1107. *Phthirus pubis.*
†1153. *Triatoma megista.*
†1459. *Aëdes fasciata* [s].
†1460. *Anopheles superpictus.*
†1480. *Simulium pertinax, venustum.*
†1487. *Tabanus gratus.*
†1572. *Gasterophilus intestinalis.*
†1574. *Oestrus ovis.*
†1575. *Dermatobia cyaniventris, noxialis.*
†1580. *Auchmeromyia luteola.*
†1581*A*. *Cochliomyia macellaria.*
†1587. *Sarcophaga carnaria, ruficornis.*
†1591. *Wohlfartia magnifica.*
†1599. *Cordylobia anthropophaga.*
†1601. *Glossina brevipalpis, longipalpis, longipennis, morsitans, pallidipes, palpalis, tachinoides.*
†1611. *Pycnosoma flaviceps.*
†1613. *Stomoxys calcitrans.*
†1617. *Hippobosca canina* [s], *capensis, equina, maculata.*
†1624. *Leptopsylla musculi* [s].
< †1626. *Chiastopsylla rossi.*
< †1626. *Oropsylla* [*acutus* [s]].
< †1626. *Paradoxopsyllus curvispinus.*
†1627. *Ceratophyllus acamantis, fasciatus, gallinae.*
†1628. *Hoplopsyllus anomalus.*
†1631. *Tunga penetrans.*
†1633. *Echidnophaga gallinacea.*
†1635. *Pulex irritans.*
†1635*A*. *Rhopalopsyllus lugubris, sigmodoni.*
†1636. *Xenopsylla astia, brasiliensis, cheopis, eridos.*
< †1634. *Synosternus pallidus.*
†1638. *Archaeopsylla erinacei.*
†1639. *Ctenocephalides canis,* [*enneodus* [o],] *felis,* [*novemdentatus* [o],] [*serraticeps* [o]].
< †1634. *Spilopsyllus cuniculi.*

CLASSIFICATION OF PARASITES OF CARNIVORES

In the following classification of the parasites reported for carnivores (pp. 923 to 1031), the arrangement given in Bulletins 140, 142, 148, 150, 152, 155, 159 is taken as basis; key characters and diagnoses down to additional genera reported for carnivores but not included in the earlier bulletins are inserted and collateral groups have been placed in footnotes.

Under genera, the specific names are arranged alphabetically and the hosts are cited for which the species have been reported.

By following the dagger (†) preceding the specific names (indicating that the species has been reported for man), the possible relations of the various hosts to the diseases of man can be traced.

#406 (316). Order *FERAE*[1] Linn., 1758*a*, 18, 37, tpd. *Canis*; or *CARNIVORA*[1a] Gray, 1827, Griffith's Cuv., Anim. Kingd., v. 5, 111, tpd. *Canis*.—Examples, bears, cats, dogs, seals, etc. Unguiculate; at least 4 toes on each foot, with more or less pointed nails (rarely rudimentary or absent); pollex and hallux never opposable to other digits. Diphyodont, heterodont, teeth with roots; incisors 3/3, small, pointed, 1st smallest, 3rd largest; canines 1/1, strong, conical, recurved; cheek teeth variable. Condyle of lower jaw a transverse half-cylinder, working in a deep glenoid fossa. Brain with well-marked convolutions. Stomach simple, pyriform. Vesiculae seminales absent. Uterus bicornuate; mammae abdominal; placenta deciduate, usually zonary. Clavicle never complete; radius and ulna distinct; scaphoid and lunar united; os centrale absent in adult; fibula slender. Predaceous. See #407. Syn. *ICHTHYOIDEA* Kaup, 1855, fide Kretzoi, 1929, Xth Internat. Congr. Zool., Budapest, pt. 2, 1348.

#407 (407*a*; *b*; 577).[2] Order or Subo. *CARNIVORA*[r 3 4] Gray, 1827, Griffith's Cuv., Anim. Kingd., v. 5, 111, tpd. *Canis*; or Subo. *CARNIVORA VERA*°; or *FISSIPEDIA*°.—Carnivores; Raubthiere. Terrestrial (rarely aquatic or semi-aquatic), nonvolant, placental mammals with rather high development of brain, the cerebral hemispheres with distinct convolutions; feet unguiculate, never modified as fins or flippers; dentition of a modified tuberculo-sectorial type, the posterior upper premolar and anterior lower molar usually developed as special carnassial or flesh-cutting teeth. Continents and larger islands of entire world, Australia, New Zealand, and Antarctic region excepted. See *A* also #408.

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[2] **407***a* (407; *b*). Ord. or Subo. *PINNIPEDIA* Illiger, 1811, Prodr. Syst. Mamm. et Avium, 138, tpd. *Phoca*.—Pinnipeds, "Amphibious carnivora," seals, walruses, Flossenfüsser, Ruderfüsser. Body prone Legs fin-like for swimming, enclosed to or beyond elbows in common integument. Feet rotated backward; fingers and toes webbed; fingers decrease in length and size from I to V; toes I and V longest and largest, II to IV shorter and subequal. Iliac portion of pelvis very short, anterior border much everted; ischia never ancylosed, never meeting, in ♀ widely separated. Skull greatly compressed interorbitally; facial portion usually short and rather broad; brain case abruptly expanded. Lachrymal bone early united with maxillary, imperforate, entirely within orbit. Palatines not extending forwards laterally, extensive vacuities intervening between frontal and maxillary bones. Tympanic separated from exoccipitals by a vacuity as well as by the re-entering periotic bones. All 3 types of teeth present; deciduous dentition rudimentary; generally not persistent beyond foetal stage of animal. Mammae 1 pair or 2 pairs, abdominal. Decidua present, placenta belt-shaped. Marine. See #577.

#407*b* (407; *a*). Subo. *CREODONTA* Cope, 1875, Supposed Carnivora of Eocene Rocky Mts., 3.—Extinct carnivores. Brain small, narrow, the cerebral lobes smooth or with one principal sulcus and entirely covered by the parietal bones. Tympanic bulla not ossified. Scaphoid, lunar and centrale separate (scaphoid and centrale united in *Claenodon* and *Palaearctonyx;* scaphoid, lunar and centrale in one species of *Vulpavus*, and exceptionally in *Hyaenodon*). Astragalar trochlea flat (exc. *Didymictis*, *Viverravus* and the later MESONYCHIDAE). Digits 5-5 (except in MESONYCHIDAE where the first digit is vestigial in both fore and hind foot). An entepicondylar foramen on humerus (except *Mesonyx*) and usually a third trochanter on femur.

[3] Some authors divide the existing *CARNIVORA* into 3 sections as follows:

Section I. *AELUROIDEA* Flower, 1869, Proc. Zool. Soc. London, 22; or HERPESTOIDEI Winge, 1893, Jordf. Nulevende Pungdyr, 46 SO. HERPESTOIDEA° Pocock, 1919, Ann. Mag. Nat. Hist., v. 3 (18), June, 515; or MUNGOTOIDEA° Pocock, 1919, Ann. Mag. Nat. Hist., 9th ser., v. 3 (18), 515. Includes the FELIDAE, VIVERRIDAE, PROTELEIDAE and the HYAENIDAE. Cat-like carnivores. Auditory bulla much dilated, rounded, smooth, thin-walled, and (except in HYAENIDAE) divided into two chambers by a septum. Bony auditory meatus short. Paroccipital process applied to, and spread over hinder part of bulla. Mastoid process never very salient, often obsolete. Carotid canal small, sometimes very inconspicuous. Condyloid and glenoid foramina concealed or absent. Cecum small, rarely absent. Os penis generally small and irregular (large in *Cryptoprocta*) or absent. Cowper's glands present; prostate distinctly lobed.

Section II. *CYNOIDEA* Flower, 1869, Proc. Zool. Soc. London, 24.—Contains one family, CANIDAE. Dog-like animals, which appear to hold an intermediate position between *AELUROIDEA* and *ARCTOIDEA*. Auditory bulla inflated, internal septum rudimentary; paroccipital process, although in contact with bulla, prominent; glenoid foramen large. Entepicondylar foramen absent (in living genera); crowns of upper molars triangular, blade of upper carnassial bilobed. Cecum always present, sometimes short and simple, if long it is folded upon itself. Cecum of nearly uniform width (about equal to that of ileum), with rounded termination, attached to side of canal, just beyond ileo-caecal valve.

Section III. *ARCTOIDEA* Flower, 1869, Proc. Zool. Soc. London, 15.—Includes URSIDAE, PROCYONIDAE and MUSTELIDAE. Auditory bulla simple, not rounded, dividing septum absent; inferior lip of auditory meatus considerably prolonged; paroccipital process of exoccipital more or less triangular, directed backward, outward, and downward, and standing quite apart from bulla; mastoid process of periotic always widely separated from paroccipital, and generally very prominent; carotid foramen large, and placed on inner margin of bulla, usually near middle, but occasionally more posteriorly; condyloid foramen distinct and exposed, and never sunk into a common opening with foramen lacerum posticum; glenoid foramen always present, usually conspicuous. Alisphenoid canal absent except in *Ursus*, *Melursus*, and *Aelurus*. Cecum absent. Cowper's glands absent, but rudimentary prostate and large cylindrical penial bone present. Toes 5 on each foot, completely developed.

[4] Cope (1882, Proc. Amer. Phil. Soc., Phila., v. 20, 473-475) keys the *CARNIVORA* as follows:

a' (*n'*). HYPOMYCTERI Cope, 1882, Proc. Amer. Phil. Soc., v. 20, 473.—External nostril occupied by complex maxilloturbinal bone; ethmoturbinals confined to posterior part of nasal fossa; inferior ethmoturbinal of reduced size. See *b'*.

b' (*c'*). CERCOLEPTIDAE Bonaparte 1838, Nuovi Ann. Sci. Nat., Bologna, v. 2, 111.—Sectorial [carnassial] teeth absent. Toes 5 on front feet, 5 on hind. Neotropical. Contains *Cercoleptes*. Syn. CERCOLEPTIDIDAE° Bonaparte, 1838, Revue Zool., v. 1, 212.

c' (*b'*). Sectorial teeth in both jaws. See *d'*.

†23 to †212. *PROTOZOA*,[5] pp. 7–57, 420–438, 609–612, 798–802.

†37. **Endamoeba**, pp. 8, 420.

†**coli*, pp. 8, 421: *Endamoeba*.—Reported for: #413 *Felis* (*catus* [*dom.*] exp.). Continued in later bulletins.

[†coli [d] restricted to pathogenic species [p. 8]: Amoeba [1].—Reported for: #479 *Canis* (*familiaris* exp.).]

[†*dispar* [s], p. 421: *Entamoeba* [o].—Reported for: #413 *Felis* (*catus* [*dom.*] exp.).]

[†*dysenteriae [d], pp. 8, 421: *Entamoeba* [o].—Reported for: #413 *Felis* (*catus* [*dom.*] exp.); #479 *Canis* (*familiaris*); #528 *Meles* (*meles* s. *taxus*). Continued in later bulletins.]

[**enterica* Walker, 1908*a*, 429, 430, 443–444, pl. 23, fig. 9 [Ameba [1]]: Amoeba; *Löschia* [s]; *Loeschia* [s].—Cambridge [t].—Reported for: #413 *Felis* (*catus* [*dom.*]). Continued in later bulletins.]

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d' (*m'*). Toes 5 on front feet, 5 on hind. See *e'*.

e' (*j'*). Alisphenoid canal absent. See *f'*.

f' (*g'*). PROCYONIDAE Bonaparte, 1850, Conspectus Syst. Mastozoöl., etc.—True molars 2/2. Contains: *Procyon* (including *Nasua*), *Bassaricyon*, Bassaris[b]; Nearctic and Neotropical.

g' (*f'*). MUSTELIDAE Swainson, 1835, Nat. Hist. Class. Quadr., pp. vii, 361.—True molars 1/2. See *h'*.

h' (*i'*). MELINAE Baird, 1857, Mamm. N. Amer., 148, 190.—2 tubercles of internal side of superior sectorial. Contains: *Taxidea*, *Meles*.

i' (*h'*). MUSTELINAE Swainson, 1835, Nat. Hist. Class Quadr., pp. vii, 362.—1 internal tubercle of superior sectorials. Contains: Enhydris, *Pteronura*, *Lutra*, *Aonyx*, *Barangia*; *Helictis*, *Zorilla*, *Mephitis*, *Conepatus*; *Mellivora*; *Gulo*, *Galictis*, *Putorius*, *Mustela*.

j' (*e'*). Alisphenoid canal present. See *k'*.

k' (*l'*). AELURIDAE[c] Cope, 1882, Proc. Amer. Phil. Soc., Phila., v. 20 (112), 473.—Molars quadrate, 2/2. Contains: *Ailurus*[c]; *Ailuropoda*, ?*Hyaenarctos*.

l' (*k'*). URSIDAE Gray, 1825, Thompson's Ann. Phil., n. s., v. 10 (5), Nov., 339.—Molars longitudinal, 2/3 Contains: *Helarctos*; *Arctotherium*; *Ursus*; *Melursus*.

m' (*d'*). CANIDAE Gray, 1821, London Med. Repository, v. 15, 301.—Toes 5-4 or 4-4. Sectorials well developed, alisphenoid canal present. Contains: *Megalotis*; *Amphicyon*; *Thous*, *Palaeocyon*, *Temnocyon*, *Galecynus*, *Canis*, *Vulpes*, *Enhydrocyon*, *Hyaenocyon*, *Brachycyon*, *Tomarctus*, *Speothus*, *Synagodus*, *Dysodus*, *Oligobunis*, *Icticyon*, *Lycaon*.

n' (*a'*). EPIMYCTERI Cope, 1882, Proc. Amer. Philos. Soc., v. 20, 473.—External nostril occupied by inferior ethmoturbinal and reduced maxilloturbinal. See *o'*.

o' (*p'*). PROTELIDAE Flower, 1869, Proc. Zool. Soc. London, 37.—Molars haplodont. Toes 5–4; alisphenoid canal absent. Contains: *Proteles*, Ethiopian.

p' (*o'*). Molars bunodont. See *q'*.

q' (*r'*). ARCTICTIDAE Cope, 1882, Proc. Amer. Philos. Soc., Phila., v. 20 (112), 474.—Sectorials absent. Toes 5-5; alisphenoid canal present. Contains: *Arctictis*, India.

r' (*q'*). Sectorials present. See *s'*.

s' (*c''*). Otic bulla with septum. See *t'*.

t' (*b''*). Alisphenoid canal and postglenoid foramen present. See *u'*.

u' (*y'*). True molars well developed. See *v'*.

v' (*w'*; *x'*). VIVERRIDAE[e] Gray, 1821, London Med. Repository, v. 15, 301 [VIVERIDAE[d]].—Toes 5-5. Contains: *Cynogale*, *Arctogale*, *Paguma*, *Paradoxurus*, *Nandinia*, *Hemigale*, *Galidia*, *Prionodon*, *Genetta*, *Viverricula*, *Viverra*, *Galidictis*, *Herpestes*, *Athylax*, *Calogale*, *Ichneumia*, *Bdeogale*, *Urva*, *Taeniogale*, *Onychogale*, *Helogale*, *Rhinogale*, *Mungos*, *Crossarchus*, *Eupleres*.

w' (*v'*; *x'*). CYNICTIDAE Cope, 1882, Proc. Amer. Philos. Soc., Phila., v. 20 (112), 474.—Toes 5–4. Contains: *Cynictis*, ?*Ictitherium*.

x' (*v'*; *w'*). SURICATIDAE Cope, 1882, Proc. Amer. Philos. Soc., Phila., v. 20 (112), 474.—Toes 4–4. Contains: *Suricata*, Ethiopian.

y' (*u'*). True molars much reduced. See *z'*.

z' (*a''*). CRYPTOPROCTIDAE Flower, 1869, Proc. Zool. Soc. London, 37.—Toes 5-5. Contains: *Proaelurus*; *Cryptoprocta*.

a'' (*z'*). NIMRAVIDAE Cope, 1881, Bul. U. S. Geolog. & Geogr. Surv. Territories, v. 6 (1), Feb. 11, 167.—Toes 5–4. Contains: *Archaelurus*, *Nimravus*, *Aelurogale*; *Dinictis*, *Pogonodon*, *Hoplophoneus*.

b'' (*t'*). FELIDAE Gray, 1821, London Med. Repository, v. 15, 302.—Alisphenoid canal absent; postglenoid foramen rudimental or absent. Toes 5–4. Contains: MACHAERODONTINAE (*Machaerodus*, *Smilodon*); FELINAE (*Plethaelurus*, *Catolynx*; *Felis*; *Neofelis*; *Uncia*, *Lynx*, *Cynaelurus*).

c'' (*s'*). HYAENIDAE Flower, 1869, Proc. Zool. Soc. London, 28, 29, 35.—Otic bulla without septum. Alisphenoid canal absent, postglenoid foramen absent. Toes 4–4. Contains: *Hyaenictis*, *Hyaena*, Crocuta.

[s] The cross reference to the protozoa has been prepared by Lucy Reardon.

**gedoelsti* Hsiung, 1930, Iowa State Coll. J. Sci., v. 4 (4), 365–366, pl. 1, fig. 1, Amoeba intestinalis [h] of Walker, 1908; Gedoelst, 1911 [not R. Bl., 1885] renamed: *Endamoeba*.—U. S. A. [t].—Reported for: #413 *Felis* (*catus* [*dom.*]). Continued in later bulletins; *Equus* (*caballus* t. h.).

†**gingivalis*, p. 9: *Endamoeba*.—Reported for: #413 *Felis* (*catus* [*dom.*]); #479 *Canis* (*familiaris* exp.).

†**histolytica*, pp. 9, 421: *Endamoeba*.—Reported for: #413 *Felis* (*catus* [*dom.*] also exp.); #479 *Canis* (*familiaris* also exp.). Continued in later bulletins.

[intestinalis [h o] Walker, 1908*a*, 445, pl. 23, fig. 8 [Ameba [l]]; Gedoelst, 1911*a*, 33; [renamed *gedoelsti* Hsiung, 1930]: Amoeba [l] (*Entamoeba*).—Reported for: #413 *Felis* (*catus* [*dom.*]). Continued in later bulletins.]

**murina* Chiang, 1925, Proc. Nat. Acad. Sci., v. 11 (5), May, 242–243, pl. 1, figs. 7–12: *Endamoeba histolytica*.—Boston [t].—Reported for: #413 *Felis* (*catus* [*dom.*] exp.). Continued in later bulletins.

[species Dold & Fischer, 1920, Centralbl. Bakt., Orig., I Abt., v. 85 (3), Nov. 1, 199: Amöben.—Shanghai.—Reported for: #479 *Canis* (*familiaris*).]

[species Houdemer, 1925, Bul. Soc. Path. exot., v. 18 (4), post Apr. 8, 346–347: *Entamoeba* [o].—Tonkin.—Reported for: #413 *Felis* (*catus* [*dom.*], *pardus*); #479 *Canis* (*familiaris*).]

[*venaticum* [s] [p. 10] Darling, 1915, Proc. Med. Assoc. Isthm. Canal Zone, v. 6 (1), 60: *Entamoeba* [o].—Panama [t].—Not differentiated from *E. histolytica*, fide Wenyon, 1926*a*, 227.—Reported for: #479 *Canis* (*familiaris*).]

†**39. Endolimax**, pp. 10, 422.

†*phagocytoides*, pp. 11, 423: *Endolimax*.—Reported for: #479 *Canis* (*familiaris*).

†**64. Amoeba** [l], pp. 14, 423.

**fecalis* Walker, 1908*a*, 386, 389, 393, 429, 444, pl. 24, figs. 13–14 [Ameba [l]]: *Amoeba* [l]; ?*Löschia*.—Reported for: #413 *Felis* (*catus* [*dom.*]); #479 *Canis* (*familiaris*).

[*species Ackley, 1913, Amer. J. Vet. Med., v. 8 (4), Apr., 244–246: Ameba [l].—Washington State, U. S. A.—Reported for: #479 *Canis* (*familiaris*).]

[species Franchini, 1922, Bul. Soc. Path. exot., v. 15 (10), post Dec. 13, 931–933, fig. 1 ["amibes"]: [*Amoeba* [l]].—Reported for: #413 *Felis* (*catus* [*dom.*] exp. from plants).]

<†**86. Leptomonas**, p. 424.

ctenocephali p. 424: *Leptomonas*.—Reported for: #479 *Canis* (*familiaris* exp.). Continued in later bulletins.

†**88. Leishmania**, pp. 17, 424, 609.

†*archibaldi*, pp. 17, 424: *Leishmania donovani*.—Reported for: #479 *Canis* (*familiaris* exp.).

†*braziliensis*, pp. 17, 424 (also *brasiliensis* [e]): *Leishmania*.—Brazil [t].—Reported for: #479 *Canis* (*familiaris* exp., also suspected reservoir). Continued in later bulletins. Exp. transmission by †1447 *Phlebotomus intermedius* [j].

canina Yakimoff & Schokhor, 1914, Bul. Soc. Path. exot., v. 7 (3), post Mar. 11, 186–187: *Leishmania tropica*.—Turkestan [t].—No evidence of difference from *L. tropica*, fide Wenyon, 1926*a*, 430.—Reported for: #479 *Canis* (*familiaris* t. h.).

canis "Nicolle 1908" of authors [nv]: *Leishmania*.—Reported for: #479 *Canis* (*familiaris*).

†*donovani*, pp. 17, 424, 609: *Leishmania*.—Reported for: #413 *Felis* (*catus* [*dom.*]); #479 *Canis* (*familiaris*, species (jackals) exp.). Continued in later bulletins.

†*furunculosa* [s] [p. 17] Firth, 1891, Brit. Med. J., 60–62, figs. 1–5: *Leishmania*.—Reported for: #479 *Canis* (*familiaris*).

†*infantum*, pp. 18, 424: *Herpetomonas* [s]; *Leishmania*.—Reported for: #413 *Felis* (*catus* [*dom.*]); #479 *Canis* (*familiaris* considered chief reservoir).

species Gachet in Neveu-Lemaire, 1927, Ann. Parasitol., v. 5 (3), 255: *Leishmania*.—Ulcers.—Oriental boil region.—Reported for: #479 *Canis* (*familiaris*). Continued in later bulletins.

†**tropica*, pp. 18, 424: *Leishmania*.—Reported for: #413 *Felis* (*catus* [*dom.*] exp.); #479 *Canis* (*familiaris* also exp.).

†**89. Toxoplasma**, pp. 18, 425.

canis Mello, 1910, Bul. Soc. Path. exot., v. 3 (6), post June 8, 359–363: *Toxoplasma*.—Turin [t].—Reported for: #479 *Canis* (*familiaris* t. h.).

gondii [also *gondei* [c]], p. 798: *Toxoplasma*.—Reported for: #479 *Canis* (*familiaris* exp.). Continued in later bulletins.

species Plimmer, 1915, Proc. Zool. Soc. Lond., 130: *Toxoplasma*.—London Zoo.—Reported for: #444 *Cryptoprocta* (*ferox*).

†**91. Herpetomonas**, pp. 18, 425.

**pattoni* Swingle, 1911, J. Infect. Dis., v. 8 (2), Jan. 25, 127, figs. 35–61: *Herpetomonas*.—Lincoln [t], Nebraska.—Reported for: #479 *Canis* (*familiaris* [i]). Continued in later bulletins; †1627 *Ceratophyllus* (species) or †1635 *Pulex* (species) t. h. Also for #12 *Homo* [i].

phlebotomi [s] Mackie, 1914, Ind. J. Med. Res., v. 2 (1), July, 379, pl. 48: *Herpetomonas*.—Madras [t].—So. †108 *Bodo phlebotomi* q. v., fide Short in Wenyon, 1926*a*, 436.—Reported for: #479 *Canis* (*familiaris* exp.).

†**94. Trypanosoma**, pp. 20, 425, 609.

anceps [i] [s] Bruce et al., 1914, Proc. Roy. Soc., Lond., Ser. B, v. 88 (601), Aug. 27, 111–138, pls. 9–11; 1915, Rep. Sleep. Sickness Comm., No. 16, 134: *Trypanosoma*.—Nyasaland [t].—So. *T. brucei*, fide Wenyon, 1926*a*, 530.—Reported for: #479 *Canis* (*familiaris* t. h.). Continued in later bulletins.

annamense [s] Laveran, 1911, Ann. Inst. Pasteur, v. 25 (7), July, 513: *Trypanosoma*.—Annam [t].—So. *evansi*, fide Wenyon, 1926*a*, 566.—Reported for: #479 *Canis* (*familiaris*). Transmission by: †1486 TABANIDAE, †1616 HIPPOBOSCIDAE. Continued in later bulletins; EQUIDAE or BOVIDAE t. h.

berberum [s] E. & E. Sergent & L'Héritier, 1912, Bul. Soc. Path. exot., v. 5(5), post May 8, 274–278: *Trypanosoma soudanense*.—N. Africa [t].—So. *evansi*, fide Wenyon, 1926*a*, 566.—Reported for: #479 *Canis* (*familiaris* exp.). Continued in later bulletins; *Camelus dromedarius* t. h. Vectors: †1487 *Tabanus* (*nemoralis* exp.); †1613 *Stomoxys* exp.

†*brucei*, pp. 20, 425: *Trypanosoma*.—Reported for: #413 *Felis* (*catus* [*dom.*] exp.); #469 *Hyaena* (*crocuta*); #479 *Canis* (*familiaris* exp.); #485 *Vulpes* (species also exp.). Continued in later bulletins.

cazalboui [s], p. 425: *Trypanosoma*.—So. *vivax*, fide Wenyon, 1926*a*, 559.—Reported for: #479 *Canis* (*familiaris*). Continued in later bulletins; *Ovis* (*aries* t. h.).

congolense, pp. 425, 609: *Trypanosoma*.—Reported for: #469 *Hyaena* (*crocuta*); #479 *Canis* (*familiaris* exp.). Continued in later bulletins; *Equus* (*asinus* t. h.).

dimorphon [s], p. 425: *Trypanosoma*.—So. *congolense*, fide Wenyon, 1926*a*, 552.—Reported for: #479 *Canis* (*familiaris*). Continued in later bulletins.

equinum, p. 425: *Trypanosoma*.—Reported for: #479 *Canis* (*familiaris* exp.). Continued in later bulletins; *Equus* (*caballus* t. h.).

equiperdum, p. 426: *Trypanosoma*.—Reported for: #413 *Felis* (*catus* [*dom.*] exp.); #479 *Canis* (*familiaris* exp.). Continued in later bulletins; *Equus* (*caballus* t. h.).

evansi, p. 426: *Trypanosoma*.—Reported for: #413 *Felis* (*catus* [*dom.*] exp.); #479 *Canis* (*familiaris*). Add vector, p. 426, †1608

Philaematomyia crassirostris. Continued in later bulletins.

frobeniusi [e s] Weissenborn, 1911, Arch. Schiffs-Trop.-Hyg., v. 15 (15), 477–497, pl. 5 [*frobenius*]: *Trypanosoma*.—Hamburg Zoo [t], from Togo, W. Africa.—So.[s] *congolense*, fide Wenyon, 1926*a*, 552.—Reported for: #413 *Felis* (*catus* [*dom.*] exp.); #479 *Canis* (*familiaris* exp.). Continued in later bulletins; *Equus* (*caballus* t. h.). Also for #14 monkey (Meerkatze exp.).

†*gambiense*, pp. 20, 426, 609, 798: *Trypanosoma*.—Reported for: #413 *Felis* (*catus* [*dom.*] exp.); #469 *Hyaena* (*crocuta*); #479 *Canis* (*familiaris* exp., species (jackals) exp.); #485 *Vulpes* (species exp., *vulpes*); #561 *Procyon* (*lotor hernandezii*). Add vectors, p. 20: †1458 *Culex*, †1459 *Aëdes*. Continued in later bulletins.

hippicum, p. 426: *Trypanosoma*.—Murrina, Derrengadera, Verrenkung.—Reported for: #413 *Felis* (*catus* [*dom.*] exp.); #479 *Canis* (*azarae*, *familiaris* also exp.); #561 *Procyon* (*lotor* exp.); #563 *Nasua* (*nasua* exp.). Continued in later bulletins.

marocanum [s] Sergent et al., 1915, Bul. Soc. Path. exot., v. 18 (7), post July 29, 433–438: *Trypanosoma*.—Casablanca [t], Morocco.—So. *evansi*, fide Wenyon, 1926*a*, 566.—Reported for: #413 *Felis* (*catus* [*dom.*] exp.); #479 *Canis* (*familiaris* also exp.). Continued in later bulletins; *Equus* (*caballus* t. h.).

montgomeryi [j s] Laveran, 1911, Ann. Inst. Pasteur, v. 25 (7), July, 517: *Trypanosoma*.—Rhodesia [t].—So. [j] *congolense*, Wenyon, 1926*a*, 556.—Reported for: #479 *Canis* (*familiaris*). Continued in later bulletins; *Bos* (*taurus* t. h.).

†*ninae-kohl-yakimov* [s] [p. 426] add earlier reference Yakimoff, 1921, Bul. Soc. Path. exot., v. 14 (10), post Dec. 4, 638–640: *Trypanosoma*.—Turkestan [t].—So. *evansi*, fide Wenyon, 1926*a*, 571.—Reported for: #479 *Canis* (*familiaris* exp.). Continued in later bulletins; *Camelus* t. h.

pecaudi [s] Laveran, 1907, C. r. Acad. Sci., v. 144 (5), Feb. 4, 427; Ann. Inst. Past., v. 21 (5), May, 321: *Trypanosoma*.—Upper Niger [t].—So. *brucei*, fide Wenyon, 1926*a*, 539.—Reported for: #479 *Canis* (*familiaris*). Exp. vectors: †1601 *Glossina* (*fusca*, *morsitans*, *palpalis*, *tachinoides*), †1613 *Stomoxys* (*calcitrans*). Continued in later bulletins; *Ovis* t. h.

pecorum [o] Bruce et al., 1910, Proc. Roy. Soc., Lond., Ser. *B*, v. 82 (558), 469–479, pls. 11–12, *dimorphon*+*congolense* renamed: *Trypanosoma*; *Duttonella*.—Uganda [t].—So. *congolense*, fide Wenyon, 1926*a*, 552.—Reported for: #479 *Canis* (*familiaris*). Continued in later bulletins; cattle t. h.; also for #14 monkey. Vectors: †1601 *Glossina* (*brevipalpis*, *morsitans*, *palpalis*).

pestanai Bettencourt & França, 1905, C. r. Soc. Biol., v. 59 (28), Oct. 20, 305–306; 1905, Polytechnia, v. 1 (3), 117 [nv]; 1906, Arch. L'Institut Roy. Bact. Camara Pestana, v. 1 (1), May, 73–75, pl. 3, figs. 1–2: *Trypanosoma*.—Collares [t], near Cintra, Portugal.—Syn. pestani [m] Wenyon, 1926*a*, 1359.—Reported for: #528 *Meles* (*meles marianensis* s. taxus [l] t. h.).

†*rhodesiense* [s], pp. 20, 426: *Trypanosoma*.—So. *brucei*, fide Wenyon, 1926*a*, 539.—Reported for: #413 *Felis* (*catus* [*dom.*] exp.); #479 *Canis* (*familiaris*). Vectors: †1601 *Glossina* (*morsitans* nat., *swynnertoni* nat., *brevipalpis* exp., *palpalis* exp.); †1459 *Aëdes aegypti* s. *Stegomyia fasciata* mechanical.

soudanense [s] Laveran, 1907, Ann. Inst. Past., v. 21 (5), May, 324, 347, 354: *Trypanosoma*.—Upper Niger [t].—So. *evansi*, fide Wenyon, 1926*a*, 566.—Reported for: #479 *Canis* (*familiaris*). Continued in later bulletins; *Camelus* (*dromedarius* t. h.). Mechanical transmission by:

Acanthcer (*nemoralis* exp.), †1613 *Stomoxys* exp. (*boueti*, *calcitrans*).

species [p. 427] Balfour, 1906, 128, 130: *Trypanosoma*.—Reported for: #479 *Canis* (*familiaris* exp.). Continued in later bulletins.

species [i] [s] Bruce et al., 1909, Proc. Roy. Soc., Lond., Ser. B, v. 81 (545), 14–30, pl. 1, fig. 1, pl. 2, figs. 1–14: *Trypanosoma*.—Zanzibar.—"Probably so. *T. dimorphon*".—Reported for: #479 *Canis* (*familiaris* exp.). Continued in later bulletins.

species Donatien & Parrot, 1922, Bul. Soc. Path. exot., v. 15 (7), post July 12, 549–551 (=*berberum* [i] of debab): *Trypanosoma*.—Sahara.—Reported for: #479 *Canis* (*familiaris*).

species Fehlandt, 1911, (Inaug. Diss. Dok. Leipzig Univ.,) 1–23, pl. 12: *Trypanosoma*.—Tanganyika.—Reported for: #494 *Aonyx* (*?capensis*) or #499 *Lutra* (?species).

species Pinto, 1927, C. r. Soc. Biol., v. 97 (25), Aug. 26, 834 [of *equinum* type]: *Trypanosoma*.—Matto Grosso, Brazil.—Reported for: #479 *Canis* (*familiaris* exp.). Continued in later bulletins; *Spiniger* (*domesticus* t. h.).

species Vialatte, 1915, Bul. Soc. Path. exot., v. 8 (2), post Feb. 10, 70–72: *Trypanosoma*.—Beni-Abbes, Algeria.—Reported for: #479 *Canis* (*familiaris*).

species Weck, 1914, Arch. Schiffs-Trop.-Hyg., v. 18 (4), 116–124: *Trypanosoma*.—Africa.—Reported for: #413 *Felis* (*catus* [*dom.*], *leo*, *serval*, species (wild cat) exp., species (leopard)); #479 *Canis* (*familiaris*). Continued in later bulletins. Also for #14 monkey (Meerkatze) exp.

venezuelense [s], p. 427: *Trypanosoma*.—So. *evansi*, fide Wenyon, 1926*a*, 566.—Reported for: #479 *Canis* (*azarae*, *familiaris*). Continued in later bulletins.

vickersae, p. 427: *Trypanosoma*.—Reported for: #479 *Canis* (*familiaris* exp.). Continued in later bulletins.

†*vivax*, p. 427: *Trypanosoma*.—Reported for: #479 *Canis* (*familiaris* exp.). Continued in later bulletins.

†**95. Schizotrypanum**, pp. 20, 427, 610.

†*cruzi*, pp. 20, 427, 610: *Schizotrypanum*.—Reported for: #413 *Felis* (*catus* [*dom.*] exp.); #479 *Canis* (*familiaris* also exp.). Continued in later bulletins.

†**108. Bodo**, pp. 21, 428.

phlebotomi Mackie, 1914, Ind. J. Med. Res., v. 2 (1), July, 379, pl. 48 [Herpetomonas [l]]: *Bodo*.—Madras [t].—Reported for: #479 *Canis* (*familiaris* exp.). Continued in later bulletins. Exp. vector †1447 *Phlebotomus* (*minutus* t. h.).

†**111. Cercomonas**, pp. 23, 425.

canis [i] [s] Gruby & Delafond of Davaine, 1875*a*, 127: *Cercomonas*.—Europe.—So. [i] *Lamblia* intestinalis [d].—Reported for: #479 *Canis* (*familiaris*).

†**131. Trichomonas**, pp. 26, 428.

†**buccalis*, p. 26: *Trichomonas*.—Reported for: #479 *Canis* (*familiaris* exp.). Continued in later bulletins.

[*canis-aurei* [e] Chatterjee et al., 1926, J. Dept. Sci., Calcutta Univ., v. 8, 11–14, 1 pl. [auri [m]]: *Pentatrichomonas* [i] [s].—Calcutta [t], India.—Reported for: #479 *Canis* (*aureus* t. h.).]

**canistomae* Hegner & Ratcliffe, 1927, J. Parasitol., v. 14 (1), Sept., 51–53, fig. 1: *Trichomonas*.—Mouth.—Baltimore [t], Md.—Reported for: #479 *Canis* (*familiaris* t. h.).

felis [i] da Cunha & Muniz, 1922, Brazil Med., Anno 36, v. 1 (22), June 3, 285–286: *Trichomonas*; *Pentatrichomonas* [i] [s].—Brazil [t].—Specific name sub judice, fide Kessel, 1928.—Reported for: #413 *Felis* (*catus* [*dom.*] t. h.); #479 *Canis* (*familiaris*).

**felistomae* Hegner & Ratcliffe, 1927, J. Parasitol., v. 14 (1), Sept., 28–29, pl. 3, fig. 3: *Trichomonas*.—Baltimore [t], Md.—Reported for: #413 *Felis* (*catus* [*dom.*] t. h.).

†**hominis* [l], pp. 26, 429: *Trichomonas*.—Reported for: #413 *Felis*

(*catus* [*dom.*] exp.); #479 *Canis* (*familiaris* exp.). Continued in later bulletins.

†intestinalis [d], pp. 36, 429: *Trichomonas*.—Reported for: #413 *Felis* (*catus* [*dom.*] exp.).

parva Alexeieff, 1911, C. r. Soc. Biol., v. 71 (34), Dec. 8, 541: *Trichomonas*; *Tritrichomonas* [j s].—Locality not given.—Reported for: #413 *Felis* (*catus* [*dom.*] exp.). Continued in later bulletins; *Mus decumanus* t. h. = *Rattus norvegicus*.

*species Chandler in Riley, 1921, Parasitol., v. 13 (1), Mar., 87: *Trichomonas*.—Mich., U. S. A.—Reported for: #485 *Vulpes* (species).

species [j] [p. 429] Kessel; add reference Kessel, 1928, Trans. Roy. Soc. Trop. Med. & Hyg., v. 22 (1), 61–80: *Trichomonas*.—Reported for: #413 *Felis* (*catus* [*dom.*] exp.). Continued in later bulletins.

species Reichenow, 1925, Arch. Schiffs-Trop.-Hyg., v. 29 (10), 521: *Trichomonas*.—Germany.—Reported for: #413 *Felis* (*catus* [*dom.*]); #455 *Mungos* (*mungo*).

Pentatrichomonas [j s], p. 27. So. †**131 Trichomonas**, q. v.

†**132. Tritrichomonas** [j s], pp. 27, 429. So. †**131 Trichomonas**, q. v.

†**139. Giardia**, pp. 28, 429.

**canis* Hegner, 1922, Amer. J. Hyg., v. 2 (4), July 1, 448–453, figs. 2, 6–14: *Giardia*.—Baltimore [t], Md.—Reported for: #479 *Canis* (*familiaris* t. h.).

cati Deschiens, 1925, C. r. Soc. Biol., v. 92 (16), May 15, 1271–1272: *Giardia*.—Paris [t].—Reported for: #413 *Felis* (*catus* [*dom.*] t. h.).

†**enterica*, p. 28: *Giardia*.—Reported for: #413 *Felis* (*catus* [*dom.*]); #479 *Canis* (*familiaris*). Continued in later bulletins.

**felis* Hegner, 1925, Amer. J. Hyg., v. 5 (3), May, 258–263, figs. 5–6: *Giardia*.—Baltimore [t], Md.—Reported for: #413 *Felis* (*catus* [*dom.*] t. h.).

hegneri Chu, 1930, J. Parasitol., v. 16 (4), June 30, 231–236, figs. *A–B*: *Giardia*.—Philippine Ids. [t].—Reported for: #437 *Viverra* (*tangalunga* t. h.).

†**intestinalis* [d h], pp. 28, 429: *Giardia*.—Reported for: #413 *Felis* (*catus* [*dom.*]); #479 *Canis* (*familiaris*).

†**lamblia*, pp. 28, 429: *Giardia*.—Reported for: #413 *Felis* (*catus* [*dom.*] exp.); #479 *Canis* (*familiaris* exp.). Continued in later bulletins.

species Deschiens, 1925, C. r. Soc. Biol., v. 93 (31), Oct. 31, 1065–1066: *Giardia*.—Paris from Haute Volta, Gold Coast, W. Africa.—Reported for: #413 *Felis* (*catus* [*dom.*] neg. exp., *leo*).

*species Hegner, 1924, J. Parasitol., v. 11 (2), Dec., 76, fig. 4: *Giardia*.—Zoo, Baltimore, Md.—Reported for: #413 *Felis* (*rufa*).

suricatae Fantham, 1923, S. Afr. J. Sci., v. 20, 494: *Giardia*.—Pretoria [t].—Reported for: #448 *Suricata* (*tetradactyla* t. h.).

[*vulpis* Galli-Valerio, 1929, Centralbl. Bakt., Orig., I Abt., v. 112 (1/2), May 10, 56: *Lamblia* [s].—Switzerland.—Reported for: #485 *Vulpes* (*vulpes s. vulgaris* t. h.).]

†**142f. Treponema** [l], pp. 31, 430, 611, 799.

†*aboriginale* [p. 31]: *Treponema* [l].—Reported for: #479 *Canis* (*familiaris*).

[*canina* Bosselut, 1925, Bul. Soc. Path. exot., v. 18 (9), post Nov. 11, 704, 1 fig.: Spirochaeta [l].—Blood.—Marengo [t], Algiers.—Reported for: #479 *Canis* (*familiaris* t. h.).]

[*canis* Macfie, 1916, Ann. Trop. Med. & Parasitol., v. 10 (3), Dec. 16, 338–343: Spirochaeta [l].—Accra [t], W. Africa.—Reported for: #413 *Felis* (*catus* [*dom.*]); #479 *Canis* (*familiaris* t.h.).]

[canis [d] Lukes & Derbek, 1923, C. r. Soc. Biol., Brno, v. 8, 5–6 [nv]; Lukes, 1924, Ann. Inst. Past.,

Paris, v. 38 (6), June, 523–528: Spirochaeta [1] *melanogenes*.—Brno [t], Czechoslovakia.—Reported for: #479 *Canis* (*familiaris* t. h.). Continued in later bulletins.]

[*equi* Novy & Knapp, 1906, J. Inf. Dis., v. 3 (3), May, 294 (based on Martin, 1906): Spirochaeta [1].—French Guinea [t].—Reported for: #479 *Canis* (*familiaris* exp.). Continued in later bulletins; *Equus* (*caballus* t. h.).]

†*eurygyratum*, pp. 32, 431: *Treponema* [1].—Reported for : #413 *Felis* (*catus* [*dom.*]). Continued in later bulletins.

†*icterohaemorrhagiae*, pp. 32, 431: *Treponema* [1].—Reported for: #413 *Felis* (*catus* [*dom.*] exp.); #479 *Canis* (*familiaris* exp.); #485 *Vulpes* (species). Continued in later bulletins.

†*icteroides* [i s], pp. 32, 431: *Treponema*.—Reported for: #479 *Canis* (*familiaris* exp.). Continued in later bulletins.

†*interrogans*, pp. 32, 431: *Treponema*.—Reported for: #479 *Canis* (*familiaris* exp.). Continued in later bulletins.

[*laverani* [s] Breinl & Kinghorn, 1906, Lancet, v. 172 (2), 651–652: Spirochaeta [1].—Liverpool from Paris.—So.[i] *Spirillum minus*, fide Wenyon, 1926*a*, 1287.—Reported for: #479 *Canis* (*familiaris*). Continued in later bulletins; *Mus* (*albus* t. h.).]

[*lutrae* Prowazek, 1907, Arb. K. Gesundheitsamte, v. 26, 31, fig. 27: Spirochaeta [1]; *Spiroschaudinnia*.—Batavia [t].—Reported for: #499 *Lutra* (species t. h.).]

[*marocanum* Nicolle & Anderson, 1928, Arch. Inst. Past., Tunis, v. 17 (2), June, 106: Spirochaeta [1] *hispanicum*. — Morocco [t].—Reported for: #479 *Canis* (*familiaris* exp.); #485 *Vulpes* (species); #511 *Mustela* (*vulgaris* exp.). Continued in later bulletins; †863 *Ornithodoros* (*marocanus* t. h.).]

†*microgyratum* [p. 33]: *Treponema*.—Reported for: #479 *Canis* (*familiaris* exp.).

†*morsus-muris* [pp. 33, 431]: *Treponema* [1].—Reported for: #413 *Felis* (*catus* [*dom.*]); #479 *Canis* (*familiaris*); #511 *Mustela* (*furo*, *nivalis*). Continued in later bulletins.

[*mustelae* Galli-Valerio, 1929, Zentralbl. Bakt., Orig., I Abt., v. 112 (1–2), May 10, 56: Spirochaeta [1] *buccalis*.—Lausanne [t].—Reported for:#521 *Martes* (*foina* t. h.).]

†**pallidum*, pp. 34, 432: *Treponema* [r].—Reported for: #479 *Canis* (*familiaris* exp.). Continued in later bulletins.

[*regaudi* Ball & Roquet, 1911, J. Med. Vet. & Zoot., v. 15, 257: Spirochaeta [1]; Spirella.—Reported for: #413 *Felis* (*catus* [*dom.*]); #479 *Canis* (*familiaris* t. h.); #485 *Vulpes* (species). Continued in later bulletins.]

[species Balfour, 1906, J. Trop. Med., v. 90, Mar. 15, 90–91, fig. *c*: *Spirillum*.—Sudan.—Reported for: #479 *Canis* (*familiaris*). Also for #14 monkey.]

†species Brumpt [p. 35]: Pseudospirochaetes.—? So. *regaudi*.—Reported for: #479 *Canis*(*familiaris* exp.).

[species Gaiger, 1915, J. Comp. Path. & Therap., v. 28, 67: Spirochaeta [1].—India.—Reported for: #479 *Canis* (*familiaris*).]

[species Kasai & Kobayashi, 1919, J. Parasitol., v. 6 (1), Sept., 1–10, pl. 1: "Stomach spirochete".—Tokyo.—Reported for: #413 *Felis* (*catus* [*dom.*]); #479 *Canis* (*familiaris*). Continued in later bulletins; also for #14 monkey.]

[†species [p. 432] Kermogant, 1925: Spirochaeta [1].—Reported for: #413 *Felis* (*catus* [*dom.*] exp.). Continued in later bulletins.]

[species Kolmer & Wagner, 1916, Centralbl. Bakt., Orig., I Abt., v. 78 (5), Oct. 12, 383–384, 1 fig.: Spirochaeta [1].—Vienna.—Reported for: #479 *Canis* (*familiaris*).]

[species Lim, 1920, Parasitol., v. 12 (2), Mar., 108–111, pl. 7, figs. 1–3, 5: "Spirochaetes".—Edinburgh, Scotland.—Reported for: #413 *Felis* (*catus* [*dom.*]).]

[species [2 kinds] Ogura, 1925, J. Jap. Soc. Vet. Sci., v. 4 (2), June, 185–187, English Summary, 188, pl. 6: Spirochaeta [l].—Japan.—Reported for: #479 *Canis* (*familiaris*).]

[species Pettit, 1927, Biol. méd., v. 17 (2), Feb., 89 (after Gros): "Spirochetides".—Reported for: #413 *Felis* (*catus* [*dom.*]). Continued in later bulletins.]

tabacalense Mazza, 1926, Rev. Univ. Buenos Aires, v. 4 (4), 434, figs. 1–5: *Treponema* [l].—Tabacal [t], S. Amer.—Reported for: #479 *Canis* (*familiaris* t. h.).

†*vincenti*, pp. 35, 433: *Treponema*.—Reported for: #413 *Felis* (*catus* [*dom.*]); #479 *Canis* (*familiaris*). Continued in later bulletins.

†149. *SARCOSPORIDIA*, pp. 36,433.

[species Viljoen, 1921, Inaug. Dissert., Univ. Bern, 1–68, 5–6: Sarkosporidien.—S. Africa.—Reported for: #450 *Cynictis* (*penicillata*); #455 *Mungos* (*mungo* [*senescens*]); #460*A* *Helogale* (*brunnula*); #464 *Herpestes* (species); #538 *Mellivora* (*ratel* so. *capensis*). Continued in later bulletins.]

†151. **Sarcocystis**, pp. 36, 433.

species Darling, 1915, J. Parasitol., v. 1 (3), Mar., 116: *Sarcocystis*.—Panama.—Reported for: #413 *Felis* (*catus* [*dom.*]).

species Krause, 1863, Zeitschr. f. ration. Med., v. 18, 156: *Sarcocystis*.—Locality not given.—Reported for: #413 *Felis* (*catus* [*dom.*]); #479 *Canis* (*familiaris*).

species [l] Wasielewski, 1896*a*, 127 [based on Kartulis; Baraban; St. Remis]: *Sarcocystis*.—Locality not given.—Reported for: #413 *Felis* (*catus* [*dom.*]); #479 *Canis* (*familiaris*). Continued in later bulletins.

†155. **Monocystis**, p. 37.

†*sphaerica*, p. 38: *Monocystis*.—Reported for: #479 *Canis* (*familiaris*).

†156. *COCCIDIOMORPHA*, p. 38.

[*hartmanni* Rastégaïeff, 1930, Arch. Protistenk., v. 71 (3), 394: Genus not stated.—Locality not given.—Reported for: #413 *Felis* (*tigris* t. h.).]

—. **Dermosporidium** [j] Marcone, 1907, Atti R. Ist. d'incorag. di Napoli, 6 S., v. 58, 18, 10–19; 1908, Zeitschr. f. Infectionsk., v. 4 (1–2), Mar. 26, 15, 5–16, mt. *canis* Marcone, 1907, 1908.—Italy [t].

canis [j] Marcone, 1907, 18, 10–19, pl. 1; 1908, 15, 5–16, pls. 1–2: *Dermosporidium* [j].—Italy [t].—Reported for: #479 *Canis* (*familiaris* t. h.).

—. **Pneumocystis** Delanoë, 1912, C. r. Acad. Sci., v. 155, Oct. 7, 658–660, mt. *carinii*.—Schizogony stage of some sporozoon [?*Klossiella*]. S. America and Paris.<? KLOSSIELLIDAE <*ADELEIDA*.

carinii Delanoë, 1912, 658–660: *Pneumocystis* [;? *Klossiella*].—Paris [t].—Reported for: #413 *Felis* (*catus* [*dom.*]); #479 *Canis* (*familiaris*). Continued in later bulletins; *Rattus* (species t. h.).

<†157. **Cytospermium** [j], p. 434.

hepatis canis familiaris [p] Rivolta, 1878*b*, 233: *Cytospermium*.—Trematode egg, fide Wenyon, 1926*a*, 807.—Reported for: #479 *Canis* (*familiaris*).

villorum intestinalium canis [p] Rivolta, 1878*b*, 232: *Cytospermium*.—So. †161 *Isospora bigemina*.—Reported for: #413 *Felis* (*catus* [*dom.*]); #479 *Canis* (*familiaris*).

†161. **Isospora**, pp. 38, 433. Syn. *Diplospora* [s] Labbé, 1893, C. r. Acad. Sci., v. 117 (12), Sept. 18, 407.

†*belli*, p. 433: *Isospora*.—Reported for: #413 *Felis* (*catus* [*dom.*] exp.[i]); #479 *Canis* (*familiaris* neg. exp.). Continued in later bulletins.

†**bigemina* [p. 38] Stiles, 1891*f*, 163 [Coccidium [l]]: *Isospora*.—Paris [t].—Syn. bigmenina [m] 1921.—Reported for: #413 *Felis* (*catus* [*dom.*]);

#479 *Canis* (*familiaris* t. h.); #485 *Vulpes* (species); #511 *Mustela* (*putorius*).

canis Railliet & Lucet, 1891, Bul. Soc. zool. de France, v. 16 (9–10), Nov.–Dec., 250 [Coccidium[l] *bigeminum*]: *Isospora bigemina*.—Reported for: #479 *Canis* (*familiaris* t. h.).

**canivelocis*[js] Weidman, 1915, J. Comp. Path. & Therap., v. 28 (4), Dec. 31, 320–323, figs. 1–13 [Coccidium[l]]: *Isospora bigemina*.—Western[t] U. S. A.—So.[j] *felis*, fide Wenyon, 1926*a*, 818.—Reported for: #485 *Vulpes* (*velox* t. h.).

cati Railliet & Lucet, 1891, Bul. Soc. zool. de France, v. 16 (9–10), Nov.–Dec., 250 [Coccidium[l] *bigeminum*]: *Isospora bigemina*.—Reported for: #413 *Felis* (*catus* [*dom.*] t. h.).

**felis* Wenyon, 1923, Ann. Trop. Med. & Parasitol., v. 17 (2), July 12, 248–257, 1 text fig., pls. 9–12 [for Diplospora bigemina of Wasielewski, 1904]: *Isospora*.—Europe[t].—Reported for: #413 *Felis* (*catus* [*dom.*] t. h.); #479 *Canis* (*familiaris*).

laidlawi Hoare, 1927, Ann. Trop. Med. & Parasitol., v. 21 (3), Oct. 10, 314–315, pl. 23: *Isospora*.—England[t].—Syns. laidlaw[m] Hoare, loc. cit., 314; laidlowi[m].—Reported for: #511 *Mustela* (*furo* t. h.).

putorii Railliet & Lucet, 1891, Bul. Soc. zool. de France, v. 16 (9–10), Nov.–Dec., 250 [Coccidium[l] *bigeminum*]: *Isospora bigemina*.—Locality not given.—Reported for: #511 *Mustela* (*putorius* t. h.).

†**rivoltai*[e], pp. 39, 433 [Coccidium[l]]: *Isospora;* Eimeria[l].—Reported for: #413 *Felis* (*catus* [*dom.*] t. h.); #479 *Canis* (*familiaris*).

species Möller, 1923, Inaug. Dissert. Tierärztl. Hochsch. Berlin, 17–18: *Isospora*.—Berlin Zoo[t].—Reported for: #413 *Felis* (*leo* t. h.).

species Nieschulz, 1925, Centralbl. Bakt., Orig., I Abt., v. 94 (2), Jan. 28, 138–139, fig. 1*b*: *Isospora*.—Netherlands.—Reported for: #479 *Canis* (*familiaris*).

species Triffitt, 1927, Protozool., No. 3, Apr., 59–61 (figs. 1–3) 61–62,62–63: *Isospora*.—London.—Reported for: #413 *Felis* (species (Eyot-cat)); #413 *Lynx* (species); #485 *Vulpes* (species).

species Tubangui, 1931, Phil. J. Sci., v. 44 (3), Mar., 262: *Isospora*.—Philippines.—Reported for: #413 *Felis* (*catus* [*dom.*]).

[species Virchow, 1860*b*, 527 [Psorospermium]: Coccidium[l].—So. *Isospora bigemina*.—Reported for: #479 *Canis* (*familiaris*).]

[villorum intestinalium canis[p] Rivolta, 1878*b*, 232: *Cytospermium*[j].—So. *bigemina*.—Reported for: #413 *Felis* (*catus* [*dom.*]); #479 *Canis* (*familiaris*).]

viverrae Adler, 1924, Ann. Trop. Med. & Parasitol., v. 18 (1), Apr. 30, 91–92, pl. 5, figs. 1–38: *Isospora*.—S. Africa[t].—Reported for: #413 *Felis* (*catus* [*dom.*] neg. exp.); #435 *Civettictis* (*civetta* t. h.); #479 *Canis* (*familiaris* neg. exp.).

vulpis Galli-Valerio, 1931, Centralbl. Bakt., Orig., I Abt., v. 120 (1–2), Feb. 23, 102–103: *Isospora*.—Switzerland[t].—Reported for: #485 *Vulpes* (*vulpes* s. *vulgaris* t. h.).

†**163. Eimeria**, pp. 39, 433, 611.

canis Wenyon, 1923, Ann. Trop. Med. & Parasitol., v. 17 (2), 261–263, pl. 13, figs. 16–19, pl. 14, figs. 1–8: *Eimeria*.—London[t].—Reported for: #479 *Canis* (*familiaris* t. h.).

felina Nieschulz, 1924, Tijdschr. v. Diergeneesk., v. 51 (4), Feb. 15, 129–131, figs. *a–b*: *Eimeria*.—Holland[t].—Reported for: #413 *Felis* (*catus* [*dom.*] t. h., *leo*).

furonis Hoare, 1927, Ann. Trop. Med. & Parasitol., v. 21 (3), Oct. 10, 316–317, pl. 24, figs. 7–11: *Eimeria*.—England[t].—Reported for: #511 *Mustela* (*furo* t. h.).

ictidea Hoare, 1927, Ann. Trop. Med. & Parasitol., v. 21 (3), Oct. 10, 315–316, pl. 24, figs. 1–6: *Eimeria*.—England[t].—Reported for: #511 *Mustela* (*furo* t. h.).

**mephitidis* Andrews, 1928, J. Parasitol., v. 14 (3), Mar., 193–194, pl. 9, figs. 1–2: *Eimeria.*—North America [t].—Reported for: #552 *Mephitis* (*mephitis* t. h.).

mesnili Rastégaïeff, 1929, Bul. Soc. Path. exot., v. 22 (8), post Oct. 9, 640; 1930, Arch. Protistenk., v. 71 (3), 395: *Eimeria.*—Murman Coast [t], Russia.—Reported for: #486 *Alopex* (*lagopus* t. h.).

nova [h] Railliet, 1892*z*, 339 [not *Eimeria nova* Schneider, 1881] [Orthospora [1]]: *Eimeria.*—Reported for: #413 *Felis* (*catus* [*dom.*]); #479 *Canis* (*familiaris*).

novowenyoni Rastégaïeff, 1929, Bul. Soc. Path. exot., v. 22 (8), post Oct. 9, 640; 1930, Arch. Protistenk., v. 71 (3), 394: *Eimeria.*—Leningrad Zoo [t].—Reported for: #413 *Felis* (*tigris* t. h.).

†*perforans* [p. 39] Leuckart, 1879*b*, 278 [Coccidium [1]]: *Eimeria.*—Reported for: #413 *Felis* (*catus* [*dom.*] neg. exp.); #479 *Canis* (*familiaris*). Continued in later bulletins; *Oryctolagus* (*cuniculus* t. h.).

sibirica Yakimoff & Terwinsky, 1931, Arch. Protistenk., v. 73 (1), Jan. 29, 58–59, fig. 1: *Eimeria.*—Russia [t].—Reported for: #521 *Martes* (*zibellina yeniseensis, zibellina zibellina*).

*species Andrews, 1927, J. Parasitol., v. 13 (3), Mar., 189: *Eimeria.*—See *E. mephitidis.*—Reported for: #552 *Mephitis* (*mephitis*).

†**stiedae* [p. 39] Lindemann, 1865, Bul. Soc. Imp. Moscou, v. 38 (4), Pt. 2, 385–386 (based on Stieda's figs. 4–5, pl. 3, Arch. f. Path. Anat., 1865): *Eimeria.*—Reported for: #479 *Canis* (*familiaris*). Continued in later bulletins; *Oryctolagus* (*cuniculus dom.* t. h.).

[var. [p. 800] Labbé, 1899*a* [based on Eimer, 1870]: *Coccidium perforans.*—Reported for: #479 *Canis* (*familiaris*); #511 *Mustela* (*vulgaris*). Continued in later bulletins.]

vulpis Galli-Valerio, 1929, Centralbl. Bakt., Orig., I Abt., v. 112 (1–2), May, 56: *Eimeria.*—Switzerland [t].—Reported for: #485 *Vulpes* (*vulpes* s. *vulgaris* t. h.).

†**163**A. **Coccidium** [1], p. 39.

nudum [i] Marcone, 1907, Atti R. Ist. d'Incorag. di Napoli, 6 S., v. 58, 23, 20–30, pl. 2; 1908, Zeitschr. f. Infectionsk., v. 4 (1–2), Mar. 26, 20, 16–30, pl. 3: *Coccidium* [1].—Italy [t].—Reported for: #479 *Canis* (*familiaris* t. h.).

species Cauchemez, 1923, Bul. Soc. centr. Méd. véter., v. 76, 413–417, figs. 1–18: *Coccidium* [1].—France.—Reported for: #479 *Canis* (*familiaris*).

[species Efimoff in Rastégaïeff, 1929, Bul. Soc. Path. exot., v. 22 (10), post Apr. 11, 909: "Coccidies".—E. Siberia.—Reported for: #485 *Vulpes* (species).]

species Liénaux, 1891*a*, 16–21: *Coccidium* [1].—Europe.—Reported for: #479 *Canis* (*familiaris*).

<†**165. Hepatozoon**, p. 801. Syn. *Leucocytogregarina* [o] Porter, 1909, Science Progress, v. 4 (14), Oct., 264, tpd. *L. muris* Balfour syn. *H. perniciosum.*

canis James, 1905, Sci. Mem. Off. Med. & San. Dept. Gov. India, n. s., No. 14, 6–11, figs. 1–14 [Leucocytozoon [1]]: *Hepatozoon*; Haemogregarina [1]; *Leucocytogregarina* [o]].—Assam [t].—Reported for: #413 *Felis* (*catus* [*dom.*]); #469 *Hyaena* (*crocuta*); #476 *Cuon* (*dukhunensis*); #479 *Canis* (*adustus, aureus, familiaris* t. h., species (Pariah dog)); #485 *Vulpes* (*bengalensis*). Vector, †875 *Rhipicephalus* (*sanguineus*).

canis-adusti Nuttall, 1910, Parasitol., v. 3 (1), Apr., 112–113, pl. 11, figs. 1–5 [Haemogregarina [1]]: *Hepatozoon.*—Cambridge [t], from B. E. Africa.—Reported for: #479 *Canis* (*adustus* t. h.).

[*canis-aurei* [o] Martoglio, 1913, Ann. d'Igiene, v. 23 (2), 167 [*Leucocytogregarina* [o] *rotundata*] [based on Patton]: Haemogregarina [1] *rotundata.*—So.[i] *rotundatum*, fide Wenyon, 1926*a*, 1091.—Reported for: #479 *Canis* (*aureus* t. h.).]

[*canis-familiaris*[s] Martoglio, 1913, Ann. d'Igiene, v. 23 (2), 165, pl. 5, figs. 1–7 [*Leucocytogregarina*[o] *rotundata*]: Haemogregarina[l] *rotundata*.—Abyssinia.—So. *canis*, fide Wenyon, 1926*a*, 1091.—Reported for: #479 *Canis* (*aureus*, *familiaris* t. h.).]

chattoni[j s] Leger, 1912, C. r. Soc. Biol., v. 72 (24), July 5, 1062 [Haemogregarina[l]]: *Hepatozoon*.—Upper Senegal and Niger[t].—So.[j] *canis*, fide Wenyon, 1926*a*, 1091.—Reported for: #469 *Hyaena* (*crocuta* t. h.); #479 *Canis* (*familiaris*).

felis[o] Wenyon, 1926*a*, 1111, for *felis-domesticae*[e] Patton, q. v.

felis-domesticae[e j s], Patton, 1908, Parasitol., v. 1 (4), Dec., 319 [Leucocytozoon[l]] [*felis-domestici*]: *Hepatozoon*.—India[t].—So.[j] *canis*, fide Wenyon, 1926*a*, 1091. Syn. *felis*[o].—Reported for: #413 *Felis* (*catus* [*dom.*] t. h.).

[*hyenae-crocutae*[s] Martoglio, 1913, Ann. d'Igiene, v. 23 (2), 167 (based on Leger) [*Leucocytogregarina*[o] *rotundata*]: Haemogregarina[l] *rotundata*.—So.[j] *canis*, fide Wenyon, 1926*a*, 1091. Syn. *hyenae*-croculae[m] 1926*a*.—Reported for: #469 *Hyaena* (*crocuta* t. h.).]

rotundatum Patton, 1910, Bul. Soc. Path. exot., v. 3 (4), post Apr. 13, 280 [*Leucocytogregarina*[o]]: *Hepatozoon*.—India[t].—Not clear that this is distinct from *canis*, fide Wenyon, 1926*a*, 1091.—Reported for: #479 *Canis* (*aureus* t. h.).

[species Franchini, 1925, Arch. Schiffs-Trop.-Hyg., v. 29 (1), 108: *Leucocytogregarina*[o].—Italy.—Reported for: #479 *Canis* (*familiaris*).]

species Wenyon in Hamerton, 1929, Proc. Zool. Soc. Lond., 59: *Hepatozoon*.—London Zoo.—Reported for: #413 *Felis* (*bengalensis*).

†170. Plasmodium, pp. 41, 434, 611.

canis Castellani & Chalmers "1908" 1910*a*, 298: *Plasmodium*.—Colombo[t], Ceylon.—Reported for: #479 *Canis* (*familiaris*, species (Pariah dog t. h.)).

roubaudi Leger & Bédier, 1923, C. r. Soc. Biol., v. 88 (6), Feb. 17, 422–424, figs. 1–8: *Plasmodium*.—Senegal[t].—Reported for: #540 *Ictonyx* (*zorilla* t. h.).

†**vivax*, pp. 42, 435: *Plasmodium*.—Reported for: #479 *Canis* (*familiaris* exp.).

†172. Microsoma, p. 43.

mustelae Lebedeff & Tscharnotzky, 1911, Centralbl. Bakt., Orig., I Abt., v. 58 (7), May 27, 625, 631, 1 pl.: *Microsoma*.—Moscow[t].—Little evidence that bodies were parasitic, fide Wenyon, 1926*a*, 1064.—Reported for: #511 *Mustela* (*putorius* t. h.).

†172*i*, O. Nuttallia[j s], pp. 43, 44. So. **†173 Babesia**, q. v.

†172*k*, D. Rossiella, p. 43. So. **†173 Babesia**, q. v.

†172*o*, I. Rangelia[j s], p. 44. So. **†173 Babesia**, q. v.

†172*S*. Anaplasma, pp. 43, 436.

canis Basile, 1912, Pathologica, v. 14 (87), 358–360, figs. 1–8: *Anaplasma*.—Reported for: #479 *Canis* (*familiaris* t. h.).

species Gilruth et al., 1911, Parasitol., v. 4 (1), Mar., 1: *Anaplasma*.—Melbourne Zoo.—Correspond to *marginale*.—Reported for: #479 *Canis* (*dingo*).

species [p. 436] Laveran & Franchini, 1914: *Anaplasma*.—Reported for: #413 *Felis* (*catus* [*dom.*]); #479 *Canis* (*familiaris*). Continued in later bulletins.

[species Yakimoff & Schokhor, 1917, Bul. Soc. Path. exot., v. 10 (4), post Apr. 11, 306: "anaplasmes".—Russian Turkestan.—Reported for: #479 *Canis* (species (wolf)).]

†173. Babesia, pp. 44, 436, 612.

bauryi Leger & Bédier, 1922, C. r. Soc. Biol., v. 87 (29), Oct. 14, 935 [*Nuttallia*[j s]]: *Babesia*.—Senegal, Africa[t].—Reported for: #485 *Vulpes* (*dorsalis* t. h.).

**bigemina* Smith & Kilbourne, 1893*a*, 72 [Pyrosoma[h]]: *Babesia; Piroplasma*[s].—Wash., D. C.[t]—Re-

ported for: #479 *Canis* (*familiaris*). Continued in later bulletins; *Bos* (*taurus* t. h.). Vectors: †875 *Rhipicephalus* (*sanguineus*); †878 *Boophilus* (*annulatus, australis, bovis, calcaratus, decoloratus*).

canis Piana & Galli-Valerio, 1895, Moderno Zooiatro, v. 6 (9), May 10, 165–168, figs. 1–4 [Pyrosoma[h] bigeminum]: *Babesia; Piroplasma*[s]; Proplasma[m].—Malignant jaundice of dogs.—Italy[t].—Reported for: #476 *Cuon* (*dukhunensis*); #479 *Canis* (*aureus* exp., *familiaris* t. h.). Vectors: †869 *Haemaphysalis* (*leachi*); †873 *Dermacentor* (*reticulatus, venustus*[i]); †875 *Rhipicephalus* (*sanguineus*).

civettae Leger, A. & M., 1920, Bul. Soc. Path. exot., v. 13 (8), post Oct. 13, 652: *Babesia; Nuttallia*[j s].—Senegal[t].—Reported for: #435 *Civettictis* (*civetta* t. h.).

[* *commune* Phillips & McCampbell, 1908, Centralbl. Bakt., Orig., I Abt., v. 47 (5), 592–608, figs. 1–6: *Piroplasma*.—Ohio, U. S. A.[t]—Reported for: #479 *Canis* (*familiaris* t. h.). Continued in later bulletins.]

felis Davis, 1929, Trans. Roy. Soc. Trop. Med. & Hyg., v. 22 (6), Apr. 25, 533, figs. 1–4: *Babesia*.—Sudan[t].—Cf. species Davis.—Reported for: #413 *Felis* (*catus* [*dom.*] exp., *ocreata* t. h.).

gibsoni Patton, 1910, Bul. Soc. Path. exot., v. 3 (4), post Apr. 13, 274–279, figs. 1–6 [*Piroplasma*[s]]: *Babesia; Achromaticus*.—Madras[t].—Reported for: #479 *Canis* (*aureus, familiaris* t. h., species (bazaar dogs) exp.). Suspected vector, †875 *Rhipicephalus* (*sanguineus*).

herpetedis[e] França, 1908, Bul. Soc. Path. exot., v. 1 (7), post July 8, 410–412[*herpestidis*] [*Piroplasma*[s]]: *Babesia; Nuttallia*[j s].—Lisbon[t], Portugal.—Syn. *herpestedis*[e] Martini, 1923.—Reported for: #464 *Herpestes* (*ichneumon* t. h.).

legeri Bédier, 1924, C. r. Soc. Biol., v. 90 (6), Feb. 22, 415–417 [*Nuttallia*[j s]]: *Babesia*.—Paris[t], France from Africa.—Reported for: #458 *Atilax* (*calera* so. *galera* t. h.).

rossi Nuttall, 1910, Parasitol., v. 3 (1), Apr., 109–111, pl. 10: *Babesia; Rossiella*[j s]; *Piroplasma*.—Cambridge[t] from Brit. E. Africa.—Reported for: #479 *Canis* (*adustus* t. h., *aureus*).

species Davis, 1929, Trans. Roy. Soc. Trop. Med. & Hyg., v. 22 (4), 304: *Babesia*.—Sudan.—Cf. *felis*.—Reported for: #413 *Felis* (*catus* [*dom.*] exp., *ocreata* [Sudanese wild cat]).

species Leger & Bédier, 1922, C. r. Soc. Biol., v. 87 (29), Oct. 14, 934 [*Piroplasma*[s]]: *Babesia*.—Paris, from Mauritania, French Sudan.—Reported for: #413 *Felis* (*leo*).

[species Martini, 1923, Lehrb. Med. Entom., 313: *Nuttallia*.—Locality not given.—Reported for: #455 *Mungos* (*mungo*).]

species Patton, 1910, Bul. Soc. Path. Exot., v. 3 (4), post Apr. 13, 274 [*Piroplasma*]: *Babesia*.—India.—Reported for: #455 *Mungos* (*mungo*).

species Plimmer, 1915, Proc. Zool. Soc. Lond., 130: *Babesia*.—London Zoo from India.—Possibly *gibsoni*, fide Wenyon, 1926*a*, 1021.—Reported for: #476 *Cuon* (*dukhunensis*).

species Wenyon & Hamerton, 1930, Trans. Roy. Soc. Trop. Med. & Hyg., v. 24 (1), June 30, 7–8: *Babesia*.—London Zoo from N. America.—Reported for: #413 *Felis* (*rufa*).

species Wenyon & Scott, 1926, Trans. Roy. Soc. Trop. Med. & Hyg., v. 20 (1–2), July, 6: *Babesia*.—London Zoo, from N. America.—Reported for: #561 *Procyon* (*lotor*).

[species Yakimoff in Yakimoff et al., 1910, Centralbl. Bakt., Orig., I Abt., v. 55 (5), Aug. 17, 372: "Piroplasmen" [reported as *Plasmodium*, fide Wenyon, 1926*a*, 1354].—St. Petersburg Zoo.—Reported for: #576 *Ursus* (species t. h.).]

[species Yakimoff & Schokhor, 1917, Bul. Soc. Path. exot., v. 10 (4), post Apr. 11, 305–306 [resembles *Piroplasma canis*]: *Babesia*.—Termese, Russian Turkestan.—Reported for: #479 *Canis* (species (wolf)).]

tropica Lingard, 1905*a*, 76–78 [Pyroplasma [m]]: *Babesia*; Nuttallia [s]; *Piroplasma* [s].—India [t].—Reported for: #413 *Felis* (*catus* [*dom.*]); #479 *Canis* (*familiaris*, species (Pariah dog)). Continued in later bulletins; *Equus* (*caballus* t. h.).

vitalii Pestana, 1910, Rev. Med. S. Paulo, No. 22, 423 [nv] [*Piroplasma*]: *Babesia*; *Rangelia* [i] [s].—Brazil [t].—Syn. vitali [m].—Reported for: #479 *Canis* (*familiaris* t. h.). Vectors: †881 *Amblyomma* (*cajennense*, *striatum*).

†174. Theileria, pp. 44, 436.

species "Patton, 1910, 3" [nv]: *Theileria*.—Reported for: #455 *Mungos* (*mungo*).

species Yakimoff & Schokhor, 1917, Bul. Soc. Path. exot., v. 10 (4), post Apr. 11, 306 ["Theiléries"]: *Theileria*.—Taschent, Russian Turkestan.—Reported for: #479 *Canis* (species (wolf)).

species Yakimoff & Schokhor, 1917, Bul. Soc. Path. exot., v. 10 (4), post Apr. 11, 309 ["Theilérièse"]: *Theileria*.—Termese, Russian Turkestan.—Reported for: #485 *Vulpes* (species).

†177. Bartonella [s], pp. 45, 436, 612. So. **†172 Grahamella.**

canis Kikuth, 1928, Klin. Wochenschr., Berl., v. 7 (37), Sept. 9, 1729–1730, 1 fig.: *Bartonella*.—Europe [t].—Reported for: #479 *Canis* (*familiaris* t. h.).

†188. *HYPOSTOMATA*, p. 46.

—. **Opalinopsis** Foettinger, 1881*a*, 367–372, tpd. *O. sepiolae* Foettinger. Systematic position sub judice. In FOETTINGERIDAE[j], fide Doflein, 1929, Lehrb. d. Protozoenk., 5th Ed., Pt. 2 (2), 1175. Gulf of Naples [t].

**nucleolobata* Smith & Fox, 1908, Proc. Path. Soc. Phila., N. S., v. 11 (10), Oct., 282–287.—Phila. Zoo [t].—Reported for: #479 *Canis* (*latrans* t. h.).

†212. Encephalitozoon, pp. 52, 437.

cuniculi Levaditi et al., 1923, C. r. Acad. Sci., v. 177 (20), Nov. 12, 985: *Encephalitozoon*.—Reported for: #479 *Canis* (*familiaris* exp.). Continued in later bulletins; *Oryctolagus* (*cuniculus* t. h.).

negrii Manouelian & Viala, 1927, C. r. Acad. Sci., v. 184 (10), Mar. 7, 630–632: *Encephalitozoon*.—Reported for: #479 *Canis* (*familiaris* t. h.).

†*rabiei*, pp. 52, 437: *Encephalitozoon*.—Renamed †212 Glugea [l] *lyssae*.—Reported for: #479 *Canis* (*familiaris*).

†212. Glugea, p. 437.

†*lyssae*, p. 438 (†212 *Encephalitozoon rabiei* renamed): *Glugea*.—Reported for: #479 *Canis* (*familiaris*).

<**†212. Protozoa.** Genus not determined.

species Gerrard, 1906, J. Hyg., v. 6 (3), July, 229–230; Wenyon, 1906, 231–234: Protozoan.—Federated Malay States.—Probably *Hepatozoon canis*.—Reported for: #479 *Canis* (*familiaris*).

*species Jackson, 1921, J. Inf. Dis., v. 29 (3), Sept., 302–305, figs. 1–10 [Sporozoa [j]]: Protozoan.—Chicago.—Reported for: #479 *Canis* (*familiaris*).

<**†212 Psorospermium.**

species Neumann, 1866, Arch. mikr. Anat., v. 2, 512–514: Psorospermia.—See †163 *Eimeria perforans*.—Reported for: #479 *Canis* (*familiaris*).

species Virchow, 1860*b*, 527: Psorospermium; Coccidium [t].—See †161 *Isospora bigemina* Stiles.—Reported for: #479 *Canis* (*familiaris*).

†218. *PLATHELMINTHES* [6], pp. 72–113, 438–450, 612–622, 802–813.

†221. *TREMATODA*, pp. 72–97, 438–444, 612–621, 802–807.

[6] The cross reference to the flatworms has been prepared by Mabelle Orleman Nolan.

†225. *MONOSTOMATA*, pp. 73, 612.

†225*e*. NOTOCOTYLIDAE, p. 73. See *Catatropis*.

—. **Catatropis** Odhner, 1905, Fauna arctica, v. 4 (2), 366, 367, tod. *verrucosa*.—< †225*e* NOTOCOTYLIDAE: Body elongate, cephalic and caudal ends rather uniformly rounded. Skin on forebody and on venter beset with very fine spines which become larger cephalad, and on the venter of the forebody they become thick set, strong, rhomboid scales. Venter with 3 rows of weakly developed gland packets, of which the median row discharges on a uniformly slightly raised, longitudinally running, keel-like swelling, while each of the lateral rows discharges in a row of 8 to 12 small, not retractile, not invaginatable warts. Vagina very strongly developed, nearly as long as cirrus sac.

verrucosa Frölich, 1789 [Fasc.[1]]: *Catatropis;* Monost.[1] —Reported for: #485 *Vulpes* (species). Continued in later bulletins; *Anser* (*dom.* t. h.).

†228. *AMPHISTOMATA*, pp. 73, 438.

†229*a*. **Amphistoma**[1], pp. 76, 438.

species Parona, 1894*a*, 139, 291: *Amphist.* (Fasciola[1]).—Pisa, Italy.—Reported for: #413 *Felis* (*catus*).

†223*j*. HOLOSTOMATA, pp. 73, 802.

—. STRIGEOIDEA, p. 802. For revision, see La Rue, 1926, Trans. Amer. Micr. Soc., v. 45 (1), Jan., 11–19.

—. STRIGEIDAE. See ALARIINAE, CYATHOCOTYLINAE, *Diplostomulum*, and *Tetracotyle*.

—. ALARIINAE Hall & Wigdor, 1918, J. Amer. Vet. Med. Assoc., v. 53, n. s. v. 6 (5), 617.—<STRIGEIDAE: Cirrus and cirrus sac absent. Anterior body region flattened; posterior region cylindrical or flattened dorsoventrally. Lateral sucking cups, auricular projections, or tentacle-like appendages, usually present near oral sucker. Uterus usually enters holdfast organ. Holdfast organ greatly elongated or cordate. Syns.: CONCHOSOMINAE Railliet, 1896, 160; HEMISTOMINAE Braun, 1893*a*. See *Alaria*, *Pharyngostomum*.

—. **Alaria** Schrank, 1788, mt. *vulpis* ° so. *alata*.—<ALARIINAE: Holdfast organ consists of 2 long folds exceeding half length of forebody. Uterus enters holdfast organ and forms one or more convolutions. Vitellaria confined to forebody or at least not extending posteriad beyond ovary.

Syns.: *Conchosomum* ° Railliet, 1896, 160, Hemistomum Diesing renamed, tod. *alatum*; Hemistoma[c h] Cobbold, 1876, 853, for Hemistomum [not *Hemistoma* Swainson, 1839, fish]; Hemistomum ° Diesing, 1850*a*, type *alatum*.

alata Goeze, 1782*a* [Planaria [1]]: *Alaria*; *Conchosomum* °; Hemistomum °; Diplostomum [1]; Distoma [1]; Fasciola [1]; Festucaria [1]; Holostomum [1].—Germany [t].—Reported for: #413 *Felis* (*silvestris*, species (wild cat, misc.)); #479 *Canis* (*azarae*, *cancrivorus*, *familiaris*, *lupus*, species (wolf)); #483 *Fennecus* (*cerdo* so. *zerda*); #485 *Vulpes* (species, *alopex* so. *vulpes* t. h.); #486 *Alopex* (*lagopus*). Continued in later bulletins. 1st host *Planorbis* (*vortex*). 2d host *Schilbe* (*mystus*, Egypt).

**americana* Hall & Wigdor, 1918, J. Amer. Vet. Med. Assoc., v. 53, n. s., v. 6 (5), 618, 620–622, figs. 2–5: *Alaria*.—Detroit [t], Michigan.—Reported for : #413 *Felis* (*catus*); #479 *Canis* (*familiaris* t. h.).

**arisaemoides* Augustine & Uribe, 1927, Parasitol., v. 19 (2), Aug., 236–244, figs. 1–4, pls. 16–18, figs. 1–11: *Alaria*.—Massachusetts [t].—Reported for: #485 *Vulpes* (*fulva* t. h.).

[*asoviensis* Skrjabin, 1923, Trudy Gos. Inst. Exp. Vet., Moscow, v. 1 (1), 70–71: Hemistomum °.—Russia [t].—Reported for: #413 *Felis* (*catus* [*dom.*] t. h.).]

clathratum Diesing, 1850*a* [Hemistomum°]: *Alaria.*—Mattogrosso ', Brazil.—Reported for: #497*A* *Pteronura* (*brasiliensis* t. h.).

**michiganensis* Hall & Wigdor, 1918, J. Amer. Vet. Med. Assoc., v. 53, n. s. v. 6 (5), 618, 623–624, figs. 6–7: *Alaria.*—Detroit ', Michigan.—Reported for: #479 *Canis* (*familiaris* t. h.).

nasuae LaRue & Townsend, 1927, J. Parasitol., v. 14 (2), Dec., 124: *Alaria.*—Reported for: #563 *Nasua* (*narica* s. *nasica* ° t. h.).

**oregonensis* LaRue & Barone, 1927, J. Parasitol., v. 14 (2), Dec., 124: *Alaria.*—Redmond ', Oregon.—Reported for: #479 *Canis* (*lestes* t. h.).

pseudoclathratum Krause, 1914, Zeitschr. f. Wiss. Zool., v. 112, Dec. 22, 198–204, pl. 6, fig. 6 [Hemistomum°]: *Alaria.*—Brazil '.—Reported for: #497*A* *Pteronura* (*brasiliensis* t. h.).

species Cameron, 1928, J. Helminthol., v. 6 (2), June, 87: *Alaria.*—London Zoo, from Malay States.—Reported for: #413 *Felis* (*planiceps* t. h.).

*species Cram, 1926, N. Amer. Vet., v. 7 (7), July, 43: *Alaria.*—Oregon.—So. *oregonensis.*—Reported for: #479 *Canis* (*lestes*).

vulpis° Schrank, 1788*a*, *alata* renamed: *Alaria;* Fasciola '.—Germany ', Europe.—So. *alata.*—Reported for: #479 *Canis* (*azarae*, *cancrivorus*); #485 *Vulpes* (*vulpes* t. h.).

—. **Pharyngostomum** Ciurea, 1922, C. r. Soc. Biol., v. 87 (23), 269, tod. Hemistomum ' *cordatum.*—< ALARIINAE: Oral sucker short, acetabulum present but greatly atrophied. Holdfast organ large, more or less cordate. Hind-body short and broad. Ootype anterior to testes. Testes deeply lobate and more or less side by side.

cordatum Diesing, 1850*a* [Hemistomum ']: *Pharyngostomum.*—Reported for: #413 *Felis* (*catus*, *silvestris* s. catus ' *ferus* t. h., species). Continued in later bulletins.

fausti Skrjabin & Popow, 1930, Tierärztliche Rundschau, Wittenberge, v. 36 (42), Oct. 19, 709–710, figs. 1–2: *Pharyngostomum.*—U. S. S. R.'—Reported for: #413 *Felis* (*catus* [*dom.*] t. h.).

—. CYATHOCOTYLINAE Mühling, 1898*b*.—< STRIGEIDAE: Body short, broad, without division into distinct anterior and posterior regions. Cirrus and cirrus sac present. Genital pore at posterior end. See *Prohemistomum.*

—. **Prohemistomum** Odhner, 1913, Zool. Anz., v. 42 (7), Aug. 1, 313, tod. *spinulosum.*—< CYATHOCOTYLINAE: Body anterior to holdfast organ flattened. Lateral margins turned ventrally and united posterior to holdfast organ.

appendiculatum Ciurea, 1916, Zeitschr. Infekt., v. 17, 309–328, pls. 15–16: *Prohemistomum.*—Rumania '.—Reported for: #413 *Felis* (*catus* [*dom.*], species); #479 *Canis* (*familiaris*). Continued in later bulletins. Vectors (exp.): *Aspius*, *Blicca*, *Carassius.*

industrium Tubangui, 1922, Proc. U. S. Nat. Mus., v. 60, Art. 20, No. 2415, 4–7, pls. 2–3: *Prohemistomum.*—China '.—Reported for: #479 *Canis* (*familiaris* t. h.).

—. **Diplostomulum** Brandes, 1892*b*, as collective group.—< STRIGEIDAE: Larval group embracing strigeid metacercariae with fore-body foliaceous, concave ventrally; hind-body a small conical prominence on postero-dorsal part of fore-body; reserve bladder comprised of a system of more or less definitely arranged tubules with calcareous corpuscles, round or ellipsoidal, disposed in vesicles at the termini of small branches; usually a pair of lateral organs (so-called lateral suckers) on antero-lateral edges beside oral sucker; no true cyst of parasite origin.

putorii Linstow, 1877 [Diplostomum [1]]: *Diplostomulum*; Tetracotyle [1].—Reported for: #511 *Mustela* (*putorius* t. h.).

—. **Tetracotyle**, p. 802. <†223*j*.

foetorii Linstow, 1876: *Tetracotyle*.—Reported for: #511 *Mustela* (*putorius* t. h.).

†**238**. *DISTOMATA*, pp. 78, 439, 612, 803.

—. **Distoma** [1], pp. 439, 612. <†238.

intestinalis vulpis [p] Viborg, 1795: *Dist.*—Reported for: #485 *Vulpes* (species, *vulpes*).

kalapai "Nakagawa", fide Brumpt, 1922*a*, 363: *Dist.*—Reported for: #413 *Felis* (*catus* exp.); #479 *Canis* (*familiaris* exp.). Continued in later bulletins. 2d hosts: crabs.

*species Stiles & Hassall, 1894*e*, 250: *Dist.*—Maryland.—Reported for: #511 *Mustela* (*vison*).

†**239**. FASCIOLOIDEA, pp. 78, 439, 612, 803.

†**239***A*″. MICROPHALLINAE, pp. 79, 440.

—. **Microphallus**, p. 440. <†239*A*″.

†*minus*, p. 440: *Microphallus*.—Reported for: #413 *Felis* (*catus* exp.); #479 *Canis* (*familiaris*). Continued in later bulletins.

†**239–39**. PLAGIORCHIIDAE, pp. 82, 613.

†**239–41**. PLAGIORCHIINAE, pp. 79, 81, 82, 613.

239–41*A*. **Plagiorchis**, p. 613.

massino Petrow & Tichonoff, 1927, Coll. Trav. Helm. Moscow, 150–154, figs. 1–2: *Plagiorchis*.—Russia [t]. —Reported for: #413 *Felis* (*catus* [*dom.*]); #479 *Canis* (*familiaris*).

†**240**. **Agamodistomum**, p. 79.

**la-ruei* Hughes, 1928, Parasitol., v. 20 (4), Dec., 413–416, figs. 1–2: *Agamodist.*—Near Douglas Lake, Michigan [t].—Reported for: #561 *Procyon* (*lotor lotor* t. h.).

putorii [h] Molin, 1858 [Dist.[1]]: *Agamodist.*—Padua [t].—Reported for: #511 *Mustela* (*putorius* t. h.).

239. HARMOSTOMIDAE, p. 804.

—. **Harmostomum**, p. 805.

helicis, p. 806: *Harmostomum*.—Reported for: #528 *Meles* (*meles meles* s. taxus [o]). Continued in later bulletins.

leptostomum, p. 806 [*Distoma* [1]]: *Harmostomum*; *Heterolope* [o]; Dist.[1] (Brachylaimus [l]).—Reported for: #528 *Meles* (*meles meles* s. taxus [o] t. h.).

†**244**. FASCIOLIDAE, pp. 81, 440.

†**246**. **Fasciola**, pp. 83, 440.

†*hepatica*, pp. 83, 440: *Fasciola; Cladocoelium* [o].—Reported for: #413 *Felis* (*catus*). Continued in later bulletins. Vectors, add: *Galba* (*bulimoides, bulimoides techella, ferruginea*, U. S. A.); *Lymnaea* (*brazieri* New South Wales, *cubensis* Puerto Rico).

†**248**. **Fasciolopsis**, p. 83.

†*buski*, p. 84 [Distoma[1]]: *Fasciolopsis*.—Reported for: #479 *Canis* (*familiaris*). Continued in later bulletins. Vectors, add: *Hippeutis* (*nitidella*); *Segmentina* (*hemisphaerula*).

†**249**. TROGLOTREMATIDAE, pp. 84, 440. See †250 *Paragonimus* and *Troglotrema*.

†**250**. **Paragonimus**, pp. 85, 440.

compactus Cobbold, 1859*d* [Dist.[1]]: *Paragonimus*; Mesogonimus [1].—Reported for: #455 *Mungos* (*fasciatus* [o] so. *mungo* s. *mungos* t. h.).

edwardsi Gulati, 1926, Mem. Dept. Agric. India Vet. Ser. Calcutta, v. 3 (8), Nov., 187–190, pl. 10, figs. *A* – *F*: *Paragonimus*.—Kumaon Hills [t], India.—Reported for: #427 *Paradoxurus* (*grayi* t. h.).

**kellicotti* Ward, 1908*k*, Trans. Amer. Micr. Soc., v. 28, 186: *Paragonimus*.—Ohio [t], U. S. A.—Reported for: #413 *Felis* (*catus* [*dom.*], *tigris*); #479 *Canis* (*familiaris* t. h.); #511 *Mustela* (*vison*). Continued in later bulletins.

†*pulmonale* [s], p. 85 [Distoma [1]]: *Paragonimus*; Mesogonimus [1].—So. *ringeri*.—Reported for: #413 *Felis* (*catus, tigris*); #479 *Canis* (*familiaris*).

[†*pulmonis* [s], p. 85: Distoma [1].—So. *ringeri*.—Reported for: #479 *Canis* (*familiaris*).]

†*ringeri*, p. 85 [Distoma[1]]: *Paragonimus*.—Reported for: #413 *Felis* (*catus*, species (panther), *tigris*); #479 *Canis* (*familiaris*, species (wolf)); #485 *Vulpes* (species). Continued in later bulletins.

rudis Diesing, 1850*a* [Distoma[1]]: *Paragonimus*.—Brazil[t].—Reported for: #497*A* *Pteronura* (*brasiliensis* t. h.).

*species Feldman & Essex, 1929, Ann. Parasitol., v. 7 (2), March, 204–207, pls. 1–2: *Paragonimus*.—Minnesota.—? So. *kellicotti*.—Reported for: #413 *Felis* (*catus*).

[*species Kellicott, 1894*a*, 123–126: Distoma[1].—Ohio.—So. *kellicotti*.—Reported for: #479 *Canis* (*familiaris*).]

†*westermani*, pp. 85, 440 [Dist.[1]]: *Paragonimus*; Clinost.[1]; Mesogonimus[1].—Syns.: *westermanii*, *westermanni*.—Reported for: #413 *Felis* (*bengalensis*, *catus* [*dom.*], *microtis*, *pardus orientalis*, *rufa*, *sondiaca* so. *tigris sondiaca*, species (panther, wild cat), *tigris* t. h., *tigris coreensis*); #427 *Paradoxurus* (*larvatus*); #479 *Canis* (*familiaris*, *lupus*, *procyonoides*, species (wolf)); #485 *Vulpes* (*japonica* so. *vulpes japonica*, species, *vulpes*); #521 *Martes* (*melampus*); #528 *Meles* (species (badger)). Continued in later bulletins.

—. **Troglotrema** Odhner, 1914, Zool. Bid. Upsala, 236, mt. *acutum*.—<†249 TROGLOTREMATIDAE: Body globular to oval. Skin with unusually long spear-shaped spines, which project from cuticle for the greater part of their length, thickly set, not grouped. Suckers somewhat more muscular than in other genera of family. Acetabulum equatorial or slightly preequatorial. Pharynx present; ceca with irregular windings and here and there expansions and constrictions as in †250 *Paragonimus*. Excretory bladder Y-shaped with a primary stem branching slightly posttesticular, the 2 branches each about twice as long as main stem and extending to acetabular zone or slightly preacetabular. Genital pore median, in acetabular zone, immediately caudad of opening of acetabulum. Cirrus pouch highly developed, cylindrical, extends in general in dorso-ventral direction and provided with thick, long muscle fibres; proximal end of pouch contains 2 globular vesiculae seminales; then follows a very long prostate canal surrounded by well-developed glands; ductus ejaculatorius slender; cirrus very short, relatively broad; testes rather lateral, fields separate, zones practically coincide, chiefly or entirely postacetabular, may extend into acetabular zone, very large, elliptical, somewhat elongate, smooth edge but may show a lobation. Ovary in acetabular zone, in part postacetabular, margin smooth, somewhat pyriform; vitellaria profusely developed, extend into oral and postcecal zones, chiefly dorsal, but preacetabular they extend somewhat more ventrad; postacetabular they extend mediad only about to ceca; postcecal they may bend toward median line; uterus postovarial, postacetabular, intercecal, chiefly intertesticular, median, may extend rather close to caudal end; vagina short. Ova rather large, thin-shelled, similar to †250 *Paragonimus*.

acutum Leuckart, 1842 [Distoma[1]]: *Troglotrema*.—Reported for: #511 *Mustela* (*putorius* t. h.).

†**252.** ECHINOSTOMATIDAE, pp. 86, 440, 621. See †255 *Echinostoma*, †257 *Euparyphium*, †262 *Echinochasmus*, *Echinoparyphium*, and *Mesorchis*.

†**255. Echinostoma**, p. 86.

campi Ono, 1930, Dobuts. Zasshi, v. 42 (495), 7–16, 9 figs. [n. v.]: *Echinost*.—Manchuria[t].—Reported for: #479 *Canis* (*familiaris* t. h.). Continued in later bulletins. 1st host *Lymnaea* (species). 2d host tadpole or loach.

cinctorchis Ando & Ozaki, 1923, 109–112, 118, figs. 1–3, figs. *A*, *A'*, 2 [nv]: *Echinost.*—Japan[t].—Reported for: #479 *Canis* (*familiaris* exp.). Continued in later bulletins; *Rattus* (*norvegicus* t. h.). Vectors: tadpoles of *Rana* (*esculenta*); *Viviparus* (*malleatus*).

conoideum[s] Bloch, 1782*a* [Cuculanus[1]]: *Echinost.*; Dist.[1]—Europe[t].—So. *echinatum*.—Reported for: #479 *Canis* (*familiaris*). Continued in later bulletins; *Anas* (*boschas dom.* t. h.).

echinatum Zeder, 1803*a* [Dist.[1]]: *Echinost.*—Reported for: #479 *Canis* (*familiaris*). Continued in later bulletins; *Anas* t. h. Vectors: *Lymnaea* (*obscura, palustris, peregra ovata, stagnalis*); *Physa* (*fontinalis, ventricosa*); *Planorbis* (*corneus*).

echiniferum[s] LaValette, 1855 [Cercaria[1]]: *Echinost.*; Dist.[1]—So. *echinatum*.—Reported for: #479 *Canis* (*familiaris*). Continued in later bulletins. Vector *Paludina* (*vivipara* t. h.).

[*excavatum*[s] Rud., 1803*a*: Fasciola[1]; Dist.[1]; Holost.[1]; Amphist.[1]; Hemist.[1]—Greifswald[t].—So. *echinatum*, fide Ward, 1895, 341.—Reported for: #479 *Canis* (*familiaris*). Continued in later bulletins; "Storch", *Ardea* (*ciconia* t. h.).]

gregale Railliet & Henry, 1909, C. r. Soc. Biol., v. 66 (11), March 26, 447–449: *Echinost.*—Bucharest[t], Rumania.—Reported for: #479 *Canis* (*familiaris* t. h.).

hortense Asada, 1927, Tokyo Iji Shinshi, No. 2522, May [nv]; Jap. Med. World, Tokyo, v. 7 (10), Oct. 15, 304: *Echinost.*—Tokyo[t], Japan.—Reported for: #479 *Canis* (*familiaris* t. h.).

incrassatum Diesing, 1850*a* [Dist.[1]]: *Echinost.*—Brazil[t].—Reported for: #497*A* *Pteronura* (*brasiliensis*); #499 *Lutra* (*solitaria* t. h.).

inerme Fuhrmann, 1904, 63–64, fig. 4: *Echinost.*—Reported for: #499 *Lutra* (species t. h.).

liliputanum Looss, 1896*b*: *Echinost.*—Egypt[t].—Reported for: #413 *Felis* (*catus*). Continued in later bulletins; birds t. h.

militare Rud., 1803*a* [Fasciola[1]]: *Echinost.*; Dist.[1] (*Echinost.*).—Greifswald[t].—Reported for: #479 *Canis* (*familiaris*). Continued in later bulletins; *Scolopax* (*arquata* t. h.).

piriforme Blanc & Hedin, 1913, C. r. Soc. Biol., v. 74 (15), May 2, 884–885: *Echinost.*[;Ascocotyle[1]].—Montpellier[t], France.—Reported for: #479 *Canis* (*familiaris* t. h.).

recurvatum Linstow, 1873 [Dist.[1]]: *Echinost.*—Reported for: #479 *Canis* (*familiaris* exp.). Continued in later bulletins; *Anas* (*marila* t. h.).

†*revolutum* Froelich, 1802 [Fasciola[1]]: *Echinost.*; Echisnostoma[m].—Europe[t].—Reported for: #479 *Canis* (*familiaris* exp.). Continued in later bulletins; *Anas* (*boschas* t. h.). Vectors: ? *Corbicula* (*producta*, Formosa); *Lymnaea* (*pervia, swinhoe*, Formosa; *vulgaris*, France); *Physa* (*occidentalis*); *Planorbis* (species, Formosa). Also reported for: #12 *Homo*, Formosa.

[species Parona, 1894*a*, 290: Distoma[1].—Modena, Italy.—? So. *echinatum*.—Reported for: #479 *Canis* (*familiaris*).]

†**257. Euparyphium**, pp. 87, 621. Syn. *Isthmiophora*[s] Luehe, 1909.

[*armata*[o] Rud., 1793*a*, *putorii* Gmelin, 1790*a*, renamed [Fasciola[1]]: Dist.[1]—Reported for: #511 *Mustela* (*putorius*).]

[*melis*, p. 807 [Fasciola[1]]: *Isthmiophora*[s]; Echinost.[1]—Europe[t].—Reported for: #413 *Felis* (*catus, maniculata* domestica); #479 *Canis* (*familiaris*); #485 *Vulpes* (*vulpes*); #499 *Lutra* (*lutra*); #511 *Mustela* (*lutreola, nivalis, putorius*); #521 *Martes* (*foina, martes*); #528 *Meles* (*meles meles* t. h. syn. taxus[o], species).]

[*putorii*[s] Gmelin, 1790*a* [Fasciola[1]]: Echinost.[1]; Dist.[1]; Planaria[1].—So.

trigonocephalum.—Reported for: #479 *Canis* (*familiaris*); #511 *Mustela* (*putorius* t. h.).]

trigonocephalum[o], p. 621 [Fasciola [l]]: *Euparyphium*; Dist.[l]; Echinost.[l]—So. *melis*.—Reported for: #413 *Felis* (*catus*); #485 *Vulpes* (*vulpes*); #499 *Lutra* (*lutra*); #511 *Mustela* (*lutreola*, *nivalis*, *putorius*, species); #521 *Martes* (*foina*, *martes*); #528 *Meles* (*meles meles*).

†262. **Echinochasmus**, pp. 88, 440.

elongatus Miki, 1923, Aichi Ig. Kw. Zasshi, (30), 162–168, 1 pl. [nv]; Jap. J. Zool., 1925, v. 1 (3), 89: *Echinochasmus*.—Japan[t].—Reported for: #479 *Canis* (*familiaris* exp.). Continued in later bulletins. Vectors: tadpoles of *Rana* (*esculenta*).

†*japonicus*, p. 88: *Echinochasmus*; *Echinochasmus perfoliatus*; Echinost.[l] *perfoliatum*.—Japan[t].—Reported for: #413 *Felis* (*catus*); #479 *Canis* (*familiaris*).

†*perfoliatus*, p. 440: *Echinochasmus*; Echinost.[l]—Hungary[t].—Reported for: #413 *Felis* (*catus* [*dom.*]); #479 *Canis* (*familiaris* t. h.). Continued in later bulletins. Vectors, add: *Rhodeus* (*sinensis*, China).

shieldsi Tubangui, 1922, Proc. U. S. Nat. Mus., v. 60 (2415), 1–4, pl. 1: *Echinochasmus perfoliatus*.—China[t].—Reported for: #479 *Canis* (*familiaris* t. h.).

species Allen & Wickware, 1922, Parasitol., v. 14 (1), April, 28: *Echinochasmus*.—Canada.—Reported for: #485 *Vulpes* (species (silver black fox)).

species Ross, 1930, Jap. J. Exp. Med., v. 8 (2), April, 74: *Echinochasmus*.—Japan.—Reported for: #479 *Canis* (*familiaris*).

—. **Echinoparyphium** Dietz, 1909, Zool. Anz., v. 34 (5), March 16, 187, tod. *elegans*.—†252 ECHINOSTOMATIDAE: Pars prostatica absent. Collar reniform with double row of spines not interrupted dorsally, spines of aboral row somewhat larger than those of oral row. Cuticular spines cover entire venter and anteriorly also dorsum to some extent. Body small, somewhat narrow. Acetabulum preequatorial, much larger than oral sucker. Pharynx present. Cirrus pouch somewhat long, extending somewhat dorsad of acetabulum; testes elongate, oval to elliptical, median, tandem, postequatorial; fields coincide; zones close or abut. Ovary globular, preequatorial, median or submedian, vitellaria postacetabular, from preovarian to posttesticular, chiefly postacetabular in extracecal, cecal and intercecal areas; uterus short, only slightly coiled, entirely preovarial. Eggs few, relatively large. Parasitic chiefly in birds.

†*koidzumii* Tsuchimochi, 1924, Dobuts. Zasshi, (428), 245–252 [nv]: *Echinoparyphium*.—Formosa[t].—Reported for: #479 *Canis* (*familiaris* exp.). Continued in later bulletins. Vectors: *Lymnaea* (*pervia*, *swinhoe*); *Planorbis* (species). Also reported for: #12 *Homo*.

—. **Mesorchis** Dietz, 1909, Zool. Anz., v. 34 (6), March 30, tod. *pseudoechinatus*.—†252 ECHINOSTOMATIDAE: Body small to medium large, elongate, circular on cross section. Head collar reniform, armed with a continuous row of marginal spines. Skin of anterior body thickly set with spines. Acetabulum roundish, about on the border between 1st and 2nd fourths of body. Bifurcation of intestine preacetabular. Cirrus sac small, almost entirely preacetabular; testes about equatorial, median, tandem. Ovary globular, median, or slightly lateral, pretesticular; vitellaria in testicular and posttesticular zones, extending postcecal, in cecal, extra- and intercecal fields, extending forward at most to equator of anterior testis; uterus somewhat long, pretesticular. Eggs oval, 74 to 100 μ by 50 to 59 μ. Not Mesorchis [h] Linton, 1910, Publicat. No. 133, Carnegie Inst. Wash., 47.

denticulatoides Isaitschikow, 1924, Trudy Sibir. Vet. Inst. Omsk, v. 6, 86–89, 2 figs.: *Mesorchis*.—Crimea [t].—Reported for: #479 *Canis* (*familiaris* t. h.).

†**265**. OPISTHORCHIIDAE, pp. 88, 441. See †267 *Opisthorchis*, †267*i Metorchis*, *Parametorchis*, †268 *Clonorchis*, †270 *Pseudamphistomum*.

†**267. Opisthorchis**, pp. 88, 441. Syn. *Paropisthorchis* [s] Stephens, 1912.

†*caninus* [s], p. 89: *Opisthorchis*; *Paropisthorchis* [s].—India [t].—So. *noverca*, fide Leiper, 1913, 287.—Reported for: #479 *Canis* (species (Pariah dog t. h.)).

†*conjunctus* [p. 89] Cobbold, 1860*a* [Dist.[1]]: *Opisthorchis*; Metorchis [1]; Campula [1]; Dist.[1] (Brachylaimus [1]).—America [t].—Reported for: #479 *Canis* (*familiaris*, species); #485 *Vulpes* (*fulva* t. h., species (American fox)).

[conus [h s] of Gurlt, 1831, 193, not Creplin, 1825: Dist.[1]—So. *felineus*.—Reported for: #413 *Felis* (*catus*).]

†*felineus*, pp. 89, 441 [Distoma [1]]: *Opisthorchis*; [*Prosthometra* [t];] Dicrocoelium [1]; Campula [1].—Italy [t].—Reported for: #413 *Felis* (*catus* t. h.); #479 *Canis* (*familiaris*); #485 *Vulpes* (species); #523 *Gulo* (*gulo*, species).

[*indicus* [o] Stephens, 1912, Ann. Trop. Med. Parasitol., v. 6 (1*B*), May, 117–123: *Paropisthorchis* [s t].—Kasauli [t], India.—So. *caninus*.—Reported for: #479 *Canis* (species (Pariah dog t. h.)).]

[†kongenitum [d], p. 89, for *conjunctus*: Distoma [1].—Reported for: #479 *Canis* (*familiaris*).]

[lanceolatum [d h o] of Sieb., 1836, not Schrank, 1790, not Rud., 1803: Dicrocoelium [1]; Dist.[1]—Europe.—So. *felineum*.—Reported for: #413 *Felis* (*catus*); #479 *Canis* (*familiaris*).]

[lanceolatum [o] of van Tright, 1885*a*, Thierarzt, Wetzlar, v. 24 (4), Apr., 84–85: Dist.[1]—Utrecht.—So. *felineum*.—Reported for: #479 *Canis* (*familiaris*).]

†*noverca*, p. 89: *Opisthorchis*; *Amphimerus*; Distoma [1].—India [t].—Reported for: #413 *Felis* (*catus*); #479 *Canis* (*familiaris*, species); #485 *Vulpes* (species).

**pseudofelineus* Ward, 1901, 180, Dist.[1] felineum of Ward, 1895, not Rivolta, 1884, renamed: *Opisthorchis*; *Amphimerus*.—Lincoln [t], Nebraska.—Reported for: #413 *Felis* (*catus* [*dom.*] t. h., species (Persian cat)); #479 *Canis* (*latrans*).

[†*sibiricum* [s], p. 89: Dist.[1]—Siberia [t].—So. *felineus*.—Reported for: #413 *Felis* (*catus*); #479 *Canis* (*familiaris*).]

tenuicollis Rud., 1819*a* [Dist.[1]]: *Opisthorchis*; Dist.[1] (Brachylaimus [1]); Campula [1].—Reported for: #413 *Felis* (*catus*); #479 *Canis* (*familiaris*); #523 *Gulo* (*gulo*). Continued in later bulletins; *Phoca* (*barbata* t. h.).

tenuicollis-felineus Looss, 1899*b*, see *felineus* and *tenuicollis*: *Opisthorchis*.—Reported for: #413 *Felis* (*catus*).

†*viverrini*, p. 89 [Distoma [1]]: *Opisthorchis*; Dist.[1] (Dicrocoelium [1]).—Reported for: #413 *Felis* (*viverrina* t. h.); #437 *Viverra* (species).

wardi Wharton, 1921, Philip. J. Sci., v. 19 (2), Aug., 243–245, pl. 1, figs. 1–2: *Opisthorchis*.—Luzon [t], Philippine Ids.[t]—Reported for: #413 *Felis* (*catus* [*dom.*] t. h.).

†**267*i*. Metorchis**, p. 89.

albidus Braun, 1893*e* [Distoma[1]]: *Metorchis* [t]; Opisthorchis [1]; Campula [1]; Distoma [1] (Dicrocoelium [1]).—Königsberg [t], Germany.—Reported for: #413 *Felis* (*catus* [*dom.*] t. h., *maniculata* domestica, *silvestris*, species (wild cat, misc.)); #479 *Canis* (*familiaris*); #485 *Vulpes* (species).

oesophagolongus Katsurada, 1914, Centralbl. Bakt., Orig., v. 73 (4/5), March 30, 310, figs. 10–11: *Metorchis*.—A young *Apophallus mühlingi*, fide Ciurea, 1924, Parasitol., 12.—Reported for: #413 *Felis* (*catus* [*dom.*]). Continued in later

bulletins. Vectors: *Abramis* (*brama* t. h.); *Acerina* (*cernua*); *Alburnus* (*lucidus*); *Blicca* (*björkna; Idus* (*idus*); *Leuciscus* (*rutilus*).

—. **Parametorchis** Skrjabin, 1913, Zool. Jahrb., Jena, v. 35 (3), 376–377, tod. mt. *complexus*.—†265 OPISTHORCHIIDAE: Flattened, moderate-sized distomes, attenuated anteriorly and rounded posteriorly. Cuticle spiny. Suckers equal in size and weakly developed; acetabulum at border of 1st and 2nd fourth of body length. Pharynx and a smaller esophagus present; intestinal ceca extend to posterior end of body. Testes lobed, tandem, postequatorial. Uterus rosette-shaped, preequatorial, surrounding the acetabulum; vitellaria lateral of uterus, preequatorial, uniting in front of uterus; ovary lobed, pretesticular; receptaculum seminis moderately large, lateral of ovary. Parasitic in gall bladder of mammals.

canadensis Price, 1929, Proc. U. S. Nat. Mus., v. 76 (12), 1, 3–4, fig. 2: *Parametorchis*.—Kirkfield [t], Ontario, Canada.—Reported for: #511 *Mustela* (*vison* t. h.).

**complexus* Stiles & Hassall, 1894*f* [Dist.[1] (Dicrocoelium [1])]: *Parametorchis* [t]; Opisthorchis [1]; Metorchis [1]; Campula [1].—U. S. A. [t].—Reported for: #413 *Felis* (*catus* [*dom.*] t. h., species (Persian cat)); #479 *Canis* (*familiaris*).

**intermedius* Price, 1929, Proc. U. S. Nat. Mus., v. 76 (12), 1, 2–3, fig. 1: *Parametorchis*.—Wisconsin [t], U. S. A.—Reported for: #485 *Vulpes* (*fulva* t. h.).

**noveboracensis* Hung, 1926, Proc. U. S. Nat. Mus, v. 69 (1), 1–2, fig. 1: *Parametorchis*.—Ithaca [t], New York.—Reported for: #413 *Felis* (*catus* [*dom.*] t. h.).

†268. **Clonorchis**, pp. 89, 441.

†*endemicus* [s], p. 89 [Distoma [1] hepatis]: *Clonorchis*; Dist.[1] (Brachylaimus [1]).—Reported for: #413 *Felis* (*catus*, species); #479 *Canis* (*familiaris*).

†*major* [o], p. 90: *Clonorchis sinensis*.—So. *sinensis*.—Reported for: #413 *Felis* (*catus*); #479 *Canis* (*familiaris*).

†*sinensis*, pp. 90, 441 [Dist.[1]]: *Clonorchis*; Opisthorchis [1].—Reported for: #413 *Felis* (*catus* [*dom.*], species (wild cat)); #479 *Canis* (*familiaris*); #511 *Mustela* (*Lutreola*) species (Siberian mink); #521 *Martes* (species); #528 *Meles* (species (badger)). Continued in later bulletins. Vectors, add: *Parapelecus* (*cigenmanni*); *Sarcocheilichthys* (*kobayashii*).

[†spathulatum [d], p. 90: Distoma [1].—So. *sinensis*.—Reported for: #413 *Felis* (*catus*); #479 *Canis* (*familiaris*).]

†270. **Pseudamphistomum**, p. 90.

[*campanulatum* [s] Ercolani, 1874: Dist.[1]—So. *truncatum*. Syn. complanatum [m].—Reported for: #413 *Felis* (*catus*); #479 *Canis* (*familiaris* t. h.).]

[*conus* [s] Creplin, 1825 [Dist.[1]]: Opisthorchis [1]; Dist.[1] (Dicrocoelium [1]).—So. *truncatum*. Syn. conis[m] 1886.—Reported for: #413 *Felis* (*catus* [*dom.*]); #479 *Canis* (*familiaris*); #485 *Vulpes* (*fulva*, *vulpes*).]

danubiense Ciurea, 1913, Zeitschr. f. Infekt. d. Haustiere, v. 14 (7), 459–463, pl. 14, fig. 2: *Pseudamphist*.—Somova [t].—Reported for: #413 *Felis* (*catus* [*dom.*] t. h.); #479 *Canis* (*familiaris*).

†*truncatum*, p. 90 [Amphist.[1]]: *Pseudamphist.*; Dist.[1]; Dist.[1] (Dicrocoelium [1]); Metorchis [1]; Opisthorchis [1].—Europe [t].—Reported for: #413 *Felis* (*catus*); #479 *Canis* (*familiaris*, *lupus*); #485 *Vulpes* (species, *vulpes*); #523 *Gulo* (*borealis* so. *gulo*). Continued in later bulletins; *Phoca* (*vitulina* t. h.).

†271. HETEROPHYIDAE, pp. 90, 441. See *Adleriella*, †271*P Apophallus*, †271*J Ascocotyle*, †271*L Centrocestus*, †271*F Cryptocotyle*, *Dexiogonimus*, *Diorchitrema*, *Euryhelmis*, *Haplorchis*, †272 *Heterophyes*, †273 *Metagonimus*, *Monorchotrema*, *Nanophyetus*, *Parascocotyle*, *Pon-*

ticotrema, *Pygidiopsis*, *Stictodora*, *Tauridiana*.

—. **Adleriella** Witenberg, 1930, Ann. Mag. Nat. Hist., ser. 10, v. 5, June 27, 412, tod. *minutissima*, for Adleria [h o] Witenberg, 1929, Ann. Trop. Med. Parasitol., v. 23 (2), June, 143, 206, tod. *minutissima* [not *Adleria* Rohwer & Fagan, 1917, insect]. —†271 HETEROPHYIDAE: Very small. Body oval or spindle-shaped, circular on cross section. Circumoral spines absent. Testis single, situated anteriorly to ovary and receptaculum seminis. Type of subfamily ADLERIELLINAE Witenberg, 1930, Ann. Mag. Nat. Hist., ser. 10, v. 5, 412 [renaming of ADLERIINAE Witenberg, 1929, Ann. Trop. Med. Parasitol., v. 23 (2), June, 139, 206.]

minutissima Witenberg, 1929, Ann. Trop. Med. Parasitol., v. 23 (2), June, 143, 206–209, figs. 30–33 [Adleria [h o]]: *Adleriella* [t].—Palestine [t].—Reported for: #413 *Felis* (*catus* [*dom.*]); #479 *Canis* (*familiaris*).—Vectors: *Barbus* (*canis*); *Discognathus* (species); *Mugil* (*capito*, *cephalus*); *Varicorhinus* (species).

†271*P*. **Apophallus** [p. 91] Luehe, 1909, mt. *mühlingi*.—†271 HETEROPHYIDAE: Body ovoid to very elongate. Prepharynx short; esophagus long; intestinal bifurcation usually nearer to acetabulum than to oral sucker; intestinal ceca slender, ending as in *Cryptocotyle*. Acetabulum relatively well developed, opening into a small, nonmuscular genital sinus; genital ducts open into genital sinus at base of two papilliform gonotyls. Genital pore preacetabular. Seminal vesicle well developed, C- or S-shaped, dorsal of uterine coils; testes ovoid, or globular, situated near posterior end of body, the right testis usually behind left. Ovary ovoid or globular, at right of median line cephalad of seminal receptacle; vitellaria fill posttesticular space and extend usually to acetabulum or beyond. Uterus as in *Cryptocotyle*. Syns. (fide Price, 1931): *Cotylophallus* [s] Ransom, 1920, Proc. U. S. Nat. Mus., v. 57 (2322), June 16, 529, 554–555, tod. *venustus*; *Rossicotrema* [s] Skrjabin & Lindtrop, 1919, Isvest. Donsk. Vet. Inst. Novotscherkassk, v. 1 (1), 40–41, 44, tod. *donicum*.

donicum Skrjabin & Lindtrop, 1919, Isvest. Donsk. Vet. Inst. Novotscherkassk, v. 1 (1), 41–43, 44, pl. 1, fig. 3 [*Rossicotrema* [s]]: *Apophallus*.—Russia [t].—Reported for: #413 *Felis* (*catus* [*dom.*]); #479 *Canis* (*familiaris* t. h.). Continued in later bulletins. Vectors: *Abramis* (*brama*); *Blicca* (*björkna*); *Lucioperca* (*sandra*, *volgensis*); *Perca* (*fluviatilis*); *Scardinius* (*erythrophthalmus*).

mühlingi Jaegerskiöld, 1899*a* [Dist. [l]]: *Apophallus* [t]; Tocotrema [l].—Pillau [t].—Reported for: #413 *Felis* (*catus* [*dom.*]); #479 *Canis* (*familiaris*). Continued in later bulletins; *Larus* (*ridibundus* t. h.). Vector: *Blicca* (*björkna*), Rumania.

[**venustus* [s] Ransom, 1920, Proc. U. S. Nat. Mus., v. 57 (2322), June 16, 555–558, figs. 22–25: *Cotylophallus* [s].—Zoo, Washington, D. C. [t]—So. *donicum*, fide Price, 1931.—Reported for: #413 *Felis* (*catus* [*dom.*]); #479 *Canis* (*familiaris*); #486 *Alopex* (*lagopus* t. h.).]

†271*J*. **Ascocotyle** [p. 91] Looss, 1899*b*, tod. *coleostoma*.—†271 HETEROPHYIDAE: Mouth surrounded by crown of spines; oral sucker with elongated caudal cecum, extending backward on dorsal side of prepharynx; prepharynx long; pharynx near bifurcation of intestine, which is nearer to acetabulum than to oral sucker. Acetabulum median, postequatorial, opening to exterior, in some species, if not in all, through genital pore. Genital sinus, which opens to exterior through genital pore, and in which vas deferens and vagina terminate, is situated immediately preacetab-

ular. Well-developed seminal vesicle postacetabular; testes globular or oval, side by side, near caudal end of body; seminal receptacle pretesticular; ovary globular or oval, on right side of median line in front of seminal receptacle; vitellaria not extending anterior of region of genital pore; coils of uterus frequently overlap intestinal ceca, but usually do not extend in front of genital pore. Eggs not over 25 μ long.

arnaldoi Travassos, 1928, Ann. Fac. med. São Paulo, v. 3, 2–3, figs. 1–2: *Ascocotyle*; Parascocotyle [1]; Phagicola [1]; *Ascocotyle* (Phagicola).—Brazil [t].—Syn. *arnoldi* [c] 1929.—Reported for: #479 *Canis* (*familiaris*). Continued in later bulletins.

†271*L*. **Centrocestus** Looss, 1899*b*, mt. *cuspidatus*.—†271 HETEROPHYIDAE: Mouth surrounded by a double crown of spines. Prepharynx long; pharynx near bifurcation of intestine; intestinal ceca extend into caudal region of body. Acetabulum median. Genital sinus median, immediately preacetabular. Prostatic portion of vas deferens well developed, situated along right side of acetabulum; well-developed seminal vesicle postacetabular, arranged in a U-shaped loop extending across median field, anterior limb of loop the longer, base of the U to the left; testes oval, elongated transversely, near caudal border of body, side by side, right and left of median line. Seminal receptacle median, pretesticular; ovary to right of seminal receptacle, in front of right testis, ovoid in form; vitellaria arranged in numerous lobules in lateral fields, extending from posttesticular region nearly to bifurcation of intestine, encroaching upon median field preacetabular, and extending in this region inwards to or nearly to median line. Transverse vitelline ducts in neighborhood of boundary between ovarian and testicular zones; uterus arranged in a few transverse loops, in the space between testes and acetabulum; terminal portion of uterus (metraterm) passes forward to genital sinus along left side of acetabulum. Syn. †273*a* *Stamnosoma* [s], p. 93.

†*armatus*, p. 93 [*Stamnosoma* [s]]: *Centrocestus*.—Japan [t].—Reported for: #413 *Felis* (*catus*); #479 *Canis* (*familiaris* exp.). Continued in later bulletins.

caninus [s] Leiper, 1913, J. London School Trop. Med., v. 2 (3), Nov., 176, 177, 1 fig.: *Centrocestus cuspidatus*.—Formosa [t].—So. *cuspidatus*, fide Witenberg, 1929, 212.—Reported for: #479 *Canis* (*familiaris* t. h.).

cuspidatus Looss, 1896*b* [Dist.[1]]: *Centrocestus*; Anoiktostoma [1].—Egypt [t].—Reported for: #479 *Canis* (*familiaris*). Continued in later bulletins; *Milvus* (*parasiticus* t. h.).

[†*formosanum*, p. 93: *Stamnosoma* [s].—Formosa [t].—Reported for: #413 *Felis* (*catus* exp.); #479 *Canis* (*familiaris* exp.). Continued in later bulletins; *Nycticorax* (*nycticorax* t. h.).]

†271*F*. **Cryptocotyle** [p. 90] Luehe, 1899, 539, tod. *concava*.—†271 HETEROPHYIDAE: Body ovoid to linguiform. Prepharynx very short; esophagus short; intestinal bifurcation nearer to oral sucker than to acetabulum; intestinal ceca slender, ending posttesticular in posterior end of body. Acetabulum rudimentary, in anterior wall of the spacious, more or less muscular, genital sinus; genital ducts open into sinus at base of a single papilliform gonotyl; genital aperture postacetabular, in center of genital sinus. Seminal vesicle well developed, curved in a more or less S-like manner, dorsal of uterine coils; testes near posterior end of body, irregularly oval or slightly lobed, either side by side or right testis obliquely behind left. Ovary irregularly oval or lobed, situated

to right of median line and cephalad of seminal receptacle; vitellaria fill postcecal space and extend anteriorly to acetabulum or beyond; uterus with few loops, confined to intercecal space between ovary and genital sinus.

Syns. (fide Price, 1931): *Ciureana* [8] Skrjabin, 1923, Trudy Gos. Inst. Exp. Vet. Moscow, v. 1 (1), 68, tod. *quinqueangularis; Hallum* [8] Wigdor, 1918, J. Amer. Vet. Med. Assoc., v. 54, n. s., v. 7 (3), Dec., 381, 383, tod. *caninum; Tocotrema* [8] Looss, 1899*b*, tod. *lingua*.

americana [8] Ciurea, 1924, Parasitol., v. 16 (1), Jan., 15, for *lingua* of America: *Cryptocotyle*.—So. *lingua*.—Reported for: #479 *Canis* (*familiaris*). Continued in later bulletins.

[**caninum* [8] Wigdor, 1918, J. Amer. Vet. Med. Assoc., v. 54, n. s. v. 7 (3), Dec., 383, 384, figs. 1–4: *Hallum* [8].—Detroit [t], Michigan.—So. *lingua*.—Reported for: #479 *Canis* (*familiaris* t. h.).]

concava Creplin, 1825*a* [Dist.[1]]: *Cryptocotyle* [t]; Dist.[1] (Dicrocoelium [1]); Cotylogonimus [1]; *Tocotrema* [8].—Reported for: #413 *Felis* (*catus* [*dom.*]); #479 *Canis* (*familiaris*). Continued in later bulletins; *Columbus* (*rufogularis* t. h.). Vectors: *Gobius* (*ratan*, Crimea); *Pleuronectes* (*platessa*); *Trachurus* (*trachurus*, Crimea).

lingua* Creplin, 1825*a* [Dist.[1]]: *Cryptocotyle; Tocotrema* [8 t]; Cotylogonimus [1]; Dist.[1] (Dicrocoelium [1]).—Europe [t].—Reported for: #413 *Felis* (*catus* [*dom.*]); #479 *Canis* (*familiaris*); #485 *Vulpes* (fusca lapsus for ? *fulva*, species (silver fox)); #486 *Alopex* (*lagopus*). Continued in later bulletins; *Larus* (*marinus* t. h.). 1st host: *Littorina* (littorea*). 2d hosts: *Cottus* (*scorpius*); *Tautogolabrus* (**adspersus*).

quinqueangularis Skrjabin, 1923, Trudy Gos. Inst. Exp. Vet. Moscow, v. 1 (1), 68–70, 1 fig. [*Ciureana* [8]]: *Cryptocotyle*.—Russia [t].—Reported for: #413 *Felis* (*catus* [*dom.*] t. h.).

[*ransomii* Isaitschikow, 1924, Trudy Sibir. Vet. Inst. Omsk, v. 6, 76–81, 1 fig.: *Hallum* [8].—Crimea [t].—Reported for: #479 *Canis* (*familiaris* t. h.).]

tanaitici Skrjabin, 1924, Berl. Tierärzt. Wochenschr., v. 40 (20), p. (6) [*nomen nudum*]: *Cryptocotyle*.—Dongebiet [t], U. S. S. R.—Reported for: #413 *Felis* (*catus* [*dom.*] t. h.).

—. **Dexiogonimus** Witenberg, 1929, Ann. Trop. Med. Parasitol., v. 23 (2), June 27, 143, 170, tod. mt. *ciureanus*.—†271 HETEROPHYIDAE: Body rounded posteriorly, tapered anteriorly, anterior part may be slightly wider than posterior one. Prepharynx and esophagus well marked. Acetabulum modified, having a tubule-like slit instead of a cavity and is included in ventro-genital sac. Testes lie side by side at posterior end of body; retort-like seminal vesicle may be divided by constrictions into several parts; expulsor absent. Large globular seminal receptacle lies in front of right testis; ovary pretesticular, median; vitellaria chiefly postovarial; uterine coils fill free space between testes and ventro-genital sac and do not extend beyond these organs; ventro-genital sac situated near border of body, its opening guarded by small muscular papillae. Excretory vesicle Y-shaped with stem as short as branches. Adults parasitic in mammals and birds.

ciureanus Witenberg, 1929, Ann. Trop. Med. Parasitol., v. 23 (2), June 27, 140, 170–173, 214, figs. 12–14: *Dexiogonimus* [t].—Palestine [t].—Reported for: #413 *Felis* (*catus* [*dom.*]); #479 *Canis* (*familiaris*). Continued in later bulletins. Vectors: *Barbus* (*canis*); *Discognathus* (species); *Lichia* (*glauca*); *Mugil* (*capito, cephalus*); *Tilapia* (*galilea, simonis*).

—. **Diorchitrema** Witenberg, 1929, Ann. Trop. Med. Parasitol., v. 23 (2), June 27, 143, 173–174, tod. mt. *pseudocirrata*.—†271 HETEROPHYIDAE: Body pear-shaped. Prephar-

ynx and esophagus well marked. Globular acetabulum included in ventro-genital sac which is near mid line and contains no gonotyl. Testes lie side by side at posterior end of body; single small seminal vesicle is connected with a large expulsor. Ovary in front of right testis; globular seminal receptacle in front of left testis; vitellaria postovarial; uterine coils do not pass beyond testes and ventro-genital sac. Adults parasitic in mammals.

pseudocirrata Witenberg, 1929, Ann. Trop. Med. Parasitol., v. 23 (2), June 27, 140, 174–175, 214, fig. 15: *Diorchitrema*.—Palestine[t].—Reported for: #413 *Felis* (*catus* [*dom.*]); #479 *Canis* (*familiaris*). Vectors: *Mugil* (*capito, cephalus*).

—. **Euryhelmis** Poche, 1926*a*, Archiv f. Naturg., Abteil. *A*, 2. Heft, 150, tod. *squamula* [Eurysoma[h] Dujardin, 1845*a*, mt. *squamula*, renamed; not *Eurysoma* Koch, 1840, arachnoid].—< †271 HETEROPHYIDAE: Body broader than long, not divided into forebody and hindbody. Oral sucker without spines; mouth directed nearly or quite forwards. Acetabulum about equatorial, opening directed forwards; no fold hanging over acetabulum or genital pore. A pseudodermis on spinose hind end of body. Prepharynx short; postpharynx medium long; ceca medium long, at first rather narrow but increasing in breadth and about parallel to body margin; excretory vesicle T-shaped with stem which is widened in its anterior portion and with rather long branches. Genital pore immediately preacetabular; no genital sucker. Testes broad, oviform, lobate, situated nearly symmetrically slightly precaudal, close to end of branches of excretory vesicle, diagonal; vasa efferentia rather long, running almost straight mediad; vesicula seminalis small; cirrus sac postacetabular, dextral, slender, rather long. Ovary in front of and somewhat lateral of right testis, oviform, lobate; receptaculum seminis postovarial, rather large; vitellaria composed of rather numerous follicles, highly developed, extending nearly entire length of body margin; uterus rather short, narrow, with only two slings not extending postcecal but reaching caudad to branches of excretory vesicle and lying especially in left half of body. Eggs rusty brown.

squamula Rud., 1819*a* [Dist.[1]]: *Euryhelmis*[t]; Eurysoma[h o t]; Dist.[1] (Dicrocoelium[1]); Monost.[1]—Reported for: #511 *Mustela* (*putorius* t. h.).

—. **Haplorchis** Looss, 1899*b*, tod. *pumilio*.—†271 HETEROPHYIDAE: Body very small, delicate, forebody somewhat narrower and more motile than hindbody. Skin rather thickly spinose, especially that of forebody. Prepharynx long; pharynx distinct. Genital pore postesophageal, submedian, intercecal, somewhat caudad of bifurcation of intestine, near vesicula seminalis; genital cloaca muscular, spinose. Cirrus absent; testis single, large, postovarial; vesicula seminalis rather large, divided into 2 bulbs, preovarial; pars prostatica small. Ovary slightly preequatorial, pretesticular; Laurer's canal and receptaculum seminis present, latter about as large as ovary; vitellaria slightly developed, rather lateral; uterus extends to extreme caudal end of body more or less completely filling free space caudad of genital pore. Ova very large in comparison with the body and rather numerous. Cf. *Monorchotrema*.

pumilio Looss, 1896*b* [Monost.[1]]: *Haplorchis*[t].—Egypt[t].—Reported for: #479 *Canis* (species (wolf) exp.). Continued in later bulletins; *Pelecanus* (*onocrotalus* t. h.). Vector *Clarotes laticeps*, from Egypt.

†272. **Heterophyes**, pp. 92, 441.

aequalis Looss, 1902*n*: *Heterophyes*.—Egypt [t].—Reported for: #413 *Felis* (*catus* [*dom.*]); #479 *Canis* (*familiaris*, species (Persian wolf)). Continued in later bulletins. Vectors: *Barbus* (*canis*); *Epinephelus* (*enaeus*); *Lichia* (*amia, glauca*); *Mugil* (*auratus, capito, cephalus*); *Tilapia* (*simonis*).

continuus Onji & Nishio, 1916, Iji Shinbun No. 949, 589 [nv]; Onji & Nishio, 1924, Chiba Ig. Sem. G. Z., v. 2 [nv]: *Heterophyes*.—Japan [t].—Reported for: #413 *Felis* (*catus* exp.); #479 *Canis* (*familiaris*). Continued in later bulletins; *Amidori* t. h. Vector: *Mugil*.

dispar Looss, 1902*n*: *Heterophyes*.—Egypt [t].—Reported for: #413 *Felis* (*catus* [*dom.*]); #479 *Canis* (*familiaris*, species (Persian wolf)). Continued in later bulletins. Vectors: *Barbus* (*canis*); *Epinephelus* (*enaeus*); *Lichia* (*amia, glauca*); *Mugil* (*auratus, capito, cephalus*); *Tilapia* (*simonis*).

fraternus [s] Looss, 1894*d* [Distoma [l]]: *Heterophyes*; *Coenogonimus* [o]; *Cotylogonimus* [o].—Egypt [t].—So. *heterophyes*, fide Witenberg, 1929, 146.—Reported for: #413 *Felis* (*catus*); #479 *Canis* (*familiaris*). Continued in later bulletins; *Pelecanus* (*onocrotalus* t. h.).

†*heterophyes*, p. 92 [Dist. [l]]: *Heterophyes*; *Coenogonimus* [o]; Clinost. [l]; Paragonimus [l].—Egypt [t].—Reported for: #413 *Felis* (*catus* [*dom.*]); #479 *Canis* (*familiaris*); #485 *Vulpes* (species, *vulpes, vulpes niloticus*). Continued in later bulletins. Vectors: *Acanthogobius*; *Barbus* (*canis*); *Epinephelus* (*enaeus*); *Lichia* (*amia, glauca*); *Mugil* (*auratus, capito, cephalus*, species); *Tilapia* (*simonis*). 1st host *Tympanotomus* (*microptera*, Japan).

†*katsuradai*, p. 441: *Heterophyes*.—Reported for: #479 *Canis* (*familiaris* exp.).

limatus Looss, 1902*n*, Centralbl. f. Bakt., Orig., v. 32 (12), 890, 891: *Heterophyes dispar*.—Egypt [t].—So. *dispar*, fide Witenberg, 1929, 146.—Reported for: #413 *Felis* (*catus* [*dom.*] t. h.).

†*nocens* [s], pp. 92, 441: *Heterophyes*.—So. *heterophyes*.—Reported for: #413 *Felis* (*catus* exp.); #479 *Canis* (*familiaris* exp.).

persicus [s] Braun, 1901*c* [*Cotylogonimus* [o]]: *Heterophyes*.—So. *heterophyes*, fide Witenberg, 1929, 146.—Reported for: #479 *Canis* (*lupus*, species (Persian wolf t. h.)).

sentus Looss, 1902*n*, Centralbl. f. Bakt., Orig., v. 32 (12), 890, 891. *Heterophyes heterophyes*.—So. *heterophyes*, fide Witenberg, 1929, 146.—Egypt [t].—Reported for: #413 *Felis* (*catus* [*dom.*] t. h.); #479 *Canis* (*familiaris*).

†273. **Metagonimus**, pp. 92, 441. Syn. *Loossia* [s] 1915.

[*dobrogiensis* [s] Ciurea, 1915, Zeitschr. f. Infektkrankh. d. Haustiere, v. 16, 454: *Loossia* [s].—Dobrogea [t], Rumania.—So. †*yokogawai*.—Reported for: #479 *Canis* (*familiaris*). Continued in later bulletins; *Pelecanus* (*onocrotalus* t. h.).]

†*ovatus* [p. 92] Yokogawa, 1913: *Metagonimus*.—Japan [t].—Reported for: #479 *Canis* (species).

parvus [s] Ciurea, 1915, Zeitschr. f. Infektkrankh. d. Haustiere, v. 16, 453–454, pl. 1, fig. 4 [*Loossia* [s]]: *Metagonimus*.—Somova [t].—So. †*yokogawai*.—Reported for: #413 *Felis* (*catus* [*dom.*] t. h.); #479 *Canis* (*familiaris*). Continued in later bulletins. Vector *Esox* (*lucius*).

romanicus [s] Ciurea, 1915, Zeitschr. f. Infektkrankh. d. Haustiere, v. 16, 446–453, figs. 1–3, pl. 1, figs. 1–3 [*Loossia* [s]]: *Metagonimus*.—Somova [t].—So. †*yokogawai*.—Reported for: #413 *Felis* (*catus* [*dom.*]); #479 *Canis* (*familiaris* t. h.). Continued in later bulletins. Vectors: *Abramis* (*brama*); *Aspius* (*aspius*); *Blicca* (*björkna*); *Carassius* (*carassius*); *Esox* (*lucius*); *Idus* (*idus*); *Scardinius* (*erythrophthalmus*).

species Onji, 1921, Centralbl. f. Bakt., Orig., v. 86 (6), July, 503: *Metagonimus*.—Japan.—Reported for: #528 *Meles* (species).

takahashii Suzuki, 1929, Okayama Igakkwai Zasshi, v. 41, 1513 (footnote) [*nomen nudum*]; 1931, Zool. Rec., Vermes, 59: *Metagonimus*. — Okayama[t], Japan. — Reported for: #413 *Felis* (*catus*); #479 *Canis* (*familiaris*).

†*yokogawai*, pp. 92, 441: *Metagonimus; Yokogawa*[s].—Syns.: yokogawa[m], yokogawi[m], yokogowai[m].—Reported for: #413 *Felis* (*catus*, species); #479 *Canis* (*familiaris*, species). Continued in later bulletins.

—. **Monorchotrema**[s], p. 441. <†271 HETEROPHYIDAE; MONORCHOTREMINAE Nishigori, 1924, J. Med. Assoc. Formosa, no. 237, 569. So. *Haplorchis* Looss, 1899*b*, tod. *pumilio*, fide Witenberg, 1930, Ann. Mag. Nat. Hist., ser. 10, v. 5, 412.

†*taichui*[s], p. 441: *Monorchotrema; Haplorchis*.—So. *taihokui*, fide Stunkard, 1929, 117.—Reported for: #413 *Felis* (*catus* [*dom.*]); #479 *Canis* (*familiaris*). Continued in later bulletins. Vectors, add: *Barbus* (*canis*); *Gambusia* (*affinis*); *Tilapia* (*simonis*); *Varicorhinus* (species).

†*taihokui*[s], p. 441: *Monorchotrema*[t].—So. *Haplorchis pumilio*, fide Witenberg, 1930, 412.—Reported for: #413 *Felis* (*catus*); #479 *Canis* (*familiaris*). Continued in later bulletins. Vectors, add: *Barbus* (*canis, longiceps*); *Mugil* (*capito, cephalus*); *Tilapia* (*galilea, nilotica, simonis*).

—. **Nanophyetus** Chapin, 1927, J. Parasitol., v. 14 (1), Sept., 60, tod. *salmincola* (renaming of Nanophyes[h o] Chapin, 1926, N. Amer. Vet., v. 7 (4), April, 36, tod. mt. *salmincola* [not *Nanophyes* Schönh., 1838, coleopteron]).—†271 HETEROPHYIDAE: Very small; cuticle armed. Prepharynx very short, pharynx close behind well-developed oral sucker; esophagus short; intestinal ceca commence immediately preacetabular and extend postequatorial to about equator of testes. Acetabulum median, slightly preequatorial. Genital pore surrounded by a very weakly developed sucker, located directly behind and at some distance from acetabulum. Testes oval, the long axis parallel to long axis of body, postequatorial, extracecal; seminal vesicle well developed, clavate, at left of genital pore. Receptaculum seminis ovate, antero-dorsal of seminal vesicle; ovary globular, at right and slightly behind acetabulum; vitellaria composed of large follicles, generally distributed dorsally, extending somewhat lateroventrally, coils of uterus few, inter- and posttesticular. Eggs few and large.

**salmincola* Chapin, 1926, N. Amer. Vet., v. 7 (4), April, 36–37, 1 fig. [Nanophyes[h o]]: *Nanophyetus*.—Cause of "salmon poisoning" in dogs.—Corvallis[t], Oregon, U. S. A.—Syn. *Distomulum oregonensis* Ward & Mueller, 1926 (cause of pop-eye disease of trout fry), fide Price, 1929, 290.—Reported for: #413 *Felis* (*catus* [*dom.*], *fasciata fasciata, fasciata pallescens* exp.); #479 *Canis* (*familiaris* t.h., *lestes*, species (coyote)); #485 *Vulpes* (*fulva* exp., species); #486 *Alopex* (*lagopus* exp.); #511 *Mustela* (*vison energumenos*); #561 *Procyon* (*lotor* exp., *psora pacifica* s. *lotor pacifica*); #576 *Ursus* (*americanus* exp.). Continued in later bulletins. 1st host *Goniobasis* (*plicifera silicula*). 2d hosts, northwestern U. S. A.: *Oncorhynchus* (*keta, kisutch*, species, *tschawytscha*); *Salvelinus* (*fontinalis*, species); *Salmo* (*clarkii, gairdnerii, iridiens*, species).

—. **Parascocotyle**[s] Stunkard & Haviland, 1924, Amer. Mus. Novitates, No. 126, July 24, 3, tod. *minuta*.—†271 HETEROPHYIDAE: Body pyriform; dorsal wall of oral sucker provided with contractile triangular liplike appendage anteriorly and with a conical appendage posteriorly; oral aperture surrounded by a single row of conspicuous spines; prepharynx long, esopha-

gus short. Acetabulum included in genital sac. Testes lie side by side at posterior margin of body; seminal receptacle pretesticular on mid line; seminal vesicle divided in parts by constrictions; there is no marked expulsor. Ovary in front of right testis; vitellaria at sides of testes; uterus coils between testes and genital opening; ventro-genital sac on mid line, contains besides globular or oval acetabulum, one or two tubercle-like gonotyls, the surface of which may bear chitinized bars. Excretory bladder is Y- or T-shaped. Adults parasitic in mammals and birds. Fide Travassos, 1930, 63, 65, *Parascocotyle* is so. *Phagicola* Faust, 1920, Philippine J. Sci., v. 17 (6), Dec., 630, tod. mt. *pithecophagicola*, and *Phagicola* is a subgenus of *Ascocotyle*.

ascolonga Witenberg, 1929, Ann. Trop. Med. Parasitol., v. 23 (2), 142, 194–197, 225, figs. 26–28: *Parascocotyle*; Ascocotyle [1] (*Phagicola*).—Palestine [t].—Reported for: #413 *Felis* (*catus* [*dom.*]); #479 *Canis* (*familiaris*). Vectors: *Tilapia* (*galilea*, *simonis*).

italica Alessandrini, 1906, Bol. Soc. zool. ital., Roma, ser. 2, v. 6, 221–223 [Ascocotyle [1]]: *Parascocotyle*; Ascocotyle [1] (*Phagicola*).—Italy [t].—Reported for: #479 *Canis* (*familiaris* t. h.).

**longa* Ransom, 1920, Proc. U. S. Nat. Mus., v. 57 (2322), June 16, 564–566, fig. 29 [Ascocotyle [1]]: *Parascocotyle*; Ascocotyle [1] (*Phagicola*).—Zoo, Washington, D. C.[t].—Reported for: #413 *Felis* (*catus* [*dom.*]); #479 *Canis* (*familiaris*, species (Persian wolf)); #485 *Vulpes* (species (silver black fox)); #486 *Alopex* (*lagopus* t. h.). Vectors: *Barbus* (*canis*); *Lichia* (*amia*); *Mugil* (*capito*, *cephalus*).

minuta Looss, 1899*b* [Ascocotyle [1]]: *Parascocotyle*; Ascocotyle [1] (*Phagicola*).—Egypt [t].—Reported for: #413 *Felis* (*catus*); #479 *Canis* (*familiaris*). Continued in later bulletins.

**nana* Ransom, 1920, Proc. U. S. Nat. Mus., v. 57 (2322), June 16, 566–568, fig. 30 [Ascocotyle [1]]: *Parascocotyle*; Ascocotyle [1] (*Phagicola*).—Zoo, Washington, D. C.[t].—Reported for: #486 *Alopex* (*lagopus* t. h.).

—. **Ponticotrema** Isaitschikow, 1927, Trudy Sibir. Vet. Inst. Omsk, v. 9, 142, 146, 147, tod. *euxini*.—†271 HETEROPHYIDAE.

euxini Isaitschikow, 1927, Trudy Sibir. Vet. Inst. Omsk, v. 9, 142–146: *Ponticotrema* [t].—Crimea [t].—Reported for: #413 *Felis* (*catus* [*dom.*] t. h.).

—. **Pygidiopsis** Looss, 1907, mt. *genata*.—†271 HETEROPHYIDAE: Pear-shaped body divided into an almost globular posterior part and a concave anterior part. Oral sucker without appendages; prepharynx long; esophagus short. Acetabulum is included in genital sac, which is median and contains a small gonotyl in its left anterior angle; testes lie at posterior margin of body, side by side; seminal vesicle pretesticular on mid line; seminal vesicle may be divided by constrictions. Ovary, ventrally to seminal receptacle; vitellaria at sides of testes; uterus coils between ovary and genital sac. Excretory vesicle T-shaped with branch equal to stem. Adults parasitic in mammals and birds.

genata Looss, 1907: *Pygidiopsis* [t].—Egypt [t].—Reported for: #413 *Felis* (*catus* [*dom.*]); #479 *Canis* (*familiaris*, species (Persian wolf)). Continued in later bulletins; *Pelecanus* (*onocrotalus* t. h.). Vectors: *Barbus* (*canis*); *Tilapia* (*galilea*, *nilotica*, *simonis*).

†*summus* Onji & Nishio, 1916, Iji Shinbun No. 949, 589, no. 954, 941 [nv]; Onji & Nishio, 1924, Chiba Ig. Sem. G. Z., v. 2 [nv]: *Pygidiopsis*.—Japan [t].—Reported for: #413 *Felis* (*catus* exp.); #479 *Canis* (*familiaris*). Continued in later bulletins; Amidori t. h. Vector: *Mugil*. Also reported for: #12 *Homo*, Okayama, Japan.

—. **Stictodora** Looss, 1899*b*, mt. tod. *sawakinensis*.—†271 HETEROPHYIDAE; HETEROPHYINAE, fide Witenberg, 1929, 176; <STICTODORIDAE, fide Poche, 1926*a*.—Body elongated. Prepharynx and esophagus well marked. Acetabulum absent. Genital sac is filled by large protrusible gonotyl armed with spinelike plates; genital pore opens at base of gonotyl. Testes median, postequatorial, oblique; seminal vesicle consists of two parts divided by a constriction and unites with a small expulsor. Ovary in front of right testis; globular seminal receptacle between testes; vitellaria confined to posterior 3rd of body; uterus coils between genital aperture and posterior end of body. Excretory duct Y-shaped with stem as short as the branches. Adults parasitic in mammals and birds.

sawakinensis Looss, 1899*b*: *Stictodora*.—Sawakin [t], Egypt.—Reported for: #413 *Felis* (*catus* [*dom.*]); #479 *Canis* (*familiaris*). Continued in later bulletins; *Larus* (species t. h.). Vectors: *Mugil* (*capito*, *cephalus*).

—. **Tauridiana** Isaitschikow, 1924, Trudy Sibir. Vet. Inst. Omsk, v. 6, 82, 84, tod. *pontica*.—†271 HETEROPHYIDAE: Body very small, delicate, transparent, elongate, flattened dorso-ventrally. Oral sucker large, well developed. Prepharynx more or less long; pharynx almost cylindrical or oval. Acetabulum rudimentary, united with genital pore into one organ, left of body axis. Testes round, in postequatorial, diagonal fields and zones overlap; vesicula seminalis well developed, pear-shaped, pretesticular, to right of ovary and genital pore. Ovary postequatorial, pretesticular. Parasitic in intestine of domesticated carnivores.

pontica Isaitschikow, 1924, Trudy Sibir. Vet. Inst. Omsk, v. 6, 82–84, 1 fig.: *Tauridiana* [t].—Kerchi [t], Crimea.—Reported for: #479 *Canis* (*familiaris* t. h.).

†275. DICROCOELIIDAE, pp. 93, 442, 621.

†276. DICROCOELIINAE, pp. 94, 621.

†276*I*. **Platynosomum**, pp. 94, 621.

fastosum Kossack, 1910, Centralbl f. Bakt., v. 56 (2), Oct. 21, 116–117. fig. 2: *Platynosomum*.—Zoo, Königsberg [t].—Syn. faustosum [c].—Reported for: #413 *Felis* (*bengalensis minuta* s. *minuta* t. h., *catus* [*dom.*]).

planicipitis Cameron, 1928, J. Helminthol., v. 6 (2), June, 87–90, fig. 1: *Platynosomum*.—London Zoo, from Malay States [t].—Reported for: #413 *Felis* (*planiceps* t. h.).

[*symmetricum* [s] Baylis, 1918, Ann. Mag. Nat. Hist., ser. 9, v. 2 (7), 111–114, pl. 14: Dicrocoelium [1] *lanceatum*.—Georgetown [t], Brit. Guiana.—So. *fastosum*, fide Dollfus, 1922, Bul. Soc. zool. France, 319.—Reported for: #413 *Felis* (*bengalensis minuta*, species t. h.).]

†276*K*. **Eurytrema**, pp. 94, 442.

concinnum Braun, 1901 [Dicrocoelium [1]]: *Eurytrema;* Distoma [1].—Reported for: #437 *Viverra* (*zibetha* t. h.).

rebelle Railliet, 1925, for 1924, Bul. Soc. zool. France, v. 49 (8–10), Apr., 595: *Eurytrema*.—Hué [t], Indochina.—Reported for: #479 *Canis* (*familiaris* t. h.).

†277. **Dicrocoelium**, pp. 94, 443.

†*dendriticum*, pp. 95, 443: *Dicrocoelium*.—Reported for: #479 *Canis* (*familiaris*); #511 *Mustela* (*Lutreola*) species (mink).

†*lanceatum* [s], p. 95: *Dicrocoelium*.—Reported for: #479 *Canis* (*familiaris*).

†278. SCHISTOSOMATOIDEA, pp. 95, 443.

†279. SCHISTOSOMIDAE, pp. 95, 807.

†280. SCHISTOSOMINAE, pp. 96, 807.

†281. **Schistosoma**, pp. 96, 443, 807.

†*haematobium*, pp. 96, 443, 807: *Schistosoma*.—Reported for: #413 *Felis* (*catus*). Continued in later bulletins.

†*japonicum*, pp. 97, 444: *Schistosoma*.—Reported for: #413 *Felis* (*catus* [*dom.*]); #479 *Canis* (*familiaris*).

—. **Heterobilharzia** Price, 1929, Proc. U. S. Nat. Mus., v. 75 (2789), Art. 18, 3, 14, tod. mt. *americana*.—†280 SCHISTOSOMINAE: Preacetabular portion of ♂ short, subcylindrical; posterior portion with edges inrolled, forming a deep gynaecophoric canal. Suckers present. Cuticle covered with small tubercles. Ceca unite caudally near posterior end of body. Testes numerous, 70 to 83 in number, arranged in two irregular rows in caudal third of body anterior to cecal union; cirrus pouch present containing the seminal vesicle. Genital pore at beginning of gynaecophoric canal left of median line. ♀ unknown.

**americana* Price, 1929, Proc. U. S. Nat. Mus., v. 75 (2789), Art. 18, 14–15, figs. 33–34: *Heterobilharzia*[1].—Zoo, Washington, D. C.—Reported for: #413 *Lynx* (species t. h. "probably *Lynx uinta*").

—. **Ornithobilharzia** [p. 96] Odhner, 1912, Zool. Anz., v. 41 (1), Nov. 26, 61, tod. mt. *intermedia*.—†280 SCHISTOSOMINAE: ♀ shorter than ♂. ♂ with well-developed gynaecophoric canal, formed by an infolding of lateral edges of body. Suckers present. Cuticle covered with spines. Digestive tract similar to that of †281 *Schistosoma;* ceca long, with tendency to form several anastomoses before finally uniting to form the common cecum. Testes numerous (60 or more), commencing slightly postacetabular, extending postequatorial; cirrus sac rudimentary or absent; seminal vesicle free in the parenchyma; prostate absent. Genital pore small, immediately postacetabular. ♀ elongate, slender, flattened; ovary elongate, loosely or tightly coiled, in cephalic 3rd of body; vitellaria extensive, occupying about two-thirds of body length; Laurer's canal present (at least in some species); uterus short, with but one egg at a time. Cf. †279*i*. Syn. †279*k Macrobilharzia* Trav., 1923, fide Price, 1929, 17.

turkestanicum Skrjabin, 1913, Zeitschr. f. Infektkrankh. d. Haustiere, v. 13 (7), July 5, 457–468, pl. 15, figs. 1–8, pl. 16, fig. 8 [Schistosoma[1]]: *Ornithobilharzia*.—Russian Turkestan[t].—Reported for: #413 *Felis* (*catus* [*dom.*]). Continued in later bulletins; *Bos* (*taurus* t. h.).

†**282**. *TREMATODA*, p. 97. Trematodes of uncertain position. See *Cornatrium, Macroorchis, Procerovum, Stellantchasmus, Stephanolecithus, Stephanopirumus.*

—. **Cornatrium** Onji & Nishio, 1924, Chiba Ig. Sem. G. Z., v. 2, tod. *fuscatum*; 1925, Jap. J. Zool., v. 1 (3), 90.—< †282.

fuscatum Onji & Nishio, 1924, Chiba Ig. Sem. G. Z., v. 2 [nv]; 1925, Jap. J. Zool., v. 1 (3), 90: *Cornatrium*[t].—Japan[t].—Reported for: #413 *Felis* (*catus* t. h.).

perpendiculum Onji & Nishio, 1924, Chiba Ig. Sem. G. Z., v. 2 [nv]; 1925, Jap. J. Zool., v. 1 (3), 90: *Cornatrium*.—Japan[t].—Reported for: #413 *Felis* (*catus* exp.); #479 *Canis* (*familiaris* exp.). Continued in later bulletins; *Larus* t. h. Vectors: *Acanthogobius; Mugil.*

—. **Macroorchis** Goto in Ando, 1919, Igakk. Zasshi, no. 147, tod. *spinulosus* [nv].—< †282.

spinulosus Goto in Ando, 1919, Chuo Igakk. Zasshi, no. 147 [nv]; Ando, 1921, Nihon Biseibutsugak. Z., v. 15 (11) [nv]: *Macroorchis*[t].—Japan[t].—Reported for: #413 *Felis* (*catus*); #479 *Canis* (*familiaris* exp.). Continued in later bulletins. Vector *Potamon* (*dehaani*).

—. **Procerovum** Onji & Nishio, 1924, Chiba Ig. Sem. G. Z., v. 2, tod. *varium* [nv]; 1925, Jap. J. Zool., v. 1 (3), 90.—< †282.

varium Onji & Nishio, 1924, Chiba Ig. Sem. G. Z., v. 2 [nv]; 1925, Jap. J. Zool., v. 1 (3), 90: *Procerovum*[t].—Japan[t].—Reported for: #413 *Felis* (*catus* exp.).

—. **Stellantchasmus** Onji & Nishio, Chiba Ig. Sem. G. Z., v. 2, tod. *falcatus* [nv]; 1925, Jap. J. Zool., v. 1 (3), 90.—< †282.

falcatus Onji & Nishio, 1924, Chiba Ig. Sem. G. Z., v. 2 [nv]; 1925, Jap. J. Zool., v. 1 (3), 90: *Stellantchasmus* [t].—Japan [t].—Reported for: #413 *Felis* (*catus* exp.). Continued in later bulletins; *Amidori* t. h. Vector *Mugil*.

—. **Stephanolecithus** Nakagawa, 1919, J. Parasitol., v. 6 (1), Sept., 39, tod. *parvus*.—< †282.

parvus Nakagawa, 1919, J. Parasitol., v. 6 (1), Sept., 39, based on Nakagawa, 1917, J. Exp. Med., v. 26 (3), Sept. 1, 305–306: *Stephanolecithus*.—Formosa [t].—Reported for: #479 *Canis* (*familiaris*). Continued in later bulletins. Vectors [j]: *Eriocheir* (*japonicus*); *Potamon* (*dehaanii, obtusipes, sinensis*); *Sesarma* (*dehaanii*).

—. **Stephanopirumus** Onji & Nishio, 1924, Chiba Ig. Sem. G. Z., v. 2, tod. *longus* [nv]; 1925, Jap. J. Zool., v. 1 (3), 90.—< †282.

longus Onji & Nishio, 1924, Chiba Ig. Sem. G. Z., v. 2 [nv]; 1925, Jap. J. Zool., v. 1 (3), 90: *Stephanopirumus* [t]. — Japan [t].—Reported for: #413 *Felis* (*catus* exp.). Continued in later bulletins. Vectors: *Acanthogobius; Mugil; Pleuronectes.*

†283. *CESTODA*, pp. 97–113, 444–450, 621–622, 807–813. For the most recent extensive revision, see Southwell, 1930, Fauna of British India, 2 vols.

[species Ratcliffe, 1930, Report Lab. & Mus. Compar. Path. Zool. Soc. Philadelphia, 59: "Cestodes".—Reported for: #415 *Acinonyx* (*jubatus* ("cheetah")); #437 *Viverra* (species ("moon civet")); #473 *Lycaon* (*pictus* ("Cape hunting dog")).]

—. PROTEOCEPHALOIDEA Southwell, 1930, Fauna Brit. India, v. 1, 39, 357, 367.—†283 *CESTODA; EUCESTODA*, fide Southwell, 1930, 39: Head unarmed or armed with minute spines and with 4 sessile suckers devoid of areolae or accessory suckers. An apical organ is frequently present, and occasionally a distinct muscular rostellum. Vitellaria lateral, follicular, the follicles usually closely grouped about a central duct when in the medulla, but spread out over a relatively broad lateral area when situated in the cortex. Ovary bilobed and posterior; uterus with lateral diverticula and one or more median ventral uterine openings; vitellaria, testes, ovary, uterus, usually within inner longitudinal muscle sheath, but in certain genera one or more of these organs may be situated in the cortex. See PROTEOCEPHALIDAE.

—. PROTEOCEPHALIDAE LaRue, 1911, Zool. Anz., v. 38 (22/23), Nov., 473, 475.—With the characters of the superfamily. See *Proteocephalus*.

—. **Proteocephalus** Weinland, 1858, tod. *ambiguus*.—< PROTEOCEPHALIDAE: Scolex without rostellum; all reproductive organs situated either in medullary region of parenchyma (where this is distinguishable from cortex) or in undivided parenchyma (when internal longitudinal muscle sheath is absent). Vitellaria lateral, follicular, the follicles closely grouped about a ventral conducting tubule.

punicus Cholodkowsky, 1908 [Taenia [l]]: *Proteocephalus;* Ophiotaenia.—Tunis [t].—Reported for: #479 *Canis* (*familiaris* t. h.); #427 *Paradoxurus* (*hermaphroditus*).

—. **Tetrathyridium**, p. 807. <†284*a*. Syn. *Dithyridium*.

bailleti Railliet, 1885*a*, elongatum [h] 1882, not 1842, renamed: *Tetrathyridium; Dithyridium;* Cysticercus [l]; *Plerocercoides* [t].—Germany [t]. — Syn. railleti [m] 1894.—Reported for: #413 *Felis* (*catus*); #464 *Herpestes* (*ichneumon*); #479 *Canis* (*familiaris*); #485 *Vulpes* (*vulpes*); #511 *Mustela* (*putorius*).

elongatum [d h s] Blumenbach, 1882*a* [Cysticercus[1]], not Leuckart, 1842 : *Tetrathyridium* (*Dithyridium*); *Dithyridium*.—Germany [t].—So. *bailleti*.—"Probably larval form of *Mesocestoides lineatus*", fide Ejsmont, 1928.—Reported for: #413 *Felis* (*catus*); #479 *Canis* (*familiaris*); #464 *Herpestes* (*ichneumon*); #485 *Vulpes* (species, *vulpes*).

[*martis* [s] Diesing, 1850*a* [*Piestocystis* [o]]: *Dithyridium*.—Europe [t].—So.[j] elongatum [h], fide Ward, 1895*a*, 342.—Reported for: #479 *Canis* (*familiaris*); #521 *Martes* (*foina*, *martes* t. h.).]

[species Schwartz, 1927, Sci., n. ser., v. 66, 17–18: *Dithyridium*. See under *Mesocestoides*.]

[species Skrjabin, 1924, Berl. Tierärzt. Wochenschr., v. 40 (20), p. (6): *Dithyridium*.—U. S. S. R.—Reported for: #413 *Felis* (*catus* [*dom.*]).]

[*taxi* Diesing, 1850*a* [*Piestocystis* [o]]: *Dithyridium*.—Reported for: #479 *Canis* (*familiaris*); #528 *Meles* (*meles meles* s. taxus [o] t. h.).]

†285. *PSEUDOPHYLLIDEA*, p. 100. See LÜHEELLIDAE and †286 BOTHRIOCEPHALOIDEA.

—. LÜHEELLIDAE Baer, 1924, Ann. Parasitol., v. 2 (3), July, 239, 240; 1926, 11th & 12th Rep. Dir. Vet. Educ. Res. Pretoria, 67, 69.—<†285 *PSEUDOPHYLLIDEA:* Size moderate, muscular system very well developed; genital pores 3, ventro-median. Vagina and cirrus sac open into a common atrium; ovary ventral, in distal region of segment, formed by 2 fairly long lobes united by a narrow bridge; shell-gland well developed; receptaculum seminis present; uterus a winding tube of which the proximal portion is surrounded with well-developed uterine glands; uterine pore distinctly preformed; ova large, thick-shelled, operculated. Adult in mammals. See *Lüheella*.

—. **Lüheella** Baer, 1924, Ann. Parasitol., v. 2 (3), July, 239, tod. mt. *pretoriensis*; 1926, 11th & 12th Rep., Dir. Vet. Educ. Res. Pretoria, 67, 69.—<LÜHEELLIDAE: Excretory system well developed, contained entirely in the medullary parenchyma, and consisting of 10 longitudinal anastomosed vessels; longitudinal nerves much displaced towards centre of proglottid; testes numerous, forming 2 lateral fields. Adult in CANIDAE.

pretoriensis Baer, 1924, Ann. Parasitol., v. 2 (3), July, 239–240; 1926, 11th & 12th Rep. Dir. Vet. Educ. Res. Pretoria, 67–68, figs. 1–5: *Lüheella*.—S. Africa [t].—Reported for: #480 *Otocyon* (*megalotis* t. h.).

†286. BOTHRIOCEPHALOIDEA, p. 100. See †287 DIPHYLLOBOTHRIIDAE and BOTHRIOCEPHALIDAE.

†287. DIPHYLLOBOTHRIIDAE, pp. 101, 621.

†289. LIGULINAE, p. 101. See †290 *Ligula* and *Schistocephalus*.

†290. Ligula, p. 101.

intestinalis Linn., 1758*a* [Fasciola [l]]: *Ligula*.—Reported for: #413 *Felis* (*catus* [*dom.*]). Continued in later bulletins; Pisces t. h.

species Sakamoto & Tsuyuki, 1923, Acta Dermat., v. 2, 79–90; 1925, Jap. J. Zool., v. 1 (3), 92 [nv]: *Ligula*.—Reported for: #413 *Felis* (*catus*); #479 *Canis* (*familiaris*). Continued in later bulletins.

—. **Schistocephalus** Creplin, 1829*b*, mt. *dimorphus* so. *solidus*.—†289 LIGULINAE: Bothria and external segmentation developed in the larva. Tip of scolex retractile. Segmentation complete and corresponding to internal structure of the animal. Longitudinal and transverse muscles arranged in several alternating layers (3 transverse layers enclosing 2 longitudinal layers). Larva in fishes; adult in birds.

gasterostei Fabricius, 1780*a* [Taenia [l]]: *Schistocephalus*.—Greenland [t].—

So. *solidus*.—Reported for: #413 *Felis* (*catus*); #479 *Canis* (*familiaris*). Continued in later bulletins; *Gasterosteus* (*aculeatus* t. h.).

nodosus [8] Bloch, 1782*a* [Taenia [1] lanceolata [1]]: *Schistocephalus*.—So. *solidus*.—Reported for: #499 *Lutra* (*lutra*). Continued in later bulletins; *Mergus* t. h.

†292. DIPHYLLOBOTHRIINAE, p. 101. See †293 *Sparganum*, †295 *Diphyllobothrium*, and *Bothridium*.

†293. Sparganum, pp. 102, 444, 621.

ellipticum Molin, 1858*d*: *Sparganum*.—Padua [1].—Reported for: #511 *Mustela* (*putorius*); #521 *Martes* (*foina*).

philippinensis Tubangui, 1924, Philip. J. Sci., v. 24 (6), June, 752–753, fig. 2: *Sparganum*.—Los Baños [1], Philippine Ids.—Reported for: #427 *Paradoxurus* (*philippinensis* t. h.).

species [p. 445] Ijima & Murata, 1888, 160: *Sparganum*. — Japan. — Reported for: #511 *Mustela* [1] (*itatsi*).

species Meggitt, 1924, Parasitol., v. 16 (1), Jan., 52–53, figs. 2*A–C*: *Sparganum*. — Burma. — Reported for: #464 *Herpestes* (*birmanicus* s. *albopunctatus*).

species Shipley, 1902, Arch. Parasitol., v. 6, 608–611 [LIGULINAE]; Joyeux & Mathias, 1926, Ann. Parasitol., v. 4 (4), Oct. 1, 333: *Sparganum*.—Sudan; Belgian Congo.—Reported for: #413 *Felis* (*serval*).

†295. Diphyllobothrium, pp. 102, 445.

**americanum* [8] Hall & Wigdor, 1918, J. Amer. Vet. Med. Assoc., v. 53, n. s. v. 6 (3), 355–358, fig. 1: *Diphyllob*.—Detroit [1], Michigan.—So. *latum*, fide Baer, 1926, 72.—Reported for: #479 *Canis* (*familiaris* t. h.).

[*canis* [8] Ercolani & Grassi, in Erc., 1859*a*: Bothrioc. [1]—Italy [1].—So. ?*latum*.—Reported for: #479 *Canis* (*familiaris* t. h.).]

†*cordatum*, p. 102 [Bothrioc. [1]]: *Diphyllob.* (*Diphyllob.*); *Dibothrioc*. [8]—Greenland [1].—Reported for: #479 *Canis* (*familiaris*). Continued in later bulletins.

decipiens [9] Dies., 1850*a* [*felis* Creplin [tpd.] and *maculatum* Leuckart, renamed] [Dibothrium [1]]: *Diphyllob.*; *Diphyllob.* (*Spirometra* [1]); *Dibothrioc*. [8]; *Bothrioc*. [1]—Greifswald [1].—So. *felis*.—Reported for: #413 *Felis* (*catus* [*dom.*] t.h., *concolor*, *couguar* so. *concolor couguar*, *jaguarondi*, *leopardus* so. *pardus leopardus*, *lupus*, *macroura*, *mellivora*, *mitis*, *nebulosa*, *onca*, *pardalis*, *pardus*, *pardus leopardus*, *pardus villosa*, *serval*, *silvestris*, species (wild cat), *tigrina*, *tigris*, *wiedii*); #479 *Canis* (*familiaris*, *lupus*); #538 *Mellivora* (*capensis* s. *ratel*). Continued in later bulletins. Vectors, exp.: *Cyclops* (*affinis*, *albidus*, *bicuspidatus*, *magnus*, ? *oithonoides*, *phaleratus*, *serrulatus*, *vicinus*), Peiping, China.

[*dubius* [8] Krabbe, 1865*e*: Bothrioc. [1]—Iceland [1].—So. *fuscum*.—Reported for: #479 *Canis* (*familiaris* t. h.).]

erinacei, p. 807: *Diphyllob.* (*Spirometra*).—Reported for: #413 *Felis* (*catus*); #479 *Canis* (*familiaris*).

felis Creplin, 1825*a* [Bothrioc. [1]]: *Diphyllob.*; *Dibothrioc*. [8]—Reported for: #413 *Felis* (*catus* [*dom.*] t. h., *nebulosa*, *pardus*, *silvestris*, *tigris*).

[*felis-pardi* [8] Rud., 1810*a*, 193: Taenia [1].—Paris Mus.—So. *sulcatum*.—Reported for: #413 *Felis* (*pardus* t. h.).]

folium Diesing, 1850*a* [Dibothrium [1]]: *Diphyllob.*; Bothrioc. [1]—Sennar [1], Sudan.—Reported for: #462 *Ichneumia* (*albicauda* s. *albicaudatus*, *leucurus* t. h.).

fuscum Krabbe, 1865*e* [Bothrioc. [1]]: *Diphyllob.*; *Diphyllob.* (*Diphyllob.*); *Dibothrioc*. [8]—Iceland [1].—Reported for: #479 *Canis* (*familiaris* t. h.); #486 *Alopex* (*lagopus*).

gracile Baer, 1927, Abh. Senckenberg. Nat. Ges. Frankfurt, v. 40, 379–380, figs. 3–4: *Diphyllob.*—Brazil [1].—Reported for: #413 *Felis* (*macroura* t. h., *wiedii*).

†*houghtoni*, p. 445: *Diphyllob.* (*Spirometra*).—Reported for: #413 *Felis* (*catus*); #479 *Canis* (*familiaris*).

[lanceolatum, p. 808: *Sparganum.*—Larva of *ranarum*, fide Vialli, 1929, 90–94.—Reported for: #479 *Canis* (*familiaris* exp.). Continued in later bulletins.]

†**latum*, pp. 102, 445: *Diphyllob.*; *Dibothrioc.*[s]; Bothryocephalus[c] [l].—Reported for: #413 *Felis* (*catus, concolor, hernandesii, leo, macroura, mellivora, mitis, onca, pardus, tigrina, tigris*); #462 *Ichneumia* (*albicaudata* so. *albicauda*); #479 *Canis* (*azarae, familiaris*, species (chien loup)); #485 *Vulpes* (species, *vulpes* s. *alopex*); #486 *Alopex* (*lagopus*); #488 *Urocyon* (*cinereoargenteus*); #538 *Mellivora* (*ratel* so. *capensis*); #561 *Procyon* (*lotor*); #575 *Thalarctos* (*maritimus*); #576 *Ursus* (*americanus* exp., *arctos*). Continued in later bulletins. 1st hosts, add: *Diaptomus* (*vulgaris*, Europe). 2d hosts, add: *Abramis* (*brama*); *Anguilla* (*anguilla*); *Cottus* (*gobio*); *Lota* (*lota*); *Lucioperca* (*lucioperca*); *Pygosteus* (*pungitius*).

longicolle[s] Parodi & Widakowich, 1917, Prensa Med. Argentina, Buenos Aires, Año 4 (11), 140 [Bothryoc.[l]]: *Diphyllob.*—Provincia de Corrientes [t], Argentina.—So. *decipiens*, fide Wolffhügel & Vogelsang, 1926.—Reported for: #413 *Felis* (*jaguarondi* s. *yaguarandi* t. h.

maculatum[s] Leuckart, 1848*c* [Bothrioc.[l]]: *Diphyllob.*; *Dibothrioc.*[s]—So. *felis.*—Reported for: #413 *Felis* (*catus, leopardus* so. *pardus leopardus, pardus* t. h.); #479 *Canis* (*lupus*).

†*mansoni*, pp. 102, 445: *Diphyllob.*; *Diphyllob.* (*Spirometra*); *Dibothrioc.*[s]; *Sparganum;* Dibothrium[l].—Reported for: #413 *Felis* (*catus* [*dom.*], *pardus orientalis, tigris koreensis*); #437 *Viverra* (*zibetha*); #479 *Canis* (*aureus, familiaris, lupus*); #479 *Nyctereutes* (*koreensis*); #485 *Vulpes* (*vulpes*); #521 *Charronia*[s] (*flavigula koreana*); #523 *Gulo* (*gulo* s. *sibiricus*). Continued in later bulletins.

okumurai Faust, Campbell & Kellogg, 1929, Amer. J. Hyg., v. 9 (3), 574–576, figs. 7–8: *Diphyllob.* (*Spirometra*).—Tokyo [t], Japan.—Reported for: #479 *Canis* (*familiaris* t. h., exp.). Continued in later bulletins. Sparganum stage in either frog or snake.

[pancerii (Polonio) of Baer & Joyeux, 1927, Actes Soc. helvét. Sci. nat., 198–199: *Sparganum.*—So. *ranarum.*—Adult reported for: #413 *Felis* (*catus* [*dom.*] exp.); #479 *Canis* (*familiaris* exp.). Continued in later bulletins. Sparganum stage in frog and *Tropidonotus* (*natrix*).]

[*pardi*[o] Rud., 1810*a*, 198, for *felis-pardi:* Taenia [l].—Reported for: #413 *Felis* (*pardus*).]

raillieti[s] Ratz, 1913, Centralbl. f. Bakt., Orig., v. 67 (7), Jan. 23, 525, 527, figs. 1–3 [*Sparganum*]: *Diphyllob.*—So. ? *mansoni*, fide Brumpt, 1922*a*, 493.—Reported for: #479 *Canis* (*familiaris*). Continued in later bulletins; *Sus* (*scrofa* t. h.).

ranarum Gastaldi, 1854 [Ligula [l]]: *Diphyllob.*; *Diphyllob.* (*Spirometra*); *Dibothrioc.*[s]—Reported for: #413 *Felis* (*catus*); #479 *Canis* (*familiaris, procyonoides*); #511 *Mustela* (*furo* (ferret)). Continued in later bulletins; larva in *Rana* (*esculenta* t. h.). 1st host: *Cyclops fuscus.*

reptans, pp. 445, 621 [Ligula [l]]: *Diphyllob.*; *Diphyllob.* (*Spirometra*); *Sparganum.*—Brazil [t].—Reported for: #413 *Felis* (*bengalensis, mitis, nebulosa, pardalis, pardus, tigrina*); #479 *Canis* (*azarae, familiaris*); #497*A* *Pteronura* (*brasiliensis*); #499 *Lutra* (*solitaria*); #525 *Tayra* (*barbara* s. *barbatus, barbara senex*); #563 *Nasua* (*narica, socialis*). Continued in later bulletins.

reptans (Diesing) of Meggitt, 1924, Ann. Trop. Med. Parasitol., v. 18 (2), Aug. 2, 195–199, pl. 9, figs. 1–2: *Diphyllob.*—So. *ranarum*, fide Joyeux & Baer, 1927, 933, 935.—Reported for: #479 *Canis* (*familiaris* exp.). Continued in later bulletins. Sparganum in *Tropidonotus* (species, Burma).

[*reticulatus* [s] Krabbe, 1865*e*: Bothrioc.[1]—Iceland [t].—So. *fuscum*.—Reported for: #479 *Canis* (*familiaris* t. h.).]

serratum [s] Diesing, 1850*a* [Dibothrium [1]]: *Diphyllob.*; *Dibothrioc.*[s]; Bothrioc.[1]—Brazil [t].—So. *decipiens*, fide Wolffhügel & Vogelsang, 1926.—Reported for: #479 *Canis* (*aureus*, *azarae* t. h., *familiaris*, *familiaris pomeranus*).

simile Krabbe, 1865*e* [Bothrioc.[1]]: *Diphyllob.*—Greenland [t].—Reported for: #486 *Alopex* (*lagopus* t. h.).

species Joyeux & Mathias, 1926, Ann. Parasitol., v. 4 (4), Oct. 1, 834: *Diphyllobothrium*.—Dongou (Ouellé).—Reported for: #413 *Felis* (*pardus*).

species Mazza & Vogelsang, 1928, Bol. Inst. Clin. quirúrg. Univ. Buenos Aires, Año 4, 646: *Diphyllob.*—Tucumán, Argentina.—Reported for: #479 *Canis* (*familiaris*).

species Moghe, 1926 [nv]: *Diphyllob.*; *Dibothrioc.*[s]—Reported for: #413 *Felis* (*bengalensis*).

species Southwell, 1922, Ann. Trop. Med. Parasitol., v. 16 (2), July 20, 133 [Bothriocephalus[1]]: *Diphyllob.*—Reported for: #413 *Felis* (*melas* so. *pardus melas*).

species Southwell, 1922, Ann. Trop. Med. Parasitol., v. 16 (2), July 20, 133 [Bothriocephalus[1]]: *Diphyllob.*—Calcutta Zoo.—Reported for: #427 *Paradoxurus* (*grayi*).

species Tubangui, 1925, Philip. J. Sci., v. 28 (1), Sept., 17 [not described]: *Diphyllob.*—Manila [t], Philippine Ids.—Reported for: #413 *Felis* (*catus*); #479 *Canis* (*familiaris*).

species Vevers, 1920, Proc. Zool. Soc. London, pt. 3, Sept., 408 [*Dibothrioc.*[s]]: *Diphyllob.*—London Zoo, from Argentina.—Reported for: #550 *Conepatus* (*proteus*).

[species Wharton, 1917, J. Parasitol., v. 4 (2), Dec., 82: *Dibothrioc.*[s]—Philippine Ids.—Reported for: #413 *Felis* (*catus*); #479 *Canis* (*familiaris*).]

species Wigdor, 1921, J. Parasitol., v. 7 (4), June, 186: *Diphyllob.*—Reported for: #479 *Canis* (*familiaris*).

sulcatum [s] Molin, 1858*d* [Dibothrium [1]]: *Diphyllob.*; *Dibothrioc.*[s]; Bothrioc.[1]—Padua [t], Italy.—So. *decipiens*.—Reported for: #413 *Felis* (*couguar* so. *concolor couguar*, *pardus* t. h.).

tangalongi MacCallum, 1921, Zoopathologica, v. 1 (6), Aug., 217, fig. 110 [Dibothrium[1]]: *Diphyllob.*—Borneo [t].—Reported for: #437 *Viverra* (species, *tangalunga* t. h.).

theileri Baer, 1924, Ann. Parasitol., v. 2 (3), July, 240–241; 1926, 11th & 12th Rep. Dir. Vet. Educ. Res. Pretoria, 69–71, figs. 6–8: *Diphyllob.*—Pretoria [t], S. Africa.—Reported for: #413 *Felis* (*caffra* so. *ocreata cafra*, *serval*).

—. **Bothridium** Blainville, 1824*a*, tsd. *pithonis*.—†292 DIPHYLLOBOTHRIINAE: Scolex with 2 tubular bothridia which open anteriorly and posteriorly by pores provided with sphincter muscles. Vitelline glands between inner and outer longitudinal muscles, sometimes intermingling with the latter; uterus consists of a uterine duct and a uterine sac, which latter is composed of 2 large cavities connected by a narrow duct. Syn. *Solenophorus* [o] Creplin, 1839*a*, type *pithonis* [not Solenophorus [h] Muls, 1840, coleopteron].

megalocephalum [o] Creplin, 1839*a* [*Solenophorus* [o]]: *Bothridium*.—So. *pithonis*. Syn. *megacephalus* [o] 1850.—Reported for: #413 *Felis* (*tigrina*, *tigris*).

pithonis Blainville, 1828*a*: *Bothridium* [t]; *Solenophorus* [o].—Reported for: #413 *Felis* (*tigris*). Continued in later bulletins; *Python* t. h.

—. BOTHRIOCEPHALIDAE Cobbold, 1864*b*.—†286 BOTHRIOCEPHALOIDEA: Cirrus and vaginal pore and uterine pore on opposite surfaces; the former rarely marginal, almost always surficial, dorsal;

uterine pore ventral, more proximal than other genital pores. Scolex usually with 2 bothria, sometimes armed; a pseudoscolex may be present; segmentation complete, but sometimes obscured. Receptaculum seminis, when present, a blind sac situated at inner end of vagina; uterus never a rosette, generally a large sac with a small uterine duct. Eggs thin-shelled, usually not operculated. Syn. PTYCHOBOTHRIIDAE Luehe, 1902*n*. Cf. †285*F*, p. 100. See *Bothriocephalus*.

—. **Bothriocephalus** Rud., 1808*a*, tsd. *punctatus* ° so. *scorpii*.—<BOTHRIOCEPHALIDAE: Scolex elongate, the 2 bothria feebly developed. External segmentation indistinct, but marked by a toothlike notching of lateral border. Uterine pore medio-ventral; ♂ and ♀ pores medio-dorsal. Testes and vitelline glands continuous throughout strobila. Vitellaria in cortex; receptaculum seminis absent; first part of uterus a sinuous duct (uterine duct) opening into a large spherical sac (uterine sac or uterus s. str.). Syn. *Dibothrium* ° Diesing, 1850*a*, type *punctatum* °.

species Braun, 1893*f*, 390: *Bothrioc.*[1]—Apparently Königsberg.—Reported for: #413 *Felis* (*catus* [*dom.*]).

species Foot, 1865, Proc. Nat. Hist. Soc. Dublin, v. 4, 201–206: *Bothrioc.*[1]—Dublin Zoo.—Reported for: #575 *Thalarctos* (*maritimus*).

species Krabbe, 1865*e*: *Bothrioc.*[1]—Denmark.—Reported for: #479 *Canis* (*familiaris*).

[species Stiles & Hassall, 1894*e*, 332: *Dibothrium* °.—Reported for: #523 *Gulo* (*luscus*).]

ursi Landois, 1877*a*, 50: *Bothrioc.*[1]—Zoo, Germany [t].—Reported for: #576 *Ursus* (*arctos* t. h.).

†299. TAENIOIDEA, pp. 104, 445, 621, 808. See *Taenia* [1], †303 DAVAINEIDAE, †306 DIPYLIDIIDAE, †306*H* DILEPIDIDAE, †310 HYMENOLEPIDIDAE, †317 ANOPLOCEPHALIDAE, †320 TAENIIDAE, MESOCESTOIDIDAE, TETRABOTHRIIDAE.

—. **Taenia** [1], pp. 445, 621, 808. <†299. Cf. *Alyselminthus* [1].

canis Vandelli, 1758*a* [nv]: *T.*[1]—Reported for: #479 *Canis* (*familiaris*).

crassipora Rud., 1819*a*: *T.*[1]—Brazil. [t]—Reported for: #552 *Mephitis* (*cinche*); #563 *Nasua* (*narica* t. h., *socialis*).

martis ° Zeder, 1803*a*, 372, *mustelae* 1790 renamed [Halysis [1]]: *T.*[1] *serrata*.—Europe [t].—Reported for: #521 *Martes* (*martes* t. h.).

mustelae Gmelin, 1790*a*: *T.*[1]; Halysis[1].—Europe [t].—Reported for: #511 *Mustela* (*nivalis*, *putorius*, *vulgaris* [s] t. h.); #521 *Martes* (*martes*).

mustelae-vulgaris ° Rud., 1810*a*: *T.*[1]—Europe [t].—So. *mustelae* 1790.—Reported for: #511 *Mustela* (*nivalis*, *vulgaris* [s] t. h.).

opuntioides Rud., 1819*a*: *T.*[1]—Berlin [t], Germany.—Reported for: #479 *Canis* (*lupus* t. h.).

paradoxuri Smith, Fox & White, 1908, Univ. Penn. Med. Bul., v. 20 (12), Feb., 283: *T.*[1]—Philadelphia Zoo, from India [t].—Reported for: #427 *Paradoxurus* (*grayi* t. h.).

pectinata [i] [s] of Zeder, 1800*a*: *T.*[1]—So. ? *Andrya rhopalocephala*.—Reported for: #413 *Felis* (*catus* [*dom.*]). Continued in later bulletins.

putorii [h] ° Zeder, 1803*a*, *mustelae* 1790 renamed [Halysis [1]]: *T.*[1]—Europe [t].—Reported for: #511 *Mustela* (*putorius*).

retracta Linstow, 1903*u*: *T.*[1]—Coll. St. Petersburg.—Reported for: #485 *Vulpes* (*ferrilatus*, *ferrilatus eckloni* s. *eckloni* t. h.).

secunda [h] Olsson, 1893*a*, not Kuech., 1855*a*: *T.*[1]—Sweden [t].—Reported for: #528 *Meles* (*meles meles* s. taxus ° t. h.).

species Feilden in Nares, 1878, Narr. Voyage Polar Sea, 1875–76, v. 2, 193, 194: *T.*[1]—Reported for: #479 *Canis* (*lupus*); #511 *Mustela* (*erminea*).

species Galli-Valerio, 1929, Centralbl. f. Bakt., Orig., v. 112 (1–2), May, 58: *T.*[1]—Reported for: #485 *Vulpes* (*vulgaris* ° so. *vulpes*).

species Henry & Leblois, 1923, Rec. Méd. vét. Alfort, v. 99 (3), Feb., 89: *T.*—Reported for: #479 *Canis* (*familiaris*).

species Léon, (1911), 1924, Contrib. à l'Étude de Parasites Animaux de Roumanie (1898–1924), Bucarest, 94: *T.*—Reported for: #576 *Ursus* (*arctos*).

species Léon, (1911), 1924, Contrib. à l'Étude de Parasites Animaux de Roumanie, Bucarest, (1898–1924) 94: *T.*—Reported for: #528 *Meles* (*meles meles* s. taxus [o]).

species Meggitt, 1928, Parasitol., v. 20 (3), Oct., 320: *T.*[l]—Haifa, Palestine.—Reported for: #479 *Canis* (*familiaris*).

species Moniez, 1880*a*, 47: *T.*—Reported for: #413 *Felis* (species (panther)).

species Parona, 1896*k*, 3: *T.*[l]—Reported for: #413 *Felis* (*leo*).

species Parona, 1900*a*, 5: *T.*[l]—Eritrea.—? So. †325 *T.*[r] species Setti, 1897.—Reported for: #437 *Viverra* (species).

species Southwell, 1922, Ann. Trop. Med. Parasitol., v. 16 (2), July, 128: *T.*[l]—Lahore, India.—Reported for: #479 *Canis* (*familiaris*).

*species Stiles & Hassall, 1894*e*, 334: *T.*—Colorado.—Reported for: #544 *Taxidea* (*americana* so. *taxus*).

*species Stiles & Hassall, 1894*e*, 334: *T.*—Colorado.—Reported for: #552 *Mephitis* (*mephitica* so. *mephitis*).

tenuicollis [h o] Rud., 1819*a*, putorii [h] 1803 and *mustelae-vulgaris* renamed [not *tenuicollis* Rud., 1810*a*]: *T.*[l]—Mus. Vienna.—Reported for: #511 *Mustela* (*nivalis*, *putorius*, *vulgaris* [s]).

vulpina Schrank, 1788*a*, contains †325 *crassiceps* and *litterata*: *T.*[l]—Reported for: #479 *Canis* (*lupus*); #485 *Vulpes* (*vulpes* t. h.).

†**303.** DAVAINEIDAE, p. 104.

†**304.** DAVAINEINAE, p. 104.

†**305***b*. **Cotugnia**, p. 105.

pluriuncinata Baer, 1925, Bul. Soc. Sci. nat. Maroc, v. 5 (3), April 30, 54–56, pl. 2, figs. 1–4: *Cotugnia*.—Dahomey [t].—Reported for: #458 *Atilax* (*galera* t. h.).

†**305***k*. **Raillietina** (Raillietina), p. 106.

africana Baer, 1925, Bul. Soc. Sci. nat. Maroc, v. 5 (3), April 30, 56–57, pl. 3, figs. 5–8 [*Raillietina* (*Ransomia* [o])]: *Rail.* (*Rail.*).—Dahomey [t], W. Africa.—Reported for: #458 *Atilax* (*galera* t. h.).

pintneri Klaptocz, 1906 [Davainea [l]]: *Rail.* (*Rail.*).—W. Africa [t].—Reported for: #458 *Atilax* (*galera*). Continued in later bulletins; *Numida* (*ptilorhyncha* t. h.).

†**306.** DIPYLIDIIDAE, pp. 106, 808.

†**307.** DIPYLIDIINAE, pp. 106, 808.

†**308. Dipylidium**, pp. 106, 809.

[*aegyptica* Meggitt, 1927, Parasitol., v. 19 (4), Dec., 432, pl. 30, fig. 26: *Joyeuxia*.—Reported for: #413 *Felis* (*sylvatica* t. h.).]

buencaminoi Tubangui, 1925, Philip. J. Sci., v. 28 (1), Sept., 18–19, pl. 1, figs. 2–4: *Dipylidium*.—Manila [t], Philippine Islands.—Reported for: #479 *Canis* (*familiaris* t. h.).

†*caninum*, p. 107 [Taenia [l]]: *Dipylidium*.—Europe [t].—Reported for: #413 *Felis* (*catus* [*dom.*], *catus caeruleus* s. *coeruleus*, *libyca*, *maniculata*, *silvestris*, species, *viverrina*); #427 *Paradoxurus* (*grayi*, *hermaphroditus*); #466 *Proteles* (*cristatus*); #469 *Hyaena* (*striata*); #479 *Canis* (*aureus*, *aureus dalmaticus* so. *aureus dalmatinus*, *dingo*, *familiaris* t. h., *mesomelas*, species (Asiatic chacal)); #480 *Otocyon* (*megalotis*); #483 *Fennecus* (*zerda*); #485 *Vulpes* (*vulpes*). Continued in later bulletins.

canis [o] Galli-Valerio, 1898*b*: *Dipylidium*; *Dipylidium caninum*.—So. *caninum*.—Italy [t].—Reported for: #479 *Canis* (*familiaris* t. h.).

carracidoi Lopez-Neyra, 1928, Bul. Soc. Path. exot., v. 21, 249; 1929, Mem. Real Acad. Cienc., v. 32, 54–56, pl. 10, figs. 1–6: *Dipylidium*.—Spain [t].—Reported for: #413 *Felis* (*catus* [*dom.*] t. h.).

[*cateniformis* [s] Goeze, 1782*a*: Taenia [l].—Germany [t].—So. *caninum*.—Reported for: #479 *Canis* (*familiaris* t. h., species (wolf)); #485 *Vulpes* (*melanogaster* so. *vulpes melanogaster*, species).]

cati Neumann, 1896*f*, 177: *Dipylidium caninum.*—Reported for: #413 *Felis* (*catus* [*dom.*]).

catus Gulati, 1929, Agric. Res. Inst., Bul. 190, 1–4, 5 figs.: *Dipylidium.*—Almora [t], United Prov., India.—Reported for: #413 *Felis* (species (Siamese cat t. h.)).

chyzeri Ratz, 1897*d*: *Dipylidium; Joyeuxia* [t].—Syn. chyseri [m] 1920.—Reported for: #413 *Felis* (*catus* [*dom.*] t. h., *serval*). Vectors: *Cerastes* (*cornutus*); *Tarentola* (*mauritanica*, Spain); *Tropidonotus* (*viperinus*); *Zamenis* (*hippocrepis*).

**compactum* Millzner, 1926, Univ. Calif. Public. Zool., v. 28, 327–328, pl. 36, figs. 16–20: *Dipylidium.*—California [t].— So. *caninum.*—Reported for: #413 *Felis* (*catus* [*dom.*] t. h.).

**crassum* Millzner, 1926, Univ. Calif. Public. Zool., v. 28, 330, pl. 39, figs. 31–35: *Dipylidium.*—California [t].—So. *caninum.*—Reported for: #479 *Canis* (*familiaris* t. h.).

cucumerinum [s] Bloch, 1782*a* [Taenia [l]]: *Dipylidium;* Alyselminthus [l].—Europe [t].—So. *caninum.*—Reported for: #413 *Felis* (*catus*); #479 *Canis* (*aureus, aureus dalmaticus* so. *aureus dalmatinus, familiaris* t. h.).

[*cuneiceps*[s] Zeder, 1800*a* [Alyselminthus [l]]: Taenia [l]; Halysis [l].—Germany [t].—So. *caninum.*—Reported for: #413 *Felis* (*catus, catus caeruleus* s. *coeruleus* t. h., *silvestris*); #479 *Canis* (*coeruleus*).]

**diffusum* Millzner, 1926, Univ. Calif. Public. Zool., v. 28, 328–329, pl. 37, figs. 21–25: *Dipylidium.*—California [t].—So. *caninum.*—Reported for: #413 *Felis* (*catus* [*dom.*] t. h.).

dongolense Beddard, 1913, Proc. Zool. Soc. London, pt. 3, Sept., 549–559, figs. 85–87, 89: *Dipylidium; Joyeuxia.*—London Zoo, from Africa.—Reported for: #433 *Genetta* (*dongolana* t. h.).

echinorhynchoides [s] Sonsino, 1889*b* [Taenia [l] (*Dipylidium*) *echinorhyncoides*]: *Dipylidium; Joyeuxia.*—Nubia [t].—Reported for: #413 *Felis* (*catus* [*dom.*]); #479 *Canis* (*rostratus*, species (chacal)); #483 *Fennecus* (*zerda* s. *cerdo* t. h.); #485 *Vulpes* (*vulpes* s. *alopex, vulpes niloticus*). Continued in later bulletins. Larva (*Cysticercus rostratus*) in *Zamenis* (*viridiflavus*).

[*elliptica* [s] Goeze, 1782*a*, *caninum* 1758*a* renamed: Taenia [l]; Alyselminthus [l]; Halysis [l]; Cystic.[l] taeniae.—Syn. ellyptica 1786.—Reported for: #413 *Felis* (*catus* [*dom.*], *maniculata, silvestris*); #479 *Canis* (*familiaris*).]

[*fabulosum* Meggitt, 1927, Parasitol., v. 19 (4), Dec., 430: *Diplopylidium.*—Gizeh [t], Egypt.—Reported for: #413 *Felis* (*catus* t. h.).]

felina [s] Goeze, 1782*a*, 312, refers to *caninum* Linn. in cats: [*Dipylidium;*] Taenia [l].—Germany [t].—Reported for: #413 *Felis* (*catus* [*dom.*] t. h.).

[*felis* [s] Gmelin, 1790*a*: Taenia [l] *cateniformis.*—Europe [t].—So. *caninum* of cats.—Reported for: #413 *Felis* (*catus* [*dom.*] t. h.).]

felis [h s] Werner of Rud., 1810*a*: *Dipylidium caninum;* Taenia [l] *canina.*—So. *elliptica*, so. *caninum.*—reported for: #413 *Felis* (*catus* [*dom.*] t. h.).

[*fortunatum* Meggitt, 1927, Parasitol., v. 19 (4), Dec., 430: *Diplopylidium.*—Gizeh [t], Egypt.—Reported for: #413 *Felis* (*catus* t. h.).]

fuhrmanni Baer, 1924, Ann. Parasitol., 245–246; 1926, 11th & 12th Rep. Dir. Vet. Educ. Res. Pretoria, 98, 100–101, figs. 28–29: *Dipylidium; Joyeuxia.*—S. Africa [t].—Reported for: #413 *Felis* (*caffra* so. *ocreata cafra, serval*).

[*genettae* Beddard, 1913, Proc. Zool. Soc. London, (3), Sept., 559–569, figs. 90–94: *Diplopylidium* [t].—London Zoo, from Africa [t].—Reported for: #433 *Genetta* (*dongolana* t. h.).]

genettae Gervais, 1847*a* [Halysis [l]]: *Dipylidium;* Taenia [l].—Montpellier [t], France.—Reported for: #433 *Genetta* (*genetta* t. h., species).

gervaisi Setti, 1895*c*: *Dipylidium; Joyeuxia;* Taenia [1] (*Dipylidium*).—Eritrea [t].—Reported for: #413 *Felis* (*viverrina*); #427 *Paradoxurus* (*hermaphroditus*); #433 *Genetta* (*abyssinica*, *genetta*, *tigrina*).

**gracile* Millzner, 1926, Univ. Calif. Public. Zool., v. 28, 326–327, figs. 11–15: *Dipylidium.*—California [t].—Syn. graciele [m] 1929. So. *caninum.*—Reported for: #413 *Felis* (*catus* [*dom.*] t. h.); #479 *Canis* (*familiaris*).

halli Tubangui, 1925, Philip. J. Sci., v. 28 (1), Sept., 19–20, pl. 1, figs. 5–6, pl. 2, fig. 1: *Dipylidium.*—Manila [t], Phillippine Islands.—Reported for: #413 *Felis* (*catus* t. h.).

**longulum* [s] Millzner, 1926, Univ. Calif. Public. Zool., v. 28, 329–330, pl. 38, figs. 26–30: *Dipylidium.*—California [t].—So. *caninum.*—Reported for: #413 *Felis* (*catus* [*dom.*] t. h.).

[*monoophoroides* Lopez-Neyra, 1928, Bul. Soc. Path. exot., v. 21, 253; 1929, Mem. Real Acad. Cienc. Madrid, v. 32 (1), 87–89, pl. 23, figs. 1–8: *Diplopylidium.*—Spain [t].—Reported for: #413 *Felis* (*catus* [*dom.*] t. h.).—Vector *Tarentola* (*mauritanica*, Spain).]

monoophorum Luehe, 1898*g*: *Dipylidium; Diplopylidium.*—Tunis [t].—Reported for: #433 *Genetta* (*afra*, *genetta* [i]); #435 *Civettictis* (*civetta* (Zibeth cat t. h.)).

[*nölleri* Skrjabin, 1924, Berliner Tierärz. Wochenschr., v. 40 (32), Aug. 8, 420–421, figs. 1–3 [*Progynopylidium* [s]]: *Diplopylidium.*—Russian Turkestan [t].—Reported for: #413 *Felis* (*catus* [*dom.*] t. h.).]

örleyi [s] Ratz, 1900*o*: *Dipylidium.*—Budapest [t], Hungary.—So. *caninum*, fide Southwell, 1930, 176.—Reported for: #413 *Felis* (*catus* [*dom.*] t. h.); #479 *Canis* (*familiaris*, species (pariah dog)).

pasqualei Diamare, 1893*b*: *Dipylidium; Joyeuxia;* Taenia [1] (*Dipylidium*).—Egypt [t].—Reported for: #413 *Felis* (*catus* [*dom.*]); #479 *Canis* (*familiaris*, *lupus*).

[*pasqualeiformis* Lopez-Neyra, 1928, Bul. Soc. Path. exot., v. 21 (3), March 14, 251–252; 1929, Mem. Real Acad. Cienc., v. 32, 70–71, pl. 15, figs. 1, 6: *Joyeuxia.*—Granada [t], Spain.—Reported for: #413 *Felis* (*catus* [*dom.*]); #479 *Canis* (*familiaris*). Continued in later bulletins. Vector *Tarentola* (*mauritanica*, Spain).]

porimamillanum Lopez-Neyra, 1928, Bul. Soc. Path. exot., v. 21 (3), March 14, 247–249, figs. 1, 4; 1929, Mem. Real Acad. Cienc., v. 32, 51–54, pl. 9, figs. 1–5: *Dipylidium.*—Granada [t], Spain.—Syn. porimanillanum [m] 1929.—Reported for: #413 *Felis* (*catus* [*dom.*]); #479 *Canis* (*familiaris*). Continued in later bulletins. Vector *Tarentola* (*mauritanica*, Spain).

[*prismatica* [s] Braun in Rud., 1810*a*: Taenia [1].—So. *caninum.*—Reported for: #479 *Canis* (*aquaticus*, species t. h.).]

quinquecoronatum Lopez-Neyra & Muñoz, 1922, for Dec., 1921, Bol. R. Soc. esp. Hist. nat., Madrid, v. 21 (10), Jan. 28, 421–426, pl. 26, figs. 1*a*, 3*a*, 5*a*: *Dipylidium; Diplopylidium.*—Granada [t], Spain.—So. ? *caninum.*—Reported for: #413 *Felis* (*catus* [*dom.*] t. h.). Continued in later bulletins. Vectors: *Lacerta* (*muralis*, Spain); *Tarentola* (*mauritanica*, Spain).

rossicum, p. 809: *Dipylidium; Joyeuxia.*—Russia [t].—Reported for: #413 *Felis* (*catus* [*dom.*]); #479 *Canis* (*familiaris*).

sexcoronatum Ratz, 1900*o*: *Dipylidium.*—Budapest [t], Hungary.—Reported for: #413 *Felis* (*catus*); #479 *Canis* (*familiaris* t. h., species (Pariah dog)).

species Gaiger, 1915, J. Comp. Path. Therap., v. 28, March, 69: *Dipylidium.*—India.—Reported for: #479 *Canis* (*familiaris*).

species Henry & Leblois, 1923, Rec. Méd. vét. Alfort, v. 99 (3), Feb., 89: *Dipylidium.*—Reported for: #479 *Canis* (*familiaris*).

species Joyeux, 1920, Bul. biol. France & Belgique, Suppl., 5:

Dipylidium [j].—Upper French Guinea.—Reported for: #413 *Felis* (*pardus*).

species Kofend, 1921, Denkschr. Akad. Wiss. Wien, v. 98, 9–10: *Dipylidium; Joyeuxia.*—Senaar [t], Sudan.—Reported for: #413 *Felis* (*capensis phillipsi*).

species Meggitt, 1927, Parasitol., v. 19 (4), Dec., 432: *Dipylidium.*—Reported for: #413 *Felis* (species (wild cat)).

*species Shaw, 1928, Kansas Univ. Sci. Bul., v. 18, 495: *Dipylidium.*—Kansas.—Reported for: #479 *Canis* (*familiaris*).

trinchesei [e] Rail., 1893*a*, for trinchesii [d] Diamare, 1892*a*: *Dipylidium; Diplopylidium;* Taenia [l].—? Italy [t].—Reported for: #413 *Felis* (*catus* [*dom.*] t. h., *silvestris*). Continued in later bulletins. Vector *Tarentola* (*mauritanica*, Spain).

triseriale Luehe, 1898*g*: *Dipylidium; Diplopylidium.*—Tunis [t].—Reported for: #433 *Genetta* (*afra, genetta* [j]); #435 *Civettictis* (*civetta* t. h.); #437 *Viverra* (*zibetha*). Vector *Chlorophis* (*irregularis*, French Guinea).

walkeri [s] Sondhi, 1923, Parasitol., v. 15 (1), March, 61–62, fig. 1, pl. 2, figs. 4–5: *Dipylidium.*—Punjab [t], India.—So. *caninum*, fide Southwell, 1930, 176.—Reported for: #479 *Canis* (*familiaris*, species (pariah dog t. h.)).

zschokkei Hungerbühler, 1910, Jena Denkschr. med. Ges., v. 16, 516–517, pl. 19, figs. 18–20: *Dipylidium; Diplopylidium.*—Sekuma [t], S. Africa.—Reported for: #450 *Cynictis* (*penicillata* t. h., species).

†306*H.* DILEPIDIDAE, pp. 106, 445, 808.

†306*I.* DILEPIDINAE, pp. 106, 445, 808.

—. **Cyclorchida.**

crassivesicula Vevers, 1923, Proc. Zool. Soc. London, pt. 4, Feb., 924–926, figs. 11–12: *Cyclorchida.*—Malay States [t].—Reported for: #427 *Paradoxurus* (*hermaphroditus* t. h.).

—. **Pentorchis** Meggitt, 1927, Parasitol., v. 19 (2), 146–147, tod. mt. *arkteios.*—†306*I* DILEPIDINAE: Rostellum unarmed (?). Genital pores unilateral. Testes few, along posterior margin of proglottid, some external to excretory vessels; external vesicula seminalis absent. Receptaculum seminis large; uterus saclike. Adults in mammals.

arkteios Meggitt, 1927, Parasitol., v. 19 (2), Aug., 146–147, pl. 8, fig. 3: *Pentorchis* [t].—Rangoon [t].—Syn. *arctius* [c] Southwell, 1930, 171.—Reported for: #573 *Helarctos* (*malayanus* t. h.).

†310. HYMENOLEPIDIDAE, pp. 107, 446, 622, 810. See †314 *Hymenolepis* and *Aelurotaenia.*

†314. **Hymenolepis**, pp. 107, 446, 622, 810.

†*diminuta*, pp. 107, 446: *Hymenol.*—Reported for: #479 *Canis* (*familiaris*). Continued in later bulletins. Vectors, add: †1639 *Ctenocephalides* (*canis*); †1252 *Dermestes* (*peruvianus*); †1624 *Leptopsylla* (*musculi*); †1635 *Pulex* (*irritans*); †1269 *Tenebrio* (*obscurus*); *Ulosonia* (*parvicornis*).

liguloides Gervais, 1847*a* [Halysis [l]]: *Hymenol.*; *Weinlandia; Drepanidotaenia* [s]; Dilepis [l]; Taenia [l].—France [t].—Reported for: #433 *Genetta* (*abyssinica*). Continued in later bulletins; *Phoenicopterus* (*antiquorum* t. h.).

†*nana*, pp. 108, 446: *Hymenol.*—Reported for: #479 *Canis* (*familiaris* [j]). Continued in later bulletins.

species Gaiger, 1915, J. Comp. Path. Therap., v. 28, March, 69: *Hymenol.*—India.—"Improbable that worm belongs to this genus", fide Southwell, 1930, 147.—Reported for: #479 *Canis* (*familiaris*).

species Galli-Valerio, 1931, Centralbl. f. Bakt. Orig., v. 120 (1–2), Feb., 104: *Hymenol.*—Ova.—Reported for: #511 *Mustela* (*erminea*).

—. **Aelurotaenia** Cameron, 1928, J. Helminthol., v. 6 (2), June, 90, 92–93, tod. mt. *planicipitis*.—†310 HYMENOLEPIDIDAE: Differs from *Similuncinus*[7] as follows: Hooks 12, with blunt handle and with blade set at an angle to it. Testes about 15; vas deferens coils only in middle field; seminal vesicle not distinct; ovary bilobed; yolk gland spherical; uterus saclike, only secondarily forming egg-capsules by the ingrowth of connective tissue. So. *Similuncinus*, fide Woodland, 1929, Parasitol., v. 21, 175.

planicipitis Cameron, 1928, J. Helminthol., v. 6 (2), June, 90–92, figs. 2–4: *Aelurotaenia; Similuncinus*.—London Zoo, from Malay States [t].—Reported for: #413 *Felis* (*planiceps* t. h.).

†317. ANOPLOCEPHALIDAE, pp. 108, 446, 811.

†318. ANOPLOCEPHALINAE, pp. 108, 446, 812.

species Galli-Valerio, 1930, Centralbl. f. Bakt. Orig., v. 115 (3–4), Jan., 217: ANOPLOCEPHALINAE.—Ova.—Switzerland.—Reported for: #485 *Vulpes* (species).

species Galli-Valerio, 1931, Centralbl. f. Bakt. Orig., v. 120 (1–2), 104: ANOPLOCEPHALINAE.—Ova.—Reported for: #521 *Martes* (*martes*).

318*B*. **Anoplocephala**, p. 446.

species Gaiger, 1915, J. Comp. Path. Therap., v. 28, March, 69: *Anoplocephala*.—Lahore, India.—"Very improbable that worm belonged to this genus", fide Southwell, 1930, 36.—Reported for: #479 *Canis* (*familiaris*).

318*a*. THYSANOSOMINAE.

—. **Avitellina**.

lahorea Woodland, 1927, Ann. Trop. Med. Parasitol., v. 21, 394–398, pl. 26, figs. 11–15: *Avitellina*.—India [t].—Reported for: #479 *Canis*[1] (species).

319*C*. LINSTOWINAE, p. 447, 812. See *Atriotaenia* and *Oochoristica*.

—. **Atriotaenia** Sandground, 1926, Contrib. Harvard Inst. Trop. Biol. & Med., No. 4, 284, 290–291, tod. mt. *parva*.—319*C* LINSTOWINAE: Musculature consists of a single layer of well-developed longitudinal muscle bundles; transverse muscles represented by a few short isolated fibres underlying longitudinal muscles. Genital atrium muscular and with a spacious lumen divided to a greater or lesser extent by inpushings of its walls so as to form diverticula into one of which both ♂ and ♀ genital ducts open. Genital pores irregularly alternate. Genital ducts pass between nerve cord and ventral excretory canal. Cirrus and cirrus pouch relatively small and weakly developed; testes numerous; distributed uniformly to the sides of and behind the ovary. Vagina opens beneath and a little posterior to cirrus; ovary consists of radially disposed lobes, in anterior median line of segment; uterus either not present at all or is a very ephemeral organ. Embryos possess only 2 enveloping membranes and come to lie in irregular unlined lacunae in the parenchyma.

parva Sandground, 1926, Contrib. Harvard Inst. Trop. Biol. & Med., No. 4, 284–290, figs. 10–13: *Atriotaenia*.—Brazil [t].—Reported for: #563 *Nasua* (*socialis* t. h.).

319*K*. **Oochoristica**, pp. 448, 812.

amphisbetela Meggitt, 1924, Parasitol., v. 16 (1), Jan., 48–50, figs. 1*A*–1*B*: *Oochoristica*.—Burma [t].—Reported for: #464 *Herpestes* (*birmanicus* s. *albopunctatus* t. h.).

herpestis, p. 812: *Oochoristica*.—Sudan [t].—Reported for: #451 *Galerella* (*sanguineus* t. h.).

ichneumontis Baer, 1924, Ann. Parasitol., v. 2 (3), July, 243–244;

[7] *Similuncinus* Johnston, 1909, tod. mt. *dacelonis*.—†310 HYMENOLEPIDIDAE: Hooks 30 to 36, with sharply pointed handle with which blade is continuous. Testes 50 to 60; vas deferens coils just before and after entering cirrus sac—not in middle field; seminal receptacle present; ovary small, not distinctly bilobed; yolk gland bilobed; uterus reticulated (resembling that of †308 *Dipylidium*), diverticula surrounding testes and ultimately forming egg-nests.

1926, 11th & 12th Rep. Dir. Vet. Educ. Res., Pretoria, 82, fig. 18: *Oochoristica*.—S. Africa [t].—Reported for: #451 *Galerella* (*gracilis* t. h.); #511 *Foetorius* [s] (species).

incisa Railliet, 1899*c*: *Oochoristica*.—Châteaudun [t].—Reported for: #528 *Meles* (*meles meles* s. taxus [o] t. h.).

†**320.** TAENIIDAE, pp. 108, 449, 622, 812.

†**321.** TAENIINAE, p. 109.

†**322. Echinococcus**, pp. 109, 449.

†*alveolaris* [s] [p. 110] Klemm, 1883*a*: *Echinoc.*; Taenia [l].—Munich [t], Germany.—So. *multilocularis*.—Reported for: #479 *Canis* (*familiaris*).

†*echinococcus* [s] [p. 109] Zeder, 1803*a*: *Echinoc.*; Taenia [l].—So. *granulosus*.—Reported for: #413 *Felis* (*couguar* so. *concolor couguar*); #479 *Canis* (*aureus, dingo, familiaris, lupus, mesomelas*, species (jackal, wolf)).

[*felis-concoloris* [s] Diesing, 1863*a*: Taeniola.—Brazil [t].—So. *oligarthrus*.—Reported for: #413 *Felis* (*concolor* t. h., *couguar* so. *concolor couguar*).]

granulatus Zeder, 1800*a*, for ? *granulosus*.—Reported for: #413 *Felis* (*catus*).

†*granulosus*, pp. 109, 449: *Echinoc.*—Reported for: #413 *Felis* (*catus* [*dom.*], *concolor, couguar* so. *concolor couguar, mitis, panthera, pardus*, species (panther)); #464 *Herpestes* (*ichneumon*, species); #473 *Lycaon* (*capensis, pictus venaticus* so. *pictus*); #479 *Canis* (*aureus, azarae, dingo, familiaris, lupus, mesomelas*, species (jackal, wolf)); #485 *Vulpes* (*chama*, species exp., *vulpes*); #576 *Ursus* (species).

[*juvencula* [o] Diesing, 1863*b*: Taenia [l] crassicollis.—S. America [t].—So. *oligarthrus*.—Reported for: #413 *Felis* (*concolor* t. h., *couguar* so. *concolor couguar*).]

longimanubrius Cameron, 1926, J. Helminthol., v. 4 (1), March, 20, fig. 2*e*: *Echinoc.*—S. Africa [t].—Reported for: #473 *Lycaon* (*capensis* t. h.).

minimus Cameron, 1926, J. Helminthol., v. 4 (1), March, 21, fig. 2*f*: *Echinoc.*—Macedonia [t].—Reported for: #479 *Canis* (*lupus* t. h.).

†*multilocularis*, p. 110: *Echinoc.*—Reported for: #479 *Canis* (*familiaris*).

oligarthrus Diesing, 1863*b* [Taenia [l]]: *Echinoc.*—Brazil [t].—Reported for: #413 *Felis* (*concolor* t. h., *couguar* so. *concolor couguar, jaguarondi*).

omissa Luehe, 1910, 694 [Taenia [l]]: *Echinoc.*—S. America [t].—Reported for: #413 *Felis* (*concolor, couguar* so. *concolor couguar, jaguarondi*, species (wild cat), *tigrina*).

pardi [s] Diesing, 1863*a* [*nomen nudum* here]: *Echinoc.*—So. *granulosus*.—Reported for: #413 *Felis* (*mitis, pardus* t. h.).

†*polymorphus* [s], pp. 109, 449: *Echinoc.*—So. *granulosus*.—Reported for: #413 *Felis* (*catus*); #479 *Canis* (*familiaris*).

*species Chapin, 1921, J. Parasitol., v. 7 (4), June, 200: *Echinoc.*—Zoo, Washington, D. C.—Reported for: #473 *Lycaon* (*capensis*).

species (Lindenfeld or Johnston) Stiles, 1906, 76: *Echinoc.*—Reported for: #479 *Canis* (*dingo*).

†**324. Multiceps**, pp. 110, 449, 812.

[*brachysoma* [s] Setti, 1899*b*: Taenia [t].—Italy [t].—So. *brauni*, fide Baer, 1926, 108.—Reported for: #479 *Canis* (*familiaris* t. h.).]

brauni Setti, 1897 [Taenia [l]]: *Multiceps*; Cystic. [l] taeniae.—Ghinda [t].—Reported for: #479 *Canis* (*familiaris* t. h.).

coenurus [o] Tschudi, 1837 [*Polycephalus* [o]]: *Multiceps*; Cysticercus [l]; Cystotaenia [l]; Hydatis [l]; Taenia [l].—So. *multiceps*.—Reported for: #479 *Canis* (*familiaris*, species); #486 *Alopex* (*lagopus*, species (Arctic fox)).

gaigeri Hall, 1916, J. Amer. Vet. Med. Assoc., v. 50, Nov., 214–223, figs. 1–4 (*Coenurus* [s] serialis [o] of Gaiger, 1907, renamed): *Multi-*

ceps.—Reported for: #479 *Canis* (*familiaris* t. h.). Continued in later bulletins.

[*hyperborea* [s] Linstow, 1905: Taenia [l].—East Greenland [t].—So. *multiceps*, fide Baer, 1926, 108.—Reported for: #486 *Alopex* (*lagopus* t. h.).]

†*multiceps*, p. 110 [Taenia [l]]: *Multiceps*.—Reported for: #479 *Canis* (*aureus*, *familiaris*, *latrans*, *mesomelas*, *nebracensis*, species); #485 *Vulpes* (*vulpes*); #486 *Alopex* (*lagopus*).

**packi* Christenson, 1929, J. Parasitol., v. 16 (1), Sept., 49–51, pl. 5, figs. 1–4: *Multiceps*.—Minnesota [t].—Reported for: #479 *Canis* (*familiaris* exp.). Continued in later bulletins; coenurus in *Lepus* (*americanus phaenotus*) and other hares.

†*serialis*, pp. 110, 449 [*Coenurus*]: *Multiceps;* Multiplex [m]; Taenia [l].—Reported for: #413 *Felis* (*catus*); #469 *Hyaena* (species); #479 *Canis* (*familiaris*, *lupus*); #485 *Vulpes* (*vulpes*). Continued in later bulletins.

[serialis [o] (Gerv., 1847*a*) of Gaiger, 1907, J. Trop. Vet. Sci., v. 2 (3), July, 316–321: *Coenurus*.—India.—Renamed *gaigeri*.—Reported for: #479 *Canis* (*familiaris* exp.). Larva in goat.]

[species Engelmayer [nv]: *Coenurus*.—Reported for: #413 *Felis* (*catus*).]

species Pagenstecher, 1877, of Linstow, 1889*a*: *Multiceps; Coenurus*.—Reported for: #479 *Canis* (*familiaris*).

*species Shaw, 1928, Kansas Univ. Sci. Bul., v. 18, 495: *Multiceps*.—Kansas.—Reported for: #479 *Canis* (*familiaris*).

[species Southwell, 1922, Ann. Trop. Med. Parasitol., v. 16 (2), July, 128: Taenia [l].—Calcutta Zoo.—So. *multiceps*, fide Southwell, 1930, Fauna Brit. India, v. 2, 18.—Reported for: #413 *Felis* (*pardus*).]

theropitheci, p. 449: *Multiceps serialis*.—Reported for: #479 *Canis* (*familiaris* exp.).

†**325. Taenia** [r], p. 110.

antarctica Fuhrmann, 1920, Deutsche Südpolar Exped., 1901–1903, v. 16, Zool., v. 8 (4), Dec., 520–522, figs. 118–123: *T.*[r]—Winterstation [t].—Reported for: #479 *Canis* (*familiaris* t. h.).

**balaniceps* Hall, 1910, Proc. U. S. Nat. Mus., v. 39 (1780), Oct. 25, 139–146, figs. 1–9: *T.*[r]—Washington, D. C., from Nevada [t].—Reported for: #413 *Felis* (*rufa*, *rufa texensis* s. *rufa* maculata [h o]); #479 *Canis* (*aureus*, *familiaris* t. h.).

brevicollis Rud., 1819*a*, 159: *T.*[r]—Berlin [t].—Reported for: #511 *Mustela* (*erminea* t. h.).

canina [h s] Bloch, 1782*a*: *T.*[r]—Europe [t].—So. *crassiceps;* so. *marginata;* so. *serrata*.—Reported for: #479 *Canis* (*familiaris* t. h., *lupus*, species (wolf)); #485 *Vulpes* (species).

crassiceps, p. 808 [*Alyselminthus*]: *T.*[r]; *Halysis*.—Reported for: #479 *Canis* (*lupus*); #485 *Vulpes* (*alopex* so. *vulpes*, *melanogaster* so. *vulpes melanogaster*, species, *vulpes* t. h.). Continued in later bulletins.

crataegaria Batsch, 1786*a*: *T.*[r]—Syn. *crassiceps* 1800.—Reported for: #485 *Vulpes* (species, *vulpes* t. h.).

erythraea Setti, 1897, 25–28: *T.*[r]—Massaua [t], Eritrea.—Reported for: #479 *Canis* (*familiaris*, *mesomelas* t. h.).

hyaenae Baer, 1924, Ann. Parasitol., v. 2 (3), July, 247; 1926, 11th & 12th Ann. Rep. Dir. Vet. Educ. Res. Pretoria, 105, figs. 42–43: *T.*[r]—S. Africa [t].—Reported for: #469 *Hyaena* (*brunnea* t. h.).

laticollis Rud., 1819*a*: *T.*[r]—Mus. Vienna.—Reported for: #413 *Felis* (*canadensis*, *lynx* t. h.).

laticollis [o] "Rud." of Linstow, 1903*u*: *T.*[r] —So. *monostephanos*.— Reported for: #413 *Felis* (*lynx*).

macrocystis Diesing, 1850*a*: *T.*[r]; *Cysticercus*.—Brazil [t].—Reported for: #413 *Felis* (*baileyi*, *fasciata*, *jaguarondi*, *macroura*, *rufa*, species, *tigrina*, *wiedii*); #547 *Galictis* [o] (species). Continued in later bulletins; *Lepus* (*brasiliensis* t. h.).

monostephanos Linstow, 1905*cc*, laticollis "Rud." of Linstow, 1903*u*, renamed: *T.*[r]—Reported for: #413 *Felis* (*lynx* t. h.).

ovata Molin, 1858*d*: *T.*[r]—Padua [t], Italy.—Reported for: #485 *Vulpes* (*vulpes* t. h.); #486 *Alopex* (*lagopus*).

parva Baer, 1924, Ann. Parasitol., v. 2 (3), July, 246–247; 1926, 11th & 12th Rep. Dir. Vet. Educ. Res. Pretoria, 105–107, figs. 33–41: *T.*[r]—S. Africa [t].—Reported for: #433 *Genetta* (*ludia* t. h.).

platydera Gervais, 1847*a*, 89–90, pl. 1, figs. 1–1*B*: *T.*[r]—Montpellier [t], France.—Reported for: #433 *Genetta* (*genetta* t. h., species).

polyacantha Leuckart, 1856*a*, 67–68, pl. 2, figs. 1 *p*, 1 *q*: *T.*[r]; *T.* (*Cystotaenia*).—Giessen [t], Germany.—Reported for: #485 *Vulpes* (*alopex* so. *vulpes* t. h., species).

regis Baer, 1923, Revue suisse Zool., v. 30 (13), Dec., 338, 347–349, figs. 9–10: *T.*[r]—Sudan [t].—Reported for: #413 *Felis* (*leo* t. h.).

**rileyi* Loewen, 1929, Parasitol., v. 21 (4), Nov., 469–470, pl. 21, figs. 1–4: *T.*[r]—Minnesota [t].—Reported for: #413 *Felis* (*canadensis* t. h.).

species Baer, 1923, Revue suisse Zool., v. 30 (13), Dec., 349–350, fig. 11: *T.*[r]—Sudan.—Reported for: #469 *Hyaena* (*maculata* t. h.).

species Hall, 1920, N. Amer. Vet., v. 1 (3), June, 123: *T.*[r]—St. George Island, Alaska.—Reported for: #486 *Alopex* (*lagopus*).

species Setti, 1897*a*, 21–23, pl. 8, figs. 15–16: *T.*[r]—Massaua, Eritrea.—Reported for: #437 *Viverra* (species).

species Southwell, 1922, Ann. Trop. Med. Parasitol., v. 16 (2), July, 129: *T.*[r]—Calcutta Zoo, India.—Reported for: #576 *Ursus* (*torquatus* [o] so. *tibetanus*).

species Southwell, 1922, Ann. Trop. Med. Parasitol., v. 16 (2), July, 128: *T.*[r]—Calcutta Zoo, India.—So. ? †325*b* *pisiformis*, fide Southwell, 1930, Fauna Brit. India, v. 2, 16.—Reported for: #413 *Felis* (*tigris*).

triserrata Meggitt, 1928, Parasitol., v. 20 (3), Oct., 319–320: *T.*[r]—Paraguay [t].—Reported for: #413 *Felis* (species t. h.).

ursi-maritimi Rud., 1810*a*, 197–198: *T.*[r]—Mus. Paris.—Reported for: #575 *Thalarctos* (*maritimus* t. h.).

ursina Linstow, 1893*g*: *T.*[r]—Copenhagen Zoo, from Russia [t].—Reported for: #576 *Ursus* (*arctos* t. h.).

†**325***b*. **Taenia** (**Taenia**), pp. 111, 449, 813.

[caninae [o] Werner, 1782*b*, 56, not as specific name: *T.*—See canina solium.—Reported for: #479 *Canis* (*familiaris*).]

cucurbitina [o] Pallas, 1766*a*, *solium* renamed: *T.*—Reported for: #479 *Canis* (*familiaris*).

cucurbitina canis [h s] Batsch, 1786*a*: *T.*—So. *pisiformis*.—Reported for: #479 *Canis* (*familiaris*).

cynica [o] Bourcier, 1859*a*, *marginata* renamed: *T.*—Reported for: #479 *Canis* (*familiaris* t. h.).

†cysticercus [h o], pp. 112, 450: *T.*—So. *marginata*.—Reported for: #479 *Canis* (*lupus*).

†*hydatigena*, pp. 111, 450, 813: *T.* (*T.*).—Larva= †326 *Cysticercus tenuicollis*.—Reported for: #413 *Felis* (*catus*, *leo*); #473 *Lycaon* (*pictus*); #479 *Canis* (*familiaris*, *lupus*, *mesomelas*, species (jackal, pariah dog)).

krabbei Moniez, 1879*c*: *T.* [(*T.*)]; *Cysticercus*.—Lapland [t].—Reported for: #479 *Canis* (*familiaris*). Continued in later bulletins; *Tarandus* (*rangifer* t. h.).

lupina [s] Schrank, 1788*a*: *T.*—So. *hydatigena*.—Reported for: #479 *Canis* (*lupus*).

†*marginata* [s], pp. 111, 450: *T.* (*T.*); *T.* (*Cystot.*); *Halysis*.—So. *hydatigena*.—Reported for: #413 *Felis* (*catus*, *leo*); #479 *Canis* (*familiaris*, *lupus* t. h., *mesomelas*, species (jackal)).

monostephana Diesing, 1863*b*: *T. serrata*.—Reported for: #479 *Canis* (*familiaris borealis* t. h.).

novella [s] Neumann, 1896*f*: *T.*—France [t].—So. *pisiformis*.—Re-

ported for: #413 *Felis* (*catus* [*dom.*] t. h., species).

ovis Cobbold, 1869*a*: *T.*; *Cysticercus*.—Europe [t].—Contracted from sheep.—Reported for: #479 *Canis* (*familiaris*, species (pariah dog)). Continued in later bulletins; *Ovis* (*aries* t. h.).

†*pisiformis*, p. 111: *T.* (*T.*).—Reported for: #413 *Felis* (*catus*, *leo*, *pardus*, *tigrina*, *tigris*); #473 *Lycaon* (*pictus*); #479 *Canis* (*aureus*, *familiaris*, *latrans*, *nebracensis*, species (jackal)); #485 *Vulpes* (species, *vulpes*); #488 *Urocyon* (*cinereoargenteus*).

polycalcaria [s] Linstow, 1903*g*: *T.*—Ceylon [t].—So. *pisiformis*, fide Baer, 1926, 108.—Reported for: #413 *Felis* (*pardus* t. h.).

putorii [d] Gmelin, 1790*a* [*nomen nudum*]: *T.*; *Cystic.*—So. ? *pisiformis*.—Reported for: #511 *Mustela* (*putorius* t. h.).

serrata [s] of Authors, of dogs: *T.*; *Halysis*.—So. *pisiformis*.—Reported for: #479 *Canis* (*aureus*, *familiaris*); #488 *Urocyon* (*cinereoargenteus*).

serrata canis [h o] Gmelin, 1790*a*: *T.*—So. *pisiformis*.—Reported for: #479 *Canis* (*familiaris* t. h.).

serrata canis-domestici et -vulpis [p] Rud., 1793*a*: *T.*—Europe [t].—So. *pisiformis*.—Reported for: #485 *Vulpes* (*vulpes*).

serrata fusa [o] Neumann, 1896*f*: *T.*—France [t].—Anomaly of serrata [s] [= *pisiformis*] of dogs.—Reported for: #479 *Canis* (*familiaris*).

serrata vera [o] Kuech., 1855*a*: *T.*—Germany [t].—So. *pisiformis*.—Reported for: #479 *Canis* (*familiaris* t. h.).

†*solium*, p. 111: *T.* (*T.*).—Reported for: #413 *Felis* (*catus*); #479 *Canis* (*familiaris*).

solium [s] of Werner, 1782*b*: *T. canina* [; *T.* serrata of dogs].—So. ? *pisiformis*.—Reported for: #479 *Canis* (*familiaris* t. h.).

†**325***c*. **Taenia** (**Hydatigera** or **Reditaenia**), pp. 111, 450, 622, 813.

ammonitiformis [s] Baird, 1862*a*: *T.*—London Zoo.—So. *crassicollis*. Syn. ammoniformis [m] 1894.—Reported for: #413 *Felis* (*concolor* t. h., *couguar* so. *concolor couguar*).

collo brevissimo [d] Bloch, 1782*a*: *T.*—Germany [t].—So. *taeniaeformis* of cats.—Reported for: #413 *Felis* (*catus* [*dom.*]).

conocephala [o] Diesing, 1854*b*, *foinae* E. Bl., 1848, renamed: *T.*—Paris [t].—Reported for: #521 *Martes* (*foina* t. h.).

†*crassicollis* [s], p. 111: *Taenia*.—So. *taeniaeformis*. Syn. crassicolis [m].—, Reported for: #413 *Felis* (*catus*, *couguar* so. *concolor couguar*, *eyra*, *leo*, *macroura*, *maniculata*, *maniculata* dom., *mellivora*, *mitis*, *onca*, *pardalis*, *silvestris*, *tigrina*, *viverrina*); #433 *Genetta* (*genetta*); #511 *Mustela* (*erminea*); #521 *Martes* (*foina*).

felina [h] Goeze, 1782*a*, 339; refers to *serrata* in cats: *T.*—Reported for: #413 *Felis* (*catus*).

felis [s] Gmelin, 1790*a*: *T. serrata*.—So. *taeniaeformis*.—Reported for: #413 *Felis* (*catus* [*dom.*] t. h.).

foinae [s] E. Bl., 1848*e*: *T.*—Fontainebleau [t], France.—So. *taeniaeformis*, fide Baer, 1926, 108.—Reported for: #521 *Martes* (*foina* t. h.).

globulata [s] Goeze, 1782*a*: *T.*—Europe [t].—So. *taeniaeformis*.—Reported for: #413 *Felis* (*catus* [*dom.*] t. h.).

intermedia [s] Rud., 1810*a*: *T.*—Germany [t].—So. *taeniaeformis*, fide Baer, 1926, 108.—Reported for: #511 *Mustela* (*putorius*); #521 *Martes* (*foina*, *martes* t. h.).

moniliformis [s] Batsch, 1786*a*, *globulata* 1782*a* renamed: *T.*—So. *taeniaeformis*.—Reported for: #413 *Felis* (*catus* [*dom.*]).

semiteres Baird, 1862*a*: *T.*—A monstrosity of *crassicollis*, fide Neumann, 1892*a*.—Reported for: #413 *Felis* (*catus* [*dom.*], *catus persica* t. h.).

serrata [s] Goeze, 1782*a*, of cats: *Taenia*; *Alyselminthus*; *Halysis*; *Cysticercus taeniae*.—So. *crassicol-*

lis so. *taeniaeformis*.—Reported for: #413 *Felis* (*catus* [*dom.*] t. h., *pardus*, *tigris*).

servata [m s] Diesing, 1850*a*, misprint for *serrata* of *Martes martes*: *T.*—So. *intermedia* so. *taeniaeformis*.—Reported for: #521 *Martes* (*martes*).

species Bellingham, 1844, Ann. Mag. Nat. Hist., v. 14 (92), Nov., 322: *T.*[r]—Northern Ireland.—So. ? *taeniaeformis*.—Reported for: #413 *Felis* (*silvestris*).

†*taeniaeformis*, pp. 111, 622: *T.*; *T.* (Megacephalus); *Hydatigena*; *Cystic.*; Vermis [l]; Vesicaria.—Reported for: #413 *Felis* (*catus* [*dom.*], *concolor*, *couguar* so. *concolor couguar*, *eyra*, *leo*, *libyca*, *macroura*, *maniculata*, *mellivora*, *mitis*, *ocreata*, *onca*, *pardus*, *silvestris*, *tigrina*, *uinta*, *viverrina*, *wiedii*); #433 *Genetta* (*genetta*); #438 *Viverricula* (*malaccensis*); #479 *Canis* (*familiaris*); #511 *Mustela* (*erminea*, *putorius*); #521 *Martes* (*foina*, *martes*). Continued in later bulletins.

†**325***d*. **Taenia** (**Taeniarhynchus**), p. 111.

†*saginata* [i], p. 112: *T.*—? A misdetermination.—Reported for: #413 *Felis* (*catus*).

†**326. Cysticercus**, pp. 112, 450, 622, 813.

canis [d s] Rud., 1809*a*: *Cystic.*—Alfort [t], France.—So. [j] *cellulosae*.—Reported for: #479 *Canis* (*familiaris* t. h.).

canis-familiaris [d] Olfers, 1816*a* [*nomen nudum*]: *Cystic.*—Reported for: #479 *Canis* (*familiaris*).

†*cellulosae*, pp. 112, 450: *Cystic.*—Reported for: #413 *Felis* (*catus* [*dom.*]); #479 *Canis* (*familiaris*); #511 *Mustela* (*putorius*); #576 *Ursus* (*arctos*). Continued in later bulletins.

cordatus [h] Tschudi, 1837: *Cystic.*—? So. *pisiformis*.—[Germany [t].—] Reported for: #511 *Mustela* (*putorius* t. h.).

herpestis Setti, 1892*a*: *Cystic.*; Plerocercoides [l].—Eritrea [t].—Reported for: #462 *Ichneumia* (laticauda [m] so. *albicauda* t. h.).

hominis [d] Diesing, 1863*b*: *Cystic. tenuicollis*.—Reported for: #479 *Canis* (*lupus*).

species Cameron, 1928, J. Helminthol., v. 6 (2), June, 90: *Cystic.*—London Zoo, from Malay States.—Reported for: #413 *Felis* (*planiceps*).

species Penrose, 1882: *Cystic.*—Reported for: #479 *Canis* (*procyonoides*).

†*tenuicollis*, pp. 113, 450: *Cystic.*—Adult = †325*b* *T. hydatigena*.—Reported for: #479 *Canis* (*lupus*). Continued in later bulletins.

vulpis Gmelin, 1790*a* [*T.*]: *Cystic.*—Reported for: #485 *Vulpes* (species t. h.).

—. MESOCESTOIDIDAE Fuhrmann, 1907.—†299 TAENIOIDEA: Genital pores median, on venter (flat surface). Scolex without rostellum or hooks; suckers unarmed. A single set of reproductive organs in each proglottid. Eggs in gravid proglottids enclosed in a single thick-walled capsule. Adults in mammals and birds. See *Mesocestoides*. Cf. †297*d*, p. 103.

—. **Mesocestoides** Vaillant, 1863*c*, mt. *ambiguus*.—< MESOCESTOIDIDAE: With characters of the family. Syns.: *Monodoridium* Walter, 1866*a*, for *utriculifera* and *litterata*; *Ptychophysa* Hamann, 1885*a*, type apparently *lineata*.

ambiguus Vaillant, 1863*c*: *Mesocestoides* [t].—Reported for: #433 *Genetta* (*genetta* t. h., species).

angustatus Rud., 1819*a* [Taenia [l]]: *Mesocestoides*.—Mus. Vienna.—Reported for: #528 *Meles* (*meles meles* s. taxus [o] t. h. s. *vulgaris*).

[*astephana* [s] Diesing, 1863*b*: Taenia [l] serrata [l].—So. ? *litteratus*.—Reported for: #479 *Canis* (*familiaris* t. h.).]

bassarisci MacCallum, 1921, Zoopathologica, v. 1 (6), Aug., 248, fig. 129: *Mesocestoides*.—New York Zoo, from Mexico [t].—Reported for: #566 *Bassariscus* (*astutus* t. h.).

caestus Cameron, 1925, J. Helminthol., v. 3 (1), Feb., 40–43, figs. 11–14: *Mesocestoides*.—N. E.

Africa [t].—Reported for: #538 *Mellivora* (*capensis* s. *ratel* t. h.).

canis-lagopodis [s] Rud., 1810*a* [Taenia [1]]: *Mesocestoides; Ptychophysa* [s].—So. *lineatus*.—Reported for: #413 *Felis* (*catus* [*dom.*]); #479 *Canis* (*familiaris*); #486 *Alopex* (*lagopus* t. h.). Continued in later bulletins.

elongatus Meggitt, 1928, Parasitol., v. 20 (3), Oct., 317–318, pl. 19, fig. 3: *Mesocestoides*.—Reported for: #479 *Canis* (species (wolf t. h.)).

[*lagopodis* [o] Leuckart, 1879*a*, for *canis-lagopodis*: Taenia [1].—Reported for: #486 *Alopex* (*lagopus*).]

**latus* Mueller, 1927, Trans. Amer. Micr. Soc., v. 46 (4), Oct., 294; 1928, Zool. Jahrb., v. 55 (5–6), 412–414, pl. 9, figs. 2, 10, pl. 10, figs. 12, 16, 23: *Mesocestoides*.—Bemidji [t], Minnesota.—Reported for: #413 *Felis* (*catus* [*dom.*]); #552 *Mephitis* (*minnesotae* t. h.).

lineatus Goeze, 1782*a* [Taenia [1]]: *Mesocestoides*; *Ptychophysa* [s] [t]; Halysis [1].—Ilsenburg Forest [t].—Reported for: #413 *Felis* (*caracal, caracal nubica, catus* [*dom.*], *concolor, silvestris* t. h., species (wild cat), *tigris*); #479 *Canis* (*aureus, familiaris*); #485 *Vulpes* (species, *vulpes*); #486 *Alopex* (*lagopus*); #528 *Meles* (*meles meles*).

litteratus Batsch, 1786*a* [Taenia [1]]: *Mesocestoides; Ptychophysa* [s]; Alyselminthus[1]; Halysis[1].—Europe[t].—Reported for: #413 *Felis* (*catus* [*dom.*], *silvestris*); #479 *Canis* (*aureus, azarae, familiaris*); #485 *Vulpes* (species t. h., *vulpes* s. *vulgaris* [o]); #511 *Mustela* (*vison*); #521 *Martes* (*foina*).

longistriatus Setti, 1897*b*: *Mesocestoides;* Taenia [1] (*Mesocestoides*).—Ghinda[t].—Reported for: #413 *Felis* (*silvestris*, species ("gatto selvatico" t. h.)).

**maior* Mueller, 1928, Zool. Jahrb., v. 55 (5–6), 416–417: *Mesocestoides variabilis*.—Mendocino Co.[t], California.—Reported for: #552 *Mephitis* (*occidentalis occidentalis* t. h.).

mesorchis Cameron, 1925, J. Helminthol., v. 3 (1), Feb., 34–40, figs. 1–10: *Mesocestoides*.—London Zoo, from Nepal [t].—Reported for: #485 *Vulpes* (*ferrilatus* s. ferritatus [m] t. h.).

michaelsenii Loennb., 1896*a* [*Ptychophysa* [s] (Taenia [1])]: *Mesocestoides*.—Quilpué [t], Peña Blanca.—Reported for: #479 *Canis* (*azarae* t. h.).

[*pseudo-cucumerina* [s] Bailliet, 1863*a:* Taenia [1].—Apparently France [t].—So. *lineatus*.—Reported for: #479 *Canis* (*familiaris* t. h.).]

[*pseudo-elliptica* [s] Bailliet, 1863*a:* Taenia [1].—Apparently France [t].—So. *lineatus*.—Reported for: #413 *Felis* (*catus* [*dom.*] t. h.); #479 *Canis* (*familiaris*).]

species Hall, 1920, N. Amer. Vet., v. 1 (3), 123: *Mesocestoides*.—St. George Island, Alaska.—Reported for: #486 *Alopex* (*lagopus*).

species Hall, 1910, Proc. U. S. Nat. Mus., v. 39 (1780), Oct. 25, 149: *Mesocestoides*.—Reported for: #413 *Lynx* (species).

species Joyeux & Mathias, 1926, Ann. Parasitol., v. 4 (4), Oct., 334: *Mesocestoides*.—Harar, Abyssinia.—Reported for: #479 *Canis* (*mesomelas* [j] ("chacal à manteau sp.")).

*species Schwartz, 1927, Sci., n. ser., v. 66, 17–18: *Mesocestoides; Dithyridium*.—Washington, D. C.—Adult reported for: #413 *Felis* (*catus* [*dom.*] exp.); #479 *Canis* (*familiaris* exp.). Larva from #464 *Herpestes* (species (mongoose)).

tenuis Meggitt, 1931, Parasitol., v.23 (2), April, 257–258: *Mesocestoides*.—Burma [t].—Reported for: #479 *Canis* (*familiaris* t. h.).

utriculiferus [s] Walter, 1866*a* [*Monodoridium* [s]]: *Mesocestoides;* Taenia [1]. — So. *litteratus*.—Reported for: #479 *Canis* (*familiaris, lupus*); #485 *Vulpes* (species, *vulpes* t. h.).

**variabilis* Mueller, 1927, Trans. Amer. Micr. Soc., v. 46 (4), Oct., 294; Zool. Jahrb., v. 55 (5–6), 414–416, pl. 9, figs. 1, 4, 7, 8, pl. 10, figs. 13, 14, 24: *Mesocestoides*.—Mendocino Co.[t], California.—Re-

ported for: #488 *Urocyon (cinereoargenteus californicus* so. *californicus californicus)*; #553 *Spilogale (phenax phenax)*.

—. TETRABOTHRIIDAE [8] Linton, 1891 (1892*b*).—†299 TAENIOIDEA[j]: Scolex unarmed, without rostellum. Suckers usually with an outwardly projecting auricular appendage on anterior border. A single set of reproductive organs in each proglottid. Genital pores unilateral. Cirrus sac small and nearly spherical, usually united with the genital atrium by a muscular canal. Vitelline gland preovarial; rudimentary uterine pore present or absent. Eggs with thin transparent envelopes. Adults in mammals and birds. See *Tetrabothrius*. Cf. †297*C*, †297*b*.

—. **Tetrabothrius** [9] Rud., 1819*a*, tsd. *macrocephalus* [o] so. *emmerinus*.—<TETRABOTHRIIDAE: Acetabular appendages and muscular atrial canal present; genital pore on left side of strobila. Cirrus and genital atrium without, or with a few, hairs. Adults in birds and mammals.

vulpis Blainville, 1828*a*: *Tetrabothrius*.—Reported for: #485 *Vulpes* (species t. h., *vulpes*).

†327. *CESTODA* [p. 113] of uncertain position.

species Joyeux & Houdemer, 1927, Ann. Parasitol., v. 5 (4), 309: ?*Sparganum* or ?*Tetrathyridium*.—Larva.—Hanoi.—Reported for: #479 *Canis (familiaris)*.

†330. *EUNEMATODA* [10] [11], pp. 113–116, 451–477, 622–625, 813–820.

[*species Crabb, 1921, Proc. Oklahoma Acad. Sci., n. s. 220, Univ. ser. 14, July 15, 65–66: "Round worms".—Wichita Mts.—Reported for: #552 *Mephitis (mesomelas)*.]

†337. **Anguillula**, pp. 117, 451.

species Schneider, 1896, Centrbl. Bakter., vol. 20, p. 115: *Anguillula*.—Reported for: #479 *Canis (familiaris)*.

†339. **Rhabditis**, pp. 118–119, 451.

†*pellio*, p. 119 [*Pelodera* [s]]: *Rhabditis;* Leptodera [t].—Europe [t].—Reported for: #479 *Canis (familiaris)*. Continued in later bulletins; earthworms t. h.

plicata Schneid. [nv]; Fuchs, 1915, 200: *Rhabditis*.—Reported for: #479 *Canis (familiaris)*; #485 *Vulpes (vulpes)*.

strongyloides Schneid., 1860*b* [Pelodytes [h] [t]]: *Rhabditis; Pelodera* [s] [t]; Leptodera [t].—Reported for: #479 *Canis (familiaris)*.

†352*a*. **Nematoideum**, pp. 121, 622.

canis-familiaris Dies., 1851*a*: *Nematoideum*.—Reported for: #479 *Canis (familiaris* t. h.).

species Dav., 1877*a*: *Nematoideum*.—Reported for: #413 *Felis (catus)*.

species Par., 1894*a*: *Nematoideum*.—Turin, Italy.—Reported for: #479 *Canis (familiaris)*.

[species Sonsino, 1896*m*, 439: Nematode.—Egypt.—Reported for: #413 *Felis (catus)*.]

*species Wilson, 1922, J. Elisha Mitchell Sci. Soc., Chapel Hill, N.C., v. 38 (1–2), Sept., 15–16: Nematode.—Wake Forest, North

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[8] For review of divergent opinions regarding systematic position, see Southwell, 1930*a*, Fauna Brit. India vol. 1, 201.

[9] Syns.: *Amphoterocotyle* [o] Diesing, 1863*a*, mt. *elegans;*
Bothridiotaenia [o] Lönnberg, 1896*a*, tod. *erostris typica;*
Eutetrabothrium [o] Diesing, 1854*b*;
Prosthecocotyle [s] Monticelli, 1892*r*, mt. tod. *forsteri*.

[10] Asenath Graves McKnight and Marion M. Farr have assisted in the preparation of the cross reference to the roundworms.

[11] As it can be taken for granted that most persons likely to use this bulletin have access to Yorke & Maplestone, 1926*a*, Nematode Parasites of Vertebrates, pp. 1–536, it appears unnecessary to print in this bulletin keys to the various nematode genera. Diagnoses, however, will be given for genera not cited by Yorke & Maplestone.

Carolina.—Reported for: #413 *Felis* (*catus* [*dom.*]).

ursi Gmelin, 1790*a* [Taenia [1]]: *Nematoideum;* Cysticercus [1]; Strongylus [1].—Reported for: #576 *Ursus* (*arctos* t. h., species).

†**355. Strongyloides**, pp. 121, 451.

canis [s] Brumpt, 1922*a*, 694: *Strongyloides.*—Extreme Orient [t].—So. †*stercoralis*, fide Fülleborn, and Sandground, 1925; var. of *stercoralis*, fide Chandler, 1925; valid species, fide Yorke & Maplestone, 1926*a*.—Reported for: #479 *Canis* (*familiaris*).

felis Chandler, 1925, Parasitol., v. 17 (4), Oct., 432, fig. 1: *Strongyloides stercoralis.*—Calcutta [t], India.—Reported for: #413 *Felis* (*catus* [*dom.*] t. h.).

†**fülleborni*, p. 451: *Strongyloides.*—Reported for: #413 *Felis* (*catus* [*dom.*] exp.); #479 *Canis* (*familiaris* exp.).

†*intestinalis*, pp. 122, 451: *Strongyloides.*—Reported for: #413 *Felis* (*bengalensis*).

†*longus* [s], p. 122: *Strongyloides.*—Italy [t].—Reported for: #479 *Canis* (species); #485 *Vulpes* (species); #511 *Mustela* (*nivalis* s. *vulgaris*, *putorius*, species (weasel)); #552 *Mephitis* (*mephitis*).

nasua [s] Darling, 1911: *Strongyloides.*—Panama [t].—So. †*stercoralis*, fide Chandler, and Sandground, 1926.—Reported for: #563 *Nasua* (*narica panamensis* t. h.).

species Cameron, 1927, J. Helminthol., v. 5 (3), Sept., 143: *Strongyloides.*—Sumatra.—Reported for: #413 *Felis* (*temminckii*).

species Cameron, 1928, J. Helminthol., v. 6 (2), June, 94–95: *Strongyloides.*—London Zoo, from Malay States.—Reported for: #413 *Felis* (*planiceps*).

species [p. 452] Gonder, 1907 ["not *stercoralis*"]: *Strongyloides.*—So. *fülleborni*, fide Sandground, 1925.—Reported for: #479 *Canis* (*familiaris* exp. neg.).

*species Price and Dikmans, 1929, J. Parasitol., v. 16, Dec., 104: *Strongyloides.*—U. S. A.—Reported for: #413 *Felis* (*catus* [*dom.*]).

†*stercoralis* [l] [pp. 122, 452] of Chandler, 1925, Parasitol., v. 17 (4), Oct., 432: *Strongyloides;* Rhabdonema [h].—Reported for: #479 *Canis* (*familiaris*); #563 *Nasua* (*nasua*).

†*stercoralis* [r], pp. 122, 452: *Strongyloides.*—Reported for: #413 *Felis* (*catus* [*dom.*] exp.); #479 *Canis* (*familiaris* exp.); #563 *Nasua* (*socialis* exp.).

[†*strongyloides* [s], p. 122: Rhabdonema [h].—Reported for: #479 *Canis* (*familiaris*).]

westeri Ihle, 1917: *Strongyloides;* Strongylus [m].—Reported for: #479 *Canis* (*familiaris* exp. neg.). Continued in later bulletins.

†**366. Trichinella**, p. 123.

[*canis* [s] Kraemer, 1853*a:* Trichina [h].—Germany [t].—Reported for: #479 *Canis* (*familiaris* t. h.).]

[†pubis, p. 123, apparently for *trichina* [o]: Pseudalius [d].—So. *spiralis.*—Reported for: #413 *Felis* (*catus* [*dom.*]); #479 *Canis* (*familiaris*). Continued in later bulletins.]

[species Claus, 1931, Zeitschr. f. Fleisch. v. Milch., 250: Trichina [h].—Reported for: #485 *Vulpes* (species).]

†**spiralis*, pp. 123, 814: *Trichinella.*—London [t], England.—Reported for: #413 *Felis* (*catus* [*dom.*]); #427 *Paradoxurus* (species); #479 *Canis* (*familiaris*, species); #485 *Vulpes* (species, *vulpes*); #486 *Alopex* (*lagopus*); #511 *Mustela* (*furo*, *putorius* s. *foetida* [o]); #521 *Martes* (*foina*, *martes*); #528 *Meles* (*meles meles* s. taxus [o]); #544 *Taxidea* (*taxus*); #561 *Procyon* (*lotor*); #575 *Thalarctos* (*maritimus*); #576 *Ursus* (species). Continued in later bulletins.

[†*trichina* [o], p. 123, for *spiralis*: Pseudalius [d].—Reported for: #479 *Canis* (*familiaris*).]

†**368.** TRICHURIDAE, p. 123.

†**370. Trichuris**, pp. 124, 453.

†*affinis* [s], p. 124: *Trichuris.*—So. *ovis* 1795.—Reported for: #511

Mustela (*furo*). Continued in later bulletins; *Ovis aries* t. h.

campanula [s] Linst., 1889*c* [*Trichocephalus* [o]]: *Trichuris.*—So. *serrata* 1879.—Brazil [t].—Reported for: #413 *Felis* (*catus* [*dom.*] t. h.).

**depressiuscula* [o] Rud., 1809*a*, *vulpis* 1789 renamed [*Trichocephalus* [o]]: *Trichuris.*—Reported for: #479 *Canis* (*familiaris*); #485 *Vulpes* (species t. h., *vulpes*).

[†**dispar* [o], pp. 124, 453: *Trichocephalus* [o].—So. *trichiura.*—Reported for: #413 *Felis* (*catus* [*dom.*]).]

[*felis* [s] Dies., 1851*a*: *Trichocephalus* [o]; *Trichoc.* campanula [1].—Brazil [t].—So. ? *campanula;* so. *serrata*, fide Orioste, 1923, 38.—Reported for: #413 *Felis* (*tigrina* t. h.).]

muris Schrank, 1788*a*, 21 [*Trichocephalus* [o]]: *Trichuris; Mastigodes* [o].—Reported for: #479 *Canis* (*familiaris*).

[*nitzschi* Gieb., 1866*a*: *Trichocephalus* [o].—Reported for: #521 *Martes* (*martes* t. h.).]

ovis, p. 453 [*Trichocephalus* [o]]: *Trichuris.*—Reported for: #479 *Canis* (*familiaris*). Continued in later bulletins.

serrata Linst., 1879*b* [*Trichocephalus* [o]]: *Trichuris.*—Reported for: #413 *Felis* (*catus* [*dom.*] t. h.).

species Canavan, 1931, Parasitol., v. 23 (2), Apr., 197, 199: *Trichuris.*—Philadelphia Zoo.—Reported for: #413 *Felis* (*pardalis*).

[species Chatin, 1874, Ann. Sci. nat. Zool., 5 ser., v. 19, 42, 104; Henry & Leblois, 1923, Rec. Méd. vét. Paris, v. 99 (3), Feb., 88–90: *Trichocephalus* [j] [o].—Reported for: #538 *Mellivora* (*capensis*).]

[species Faust, 1922, Trans. 4th Congr. Far Eastern Ass. Trop. Med., Batavia, (1921), v. 1, 3 (reprint): "Trichurids".—North China.—Reported for: #479 *Canis* (*familiaris*).]

[species Onji, 1921, Centralbl. f. Bakt., Orig., 503: *Trichoc.*[o]—Japan.—Reported for: #528 *Meles* (species).]

[species Railliet, 1893*a*, 483: *Trichoc.*[o]—Europe.—Reported for: #511 *Mustela* (*furo*).]

**vulpis* Froel., 1789*a* [*Trichocephalus* [o]]: *Trichuris; Mastigodes* [o].—Europe [t].—Reported for: #479 *Canis* (*familiaris, lupus*); #485 *Vulpes* (*fulva, vulpes* t. h.).

†**372. Hepaticola**, pp. 124, 453.

†*hepatica*, pp. 124, 453: *Hepaticola.*—Reported for: #413 *Felis* (*catus* [*dom.*] exp. neg.); #479 *Canis* (*familiaris* exp.). Continued in later bulletins.

species Wright, 1930, J. Parasitol., v. 17 (1), Sept., 54: *Hepaticola.*—Washington, D. C.—Reported for: #479 *Canis* (*familiaris*).

†**372*a*. Trichosoma** [1], pp. 124, 453, 623, 814.

cati Cobbold, 1873*c*: *Trichosoma.*—Reported for: #413 *Felis* (*silvestris* t. h.).

felis-cati Dies., 1851*a* [*nomen nudum*]: *Trichosomum* [1]; *Capillaria* [1].—Ireland [t].—Reported for: #413 *Felis* (*catus* [*dom.*], *silvestris* s. catus [1] *ferus* t. h.).

lineare [s] Leidy, 1856*b*: *Trichosomum* [1]; *Capillaria* [1].—So. ? felis-cati.—Reported for: #413 *Felis* (*catus* [*dom.*] t. h., *silvestris*).

putorii [s] [p. 814] Rud., 1819*a*: *Trichosoma* [1]; Capillaria [1].—C. E. V.—So. †372*b* *alata.*—Reported for: #499 *Lutra* (*lutra*); #511 *Mustela* (*erminea, putorius* t. h., *sibirica*); #521 *Martes* (*foina*).

[species Bockum, 1888 [nv]: *Trichosoma* [1].—Reported for: #528 *Meles* (*meles meles*).]

[species Cameron, 1928, J. Helminthol., v. 6 (2), June, 98: *Capillaria* [1].—London Zoo, from Malay.—Reported for: #413 *Felis* (*planiceps*).]

species Creplin, 1846 [nv]: *Trichosomum* [1].—Reported for: #413 *Felis* (*silvestris*).

species Sandground, 1921, S. Afr. J. Sci., v. 17 (3–4), July, 326: *Trichosomum.*—Reported for: #413 *Felis* (*catus*); #479 *Canis* (*familiaris*).

species Schlotthauber, 1860*a*, 125: *Trichosoma* [l].—Reported for: #413 *Felis* (*catus* [*dom.*]).

†**372***b*. **Capillaria**, pp. 124, 623, 814.

alata [s] Mol., 1858*d* [*Calodium*]: *Cap.* (*Cap.*); *Trichosoma* [o].—Padua [t], Italy.—So. *entomelas*.—Reported for: #511 *Mustela* (*foetida* [o] so. *putorius* t. h., *vulgaris* so. *nivalis*); #521 *Martes* (*foina*).

[*canis-vulpis* [s] Rayer, 1843*g*: *Trichosoma* [l].—So. *plica*.—Reported for: #485 *Vulpes* (*vulpes* t. h.).]

entomelas Duj., 1845*a* [*Trichosoma* [o]]: *Cap.* (*Cap.*).—Rennes [t], France.—Reported for: #511 *Mustela* (*putorius*, species (weasel), *vulgaris* so. *nivalis*); #521 *Martes* (*foina* t. h.).

mucronata Mol., 1858*d* [*Calodium*]: *Cap.* (*Cap.*); *Trichosoma* [o].—Padua [t], Italy.—Reported for: #521 *Martes* (*foina* t. h.).

mustelae [o] Mol., 1860*c*: *Trichosoma* [o].—Ireland [t].—So. *alata*.—Reported for: #511 *Mustela* (*nivalis* s. *vulgaris* t. h.).

pachykeramota Wedl, 1856*b* [*Trichosoma* [o]]: *Cap.* (*Cap.*).—Reported for: #413 *Felis* (*tigrina*); #415 *Acinonyx* (*guttatus* so. *jubatus* t. h.).

plica Rud., 1819*a*, 14 [*Trichosoma* [o]]: *Cap.* (*Cap.*); *Calodium*.—Berlin [t], Germany.—Reported for: #413 *Felis* (*catus*, species); #479 *Canis* (*familiaris*, *lupus* t. h., species); #485 *Vulpes* (*fulva*, species, *vulpes*).

species Lewis, 1927, J. Helminthol., v. 5 (4), Dec., 177: *Cap.*—Wales.—Reported for: #413 *Felis* (*catus* [*dom.*]).

—. **Eucoleus** Dujardin, 1845*a*, 3, 23, 24–25 [not Eucolus Muls., 1853, Coleopt.], tod. tsd. (1926) *aerophilus* Crep., 1839*a*.—< †368 TRICHURIDAE; CAPILLARIINAE. Possibly identical with †372 *Hepaticola*. See Yorke & Maplestone, 1926*a*, 29.

aëorophyllum [m], for *aerophilus*, q. v.

**aerophilus* [p. 814] [Trichosomum [l]]: *Eucoleus* [t]; Capillaria [l]; Cap.[l] (Thominx [l]).—Syn. *aerophyllum* [c].—Reported for: #413 *Felis* (*catus* [*dom.*]); #479 *Canis* (*familiaris*, *lupus*); #485 *Vulpes* (*fulva*, species, *vulpes* t. h.); #521 *Martes* (*martes*); #528 *Meles* (species).

aerophyllum [c], for *aerophilus*, q. v.

†**375**. **Agamonema**, pp. 124, 623. Syn. *Agamonematodum* Dies., 1861*a*, 727.

affine [s], pp. 623, 815 [Trichina [h] [l]]: *Agamonema*.—Reported for: #413 *Felis* (*catus* [*dom.*]); #479 *Canis* (*familiaris*); #528 *Meles* (*meles meles* s. taxus [o]). Continued in later bulletins; *Larus* (*ridibundus* t. h.).

[**gaylordi* Ransom in Gaylord & Ransom, 1914: *Agamonematodum*.—Maine [t], U. S. A.—Syn. gacpordi [m].—Reported for: #479 *Canis* (*familiaris* t. h.).]

[species Bochefontaine, 1874*a*, 282–285, 1 fig. [: *Agamonematodum*.]—Reported for: #479 *Canis*(*familiaris*).]

†**378***a*. **Strongylus** [l], pp. 125, 453.

brauni Linstow, 1897*c*: *Strongylus* [l].—Königsberg Zoo [t], Germany.—Reported for: #437 *Viverra* (*zibetha* t. h.).

foinae [o] Rud., 1809*a*, *gulonis* renamed: Strongylus [l].—Reported for: #521 *Martes* (*foina* t. h.); #523 *Gulo* (*gulo*).

glandularis Rud., 1819*a*: *Strongylus* [l] vulpis [h].—Vienna Museum.—Reported for: #485 *Vulpes* (*vulpes* t. h.).

[*gulonis* Gmel., 1790*a*, renamed *foinae*: Taenia [l]; Cysticercus [l].—Reported for: #523 *Gulo* (*gulo* t. h.).]

oesophageus Rud., 1819*a*: *Strongylus* [l] vulpis [h].—Europe.—Reported for: #485 *Vulpes* (*vulpes* t. h.).

species Della-Rovere, 1863*a*, 455–457: *Strongylus* [l].—Italy.—Reported for: #479 *Canis* (*familiaris*).

species Dubler, 1892*a*: *Strongylus* [l].—Zoo, Switzerland.—Reported for: #413 *Felis* (species (panther)).

species Onji, 1921, Centralbl. f. Bakt., Orig., v. 86 (6), July 8, 502: *Strongylus*.—Japan.—Reported for: #479 *Canis* (*procyonoides*).

species Parona, 1894*a*: *Strongylus* [l].—Pisa, Italy.—Reported for: #479 *Canis* (*familiaris*).

vulpis [h] Rud., 1819*a* [Dubium [l]] [cf. *Uncinaria vulpis* Froelich]: *Strongylus* [l].—Vienna Museum.—Reported for: #485 *Vulpes* (*vulgaris* [o] so. *vulpes* t. h.).

†**384.** ANCYLOSTOMIDAE, pp. 126, 454. See †387 *Ancylostoma*, 388*d* *Arthrocephalus*, *Arthrostoma*, 388*c* *Bunostomum*, *Galoncus*, †390 *Necator*, 388*f* *Tetragomphius*, 390*B* *Uncinaria*.

species Weidman in Fox, 1923, Dis. Captive Wild Mamm. & Birds, 624, 626: Hookworms. Genus and species not cited.—Philadelphia Zoo.—Reported for: #413 *Felis* (*eyra*, *jaguarondi*, *pardalis*, *rufa*, *rufa texensis*); #479 *Canis* (*mexicanus*); #485 *Vulpes* (*pennsylvanica* so. *fulva*, species, *velox*); #486 *Alopex* (*lagopus*); #488 *Urocyon* (*cinereoargenteus*). Continued in later bulletins.

†**387. Ancylostoma**, pp. 127, 454.

balsami [s] Parona & Grassi, 1877*b* (*c*) [Dochmius [l]]: *Ancylostoma;* Ankylost.[c d]; Uncinaria [l]; Dochmius [l] *tubaeformis;* Strongylus[l].—Italy [t].—So. *caninum*, fide Looss, 1905*a*, 32. Syn. balsamoi [m].—Reported for: #413 *Felis* (*catus* [*dom.*] t. h., *silvestris*); #479 *Canis* (*familiaris*).

†**brasiliense* [e], pp. 127, 454, for *braziliense: Ancylostoma;* Ankylost.[c]; Uncinaria[l].—Ric de Janeiro [t], Brazil.—Reported for: #413 *Felis* (*catus* [*dom.*], *leo*, *pardus*, *planiceps*, species, *temminckii*, *tigris*); #433 *Genetta* (species); #437 *Viverra* (species); #479 *Canis* (*familiaris*, species (wolf)); #570 *Ailurus* (*fulgens*); #574 *Melursus* (*ursinus*).

†**caninum*, p. 127 [Sclerost. [l]]: *Ancylostoma*; *Ancylost.* (*Ancylost.*); Agchylost.[l]; Dochmius [l]; Uncinaria [l]; Strongylus [l].—Europe [t].—Reported for: #413 *Felis* (*catus* [*dom.*], *jaguarondi*, *lynx*, *nebulosa*, *onca*, *pardalis*, *pardus*, *rufa*, *rufa texensis*, *silvestris*, species, *temminckii*, *tigris*, *viverrina*); #415 *Acinonyx* (*guttatus* so. *jubatus*); #433 *Genetta* (*genetta*, *ludia*); #438 *Viverricula* (*malaccensis*); #476 *Cuon* (*dukhunensis*); #479 *Canis* (*aureus*, *azarae*, *familiaris* t. h., *jubatus*, *latrans*, *lupus*, *mesomelas*, *mexicanus*, *nubilus*, *pallipes*, species (jackal)); #483 *Fennecus* (species, *zerda*); #485 *Vulpes* (*bengalensis*, *leucopus*, species, *velox*, *vulpes*); #486 *Alopex* (*lagopus*); #488 *Urocyon* (*cinereoargenteus*); #528 *Meles* (*meles meles*); #574 *Melursus* (*ursinus*).

†*ceylanicum* [s], p. 127: *Ancylostoma; Ancylost.* (*Ceylancylost.*); Ankylostoma [c].—Ceylon [t].—So. *brasiliense*.—Reported for: #413 *Felis* (*bengalensis*, *catus* [*dom.*], *leo*, *nebulosa*, *pardus*, species, *tigris*, *viverrina*); #435 *Civettictis* (*civetta*); #438 *Viverricula* (*malaccensis* t. h.); #476 *Cuon* (*dukhunensis*); #479 *Canis* (*familiaris*, *pallipes*, species (Pariah dog[\])); #570 *Ailurus* (*fulgens*); #574 *Melursus* (*ursinus*).

conepati Solanet, 1911 [Agchylostoma [d]]: *Ancylostoma*.—Buenos Aires [t], Argentina.—Reported for: #550 *Conepatus* (*proteus*, *suffocans* t. h.).

†*duodenale*, pp. 127, 454: *Ancylostoma*.—Italy [t].—Reported for: #413 *Felis* (*catus* [*dom.*], *leo*, *tigris*, *viverrina*); #433 *Genetta* (species); #435 *Civettictis* (*civetta*); #479 *Canis* (*familiaris*, species (Pariah dog)). Continued in later bulletins.

[*felis* Zuern, 1882*a*, 262: Dochmius [l] *balsami;* D. balsamis [m].—Reported for: #413 *Felis* (*catus* [*dom.*] t. h., *silvestris*).]

†*malayanum*, p. 454: *Ancylostoma* (*Ceylancylost.*); Uncinaria [l]; Ankylost. [c]; Agchylostoma[d].—Reported for: #573 *Helarctos* (*malayanus* t. h.); #574 *Melursus* (*ursinus*); #576 *Ursus* (species).

[*mephites* Solanet, 1909 [Agchilostoma [d]]: Agchylostoma [d].—Buenos

Aires [t], Argentina.—Cf. *conepati.*—Reported for: #550 *Conepatus* (*suffocans* t. h.).]

mephitis [h] Micheletti, 1929, Ann. di med. nav. e colon., Rome, v. 35 (8), 255, figs. 1–7: Ankylostoma.—Africa [t].—Reported for: #540 *Ictonyx* (*zorilla* t. h.).

minimum Linstow, 1906 [Ankylostomum [e]]: *Ancylostoma;* Uncinaria [l].—Ceylon [t].—Reported for: #413 *Felis* (*rubiginosa* t. h.).

[*perrodens* Kitt, 1915: Uncinaria [l].—Munich Zoo, from Sumatra.—Reported for: #413 *Felis* (*tigris, tigris sondiaca* t. h.).]

**pluridentatum* Alessandrini, 1905 [Uncinaria [l]]: *Ancylostoma;* Agchylostoma [d]; Ankylostoma [e].—Brazil [t].—Reported for: #413 *Felis* (*eyra, mitis* t. h., *pardalis, rufa,* species, *tigrina, tigris*).

species Bodkin & Cleave, 1916, Bul. Entom. Res., 182: *Ancylostoma.*—British Guiana.—Reported for: #479 *Canis* (*familiaris*).

[*trigonocephalum* [r] Rud., 1805*a;* 1808*a*, see 388*c* *Bunostomum trigonocephalum.*]

trigonocephalum [l] Rud., 1808*a*, of Authors: *Ancylostoma* [l]; Ankylost.[l]; Dachmius [m]; Dochmius [l]; Docmius [m]; Strongylus [l]; Uncinaria [l]; U.[l] *canina.*—Variants [d]: trichocephalus, trigocephalus, trigonacephalus, trigonocefalus, trigonoceohalus, trigonocoefalus, trigonouphalus. A much confused species; pars so. *caninum;* pars so. 390*B stenocephala;* pars so. 390*B tetragonocephala.*—Reported for: #413 *Felis* (*catus* [*dom.*], *concolor, silvestris,* species); #415 *Acinonyx* (*jubatus*); #479 *Canis* (*azarae, familiaris, jubatus, latrans, lupus*); #480 *Otocyon* (*megalotis*); #483 *Fennecus* (*cerdo* so. *zerda*); #485 *Vulpes* (species, *vulpes*); #486 *Alopex* (*lagopus*).

tubaeforme [i] [s] Zeder, 1800*a* [Strongylus [l]]: *Ancylostoma;* Anchylostomum [e]; Ankylost.[e]; Dochmius [l]; Docmius [m]; Ophiost.[d]; Uncinaria [l].—So. ? *caninum* or unidentifiable. — Europe [t]. — Reported for: #413 *Felis* (*catus* [*dom.*] t. h., *concolor, leo, leopardus* [i] so. *pardus leopardus, mellivora, onca, panthera, pardus* [i], *rufa, tigrina, tigris, viverrina*).

388*d*. **Arthrocephalus**, p. 454.

gambiensis Ortlepp, 1925, J. Helminthol., v. 3 (3–4), Aug., 151–155, figs. 1–6: *Arthrocephalus* [t].—London Zoo, from Gambia [t], W. Africa.—Reported for: #464 *Herpestes* (species (African mongoose t. h.)).

—. **Arthrostoma** Cameron, 1927, J. Helminthol., v. 5 (3), Sept., 143, 148, mt. tod. *felineum.*—< †384 ANCYLOSTOMIDAE: Buccal capsule articulated (composed of 8 plates), dorsal cone and armature to oral aperture absent.

felineum Cameron, 1927, J. Helminthol., v. 5 (3), Sept., 143–148, figs. 1–10: *Arthrostoma.*—Sumatra [t].—Reported for: #413 *Felis* (*catus* [*dom.*] exp., *temminckii* t. h.).

388*c*. **Bunostomum**, p. 454.

trigonocephalum [r] Rud., 1808*a*, pl. 2, figs. 5–8 [Str. [l]]: *Bunostomum;* Uncinaria[l] (Monodontus).—Europe[t].—Reported for: #479 *Canis* (*familiaris*). Continued in later bulletins; *Ovis* (*aries* t. h.).

[trigonocephalum [l], see †387 *Ancylostoma* trigonocephalum.]

—. **Galoncus** Railliet, 1918, Bul. Soc. Path. exot., v. 11 (2), 86, 89–90, tod. *perniciosus.*—< †384 ANCYLOSTOMIDAE, †385 ANCYLOSTOMINAE. See Yorke & Maplestone, 1926*a*, 94.

perniciosus Linstow, 1885*b*, 238 [Ankylostomum [l]]: *Galoncus* [; Ancylostoma [l]]; Uncinaria [l].—Hamburg Zoo [t], Germany.—Reported for: #413 *Felis* (*leo, nebulosa, pardus,* species (leopard, panther), *tigris* t. h.).

tridentatus Khalil, 1922, Ann. Mag. Nat. Hist., ser. 9, v. 9, 596–602, figs. 1–6: *Galoncus.*—London Zoo.—Reported for: #413 *Felis* (*nebulosa* t. h.).

388*f*. Tetragomphius Baylis & Daubney, 1923, Ann. Mag. Nat. Hist., v. 11, March, 334, mt. tod. *procyonis*.—<†384 ANCYLOSTOMIDAE, †388 NECATORINAE. See Yorke & Maplestone, 1926*a*, 105.

procyonis Baylis & Daubney, 1923, Ann. Mag. Nat. Hist., v. 11, March, 334–335; 1923, Rec. Indian Mus., v. 25 (6), 573–575, figs. 17–20: *Tetragomphius*.—Calcutta Zoo, India [t].—Reported for: #561 *Procyon* (species t. h.).

†390. Necator, pp. 128, 455.

†**americanus*, pp. 128, 455: *Necator*.—Reported for: #479 *Canis* (*familiaris*). Continued in later bulletins.

390*B*. Uncinaria, p. 455. Syns.: Uncicaria [m] 1926, Uncinaris [m] 1929.

bidens Mol., 1861*a* [*Dochmius*]: *Uncinaria*.—Ypanema [t], Brazil.—Reported for: #561 *Procyon* (*cancrivora*); #563 *Nasua* (*narica, socialis*).

carinii Trav., 1915: *Uncinaria*.—S. Paulo [t], Brazil.—Reported for: #479 *Canis* (*azarae* t. h.).

catholica Onelli, 1905: *Uncinaria*.—Buenos Aires [t], Argentina.—Reported for: #413 *Felis* (*jaguarondi* s. *yaguarundi, leo, mitis, onca*); #479 *Canis* (*azarae, lupus*).

crassa Duj., 1845*a* [*Dochmius* [l]]: *Uncinaria*.—Senegal [t].—Reported for: #433 *Genetta* (*genetta, senegalensis*); #437 *Viverra* (species t. h.).

**criniformis* Goeze, 1782*a* [Ascaris [l]]: *Uncinaria;* Ancylostoma [l]; Ankylost. [c]; *Dochmius;* Strongylus [l].—Germany [t].—Reported for: #479 *Canis* (*familiaris, lupus*); #485 *Vulpes* (*vulpes*); #486 *Alopex* (*lagopus*); #511 *Mustela* (*putorius*); #528 *Meles* (taxus [o] so. *meles meles* t. h.).

[forceps ursi-lotor [d p] M. C. V. in Mol., 1861*a*: Strongylus.—Ypanema, Brazil [t].—So. *bidens* and *maxillaris*.—Reported for: #561 *Procyon* (*cancrivora* t. h.).]

**lotoris* Schwartz, 1925, Proc. U. S. Nat. Mus., v. 67, (2598), 1–4, figs. 1–4: *Uncinaria*.—Prince Georges Co. [t], Maryland; Texas.—Reported for: #561 *Procyon* (*lotor* t. h.); #566 *Bassariscus* (*astutus*).

maxillaris Mol., 1861*a* [*Dochmius*]: *Uncinaria*.—Ypanema [t], Brazil.—So. ? *criniformis*.—Reported for: #561 *Procyon* (*cancrivora* t. h.).

[*melinus* [o] Fabr., 1794*a*, *melis* renamed: Strongylus [l].—Reported for: #528 *Meles* (*meles meles*).]

melis [s] Schrank, 1788*a* [Strongylus [l]]: *Uncinaria;* Ascaris [l].—So. *criniformis*.—Reported for: #528 *Meles* (*meles meles* t. h., species).

polaris [s] Looss, 1911: *Uncinaria*.—N. America [t].—So. *stenocephala*, fide Hall, 1923, 37.—Reported for: #479 *Canis* (*familiaris*); #485 *Vulpes* (*fulva*); #486 *Alopex* (*lagopus* t. h.).

species Galli-Valerio & Bornand, 1927, Schweiz. Arch. Tierheilkde, v. 69 (11), Nov., 527: *Uncinaria*.—Switzerland.—Reported for: #479 *Canis* (*familiaris*).

[species Rail., 1890*w*, 143: *Dochmius*.—Japan.—Reported for: #479 *Canis* (*familiaris*).]

species Rail., 1900, 83: *Uncinaria*.—Reported for: #413 *Felis* (species).

species Vevers, 1920, Proc. Zool. Soc. London, (3), Sept., 409: *Uncinaria*.—London Zoo, from Tibet.—Reported for: #413 *Felis* (*lynx*).

species Weidman in Fox, 1916, 36–37: *Uncinaria*.—Reported for: #413 *Felis* (*jaguarondi* s. *yaguarundi, rufa, rufa texensis*); #479 *Canis* (species (gray wolf)); #485 *Vulpes* (*fulva, velox, vulpes*); #486 *Alopex* (*lagopus*); #488 *Urocyon* (*cinereoargenteus*).

species Weidman in Fox, 1923, Dis. Mamm. & Birds, 630, 631: *Uncinaria*.—Philadelphia Zoo.—Reported for: #413 *Felis* (*pardalis*); #485 *Vulpes* (*pennsylvanica* so. *fulva, velox*).

†**stenocephala*, p. 455: *Uncinaria; Dochmoides* [s]; Uncicaria [m]; Uncinaris [m].—Alfort [t], France.—Reported for: #413 *Felis* (*catus* [*dom.*], species); #479 *Canis* (*azarae, familiaris* t. h.); #483 *Fennecus* (*cerdo* so. *zerda*); #485 *Vulpes*

(*fulva*, species, *vulpes* s. *vulgaris* °); #486 *Alopex* (*lagopus*). Continued in later bulletins.

[*tetragonocephalus* ° Rud., 1809*a*, 232, *vulpis* renamed: Strongylus [1].—Germany [1].—Reported for: #479 *Canis* (*familiaris*); #485 *Vulpes* (species, *vulpes* t. h.).]

[*ursi* Duj., 1845*a*: *Dochmius*.—Vienna Mus.—Reported for: #575 *Thalarctos* (*maritimus* t. h.).]

[*ursi-maritimi* ° Mus. Wien in Duj., 1845*a*, 277: Strongylus [1].—So. *ursi*.—Reported for: #575 *Thalarctos* (*maritimus*).]

[*viverrae-naricae* ° M.C.V. in Mol., 1861*a*: Strongylus [1].—Brazil [1].—So. *bidens*.—Reported for: #563 *Nasua* (*narica* t. h.).]

[*vulpinus* ° Fabr., 1794*a*, *vulpis* renamed: Strongylus [1].—Reported for: #485 *Vulpes* (*vulpes*).]

vulpis [18] Froel., 1789*a*: *Uncinaria*.—Europe [1].—So. *criniformis*.—Reported for: #479 *Canis* (*familiaris*); #485 *Vulpes* (species, *velox*. *vulpes* t. h.).

†395*c*. **Strongylus** [r], pp. 129, 456.

equinus Mueller, 1780; 1784*a*, 6 [*Sclerostoma* °]: *Strongylus* [r].—Syn. *variegata* [s].—Reported for: #479 *Canis* (*familiaris*). Continued in later bulletins; *Equus* (*caballus* t. h.).

[variegata [s] Brug., 1792*a*: Ascaris [1].—So. *equinus*.—Reported for: #479 *Canis* (*familiaris*). Continued in later bulletins; Ungulates t. h.]

†395*m*. **Trichonema**, p. 129.

[*affine* Stoss., 1902*e*: Cyathostomum [h] °.—Ghinda [1], Eritrea.—Reported for: #413 *Felis* (*silvestris* s. *catus ferus* t. h.).]

nassatum Looss, 1900*c* [Cyathost. [ho]]: *Trichonema; Cylichnost.*°; *Cylicost.*°—Egypt [1].—Reported for: #413 *Felis* (*pardus*). Continued in later bulletins; *Equus* t. h.

†400. **Oesophagostomum**, pp. 131, 456.

ventri Thornton, 1924, Ann. Trop. Med. Parasitol., v. 18 (3), Oct. 31, 404–408, figs. 3*a–f*: *Oesophagost.*—Brazil [1].—Reported for: #413 *Felis* (species (Brazilian wild cat t. h.)).

†402*a*. **Chabertia**, p. 132.

[*hypostomus* [s] Rud., 1819*a*: Strongylus [1]; Dochmius [1]; Sclerost. [1].—Vienna Museum.—So. *ovina*.—Reported for: #511 *Mustela* (species). Continued in later bulletins; *Rupicapra* (*rupicapra* t. h.).]

†404. SYNGAMIDAE, p. 132. *See* †407 *Syngamus* and *Cyathostoma*.

†407. **Syngamus**, p. 132.

dispar Diesing, 1851*a* [Sclerostoma [1]]: *Syngamus*.—Brazil [1].—Reported for: #413 *Felis* (*concolor* t. h., *concolor couguar*, species).

laryngeus Rail., 1899*e*: *Syngamus*.—Annam [1].—Reported for: #479 *Canis* (*familiaris*). Continued in later bulletins; *Bos* ("le boeuf" t. h.).

—. **Cyathostoma** E. Bl., 1849*a*, mt. *lari*.—<†404 SYNGAMIDAE: Sexes not joined in permanent copula. Buccal capsules of both sexes large, heavily walled, furnished at base with 6 or 7 teeth arranged about center, teeth of 2 distinct sizes. Excretory pore and esophagus as in *Syngamus*. ♂ with normal strongyliform bursa, rays slender and sometimes (dorsal ray) branched, spicules long (more than 400 μ), filiform. Vulva of ♀ variable in position, sometimes in anterior 3rd, sometimes median or slightly postmedian; tip of ♀ tail acute. Eggs moderate in size, operculated after deposition. So. †407 *Syngamus*, fide Yorke & Maplestone, 1926*a*, 156. Not Cyathostomum [h] Molin, 1861*a*, nematode.

**bronchiale* Muehlig, 1884*a* [Syngamus [1]]: *Cyathostoma*.—Japan [s].—Reported for: #576 *Ursus* (*beringiana*). Continued in later bulletins; ANSERIDAE (Japanese *goose* t. h.).

†409*a*. CLOACINIDAE, p. 132. *See Cloacina*.

—. **Cloacina** Linst., 1898*c*, mt. *dahli*.—<†409*a*. See Yorke & Maplestone, 1926*a*, 175.

octodactyla Linst., 1906: *Cloacina*.—Pfalz [1].—Reported for: #479 *Canis* (*familiaris* t. h.).

†411. TRICHOSTRONGYLIDAE, pp. 132, 457. See †417 *Haemonchus*, *Microstrongylus*, †411*Q* *Molineus*, *Nematostrongylus*, *Ollulanus*, †411*P* *Trichohelix*, †414 *Trichostrongylus*.

†417. **Haemonchus**, pp. 132, 136. Cf. †411*H*.

†**contortus*, p. 137: *Haemonchus*.—Reported for: #575 *Thalarctos* (*maritimus*). Continued in later bulletins; *Ovis* (*aries* t. h.).

—. **Microstrongylus** Cameron, 1927, J. Helminthol., v. 5 (2), June, 81, mt. tod. *genettae*.—< †411 TRICHOSTRONGYLIDAE, †412 TRICHOSTRONGYLINAE: Head without umbrella-shaped swelling. Cervical groove present, with symmetrical cephalic swelling. ♀ genital pore postequatorial. Bursa symmetrical; spicules long, filiform, tripartite.

genettae Cameron, 1927, J. Helminthol., v. 5 (2), June, 81–88, figs. 1–5: *Microstrongylus* t.—London Zoo.—Reported for: #433 *Genetta* (*senegalensis* t. h.).

†411*Q*. **Molineus**, pp. 133, 458.

europaeus Zunker, 1929, Zeitschr. f. Parasitenkunde, v. 2 (1), 7–9, figs. 1–5: *Molineus*.—Germany t.—Reported for: #511 *Mustela* (*putorius* t. h.).

felineus, p. 458: *Molineus*.—S. America t.—Reported for: #413 *Felis* (*jaguarondi* s. *yaguarundi* t. h.).

patens Duj., 1845*a* [Strongylus [1]]: *Molineus;* Trichostr.[1], q. v.—Rennes t, France.—Reported for: #510 *Vormela* (*sarmatica*); #511 *Mustela* (*erminea*, *foetida* so. *putorius*, *vulgaris* so. *nivalis*).

sibiricus Author ? [nv]: *Molineus*.—Reported for: #511 *Mustela* (*sibirica*).

—. **Nematostrongylus** Cameron, 1928, J. Helminthol., v. 6 (2), June, 95–98 (9–12), mt. tod. *planicipitis*.—< †411 TRICHOSTRONGYLIDAE: Cervical ring and excretory groove present; spicules short with sharp points. Prebursal papillae present. Ovejectors equal.

planicipitis Cameron, 1928, J. Helminthol., v. 6 (2), June, 95–98, figs. 5–7: *Nematostrongylus* t.—London Zoo, from Malay States t.—Reported for: #413 *Felis* (*planiceps* t. h.).

—. **Ollulanus** Leuckart, 1865*a*, mt. *tricuspis*.—< †411 TRICHOSTRONGYLIDAE, †411*d* HELIGMOSOMINAE. See Yorke & Maplestone, 1926*a*, 148.

bicuspis Craig, 1915 (? lapsus for *tricuspis*): *Ollulanus*.—Reported for: #413 *Felis* (*catus* [*dom.*] t. h.).

**tricuspis* Leuck., 1865*a*: *Ollulanus*.—Germany t.—Syn. trikuspis.—Reported for: #413 *Felis* (*catus* [*dom.*] t. h.); #485 *Vulpes* (species, *vulpes*). Continued in later bulletins.

trikuspis Schneidem., 1896*a* (for *tricuspis*): *Ollulanus*.—Reported for: #413 *Felis* (*catus* [*dom.*]).

†411*P*. **Trichohelix**, p. 133.

tuberculata Par. & Stoss., 1901*a* [Oesophagostomum [1]]: *Trichohelix* t.—Genoa, from Argentina t.—Reported for: #552 *Mephitis* (*mephitis*). Continued in later bulletins; *Dasypus* t. h.

†414. **Trichostrongylus**, pp. 135, 459. [foetus "Diesing" of Galli-Valerio, 1927, Centralbl. f. Bakt., Orig., 178, ? lapsus for *patens:* Strongylus[1].—Reported for: #511 *Mustela* (*erminea*).]

patens Duj., 1845*a* [Strongylus [1]]: *Trichostr.*; *Molineus*, q. v.—Rennes t, France.—Reported for: #510 *Vormela* (*sarmatica*); #511 *Mustela* (*erminea*, *foetida* so. *putorius*, *vulgaris* so. *nivalis*).

†418. METASTRONGYLIDAE [e],[12] p. 137. See *Aelurostrongylus, Crenosoma, Haemostrongylus, Metastrongylus, Protostrongylus, Skrjabingylus, Synthetocaulus, Troglostrongylus.*

[species Bichowsky, 1927, Centralbl. f. Bakt., Abt. 2, v. 72, 266–268: METASTRONGYLINAE. — Leningrad, U. S. S. R.—Reported for: #521 *Martes* (*zibellina*).]

—. **Aelurostrongylus** Cameron, 1927, J. Helminthol., v. 5 (1), March, 12–14, figs. 4–6, mt. tod. *abstrusus.*—< †418 METASTRONGYLIDAE: Telemon and cuticular plates absent; median dorsal ray normal in type. Cf. footnote under †418.

abstrusus Railliet, 1898*b* (pusillus [h] Mueller, renamed) [Str.[1]]: *Aelurostrongylus* [i]; *Protostr.*[i]; *Synthetocaulus* [l].—Reported for: #413 *Felis* (*catus* [*dom.*] t. h.). Continued in later bulletins; larva in *Mus* (*musculus*).

[*nanus* Braun & Luehe, 1909*a* (apparently for pusillus [h] Mueller): Strongylus [l]; Metastrongylus [l].—Munich [t], Germany. — Reported for: #413 *Felis* (*catus* [*dom.*] t. h.).]

[pusillus [h] Mueller, 1890*c* [not Rud., 1803*a*, renamed *abstrusus* [Str.[1]]: *Protostr.*[i]; Metastr.[l]—Munich [t], Germany.—Reported for: #413 *Felis* (*catus* [*dom.*] t. h.).]

—. **Crenosoma** Molin, 1861*a* (*b*), tsd. (1926*a*) *striatum.*—< †418 METASTRONGYLIDAE, †419 METASTRONGYLINAE. See Yorke & Maplestone, 1926*a*, 165.

[*annulatus* [s] Sieb., 1848*a:* Strongylus [l].—So. *vulpis.*—Reported for: #479 *Canis* (*lupus* t. h.).]

[*canis-vulpis* [o] M. C. V. in Mol., 1861*a:* Strongylus [l].—Europe [t].—So. *semiarmatum.*—Reported for: #485 *Vulpes* (*vulpes* t. h.).]

decoratum [s] Creplin, 1847*a* [Str.[l]]: *Crenosoma.*—Europe [t].—So. *semiarmatum.*—Reported for: #485 *Vulpes* (*vulpes* t. h.).

[lupi [d] [s] of Molin, 1861 [not Rud., 1809]: Strongylus [l].—So. *vulpis.*—Reported for: #479 *Canis* (*lupus*).]

mustelae Galli-Valerio, 1930, Centralbl. f. Bakt., Orig., v. 115, 218: *Crenosoma.*—Valais [t], Switzerland.—Reported for: #511 *Mustela* (*putorius* t. h.).

potos Buckley, 1930, J. Helminthol., v. 8 (4), Dec., 229–238, figs. 1–13: *Crenosoma.*—London Zoo.—Reported for: #568 *Potos* (*flavus* t. h.).

semiarmatum [o] Molin, 1861*a*, *canis-vulpis* + *vulpis* + *decoratus* renamed: *Crenosoma.* — Europe [t]. — Reported for: #485 *Vulpes* (*vulgaris* [o] s. *vulpes* t. h.).

species Rail., 1899*c: Crenosoma.*—Reported for: #528 *Meles* (*meles meles*).

taiga Skrjabin & Petrow, 1928, Parasitol., v. 20 (3), Oct., 332–334, figs. 11–15: *Crenosoma.*—Siberia [t].—Reported for: #511 *Mustela* (*sibirica* t. h.).

vulpis [s] [j] Duj., 1845*a* [Liorhynchus[l]]: *Crenosoma* [; ? *Filaroides*].—Europe [t].—Reported for: #479 *Canis* (*lupus*, species); #485 *Vulpes* (*vulpes* t. h.).

—. **Haemostrongylus** Railliet & Henry, 1907*a*, 753, tod. Strongylus [l] *vasorum;* or **Angiostrongylus** Kamensky, 1905, Sborn. Trood. Charkov. Vet. Inst., v. 7 (2), 44. [It is not clear to us whether "typus *Ang. vasorum* (Baill.) H *Ang. cardiacus* Bossi", is intended as a genotype designation or is used in the sense of example.]—< †418 METASTRONGYLIDAE, †419 METASTRON-

[12] There is a slight confusion of names in this family, only part of which we can straighten out as one important paper involved is not clear to us.

METASTRONGYLIDAE 1908 is in reality simply an emendation of METASTRONGYLIDA 1861, complying with the International Rules. PROTOSTRONGYLIDAE 1905 is a subjective synonym.

The original publication of *Protostrongylus* 1905 is not clear to us as respects the type species; the generic name competes with *Aelurostrongylus* 1927 and *Synthetocaulus* 1907. Pending information as to the type species of *Protostrongylus*, we must enter all three genera as recognized.

GYLINAE. See Yorke & Maplestone, 1926*a*, 164.

raillieti Trav., 1927, Bol. biol., v. 6, May 26, 54–55, 4 plates: *Haemostrongylus*. — Brazil [t]. — Reported for: #479 *Canis* (*azarae* t. h.).

subcrenatus Rail. & Henry, 1913: *Haemostrongylus*.—Dongou, Belgian Congo [t].—Reported for: #413 *Felis* (*leopardalis*, *pardus* t. h.).

[*subulatus* [s] Leisering, 1865 [Haematozoon]: Strongylus [l]; Strongyloides [m].—Dresden [t], Germany.—So. *vasorum*.—Reported for: #479 *Canis* (*familiaris* t. h.).]

vasorum Bail., 1866*b* [Strongylus [l]]: *Haemostrongylus;* Haemonchus [l].—Reported for: #413 *Felis* (*pardus*); #479 *Canis* (*familiaris* t. h.).

[*vasorum canis* Vogel, 1899, see *vasorum:* Strongylus [l].—Syn. *vasorum* kanis [c].—Reported for: #479 *Canis* (*familiaris*).]

†421. Metastrongylus, pp. 139, 460.

octodactyla Linst., 1906 [Cloacina [l]]: *Metastrongylus*.—Landau bei Niederhochstadt, Pfalz [t].—Reported for: #479 *Canis* (*familiaris* t. h.).

—. **Protostrongylus** [13] "Kamensky, 1905, Sborn. Trood. Charkov. Veterinar. Institut", v. 7 (2), 42. Cf. footnote [12] under †418. Type of PROTOSTRONGYLINAE [s].

pusillus [h] Mueller, 1890*c* [not Rud., 1803*a*], renamed *abstrusus* [Str.[l]]: *Protostr.* [; *Aelurostr.* q. v.]; Metastr.[l]—Munich [t], Germany.—Reported for: #413 *Felis* (*catus* [*dom.*] t. h.).

—. **Skrjabingylus** Petrow, 1927, Samml. helm. Arb. Skrjabin, Moskau, 146, 149, tod. *nasicola*.—<†418 METASTRONGYLIDAE: In frontal sinus. Body covered with strong cuticle. Oral aperture opens terminally and leads into mouth-capsule. Caudal end of ♂ provided with fine bilobed bursa copulatrix, which has appearance of 2 budlike formations, each provided with 5 papillae; spicules 2, equal, with side alae; gubernaculum present. Genital opening of ♀ postequatorial; 2 uteri, divergent. Viviparous.

[mustelarum [d l s], a confused name, pars of Authors, in frontal sinus, not Filaraia [m] *mustelarum* Rud., 1809*a*, in skin: Filaroides [l].—Europe [t].—So. *nasicola*.—Reported for: #499 *Lutra* (*lutra*); #511 *Mustela* (*erminea*, *nivalis*); #552 *Mephitis* (*mephitis* [i], species).]

nasicola Leuck., 1842*a* [Filaria [l]]: *Skrjabingylus* [t]; Spiroptera [l].—Europe [t].—Reported for: #499 *Lutra* (*lutra*); #511 *Mustela* (*erminea*, *nivalis*, *putorius* t. h.); #521 *Martes* (*foina*).

—. **Synthetocaulus** Rail. & Henry, 1907*a*, tod. *commutatus*.—<†418 METASTRONGYLIDAE, †419 METASTRONGYLINAE. See Yorke & Maplestone, 1926*a*, 158, 162. Cf. footnote [12] under †418.

species Vevers, 1920, Proc. Zool. Soc. London, 410: *Synthetocaulus*.—London Zoo, from India.—Reported for: #413 *Felis* (*bengalensis*).

—. **Troglostrongylus** Vevers, 1922, Proc. Zool. Soc. London, 906–908, tat. *troglostrongylus*.—<†418 METASTRONGYLIDAE, †419 METASTRONGYLINAE. See Yorke & Maplestone, 1926*a*, 164.

troglostrongylus Vevers, 1922, Proc. Zool. Soc. London, 906–908, fig. 5: *Troglostrongylus* [t].—India [t].—Syn. troglostrongylas [m].—Reported for: #413 *Felis* (*bengalensis* t. h.).

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[12] See footnote on p. 979.

[13] Diagnosis: Corpus filiforme vel capillare, utrinque attenuatum aut aequale. Os terminalis margine papillis tribus bifidis minus vel vix conspicuis instructo. Extremitas caudalis maris inflexa aut convoluta, feminae arcuata aut inflexa, utrique dorsaliter subcarinata, feminae ventraliter toro praeanale plusminusve instructa, apice mucronata. Spicula modo eorum G. Metastrongyli instructa, sed breviora, retorta, partibus accessoriis tribus (vel 2 ?). Vulva ani propinqua. Ovipari. Embryonis cauda undulata. Parasiti pulmonum, tracheae et bronchium Mammalium (herbivorum carnivorumque).

—. Subo. *DIOCTOPHYMEATA* [14] Skrjabin, 1927.—<†330 *EUNEMATODA:* same as †422.

†422. DIOCTOPHYMOIDEA, pp. 138, 460. See 423*A* SOBOLIPHYMIDAE and †423 DIOCTOPHYMIDAE.

423*A* (423). SOBOLIPHYMIDAE Petrow, 1930, Zool. Anz., v. 86 (9), Feb. 1, 270.—Buccal capsule present, strong, unarmed. Cuticle with transverse rings. Excretory system not found. Vulva preequatorial; vagina long. Parasitic in mammals. See 423*B*.

423*B*. **Soboliphyme** Petrow, 1930, Zool. Anz., v. 86 (9), Feb. 1, 270, mt. tod. *baturini*.—Same as 423*A*.

**baturini* Petrow, 1930, Zool. Anz., v. 86 (9), Feb. 1, 265–271, figs. 1–4: *Soboliphyme*.—Kamchatka [t], Siberia, Asia; U. S. A.—Reported for: #413 *Felis* (*catus* [*dom.*]); #485 *Vulpes* (*vulpes*); #521 *Martes* (*zibellina* t. h.); #523 *Gulo* (*species).

†423 (423*A*). DIOCTOPHYMIDAE, pp. 138, 460.—Buccal capsule absent.

†426. **Dioctophyme**, pp. 138, 460.

[canis [h] Schrank, 1788*a* [not Werner, 1782*a*]: Ascaris [l].—So. *renale*.—Reported for: #479 *Canis* (*familiaris* t. h.).]

[*giganteus* [o] Rud., 1808*a*, for *gigas:* Str.[l]—Reported for: #479 *Canis* (*familiaris, lupus*); #499 *Lutra* (*lutra*); #521 *Martes* (*martes*). Continued in later bulletins.]

gigas [s] Rud., 1802*d* [Str. [l]]: *Dioctophyme; Eustr.*[o]—So. *renale*.—Reported for: #479 *Canis* (*americanus, azarae, familiaris, jubatus, lupus*); #485 *Vulpes* (*americana*, species, *vulpes*); #499 *Lutra* (*lutra, solitaria*); #511 *Mustela* (*lutreola, putorius*, species (mink), *vison, vulgaris* so. *nivalis*); #521 *Martes* (*foina, martes*); #523 *Gulo* (*gulo*); #547 *Grison* (*vittata*); #561 *Procyon* (*lotor*); #563 *Nasua* (*socialis*). Continued in later bulletins; *Phoca* (*vitulina* t. h.).

[*gulonis-sibirici* [s] Dies., 1851*a*, quotes Pall., 1780, 39: Lumbricus [l].—So. *gigas=renale*.—Reported for: #479 *Canis* (*familiaris, lupus*); #499 *Lutra* (species); #511 *Mustela* (*nivalis, vison*); #521 *Martes* (*martes*); #523 *Gulo* (*luscus*); #561 *Procyon* (species); #563 *Nasua* (species). Continued in later bulletins.]

[*martis* Schrank, 1788*a*, 8: Ascaris [l].—So. *gigas=renale*.—Europe [t].—Reported for: #511 *Mustela* (*putorius*, species (weasel), *vulgaris*); #521 *Martes* (*martes*). Continued in later bulletins.]

†**renale*, pp. 138, 460: *Dioctophyme* [t].—Reported for: #479 *Canis* (*familiaris* t. h., *lupus*); #485 *Vulpes* (species); #499 *Lutra* (species (wild otter)); #511 *Mustela* (*itatsi*, species, *vison lutreocephala* so. *vison mink*); #521 *Martes* (*martes*); #523 *Gulo* (species (wild glutton)); #547 *Grison* (*vittata*); #563 *Nasua* (*socialis*). Continued in later bulletins.

[*renum canis* [s] Rud., 1809*a*, quotes Hartm., 1685, 149–152: *Lumbricus* [l].—So. *gigas=renale*.—Reported for: #479 *Canis* (*familiaris*).]

[sanguineus [o] in rene canis [d] Dies., 1851*a*, quotes Hartm., 1705*a*, 149–152: Lumbricus [l].—So. *renale*.—Reported for: #479 *Canis* (*familiaris, lupus*); #499 *Lutra* (species (otter)); #511 *Mustela* (species (mink, weasel), *vison*); #521 *Martes* (*martes*, species); #523 *Gulo* (species (glutton)); #561 *Procyon* (species (raccoon)); #563 *Nasua* (*socialis*, species (coati)). Continued in later bulletins.]

[species von Ihering, 1902*a*, 47: *Eustrongylus* [o].—Reported for: #479 *Canis* (*azarae, jubatus*).]

viscerale [s] Gmel., 1790*a* [Ascaris [l]]: *Dioctophyme*; *Eustrongylus* [o]; Fusaria [l].—Europe [t].—So. *renale*.—Reported for: #479 *Canis* (*azarae*,

[14] The names based upon the Greek τὸ φυμα (Latin *phyma, phymatis*, neuter) should end in *a* (as emended by Lamour, 1824*a*, 515). But as zoologists have not accepted this change because of difference of opinion as to how far the principle of emendation should be applied, we follow the original (though incorrect) form (*phyme*) pending a decision by the International Commission on Zoological Nomenclature or the International Commission on Parasitology.

familiaris t. h., *jubatus*, *lupus*); #499 *Lutra* (*lutra* s. *vulgaris* °, *solitaria*); #511 *Mustela* (*lutreola*, *putorius*, *vison*); #521 *Martes* (*foina*, *martes*); #523 *Gulo* (*gulo*, *luscus*); #525 *Tayra* (*barbara*).

†432. Microfilaria, pp. 139, 460, 624.

auquieri Foley, 1921, Ann. Inst. Pasteur, Paris, v. 35 (3), March, 215–216, pl. 3, figs. 5–6: *Microfilaria*.—S. Oran[t], Algeria.—Reported for: #479 *Canis* (*familiaris* t. h.).

[canis [h] Pease, 1901*c* [not 1858]: *Filaria* [l] *sanguinis*.—India [t].—Reported for: #479 *Canis* (*familiaris* t. h.).]

lewisi ° Korke, 1924, Ind. J. Med. Res., v. 11 (4), April, 1231–1237, pl. 84, figs. 1–5 [*lewisii*]: *Microfilaria*.—India [t].—Reported for: #479 *Canis* (*familiaris* t. h.).

species Carini & Maciel, 1917, Prim. Conf. Soc. S. A. de Hig., Microb. & Patol., v. 1, 732: *Microfilaria*.—Brazil.—Reported for: #413 *Felis* (*tigrina*).

species Chatton, 1918, Bul. Soc. Path. exot., v. 11, 571–573, 1 fig.: *Microfilaria*.—Tonkin, Indo-China; S. Tunis.—Reported for: #413 *Felis* (*catus* [*dom.*]).

species Hamerton, 1929, Proc. Zool. Soc. London, 59: *Microfil.*—London Zoo.—Reported for: #413 *Felis* (*bengalensis*).

[species Heinrich & Schuchmann, 1924, Monatsch. prakt. Tierheilkde, v. 34 (10–12), Feb. 9, 273–288, figs. 1–5.—Reported for: #479 *Canis* (*familiaris*).]

species Migone, 1916, Bul. Soc. Path. exot., 363 [: *Microfilaria*].—Reported for: #479 *Canis* (*jubatus*).

[species [p. 460] Plimmer, 1912: *Fil.* [l]—Reported for: #413 *Felis* (*temminckii*); #448 *Suricata* (*suricatta*).]

[species Plimmer, 1913, Proc. Zool. Soc. London, 146: *Fil.* [l]—London Zoo, from Malay.—Reported for: #413 *Felis* (*nebulosa*).]

[species Plimmer, 1917, Proc. Zool. Soc. London, (1), Mar., 32: *Fil.* [l]—London Zoo, from Mexico.—Reported for: #413 *Felis* (*rufa*).]

[species Plimmer, 1917, Proc. Zool. Soc. London, (1), Mar., 32: *Fil.* [l]—London Zoo, from Argentina.—Reported for: #547 *Grison* (*allamandi*).]

[species Scott, 1928, Proc. Zool. Soc. London, (1), Apr., 108: *Fil.* [l]—London Zoo.—Reported for: #479 *Canis* (*adustus*).]

species Weidman in Fox, 1923, Dis. Captive Wild Mamm. & Birds, 651: *Microfilaria*.—Philadelphia Zoo, Pennsylvania.—Reported for: #413 *Felis* (*rufa*).

†435. Filaria [l], pp. 140, 461, 624.

acuminata [h] Linst., 1907 [not Rud., 1809*a*]: *Filaria*.—Coll. Senckenberg, Frankfurt [t], Germany.—Reported for: #499 *Lutra* (*lutra* s. *vulgaris* ° t. h.).

acutiuscula Mol., 1858*c*: *Filaria* [l].—Caiçara [t], Brazil.—Syn. *canis* ° 1858.—Reported for: #479 *Canis* (*azarae* t. h., *familiaris*).

canis ° M. C. V. in Mol., 1858*c*: *Filaria*.—Barra do Rio Jauru [t], Brazil.—So. *acutiuscula*.—Reported for: #479 *Canis* (*azarae* t. h., *familiaris*).

canis-brachyuris ° M. C. V. in Mol., 1858*c*: *Filaria* [l].—Brazil [t].—So. *papillicauda*.—Reported for: #479 *Canis* (*brachyurus* t. h.).

canis-brachyuri (*trachealis*) Mol., 1858*c*: *Filaria* [l].—Rio Araguay, Brazil [t].—Reported for: #479 *Canis* (*brachyurus* t. h.).

*dentata [h] ° Walton, 1927, Proc. Acad. Nat. Sci., Phila., v. 79, 106, pl. 6, figs. 39–40 [renamed *muscularis* 1928]: *Filaria* [l].—Reported for: #511 *Mustela* (*vison mink* s. *vison lutreocephala* t. h.).

**fasciata* Weidmann, 1913: *Filaria* [l].—Philadelphia [t], Pennsylvania.—Reported for: #413 *Felis* (*rufa* t. h.).

felis-jaguarondi ° M. C. V. in Mol., 1858*c*: *Filaria* [1].—Ypanema [t], Brazil.—So. *felis-mellivorae* (*pulmonalis*).—Reported for: #413 *Felis* (*mellivora* t. h.).

felis-mellivorae (*pulmonalis*) Mol., 1858*c*: *Filaria* [1].—Ypanema [t], Brazil.—Reported for: #413 *Felis* (*jaguarondi* s. *yaguarundi*, *mellivora* t. h.).

felis-oncae ° Stoss., 1897*b*, for felis-oncae (intermuscularis): *Filaria* [1].—Reported for: #413 *Felis* (*onca*).

felis-oncae (intermuscularis) Mol., 1858*c*: *Filaria* [1].—Brazil [t].—Reported for: #413 *Felis* (*onca* t. h.).

hepatica Cobbold, 1873*c*: *Filaria* [1].—Reported for: #479 *Canis* (*familiaris* t. h.).

incrassata Mol., 1858*c*: *Filaria* [1].—Brazil [t].—Reported for: #563 *Nasua* (*narica* t. h., *socialis*). Continued in later bulletins.

**insignis* Leidy, 1858*a*: *Filaria* [1].—Reported for: #561 *Procyon* (*lotor* t. h.).

[intestinum Rud., 1819*a*, not as specific name: *Filaria* [1].—See *vulpis*.—Reported for: #485 *Vulpes* (species).]

leonis Gmel., 1790*a*, 3031 [Ascaris [1]]: *Filaria* [1]; Fusaria [1].—Reported for: #413 *Felis* (*leo* t. h.).

leonis [h] Gmel., 1790*a*, 3040: *Filaria* [1].—Reported for: #413 *Felis* (*leo* t. h.).

**muscularis* Walton, 1928, Proc. Acad. Nat. Sci., Phila., v. 80, p. 187, dentata [h] renamed: *Filaria* [1].—Reported for: #511 *Mustela* (*vison mink* s. *vison lutreocephala* t. h.).

oculi canini [d p] Gescheidt, 1833*a*: *Fil.*[1]—So. *trispinulosa*.—Reported for: #479 *Canis* (*familiaris*, *familiaris fricator*).

papillicauda ° Mol., 1858*c*: *Filaria* [1].—Rio Araquay, Brazil [t].—Syn. *canis-brachyuris* °.—So. 449*A immitis*, fide Stoss., 1897*b*, 34 (22).—Reported for: #479 *Canis* (*brachyurus* t. h., *familiaris*).

rhabdogalis Sons., 1896*m*: *Filaria* [1].—Egypt [t].—Reported for: #540 *Ictonyx* (*zorilla* s. *mustelina* ° t. h.).

sanguinis [h] canis [h] Pease, 1901*c*: *Filaria* [1].—India [t].—Reported for: #479 *Canis* (*familiaris* t. h.).

setariosa Monnig, 1926, Rept. Director Vet. Educ. Research, S. Africa, no. 11–12 (part 1), 221–222: *Filaria*.—Transvaal [t].—Reported for: #448 *Suricata* (*suricatta* t. h.).

species Cameron, 1928, J. Helminthol., v. 6 (2), June, 94: *Filaria* [1].—London Zoo, from Malay States.—Reported for: #413 *Felis* (*planiceps*).

species Parona, 1894*a*, 240 [ex Savignano, 1838]: *Filaria*.—Reported for: #521 *Martes* (*foina*).

species Sonsino, 1896*m*, 440: *Filaria* [1].—Egypt.—Reported for: #464 *Herpestes* (*ichneumon*).

*species Stiles & Hassall, 1894*e*, 346: *Filaria* [1].—U. S. A.—Reported for: #413 *Felis* (*catus* [*dom.*]).

*species Stiles & Hassall, 1894*e*, 346: *Filaria* [1].—U. S. A.—Reported for: #511 *Mustela* (*vison*).

species Weidman in Fox, 1923, Dis. Wild Captive Mamm. & Birds, *Filaria* [1].—? Philadelphia Zoo, Pennsylvania.—Reported for: #413 *Felis* (species (wild cat)).

trispinulosa Dies., 1851*a*: *Filaria* [1].—Reported for: #479 *Canis* (*familiaris*, *familiaris fricator* t. h.).

viverae ° M. C. V. in Mol., 1858*c*: *Filaria* [1].—Nas Trechas, Brazil [t].—So. *incrassata*.—Reported for: #563 *Nasua* (*narica* t. h.).

vulpis Rud., 1809*a*: *Filaria* [1].—Reported for: #485 *Vulpes* (*vulpes* t. h.).

†**439. Dracunculus**, pp. 142, 462.

aethiopicus ° Val., 1856*a*, 259 [Filaria [1]]: *Dracunculus*.—Paris from Kordofan [t], Africa.—So. *medinensis*.—Reported for: #415 *Acinonyx* (*guttatus* so. *jubatus* t. h.).

†**medinensis*, pp. 143, 462: *Dracunculus*; Fil. [1]; *Vena* °.—Reported for: #413 *Felis* (*catus* [*dom.*], *pardus*,

species (leopard, wild cat)); #415 *Acinonyx* (*guttatus* so. *jubatus*); #479 *Canis* (*aureus, familiaris, lupaster*, species (jackal, Egyptian wolf)); #511 *Mustela* (*putorius* s. *communis*). Continued in later bulletins.

†**440.** FILARIIDAE, pp. 143, 462.

—. **Filaroides** Ben., 1858*a*, mt. mustelarum [1] [*pulmonalis*] so. *martis*.—<†440 or PROTOSTRONGYLIDAE.—Lungs. Syn. *Pseudostrongylus* [s] Cameron, 1927, J. Helminthol., v. 5 (1), March, 18, tod. *putorius* [s].

bronchialis [o] Gmel., 1790*a*, 3031 (Gordius [1] *martis* Werner, 1782, renamed) [Ascaris [l]]: *Filaroides;* Fusaria [1]; Gordius [1].—Lungs.—Europe [t].—Reported for: #511 *Mustela* (*erminea, lutreola, putorius*); #521 *Martes* (*foina, martes* t. h., species).

[*foinae* [o] Rud., 1809*a*, *gulonis* renamed: Strongylus [1].—Lungs.—Reported for: #521 *Martes* (*foina* t. h.); #523 *Gulo* (*gulo*).]

[*gulonis* Gmel., 1790*a*, renamed *foinae:* Taenia [1]; Cysticercus [1].—Lungs.—Europe [t].—Reported for: #523 *Gulo* (*gulo* t. h.).]

martis [t] Werner, 1782*a:* Gordius [1] [; *Filaroides* [t]].—Lungs.—Europe [t].—Reported for: #521 *Martes* (*martes* t. h.).]

[*mustelae-foinae* [s] Rud., 1810*a* [Vermis dubius]: Filaria [1].—Lungs.—Europe [t].—So. mustelarum [1] pulmonalis.—Reported for: #521 *Martes* (*foina* t. h.).]

[*mustelae-martis* [o] Rud., 1810*a*, *martis* Werner, 1782*a*, renamed: Vermis dubius.—Lungs.—Europe [t].—Reported for: #521 *Martes* (*martes*).]

[*mustelae-putorii* [o] Rud., 1810*a* [Vermis dubius]: Filaria [1].—Lungs.—Europe.—So. mustelarum [1] pulmonalis.—Reported for: #511 *Mustela* (*putorius* t. h.).]

mustelarum [1] [s] Rud., 1819*a*, and pars of Authors, in lungs [not Filaraia [m] *mustelarum* Rud., 1809*a*, in skin]: *Filaroides;* Dubium; Filaria [1].—Europe [t].—So. mustelarum pulmonalis.—Reported for: #499 *Lutra* (*vulgaris* [o] so. *lutra*); #511 *Mustela* (*erminea, foina, lutreola, putorius, vulgaris* so. *nivalis*); #521 *Martes* (*martes* t. h.); #552 *Mephitis* (species).

[pulmonalis [d] [h] [o] Rud., 1819*a* [not Filaria [1] *pulmonalis* 1802], *martis* 1782 renamed: Filaria [1] mustelarum [1].—Europe [t].—Reported for: #511 *Mustela* (*putorius*); #521 *Martes* (*foina, martes* t. h.).]

[*putorius* [s] Cameron, 1927, J. Helminthol., v. 5 (1), March, 18–21, figs. 10–12: *Pseudostrongylus* [s].—Lungs.—Great Britain [t].—So. *bronchialis*, fide Petrow, 1928, 260.—Reported for: #511 *Mustela* (*putorius* t. h.).]

—. **Solenonema** Diesing, 1861*a*, type?—<†440 FILARIIDAE. See Yorke & Maplestone, 1926*a*, 439.

[*felis-concoloris* [o] M. C. V. in Mol., 1858*c:* Filaria [1].—Brazil [t].—So. *striatum*.—Reported for: #413 *Felis* (*concolor* t. h.).]

striatum Mol., 1858*c* [Filaria [l]]: *Solenonema*.—Brazil [t].—Reported for: #413 *Felis* (*concolor, macroura, rufa*).

—. **Monopetalonema** Dies., 1861*a*, type? *physalurum*.—<440*a*. See Yorke & Maplestone, 1926*a*, 438.

**eremita* Leidy, 1886*e: Monopetalonema*.—Wyoming [t].—Reported for: #544 *Taxidea* (*taxus* s. *labradorica* t. h.).

†**447.** **Dirofilaria**, pp. 145, 463. See 449*A*.

†**449.** **Filaria** [r], p. 145.

[martis [h] Gmel., 1790*a*, 3031 [not Schrank, 1788*a*]: Ascaris [1]; Fusaria [1].—Subcut.—So. *mustelarum*.—Reported for: #511 *Mustela* (*putorius*); #521 *Martes* (*foina, martes* t. h.); #525 *Tayra* (*barbara*). Continued in later bulletins.]

martis Gmelin, 1790*a*, 3040: *Filaria* [r].—Skin.—Syn. *mustelarum*.—Reported for: #455 *Mungos* (*mungo*); #511 *Mustela* (*putorius, vison*); #521 *Martes* (*foina, martes* t. h.); #525 *Tayra* (*barbara*); #538 *Mellivora* (*capensis*); #540 *Ictonyx* (*capensis* so. *zorilla*). Continued in later bulletins.

medinensis [d] of Rosa, 1794*a: Filaria.*—Skin.—So. *martis* 1790.—Reported for: #521 *Martes* (*foina* t. h.).

mustelae-barbarae M. C. V. in Mol., 1858*c: Filaria.*—Brazil [t].—So. *perforans.*—Reported for: #525 *Tayra* (*barbara* s. *barbatus* t. h.).

mustelae-foinae [b s] Crepl., 1846*b: Filaria* [r].—So. *martis.*—Reported for: #521 *Martes* (*foina* t. h.).

mustelarum [r] Rud., 1809*a*, 69, subcutaneous [not *Filaroides* mustelarum [l] in lungs] a confused name: Filaraia [m]; Filaroides [l]. — Skin.—Europe [t].—So. *martis* 1790.—Reported for: #511 *Mustela* (*putorius*); #521 *Martes* (*foina, martes*).

perforans [s] Mol., 1858*c: Filaria.*—So. *martis* 1790.—Reported for: #511 *Mustela* (*frenata, putorius* s. *communis* [o]); #521 *Martes* (*foina, martes*); #525 *Tayra* (*barbara* s. *barbatus*); #528 *Meles* (*meles meles* s. taxus [o]); #538 *Mellivora* (*ratel* so. *capensis*).

quadrispina [s] Dies., 1851*a: Filaria.*—Skin.—Europe [t].—So. *martis* 1790.—Reported for: #511 *Mustela* (*putorius*); #521 *Martes* (*foina, martes*); #525 *Tayra* (*barbara* s. *barbatus*); #538 *Mellivora* (*capensis*). Continued in later bulletins.

subcutanea [s] [?Rud., 1819*a*] Civinini, 1842*a: Filaria.*—Reported for: #511 *Mustela* (*putorius*); #521 *Martes* (*foina* t. h., *martes*).

subcutanea Rud., 1819*a*, 7: *Filaria mustelarum.*— Skin.— Europe [t].—So. *martis* 1790.—Reported for: #511 *Mustela* (*putorius*); #521 *Martes* (*foina, martes*).

449*A*. **Dirofilaria**, pp. 145, 464. Cf. †447.

[*crino* [s] Rail. & Cadiot, 1892*f* (*g*): Ascaris [l].—So. *immitis.*—Reported for: #479 *Canis* (*familiaris* t. h.).]

[*crinon* [s] Brug., 1792*a:* Ascaris [l].—So. *immitis.*—Reported for: #479 *Canis* (*familiaris*). Continued in later bulletins.]

genettae Baylis, 1928, Parasitol., v. 20 (3), Oct. 31, 295–296, fig. 17: *Dirofil.*—Okoya [t], Nigeria.—Reported for: #433 *Genetta* (*pardina* s. tigrina [l] *pardina* t. h.).

granulosa Linst., 1906 [Filaria [l]]: *Dirofil.*—Königsberg Mus.—Reported for: #413 *Felis* (*pardus* t. h.).

†* *immitis*, p. 145 [Filaria [l]]: *Dirofil.* [t]; *Microfil.*; Spiroptera.[l]—U. S. A.[t]—Reported for: #413 *Felis* (*catus* [*dom.*], *onca, sondiaca* so. *tigris sondiaca, tigris*); #479 *Canis* (*brachyurus, dingo, familiaris* t. h., species (Japanese wolf)); #485 *Vulpes* (*vulpes*). Continued in later bulletins. Vectors, add: †1459 *Aëdes* (*aegypti, punctatus, vagans, vexans*); †1460 *Anopheles* (*algeriensis, palestinus, sinensis, superpictus*); †1458 *Culex* (*quinquefasciatus*); †1639 *Ctenocephalides* (*canis, felis*); †875 *Rhipicephalus* (*sanguineus*).

ochmanni Fuelleborn, 1909, 160 [Filaria [l]]: *Dirofil.*; *Microfil.*—Deutsch-Ost-Afrika [t].—Syn. ochmani [c].—Reported for: #479 *Canis* (*familiaris* t. h.).

repens Railliet & Henry, 1911, 387: *Dirofilaria;* Filaria [l].—Bologne [t].—Reported for: #479 *Canis* (*familiaris* t. h.); #469 *Hyaena* (*crocuta*). Vectors: †1459 *Aëdes* (*aegypti, fasciatus*); †1460 *Anopheles* (*maculipennis*).

[*sanguinis* [s] Cobbold, 1869*a;* Erc., 1875*e:* Filaria [l]; Spiropt.[l]—So. *immitis.*—Reported for: #479 *Canis* (*familiaris* t. h., species (wolf)).]

species Cameron, 1928, J. Helminthol., v. 6 (2), June, 94: *Dirofil.*—London Zoo, from Malay States.—Reported for: #413 *Felis* (*planiceps*).

species Canavan, 1931, Parasitol., v. 23 (2), Apr., 197: *Dirofil.*—Phila. Zoo.—Reported for: #413 *Felis* (*pardalis, rufa*).

[species Horst, 1889, Notes Leyden Mus., v. 11, 16: Filaria[l].—Surinam.—? So. *immitis.*—Reported for: #413 *Felis* (*onca*).]

striata Mol., 1858*c* [Filaria [l]]: *Dirofil.*; Dicrofil.[m]; *Solenonema* [l].—

Brazil [t].—Reported for: #413 *Felis* (*concolor, macroura, pardalis*).

sudanensis Linst. in Shipley, 1902*a*, 605 (2), pl. 7, fig. 6 [Filaria [l]]: *Dirofil.*—Kaka [t], Sudan.—Reported for: #413 *Felis* (*leo* t. h.); #469 *Hyaena* (species).

†**452. Setaria**, pp. 146, 464.

species Walton, 1927, Proc. Acad. Nat. Sci. Phila., v. 79, 110: *Setaria.*—Reported for: #420 *Nandinia* (*binotata*).

†**453. Dipetalonema**, p. 464; s. †453 *Acanthocheilonema* [s], p. 147.

dracunculoides Cobbold, 1870*b* [*Acanthocheilonema* [s]]: *Dipetalonema.*—S. Africa [t].—Reported for: #413 *Felis* (*catus* [*dom.*]); #466 *Proteles* (*lalandii* so. *cristatus* t. h.); #469 *Hyaena* (*crocuta*); #479 *Canis* (*familiaris*); #485 *Vulpes* (*dorsalis*). Continued in later bulletins. Vector †875 *Rhipicephalus* (*sanguineus*).

grassii Noè, 1907 [Filaria [l]]: *Dipetalonema*; *Acanthocheilonema* [s].—Reported for: #479 *Canis* (*familiaris* t. h.). Continued in later bulletins. Vector †875 *Rhipicephalus* (*sanguineus*).

reconditum Grassi in Grassi & Caland., 1890*a* [Filaria [l]]: *Dipetalonema; Acanthocheilonema* [s]; Dirofil.[l]—Syn. rekondita [m].—Reported for: #479 *Canis* (*familiaris* t. h.). Continued in later bulletins. Vectors: †1639 *Ctenocephalides* (*canis, felis*); †1458 *Culex* (*fatigans, quinquefasciatus*); †1109*A Haematopinus* (*piliferus*); †1635 *Pulex* (*irritans*); †875 *Rhipicephalus* (*siculus* [i], *sanguineus* [i]).

†**455.** SPIRUROIDEA, pp. 147, 465, 624, 816.

[species Cameron, 1928, J. Helminthol., v. 6 (2), June, 94: "Spirurid".—London Zoo, from Malay States.—Reported for: #413 *Felis* (*planiceps*).]

†**457. Agamospirura**, p. 147.

liberiae Sandground, 1930, Contr. Inst. Trop. Biol. Med. Cambridge, No. 5, 484–486, pl. 399, figs. 7–9: *Agamospirura.*—Liberia [t].—Reported for: #456 *Crossarchus* (*obscurus* t. h.).

species Henry & Sisoff, fide Skrjabin, 1924, Berl. Tierärzt. Wochenschr., v. 40 (20), p. (6): *Agamospirura.*—U. S. S. R.—Reported for: #413 *Felis* (*catus* [*dom.*]).

†**458. Spiroptera** [l], pp. 147, 465, 624.

leonis Rud., 1809*a* [Strongylus [l]]: *Spiroptera* [l].—Reported for: #413 *Felis* (*leo* t. h.).

tigridis Rud., 1809*a* [Strongylus [l]]: *Spiroptera* [l].—Reported for: #413 *Felis* (*tigris* t. h.).

459*R*. Rictularia, pp. 467, 624.

affinis Jaegerskiöld, 1904: *Rictularia.*—Cairo [t], Egypt.—Reported for: #413 *Felis* (*catus*); #479 *Canis* (*aureus*, species (jackal)); #485 *Vulpes* (*vulpes, vulpes atlantica, vulpes nilotica* s. *nilotica* t. h.).

cahirensis Jaegers., 1904: *Rictularia.*—Cairo [t], Egypt.—Reported for: #413 *Felis* (*catus* t. h.); #438 *Viverricula* (*malaccensis*); #479 *Canis* (*azarae, familiaris*). Continued in later bulletins. Vectors: reptiles.

macdonaldi [e], p. 624: *Rictularia.*—Reported for: #433 *Genetta* (species).

mjöbergi Baylis, 1928, Ann. Mag. Nat. Hist., ser. 10, v. 1, May, 608–611, figs. 2–3: *Rictularia.*—Mt. Penrissen, Sarawak [t].—Reported for: #428 *Arctictis* (*binturong* t. h.).

plagiostoma, p. 625, 817: *Rictularia.*—Reported for: #427 *Paradoxurus* (*hermaphroditus, larvatus*); #485 *Vulpes* (*vulpes*).

proni Seurat, 1915: *Rictularia.*—Bordj-Menaiel [t], N. Africa.—Reported for: #464 *Herpestes* (*ichneumon* t. h.). Continued in later bulletins.

**splendida* Hall, 1913, 73: *Rictularia.*—Colorado [t], U. S. A.—Reported for: #479 *Canis* (*nebracensis* t. h.).

species Baylis & Daubney, 1922, Mem. Ind. Mus., v. 7 (4), 338: *Rictularia.*—Calcutta, India.—Reported for: #427 *Paradoxurus* (*hermaphroditus bondar*).

459*t*. SEURATIDAE, p. 467. See *Seuratum*.

— **Seuratum** Hall, 1916*a*, tod. *tacapense*.—<459*t* SEURATIDAE, SEURATINAE. See Yorke & Maplestone, 1926*a*, 349.

tacapense Seur., 1915 [Ophiost.[1]]: *Seuratum*.—Matmata [t], S. Tunis.—Reported for: #540 *Ictonyx* (*libyca*, *zorilla*). Continued in later bulletins; *Ctenodactylus* (*gundi* t. h.).

†**464. Thelazia**, pp. 148, 149, 468. Cf. †463*m*.

**californiensis* Price, 1930, J. Parasitol., v. 17 (2), Dec., 112–113: *Thelazia*.—California [t].—Reported for: #479 *Canis* (*familiaris* t. h.).

†*callipaeda*, pp. 149, 468: *Thelazia; Th.* (*Pericyema* [t], tod.).—Punjab [t], India.—Reported for: #413 *Felis* (*catus* [*dom.*]); #479 *Canis* (*familiaris* t. h.). Continued in later bulletins.

[†*circumocularis*, p. 149: Filaria [t].—Reported for: #479 *Canis* (*familiaris*).]

depressa Baylis, 1920, Ann. Mag. Nat. Hist., ser. 9, v. 6, 288–291, figs. 5–7: *Thelazia*.—East Africa [t].—Reported for: #455 *Mungos* (*mungo* s. *fasciatus* [o] t. h.).

lacrymalis Gurlt, 1831*a* [Filaria [t]]: *Thelazia;* Spiroptera [t].—Reported for: #479 *Canis* (*familiaris*); #521 *Martes* (*foina*). Continued in later bulletins; ungulates t. h.

[† palpebralis [b] [p. 142] of Stuckey, 1917: Filaria [t].—So. *circumocularis*.—Reported for: #479 *Canis* (*familiaris*).]

species Wenyon, 1930, Trans. Roy. Soc. Trop. Med. & Hyg., v. 24 (1), June, 6: *Thelazia*.—Reported for: #479 *Canis* (*familiaris*).

466*C*. **Gongylonema**, pp. 148, 468. Cf. †462.

contortum [b] [c] Mol., 1860*e* (not Rud., 1819*a*), *ursi* renamed: *Gongylonema;* Spiropt.[1].—Reported for: #576 *Ursus* (*arctos* t. h.).

ursi [c] Duj., 1845*a*, for *ursi-arcti: Gongylonema*.—Reported for: #576 *Ursus* (*arctos* t. h.).

[*ursi-arcti* Rud., 1819*a:* Spiroptera[1].—Reported for: #576 *Ursus* (*arctos* t. h.).]

468*C*. **Streptopharagus**, p. 469.

numidicus Seurat, 1917: *Streptopharagus*.—S. Tunis [t].—Reported for: #413 *Felis* (*maniculata*); #483 *Fennecus* (*cerdo* so. *zerda* t. h.).

468*e*. **Spirura**, pp. 470, 817.

[*gastrophila* [a] [p. 817] Mueller, 1894*a:* Filaria [t].—Europe.—So. *rytipleurites*, fide Yorke & Maplestone, 1926*a*, 294.—Some confusion in regard to hosts; see gastrophila [d] of Seurat, *rothschildi* and *rytipleurites*.—Reported for: #413 *Felis* (*catus* [*dom.*] t. h.).]

gastrophila [d] [p. 817] Mueller of Seurat, 1913: *Spirura*.—Africa.—So. *rothschildi*, fide Yorke & Maplestone, 1926*a*, 294.—Reported for: #464 *Herpestes* (species (mongoose)); #479 *Canis* (*algericus*); #485 *Vulpes* (*vulpes atlantica*); #540 *Ictonyx* (*libyca*). Continued in later bulletins. Vectors: †1270 *Akis* (*goryi*); †1271 *Blaps* (species, *strauchi*); †1079 *Blatta* (*orientalis*); †1279 *Onthophagus* (species); *Scarabaeus* (*sacer*).

gastrophila of — ? —Reported for: #464 *Herpestes* (*ichneumon*); #485 *Vulpes* (*vulpes*).

rothschildi, p. 817: *Spirura*.—Reported for: #485 *Vulpes* (*vulpes atlantica*).

rytipleurites [p. 818] Deslongchamps, 1824*p* [Filaria [t]]: *Spirura*.—So. *talpae*, fide Hall, 1916*a*, 199.—Syn. *gastrophila* Mueller, 1894 (not of Seurat).—Reported for: #413 *Felis* (*catus* [*dom.*]); #485 *Vulpes* (species). Continued in later bulletins; *Blatta* (*orientalis* t. h.).

talpae [p. 818] Gmel., 1790*a* [Ascaris [t]]: *Spirura*.—Europe [t].—Reported for: #413 *Felis* (*catus* [*dom.*]); #485 *Vulpes* (*vulpes*). Continued in later bulletins.

468*G*. **Spirocerca**, pp. 470, 625. Syn. Sprirocerca [m] 1924.

[*annulatus* [a] Sieb., 1848*a:* Strongylus [t].—So. *lupi* [a].—Reported for: #479 *Canis* (*lupus* t. h.).]

arctica Petrow, 1927, Ann. Trop. Med. Parasitol., v. 21 (2), July 22, 261–266, figs. 1–3: *Spirocerca*.—

Tundra [t], Russia.—Reported for: #479 *Canis* (*familiaris*); #486 *Alopex* (*lagopus* t. h.).

[*lupi* [s] Rud., 1809*a:* Strongylus [l].—So. *sanguinolenta.*—Reported for: #479 *Canis* (*familiaris, lupus* t. h.).]

sanguinolenta, pp. 470, 625, 818 [Spiropt.[l]]: *Spirocerca;* Fil.[l]; Spirura [l].—Berlin [t], Germany.—Reported for: #413 *Felis* (*canadensis, catus* [*dom.*], species (misc., wild cat)); #433 *Genetta* (*afra bonapartei* so. *bonapartei*); #464 *Herpestes* (*ichneumon*); #476 *Cuon* (*primaevus* so. *dukhunensis*); #479 *Canis* (*aureus, familiaris, lupus* t. h., species (jackal, pariah dog)); #485 *Vulpes* (species, *vulpes* s. *vulgaris, vulpes atlantica*). Continued in later bulletins. Vectors: †1270 *Akis* (*goryi*); †1079 *Blatta* (*orientalis* [i]); †1291 *Canthon* (species); *Copris* (*hispanis*); †1294 *Geotrupes* (*douei*); *Gymnopleurus* (*sturmi*); *Scarabaeus* (*sacer, variolosus*); Coprophagous beetles.

[species Lewis, 1875*f*, 268–277, pl. 13, figs. 1–5: Haematozoa.—India.—So. *sanguinolenta.*—Reported for: #479 *Canis* (*familiaris*).]

468*f*. Cylicospirura, p. 470.

felineus [s] Chandler, 1925, Ind. J. Med. Res., v. 13 (2), 221–222, figs. 3–6 [Spirocerca [l]]: *Cylicospirura.*—Calcutta [t], India.—So. *subaequalis*, fide Petrow, 1927, Ann. Trop. Med. Parasitol., v. 21 (2), 265.—Reported for: #413 *Felis* (*catus* t. h., *ocreata*).

[*felis-yaguarondi* [o] M.C.V. in Mol., 1860*b*: Spiroptera [l].—So. *subaequalis.*—Reported for: #413 *Felis* (*jaguarondi* s. *yaguarundi*).]

subaequalis Mol., 1860*b* [Spiroptera[l]]: *Cylicospirura* [t]; Spirocerca [l].—Brazil [t].—Reported for: #413 *Felis* (*concolor, jaguarondi* s. *yaguarondi, leo, maniculata, mellivora, ocreata, pardus*, species, *tigris*); #415 (*Acinonyx* (*jubatus*); #485 *Vulpes* (species, *vulpes atlantica*).

†**469**. **Physaloptera**, p. 150. See 470*H*.

†**469*d***. **Chlamydonema**, p. 150. See 470 *I*.

†**470**. **Habronema**, pp. 150, 470.

chevreuxi Seurat, 1913: *Habronema.*—Algeria [t].—Reported for: #413 *Felis* (*maniculata, nebulosa, ocreata* t. h., *pardus antiquorum*, species).

grimaldiae Seurat, 1915: *Habronema.*—Algeria [t].—Reported for: #413 *Felis* (*pardus, pardus antiquorum*, species (panther)); #485 *Vulpes* (*vulpes, vulpes atlantica* s. *atlantica* t. h.).

nouveli Seurat, 1915: *Habronema.*—Algiers [t], Algeria.—Reported for: #433 *Genetta* (*bonapartei* s. *afra bonapartei* t. h., species).

470*B*. Protospirura, p. 470.

**gracilis* Cram, 1924, J. Am. Vet. Med. Assoc., v. 65, n. s. v. 18 (3), June, 355–357, figs. 1–3: *Protospirura.*—Washington, D. C. [t]—Reported for: #413 *Felis* (*catus* [*dom.*] t. h.). Vector †1288 *Aphodius* (*fimetarius*).

numidica Seurat, 1914, 344: *Protospirura* [t].—Sétif [t], Algeria.—Reported for: #413 *Felis* (*maniculata, ocreata* t. h.); #433 *Genetta* (*afra bonapartei* so. *bonapartei*). Continued in later bulletins.

470*H*. Physaloptera, pp. 150, 471, 625. Cf. †469, †469*c*.

anomala Mol., 1860*d: Physaloptera.*—Mattogrosso, Brazil [t].—Reported for: #413 *Felis* (*onca* t. h.).

brevispiculum Linst., 1906: *Physaloptera.*—Kandy, Ceylon [t].—Reported for: #413 *Felis* (*rubiginosa* t. h.).

canis Monnig, 1929, 15th Ann. Rep. Direct. Vet. Serv. Union So. Africa, Oct., 329–333, figs. 1–4: *Physaloptera.*—Pretoria [t], S. Africa.—Reported for: #479 *Canis* (*familiaris* t. h.).

cesticillata Sons., 1889*c: Physaloptera.*—Egypt [t].—Reported for: #483 *Fennecus* (species, *zerda* s. *cerdo* t. h.).

digitata Schneid., 1866*a: Physaloptera.*—Brazil.[t]—Reported for: #413 *Felis* (*concolor* t. h.).

elegantissima Stossich, 1902*c* (*d, e*): *Physaloptera.*—Eritrea [t].—Reported for: #538 *Mellivora* (*capensis* t. h.).

gemina Linst., 1899*b*: *Physaloptera;* Abbreviata.—Egypt [t].— Reported for: #413 *Felis* (*catus* [*dom.*] t. h.).

maxillaris Mol., 1860*d*: *Physaloptera; Physalopt.* (*Physalopt.*).—Brazil [t].—Reported for: #550 *Conepatus* (*suffocans*); #552 *Mephitis* (*cinche* t. h., *mephitis*); #561 *Procyon* (*cancrivora*).

mephites Solanet, 1909: *Physaloptera.*—Buenos Aires [t], Argentina.—Reported for: #550 *Conepatus* (*suffocans* t. h.).

mydai Baylis, 1926, Sarawak Mus. J., v. 3, pt. 3, (10), 309–312, figs. 4–6: *Physaloptera.*—Kalabit Co.[t], Borneo.—Reported for: #533 *Mydaus* (species (Bornean badger) t. h.).

pacitae Tubangui, 1925, Phil. J. Sci., v. 28 (1), Sept., 23, pl. 2, figs. 2–5: *Physaloptera.*—Luzon [t], Philippine Islands[t].—Reported for: #413 *Felis* (*catus* [*dom.*] t. h.).

papilloradiata Linst., 1899*b*: *Physaloptera.*—Persia [t].—Reported for: #479 *Canis* (*lupus* t. h.).

papillotruncata Mol., 1860*d*: *Physaloptera.*—Brazil [t].—Reported for: #544 *Taxidea* (*taxus*). Continued in later bulletins; *Myrmecophaga* t. h.

**rara* Hall & Wigdor, 1918, J. Amer. Vet. Med. Assoc., v. 53, n. s. v. 6 (6), 733–744, figs. 1–6: *Physaloptera* (*Physalopt.*).—Michigan [t], U. S. A.—Reported for: #479 *Canis* (*familiaris* t. h.).

semilanceolata Mol., 1860*d*, 659: *Physaloptera; Physalopt.* (*Physalopt.*).—Brazil[t].—Reported for: #563 *Nasua* (*narica* t. h., *socialis*).

species Baylis & Daubney, 1922, Mem. Indian Mus., v. 7 (4), Dec., 322: *Physaloptera.*—India.—Reported for: #485 *Vulpes* (*bengalensis*).

species Milne, 1912, Ind. Med. Gaz., Calcutta, v. 47 (9), Sept., 358: *Physaloptera.*—Jhansi, India.—Reported for: #413 *Felis* (species). Continued in later bulletins. Larva in squirrel.

species Monnig, 1924*a*, 449: *Physaloptera.*—Transvaal, S. Africa.—Reported for: #540 *Ictonyx* (*capensis* so. *zorilla*).

species Schwartz, 1926, Proc. U. S. Nat. Mus., v. 68, Art. 13, No. 2614, 5: *Physaloptera.*—Larva.—Peking, China.—Reported for: #528 *Meles* (*leptorhynchus* * so. *leucurus*).

species Skrjabin. 1924, Berl. Tierärzt. Wochenschr., v. 40 (20), p. (6): *Physaloptera.*—U. S. S. R.—Reported for: #413 *Felis* (*catus* [*dom.*]).

species Travassos, etc., 1927, Mem. Inst. Oswaldo Cruz, v. 20 (2), 255: *Physaloptera.*—Mattogrosso, Brazil.—Reported for: #563 *Nasua* (*narica*).

*species Weidman in Fox, 1923, Dis. Wild Mamm. & Birds, 630, 632: *Physaloptera.*—Philadelphia Zoo, Pennsylvania.—See *turgida.*—Reported for: #544 *Taxidea* (*taxus*).

terdentata Mol., 1860*d*: *Physaloptera; Physalopt.* (*Physalopt.*).—Brazil [t].—Reported for: #413 *Felis* (*concolor, pardus, tigrina*).

**torquata* Leidy, 1886*e*: *Physaloptera.*—America [t].—Reported for: #544 *Taxidea* (*taxus s. labradorica* t. h.).

**turgida* Rud., 1819*a*: *Physaloptera;* Spiropt.[1]; *Turgida* [t].—Brazil [t].—Reported for: #544 *Taxidea* (*americana* so. *taxus*). Continued in later bulletins; *Didelphys* (*cayopollin* t. h.). Also reported for: #35 *Theropithecus* (*gelada*).

vandenbrandeni Gedoelst, 1924, Ann. Soc. Belge Méd. trop., v. 4 (2), Nov., reprint 2–4: *Physaloptera.*—Leopoldville [t], Belgian Congo.—Reported for: #413 *Felis* (species (wild cat)).

470*I*. **Chlamydonema**, p. 471. Cf. †469*d*.

felineum * Hegt, 1910: *Chlamydonema* [t].—Batavia [t].—So. *praeputiale.*—Reported for: #413 *Felis* (*catus* [*dom.*] t. h., *ocreata cafra,*

pardus); #433 *Genetta* (*ludia*); #479 *Canis* (*mesomelas*).

malayense Ortlepp, 1922, Proc. Zool. Soc. London, Dec., 1046–48, fig. 23 [Physaloptera [1]]: *Chlamydonema;* Physalopt.[1] (Physalopt.).—Reported for: #413 *Felis* (*chaus*, species (bush cat, tiger cat, wild cat), *temminckii*, *tigris*); #413 *Lynx* (species); #469 *Hyaena* (*striata* [i]).

praeputiale Linst., 1889*c* [Physalopt.[l]]: *Chlamydonema.*—Brazil[t].—Syn. *felineum* [s]; preputialis [m].—Reported for: #413 *Felis* (*bengalensis*, *catus* [*dom.*] t. h., *chaus*, *nebulosa*, *pardus*, *pardus suahelica*, species (wild panther), *tigrina*, *tigris*, *viverrina*); #479 *Canis* (*familiaris*).

470*b*2. Hartertia, p. 470.

zorillae Seurat, 1919, Bul. biol. France & Belgique, v. 52 (4), 353–355, figs. 1–4: *Hartertia.*—Algeria [t].—Reported for: #540 *Ictonyx* (*libyca* t. h.).

†473. Gnathostoma, pp. 151, 472.

americanum Trav., 1925, Sci. Med., v. 3 (7), July 30, 509, 510, 514–517 (4, 5, 9–12), figs. 7–13: *Gnathostoma.*—Angra dos Reis [t], Brazil.—Reported for: #413 *Felis* (*tigrina* t. h.).

pelecani Chatin, 1874*a* [Sclerost.]: *Gnathostoma.*—Paris Mus.—Reported for: #413 *Felis* (*catus* [*dom.*]). Continued in later bulletins; *Pelecanus* (*onocrotalus* t. h.).

radula [s] Schneid., 1866*a* [Filaria [l]]: *Gnathostoma.*—Philippines [t].—So. *spinigerum.*—Reported for: #427 *Paradoxurus* (*philippinensis* t. h.); #464 *Herpestes* (*griseus*).

robustum [s] Dies., 1838*a;* 1839*a* [*Cheiracanthus* [s]]: *Gnathostoma.*—Brazil [t].—So. *spinigerum.*—Reported for: #413 *Felis* (*catus*, *concolor* t. h., *tigris*); #479 *Canis* (*familiaris*, species (Pariah dog)); #511 *Mustela* (*lutreola*).

socialis [s] Leidy, 1858*c* [*Cheiracanthus* [s]]: *Gnathostoma.*—So. *spinigerum*, fide Yorke & Maplestone, 1926*a*, 340.—Reported for: #511 *Mustela* (*lutreola*, *vison* t. h.).

species Braun, 1903*a*: *Gnathostoma.*—Calcutta, India.—Reported for: #479 *Canis* (species (wild dog)).

species Cameron, 1928, J. Helminthol., v. 6 (2), June, 94: *Gnathostoma.*—London Zoo, from Malay States.—Reported for: #413 *Felis* (*planiceps*).

species [p. 472] Chandler, 1927: *Gnathostoma.*—India.—Reported for: #479 *Canis* [i] (*familiaris* [i]).

species Houghton, 1913, China Med. J., v. 27 (3), May, 171: *Gnathostomum.*—Shanghai, China.—Reported for: #413 *Felis* (species).

[species Lewis, 1874, 121: Echinorhynchus [l].—Calcutta, India.—So. *spinigerum.*—Reported for: #479 *Canis* (*familiaris*, species (Pariah dog)).]

†species [p. 152] Morishita & Faust, 1925: *Gnathostoma.*—China.—So. *spinigerum.*—Reported for: #413 *Felis* (species); #479 *Canis* (species).

†*spinigerum*, p. 152: *Gnathostoma.*—Reported for: #413 *Felis* (*bengalensis*, *catus* [*dom.*], *concolor*, *nebulosa*, *pardalis*, *pardus*, *silvestris*, species (wild cat), *tigrina*, *tigris* t. h., *viverrina*); #479 *Canis* (*familiaris*, species (pariah dog)); #427 *Paradoxurus* (*hermaphroditus*, *philippinensis*); #511 *Mustela* (*itatsi*, species, *vison*, *vison lutreocephala* so. *vison mink*).

473*D*. Oslerus, p. 472.

[bronchialis canis [d o p] Rail., 1889*g*, for canis bronchialis: Strongylus [l].—Reported for: #479 *Canis* (*familiaris*).]

[canis bronchialis [d o p] Osler, 1877*a*: Strongylus [l].—Montreal [t], Canada.—Renamed *osleri.*—Reported for: #479 *Canis* (*familiaris* t. h.).]

felis Vogel, 1928, Centralbl. f. Bakt., Orig., v. 109, Dec. 4, 435–438, figs. 10–13: *Oslerus.*—Hamburg, from S. America [t].—Reported for: #413 *Felis* (*pardalis* t. h.).

**osleri* Cobbold, 1879*b* [Filaria [l]]: *Oslerus;* Pseudalius [d].—Canada [t].—Syns.: bronchialis canis; canis

bronchialis; pulmonalis; tracheobronchialis canis.—Reported for: #479 *Canis* (*familiaris* t. h., *latrans texensis*, species (coyote)).

[pulmonalis [d o] Linst., 1896*c*, for canis bronchialis: Strongylus [l] canis.—Reported for: #479 *Canis* (*familiaris*).]

[tracheo-bronchialis canis [d o p] Fiebiger, 1912, for bronchialis canis: Fil.[l]—Reported for: #479 *Canis* (*familiaris*).]

†476*q*. ANISAKINAE, p. 153.—<HETEROCHEILIDAE, fide Yorke & Maplestone, 1926*a*, 269, 271. See *Cloeoascaris* and †476*u* *Porrocaecum*.

—, **Cloeoascaris** Baylis, 1923, Ann. Mag. Nat. Hist., ser. 9, v. 11, 459, tod. *spinicollis*.—<†476*q* ANISAKINAE. See Yorke & Maplestone, 1926*a*, 283.

spinicollis Baylis, 1923, Ann. Mag. Nat. Hist., ser. 9, v. 11, 459: *Cloeoascaris* [t].—Tanganyika [t], E. Africa.—Reported for: #458 *Atilax* (*paludinosus*); #499 *Lutra* (species t. h.).

†476*u*. **Porrocaecum**, p. 153.

decipiens Krabbe, 1878*a* [Ascaris [l]]: *Porrocaecum*.—Greenland [t]. — Reported for: #479 *Canis* (*familiaris*). Continued in later bulletins; seals t. h.

species Cameron, 1928, J. Helminthol., v. 6 (2), June, 94: *Porrocaecum*.—London Zoo, from Malay States.—Reported for: #413 *Felis* (*planiceps*).

†479. **Fusaria**=**Ascaris** [l], pp. 155, 473, 625.

*alienata [d o] Rud. of Leidy, 1851*b*: *Ascaris* [l]. — Pennsylvania [t]. — So. *columnaris*.—Reported for: #552 *Mephitis* (*cinche* s. *chinga*, *mephitis* s. americana t. h.).

cati [h] Gmelin, 1790*a*, 3031 (no. 13), based on Goeze, 1782*a*, 80, "vesicularum capitis defectu ab *asc. felis* [no. 12] distincta"; cf. †484 *cati*: *Ascaris* [l].—Reported for: #413 *Felis* (*catus* [*dom.*] t. h.).

**columnaris* Leidy, 1856*b*, alienata [d] Rud. of Leidy, 1851*b*, renamed: *Ascaris* [l].—Reported for: #511 *Mustela* (*erminea*, *eversmanii*, *nivalis*); #552 *Mephitis* (*cinche* s. *chinga* t. h., *mephitis*, *mesomelas*, species).

crenata Schrank, 1790*a*: *Ascaris* [l].—Reported for: #413 *Felis* (*catus* [*dom.*]).

dasypodina Baylis, 1922, Ann. Mag. Nat. Hist., ser. 9, v. 9, 497–499, fig. 2: *Ascaris* [l].—London Zoo, from Paraguay [t].—Reported for: #552 *Mephitis* (species). Continued in later bulletins; *Cabassous* (*unicinctus* t. h.) [*Dasypus gymnurus*].

gulonis Gmel., 1790*a*: *Ascaris*.—Europe [t].—Reported for: #521 *Martes* (*foina* [i]); #523 *Gulo* (*gulo* [i] t. h.).

gulonis [h] Rud., 1810*a*: *Ascaris* [l].—Europe [t].—Reported for: #523 *Gulo* (*arcticus* [o] so. *gulo* t. h.).

mephitidis Gmel., 1790*a*: *Ascaris* [l]; *Fusaria* [l].—Reported for: #552 *Mephitis* (species t. h.).

species Braun, 1883*b*: *Ascaris* [l].—Germany.—Reported for: #479 *Canis* (*familiaris*).

species Onji, 1921, Centralbl. f. Bakt., Orig., v. 86 (6), July 8, 502: *Ascaris* [l].—Japan.—Reported for: #479 *Canis* (*procyonoides*).

species Onji, 1921, Centralbl. f. Bakt. Orig., v. 86 (6), July 8, 503: *Ascaris* [l].—Japan.—Reported for: #528 *Meles* (species).

species Spaul, 1923, Ann. Mag. Nat. Hist., ser. 9, v. 11, 273: *Ascaris* [l].—Tanganyika, Africa.—Reported for: #433 *Genetta* (*stuhlmanni* [i]).

*species Stiles & Hassall, 1894*e*, 340: *Ascaris* [l].—District of Columbia.—Reported for: #413 *Felis* (*pardalis*).

*species Stiles & Hassall, 1894*e*, 340: *Ascaris* [l].—District of Columbia.—Reported for: #413 *Felis* (*rufa*).

*species Stiles & Hassall, 1894*e*, 340: *Ascaris*[l].—Colorado.—Reported for: #552 *Mephitis* (*mephitica* [o] so. *mephitis*).

species Weidman in Fox, 1915, 43rd Ann. Rep. Zool. Soc. Phila., Apr. 23, 40: *Ascaris* [l].—Reported for: #413 *Felis* (*tigris*).

[species Weidman in Fox, 1923, Dis. Wild Mamm. & Birds, 630: "Ascarids."—Philadelphia Zoo.—Reported for: #413 *Felis* (*leo*); #479 *Canis* (*mexicanus*); #576 *Ursus* (species).]

†**481. Ascaris** [r], pp. 155, 473.

†*lumbricoides*, pp. 155, 473: *Ascaris.*—Europe [t].—Reported for: #479 *Canis* (*familiaris*). Continued in later bulletins.

†**484. Toxocara**, p. 156. Syn. †485 *Belascaris* Leiper. On account of difference of opinion in reference to the esophagus of the type species *canis*, there is confusion between *Toxocara* and *Toxascaris;* as the type specimens do not seem to be available, this question can best be settled nomenclatorially by referring the case to the International Commission on Parasitology for decision. There should be a ruling on *canis* 1782 (syn. *marginata* [o] 1802) and *cati* 1788 (syns.: *felis* [o] 1790; *mystax* [o] 1800), as these names are in confusion; possibly the most practical course would be to suppress these five specific names entirely.

[*alienata* [s] Rud., 1819*a*: Ascaris [1].—Brazil [t].—So.[s] *mystax*, fide Stossich, 1896*a*.—Reported for: #563 *Nasua* (*nasua* s. *rufa* [o] t. h., *socialis*).]

[*anterospiralis* [s] Mol., 1860*e:* Ascaris [1].—Caiçara [t], Brazil.—So.[s] *mystax.*—Reported for: #413 *Felis* (*concolor* t. h.).]

[†*brachyoptera* [s], p. 156: Ascaris [1].—Algeciras [t], Spain.—So. *mystax*, fide Stossich, 1896*a*.—Reported for: #433 *Genetta* (*genetta* t. h.); #563 *Nasua* (*narica*).]

†**canis* [v] [p. 156] Werner, 1782*a* [Lumbricus [1]]: *Toxocara* [t]; *Belascaris;* Ascaris [1] *mystax.*—Syns.: *marginata* [o] 1802; *cati* [s] 1788.—Reported for: #413 *Felis* (*canadensis, catus* [*dom.*], *jaguarondi* s. *yaguarundi, rufa, silvestris*, species); #462 *Ichneumia* (*albicauda*); #479 *Canis* (*aureus, azarae, dingo, domesticus sinensis, familiaris* t. h., *mexicanus, pallipes*); #485 *Vulpes* (*bengalensis, fulva*, species, *velox, vulpes*); #486 *Alopex* (*lagopus*); #488 *Urocyon* (*cinereoargenteus scottii*).

[*canis-aurei* [s] Rud., 1819*a:* Ascaris [1].—So. *mystax*, fide Stossich, 1896*a*.—Reported for: #479 *Canis* (*aureus* t. h.).]

[*canis* [1782] *felis* [s] (Gmel., 1790*a*) Werner of Galli-Val., 1901*c:* Ascaris [1].—So. *canis*, fide Ward, 1903, 223.—Reported for: #413 *Felis* (*catus* [j] or *silvestris* [j]); #479 *Canis* (*familiaris*).]

[†*cati* [p. 156] Schrank, 1788*a*, 8 (no. 29), 92 (footnote *r*), based on Goeze, 1782*a*, 79, pl. 1, fig. 5 [not Asc. cati [h] Gmelin, 1790, see under †479] [Ascaris [1]]: *Belascaris.*—Europe [t].—Syns.: *felis* [o] 1790; *mystax* [o] 1800; so.[s] *canis* 1782.—Reported for: #413 *Felis* (*catus* [*dom.*] t. h., *pardus, silvestris*, species (wild cat)); #479 *Canis* (*familiaris*); #485 *Vulpes* (*fulva*); #486 *Alopex* (*lagopus*).]

[*circumflexa* [s] Mol., 1858*d:* Ascaris [1].—Padua [t], Italy.—So. *mystax.*—Reported for: #413 *Felis* (*pardus* t. h.).]

**crenulata* Brems., 1824*c*, 5 [Ascaris [1]]: *Toxocara;* Ascaris [1] *leptoptera; Belascaris* [s].—Reported for: #413 *Felis* (*canadensis, concolor, leo, macroura, onca* t. h.).

[†*felis* [o] [s] [p. 156] Gmelin, 1790*a*, 3031 (no. 12) based on Goeze, 1782*a*, 79, pl. 1, figs. 5, 9–13: Ascaris [1]; Ascaris [1] teres [1].—So. [o] *cati* 1788 [not 1790], renamed *mystax* [o] 1800; so.[s] *canis* 1782.—Reported for: #413 *Felis* (*catus* [*dom.*] t. h., species (misc.)); #479 *Canis* (*familiaris*).]

[*felis-discoloris* [s] Leidy, 1851*a:* Ascaris [1].—So.[s] *leptoptera.*—Reported for: #413 *Felis* (*concolor* s. *discolor* t. h.).]

[*globulus* Linst., 1899*b:* Ascaris [1] [; *Belascaris*].—Sunda Ids.[t]—Reported for: #413 *Felis* (*moormensis* t. h.).]

[leonis [h] Vallillo, 1909*h:* Ascaris [1] *mystax.*—Italy [t].—Reported for: #413 *Felis* (*leo* t. h.).]

†*leptoptera* [s], p. 156 [Ascaris [1]]: *Toxocara;* Ascaris [1] *mystax; Belascaris.* —Berlin[t], Germany.—Pars so. *mystax* and *leonina*, fide Yorke & Maplestone, 1926*a*, 258, 259. Cf. *cati.*—Reported for: #413 *Felis* (*concolor* s. *discolor*, *leo* t. h., *macroura*, *mitis*, *onca*, *pardalis*, *tigris*).

[*lupi* Gmel., 1790*a:* Ascaris.—So. *mystax*, fide Stossich, 1898, 67.—Reported for: #479 *Canis* (*lupus* t. h.).]

†*marginata* [o s] [p. 156] Rud., 1802*a*, 11–12 [*canis* 1782 renamed] [Ascaris [1]]: *Toxocara;* †486 *Toxascaris; Belascaris* [s]; Fusaria [d].—So. [o] *canis;* so.[s] *mystax* [o] 1800=*cati* 1788.—Reported for: #413 *Felis* (*catus* [*dom.*], *rufa*); #479 *Canis* (*aureus*, *azarae*, *familiaris* t. h., *pallipes*, species (jackal, wild wolf)); #485 *Vulpes* (*bengalensis*, *fulva*, species, *vulpes*); #486 *Alopex* (*lagopus*). Continued in later bulletins.

[martis [h] Gmel., 1790*a:* Ascaris [1]; Fusaria [1].—Berlin [t], Europe.—So. *mystax.*—Reported for: #521 *Martes* (*martes* t. h.).]

masculior Railliet & Henry, 1911: *Toxocara; Belascaris* [s].—Reported for: #483 *Fennecus* (*cerdo* so. *zerda* t. h.).

melis Gedoelst, 1920, C. r. Soc. Biol., v. 83 (28), 1291: *Belascaris* [s]; *Toxocara.*—Mus. Brussels.—Reported for: #528 *Meles* (species t. h.).

[mistax [m] Sons., 1889*c*, 235, for *mystax:* Ascaris [1].—Reported for: #479 *Canis* (*aureus*, *familiaris*); #485 *Vulpes* (*vulpes*).]

[*mustelarum* [s] Rud., 1819*a*, 53, martis [h] 1789 renamed: Ascaris [1].—So. *mystax.*—Reported for: #521 *Martes* (*foina*, *martes*).]

[myolare Lutz, 1886*e:* Ascaris [1].—Brazil [t].—? Misprint for *mystax.*—Reported for: #413 *Felis* (*catus* [*dom.*]); #479 *Canis* (*familiaris*).]

†**mystax* [o], p. 156 (*cati* 1788+*felis* [o] 1790 renamed) [Fusaria]: *Toxocara; Belascaris;* Ascaris [1].—Europe [t].—Syns.: *marginata* [s] so.[o] *canis* 1782; mistax [m], myolare [m], nuptax [m]. So.[o] *cati.*—Reported for: #413 *Felis* (*bengalensis*, *bengalensis minuta*, *canadensis*, *catus* [*dom.*] t. h., *chaus*, *concolor*, *concolor couguar*, *leo*, *lupus*, *lynx*, *maniculata*, *melas*, *nebulosa*, *pardalis*, *pardochroa*, *pardus*, *planiceps*, *rufa*, *rufa texensis*, *serval*, *silvestris*, species (misc., wild cat), *tigris*, *viverrina*); #415 *Acinonyx* (*jubatus*); #433 *Genetta* (*genetta*); #462 *Ichneumia* (*albicauda*); #473 *Lycaon* (*pictus*); #479 *Canis* (*aureus*, *azarae*, *familiaris*, *lupus*); #485 *Vulpes* (*vulpes*); #486 *Alopex* (*lagopus*); #521 *Martes* (*foina*, *martes*); #563 *Nasua* (*narica*, *rufa* so. *nasua*, *socialis*).

[species Glaue, 1910: Ascaris [1].—Three species.—Reported for: #413 *Felis* (*melas*, *pardochroa*, *serval*).]

[*species Hall, 1912, Colorado Coll. Publicat., Sci. ser., v. 12 (10), 347: *Belascaris* [s]. — Colorado. — Three species reported for: #413 *Felis* (*baileyi*, *catus* [*dom.*]); #479 *Canis* (*nebracensis*).]

*species Hall, 1912, Colorado Coll. Publicat., Sci. ser., v. 12 (10), 354: *Toxocara.*—Colorado.—Two species reported for: #413 *Felis* (*catus* [*dom.*]); #479 *Canis* (*familiaris*).

[species Henry & Joyeux, 1920, Bul. Soc. Path. exot., v. 13 (3), 181: *Belascaris* [s].—Kouroussa, Upper French Guinea.—Reported for: #413 *Felis* (*serval*).]

[†*tricuspidata* [s], p. 156: Ascaris [1].—Reported for: #479 *Canis* (*familiaris*).]

[*triquetra* [s] Schrank, 1790*a* [Ascaris [1]]: [*Belascaris;* [s]] Fusaria.—So. *vulpis* 1789.—Reported for: #479 *Canis* (*familiaris*); #485 *Vulpes* (*vulpes* t. h.).]

**vulpis* Froelich, 1789*a* [Ascaris [1]]: *Toxocara; Belascaris* [s].—Cf. teres [1] [vulpis] Goeze.—Reported for: #479 *Canis* (*familiaris*, *lupus*); #485 *Vulpes* (*vulpes* t. h.).

[vulpis "Goeze", 1782*a* of Rud., 1809*a*, 139: Ascaris [1] teres [1].—So.

triquetra.—Reported for: #485 *Vulpes* (*vulpes* t. h.).]

[†*werneri* [o], p. 156 (*canis* Werner, 1782, renamed): Ascaris [l]; Fusaria.—Reported for: #479 *Canis* (*familiaris* t. h.).]

†**485. Belascaris**, pp. 154, 156. Cf. †476*l'*. So. †484 *Toxocara*, q. v.

†**486. Toxascaris**, pp. 154, 156. Cf. †476*m'*.

[†*alata* [s], p. 156: Ascaris [l] .—So. ? *limbata*, or so. ? † 485 *mystax*.—Reported for: #479 *Canis* (*familiaris*).]

[†*caniculae* [s], p. 156: Ascaris [l].—So. *limbata*.—Syns.: caniculi, canikuli.—Reported for: #479 *Canis* (*familiaris* t. h.).]

†canis [d] [p. 156] Werner of Glaue, 1909: *Toxascaris;* Ascaris [l].—So. *limbata*.—Reported for: #479 *Canis* (*familiaris, mexicanus*).

[*canis-lagopodis* [s] Viborg, 1795 [nv]: Ascaris [l].—So.? *limbata*, or ? *mystax*.—Reported for: #486 *Alopex* (*lagopus* t. h.).]

[†*felis* [o], p. 156: Ascaris [l].—So. [s] *limbata*. See note, regarding confusion, under paragraph †484.—Reported for: #413 *Felis* (*catus* [*dom.*]); #479 *Canis* (*familiaris*).]

leonina Linst., 1902*a* [Ascaris [l]]: *Toxascaris*.—Breslau [t].—Reported for: #413 *Felis* (*bengalensis, catus* [*dom.*], *concolor, leo* t. h., *pardus, rufa, rufa texensis, serval, tigris, uncia, viverrina*); #415 *Acinonyx* (*jubatus*); #473 *Lycaon* (*pictus*); #479 *Canis* (*dingo, familiaris, latrans*, species); #485 *Vulpes* (*bengalensis*).

†*limbata* [s], p. 156: *Toxascaris*.—Alfort [t], France.—So. *leonina*, fide Yorke & Maplestone, 1926*a*, 260; syn. marginata [d].—Reported for: #473 *Lycaon* (*pictus*); #479 *Canis* (*aureus, familiaris*, species); #485 *Vulpes* (*fulva*); #486 *Alopex* (*lagopus*).

†marginata [d s], p. 156: *Toxascaris*.—So. *limbata*.—Reported for: #479 *Canis* (*familiaris*).

†*microptera*, p. 156: *Toxascaris;* Asc.[l] marginata.—Berlin [t], Germany.—Cf. *mystax* and *leonina*.—Reported for: #479 *Canis* (*lupus* t. h.).

[*tigridis* Gmel., 1790*a* [Ascaris [l]]: Fusaria [l].—Reported for: #413 *Felis* (*tigris* t. h.).]

**transfuga* Rud., 1819*a* [Ascaris [l]]: *Toxascaris*.—Reported for: #570 *Ailurus* (*fulgens*); #573 *Helarctos* (*malayanus*); #574 *Melursus* (*labiatus* so. *ursinus*); #575 *Thalarctos* (*maritimus*); #576 *Ursus* (*americanus, arctos* t. h., *arctos beringianus, horribilis, pruinosus*, species, *syriacus, torquatus* [o] so. *tibetanus*).

[transfusa [m] Par., 1896*c*, 5, for *transfuga*: Ascaris [l].—Reported for: #573 *Helarctos* (*malayanus*); #576 *Ursus* (*arctos*).]

†**487. Lagochilascaris**, p. 156.

major Leiper, 1910: *Lagochilascaris*.—Kilimanjaro [t], E. Africa.—Reported for: #413 *Felis* (*leo, leo sabakiensis* t. h.).

†*minor*, p. 156: *Lagochilascaris*.—Reported for: #413 *Felis* (*leo, nebulosa*).

†**488*N*. Heterakis**, pp. 158, 473.

papillosa [s] Bloch, 1782*a* [Ascaris [l]]: *Heterakis* [l]; Fusaria [l].—Cf. *vesicularis*.—Reported for: #413 *Felis* (*catus* [*dom.*]). Continued in later bulletins; bustard t. h.

†**488*A'*1. Numidica**, pp. 159, 474.

numidica Seurat, 1915 [Allodapa [l]]: *Numidica* [t]. — Blida [t], Algeria. — Reported for: #485 *Vulpes* (species, *vulpes atlantica* t. h.).

†**488*g*. Passalurus**, pp. 157, 159. Cf. †488*J'*.

ambiguus Rud., 1819*a* [Oxyuris [l]]: *Passalurus*.—Reported for: #479 *Canis* (*familiaris*). Continued in later bulletins; *Lepus* [l] t. h.

488*w*4. Oxynema, pp. 159, 474. Cf. †488*Y*.

crassispiculum Sons., 1889*c* [Heterakis [l]]: *Oxynema;* Subulura [l] (*Oxynema*); Allodapa [l].—Egypt [t].—Reported for: #479 *Canis* (*vulpecula*); #480 *Otocyon* (*megalotis*);

#483 *Fennecus* (*famelicus*, *zerda* s. *cerdo* t. h.); #485 *Vulpes* (species, *vulpes aegyptiaca*, *vulpes atlantica*).

rectum [8] Linst., 1899*b*: *Oxynema;* Subulura [1] (*Oxynema*).—Egypt [t].—So. *crassispiculum*.—Reported for: #479 *Canis* (*vulpecula*); #480 *Otocyon* (*megalotis*); #483 *Fennecus* (*famelicus*, *zerda*); #485 *Vulpes* (*vulpes aegyptiaca*).

488*W*7. **Subulura**, pp. 159, 474. Cf. †488*A'*.

distans, p. 474: *Subulura*.—Reported for: #413 *Felis* (*rufa texensis*).

loveridgei Baylis, 1920, Ann. Mag. Nat. Hist., ser. 9, v. 6, Sept., 286–288, fig. 4: *Subulura*.—Morogoro [j], E. Africa [t].—Reported for: #455 *Mungos* (*mungo* s. *fasciatus* t. h.).

schebeni Linst., 1909 [Heterakis [1]]: *Subulura*.—S. W. Africa [t].—Reported for: #450 *Cynictis* (*penicillata* t. h.).

491*A*. **Oxyuris** [1], pp. 160, 475. Cf. †490.

alata Rud., 1819*a*: *Oxyuris* [1].—Reported for: #528 *Meles* (*meles meles* s. taxus [o] t. h.).

paradoxa Mol., 1858*d*: *Oxyuris* [1].—Padua [t], Italy.—Reported for: #511 *Mustela* (*communis* [o] so. *putorius* t. h.).

†**492. Enterobius**, pp. 157, 159, 160, 475. Cf. †488*f*, †488*F'*.

†**vermicularis*, pp. 160, 475: *Enterobius*.—Reported for: #479 *Canis* (*familiaris*).

†**494. Syphacia**, pp. 160, 476.

†*obvelata*, p. 161 [Ascaris [1]]: *Syphacia;* Oxyuris [1].—Reported for: #464 *Herpestes* (*ichneumon*); #511 *Mustela* (*vulgaris* so. *nivalis*). Continued in later bulletins; *Mus* (*musculus* t. h.).

494*A*. **Wellcomea** [e], pp. 157, 159, 476. Cf. †488*p'*, †488*U'*.

**compar* Leidy, 1856*b* [Oxyuris [1]]: *Wellcomia*.—Philadelphia [t], Penn.—Reported for: #413 *Felis* (*catus* [*dom.*] t. h.); #479 *Canis* (*familiaris*).

†**495**. *NEMATODA*, miscellaneous, of uncertain position. See *Liorhynchus*.

— **Liorhynchus** Rud., 1801*a*, type ? *truncatus*.—Pars so. 459*p*2 *Spinitectus*, fide Yorke & Maplestone, 1926*a*, 348.

[*cati-feri* Rudolphi, 1819*a*, 710–711: *Dubium*.—Vienna Museum.—Reported for: #413 *Felis* (*silvestris*).]

species [j] Rud., 1819*a*, 710–711, 722 [Dubium]: *Liorhynchus*.—Vienna Museum.—See *cati-feri*.—Reported for: #413 *Felis* (*silvestris*).

truncatus Rud., 1793*a* [Ascaris [1]]: *Liorhynchus*.—"Indeterminable species."—Europe [t].—Reported for: #528 *Meles* (*meles meles* t. h.). Continued in later bulletins.

†**501**. *ACANTHOCEPHALA*, pp. 162, 477, 625, 820.

†**501***S*. **Centrorhynchus**, p. 162.

aluconis Mueller, 1780 [Echinor.[1]]: *Centrorhynchus;* Chentrosoma [1].—Reported for: #413 *Felis* (*catus* [*dom.*]). Continued in later bulletins; *Strix* (*aluco* t. h.). Larva in amphibia and reptiles.

[*appendiculatus* [8] p. 821: Echinor.[1]—Vienna [t].—So. *buteonis*, fide Porta, 1908.—Reported for: #485 *Vulpes* (*vulpes*).]

buteonis p. 821 [Echinor.[1]]: *Centrorhynchus;* Chentrosoma [1].—Reported for: #485 *Vulpes* (*vulpes*). Continued in later bulletins; *Buteo* t. h.

erraticus Chandler, 1925, Ind. J. Med. Res., v. 13 (2), 222–223, pl. 6, figs. 7–8: *Centrorhynchus*.—Calcutta [t], India.—Reported for: #413 *Felis* (*catus* [*dom.*] t. h.).

itatsinis Fukui, 1929, Annotat. Zool. Jap., Tokyo, v. 12 (1), 255–257, figs. 1–7: *Centrorhynchus*.—Japan [t].—Reported for: #511 *Mustela* (*itatsi* t. h.).

ninnii Stoss., 1891*d* (*e*) [Echinor.[1]]: *Centrorhynchus;* Chentrosoma.—Venice [t], Italy.—Reported for: #511 *Mustela* (*nivalis* s. *vulgaris* t. h., *putorius*).

species Kostylew, 1926, Zool. Anz., v. 68 (9/10), Oct., 268: *Centrorhynchus*. — Armenia. — Reported for: #413 *Felis* (*catus* [*dom.*]).

†**501***m*. **Echinopardalis**, p. 163.

[*campanulatus* ° Dies., 1851*a*, *pardalis* renamed: Echinor.[1]—Brazil [t].—Reported for: #413 *Felis* (*concolor*, *mellivora*, *mitis*, *onca*, *pardalis*, species, *tigrina*).]

[ovatus [h] [s] Leidy, 1850*b*: Echinor.[1]—So. *pardalis*.—Reported for: #413 *Felis* (*pardus*, *pardus leopardus* s. *leopardus* t. h.).]

pardalis Westrumb, 1821*a* [Echinorhynchus]: *Echinopardalis*.—Brazil [t].—Reported for: #413 *Felis* (*catus*, *chibigouazou*, *concolor*, *geoffroyi*, *mellivora*, *mitis*, *onca*, *pardalis* t. h., *pardus*, *tigrina*).

†**501***o*. **Oncicola**, pp. 163, 166. Cf. †501*u'*.

**canis* Kaupp, 1909 [Echinorhynchus [1]]: *Oncicola*.—Texas [t].—Reported for: #413 *Felis* (*catus* [*dom.*]); #479 *Canis* (*aureus*, *familiaris* t. h., *latrans texensis*, species (coyote)). Continued in later bulletins.

oncicola v. Ihering, 1902*a* [Echinor.[1]]: *Oncicola*.—Bahurû, S. Paulo [t].—Reported for: #413 *Felis* (*chibigouazou*, *jaguarondi* s. *yaguarundi*, *onca* t. h., *pardus*).

[*species Ward, 1897, 174: *Echinorhynchus*.—Nebraska.—So. *canis*, fide Van Cleave, 1920, J. Parasitol., 91.—Reported for: #479 *Canis* (*familiaris*).]

†**501***p*. **Prosthenorchis**, pp. 163, 477.

elegans, p. 477: *Prosthenorchis*.—Brazil [t].—Reported for: #525 *Tayra* (*barbara*); #550 *Conepatus* (*suffocans*).

erinacei, p. 820: *Prosthenorchis*.—Europe [t].—Reported for: #511 *Mustela* (*putorius*, *vulgaris* so. *nivalis*). Continued in later bulletins.

ingens [s] Linst., 1879*b* [Echinor.[1]]: *Prosthenorchis*.—So. †508 *hirudinaceus*, fide Porta, 1908.—Reported for: #561 *Procyon* (*lotor* t. h.).

lühei Trav., 1917, Mem. Inst. Oswaldo Cruz, v. 9 (1), 20 (18), 45–46 (43–44), figs. 44, 56*a*–*b*, 85, 92*a*: *Prosthenorchis*.—Brazil [t].—Syns.: luehi [m], luhei [m].—Reported for: #563 *Nasua* (*narica* t. h.).

[*mustelae* [s] Rud., 1819*a*: Echinor.[1]—So. *napaeformis*.—Reported for: #511 *Mustela* (*nivalis* s. *vulgaris* t. h.).]

napaeformis °, p. 820 (*erinacei* 1793 renamed) [Echinor.[1]]: *Prosthenorchis*.—Reported for: #511 *Mustela* (*nivalis* s. *vulgaris*). Continued in later bulletins.

pachyacanthus Sons., 1889*c* [Echinor.[1]]: *Prosthenorchis*.—Egypt [t].—Reported for: #413 *Felis* (*lynx*); #479 *Canis* (*aureus*); #483 *Fennecus* (*cerdo* so. *zerda*).

spirula, pp. 477, 821 [Echinor.[1]]: *Prosthenorchis*; Gigantor.[1]—Brazil [t].—Reported for: #413 *Felis* (*lynx*); #479 *Canis* (*aureus*); #483 *Fennecus* (*cerdo* so. *zerda*); #561 *Procyon* (*lotor*); #563 *Nasua* (*narica*, *socialis*).

†**501***s*. **Corynosoma**, p. 163.

semerme [s] Forssell, 1904 [Echinor.[1]]: *Corynosoma*.—So. *strumosum*, fide Porta, 1908, 271.—Reported for: #511 *Mustela* (*putorius*). Continued in later bulletins; *Phoca* (*foetida* t. h.). Larva in *Gadus* (*callarias*).

species Skrjabin, 1924, Berl. Tierärzt. Wochenschr., v. 40 (20), p. (6): *Corynosoma*.—U. S. S. R.—Reported for: #413 *Felis* (*catus* [*dom.*]).

strumosum Rud., 1802*a* [Echinor.[1]]: *Corynosoma* [t].—Reported for: #413 *Felis* (*catus* [*dom.*], species (misc.)); #511 *Mustela* (*nivalis*, *putorius*). Continued in later bulletins; *Phoca* (*vitulina* t. h.). Larva in fishes.

[*ventricosus* [s] Rud., 1809*a*: Echinor.[1]—So. *strumosum*, fide Luehe, 1911*a*, 37.—Reported for: #413 *Felis* (*catus* [*dom.*]); #511 *Mustela* (*putorius* t. h., *vulgaris* so. *nivalis*).]

†**502. Echinorhynchus** [1], pp. 166, 477.

depressus Nitzsch in Gieb., 1866: Echinorhynchus [1].—Germany [t].—Reported for: #521 *Martes* (*foina* t. h.).

pardi Huxley [nv]; v. Ihering, 1902*a*: *Echinorhynchus*.—Reported for: #413 *Felis* (*pardus*, species (misc.)).

putorii (abdominalis [p]) Mol., 1858: *Echinorhynchus* [l].—Padua [t], Italy.—Reported for: #511 *Mustela* (*communis* [o] so. *putorius* t. h.).

species André, 1917, Rev. suisse Zool., v. 25 (10), 176: *Echinorhynchus*. — Rhone. — Reported for: #499 *Lutra* (*lutra*).

species Braun, 1893*f*: *Echinorhynchus* [l].—Königsberg, Germany.—Reported for: #413 *Felis* (*catus* [*dom.*], species (misc.)).

species Bremser, 1811*a*, 26: *Echinorhynchus* [l].—Reported for: #511 *Mustela* (*putorius*). Continued in later bulletins.

species Cobbold, 1866*b*, 13: *Echinorhynchus* [l].—Reported for: #568 *Potos* (*caudivolvula*).

species Parona, 1894*a*, 251: *Echinorhynchus* [l].—Rome, Italy.—Reported for: #511 *Putorius* (vulgaris).

species Wedl, 1861*a*, 236: *Echinorhynchus* [l].—Cairo, Egypt.—Reported for: #511 *Mustela* (*vulgaris* so. *nivalis*).

†**505. Moniliformis**, pp. 163, 165, 166, 167. Cf. †501*a*, †501*l'*, †501v_2.

[*belgicus* [s] Railliet, 1919, Rec. Méd. vét., Paris, 187, 189, canis [h] 1914 renamed: Echinorhynchus [l].—Ghent [t], Belgium. —So. ? *moniliformis*, fide Kostylew, 1926, Zool. Anz., 265.—Reported for: #479 *Canis* (*familiaris* t. h.).]

[canis [h] [o] Porta, 1914, Zool. Anz., v. 44 (11), July 7, 484–485, fig. 2 [not Kaupp, 1909]: Echinorhynchus [l].—Ghent [t], Belgium.—Renamed *belgicus*.—Reported for: #479 *Canis* (*familiaris* t. h.).]

[*grassii* [s] Rail., 1893*a*: Echinorhynchus [l].—Sicily [t]. — So. *moniliformis*.—Reported for: #479 *Canis* (*familiaris* t. h.).]

†*moniliformis*, pp. 167, 821: *Moniliformis*.—Reported for: #413 *Felis* (*catus* [*dom.*]); #479 *Canis* (*familiaris*); #511 *Mustela* (*putorius*). Continued in later bulletins. Vectors, add: †1271 *Blaps* (*gigas*); †1079 *Blatta* (*orientalis*).

†**508. Macracanthorhynchus**, pp. 163, 165, 166, 167, 477. Cf. †501*l*, †501*r'*, †501j_2.

catulinus Kostylew, 1927, Centralbl. f. Bakt. Orig., v. 103 (4–5), Aug. 5, 296–300, figs. 1–5: *Macracanthorhynchus*.—Turkestan [t].—Reported for: #479 *Canis* (*familiaris* t. h.).

[†*gigas* [s], p. 167: Echinor. [l]—So. *hirudinaceus*.—Reported for: #469 *Hyaena* (*striata*). Continued in later bulletins; *Sus* (*scrofa dom.* t. h.).]

†*hirudinaceus*, pp. 167, 477: *Macracanthorhynchus*.—Reported for: #413 *Felis* (*lynx*); #469 *Hyaena* (*hyaena*, *striata*); #479 *Canis* (*aureus*, *familiaris*); #483 *Fennecus* (*cerdo* so. *zerda*); #561 *Procyon* (*lotor*); #563 *Nasua* (*narica*, *socialis*). Continued in later bulletins. Vectors, add: *Melolontha* (*vulgaris*, Europe); *Phyllophaga* (*rugosa* exp., *vehemens* exp., N. America); *Xyloryctes* (*satyrus* exp., N. America).

†hirundinaceus [d], pp. 167, 477: *Macracanthorhynchus;* Mircacanthorhynchus [m].—Reported for: #479 *Canis* (*familiaris*).

†**540.** *HIRUDINEA*, pp. 175, 478.

†**544.** HIRUDINIDAE, p. 176.

†**547. Limnatis**, p. 177.

†*nilotica*, p. 178: *Limnatis*.—Reported for: #479 *Canis* (*familiaris*).

†**550.** HAEMADIPSIDAE, p. 178.

†**552. Haemadipsa**, p. 179.

†*japonica*, p. 179: *Haemadipsa; H. zeylanica*.—Japan.—Reported for: #479 *Canis* (*familiaris*).

†*taiwana*, p. 179: *Haemadipsa japonica*.—Formosa.—Reported for: #479 *Canis* (*familiaris*).

†*zeylanica*, p. 179: *Haemadipsa*.—Reported for: #479 *Canis* (*familiaris*).

†**729–†996.** *ARACHNIDA*[15], pp. 229, 478, 625, 822.

†**791.** *LINGUATULIDA*, pp. 239, 478, 625, 822.

[15] The cross reference to the *ARACHNIDA* has been prepared by Eugenia Cuvillier.

†792. LINGUATULIDAE, pp. 239, 479, 822.
species [j] Bequaert, 1930, African Republic Liberia, etc., Harvard, v. 2, 798: genus [j].—Congo.—Reported for #413 *Felis* (*pardus*); #433 *Genetta* (*stuhlmanni*).

†796. **Armillifer**, pp. 240, 479, 822.
[*aonycis* [s] Macalister, 1875, Proc. R. Irish Acad. 2, v. 2 (1, for Jan.) Science, 66: Pentast.[1]; Porocephalus [l].—River Indus [t].—So. †*moniliformis*, fide Sambon, 1922, 425.—Reported for: #495 *Micraonyx* (*cinerea*, *leptonyx* [*cinerea*], *mayoii* t. h.); #499 *Lutra* (*nair*).]
†*armillatus*, pp. 240, 479, 822: *Armillifer*.—Africa [t].—Reported for: #413 *Felis* (*catus* [*dom.*], *leo*, *pardus*, *serval*, species); #415 *Acinonyx* (*guttatus* so. *jubatus*); #433 *Genetta* (*genetta*, *pardina*, *senegalensis*, species); #455 *Mungos* (*fasciatus* [o] so. *mungo*); #456 *Crossarchus* (*obscurus*); #458 *Atilax* (*paludinosus*); #462 *Ichneumia* (*albicauda*); #464 *Herpestes* (*cafra*); #466 *Proteles* (*cristatus*); #479 *Canis* (*familiaris*). Continued in later bulletins.
heymonsi Sambon, 1922, J. Trop. Med. Hyg., v. 25 (24), Dec. 15, 417: *Armillifer moniliformis*.—Malay [t]; Los Baños.—Reported for: #427 *Paradoxurus* (*philippinensis*).
†*moniliformis*, pp. 241, 479: *Armillifer*.—Asia [t].—Reported for: #413 *Felis* (*pardus*, *planiceps*, *tigris*, *viverrina*); #438 *Viverricula* (*indica*, *malaccensis*); #466 *Proteles* (*cristatus* [j]); #479 *Canis* (*familiaris*); #499 *Lutra* (*nair*). Continued in later bulletins.
[*protelis* [s] Hoyle, 1883*a*, 219–222, figs. 1–3: Pentast.[l]—London zoo.—So. †*armillatus*, fide Sambon, 1922.—Reported for: #466 *Proteles* (*cristatus* t. h.).
[*wedlii* [s] Cobbold, 1866*b*, 23: Pentastoma [l].—Museum, London.—So. †*moniliformis*, fide Sambon, 1922.—Reported for: #413 *Felis* (*planiceps* t. h.).]

†798. **Porocephalus**, pp. 241, 479, 625, 822.
† *crotali*, pp. 241, 625: *Porocephalus*.—Syn. *proboscidea* [o].—Reported for: #413 *Felis* (*leo*, *pardus*); #561 *Procyon* (*cancrivorus*[j]). Continued in later bulletins; *Crotalus* (*durissus* t. h.).
[*proboscideum* [o] Rudolphi, 1814*a*, 106–107, *crotali* renamed: Pentastoma[l]; Pentastomum [l].—Reported for: #479 *Canis* (*familiaris* exp.). Continued in later bulletins; *Crotalus* (*durissus* t. h.).]
[**subcylindricum* [s], pp. 479, 625: Pentastomum [l].—Brazil [t], S. America.—So. †*crotali*, fide Sambon, 1922, p. 197.—Reported for: #552 *Mephitis* (*mephitis*); #561 *Procyon* (*cancrivorus*). Continued in later bulletins.]

†795*a*. **Kiricephalus**, p. 240.
pattoni Stephens, 1908*a*, 553–554, fig. 3 [Porocephalus [l]]: *Kiricephalus*.—China, India [t j].—Reported for: #413 *Felis* (*catus*). Continued in later bulletins; *Zamenis* (*mucosus* t. h.).

†800. **Linguatula**, pp. 241, 479, 822. Syn. Linguatella [m] 1823.
denticulata [s] Rudolphi, 1805*a*, 42: *Linguatula;* Pentast.[l]; Polystoma [l].—So. †*serrata*, p. 242.—Reported for: #479 *Canis* (*familiaris*); #485 *Vulpes* (species). Continued in later bulletins.
lanceolata [h s] Rud., 1805*a*, 41–43 [Taenia [l]]: *Linguatula;* Prionoderma.—So. †*serrata*.—Reported for: #479 *Canis* (*familiaris*). Continued in later bulletins.
nuttalli Sambon, 1922, J. Trop. Med. Hyg., v. 25, Dec. 15, 415, 421, 425: *Linguatula*.—Kadjiado River [t], B. E. Africa.—Reported for: #413 *Felis* (*leo* t. h.). Continued in later bulletins.
recurvata Dies., 1850*a*, 610 [Pentastoma [l]]: *Linguatula*.—Brazil [t].—Reported for: #413 *Felis* (*onca* t. h.). Continued in later bulletins.

†*rhinaria* [e], p. 241 [Taenia [l]]: *Linguatula;* Cochlus [l].—So. †*serrata.*—Reported for: #413 *Felis* (*catus* [*dom.*], *leo*); #479 *Canis* (*familiaris, lupus*); #485 *Vulpes* (species). Continued in later bulletins.

†**serrata*, pp. 242, 479, 822: *Linguatula; Pentastoma* [o]; Polystoma.—Reported for: #413 *Felis* (*catus* [*dom.*], *onca, silvestris*); #479 *Canis* (*familiaris, lupus*); #485 *Vulpes* (species, *vulpes*). Continued in later bulletins; "Hase" t. h.

†*taenioides* [o], p. 242: *Linguatula.*—So. †*serrata.* Syn. taenoides [m] 1840.—Reported for: #413 *Felis* (*onca*, species); #479 *Canis* (*familiaris, lupus*); #485 *Vulpes* (*vulpes*). Continued in later bulletins.

†**852**. *ACARINA*, pp. 249, 482, 626, 822.

†**854**. DEMODICIDAE, p. 249.

†**855**. **Demodex**, pp. 249, 482, 626, 822. In hair follicles.

caninus [s] Mégnin, 1877*p*, 111–112, figs. 1–8: *Demodex folliculorum.*—[Europe [t].—] So. *canis.*—Reported for: #479 *Canis* (*familiaris* t. h.).

canis Leydig, 1859*a*, 345, pl. 13, figs. 4–5: *Demodex folliculorum.*—Reported for: #479 *Canis* (*familiaris*).

cati Railliet, 1893*a*, 637: *Demodex; D. folliculorum.*—Europe [t].—Reported for: #413 *Felis* (*catus* [*dom.*] t. h.).

erinacei p. 822: *Demodex.*—Reported for: #511 *Mustela* (species).

erminea Hirst, 1919, Stud. Acari Brit. Mus., 32, pl. 8, fig. 34: *Demodex.*—Exeter [t], England.—Reported for: #511 *Mustela* (*erminea* t. h.).

†**folliculorum*, pp. 250, 482: *Demodex.*—Reported for: #479 *Canis* (*familiaris*); #485 *Vulpes* (species). Continued in later bulletins.

melesinus Hirst, 1921, Ann. Mag. Nat. Hist., ser. 9, v. 7 (37), Jan., 38–39: *Demodex.*—Syn. *melecinus.*—Leicestershire [t], England.—Reported for: #528 *Meles* (*meles meles* syn. taxus t. h.).

†**858**. IXODOIDEA, pp. 250, 482, 626.

†**859**. ARGASIDAE, p 250.

†**861**. **Argas**, pp. 250, 482, 626.—Ext. †*vespertilionis*, pp. 251, 627: *Argas;* Argus [m].—Reported for: #413 *Felis* (*catus*).

†**862**. **Otobius**, p. 251.—Ear.

†**megnini*, p. 251 [Argas [l]]: *Otobius* [l]; *Ornithodoros; Ornithodorus* [e].—Guanajuata [t].—Reported for: #413 *Felis* (*catus* [*dom.*], species); #479 *Canis* (*familiaris*).

†**863**. **Ornithodoros**, pp. 251, 482, 627.

†*marocanus*, p. 251: *Ornithodoros; Ornithodorus* [e].—N. Africa.—Reported for: #485 *Vulpes* (species). Continued in later bulletins.

†*moubata*, p. 251: *Ornithodoros.*—Tampan tick.—S. Africa, Angola.[t]—Reported for: #413 *Felis* (*catus* [*dom.*], species); #479 *Canis* (*familiaris*). Continued in later bulletins.

†*savignyi*, p. 251: *Ornithodoros.*—Reported for: #413 *Felis* (*catus* [*dom.*]); #479 *Canis* (*familiaris*). Continued in later bulletins.

†**866**. **Ixodes**, pp. 253, 482, 627, 822.

**affinis* [s] Neum., 1899*a*, 120–121: *Ixodes.*—Costa Rica [t].—So. *scapularis*, fide Nutt. & Warb., 1911*a*, 156; syn. *communis* 1899.—Reported for: #413 *Felis* (*pardalis* t. h.).

**angustus* [s] Neum., 1899*a*, 111, 136: *Ixodes.*—Shoshone Falls[t], Idaho.—So. *loricatus*, fide Nutt. & Warb., 1911*a*, 266.—Reported for: #413 *Felis* (*catus*); #479 *Canis* (*familiaris*). Continued in later bulletins; *Neotoma* (*occidentalis* t. h.).

auricularis Robineau-Desvoidy, 1836, C. r. Acad. Sci., Paris, v. 3, 688 [nomen nudum]: *Ixodes.*—Reported for: #528 *Meles* (*meles* s. taxus t. h.).

australiensis Neum., 1904*a*, 456, 457, fig. 1: *Ixodes.*—Australia [t].—Reported for: #479 *Canis* (*familiaris*, species).

autumnalis [s] Leach, 1815*a*, 398: *Ixodes.*—England [t].—So. *hexagonus*, fide Neum., 1911*a*, 177.—Reported for: #479 *Canis* (*familiaris* t. h.).

†*bicornis*, p. 253: *Ixodes*.—"Conchuda".—Reported for: #413 *Felis* (*concolor*, *leo*, *onca* t. h.); #479 *Canis* (*aureus*); #563 *Nasua* (*narica*). Continued in later bulletins.

**bifurcatus* [s] Neum., 1899*a*, 111, 122: *Ixodes*.—Texas [t].—So. *brunneus*, fide Neum., 1901*b*, 347.—Reported for: #413 *Felis* (species [wild cat]).

boliviensis Neum., 1904*a*, 457–458: *Ixodes*.—Charuplaya [t], Bolivia [t].—Reported for: #477 *Icticyon* (*venaticus*).

**brunneus* Koch, 1844*a*, 232: *Ixodes*.—North America [t].—Reported for: #413 *Felis* (species). Continued in later bulletins.

**californicus* Banks, 1904, Proc. Calif. Acad. Sci., v. 3 (13), Dec. 1, 369, pl. 41, fig. 57: *Ixodes*.—Claremont [t], Calif., N. America.—Reported for: #479 *Canis* (species); #488 *Urocyon* [i] (species). Continued in later bulletins; *Toxostoma* (*crissale* t. h.).

canisuga Johnston, 1850, Hist. Berwick. Nat. Club, v. 2 (7), 371: *Ixodes*.—Berwickshire [t], England.—Reported for: #479 *Canis* (*familiaris* t. h.); #485 *Vulpes* (species); #528 *Meles* (taxus so. *meles*). Continued in later bulletins.

communis [s] Marx in Neum., 1899*a*, 120–121: *Ixodes*.—So. *affinis* Neum., 1899*a*, 121; 1901*b*, 347.—Costa Rica [t].—Reported for: #413 *Felis* (*pardalis* t. h.); #479 *Canis* (*familiaris*). Continued in later bulletins.

†**cookei* [s], p. 253: *Ixodes; I. hexagonus*.—So. *Haemaphysalis concinna* Koch, fide Neum., 1901*b*, 347.—Reported for: #413 *Felis* (*catus* [*dom.*]); #479 *Canis* (*familiaris*); #485 *Vulpes* (*vulpes vulpes*); #511 *Mustela* (*lutreola*, *putorius*, *vulgaris*, *xanthogenys*); #552 *Mephitis* (*mephitica* so. *mephitis*, *occidentalis*); #561 *Procyon* (*lotor*). Continued in later bulletins.

crenulatus [s] Koch, 1844*a*, Heft 39, Nov., figs. 5–6, 8–9; 1844, 233; 1847, 22: *Ixodes*.—Germany [t].—So. *hexagonus*, fide Neum., 1901*b*, 347.—Reported for: #499 *Lutra* (*lutra* s. *vulgaris*); #528 *Meles* (*meles meles* s. taxus t. h.).

†**cruciarius* [s], p. 253: *Ixodes*.—N. Y. [t]—So. †*cookei*, fide Banks, 1908, 53.—Reported for: #511 *Mustela* (*vison*).

**diversifossus* Neum., 1899*a*, 110, 136–137: *Ixodes*.—New Mexico [t].—Reported for: #561 *Procyon* (*lotor* t. h.). Continued in later bulletins.

djaronensis Neum., 1907, Wissensch. Erg. Schw. Zool. Exp., no. 20 (2), 18–19: *Ixodes ugandanus*.—Kibonoto [t], Kilimandjaro, G. E. Africa.—Reported for: #433 *Genetta* (*suahelica* t. h.). Continued in later bulletins.

erinacei [s] [p. 822] Audouin, 1832: *Ixodes*.—Reported for: #479 *Canis* (*familiaris*); #485 *Vulpes* (species, *vulpes vulpes*). Continued in later bulletins.

erinaceus [o], p. 822: *Ixodes*.—So. *hexagonus*, fide Neum., 1901*b*, 347.—Reported for: #479 *Canis* (*familiaris*); #485 *Vulpes* (species).

fuscipes Koch, 1844*a*, 233: *Ixodes*.—S. America [t].—Reported for: #413 *Felis* (*pardalis*). Continued in later bulletins.

granulatus, p. 822: *Ixodes*.—Burma [t].—Reported for: #413 *Felis* (*tigris*). Continued in later bulletins.

†**hexagonus*, pp. 253, 822: *Ixodes; I. hexagonus*.—Pars so. *cookei*.—Reported for: #413 *Felis* (*catus* [*dom.*], species); #479 *Canis* (*familiaris*, *lupus*, species); #485 *Vulpes* (species, *vulpes*); #499 *Lutra* (*lutra*); #511 *Mustela* (*erminea*, *furo*, *lutreola*, *nivalis*, *putorius*, species (weasel), *vison*, *vulgaris*); #521 *Martes* (*foina*, *martes*); #528 *Meles* (*meles* s. taxus); #552 *Mephitis* (*occidentalis*). Continued in later bulletins.

†*holocyclus*, pp. 253, 482: *Ixodes*.—Reported for: #413 *Felis* (*catus* [*dom.*], species); #479 *Canis* (*familiaris*). Continued in later bulletins.

howardi, pp. 628, 822: *I. pilosus; Ixodes.*—South Africa [t].—Reported for: #413 *Felis* (*catus* [*dom.*], *pardus*, species); #433 *Genetta* (*genetta*); #479 *Canis* (*familiaris* t. h.).

**inchoatus* Neum., 1901*b*, 283–284, 353, 359, 363, 364: *Ixodes hexagonus.*—Europe; U. S. A.—Reported for: #479 *Canis* (*familiaris*, species); #485 *Vulpes* (species, *vulpes*); #521 *Martes* (*martes*); #528 *Meles* (*meles* s. taxus, species); #544 *Taxidea* (species).

**kingi* Bishopp, 1911, Proc. Biol. Soc. Wash., v. 24, June 23, 201–204, figs. 7–12: *Ixodes.*—Wyoming [t].—Reported for: #479 *Canis* (*familiaris*, *species (wolf)); #511 *Mustela* (species (mink)); #528 *Meles* (species); #544 *Taxidea* (*taxus* t. h.); #552 *Mephitis* (species). Continued in later bulletins.

**longispinosus* Neum., 1901*b*, 283: *Ixodes; I. hexagonus.*—Reported for: #413 *Felis* (*catus* [*dom.*]); #479 *Canis* (*lupus*); #485 *Vulpes* (species, *vulpes*); #499 *Lutra* (species); #511 *Mustela* (*putorius*, species (weasel), *vison*, vulgaris [j]).

luteus Koch, 1844*a*, 232; 1847, 21, 102, pl. 20, fig. 75: *Ixodes.*—S. Africa [t].—Reported for: #479 *Canis* (species).

**marxi* Banks, 1908, Tech. Ser., U. S. Dept. Agric., Div. Ent., Bul. 15, June 6, 32, pl. 9, fig. 8: *Ixodes.*—U. S. A.[t]—Reported for: #485 *Vulpes* (species); #561 *Procyon* (*lotor*). Continued in later bulletins; *Sciurus* (species t. h.).

megathyreus [s], p. 822: *Ixodes.*—So. *ricinus*, fide Neum., 1901*b*, 348.—Reported for: #479 *Canis* (*familiaris*).

mellinus Robineau, 1836, C. r. Acad. Sci., Paris, v. 3, 688 [nomen nudum]: *Ixodes.*—Reported for: #528 *Meles* (*meles* s. taxus t. h.).

nairobiensis Nuttall, 1916, Parasitol., v. 8 (3), Jan., 299–300, fig. 4: *Ixodes.*—Nairobi [t], Brit. E. Africa [t].—Reported for: #479 *Canis* (*familiaris* t. h.).

oldi Nuttall, 1913, Parasitol., v. 6 (2), July, 135–136, fig. 3: *Ixodes.*—Komatendu [t], Sierra Leone [t], W. Afr.—Reported for: #413 *Felis* (species (bush cat t. h.), *pardus*).

ovatus Neum., 1899*a*, 116–118, figs. 2–3: *Ixodes ricinus; Ixodes.*—Japan [t].—Reported for: #479 *Canis* (*familiaris*). Continued in later bulletins; *Equus* (*caballus* t. h.).

†*pilosus*, pp. 253, 822: *Ixodes.*—Reported for: #413 *Felis* (*capensis hindei, catus* [*dom.*], *panthera, pardus, pardus melanotica*, species); #437 *Viverra* (species); #479 *Canis* (*familiaris*).

plumbeus [s] Dugès, 1834*b*, 20; 1834*d*, 33–36, fig. 7: *Ixodes.*—France.—So. *ricinus*, fide Neum., 1901*b*, 348.—Reported for: #479 *Canis* (*familiaris* t. h.).

**pratti* Banks, 1908, 27, 28, pl. 4, figs. 1, 3–5: *Ixodes.*—Reported for: #413 *Felis* (species); #479 *Canis* (*familiaris*).

†*rasus*, pp. 253, 823: *Ixodes.*—Reported for: #413 *Felis* (*capensis hindei, pardus*, species); #464 *Herpestes* (*ichneumon*); #479 *Canis* (*familiaris*). Continued in later bulletins.

†**reduvius* [s], pp. 253, 628, 823: *Ixodes.*—So. *ricinus*, pars [d] so. *hexagonus.*—Reported for: #413 *Felis* (*catus* [*dom.*], *pardalis*, species [wild], species *panther [=*couguar*?]); #433 *Genetta* (species); #479 *Canis* (*familiaris*); #485 *Vulpes* (species, *vulpes*); #511 *Mustela* (*furo*); #528 *Meles* (species). Continued in later bulletins.

†*ricinus*, pp. 253, 628, 823: *Ixodes.*—Reported for: #413 *Felis* (*catus* [*dom.*], *concolor, onca, pardalis, silvestris*, species); #433 *Genetta* (*genetta*); #479 *Canis* (*familiaris*); #485 *Vulpes* (species, *vulpes*); #486 *Alopex* (*lagopus*); #488 *Urocyon* (*cinereoargentatus*); #511 *Mustela* (*erminea, furo, putorius, vison*); #521 *Martes* (*foina, martes*); #528 *Meles* (*meles meles* s. taxus).

rubidus Neum., 1901*b*, 282–283, 325, 348, 359, 364: *Ixodes.*—Guana-

juato [t], Mexico [t].—Reported for: #566 *Bassariscus* (*astutus* t. h.).

**rugosus* Bishopp, 1911, Proc. Biol. Soc. Wash., v. 24, June 23, pp. 197–199, fig. 1: *Ixodes cookei.*—Tiller, Oregon [t].—Reported for: #479 *Canis* (*familiaris* t. h.).

†**scapularis*, p. 254: *Ixodes ricinus; Ixodes.*—Reported for: #413 *Felis* (*pardalis*); #479 *Canis* (*familiaris*). Continued in later bulletins.

scapulatus Mégnin, 1880*a*, 132, 377, or in Robin., 1880, J. Anat. et Physiol.: *Ixodes.*—Reported for: #479 *Canis* (*familiaris*). Continued in later bulletins.

*species Henshaw & Birdseye, 1911, Circular 82, Bureau Biol. Survey, Aug. 3, Washington, 22: *Ixodes.*—Bitter Root Valley, Montana.—Reported for: #511 *Mustela* (*arizonensis*). Continued in later bulletins.

species Klugkist, 1909, 543: *Ixodes.*—Reported for: #511 *Mustela* (species (weasel)).

species [j] Steel, 1919, Proc. Linn. Soc. N. S. Wales, v. 44, p. 93: *Ixodes.*—Near *holocyclus.*—Tweed River, N. S. Wales.—Reported for: #479 *Canis* (*dingo*).

spinicoxalis Neum., 1899*a*, 111, 123–124, fig. 6; 1901*b*, 325, 361, 364: *Ixodes.*—Sumatra [t].—Reported for: #521 *Martes* (*flavigula* t. h.).

**texanus* Banks, 1909, Proc. Ent. Soc. Wash., v. 10 (3–4) (for Sept.–Dec., 1908), pp. 172–173, figs. 16–17: *Ixodes.*—Live Oak County, Texas [t].—Near *Ixodes hexagonus.*—Reported for: #511 *Mustela* (*arizonensis*); #521 *Martes* (*caurina origenes, pennanti*); #561 *Procyon* (*lotor* t. h.). Continued in later bulletins.

†869. Haemaphysalis, pp. 254, 482, 628, 823. Syn. [j] Alloceraea [l].

anomala Warburton, 1913, Parasitol., v. 6 (2), July, 128, fig. 7: *Haemaphysalis cornigera.*—Koderma St., India [t]; Chota; Nagpur.—Reported for: #479 *Canis* (*familiaris*, species (wolf) t. h.).

australis Neum., 1905*d*, 238: *Haemaphysalis leachi.*—N. S. Wales [t].—So. *leachi*, fide Nutt. & Warb., 1915*a*, 460–461.—Reported for: #413 *Felis* (*tigris*). Continued in later bulletins; *Equus* (*caballus* t. h.).

birmaniae Supino, 1897*a*, 236, 251, pl. 13, figs. 17–18: *Haemaphysalis.*—Burma [t].—Reported for: #427 *Paradoxurus* (*larvatus*); #479 *Canis* (*familiaris*). Continued in later bulletins.

bispinosa Neum., 1897*a*, 341–342, figs. 7–8: *Haemaphysalis.*—India, China, Japan.—Possible confusion in determinations, see Warburton, 1908, 517.—Reported for: #413 *Felis* (*catus* [*dom.*], *leo, ornata, tigris*); #427 *Paradoxurus* (*larvatus*); #438 *Viverricula* (*malaccensis*); #476 *Cuon* (*dukhunensis*); #479 *Canis* (*aureus, familiaris, pallipes*). Continued in later bulletins. Also for #14 black monkey (India); #41 *Silenus* (*sinicus*).

campanulata Warburton, 1908*a*, 513–514, figs. 5–6: *Haemaphysalis.*—Mongolia [t].—Reported for: #479 *Canis* (*familiaris* t. h., species (wolf)). Continued in later bulletins.

canestrinii [s] Supino, 1897*a*, 237, 252, pl. 13, fig. 21 [*Opisthodon*]: *Haemaphysalis.*—Burma [t]; Yado [t].—So. †*leachi* [s], fide Neum., 1902, 128.—Reported for: #413 *Felis* (*bengalensis*). Continued in later bulletins.

[*chelifer* [s] Mégn., 1880*a*, 132: Ixodes [l].—In forest of Fontainebleau [t].—So. *concinna*, fide Nutt. & Warb., 1915*a*, 452.—Reported for: #479 *Canis* (*familiaris*).]

choprai Sharif, 1928, Rec. Ind. Mus., Calcutta, v. 30 (3), Oct., pp. 243, 269–270, fig. 19, *a–e: Haemaphysalis.*—Koderma Station [t], India.—Reported for: #479 *Canis* (species (wolf) t. h.).

concinna, p. 823: *Haemaphysalis.*—Poland; France.—Reported for: #413 *Felis* (*catus* [*dom.*]); #479 *Canis* (*familiaris*). Continued in later bulletins.

cornigera Neum., 1897*a*, 350–352, figs. 16–17: *Haemaphysalis*.—Singapore; Borneo; Sumatra; Asiatic region [t].—Reported for: #479 *Canis* (*familiaris*).

cuspidata Warburton, 1910, Parasitol., v. 3 (4), Dec., 401–402, figs. 6–7: *Haemaphysalis*.—Colombo, Ceylon [t].—Reported for: #427 *Paradoxurus* (*niger*, species); #455 *Mungos* (*mungo* [i]); #464 *Herpestes* (*flavidens*). Continued in later bulletins.

dentipalpis Warburton & Nuttall, 1909, Parasitol., v. 2 (1–2), May–June, 67–68, fig. 14: *Haemaphysalis*.—Federated Malay States[t].—Reported for: #413 *Felis* (*chaus*); #427 *Paradoxurus* (species t. h.).

flava Neum., 1897*a*, 333–336, 341, 358, fig. 3: *Haemaphysalis; H. flava*.—Japan [t]; India.—Reported for: #479 *Canis* (*familiaris*, species (jackal)); #485 *Vulpes* (species). Continued in later bulletins.

formosensis Neum., 1913, Suppl. Ent., Berlin, v. 2, June 1, 135: *Haemaphysalis*.—Formosa [t].—Reported for: #479 *Canis* (*familiaris* t. h.); #576 *Ursus* (*torquatus* [i]). Continued in later bulletins.

gestroi [s] Supino, 1897*a*, 238, pl. 13, fig. 23 [*Opisthodon* [s]]: *Haemaphysalis*.—Yado, Burma [t].—So. *leachi*, fide Nutt. & Warb., 1915, 460.—Reported for: #413 *Felis* (*nebulosa* [s]); #433 *Genetta* (*genetta*); #437 *Viverra* (*zibetha*).

hirudo [s] L. Koch, 1878*a*, v. 27, 786: *Haemaphysalis*.—Japan [t].—So. *H. concinna*, fide Nutt. & Warb., 1915*a*, 452.—Reported for: #479 *Canis* (*familiaris*).

hystricis Supino, 1897*a*, 237, 252, pl. 13, figs. 19–20: *Haemaphysalis*.—Yado [t], Burma; Assam.—Reported for: #413 *Felis* (*tigris*); #479 *Canis* (*familiaris*); #573 *Helarctos* (*malayanus*); #576 *Ursus* (*torquatus*). Continued in later bulletins.

indica Warb., 1910, Parasitol., v. 3 (4), Dec., 402: *Haemaphysalis leachi*.—Calcutta [t], India.—Reported for: #464 *Herpestes* (*mungo*); #479 *Canis* (*aureus* t. h., *familiaris*). Continued in later bulletins.

inermis Birula, 1895*a*, 360–361, pl. 2, figs. 7–9: *Haemaphysalis*.—Caucasus [t].—Reported for: #485 *Vulpes* (species). Continued in later bulletins.

intermedia Warb. & Nutt., 1909, Parasitol., v. 2 (1), May–June, 69–70, fig. 16: *Haemaphysalis bispinosa*.—Ceylon [t], India.—Reported for: #413 *Felis* (*caracal, catus, chaus affinis, ornata*); #469 *Hyaena* (*hyaena*); #476 *Cuon* (*dukhunensis*); #479 *Canis* (*familiaris, pallipes*, species (wolf)); #485 *Vulpes* (species); #576 *Ursus* (species). Continued in later bulletins.

kinneari Warb., 1913, Parasitol., v. 6 (2), July, 127–128, fig. 6: *Haemaphysalis*.—Kadra, India [t].—Reported for: #413 *Felis* (*tigris* t. h.).

kochi Neum., 1905*d*, 239: *Haemaphysalis concinna*.—Japan.—So. *concinna*, fide Nutt. & Warb., 1915*a*, 452.—Reported for: #479 *Canis* (*familiaris*).

koningsbergeri [s] Warb. & Nutt., 1909, Parasitol., v. 2 (1–2), May–June, 65–66, figs. 11–12: *Haemaphysalis*.—Java [t].—So. *leachi*, fide Nutt. & Warb., 1915*a*, 460–461.—Reported for: #413 *Felis* (*pardus* t. h.).

†*leachi* [e], pp. 254, 823 [Ixodes [l]]: *Haemaphysalis; H. leachi; Rhipidostoma*.—Egypt [t].—Reported for: #413 *Felis* (*bengalensis, capensis hindei, caracal, catus* [*dom.*], *chaus, chaus affinis, leo, leo sabakiensis, leopardalis, macrocelis, nebulosa* [s], *nigripes, pardus, pardus leopardus, pardus melanotica, pardus suahelica, serval*, species, *tigris*); #415 *Acinonyx* (*jubatus*); #427 *Paradoxurus* (species); #433 *Genetta* (*felina, genetta, senegalensis*, species, *suahelica*); #435 *Civettictis* (*civetta, civetta orientalis*); #437 *Viverra* (species, *zibetha*); #448 *Suricata* (*suricatta, tetradac-*

tyla); #450 *Cynictis* (*penicillata*); #451 *Galerella* (*brunneo-ochracea*); #455 *Mungos* (*mungo* [i]); #456 *Crossarchus* (*obscurus*); #458 *Atilax* (*paludinosus robustus* [i]); #460*A* *Helogale* (*varia*); #462 *Ichneumia* (*albicauda*); #464 *Herpestes* (*cafra*, species); #469 *Hyaena* (*crocuta*); #476 *Cuon* (*dukhunensis*); #479 *Canis* (*adustus, anthus* [i], *aureus, familiaris, indicus, mesomelas,* species [jackal]); #485 *Vulpes* (species); #511 *Mustela* (*furo*); #540 *Ictonyx* (*capensis* so. *zorilla, striatus* so. *zorilla*); #576 *Ursus* (*malayanus*, species). Continued in later bulletins.

**leporis* [o] Osborn, 1896*a*, 261, fig. 154 [*Rhipistoma*]: *Haemaphysalis*; Ixodes [l].—U. S. A. [t]—So. (1915) *leporis-palustris*.—Reported for: #427 *Paradoxurus* (species). Continued in later bulletins; *Lepus* (species t. h.).

†**leporis-palustris*, p. 254: *Haemaphysalis*.—Reported for: #413 *Felis* (*catus* [*dom.*]). Continued in later bulletins; *Lepus* (*palustris* t. h.).

montgomeryi Nuttall, 1912, Parasitol., v. 5 (1), Feb., 57–59, figs. 7–8: *Haemaphysalis*.—Muktesar [t], India.—Reported for: #479 *Canis* (*familiaris*). Continued in later bulletins.

neumanni Dönitz, 1905, Sitzungsb. naturf. Freunde Berlin, 127–129: *Haemaphysalis*.—Japan [t].—Reported for: #479 *Canis* (*familiaris*). Continued in later bulletins.

numidiana, p. 823: *Haemaphysalis*.—Reported for: #511 *Mustela* (*eversmanni*).

otophila Schulze, 1918, Sitzungsber. naturf. Freunde Berlin, 64–66, figs. 2–5: *Haemaphysalis*.—Macedonia [t].—Reported for: #479 *Canis* (*familiaris*). Continued in later bulletins.

papuana Thorell, 1882, Ann. Mus. Genova, v. 18, Feb. 4, 62–66, pl. 6, figs. 40–45: *Haemaphysalis*.—New Guinea [t].—Reported for: #413 *Felis* (*pardus, tigris*); #479 *Canis* (species). Continued in later bulletins.

parmata, p. 482: *Haemaphysalis*.—Cameroon [t].—Reported for: #413 *Felis* (*catus* [*dom.*]); #479 *Canis* (*familiaris*). Continued in later bulletins.

parva Neum., 1908, Notes Leyd. Mus., v. 30, pp. 89–91, fig. 10: *Haemaphysalis*.—Ceylon [t]; India.—Reported for: #413 *Felis* (*pardus*, species, *viverrina*); #438 *Viverricula* (*malaccensis* [i]); #479 *Canis* (*aureus* t. h.). Continued in later bulletins.

†*punctata*, pp. 254, 823: *Haemaphysalis; H. cinnabarina; H. punctata*.—Reported for: #413 *Felis* (*catus* [*dom.*]); #479 *Canis* (*familiaris*); #485 *Vulpes* (species).

spinigera Neum., 1897*a*, 352–354, fig. 18: *Haemaphysalis*.—Mahratta [t], India.—Reported for: #413 *Felis* (*pardus, tigris*); #437 *Viverra* (species); #576 *Ursus* (species). Continued in later bulletins.

vidua Warb. & Nutt., 1909, Parasitol., v. 2 (1–2), May–June, 66–67, fig. 13: *Haemaphysalis*.—Malay States [t].—Reported for: #427 *Paradoxurus* (species t. h.).

wellingtoni Nutt. & Warb., 1908, Proc. Cambridge Philos. Soc., v. 14, pt. 4, 397–398, figs. 9–11: *Haemaphysalis*.—Sarawak, Borneo [t]; Siam.—Reported for: #479 *Canis* (*familiaris*). Continued in later bulletins; fowl, t. h.

†**873. Dermacentor**, pp. 254, 629, 823.

†*americanus [d], p. 254: *Dermacentor*.—Reported for: #479 *Canis* (*familiaris*). Continued in later bulletins.

†**andersoni*, pp. 254, 629: *Dermacentor*.—Reported for: #413 *Felis* (*uinta*); #479 *Canis* (*familiaris, lestes lestes*); #511 *Mustela* (*nigripes*); #544 *Taxidea* (*taxus*); #552 *Mephitis* (*hudsonica*). Continued in later bulletins.

atrosignatus Neum., 1906*i*, 210–212, fig. 12: *Dermacentor*.—Type host not given.—Australia [t].—Reported for: #479 *Canis* (*familiaris*).

†*auratus* Supino, 1897*a*, 235, pl. 13, fig. 14: *Dermacentor*.—Carin Cheba [t], Burma.—Reported for: #413.

Felis (*pardus*); #574 *Melursus* (*ursinus*); #576 *Ursus* (species, *torquatus* so. *tibetanus*). Continued in later bulletins. Also for #12 *Homo*.

**bifurcatus* Neum., 1899*a*, 122 [Ixodes [1]]: *Dermacentor*.—Texas [t].—Reported for: #413 *Felis* (*catus* [*dom.*], *species wild cat t. h. [=? *rufa texensis*]).

compactus Neum., 1901*b*, 268–269: *Dermacentor*.—Sumatra [t]; Borneo; India.—So. *Amb. testudinarium*, fide Rob., 1926, 253.—Reported for: #576 *Ursus* (species).

†**electus* [s], p. 254: *Dermacentor*.—Reported for: #413 *Felis* (*onca*); #479 *Canis* (*familiaris*). Continued in later bulletins.

†**occidentalis*, p. 254: *Dermacentor; D. reticulatus*.—California [t].—Adults infected with tularaemia.—Reported for: #479 *Canis* (*familiaris*). Continued in later bulletins; *Bos* (*taurus* t. h.).

†*reticulatus*, pp. 254, 629, 823: *Dermacentor;* Dermatocentor [m]; *Cynorhaestes*.—Reported for: #479 *Canis* (*familiaris*). Continued in later bulletins.

†**variabilis*, p. 254 [Ixodes [1]]: *Dermacentor*.—Reported for: #413 *Felis* (*concolor azteca*, species); #479 *Canis* (*familiaris*, *latrans*, species (wolf), *Thos* species); #485 *Vulpes* (species); #511 *Mustela* (species); #544 *Taxidea* (species, *taxus*); #552 *Mephitis* (species); #561 *Procyon* (*lotor*). Continued in later bulletins.

**variegatus* Marx in Neum., 1897*a*, 367–370, figs. 22–24: *Dermacentor*.—U. S. A.[t], Nevada, Nebraska.—Reported for: #413 *Felis* (*catus* [*dom.*]); #479 *Canis* (*familiaris*). Continued in later bulletins; *Cariacus* (species t. h.).

†*venustus [d s] [p. 254] pars of Banks, 1907: *Dermacentor*.—Texas [t].—Chiefly so. †*andersoni*.—Reported for: #413 *Felis* (species); #479 *Canis* (*familiaris*, *latrans*, *lestes*, *Thos* species); #544 *Taxidea* (species, *taxus*); #576 *Ursus* (*americanus*, *arctos*, *horribilis horribilis*). Continued in later bulletins.

†**874. Rhipicentor**, pp. 255, 823.

†*bicornis*, p. 255: *Rhipicentor*.—Reported for: #479 *Canis* ((*Thos*) species). Continued in later bulletins.

vicinus, p. 823: *Rhipicentor*.—Pretoria, S. Africa.—Reported for: #479 *Canis* (*familiaris*).

†**875. Rhipicephalus**, pp. 255, 482, 823.

†*appendiculatus*, p. 255: *Rhipicephalus*.—Cape [l], Africa.—Reported for: #413 *Felis* (*catus* [*dom.*]); #473 *Lycaon* (*pictus*); #479 *Canis* (*familiaris*). Continued in later bulletins.

armatus Pocock, 1900*b*, June 1, 50, pl. 3, figs. 2 to 2*f*: *Rhipicephalus*.—Bularli, W. Somaliland, Africa.—Reported for: #413 *Felis* (*leo*).

†*bursa*, pp. 255, 824: *Rhipicephalus; Eurhipicephalus*.—Probably so. *capensis*, fide Bedford, 1926, 11.—Reported for: #413 *Felis* (*catus* [*dom.*]); #479 *Canis* (*familiaris*). Continued in later bulletins; "cinghiale" t. h.

capensis Koch, 1844*a*, 238: *Rhipicephalus*.—Cape of Good Hope [t].—Reported for: #479 *Canis* (*familiaris*). Continued in later bulletins.

dugesii [s] Gervais, 1844*b*, 237, 242, plumbeus [h] Dug. renamed [not *plumbeus* Leach] [Ixodes]: *Rhipicephalus*.—France [t].—So. *Rhip. sanguineus* Latr., fide Neum., 1901*b*, 347.—Reported for: #479 *Canis* (*familiaris* t. h.). Continued in later bulletins.

†*evertsi*, p. 255; add: fig. 36: *Rhipicephalus*.—Reported for: #413 *Felis* (*catus* [*dom.*]); #479 *Canis* (*familiaris*).

falcatus Neum., 1908, Notes Leyd. Mus., v. 30, pp. 77–79, fig. 4: *Rhipicephalus*.—Africa [t].—Reported for: #479 *Canis* (*familiaris*).

†*haemaphysaloides* Supino in Neum., 1897*a*, 234–235, 417: *Rhipicephalus*.—Reported for: #413 *Felis* (species (leopard), *tigris*, *viverrina*); #479 *Canis* (*familiaris*, species

(jackal)); #485 *Vulpes* (species); #576 *Ursus* (species). Continued in later bulletins. Also for #12 *Homo*.

hilgerti Neum., 1902*c*, 111–112: *Rhipicephalus*.—Abyssinia [t].—Reported for: #479 *Canis* (*variegatus* t. h.).

lunulatus, p. 824: *Rhipicephalus*.—Reported for: #479 *Canis* (*familiaris*). Continued in later bulletins.

†*pulchellus*, p. 255 [Dermacentor]: *Rhipicephalus*.—Reported for: #413 *Felis* (*catus, leo*); #469 *Hyaena* (*striata*); #479 *Canis* (*familiaris*). Continued in later bulletins.

punctatissimus Gerst., 1873*a*: *Rhipicephalus*.—Africa [t].—Reported for: #479 *Canis* (*familiaris*).

†**sanguineus*, pp. 255, 824: *Rhipicephalus*.—Reported for: #413 *Felis* (*catus* [*dom.*], *leo, marmorata, viverrina*); #413 *Lynx* [s] (species); #433 *Genetta* (*genetta*); #479 *Canis* (*anthus, aureus, familiaris, persicus*, species, *variegatus*); #480 *Otocyon* (*megalotis*); #485 *Vulpes* (*leucopus*, species, *vulpes vulpes*); #576 *Ursus* (species). Continued in later bulletins.

shipleyi Neum., 1902*c*, 112–113: *Rhipicephalus*.—Sudan [t].—Reported for: #469 *Hyaena* (species t. h.).

†*simus*, pp. 255, 824: *Rhipicephalus*.—Reported for: #413 *Felis* (*leo, pardus suahelicus*); #433 *Genetta* (*suahelica*); #435 *Civettictis* (*civetta orientalis*); #473 *Lycaon* (*pictus*); #479 *Canis* (*aureus, familiaris*).

species Franchini, 1925, Arch. Schiffs- u. Trop.-Hyg., Beiheft. 1, v. 29, 108: *Rhipicephalus;* Rhipizephalus [e].—Italy.—Reported for: #479 *Canis* (*familiaris*).

**texanus* Banks, 1908, Tech. Ser. U. S. Dept. Agric. Bur. Ent., No. 15, 34–35, June 6, pl. 5, figs. 1–4: *Rhipicephalus*.—Texas [t]; New Mexico; Mexico.—Reported for: #479 *Canis* (*familiaris*). Continued in later bulletins.

†**878. Boophilus** Curtice, pp. 255, 482.

†**annulatus*, pp. 255, 482: *Boophilus*.—Reported for: #479 *Canis* (*familiaris*). Continued in later bulletins.

†*australis*, p. 255: *B. annulatus; Boophilus*.—N. W. to N. E. Australia [t].—Reported for: #479 *Canis* (*familiaris*, species (wolf)); #485 *Vulpes* (species). Continued in later bulletins.

†**bovis* [s] Riley, 1869*a*, 168 [Ixodes [l]]: *Boophilus*.—So. †*annulatus*.—Missouri [t].—Reported for: #479 *Canis* (*familiaris*). Continued in later bulletins; *Bos* (*taurus* t. h.). Also for #12 *Homo*.

†*decoloratus*, p. 255: *Boophilus*.—Reported for: #479 *Canis* (*familiaris*). Continued in later bulletins.

†*microplus*, p. 255: *Boophilus*.—Reported for: #479 *Canis* (*familiaris*). Continued in later bulletins.

†**880. Hyalomma**, pp. 255, 629, 824.

†*aegyptium*, pp. 255, 629, 824: *Hyalomma; H. aegyptium*.—Syn. aegyptum [m].—Reported for: #413 *Felis* (*catus* [*dom.*], species); #479 *Canis* (*familiaris*, species); #576 *Ursus* (species). Continued in later bulletins.

brevipunctatum Sharif, 1928, Rec. Ind. Mus., Calcutta, v. 30 (3), Oct., 314, 318: *Hyalomma* (*Hyalommina*) *hussaini*.—Anantapur [t], Madras Pres., India.—Reported for: #413 *Felis* (*tigris*); #479 *Canis* (*familiaris* t. h.). Continued in later bulletins.

fabricii [s] Audouin in Savigny, 1826, Egypte, v. 1 (4), 186 [Ixodes [l]] [nv]: *Hyalomma*.—So. *aegyptium*, fide Neum., 1901*b*, 347.—Reported for: #479 *Canis* (*familiaris*).

hussaini Sharif, 1928, Rec. Ind. Mus., Calcutta, v. 30 (3), Oct., 314–318, pl. 9, figs. 3–4, text fig. 39*a–e: Hyalomma* (*Hyalommina*).—Akola [t], Central Prov., India.—Reported for: #479 *Canis* (*familiaris*); #576 *Ursus* (species). Continued in later bulletins; *Bos* (species bullock t. h.).

†*impressum*, p. 255: *Hyalomma aegyptium*.—Senegal [t]; S. Africa.—Reported for: #413 *Felis* (*catus* [*dom.*]); #479 *Canis* (*familiaris*). Continued in later bulletins.

isaaci Sharif, 1928, Rec. Ind. Mus., Calcutta, v. 30 (3), Oct., 302, 307–310, pl. 9, fig. 2, text fig. 36*a–b*: *Hyalomma* (*Hyalomma*) *aegyptium*.—Kandeli [t], Centr. Provinces, India.—Reported for: #479 *Canis* (*familiaris*). Continued in later bulletins; *Bos* (species buffalo t. h.).

kumari Sharif, 1928, Rec. Ind. Mus., Calcutta, v. 30 (3), Oct., 314, 319–320, pl. 9, fig. 5, text fig. 40*a–c*: *Hyalomma* (*Hyalommina*).—Parabikulam [t], India.—Reported for: #413 *Felis* (*tigris*); #479 *Canis* (*familiaris*). Continued in later bulletins; *Hemitragus* (*hylocrius* t. h.).

monstrosum Nuttall & Warb., 1908, Proc. Camb. Philos. Soc., v. 14 (4), 414, figs. 41–45: *Hyalomma*[1]; *Nosomma*.—India [t]. —Reported for: #479 *Canis* (*familiaris*); #576 *Ursus* (species). Continued in later bulletins.

syriacum, p. 824: *Hyalomma*.—Reported for: #479 *Canis* (*familiaris*). Continued in later bulletins.

†**881. Amblyomma**, pp. 256, 482, 629, 824.

agamum Aragão, 1912, Mem. Inst. Oswaldo Cruz, v. 4 (1), 97–119, figs. 1–6, pl. 2, figs. 1–2, pl. 3, figs. 1–3: *Amblyomma*.—Brazil [t].—Negative for: #413 *Felis* (*catus*); #479 *Canis* (*familiaris*).

†**americanum*, p. 256: *Amblyomma*. —America [t].—Reported for: #413 *Felis* (*pardalis*); #479 *Canis* (*familiaris*, species (wolf)); #485 *Vulpes* (species); #552 *Mephitis* (species). Continued in later bulletins.

†*cajennense*, p. 256: *Amblyomma*.—Reported for: #413 *Felis* (*concolor azteca*); #479 *Canis* (*azarae*[i], *familiaris*, species (coyote)); #485 *Vulpes* (species); #563 *Nasua* (*socialis*). Continued in later bulletins.

calcaratum Neum., 1899*a*, 226: *Amblyomma*.—Brazil [t].—Reported for: #479 *Canis* (*familiaris* t. h.). Continued in later bulletins.

conspicuum [s] Aragão, 1913, Mem. Inst. Oswaldo Cruz, v. 5 (3), 265–266, pl. 26, figs. 1–2: *Amblyomma*.—Brazil [t].—So. *pictum*, fide Robinson, 1926, 238.—Reported for: #479 *Canis* (*familiaris* t. h.).

darlingi Nuttall, 1912, Parasitol., v. 5 (1), Feb., 50–60, figs. 1–4: *Amblyomma*.—Panama [t].—Reported for: #479 *Canis* (*familiaris*, species). Continued in later bulletins.

eburneum Gerst., 1873*a*, 465–466, pl. 18, fig. 1: *Amblyomma; A. hebraeum*.—Africa [t].—Reported for: #413 *Felis* (*leo*). Continued in later bulletins; *Varanus* (*saurus* t. h.).

exornatum Koch, 1844*a*, 231: *Amblyomma* [t]; *Aponomma*.—S. Africa [t] (Weinachtsbai).—Reported for: #479 *Canis* (*familiaris*, species). Continued in later bulletins.

†*fossum*, p. 256: *Amblyomma; Amblyomma ovale*.—Reported for: #413 *Felis* (*onca*); #479 *Canis* (*familiaris*); #525 *Tayra* (*barbara*); #563 *Nasua* (*socialis*).

†*hebraeum*, pp. 256, 482: *Amblyomma*.—Reported for: #413 *Felis* (*leo*); #435 *Civettictis* (*civetta*); #473 *Lycaon* (*pictus*); #479 *Canis* (*familiaris*). Continued in later bulletins.

incisum Neum., 1906*i*, 206–207: *Amblyomma*.—Bolivia [t].—Reported for: #479 *Canis* (*azarae*). Continued in later bulletins.

[**inornatum* Banks, 1909, Proc. Ent. Soc. Wash., v. 10 (3–4), June 14, 171–172, figs. 13–15: *Aponomma*.—Texas [t].—Reported for: #479 *Canis* (*familiaris* t. h.). Continued in later bulletins.]

†*integrum* Karsch, 1879, Zeitschr. ges. Wissensch., v. 52, 534: *Amblyomma*.—Ceylon [t]; India.—Reported for: #413 *Felis* (*viverrina*); #438 *Viverricula* (*malaccensis*). Continued in later bulletins. Also for #12 *Homo*.

†**maculatum*, p. 256: *Amblyomma*.—Reported for: #479 *Canis* (*azarae, familiaris, griseus*, species (wolf)); #485 *Vulpes* (species). Continued in later bulletins.

marmoreum Koch, 1844*a*, 224: *Amblyomma*.—S. Africa.—Reported for: #433 *Genetta* (*pardina*, species). Continued in later bulletins.

oblongoguttatum Koch, 1844*a*, 228: *Amblyomma*.—Brazil; Surinam.—Reported for: #479 *Canis* (*familiaris*). Continued in later bulletins.

†*ovale* Koch, 1844*a*, 227–228: *Amblyomma*.—Mexico; S. America.—Reported for: #413 *Felis* (*onca*); #477 *Icticyon* (*venaticus*); #479 *Canis* (*azarae, familiaris*); #547 *Galictis* (*vittata*); #563 *Nasua* (*socialis*). Also for #12 *Homo*.

†*persicum* [nv].—Reported for: #479 *Canis* (*familiaris*).

pictum Neum., 1906*i*, 204–206: *Amblyomma*.—Brazil [t]; S. America [t].—Reported for: #479 *Canis* (*familiaris*).

[*poortmani* [s] Lucas, 1850*a*, xli–xlii: Ixodes [l].—Cape of Good Hope [t].—So. *hebraeum* Koch, 1844, fide Neum., 1901.—Reported for: #473 *Lycaon* (*pictus* t. h.). Continued in later bulletins.]

†*rotundatum* Koch, 1844*a*, 229: *Amblyomma*.—Brazil.—Reported for: #479 *Canis* (*familiaris*). Continued in later bulletins. Also for #12 *Homo*.

species Neum., 1902*e*, 293: *Amblyomma*.—Abyssinia.—Reported for: #462 *Ichneumia* (*albicauda*). Continued in later bulletins.

†*striatum*, p. 256: *Amblyomma*.—Brazil [t].—Var. or so. *ovale*, fide Robinson, 1926, 25.—Reported for: #479 *Canis* (*azarae, familiaris*); #485 *Vulpes* (species); #488 *Urocyon* (*cinereoargentatus*). Continued in later bulletins.

sublaeve Neum., 1899*a*, 221: *Amblyomma*.—Siam [t].—Reported for: #469 *Hyaena* (*hyaena*). Continued in later bulletins.

testudinarium Koch, 1844*a*, 226: *Amblyomma*. — Java. — Reported for: #413 *Felis* (*tigris*). Continued in later bulletins.

tholloni Neum., 1899*a*, 242–244: *Amblyomma*.—Africa [t].—Reported for: #413 *Felis* (*pardus*).

triguttatum Koch, 1844*a*, 225: *Amblyomma*.—Neuholland (Schwanenfluss).—Reported for: #479 *Canis* (*familiaris*). Continued in later bulletins.

**tuberculatum* Marx, 1894, Insect Life, v. 6, May, 314: *Amblyomma*.—Florida [t].—Reported for: #479 *Canis* (*familiaris*); #485 *Vulpes* (species). Continued in later bulletins.

[†**unipunctatum* [s], p. 482: Ixodes [l].—Penn. [t].—Reported for: #413 *Felis* (*catus* [*dom.*], *pardalis*); #479 *Canis* (*familiaris*).]

†*variegatum*, pp. 256, 482, 629: *Amblyomma*.—Reported for: #413 *Felis* (*catus* [*dom.*]); #479 *Canis* (*aureus, familiaris*, species (jackal)).

varium Koch, 1844*a*, 224: *Amblyomma*.—Brazil.—Reported for: #479 *Canis* (*familiaris*). Continued in later bulletins.

†**887**. PARASITIDAE [l], pp. 257, 482, 824.

—. ASCAIDAE Ouds., 1905 [nv] p. 824.

—. **Asca** Heyden, p. 824.

affinis, p. 824: *Asca*.—Reported for: #511 *Mustela* (*putorius, vulgaris* so. *nivalis*). Continued in later bulletins.

—. **Tympanospinctus** Berlese, 1918, Redia, v. 13, Apr. 30, 117, tod. *paradoxus*. <†887 GAMASIDAE [s], fide Z. R., 1921, (for 1919), Arach., 20.

paradoxus Berlese, 1918, Redia, v. 13, Apr. 30, 117: *Tympanospinctus*.—Greenwood Park [t].—Reported for: #455 *Mungos* (*mungo* s. *fasciatus* t. h.).

—. **Zercon** Koch, 1836*a* [nv]. Type *Z. triangularis* Koch, 1836, fide Vitzthum, 1929*a*, 30. < ASCAIDAE, fide Vitzthum, 1929*a*, 30.

species Ouds., 1896*b*, v. 39, 135: *Zercon*.—The Hague.—Reported for: #511 *Mustela* (*putorius, vulgaris* so. *nivalis*).

†890*a*. UROPODINAE, pp. 257, 633, 824. <UROPODIDAE Berlese, 1885.

—. **Uropoda**, pp. 484, 633, 824.

elongata Ouds., 1896*b*, Dec. 28, p. 134: *Uropoda*.—Utrecht[t].—Reported for: #413 *Felis* (*catus* [*dom.*]).

parallela [nv]: *Uropoda*.—Reported for: #511 *Mustela* (*furo*).

†891. DERMANYSSINAE, p. 257.

†891*l*. **Ceratonyssus**, pp. 258, 634.

†*musculi*, p. 634: *Ceratonyssus* [t].—Reported for: #511 *Mustela* (*erminea*, *putorius*).

†891*o*. **Ichoronyssus**, pp. 258, 634, 825.

albatus, p. 624: *Ichoronyssus*.—So. *arcuatus*, fide Kol., 1859.—Reported for: #511 *Mustela* (*erminea*). Continued in later bulletins.

arcuatus, p. 634: *Ichoronyssus;* Pteroptus. — Germany [t]. — Reported for: #511 *Mustela* (*erminea*, *putorius*, species (weasel)). Continued in later bulletins.

**isabellinus*, p. 825: *Ichoronyssus*.—Holland [t].—Reported for: #511 *Mustela* (*erminea*, species (weasel)). Continued in later bulletins.

†892*a*. **Haemogamasus**, pp. 258, 827.

nidi, p. 827: *Haemogamasus*.—Reported for: #511 *Mustela* (*nivalis*). Continued in later bulletins.

†895. **Dermanyssus**, pp. 259, 483, 636, 826.

†*gallinae*, p. 259: *Dermanyssus*.—Reported for: #413 *Felis* (*catus* [*dom.*]); #479 *Canis* (*familiaris*). Continued in later bulletins.

†896. PARASITINAE, p. 259.

—. **Parasitus**, pp. 483, 637.

mustelarum Ouds., 1902, Tijdschr. Ned. Dierk. Ver., (2), vii, 33 [nomen nudum]; 1903, Ent. Ber. Ned. Ver., v. 1 (12), July, 85: *Parasitus*.—'s Gravenhage. — Reported for: #511 *Mustela* (*erminea*).

†898. LAELAPTINI, pp. 259, 637, 827. See *Echinolaelaps*, *Eulaelaps*, *Hypoaspis*, †900 *Laelaps*.

—. **Echinolaelaps** Ewing, 1929*a*, June, 10, 11, 185, tod. mt. Laelaps [1] *echidninus* Berlese.—Dorsal plate covering most of body, unsculptured. Sternal plate large, well chitinized and with thickened lateral margins. Genito-ventral plate very large, extending to anal plate, its distal margin excavated to receive the proximal part of the latter; 4 pairs of setae on genito-ventral plate. Anal plate somewhat subtriangular, with 3 setae, the distal unpaired one being much the stoutest.

echidninus Berlese, 1887, Acari, Myriopoda, Scorpiones, etc., v. 39 (1), pl. 50, figs. 1–4, 7 [Laelaps [1]]: *Echinolaelaps*.—Reported for: #427 *Paradoxurus* (*hermaphroditicus*). Continued in later bulletins; Mus [1] (*decumanus* t. h.).

—. **Eulaelaps**, p. 828.

stabularis, p.828: *Eulaelaps* [t]; Hypoaspis [1]; Laelaps [1].—Germany [t].—Reported for: #479 *Canis* (*familiaris*). Continued in later bulletins.

—. **Hypoaspis**, p. 483. Type (1904, Redia, v. 1 (2), 261) Laelaps [1] *krameri* Can. Syn. Hyoaspis [m] 1905, Zool. Centralbl., v. 12, 85.—<†898 LAELAPTINI; in LAELAPTIDAE, fide Vitzthum, 1930*a*, 23.

celeripediformis Oudemans, 1902, Tijd. Ent., v. 45, 8, 22–23, pl. 20, figs. 29–30: *Hypoaspis*.—Sneek [t], Holland.—Reported for: #511 *Mustela* (*erminea*).

†900. **Laelaps**, pp. 259, 483, 637, 828.

crassipes Schrank [nv]: *Laelaps*.—Sneek, The Hague.—Reported for: #511 *Mustela* (*erminea*, *vulgaris*). Continued in later bulletins.

hilaris, p. 828: *Laelaps*.—Reported for: #511 *Mustela* (*erminea*, species (weasel)). Continued in later bulletins; *Microtus* (*arvalis* t. h.).

lemmi [p. 828] Grube: *Laelaps*.—Reported for: #511 *Mustela* (*putorius*, *vulgaris* so. *nivalis*). Continued in later bulletins; *Lemmus* (*obensis* t. h.).

species Ouds., 1896*b*, 134: *Laelaps*.—Sneek, The Hague.—Reported for: #511 *Mustela* (*erminea*, *furo*, *putorius*).

†910. **Pediculoides**, pp. 260, 484, 830.
pilosus, p. 830: *Pediculoides; Pygmephorus* [s].—Reported for: #511 *Putorius* [s] (vulgaris [h] [o] so. *putorius*). Continued in later bulletins.

†913. **Tarsonemus**, p. 260.
sauli Dahl, 1910, Centralbl. Bakt., I Abt., Orig., v. 53 (5), 532: *Tarsonemus*.—Central Europe.—Reported for: #479 *Canis* (*familiaris*). Continued in later bulletins.

†924. **Acarus**, pp. 262, 484, 638.
farinae, p. 262: *Acarus* [r] *siro* [r]; *Tyroglyphus* [o].—Königsberg.—So. *siro*.—Reported for: #479 *Canis* (*familiaris*).
species Müller, 1927, Pelztierzucht Jahrg. 3, 143–144: *Acarus* [l].—Acarusräude.—Reported for: #485 *Vulpes* (species).

†930*a*. LISTROPHORIDAE, pp. 263, 638.

—. **Listrophorus** Pagenstecker, 1861*b*, 109, mt. *leuckarti*.
gibbus Pagenst., 1861*e*, 156–161, pl. 17, figs. 1–4: *Listrophorus*.—[Europe [t]] by Leuckart.—Reported for: #511 *Mustela* (*furo*). Continued in later bulletins; *Lepus* (*cuniculus* t. h.).
mustelae Mégnin, 1885 [nv]: *Listrophorus*.—Europe.—Reported for: #511 *Mustela* (*erminea*, *furo*, *vulgaris* so. *nivalis*, *putorius*).
putorii Mégnin, 18–[nv]; 1892*m*, 120: *Listrophorus*.—Reported for: #511 *Mustela* (*furo* t. h.).

†936. **Notoedres**, pp. 263, 484.
†*cati*, p. 263: *Notoedres; Notoedrus* [o]; *Notoedres minor;* Sarcoptes [l] *notoedres*.—Reported for: #413 *Felis* (*catus* [*dom.*] t. h., *libyca* domestica [h], *rufa*, species); #479 *Canis* (*familiaris*). Continued in later bulletins.
[*minor* [o] [p. 484]: Sarcoptes [l].—So. *cati*.—Reported for: #413 *Felis* (*catus* [*dom.*] t. h.). Continued in later bulletins.]
[†*notoedres* [s] p. 263: Sarcoptes [l]; Acarus [l].—So. *cati*.—Reported for: #413 *Felis* (*catus* [*dom.*]); #479 *Canis* (*familiaris*); #563 *Nasua* (species). Continued in later bulletins.]

†938. **Psoroptes**, pp. 263, 639.—Only one species [*equi* [t]] in Europe, other forms on other hosts are merely varieties, fide Vitzthum, 1929*a*, 104.
**communis* [o] Fürstb., 1861*b*, 220–222, pls. 12–15 [*Dermatokoptes* [s]][includes *equi*, *bovis*, *ovis*]: *Psoroptes*.—So. *equi*.—Reported for: #415 *Acinonyx* (*guttatus* so. *jubatus*).
cuniculi Mégnin, 1880*a*, 191–192 [*Psoroptes longirostris* [s]]: *Psoroptes communis* [o]; *Ps. equi*.—Sèvres [t], Alfort, France.—Reported for: #479 *Canis* (*familiaris*); #521 *Martes* (*foina*). Continued in later bulletins; *Lepus* (*cuniculus* t. h.).

†942. **Sarcoptes**, pp. 263, 484.
†*canis* [s] [p. 264] Gerl. [Acarus [l]]: *Sarcoptes;* Acarus [l] siro [l].—Europe [t].—So. *suis*, fide Raill., 1893*a*, 655; distinct variety fide Vitzthum, 1929*a*, 88.—Reported for: #479 *Canis* (*familiaris* t. h.). Continued in later bulletins.
†canis [h] [p. 264] Raill.: *Sarcoptes scabiei*.—Europe [t].—Reported for: #479 *Canis* (*familiaris* t. h.). Continued in later bulletins.
cuniculi [h], p. 484: *Sarcoptes minor; S. scabiei;* Acarus [l] siro [l].—France [t].—Syn. *praecox*, fide Warburton, 1921, Parasitol., 284–285.—Reported for: [#479 *Canis* (*familiaris* neg. exp.);] #511 *Mustela* (*furo*); #521 *Martes* (*foina* exp.). Continued in later bulletins; *Lepus* (*cuniculus* t. h.).
furonis Raill., 1893*a*, 656: *Sarcoptes; S. scabiei*.—France [t].—Reported for: #511 *Mustela* (*furo* t. h.). Continued in later bulletins. Neg. to #12 *Homo* and #479 *Canis* (*familiaris*).
†*hominis* [s], pp. 264, 484: *S. scabiei; Sarcoptes*.—Exp. failed on #413 *Felis* (*catus* [*dom.*]).
hydrochoeri Mégn., 1880*a*, 169: *S. scabiei*.—Museum Paris.—Reported for: #511 *Mustela* (*furo*). Continued in later bulletins; *Hydrochoerus* (*capybara* t. h.).
†*leonis* [p. 264]: *S.* (*Eusarcoptes*) *scabiei*.—Paris menagerie.—Reported for: #413 *Felis* (*leo*); #469

Hyaena (species). Continued in later bulletins.

†*lupi* [p. 264] Mégn., 1880*a*, 165: *Sarcoptes scabiei*.—France [t].—Reported for: #479 *Canis* (*latrans*, *lupus* t. h.). Continued in later bulletins.

†*ovis*, p. 264: *Sarcoptes;* Acarus [1] siro [1].—Europe [t].—Reported for: #479 *Canis* (*familiaris* exp. negative). Continued in later bulletins.

†*scabiei*, p. 264: *Sarcoptes* [t].—Reported for: #479 *Canis* (*azarae*, *familiaris*, *griseus*); #511 *Mustela* (*furo*). Continued in later bulletins.

species Colin, 1867*a*, 93–97: *Sarcoptes*.—Paris Zoo.—Probably so. *S.* (*Notoedres*) *alepis* Railliet & Lucet, 1893, fide Railliet, 1893*a*, 663.—Reported for: #563 *Nasua* (species).

squamiferus ◦ Fürstb., 1861*a*, 214–215, pl. 3, 4, figs. 23–26, 31, 38, *suis* + *canis* renamed: *Sarcoptes*.—Reported for: #479 *Canis* (*familiaris*). Continued in later bulletins.

†*vulpis*, p. 264: *Sarcoptes scabiei*.—Id. Rugen [t]; Europe.—Reported for: #485 *Vulpes* (*fulva*, species t. h., *vulpes vulpes*); #511 *Mustela* (species).

†**944***b*. **Caparinia**, pp. 264, 831.

hyenae ◦ Mégn., 1880*a*, 203, pl. 20 [Chorioptes [1] *setiferus*]: *Caparinia*.—So. *setifera*.—Europe [t].—Reported for: #469 *Hyaena* (species).

setifera Mégn., 1880*a*, 203, pl. 20 [Chorioptes [1]]: *Caparinia*.—Contains 2 varieties, *hyenae* ◦, *vulpis*.—Europe [t].—Reported for: #469 *Hyaena* (species).

vulpis Mégn., 1880*a*, 203 [Chorioptes [1] *setiferus* [1]]: *Caparinia*.—Europe [t].—Reported for: #485 *Vulpes* (*vulpes* t. h.).

†**944***c*. **Otodectes**, p. 264. Ear.

[**auricularum* ▪ Lucas & Nicolet, 1849, Bul. Soc. ent. France, 2 ser., v. 7 (3) [post April 11], xxxiv–xxxv [Sarcoptes [1]]: Chorioptes [1]; Symbiotes [1].—So. †944*c cynotis*, fide Canest. & Kramer, 1899*a*, 19.—Louisiana [t].—Reported for: #413 *Felis* (*catus* [*dom.*], species); #479 *Canis* (*familiaris* t. h.).]

[*canis* ▪ Bendz, 1862*a* [Symbiotes [1]]: Chorioptes [1] *auricularum* ▪.—So. *cynotis*, fide Canest. & Kramer, 1899*a*, 19.—Reported for: #413 *Felis* (*catus* [*dom.*] t. h.); #479 *Canis* (*familiaris*).]

[*cati* ◦ Rail., 1893*a*, 678–679 (*felis* 1860 renamed): Chorioptes [1] *auricularum* ▪.—So. *cynotis*, fide Canest. & Kramer, 1899*a*, 19.—Reported for: #413 *Felis* (*catus* [*dom.*] t. h.); #479 *Canis* (*familiaris* exp.).]

cynotis Hering, 1838*a*, 584, 600–602, pl. 43, figs. 5–6 [Sarcoptes [1]]: *Otodectes;* Chorioptes [1].—Europe [t]; Canada.—Reported for: #413 *Felis* (*catus* [*dom.*]); #479 *Canis* (*familiaris* t. h.); #485 *Vulpes* (*fulva*); #486 *Alopex* (*lagopus*); #511 *Mustela* (*furo*).

[**ecaudatus* ◦ Mégn., 1880*a*, 203–205, pl. 21, figs. 1–7; *cynotis* renamed [Chorioptes [1]]: Chorioptes [1] *auricularum* ▪.—Reported for: #413 *Felis* (*catus* [*dom.*]); #479 *Canis* (*familiaris*); #511 *Mustela* (*furo*). Continued in later bulletins.]

[*felis* Huber, 1860 [nv], see Rail., 1893*a*, 674: Symbiotes.—So. *cynotis*, fide Canest. & Kramer, 1899*a*, 19.—Reported for: #413 *Felis* (*catus* t. h.); #479 *Canis* (*familiaris*).]

furonis Rail., 1893*a*, 678: Chorioptes [1] *auricularum* ▪; *Otodectes;* Symbiotes [1] *cynotis*.—France [t].—Reported for: #479 *Canis* (*familiaris* negative exp.); #511 *Mustela* (*furo*).

†**949. Tydeus**, p. 266.

†*molestus*, p. 266: *Tydeus*.—Peru [t], Europe.—Reported for: #413 *Felis* (*catus* [*dom.*]); #479 *Canis* (*familiaris*). Continued in later bulletins.

—. **Lorryia** Ouds., 1925, Ent. Ber., v. 7 (146), Nov. 1, 32–33, mt. *superba* Ouds. < †953 TROMBIDIIDAE, near *Tydeus*.

superba Ouds., 1925, Ent. Ber., v. 7 (146), Nov. 1, 33: *Lorryia*.—Amboina [t].—Reported for: #437 *Viverra* (species t. h.).

†955. Leptus, p. 266.

†**americanus: Leptus;* Trombidium[1].—Reported for: #413 *Felis (catus* [*dom.*]); #479 *Canis (familiaris)*.

†964. Metathrombium, p. 268.

†*poriceps*, p. 268: *Metathrombidium* [e] [t].—France [t].—Reported for: #413 *Felis (catus* [*dom.*]); #464 *Herpestes* (species); #479 *Canis (familiaris)*. Continued in later bulletins.

†970. Trombicula, pp. 269, 485, 832.

†*akamushi*, pp. 266, 269, 832: *Trombicula.*—Japan [t].—Reported for: #413 *Felis (catus)*; #479 *Canis (familiaris)*. Continued in later bulletins.

†*autumnalis*, pp. 269, 832: *Trombicula;* Leptus [1].—Larva of †974 *pusillum*, fide Bruyant, 1910, Zool. Anz., v. 35, 347. Reported for: #413 *Felis (catus* [*dom.*], species); #479 *Canis (familiaris)*. Continued in later bulletins.

†*irritans*, p. 269: *Trombicula;* Trombidium [1].—Reported for: #413 *Felis (catus* [*dom.*]); #479 *Canis (familiaris)*.

shannoni Ewing, 1929, Proc. Ent. Soc. Wash., v. 31 (1), Jan., 10: *Trombicula.*—Verrugas Cañon [t], Lima, Peru.—Reported for: #413 *Felis (catus* [*dom.*] t. h.).

species Kitashima & Miyajima, 1918, Kitasato Arch. Exp. Med., v. 2 (2), 272, 333, given as *coarctata: Trombicula;* Mikrotrombidium [e].—Asia.—Reported for: #413 *Felis (catus* [*dom.*]).

species Sambon, 1928, Ann. Trop. Med. & Parasitol., Liverpool, v. 22 (1), June, 93: *Trombicula.*—Reported for: #413 *Felis* (species).

†*tlalsahuate*, p. 269: *Trombicula;* Trombidium [1].—Reported for: #413 *Felis (catus* [*dom.*]); #479 *Canis (familiaris)*.

†*vandersandei*, p. 269: *Trombicula;* Trombidium [1].—Reported for: #413 *Felis (catus* [*dom.*]); #479 *Canis (familiaris)*.

†*wichmanni*, p. 485: *Trombicula;* Trombidium [1].—Reported for: #413 *Felis (catus* [*dom.*]); #479 *Canis (familiaris)*.

†974. Microtrombidium, pp. 257, 270, 285, 485, 639, 832.

†*meridionale* [e], p. 270: *Microtrombidium.*—Reported for: #413 *Felis (catus* [*dom.*]); #479 *Canis (familiaris)*.

†*pusillum*, pp. 270, 639, 832 [*Trombidium* [1]]: *Microtrombidium.*—Reported for: #413 *Felis (catus*, species); #479 *Canis (familiaris)*; #511 *Mustela (vulgaris* so. *nivalis, putorius)*. Continued in later bulletins.

species Ross, 1926, Rep. 17th Meet. Austral. Ass. Adv. Sci., 696: *Microtrombidium.*—Harvest mite.—Sydney, N. S. Wales.—Reported for: #479 *Canis (familiaris)*.

†977. Trombidium, p. 270.

†*holosericeum*, p. 270: *Trombidium.*—Reported for: #413 *Felis (catus* [*dom.*]); #479 *Canis (familiaris)*.

†*striaticeps*, p. 271: *Trombidium.*—Europe.—Reported for: #413 *Felis (catus* [*dom.*], species); #479 *Canis (familiaris)*; #511 *Mustela (erminea)*. Continued in later bulletins.

†987. Tetranychus, p. 271.

†*molestissimus*, p. 271: *Tetranychus.*—Reported for: #413 *Felis (catus* [*dom.*]); #479 *Canis (familiaris)*.

†989*a*. Myobia, pp. 272, 640, 833.

brevihamata, p. 833: *Myobia.*—Reported for: #511 *Mustela (nivalis* s. *vulgaris* t. h.).

trouessarti, p. 833: *Myobia.*—Congo [t].—Reported for: #511 *Mustela (nivalis* s. *vulgaris* t. h.).

†991*a*. Cheyletiella, p. 272.

parasitivorax [p. 272] Mégnin, 1878*o*, 425–426, pl. 28, figs. 1–7 [Cheyletus [1]]: *Cheyletiella; Cheletiella* [e].—Reported for: #413 *Felis (catus* [*dom.*]). Continued in later bulletins; *Lepus (cuniculus* t. h.).

†996. Cheyletus, pp. 272, 641.

†*eruditus*, p. 272: *Cheyletus.*—Europe.—Reported for: #479 *Canis (familiaris)*. Continued in later bulletins.

†1048. *INSECTA*[16], pp. 310–397, 486–490, 641–666, 834–845.

†1059. *COLLEMBOLA*, p. 312.

†1062. **Achorutes**, p. 312.—Pseudoparasite.

viaticus Tullberg, 1872, K. Svenska Vet.-Akad. Handl., v. 10 (10), 50–51, pl. 10, figs. 7–20: *Achorutes;* Hypogastrura [h].—Syn. *humicola* [a], fide Folsom, 1916, 489.—Reported for: #479 *Canis* (*familiaris*).

†1097. *MALLOPHAGA*, pp. 316, 486.

—. *AMBLYCERA*, p. 486.

—. MENOPONIDAE Mjöberg, 1910, Ark. f. Zool., v. 6 (13), 26–28, type *Menopon*.

—. BOOPINAE Harrison & Johnston, 1916, Parasitol., v. 8 (3), Jan., 340, 345.

—. **Boopia** Piaget, 1880*a*, 599, mt. *tarsata*. <†1097.—Ext.

peregrina Mjöberg, 1910, Ark. f. Zool., v. 6 (13), 21–26, pl. 4, fig. 9, text figs. 10–18: *Boopia*.—India[t].—Reported for: #499 *Lutra* (*pruneri* t. h.).

—. **Heterodoxus** Le Souëf & Bullen, 1902*b*, 159, tod. mt. *macropus* [a] so. *longitarsus*. <†1097.—Ext.

**armiferus* [a] Paine, 1912, Ent. News, v. 23 (8), Oct., 362, figs. *A–D: Heterodoxus*.—Berkeley[t], Calif.—So. *longitarsus*, fide Harrison, 1916*a*, 30.—Reported for: #479 *Canis* (*familiaris* t. h.).

longitarsus Piaget, 1880*a*, 504–506, pl. 41, fig. 7 [Menopon [1]]: *Heterodoxus;* Menacanthus[1].—Syns.: *armiferus* [a]; *macropus* [a]; *spiniger* [a]; *spinigerum* [c], fide Harrison, 1916*a*, 30.—Reported for: #479 *Canis* (*familiaris*, species (jackal)). Continued in later bulletins; *Halmaturus* (*giganteus* t. h.).

[*spiniger* [a] Enderlein, 1909, Denks. med.-naturw. Ges. Jena, v. 14, 80–81, pl. 8, figs. 4–5 [Menopon [1]]: Menopon[1] (Menacanthus [1]).—Kalahari [t], Africa.—So. *longitarsus*, fide Harrison, 1916*a*, 30.—Reported for: #479 *Canis* (*familiaris* t. h.).]

†1098. *ISCHNOCERA*, pp. 316, 486.

†1099. TRICHODECTIDAE, pp. 316, 486.

†1100. **Trichodectes**, pp. 316, 486.—Ext.

acuticeps Neum., 1902, Arch. Parasitol., v. 5 (4), 601: *Trichodectes*.—Abyssinia [t].—Reported for: #433 *Genetta* (*genetta*, species t. h.).

barbarae Neum., 1913, Arch. Parasitol., v. 15 (4), 616–617, fig. 9: *Trichodectes*.—Brazil [t].—Reported for: #525 *Tayra* (*barbara* t. h.).

caffra Bedford, 1919, 5–6th Rept. Director Vet. Res. Union S. Africa (for 1918), 724–725, pl. 3, figs. 10–11: *Trichodectes*.—Block Spruit [t], Transvaal.—Reported for: #413 *Felis* (*ocreata cafra* t. h.).

†*canis*, p. 316: *Trichodectes*.—Reported for: #479 *Canis* (*familiaris* t. h., *lupus, procyonoides*).

cooleyi Bedford, 1929, 15th Rept. Director Vet. Serv. Union S. Africa, v. 1 (4), Oct., 513–514, fig. 13: *Trichodectes*.—Pretoria District [t], Transvaal.—Reported for: #448 *Suricata* (*suricatta hamiltoni* t. h.).

crassus [o] Nitzsch, 1818*a*, 295 (*melis* renamed); Denny, 1842*a*, 187–188, pl. 17, fig. 3: *Trichodectes*.—Europe [t].—Reported for: #528 *Meles* (*meles meles* s. *vulgaris* t. h.); #561 *Procyon* (*lotor*).

dubius [o] Nitzsch, 1818*a*, 296 (*mustelae* Schrank, renamed): *Trichodectes*.—Europe [t].—Reported for: #511 *Mustela* (*erminea*, *vulgaris* t. h., species).

exilis Nitzsch, 1818*a*, 296 [nomen nudum]; Nitzsch in Giebel, 1861, Zeit. ges. Natur., v. 18 (8–9), 87: *Trichodectes*.—Europe [t].—Reported for: #499 *Lutra* (*lutra* s. *vulgaris* t. h.).

forficula Piaget, 1880*a*, 400–402, pl. 32, fig. 7: *Trichodectes*.—Rotterdam Zoo [t].—Reported for: #476 *Cuon* (*dukhunensis*). Continued in later bulletins; *Cervus* (*porcinus* t. h.).

genettae Bedford, 1919, 5–6th Rept. Director Vet. Res. Union S. Africa (for 1918), 725–726, pl. 4, figs.

[16] The cross reference to *INSECTA* has been prepared by Benjamin J. Collins.

12–13: *Trichodectes*. — Jericho [t], Transvaal.—Reported for: #433 *Genetta* (*ludia* t. h.).

**interrupto-fasciatus* Kellogg & Ferris, 1915*a*, 61–64, pl. 7, figs. 1–3: *Trichodectes*. — Calif.; Bolivia. — Reported for: #544 *Taxidea* (*taxus*); #552 *Mephitis* (species).

latus [o] Nitzsch, 1818*a*, 296 (*canis* De Geer renamed): *Trichodectes*.—Europe [t].—Reported for: #479 *Canis* (*dingo*, *familiaris* t. h., *latrans*).

madagascariensis Mjöberg, 1910, Ark. f. Zool., v. 6 (13), 64–65, figs. 38–39: *Trichodectes*. — Madagascar [t].—Reported for: #441 *Eupleres* (*goudoti* t. h.).

matschiei Stobbe, 1913, Sitzungsb. Ges. natur. Fr. zu Berlin, No. 8, Oct., 372–374: *Trichodectes*.—Cameroon [t]. — Reported for: #499 *Lutra* (*matschiei* t. h.).

melis Fabr., 1805*a*, 341–342 [Pediculus [1]]: *Trichodectes*.—Europe [t].—Syn. *crassus* [o].—Reported for: #528 *Meles* (*meles meles* t. h.); #561 *Procyon* (*lotor*).

micropus [o] Giebel, 1874*a*, 54–55 (*vulpis* renamed): *Trichodectes*.—Europe [t].—Reported for: #485 *Vulpes* (*vulpes* t. h.).

mustelae Schrank, 1803*a*, 186 [Pediculus [1]]: *Trichodectes*.—Europe [t].—Syns.: *dubius* [o]; *retusus* [s], fide Harrison, 1916*a*, 72.—Reported for: #511 *Mustela* (species t. h., *vulgaris*); #521 *Martes* (species).

nasuatis Osborn, 1902, Ohio Nat., v. 2 (3), Jan., 178, pl. 2, fig. 3: *Trichodectes*.—Costa Rica [t].—Reported for: #563 *Nasua* (*narica* t. h.).

**octomaculatus* Paine, 1912, Ent. News, v. 23 (10), Dec., 438–439, pl. 20, fig. 1: *Trichodectes*.—Palo Alto [t], Calif.—Reported for: #561 *Procyon* (*lotor*, *psora* t. h.).

octopunctatus [s] Leach in Denny, 1852, List Brit. Anim., Part II, Anoplura, 29: *Trichodectes*.—So. *canis*, fide Harrison, 1916*a*, 71.—Reported for: #479 *Canis* (*familiaris*).

ovalis Bedford, 1928, 13–14th Rept. Director Vet. Res. Union S. Africa, part 2, Oct., 841–842, pl. 1, figs. 1, 3; pl. 6, fig. 13: *Trichodectes*.—Onderstepoort [t], Transvaal.—Reported for: #540 *Ictonyx* (*striata*); #541 *Poecilogale* (*albinucha* t. h.).

pallidus Piaget, 1880*a*, 405–406, pl. 32, fig. 9: *Trichodectes*.—Rotterdam Zoo.—Reported for: #563 *Nasua* (*narica* s. *fusca* t. h., *narica bullata*).

pinguis Nitzsch in Burm., 1838, Handb. d. Ent., v. 2 (2), 435: *Trichodectes*.—Reported for: #576 *Ursus* (*arctos* t. h., *thibetanus*).

procyonis Neum., 1913, Arch. Parasitol., v. 15 (4), 624–626, fig. 14: *Trichodectes*.—Reported for: #561 *Procyon* (*lotor* t. h.).

pusillus [o] Nitzsch in Giebel, 1861, Zeit. ges. Natur., v. 18 (8–9), 88, *dubius* renamed: *Trichodectes*.—So. *mustelae*.—Reported for: #511 *Mustela* (*erminea*, *vulgaris* t. h.).

**quadraticeps* Chapman, 1897, Ent. News, v. 8 (8), Oct. 1, 185–186, pl. 9, fig. 1: *Trichodectes*.—Palo Alto [t], Calif.—Reported for: #485 *Vulpes* (*cascadensis*); #488 *Urocyon* (*cinereoargenteus* s. *virginianus* t. h., *cinereoargenteus sequoiensis* so. *californicus sequoiensis*).

**retusus* [s] Nitzsch, 1818*a*, 296 [nomen nudum]; Nitzsch in Burm., 1838, Handb. d. Ent., v. 2 (2), 436: *Trichodectes*.—Europe [t].—So. *mustelae*, fide Harrison, 1916*a*, 72.—Reported for: #511 *Mustela* (*erminea*, species (mink, weasel), *vison nesolestes*, *vulgaris*); #521 *Martes* (*foina* t. h., *martes*); #523 *Gulo* (*luscus*).

riveti Neum., 1913, Arch. Parasitol., v. 15 (4), 614–616, figs. 7–8: *Trichodectes*.—Reported for: #479 *Canis* (*magellanicus riveti* t. h.).

species Baker, 1919, Rept. Canad. Arctic Exped., v. 3, Sept. 12, 4*D*: *Trichodectes*[i].—N. Alaska.—Reported for: #485 *Vulpes* (*alascensis*).

species Giebel, 1861, Zeit. ges. Natur., v. 18 (8–9), 88: *Trichodectes*.—Reported for: #511 *Mustela* (*erminea*).

**thoracicus* Osborn, 1902, Ohio Nat., v. 2 (3), Jan., 178, pl. 2, fig. 4: *Trichodectes*.—Lake Co.,[t] Calif.—Reported for: #566 *Bassariscus* (*astutus* t. h.).

tigris Penton, 1870, Month. Micr. J., v. 4 (21), Sept. 1, 147–148: *Trichodectes*.—Reported for: #413 *Felis* (*tigris* t. h.).

vulpis Denny, 1842*a*, 189, pl. 17, fig. 5: *Trichodectes*.—Great Britain [t].—Syn. *micropus* [o].—Reported for: #485 *Vulpes* (species, *vulpes* t. h.).

vulpis [d s] of Tasch., 1882*a* (1883*a*), 207–209, pl. 7, fig. 1 [not Denny, 1842*a*]: *Trichodectes*.—So. *octomaculatus*, fide Harrison, 1916*a*, 73.—Reported for: #561 *Procyon* (*lotor*).

zorillae Stobbe, 1913, Sitzungsb. Ges. naturf. Fr. Berlin, No. 8, Oct., 374–375, fig. 3: *Trichodectes*. — Tunisia [t].—Reported for: #540 *Ictonyx* (*libyca* s. *vaillantii*).

—. **Felicola** Ewing, 1929*a*, June, 121, 122, 192–193, tod. Trichodectes [1] *subrostratus*. <†1099.—Ext. Syn. *Felicinia* [o] Bedford, 1929, 15th Ann. Rept. Dir. Vet. Services Union S. Africa, v. 1 (4), Oct., 519, tod. Trichodectes [1] *subrostratus*.

acutirostris Stobbe, 1913, Sitzungsb. Ges. naturf. zu Berlin, No. 8, Oct., 378–379, figs. 7*a–b* [Trichodectes [1]]: *Felicola*; *Felicinia* [o].—Pemba [t], Africa.—Reported for: #458 *Atilax* (*galera* t. h.).

calogaleus Bedford, 1928, 13–14th Rept. Director Vet. Res. Union S. Africa, Part 2, Oct., 842–844, pl. 2, fig. 4, pl. 3, fig. 7 [Trichodectes [1]]: *Felicola; Felicinia* [o].—Transvaal [t].—Reported for: #451 [*Galerella*] (*cauui* t. h.); #464 *Herpestes* (*pulverulentus*).

cynictis Bedford, 1928, 13–14th Rept. Director Vet. Serv. Union S. Africa, Part 2, Oct., 844–845, pl. 3, fig. 8 [Trichodectes [1]]: *Felicola; Felicinia* [o].—S. Africa[t].—Reported for: #450 *Cynictis* (*penicillata* t. h.).

inaequalis Piaget, 1880*a*, 388–389, pl. 32, fig. 3 [Trichodectes [1]]: *Felicola; Felicinia* [o].—Rotterdam Zoo.—Reported for: #464 *Herpestes* (*cafra*, *ichneumon* t. h.).

mungos Stobbe, 1913, Sitzungsb. Ges. naturf. Fr. zu Berlin, No. 8, Oct., 375–377, fig. 5 [Trichodectes [1]]: *Felicola; Felicinia* [o].—Africa [t].—Reported for: #451 *Galerella* (*gracilis* [, *gracilis badius*]).

rammei Stobbe, 1913, Sitzungsb. Ges. naturf. Fr. Berlin, No. 8, Oct., 377–378, fig. 6 [Trichodectes [1]]: *Felicola; Felicinia* [o].—Amani [t], German E. Africa.—Reported for: #451 *Galerella* (*bruneo-ochracea*); #458 *Atilax* (*galera* t. h.).

**subrostratus* Nitzsch, 1818*a*, 296 [nomen nudum]; Nitzsch in Burm., 1838, Handb. d. Ent., v. 2 (2), 436 [Trichodectes [1]]: *Felicola; Felicinia* [o].—Syn. ? Pediculus [1] *canis* O. Fabr., 1780.—Reported for: #413 *Felis* (*catus* [*dom.* t. h.], *libyca*, *rufa*, *rufa californica*); #464 *Herpestes* (*pluto*); #511 *Mustela* (*erminea*).

viverriculae Stobbe, 1913, Sitzungsb. Ges. naturf. Fr. Berlin, No. 8, Oct., 375, fig. 4 [Trichodectes [1]]: *Felicola; Felicinia* [o].—Tamatave [t], E. Madagascar.—Reported for: #438 *Viverricula* (*rasse* t. h.).

—. **Neotrichodectes** Ewing, 1929*a*, 121, 194, tod. mt. Trichodectes [1] *mephitidis* Packard. <†1099.—Ext.

[**mephitidis* [s] Osborn, 1896*a*, 242, figs. 150*a–f*: Trichodectes [1].—U.S.A.[t]—So. *mephitidis* Packard, fide Harrison, 1916*a*, 3.—Reported for: #506 *Helictis* (*everetti* [i]); #511 *Mustela* (*noveboracensis*, *xanthogenys*, *xanthogenys munda*); #547 [*Grison*](*quiqui*); #552 *Mephitis* (*macroura*, *mephitis*, *occidentalis*); #553 *Spilogale* (*interrupta*, *phenax*); #566 *Bassariscus* (*astutus*, *astutus raptor* so. *astutus oregonus*).]

**mephitidis* Packard, 1873*b*, 732–733, fig. 60 [Goniodes [1]]: *Neotrichodectes*; Trichodectes [1].—Fire-Hole Basin [t], Wyoming.—Syns.: *minu-*

tus [a]; *mephitidis* [a] Osb., 1896*a*, fide Harrison, 1916*a*, 3, 71.—Reported for: #552 *Mephitis* (*mephitis*, species t. h.).

[**minutus* [a] Paine, 1912, Ent. News, v. 23 (10), Dec., 439–440, pl. 20, fig. 4: Trichodectes [1].—Marshall [t], Ill.—So. *mephitidis* Packard, fide Harrison, 1916*a*, 71.—Reported for: #511 *Mustela* (*noveboracensis* t. h.).]

—. **Eutrichophilus** Mjöberg, 1910, Ark. f. Zool., v. 6 (13), 71–72, tsd. (1916) 1st sp. *cercolabes*. <†1099.—Ext.

genettae Fresca, 1924, Bol. Real Soc. españ. Hist. nat., v. 24 (2), Mar. 7, 75–78, fig. 1: *Eutrichophilus*.—Vigo [t], Spain.—Reported for: #433 *Genetta* (*genetta rhodanica* t. h.).

—. PHILOPTERIDAE Burm., 1838, Handb. d. Ent., v. 2 (2), 422.

—. **Lipeurus** Nitzsch, 1818*a*, 292, tsd. (1916) *caponis* syn. *variabilis* [a]. <†1098.—Ext.

**dissimilis* Piaget, 1880*a*, 359–360, pl. 29, fig. 1: *Lipeurus*.—North Carolina.—Reported for: #511 *Mustela* (*vison*). Continued in later bulletins.

†**1103**. *ANOPLURA*, pp. 316–318, 486–488, 641, 834–835.

—. PHTHIRIDAE Ewing, 1929*a*, 132, 147.

†**1107**. **Phthirus**, pp. 317, 487.—Ext.

†*pubis*, p. 317: *Phthirus*.—Reported for: #479 *Canis* (*familiaris*).

†**1108**. HAEMATOPINIDAE, pp. 317, 488, 641, 834.

—. HOPLOPLEURINAE, p. 641.

—. **Neohaematopinus**, p. 641.—Ext.

**pacificus* Kellogg & Ferris, 1915*a*, 38–40, pl. 1, fig. 2, pl. 5, figs. 3, 7*a–b*, textfigs. 14*C–D*: *Neohaematopinus*.—Calif. [t]—Reported for: #552 *Mephitis* (*occidentalis*). Continued in later bulletins.

—. LINOGNATHINAE Enderlein, 1905, Zool. Anz., v. 29 (6), July 4, 194. Syn. TRICHAULINAE [d] Enderlein, 1904, Zool. Anz., v. 28 (4), Oct. 7, 136, 138.

—. **Linognathus** Enderlein, 1905, Zool. Anz., v. 29 (6), July 4, 194, tod. *piliferus* Burm. <†1108.—Ext. Syn. Trichaulus [b c] Enderlein, 1904, Zool. Anz., v. 28 (4), Oct. 7, 136, 139, 141, tod. *piliferus* Burm.

[**bicolor* [a] Lucas, 1847, Ann. Soc. ent. France, ser. 2, v. 5, 538–539, pl. 8, fig. 2*a*: Haematopinus [1].—Louisiana [t].—So. *piliferus*, fide Ferris, 1916, 163.—Reported for: #479 *Canis* (*familiaris* t. h.).]

[*canis-familiaris* [a] Müller, 1776*a*, 184 [nomen nudum]: Pediculus [1].—Denmark [t].—So. ? *piliferus*, fide Ferris, 1916*a*, 184.—Reported for: #479 *Canis* (*familiaris* t. h.).]

[*flavidus* [a] Nitzsch, 1864, Zeit. ges. Natur., v. 23 (1), Jan., 21: Pediculus [1].—Europe [t].—So. *piliferus*, fide Ferris, 1916*a*, 163.—Reported for: #479 *Canis* (*familiaris* t. h.).]

piliferus Burm., 1838, Gen. Ins. Rhyn., v. 1 (4), no. 13 [Pediculus [1]]: *Linognathus;* Haematopinus [1]; Trichaulus [b].—Europe [t].—Syns.: *bicolor* [a]; ? *canis-familiaris; isopus* [a]; *flavidus* [a]; *piliferous* [c], fide Ferris, 1916*a*, 163.—Reported for: #479 *Canis* (*familiaris* t. h., species (coyote)); #511 *Mustela* (*furo*).

**setosus* Olfers, 1816*a*, 84 [nv] [Pediculus [1]]; Piaget, 1880*a*, 384: *Linognathus*.—Syn. *piliferus* [a], fide Bedford, 1929, 714.—Reported for: #479 *Canis* (*familiaris* t. h.); #485 *Vulpes* (species); #486 *Alopex* (*lagopus innuitus*).

†**1110**. *HEMIPTERA*, p. 318.

†**1153**. **Triatoma**, p. 322.—Ext.

†*megista*, p. 323: *Triatoma*.—Reported for: #413 *Felis* (*catus*).

†**1437**. *DIPTERA*, pp. 353, 489, 835.

†**1457**. CULICIDAE, pp. 356, 489.

†**1459**. **Aëdes**, p. 358.—Ext.

†*fasciatus* [a] [*Stegomyia* [a]]: *Aëdes*.—Reported for: #413 *Felis* (*catus* [*domestica*]); #479 *Canis* (*familiaris*). Continued in later bulletins.

†**1460**. **Anopheles**, p. 360.—Ext.

†*superpictus*, p. 362: *Anopheles*.—India.—Reported for: #479 *Canis* (*familiaris*).

†**1479**. SIMULIIDAE, p. 365.

†**1480. Simulium**, p. 366.—♀ Ext.

†*pertinax*, p. 367: *Simulium*.—Reported for: #479 *Canis* (*familiaris*).

†**venustum*, p. 367: *Simulium*.—Brazil.—Reported for: #479 *Canis* (*familiaris*).

†**1486**. TABANIDAE, p. 368.

†**1487. Tabanus**, p. 368.—♀ Ext.

†*gratus*, p. 368: *Tabanus*.—Reported for: #479 *Canis* (*familiaris*).

†**1571***B*. GASTROPHILIDAE, p. 378.

†**1572. Gasterophilus**, pp. 378, 489.—Larvae in stom., intest.

equi [h s] Clark, 1797*a*, 298–308 [not Fabr., 1787] [Oestrus [1]]: *Gasterophilus*.—Great Britain [t].—So. *intestinalis*.—Reported for: #469 *Hyaena* (*striata*); #479 *Canis* (*familiaris*); #528 *Meles* (*meles meles* s. taxus, species). Continued in later bulletins; *Equus* (*caballus* t. h.).

†*intestinalis*, p. 378: *Gasterophilus*.—Paris.—Reported for: #479 *Canis* (*familiaris*).

†**1573**. OESTRIDAE, pp. 378, 489.

†**1574. Oestrus**, p. 378.

†*ovis*, p. 378: *Oestrus*.—Larvae in frontal sinuses.—Reported for: #479 *Canis* (*familiaris*). Continued in later bulletins; *Ovis* (*aries* t. h.).

—. **Cuterebra**, p. 489. <†1573.

**species* Hall, 1924, J. Parasitol., v. 10 (4), June, 209: *Cuterebra*.—Larvae subcut.—Boontown, N.J.—Reported for: #413 *Felis* (*catus* [*dom.*]).

**species* Hall, 1925, J. Parasitol., v. 11 (4), June, 221: *Cuterebra*.—Larvae subcut.—Reported for: #413 *Felis* (*catus* [*dom.*]); #479 *Canis* (*familiaris*).

—. **Bogeria** Austen, 1895, Ann. Mag. Nat. Hist., ser. 6, v. 15, 391, mt. *princeps*.

**emasculator* Fitch, 1859, 3rd Rept. Insects N.Y., Suppl., 160–167, no. 210 [Cuterebra [1]]: *Bogeria*.—Larvae in scrotum.—Lakeville [t], N.Y.—Reported for: #413 *Felis* (*catus* [*dom.*]); #479 *Canis* (*familiaris*). Continued in later bulletins; *Tamias* (*striatus* t. h.).

**species* Hall, 1924, J. Parasitol., v. 11 (2), Dec., 112: *Bogeria*.—Larvae in feces.—McNeill [t], Miss.—Reported for: #479 *Canis* (*familiaris*).

†**1575. Dermatobia**, p. 379.—Larvae subcut.

†*cyaniventris*, p. 379: *Dermatobia*.—C. & S. America.—Reported for: #413 *Felis* (*concolor*, *onca*); #479 *Canis* (*familiaris*). Continued in later bulletins.

†*noxialis* [s], p. 379: *Dermatobia*.—Mexico.—Reported for: #479 *Canis* (*familiaris*).

†**1578**. CALLIPHORINAE, p. 379.

†**1580. Auchmeromyia**, p. 380.

†*luteola*, p. 380: *Auchmeromyia*.—Africa.—Larva sucks blood.—Reported for: #479 *Canis* (*familiaris*).

†**1581***A*. **Cochliomyia**, p. 380.

†*macellaria*, p. 380: *Cochliomyia*.—Larvae in nasal cav., ova in tick lesions.—Panama.—Reported for: #413 *Felis* (*catus*); #479 *Canis* (*familiaris*).

†**1586**. SARCOPHAGIDAE, p. 381.

†**1587. Sarcophaga**, p. 381.

†*carnaria*, p. 381: *Sarcophaga*.—Reported for: #479 *Canis* (*familiaris*).

†*ruficornis*, p. 382: *Sarcophaga*.—Cutaneous myiasis.—India.—Reported for: #479 *Canis* (*familiaris*).

†**1591. Wohlfahrtia**, p. 383.

†*magnifica*, p. 383: *Wohlfahrtia*.—Larva in ears, nose.—Europe, Asia, Africa.—Reported for: #479 *Canis* (*familiaris*). Continued in later bulletins.

†**1594**. MUSCIDAE, p. 383.

†**1599. Cordylobia**, p. 384.

†*anthropophaga*, p. 384: *Cordylobia*.—Larva subcut.—Africa.—Reported for: #413 *Felis* (*catus* [*dom.*]); #479 *Canis* (*familiaris*). Continued in later bulletins.

gruenbergi [s] Dönitz, 1905, Sitzungsb. Ges. naturf. Fr. Berlin, No. 10, Dec., 252: *Cordylobia*.—Larva subcut.—German E. Africa [t].—So. *anthropophaga*, fide Bequaert, 1930, 973.—Reported for: #479 *Canis* (*familiaris*).

†**1601. Glossina**, pp. 384, 489.—Ext.

†*brevipalpis*, p. 384: *Glossina.*—Reported for: #479 *Canis* (*familiaris*).

†*longipalpis*, p. 385: *Glossina.*—Reported for: #479 *Canis* (*familiaris*).

†*longipennis*, p. 385: *Glossina.*—Reported for: #479 *Canis* (*familiaris*).

†*morsitans*, p. 385: *Glossina.*—Reported for: #479 *Canis* (*familiaris*).

†*pallidipes*, p. 385: *Glossina.*—Reported for: #479 *Canis* (*familiaris*).

†*palpalis*, pp. 385, 489: *Glossina.*—Reported for: #479 *Canis* (*familiaris*).

†*tachinoides*, p. 385: *Glossina.*—Reported for: #479 *Canis* (*familiaris*).

†**1602. Haematobia**, pp. 385, 489.—Ext.

exigua de Meijere, 1903, Mededeel. Proefstation Oost-Java, ser. 3, no. 44 [nv]; 1904, Bijdr. Dierk., v. 18, 104: *Haematobia; Lyperosia* °.—Java ᵗ.—Reported for: #479 *Canis* (*familiaris*). Continued in later bulletins; *Bos* (species t. h.).

†**1611. Pycnosoma**, p. 386.

†*flaviceps*, p. 386: *Pycnosoma.*—Mouth.—Ceylon.—Reported for: #479 *Canis* (*familiaris*).

†**1613. Stomoxys**, p. 386.—Ext.

†*calcitrans*, pp. 386–387: *Stomoxys.*—Reported for: #479 *Canis* (*familiaris*). Continued in later bulletins.

nigra Macq., 1850, Dipt. exot. Suppl. 4, 212, pl. 22, fig. 5: *Stomoxys.*—Bourbon Id.ᵗ—Syns.: *glauca* ˢ; *lafonti* ˢ; sitiens ᵈ 1907, fide Bequaert, 1930, 983.—Reported for: #479 *Canis* (*familiaris*).

†**1615.** *PUPIPARA*, pp. 387, 489–490, 644–660.

†**1616.** HIPPOBOSCIDAE, pp. 387, 489–490, 659–660.

†**1617. Hippobosca**, pp. 387, 489, 660.—Ext.

†*canina* ˢ, p. 387: *Hippobosca.*—Europe ᵗ.—Reported for: #479 *Canis* (*familiaris* t. h.). Continued in later bulletins.

canina ʰ Drensky, 1926, Mitt. Bulgar. ent. Ges., v. 3, 94, 98, 103 [not *canina* ˢ Rond.]: *Hippobosca equina;* Hyppoboska ᵒ *equina.*—Bulgaria ᵗ.—Reported for: #479 *Canis* (*familiaris* t. h.).

†*capensis*, p. 489: *Hippobosca.*—Syns.: *canina* Rond.; *cunicosa; francilloni*, fide Speiser, 1905, 349.—Reported for: #479 *Canis* (*familiaris* t. h., species (pariah dog)). Continued in later bulletins.

†*equina*, p. 387: *Hippobosca; Hyppobosca* ᵒ.—Reported for: #479 *Canis* (*familiaris*). Continued in later bulletins; *Equus* (*caballus* t. h.).

francilloni ˢ Leach, 1818*a*, 554–555, pl. 26, figs. 8–10: *Hippobosca.*—So. *capensis*, fide Speiser, 1905, 349.—Reported for: #479 *Canis* (*familiaris*, species).

†*maculata*, p. 387: *Hippobosca.*—Syns.: *aegyptia bengalensis; bipartita; calopsis; variegata*, fide Speiser, 1908, 197–198.—Reported for: #479 *Canis* (*familiaris*). Continued in later bulletins.

†**1621.** *SIPHONAPTERA*, pp. 387–390, 490, 660–666, 835–845.

†**1623.** HYSTRICHOPSYLLIDAE, pp. 387, 660, 835.

—. **Hystrichopsylla**, p. 835.—Ext.

dippiei Roths., 1902, Ent. Rec. J. Variation, v. 14 (3), 63, pl. 2, fig. 2: *Hystrichopsylla.*—Canada ᵗ.—Reported for: #511 *Mustela* (*longicauda, vison energumenos*).

talpae, p. 835: *Hystrichopsylla.*—Europe ᵗ.—Reported for: #511 *Mustela* (*erminea, nivalis, vulgaris*). Continued in later bulletins.

—. **Typhloceras**, p. 838. <†1623.—Ext.

[*bisnovemdentatus* ⁱ Kol., 1863, Horae Soc. ent. Ross., v. 2 (for 1862), 36–37: *Ctenophthalmus.*—Europe ᵗ.—Syns.: ? *Pulex martis*, ? *P. mustelae;* so. ? *Typhloceras poppei*, fide Jord. & Roths., 1920, 62.—Reported for: #479 *Canis* (*familiaris*); #521 *Martes* (*martes*).]

—. **Phalacropsylla** Roths., 1915, Ectoparasites, v. 1 (1), Dec. 30, 39, mt. *paradisea.* <†1623.—Ext.

**paradisea* Roths., 1915, Ectoparasites, v. 1 (1), Dec. 30, 39–41, figs. 42–43: *Phalacropsylla.*—Paradise ᵗ,

Ariz.—Reported for: #552 *Mephitis* (species); #566 *Bassariscus* (*astutus*). Continued in later bulletins.

—. **Nearctopsylla**, p. 836.—Ext.

brooksi Roths., 1904, Novit. Zool., v. 11 (2), Sept. 12, 649–650, pls. 15–16, figs. 86, 88–89 [Ctenopsyllus [1]]: *Nearctopsylla*.—Canada [t].—Reported for: #511 *Mustela* (*cicognanii richardsonii*, *longicauda*); #521 *Martes* (*americana*).

hygini, p. 836: *Nearctopsylla*.—Canada.—Reported for: #511 *Mustela* (*cicognanii richardsonii* t. h.).

hyrtaci, p. 836: *Nearctopsylla*.—Brit. Columbia [t].—Reported for: #511 *Mustela* (*vison energumenos*).

laurentini Jord. & Roths., 1923, Ectoparasites, v. 1 (5), Nov. 20, 315–316, figs. 319, 321: *Nearctopsylla hygini*.—New Brunswick [t].—Reported for: #511 *Mustela* (species t. h.).

†**1624. Leptopsylla**, pp. 387, 660, 838.—Ext.

bidentata, pp. 660, 838: *Leptopsylla*.—Reported for: #511 *Mustela* (*nivalis nivalis*); #521 *Martes* (*martes*). Continued in later bulletins.

hamifer Roths., 1906, Canad. Ent., v. 38 (10), 324–325, fig. 44 [Ctenopsyllus [d]]: *Leptopsylla*.—Blackfalls [t], Alberta.—Reported for: #511 *Mustela* (species t. h.).

†*musculi* [s], pp. 387, 838: *Leptopsylla*.—Europe.—Reported for: #521 *Martes* (*martes*). Continued in later bulletins; *Mus* (*musculus* t. h.).

spectabilis Roths., 1898, Ent. Rec. J. Var., v. 10 (10), Oct. 15, 250, 1 fig. [Typhlopsylla [1]]: *Leptopsylla*; Ctenopsyllus [d].—N. Berwick [t], England.—Reported for: #511 *Mustela* (*erminea*, *vulgaris*). Continued in later bulletins; *Hypudaeus* (*glareolus* t. h.).

†**1625***C*. **Neopsylla**, pp. 388, 665.—Ext.

inopina Roths., 1915, Ectoparasites, v. 1 (1), Dec. 30, 30–32, figs. 32–33: *Neopsylla*.—Calgary [t], Alberta.—Reported for: #511 *Mustela* (*longicauda*). Continued in later bulletins; *Spermophilus* (*richardsoni* t. h.).

[*microctenus* Kol., 1863, Horae Soc. ent. Ross., v. 2 (for 1862), 37: Ctenophthalmus [1].—Europe [t].—Syn. ? *Pulex martis* Bouché.—Reported for: #521 *Martes* (*foina* t. h.).]

spinea Roths., 1915, Ectoparasites, v. 1 (1), Dec. 30, 35, figs. 37–38: *Neopsylla*.—Dobrogea [t], Rumania.—Reported for: #511 *Mustela* (*putorius*). Continued in later bulletins; *Spermophilus* (*citellus* t. h.).

teratura Roths., 1913, Ann. Mag. Nat. Hist., v. 12 (72), Dec., 540–541, pl. 14, fig. 3: *Neopsylla*.—E. Turkestan [t].—Reported for: #511 *Mustela* (species).

—. **Palaeopsylla**, p. 836.—Ext.

minor, p. 837: *Palaeopsylla*.—Europe.—Reported for: #413 *Felis* (*catus* [*dom.*]); #511 *Mustela* (*putorius*).

†**1626.** DOLICHOPSYLLIDAE, pp. 388, 838.

—. **Rhadinopsylla**[r], p. 841.—Ext.

accola Wagner, 1930, Ann. Mus. Zool. Acad. Sci. U. R. S. S., v. 30 (4) (for 1929), 533–534, fig. 5: *Rhadinopsylla*.—Tibet [t].—Reported for: #511 *Mustela* (species t. h.).

bivirgis Roths., 1913, Ent., v. 46 (606), Nov., 297–298, pl. 13, figs. 1–3: *Rhadinopsylla*.—Burkhan [t], E. Turkestan.—Reported for: #511 *Mustela* (species t. h.).

vicina Wagner, 1930, Ann. Mus. Zool. Acad. Sci. U. R. S. S., v. 30 (4) (for 1929), 534–535, fig. 6: *Rhadinopsylla*.—East Tibet [t].—Reported for: #511 *Mustela* (species t. h.).

Rectofrontia Wagner, 1930, Mag. d. Parasitol., v. 1, 168, 169. <†1626.—Ext.

pentacanthus, p. 841: *Rhadinopsylla* (*Rectofrontia*).—Tring [t], England.—Reported for: #511 *Mustela* (species, *vulgaris* t. h.). Continued in later bulletins.

—. **Ctenophthalmus**, p. 839. <†1626.—Ext.

agyrtes, p. 839: *Ctenophthalmus.*—Europe.—Reported for: #413 *Felis* (*catus*); #511 *Mustela* (*furo*, *putorius*, species (stoat), *vulgaris*). Continued in later bulletins.

apertus, p. 839: *Ctenophthalmus.*—France.—Reported for: #511 *Mustela* (*nivalis nivalis*). Continued in later bulletins.

arvalis Wagner & Ioff, 1926, Rev. Microbiol. Epidemiol., v. 5 (1–2), 76–77, 115–116, fig. *N*, 1–2: *Ctenophthalmus.*—Volga Region [t].—Reported for: #511 *Mustela* (*nivalis*). Continued in later bulletins.

assimilis, p. 839: *Ctenophthalmus.*—Denmark.—Reported for: #511 *Mustela* (*erminea*). Continued in later bulletins.

bisoctodentatus, p. 839: *Ctenophthalmus.*—Great Britain.—Reported for: #511 *Mustela* (*nivalis*, *putorius*).

cervinus Jord. & Roths., 1920, Ectoparasites, v. 1 (2), Jan. 20, 100–101, figs. 85, 87: *Ctenophthalmus nivalis.*—Zermatt [t], Switzerland.—Reported for: #511 *Mustela* (*nivalis nivalis*). Continued in later bulletins.

[orientalis [d] of Roths., 1900, Ent. Rec. J. Var., v. 12 (1), Jan. 15, 19–20: *Typhlopsylla.*—England.—So. *bisoctodentatus*, fide Dalla Torre, 1924*a*, 8.—Reported for: #511 *Mustela* (species).

rettigi Roths., 1908, Proc. Zool. Soc. London, Part 3, Oct. 30, 624–625, pl. 28, figs. 3–4: *Ctenophthalmus.*—Malcoci [t], Rumania.—Reported for: #511 *Mustela* (*desertorum*). Continued in later bulletins.

uncinatus Wagner, 1898*a*, 590, pl. 10, fig. 29 [Typhlopsylla [l]]: *Ctenophthalmus.*—New Alexandria [t], Lublin Govt.—Reported for: #511 *Mustela* (*putorius* s. vulgaris). Continued in later bulletins.

—. **Chiastopsylla**, p. 841.—Ext.

†*rossi*, p. 841: *Chiastopsylla.*—S. Africa.—Reported for: #451 [*Galerella*] (*cauui*). Continued in later bulletins.

—. **Mesopsylla** Dampf, 1910, Zool. Jahrb. Suppl., v. 12 (3), Oct. 6, 609, 647, 649, tod. *eucta*. <†1626.—Ext.

hebes Jord. & Roths., 1915, Ectoparasites, v. 1 (1), Dec. 30, 19–21, figs. 22–23: *Mesopsylla.*—E. Turkestan [t].—Reported for: #413 *Felis* (*catus* [*dom.*]); #485 *Vulpes* (*vulpes*); #511 *Mustela* (species). Continued in later bulletins.

—. **Malacopsylla** Weyenbergh, 1881, Period. Zool., v. 3 (4), 271, tod. mt. Pulex [l] *grossiventris*. <†1626.—Ext. Syn. *Megapsylla* [o] Baker, 1898, J. N. Y. Ent. Soc., v. 6 (1), Mar., 53, mt. Pulex [l] *grossiventris*.

androcli [s] Roths., 1904, Novit. Zool., v. 11 (2), Sept. 12, 604–606, pl. 7, fig. 10, pl. 8, figs. 11–12, 14–15: *Malacopsylla.*—Santa Cruz [t], Brazil.—So. *grossiventris*, fide Jord. & Roths., 1911, 69.—Reported for: #469 *Canis* (*griseus* t. h.).

grossiventris Weyenbergh, 1879, Bol. Acad. nac. Cienc. Rep. Argentina, v. 3 (2–3), 188–193 [Pulex [l]]: *Malacopsylla; Megapsylla* [o].—Argentina [t].—Syns.: *androcli* [s]; *inermis* [s]; *tolypeutis* [s], fide Jord. & Roths., 1911, 69.—Reported for: #479 *Canis* (*griseus*). Continued in later bulletins; *Dasypus* (*minutus* t. h.).

—. **Acanthopsylla** Jord. & Roths., 1922, Ectoparasites, v. 1 (4), Sept. 1, 231, 240–242, tod. Ceratophyllus [l] *rothschildi*. <†1626.—Ext.

rothschildi Rainbow, 1905, Rec. Austral. Mus., v. 6 (2), Sept. 15, 103–107, figs. 27–29 [Ceratophyllus [l]]: *Acanthopsylla rothschildi.*—N. S. Wales [t].—Reported for: #413 *Felis* (*tigris*). Continued in later bulletins.

saphes Jord. & Roths., 1922, Ectoparasites, v. 1 (4), Sept. 1, 242–245, figs. 232–234: *Acanthopsylla.*—Victoria [t], Australia.—Reported for: #413 *Felis* (species t. h.).

—. **Trichopsylla** [17a] Kol., 1863, Horae Soc. ent. Ross., v. 2 (for 1862), 32, tsd. (1904) 1st sp. penicilliger [misdetermined]. <†1626.—Ext. [Not Trichopsylla [h] Thomson, 1877, Hemipt.]

appropinquans Wagner, 1930, Ann. Mus. Zool. Acad. Sci. U. R. S. S., v. 30 (4) (for 1929), 545.—Ussuri Region [t].—Reported for: #521 *Martes* (*flavigula* t. h.).

globiceps Tasch., 1880*a*, 66–67, pl. 2, figs. 10–11 [vulpes Motsch. renamed] [Pulex [i]]: *Trichopsylla;* *Chaetopsylla* [s]; *Oncopsylla* [s] [t]; Vermipsylla [i].—Palaearctic Region [t].—Reported for: #485 *Vulpes* (species, *vulpes* t. h.); #486 *Alopex* (*lagopus*); #528 *Meles* (*anakuma*, species, taxus so. *meles meles*).

homoeus Roths., 1906, Ent. Mo. Mag., v. 42 (509), Oct., 222–223 [*Chaetopsylla* [s]]: *Trichopsylla;* Vermipsylla [i].—Ancouza [t], Central Asia.—Reported for: #479 *Canis* (species t. h.); #485 *Vulpes* (species, *vulpes crucigera*); #511 *Mustela* (*nivalis nivalis*).

[*lasius* Roths., 1906, Ent. Mo. Mag., v. 42 (509), Oct., 223–224, figs. 2–3: *Chaetopsylla* [s].—Ancouza [t], Central Asia.—Reported for: #479 *Canis* (species t. h.).]

**lotoris* Stewart, 1926, Insec. Ins. Mens., v. 14 (7–9), July–Sept., 122–124, 1 fig.: *Trichopsylla.*—Olcott [t], N. Y.—Reported for: #561 *Procyon* (*lotor lotor* t. h.).

matina Jordan, 1925, Novit. Zool., v. 32 (1), Apr. 30, 103–104, fig. 15: *Trichopsylla.* — Pyrenees [t]. — Reported for: #521 *Martes* (*martes* t. h.).

[*mikado* Roths., 1904, Novit. Zool., v. 11 (2), Sept. 12, 645–646, pl. 14, fig. 76: *Chaetopsylla* [s].—Japan [t].—Reported for: #511 *Mustela* (*itatsi* t. h.).]

penicilliger [s] of Kol., 1863, Horae Soc. ent. Ross., v. 2 (for 1862), 32–33, fig. 3 (Syn. ? *martis* Bouché): *Trichopsylla* [t] [i]. — Europe [t].—Syn. *homoeus*, fide Jord. & Roths., 1920, 63.—Reported for: #510 *Vormela* (*sarmatica*); #511 *Mustela* (*putorius*); #521 *Martes* (*foina, martes*).

rothschildi Kohaut, 1903, Állatt. Közlem., v. 2 (1), Jan. 24, 40–41, pl. 4, figs. 7–9, pl. 5, figs. 3, 5, 6 [*Chaetopsylla* [s]]: *Trichopsylla;* Vermipsylla [i]. — Hungary [t]. — Reported for: #511 *Mustela* (*putorius* t. h.).

setosa Roths., 1906, Canad. Ent., v. 38 (10), Oct., 321–322, figs. 41–42 [*Chaetopsylla* [s]]: *Trichopsylla.*—Canada [t].—Reported for: #479 *Canis* (*latrans*); #576 *Ursus* (*americanus*).

[*strandi* Wahlgren, 1903, Ark. f. Zool., v. 1 (1–2), 190–191, pl. 8, figs. 9–10 [Vermipsylla [i]]: *Chaetopsylla* [s].—Finmarken [t], Norway.—Reported for: #576 *Ursus* (*arctos* t. h.).]

trichosa Kohaut, 1903, Állat. Közlem., v. 2, 39, pl. 4, fig. 6, pl. 5, fig. 2 [*Chaetopsylla* [s]; Jord. & Roths., 1911, Novit. Zool., v. 18 (1), June 17, 70 [Vermipsylla [i]]: *Trichopsylla.* — Hungary [t]. —Syn. *kohauti*, fide Jord. & Roths., 1911, 70.—Reported for: #485 *Vulpes* (species); #528 *Meles* (*meles meles* s. taxus, species).

[vulpes [o] Victor [Motsch.], 1840*a*, 170 [Pulex [i]] [nomen nudum]: *Chaetopsylla* [s]; *Oncopsylla* [s]; Vermipsylla [i].—Caucasus [t].—Renamed *globiceps* Tasch., 1880.—Reported for: #485 *Vulpes* (species, *vulpes*); #528 *Meles* (taxus so. *meles meles*).]

—. **Arctopsylla** Wagner [nv]; 1930, Katalog palaearkt. Aphanipt., 40, type *tuberculaticeps* Bezzi. <†1626.—Ext.

hyaenae Kol., 1846, Meletemata Ent., v. 5, 126, pl. 19, figs. 1*a–d* [Pulex [i]] [nv]; 1863, Horae Soc. ent. Ross., v. 2 (for 1862), 30 [Pulex [i]]: *Arctopsylla;* Chaetopsylla [i]; Trichopsylla [i]. — Transcaucasia [t].—

[17a] Syns.: *Chaetopsylla* [s] Kohaut, 1903, Állatt. Közlem., v. 2 (1), Jan. 24, 37, tsd. (1914) 3d sp. *rothschildi*; etd. (1930) 1st sp. *globiceps*.

Oncopsylla [s] Wahlgren, 1903, Ark. f. Zool., v. 1 (1–2), Sept. 7, 186, tod. Pulex [i] *globiceps* Tasch. so. *vulpes* Ritsema.

Syn. *striatus* [o].—Reported for: #469 *Hyaena* (*striata, vulgaris* so. *hyaena*).

[*striatus* [o] Kol., 1863, Horae Soc. ent. Ross., v. 2 (for 1862), 30–31 (*hyaenae* renamed): Pulex [l].—Reported for: #469 *Hyaena* (*striata* t. h.).]

tuberculaticeps Bezzi, 1890, Boll. Soc. ent. Ital., v. 22 (1–2), Sept. 15, 30–33 [Pulex [l]]: *Arctopsylla*; Chaetopsylla [l]; Trichopsylla [l]; Vermipsylla [l].—Valtellina [t].—Syn. tuberculatus [m] 1898.—Reported for: #576 *Ursus* (*arctos* t. h.).

[*ursi* [s] Roths., 1902, Ent. Rec. J. Var., v. 14 (3), 62, pl. 2, fig. 1 [Pulex [l]]: Trichopsylla [l]; Chaetopsylla [l]; Vermipsylla [l].—Alberta [t], Canada.—Reported for: #576 *Ursus* (*horribilis* t. h.).]

—. **Listropsylla**, p. 841. <†1626.—Ext.

agrippinae Roths., 1904, Novit. Zool., v. 11 (2), Sept. 12, 634–636, pl. 12, figs. 56–57, pl. 13, figs. 62, 64 [Ceratophyllus [l]]: *Listropsylla.*—Deelfontein [t], Cape Colony.—Reported for: #451 [*Galerella*] (*cauui*).

dorippiae Roths., 1904, Novit. Zool., v. 11 (2), Sept. 12, 636–637 [Ceratophyllus [l]]: *Listropsylla.*—Deelfontein [t], Cape Colony.—Reported for: #451 [*Galerella*] (*gracilis badius* t. h.).

stygius Roths., 1908, Ent. Mo. Mag., v. 44 (527), Apr., 77–78, pl. 1, fig. 3 [Ceratophyllus [l]]: *Listropsylla dolosus; Listropsylla.*—Ruwenzori [t], Uganda.—Reported for: #450 *Cynictis* (*penicillata*). Continued in later bulletins.

vicinus Roths., 1905, Novit. Zool., v. 12 (2), Sept. 20, 484, pl. 13, fig. 7 [Ceratophyllus [l]]: *Listropsylla.*—Wakkerstroom [t], Transvaal.—Reported for: #451 [*Galerella*] (*gracilis badius* t. h.).

—. **Dactylopsylla** Jordan, 1929, Novit. Zool., v. 35 (1), Jan., 37–38, tod. Dolichopsyllus [l] *bluei*. <†1626.—Ext.

**bluei* Fox, 1909, Ent. News, v. 20 (5), May, 195–196, figs. 1–4 [Dolichopsyllus [l]]: *Dactylopsylla;* Ceratophyllus [l].—California [t].—Reported for: #511 *Mustela* (*xanthogenys* t. h.).

—. **Amphipsylla**, p. 841.—Ext.

contigua Jord. & Roths., 1913, Zool., Ser. 4, v. 17 (869), Nov. 15, 406–407, pls. 2–3, figs. 1, 5–6 [*Amphipsylla*]: *Amphipsylla contigua; Amphypsylla* [c] *contigua.*—Bohemia [t].—Reported for: #479 *Canis* (*familiaris*); #511 *Mustela* (*erminea* t. h.).

dumalis Jord. & Roths., 1915, Ectoparasites, v. 1 (1), Dec. 30, 13–15, figs. 16–18: *Amphipsylla.*—Reported for: #511 *Mustela* (*erminea*).

locuples, p. 841: *Amphipsylla contigua.*—Turkestan [t].—Reported for: #511 *Mustela* (*erminea, nivalis, nivalis pallida*).

primaris Jord. & Roths., 1915, Ectoparasites, v. 1 (1), Dec. 30, 15–17, figs. 19–20: *Amphipsylla.*—E. Turkestan [t].—Reported for: #511 *Mustela* (*erminea* t. h.).

rossica Wagner, 1913, Rev. russe d'Ent., v. 12 (3, for 1912), Apr. 19, 576, fig. 3: *Amphipsylla.*—Charkov [t], Russia.—Syn.: sibirica [d] Wagn., 1898, 578 (in part); 1909, 197, 201 (in part), fide Jord. & Roths., 1913, 403.—Reported for: #511 *Mustela* (*putorius* s. vulgaris t. h.).

sepifera Jord. & Roths., 1920, Ectoparasites, v. 1 (2), Jan. 20, 96–98, figs. 80–82: *Amphipsylla.*—Zermatt [t], Switzerland.—Reported for: #511 *Mustela* (*nivalis nivalis*). Continued in later bulletins; *Hypudaeus* (*glareolus helveticus* t. h.).

sibirica Wagner, 1898*a*, 578–579, pl. 8, figs. 13–14 (syn. penicilliger Grube ♀) [Ctenopsyllus [d]]: *Amphipsylla;* Typhlopsylla [l]; Palaeopsylla [l]; Mesopsylla [l].—Turuchansk [t], Siberia.—Reported for: #511 *Mustela* (*sibirica* t. h.).

—. **Paraceras** Wagner, 1916, Ber. Mus. Zemstvo d. Taurisch. Gouv., Simferopol (for 1914), 4 [nv]; 1930, Katalog palaearkt. Aphanipt., 12, type *melis* Walker. Syn. *Aceratophyllus* [s] Ewing, 1929*a*, 169, 202,

tod. Ceratophyllus [1] *javanicus*, fide Jordan, 1932, 267. <†1626.—Ext.

flabellum Wagner, 1916, Ber. Mus. Zemstvo d. Taurisch. Gouv. (for 1914), 5 [nv]; 1930, Katalog palaearkt. Aphanipt., 12: *Paraceras*.—Dscharkent [t], Turkestan.—Reported for: #528 *Meles* (species t. h.).

javanicus Ewing, 1924, Parasitol., v. 16 (3), July, 351, pl. 14, fig. 5 [Ceratophyllus [1]]: *Paraceras*; *Aceratophyllus*.—Gede [t], Java.—Reported for: #552 *Mephitis* (species t. h.).

melis Leach in Curtis, 1829, Guide Brit. Ins., 201 [Ceratophyllus [1]] [nomen nudum]; Walker, 1856*a*, 5 [Pulex [1]]: *Paraceras;* Trichopsylla [1].—Brit. Isles [t].—Syn. *meles*[c].—Reported for: #485 *Vulpes* (species, *vulpes*); #511 *Mustela* (*putorius*); #528 *Meles* (*anakuma*, *arenarius*, species (badger t. h.), taxus [h] so. *meles meles*).

—. **Tarsopsylla**, p. 842.—Ext.

[*uralensis* [s], p. 842: Ceratophyllus [1].—Europe.—Reported for: #485 *Vulpes* (species, *vulpes*); #511 *Mustela* (*putorius*); #521 *Martes* (*martes*, species, *zibellina*). Continued in later bulletins.]

—. **Myoxopsylla** Wagner, 1929, Konowia, v. 6 (2), June 20, 109, 113, mt. Ceratophyllus [1] *laverani*.<†1626.—Ext.

[*copulabilis* [s] Weiss, 1917, Arch. Inst. Pasteur Tunis, v. 10 (1–2), Oct., 78–81, pl. unnumbered, figs. 1–2 [Ctenopsylla [d]]: Ceratophyllus[1].—Tunisia [t].—So. *laverani*, fide Weiss, 1929, 381.—Reported for: #540 *Ictonyx* (*libyca*).]

—. **Oropsylla** Wagner & Ioff, 1926, Rev. Microbiol. Epidemiol., v. 5 (1–2), 86–88, 120–121, tod. Ceratophyllus [1] *silantiewi;* etd. (1928) *ilovaiskii*. <†1626.—Ext.

[†**acutus* [s], p. 388: Ceratophyllus [1].—So. *montanus*, fide Jordan, 1929, 31.—Reported for: #552 *Mephitis* (species). Continued in later bulletins; *Spermophilus* (species t.h.).]

[**pocantis* [s] Roths., 1905, Novit. Zool., v. 12 (1), Feb. 11, 155–156, pl. 7, figs. 22–23: Ceratophyllus [1].—Alberta; Arizona; Calif.—So. *idahoensis*, fide Jordan, 1929, 32.—Reported for: #511 *Mustela* (*longicauda*). Continued in later bulletins.]

rupestris Jordan, 1929, Novit. Zool., v. 35 (1), Jan., 32, pl. 1, figs. 8–9 [Ceratophyllus [1]]: *Oropsylla*.—Calgary [t], Alberta.—Syn. *labis* Jord. & Roths., 1922, 275, ♀.—Reported for: #479 *Canis* (species); #511 *Mustela* (*longicauda*). Continued in later bulletins; *Spermophilus* (*richardsoni* t. h.).

—. **Paradoxopsyllus**, p. 490. <†1626.—Ext.

†*curvispinus*, p. 490: *Paradoxopsyllus*.—Reported for: #413 *Felis* (*catus*). Continued in later bulletins.]

—. **Foxella** Wagner, 1929, Konowia, v. 8 (3), Sept. 25, 314–315, tod. Pulex [1] *ignotus*. <†1626.—Ext.

albertensis Jord. & Roths., 1915, Ectoparasites, v. 1 (1), Dec. 30, 56, figs. 58–60 [Ceratophyllus [1] *ignotus*]: *Foxella ignotus*.—Blackfalls [t], Alberta.—Reported for: #413 *Felis* (*canadensis*); #511 *Mustela* (species). Continued in later bulletins.

**franciscanus* Roths., 1910, Ent. Mo. Mag., ser. 2, v. 21, Apr., 88–89, pl. 3, figs. 1–3 [Ceratophyllus [1]]: *Foxella ignotus;* Ceratophyllus [1] *ignotus*.—San Francisco [t], Calif.—Reported for: #511 *Mustela* (*xanthogenys*). Continued in later bulletins; *Thomomys* (*bottai* t. h.).

recula Jord. & Roths., 1915, Ectoparasites, v. 1 (1), Dec. 30, 58, figs. 59, 61 [Ceratophyllus [1] *ignotus*]: *Foxella ignotus*.—Okanagan Landing [t], Brit. Columbia.—Reported for: #511 *Mustela* (*arizonensis* t. h., species).

†**1627. Ceratophyllus** [17b], pp. 388, 490, 665, 842.—Ext.

abantis Roths., 1905, Novit. Zool., v. 12 (1), Feb. 11, 164–165, pl. 6, fig. 10: *Ceratophyllus.*—Canada [t].—Reported for: #511 *Mustela* (*caudatus*). Continued in later bulletins.

†**acamantis* Roths., 1905, Novit. Zool., v. 12 (1), Feb. 11, 156–158, pl. 8, figs. 24–25: *Ceratophyllus.*—Canada [t].—Reported for: #479 *Canis* (*latrans*); #511 *Mustela* (*vison energumenos*); #552 *Mephitis* (*occidentalis spissigrada*). Continued in later bulletins; also #12 *Homo.*

acasti [s] Roths., 1905, Novit. Zool., v. 12 (1), Feb. 11, 168–170, pl. 7, figs. 19–20: *Ceratophyllus.*—Quesnel [t], Brit. Columbia.—So. *pseudarctomys* Baker, fide Jordan, 1929, 28.—Reported for: #511 *Mustela* (*arizonensis*). Continued in later bulletins; *Sciuropterus* (*sabrinus* t. h.).

agilis Roths., 1905, Novit. Zool., v. 12 (1), Feb. 11, 167–168, pl. 7, figs. 16–18 [*Ceratophyllus*]: *Ceratophyllus sexdentatus.*—Banff [t], Alberta.—Reported for: #511 *Mustela* (*longicauda*); #511 *Putorius* (species). Continued in later bulletins; *Neotoma* (*cinerea* t. h.).

andersoni Roths., 1908, Proc. Zool. Soc. London, Part 3, Oct. 30, 628, pl. 31, fig. 19: *Ceratophyllus.*—Takamori [t], Japan.—Reported for: #511 *Mustela* (*itatsi* t. h.).

anisus Roths., 1907, Novit. Zool., v. 14 (1), Mar. 20, 332–333, fig. 7: *Ceratophyllus.*—Yokohama [t], Japan.—Reported for: #413 *Felis* (species t. h.).

apollinaris Jord. & Roths., 1921, Ectoparasites, v. 1 (3), Jan. 15, 176–177, figs. 163–164: *Ceratophyllus.*—Bogota [t], Colombia.—Reported for: #511 *Mustela* (*affinis* t. h.).

atrox Jordan, 1925, Novit. Zool., v. 32 (1), Apr. 30, 112, fig. 45: *Ceratophyllus.*—Blackfalls [t], Alberta.—Reported for: #511 *Mustela* (species t. h.).

caedens Jordan, 1925, Novit. Zool., v. 32 (1), Apr. 30, 104–105, figs. 16–17: *Ceratophyllus; Ceratophyllus caedens.*—Banff [t], Alberta.—Reported for: #521 *Martes* (*americana* t. h.).

**cyrturus* Jordan, 1929, Novit. Zool., v. 35 (1), Jan., 34, pl. 1, fig. 14: *Ceratophyllus eumolpi.*—Paradise [t], Ariz.—Reported for: #552 *Mephitis* (species t. h.).

**dentatus* Baker, 1904, Proc. U. S. Nat. Mus., v. 27 (1361), Feb. 16, 386, 390: *Ceratophyllus.*—Moscow [t], Idaho.—So. *fasciatus*, fide Dalla Torre, 1924*a*, 13.—Reported for: #413 *Felis* (*canadensis* t. h.).

**dieteri* Fox, 1929, Ent. News, v. 40 (7), July, 218: *Ceratophyllus nepos.*—Los Angeles Co.[t], Calif.—Reported for: #413 *Felis* (*rufa* t. h.).

durus Jordan, 1929, Novit. Zool., v. 35 (1), Jan., 29–30, pl. 1, figs. 3*a–g*: *Ceratophyllus caedens.*—Okanagan [t], Brit. Columbia.—Reported for: #511 *Mustela* (*arizonensis* t. h., species). Continued in later bulletins.

†**fasciatus*, pp. 388, 842: *Ceratophyllus.*—Reported for: #455 *Mungos* (*mungo*); #479 *Canis* (*familiaris*); #486 *Alopex* (*lagopus*); #511 *Mustela* (*erminea, furo, nivalis, nivalis nivalis, noveboracensis, putorius,* species (stoat), *vulgaris*); #521 *Martes* (*foina foina, martes, martes martes, zibellina*); #552 *Mephitis* (*occidentalis*). Continued in later bulletins.

flaveolus Roths., 1909, Novit. Zool., v. 16 (1), May 31, 57–58, pl. 9, fig. 6: *Ceratophyllus.*—Vienna [i], Austria.—Reported for: #511 *Mustela* (*erminea* t. h.).

fringillae Stephens in Walker, 1856*a*, 4–5 [Pulex [1]]: *Ceratophyllus.*—Great Britain [t].—Reported for: #413 *Fe-*

[17b] Since this Bulletin went to press, the following important paper on *Ceratophyllus* and allied genera has been published: Jordan, 1933, A survey of the classification of the American species of *Ceratophyllus* s. *lat.*<Novit. Zool., v. 39 (1), Oct. 23, pp. 70–79.

lis (*catus* [*dom.*]). Continued in later bulletins; *Fringilla* (species t. h.).

‡*furoris* [s] Dale, 1878, Hist. Glanvilles Wootton, 291 [Pulex [i]] [nv]; Roths., 1903, Ent. Mo. Mag., v. 39 (469), June, 145: Pulex [i].—Glanvilles Wootton [t], England.—So. *fasciatus*.—Reported for: #511 *Mustela* (*furo* t. h.).]

†*gallinae*, pp. 388, 665: *Ceratophyllus*.—Europe.—Reported for: #511 *Mustela* (*putorius*). Continued in later bulletins; *Gallus* (*domesticus* t. h.).

**howelli* Jordan, 1925, Novit. Zool., v. 32 (1), Apr. 30, 109, fig. 35: *Ceratophyllus*.—Pine City [t], Calif.—Reported for: #511 *Mustela* (*arizonensis*). Continued in later bulletins.

kaznakovi Wagner, 1929, Ann. Mus. Zool. Acad. U. R. S. S., v. 30 (1), 22–23, fig. 3: *Ceratophyllus*.—E. Tibet [t].—Reported for: #511 *Mustela* (species); #511 *Putorius* (species).

**labiatus* Baker, 1904, Proc. U. S. Nat. Mus., v. 27 (1361), Feb. 16, 387, 402–403, pl. 19, figs. 6–9: *Ceratophyllus*.—Moscow [t], Idaho.—Reported for: #413 *Felis* (*canadensis* t. h.).

labis Jord. & Roths., 1922, Ectoparasites, v. 1 (4), Sept. 1, 275, figs. 267–268: *Ceratophyllus*.—Calgary [t], Alberta.—Reported for: #511 *Mustela* (*longicauda* t. h.).

**lucidus* [s] Baker, 1904, Proc. U. S. Nat. Mus., v. 27 (1361), Feb. 16, 388, 410–411, pl. 20, figs. 5–9: *Ceratophyllus*.—Pagosa Peak [t], Colo.—So. *vison*, fide Jordan, 1929, 35.—Reported for: #479 *Canis* (*latrans*). Continued in later bulletins; *Sciurus* (*fremonti* t. h.).

lunatus Jord. & Roths., 1920, Ectoparasites, v. 1 (2), Jan. 20, 89–90, fig. 79: *Ceratophyllus*.—Zermatt [t], Switzerland.—Reported for: #511 *Mustela* (*erminea*, *nivalis nivalis* t. h.).

**mononis* Jordan, 1929, Novit. Zool., v. 35 (1), Jan., 35, pl. 1, figs. 17–18: *Ceratophyllus ciliatus*.—Pine City [t], Calif.—Reported for: #511 *Mustela* (*arizonensis*). Continued in later bulletins.

monstrosus Wagner, 1929, Ann. Mus. Zool. Acad. Sci. U. R. S. S., v. 30 (1), 24–25: *Ceratophyllus*.—Bairam-Ali [t].—Reported for: #511 *Mustela* (species). Continued in later bulletins; *Meriones* (species t. h.).

mustelae [s] Dale, 1878, Hist. Glanvilles Wootton, 291 [Pulex [i]] [nv]; Roths., 1903, Ent. Mo. Mag., v. 39 (469), June, 145: *Ceratophyllus*.—Glanvilles Wootton [t], England.—So. *penicilliger* Grube, 1852, fide Roths., 1920, 77.—Reported for: #511 *Mustela* (*erminea*, species (weasel) t. h.). Continued in later bulletins.

mustelae [h] [s] [p. 842] Wagner, 1898*a*: *Ceratophyllus*.—Lublin Govt. [t]—So. *turbidus*, fide Roths., 1920, 77.—Reported for: #511 *Mustela* (*putorius* s. vulgaris [h] t. h.). Continued in later bulletins.

nepos Roths., 1905, Novit. Zool., v. 12 (1), Feb. 11, 168, pl. 7, figs. 13–14: *Ceratophyllus; Ceratophyllus nepos; Ceratophyllus* wickhami [i].—Chilliwack [t], Brit. Columbia.—Reported for: #553 *Spilogale* (*phenax latifrons* t. h.).

**nevadensis* Jordan, 1929, Novit. Zool., v. 35 (1), Jan., 30, pl. 1, fig. 4: *Ceratophyllus sexdentatus*.—Pine City [t], Calif.—Reported for: #511 *Mustela* (*arizonensis* t. h.).

**oculatus* [s] Baker, 1904, Proc. U. S. Nat. Mus., v. 27 (1361), 387, 396–397, pl. 19, figs. 10–14: *Ceratophyllus*.—Washington [t], D. C.—So. *fasciatus*, fide Jordan, 1929, 33.—Reported for: #511 *Mustela* (*vison* t. h.).

**ophidius* Jordan, 1929, Novit. Zool., v. 35 (1), Jan., 36, pl. 2, fig. 20: *Ceratophyllus wagneri*.—San Francisco [t], Calif.—Reported for: #511 *Mustela* (*xanthogenys*).

**pansus* Jordan, 1925, Novit. Zool., v. 32 (1), Apr. 30, 109, fig. 38: *Ceratophyllus*.—Paradise [t], Ariz.—

Reported for: #552 *Mephitis* (species). Continued in later bulletins.

penicilliger Grube, 1851, Midden. Sibirische Reise, v. 2 (1), 500–501, pl. 32, figs. 7, 9 [Pulex [1]]: *Ceratophyllus*.—Turuchansk [t], Siberia.—Syn. *mustelae* [s] Dale, 1878, fide Roths., 1920, 77.—Reported for: #511 *Mustela* (*erminea, sibirica* t. h.). Continued in later bulletins.

**petiolatus* Baker, 1904, Proc. U. S. Nat. Mus., v. 27 (1361), Feb. 16, 388, 415–416, pl. 18, figs. 7–13: *Ceratophyllus*.—Moscow [t], Idaho.—Reported for: #413 *Felis* (*canadensis* t. h.).

**ponerus* Roths., 1909, Novit. Zool., v. 16 (1), May 31, 54–55, pl. 8, fig. 5: *Ceratophyllus*.—Palo Alto [t], Calif.—Reported for: #485 *Vulpes* (species t. h.).

sciurorum, p. 842: *Ceratophyllus*.—Europe.—Reported for: #511 *Mustela* (*erminea, nivalis, nivalis nivalis, putorius*); #521 *Martes* (*foina foina, martes*); #528 *Meles* (taxus so. *meles meles*). Continued in later bulletins; *Sciurus* (species t. h.).

**sibynus* Jordan, 1925, Novit. Zool., v. 32 (1), Apr. 30, 110–111, fig. 42: *Ceratophyllus*.—Paradise [t], Ariz.—Reported for: #552 *Mephitis* (species t. h.).

*species Harper, 1929, N. Y. State Mus. Handb., no. 8, 73: *Ceratophyllus*.—Indian Lake [t], N. Y.—Reported for: #511 *Mustela* (*noveboracensis* t. h.).

thambus Jordan, 1929, Novit. Zool., v. 35 (1), Jan., 36, pl. 2, fig. 21: *Ceratophyllus*.—Red Deer [t], Alberta.—Reported for: #413 *Lynx* (species t. h.).

**vison* Baker, 1904, Proc. U. S. Nat. Mus., v. 27 (1361), Feb. 16, 388, 408–410: *Ceratophyllus*.—Peterboro [t], N. Y.—Syn. *lucidus* [s], fide Jordan, 1929, 35.—Reported for: #511 *Mustela* (*noveboracensis, vison* t. h.). Continued in later bulletins.

walkeri, p. 842: *Ceratophyllus*.—Chattenden [t], Kent, England.—Reported for: #511 *Mustela* (*erminea, vulgaris* [s]) Continued in later bulletins; *Mus* (species t. h.).

**wickhami* Baker, 1895, Canad. Ent., v. 27, Apr., 109 (2), 111 (4) [Pulex [1]]: *Ceratophyllus*.—Iowa City [t], Iowa.—Reported for: #511 *Mustela* (*arizonensis*); #561 *Procyon* (*lotor*). Continued in later bulletins; *Sciuropterus* (*volans* t. h.).

†**1628. Hoplopsyllus**, p. 388. Etd. (1930) 4th sp. *glacialis*.

†**anomalus*, p. 388: *Hoplopsyllus*.—Reported for: #479 *Canis* (species (coyote)). Continued in later bulletins; *Citellus* (species t. h.).

exoticus Jord. & Roths., 1923, Ectoparasites, v. 1 (5), Nov. 20, 311–312, fig. 314: *Hoplopsyllus*.—Boquete[t], Panama.—Reported for: #413 *Felis* (species t. h.).

**lynx* Baker, 1904, Proc. U. S. Nat. Mus., v. 27 (1361), Feb. 16, 378, 383–384, pl. 10, figs. 7–11; pl. 11, figs. 1–2 [Pulex [1]]: *Hoplopsyllus glacialis; Hoplopsyllus*.—Moscow [t], Idaho.—Reported for: #413 *Felis* (*canadensis* t. h.).

profugus Jordan, 1925, Novit. Zool., v. 32 (1), Apr. 30, 103: *Hoplopsyllus glacialis*.—E. Turkestan [t].—Reported for: #511 *Mustela* (*erminea* t. h.).

†**1630.** TUNGIDAE, p. 388, 843.

†**1631. Tunga**, pp. 389, 490.—Ext., gravid ♀ subcut. Syn. Psammodes [h] Gistel in Gistel & Broome, 1850, Handb. d. Naturg., 506, mt. *penetrans* [not *Psammodes* Kirby, 1819, Coleopt.].

[canis [s] Westw., 1840*b*, 203 [nomen nudum]: *Sarcopsylla* [o].—S. America [t].—So. *penetrans*, fide Jord. & Roths., 1907, 69.—Reported for: #479 *Canis* (*familiaris* t. h.).

†*penetrans*, pp. 389, 490: *Tunga;* Psammodes [h]; Sarcophaga [h].—S. America [t].—Reported for: #413 *Felis* (*catus* [*dom.*], *leo*); #479 *Canis* (*familiaris*). Continued in later bulletins.

[species Roths., 1903, Novit. Zool., v. 10 (2), Aug. 25, 315: *Sarcopsylla*[o].—Wante[t].—Reported for: #479 *Canis* (*mesomelas* t. h.).]

—. **Hectopsylla**, p. 666.—Ext.

broscus Jord. & Roths., 1906, Thompson Yates & Johnston, Lab. Rept., v. 7 (1), Feb., 60–61, pl. 4, fig. 29: *Hectopsylla*.—Pampa Central[t], Argentina.—Reported for: #550 *Conepatus* (*humboldtii* t. h.).

coniger Jord. & Roths., 1906, Thompson Yates & Johnston Lab. Report, v. 7 (1), Feb., 59–60, pls. 1–2, 4, figs. 5, 9, 16, 30: *Hectopsylla*.—Pampa Olliga[t], Bolivia.—Syn. *conigera*[e] 1924.—Reported for: #550 *Conepatus* (*arequipae* t. h.).

stomis Jordan, 1925, Novit. Zool., v. 32 (1), Apr. 30, 96, fig. 1: *Hectopsylla*.—Buenos Aires[t], Argentina.—Reported for: #552 *Mephitis* (species). Continued in later bulletins.

†**1633. Echidnophaga**, pp. 389, 490, 666, 843.—Ext.

bradyta Jord. & Roths., 1906, Thompson Yates & Johnston Lab. Rept., v. 7 (1), Feb., 47–49, pl. 2, figs. 13, 19, pl. 3, fig. 23: *Echidnophaga*.—Deelfontein[t], Cape Colony.—Reported for: #413 *Felis* (*catus*); #448 *Suricata* (*suricatta suricatta, tetradactyla*); #450 *Cynictis* (*penicillata*); #540 *Ictonyx* (*striata*). Continued in later bulletins.

†**gallinacea*, pp. 389, 490, 843: *Echidnophaga*.—Reported for: #413 *Felis* (*catus, rubiginosa*); #448 *Suricata* (*suricatta suricatta, tetradactyla*); #450 *Cynictis* (*penicillata*); #451 [*Galerella*] (*gracilis badius*, [*ratlamuchi*]); #462 *Ichneumia* (*albicauda*); #464 *Herpestes* (*birmanicus*, species); #479 *Canis* (*familiaris*). Continued in later bulletins; *Gallus domesticus* t. h.

larina, p. 843: *Echidnophaga*.—Africa.—Reported for: #413 *Felis* (*pardus, pardus leopardus, pardus melanotica*); #464 *Herpestes* (*pulverulentus*); #469 *Hyaena* (*crocuta*); #479 *Canis* (*familiaris*). Continued in later bulletins.

tarda Jordan, 1925, Novit. Zool., v. 32 (1), Apr. 30, 96–97, fig. 2: *Echidnophaga*.—Addis Abeba[t], Abyssinia.—Reported for: #413 *Felis* (manicata); #469 *Hyaena* (species).

†**1634.** PULICIDAE, p. 389.

†**1635. Pulex**, pp. 389, 843.—Ext.

conepati Cunha, 1914, Mem. Inst. Oswaldo Cruz, v. 6 (2), 132–134, fig. 3: *Pulex*.—Piauhy[t], Brazil.—Syn. concepati[m] 1915.—Reported for: #550 *Conepatus* (*suffocans* t. h.).

†**irritans*, pp. 389, 843: *Pulex*.—Reported for: #413 *Felis* (*caracal, catus* [*dom.*], *onca*); #413 *Lynx* (species); #451 *Galerella* (*gracilis*); #466 *Proteles* (*cristatus*); #479 *Canis* (*aureus, familiaris, griseus, lupus, mesomelas*, species); #484 *Fennecus* (*zerda*); #485 *Vulpes* (species, *velox, vulpes, vulpes niloticus*); #511 *Mustela* (*putorius*); #528 *Meles* (taxus so. *meles meles*); #544 *Taxidea* (*taxus*); #550 *Conepatus* (*arequipae, chorensis*); #552 *Mephitis* (*occidentalis*, species); #561 *Procyon* (*psora*). Continued in later bulletins.

†**1635*A*. Rhopalopsyllus**, pp. 389, 666, 844.—Ext.

bohlsi Wagner, 1901*a*, May 10, Old Style (Julian) = May 23, New Style (Gregorian), 21–22, pl. 1, fig. 6 [Pulex[1]]: *Rhopalopsyllus*.—Paraguay[t].—Syns.: *gwyni*, ? *occidentalis*, fide Dalla Torre, 1924*a*, 22.—Reported for: #552 *Mephitis* (species). Continued in later bulletins.

†*lugubris* Jord. & Roths., 1908, Parasitol., v. 1 (1), Mar., 74–75, pl. 3, fig. 12, pl. 6, fig. 9: *Rhopalopsyllus*.—Charuplaya[t], Bolivia.—Reported for: #413 *Felis* (species); #477 *Icticyon* (*venaticus* t. h.). Continued in later bulletins; also for #12 *Homo*.

lutzi Baker, 1904, Proc. U. S. Nat. Mus., v. 27(1361), Feb. 16, 380–381 [Pulex[1]]: *Rhopalopsyllus lutzi*.—São Paulo[t], Brazil.—Reported for: #547 *Grison* (*vittata* t. h.). Continued in later bulletins.

rimatus Jordan, 1932, Novit. Zool., v. 38 (1), Dec. 30, 292: *Rhopalopsyllus*.—Sapucay [t], Paraguay.—Syn. bohlsi Jord. & Roths., 1908 and 1923, misdet.—Reported for: #552 *Mephitis* (species).

saevus Jord. & Roths., 1923, Ectoparasites, v. 1 (5), Nov. 20, 325, fig. 332: *Rhopalopsyllus cacicus*.—La Cabima [t], Panama.—Reported for: #413 *Felis* (*mearnsi* t. h.). Continued in later bulletins.

samuelis Jord. & Roths., 1923, Ectoparasites, v. 1 (5), Nov. 20, 331–332, figs. 342, 344: *Rhopalopsyllus klagesi*.—San Esteban [t], Venezuela.—Syn. *klagesi* Jord. & Roths., 1922, 269.—Reported for: #413 *Felis* (*mearnsi*). Continued in later bulletins.

†**sigmodoni* Stewart, 1930, Canad. Ent., v. 62 (8), Aug. 30, 175–178, pl. 15, figs. 1–2: *Rhopalopsyllus*.—Houston [t], Texas.—Reported for: #479 *Canis* (*familiaris*). Continued in later bulletins; *Sigmodon* (*hispidus* t. h.); also for #12 *Homo*.

tamoyus Jord. & Roths., 1923, Ectoparasites, v. 1 (5), Nov. 20, 328–329, figs. 340–341: *Rhopalopsyllus australis*.—San Bernardino [t], Paraguay.—Reported for: #525 *Tayra* (*barbara*). Continued in later bulletins.

tupinus Jord. & Roths., 1923, Ectoparasites, v. 1 (5), Nov. 20, 328, fig. 339: *Rhopalopsyllus australis*.—Bolivia [t].—Reported for: #477 *Icticyon* (*venaticus* t. h.).

†**1636. Xenopsylla**, pp. 389, 666, 844.—Ext.

†*astia*, pp. 389, 844: *Xenopsylla*.—Reported for: #413 *Felis* (*chaus*); #485 *Vulpes* (*bengalensis*). Continued in later bulletins; *Rattus* (species t. h.).

†*brasiliensis*, p. 490: *Xenopsylla*.—Syn. *vigetus*, fide Jordan, 1926, 611.—Reported for: #469 *Hyaena* (*striata*). Continued in later bulletins.

†**cheopis*, pp. 389, 666, 844: *Xenopsylla*.—Reported for: #413 *Felis* (*catus* [*domestica*]); #433 *Genetta* (*dongolana*); #479 *Canis* (species); #511 *Mustela* (*nudipes nudipes*). Continued in later bulletins.

†*eridos* Roths., 1904, Novit. Zool., v. 11 (2), Sept. 12, 611, pl. 8, fig. 21, pl. 9, fig. 23 [Pulex [1]]: *Xenopsylla*; *Loemopsylla* [s].—Carries plague.—Deelfontein [t], Cape Colony.—Reported for: #485 *Vulpes* (species). Continued in later bulletins; *Otomys* (*branti* t. h.); also for #12 *Homo* [1].

erilli Roths., 1904, Novit. Zool., v. 11 (2), Sept. 12, 610–611, pl. 8, figs. 16–17, pl. 9, fig. 22 [Pulex [1]]: *Xenopsylla; Loemopsylla* [s].—Deelfontein [t], Cape Colony.—Reported for: #448 *Suricata* (*suricatta suricatta, tetradactyla*); #450 *Cynictis* (*penicillata*); #464 *Herpestes* (species); #540 *Ictonyx* (*striata*). Continued in later bulletins.

nubicus, pp. 666, 844: *Xenopsylla*.—Carries plague.—Africa.—Reported for: #413 *Felis* (*ocreata*); #433 *Genetta* (*dongolana*); #462 *Ichneumia* (*albicauda*). Continued in later bulletins.

ramesis Roths., 1904, Ent., v. 37(488), Jan., 2–3, pl. 1, fig. 2 [Pulex [1]]: *Xenopsylla*; *Loemopsylla* [s].—Bir Victoria [t], Egypt.—Reported for: #511 *Mustela* (*numidica*). Continued in later bulletins.

—. **Synosternus**, p. 844.—Ext.

caffer Jord. & Roths., 1923, Ectoparasites, v. 1 (5), Nov. 20, 293–294, figs. 282–284 [Xenopsylla [1]]: *Synosternus*.—S. Africa [t].—Reported for: #433 *Genetta* (*senegalensis*). Continued in later bulletins.

cleopatrae, p. 844: *Synosternus*.—Africa.—Reported for: #540 *Ictonyx* (*libyca*). Continued in later bulletins.

†*pallidus*, pp. 389, 844: *Synosternus*.—Africa.—Reported for: #464 *Herpestes* (*ichneumon* t. h.); #469 *Hyaena* (*hyaena*); #479 *Canis* (*familiaris*); #483 *Fennecus* (*famelicus*); #485 *Vulpes* (*rüppelli caesia*, species, *vulpes aegyptiaca*, *vulpes niloticus*). Continued in later bulletins.

somalicus Jord. & Roths., 1908, Parasitol., v. 1 (1), Mar., 37–38, pl. 3, fig. 8 [Loemopsylla [l]]: *Synosternus;* Xenopsylla [l].—S. Somaliland [t].—Reported for: #469 *Hyaena* (*striata*); #479 *Canis* (*familiaris*). Continued in later bulletins; *Sciurus* (species t. h.).

[*witherbyi* [s], p. 844: Pulex [l].—Africa.—Reported for: #469 *Hyaena* (*hyaena*); #485 *Vulpes* (*vulpes niloticus*)]

—. **Procaviopsylla** Jordan, 1925, Novit. Zool., v. 32 (1), Apr. 30, 102, tod. *isidis* Roths., 1903. <†1634.—Ext.

creusae Roths., 1904, Novit. Zool., v. 11(2), Sept. 12, 608–610, pls. 8–9, figs. 18, 25 [Pulex [l]]: *Procaviopsylla;* Loemopsylla [l]; Xenopsylla [l].—Reported for: #413 *Felis* (*caracal*). Continued in later bulletins.

divergens Jord. & Roths., 1908, Parasitol., v. 1 (1), Mar., 57, pl. 2, fig. 10, pl. 4, fig. 2 [Loemopsylla [l]]: *Procaviopsylla;* Xenopsylla [l].—Deelfontein [t], Cape Colony.—Syn. convergens [m] 1925.—Reported for: #413 *Felis* (*caracal*). Continued in later bulletins.

isidis Roths., 1903, Novit. Zool., v. 10 (2), Aug. 25, 313–314, pl. 5, figs. 2, 5, 6, 8 [Pulex [l]]: *Procaviopsylla;* Loemopsylla [l]; Xenopsylla [l].—Harar [t], Abyssinia.—Reported for: #479 *Canis* (*familiaris*). Continued in later bulletins; *Procavia* (*erlangeri* t. h.).

†**1638. Archaeopsylla**, pp. 390, 666, 845.—Ext.

†*erinacei*, pp. 390, 845: *Archaeopsylla*.—Europe.—Reported for: #485 *Vulpes* (*vulpes*); #511 *Mustela* (*putorius*). Continued in later bulletins.

†**1639. Ctenocephalides**, p. 844.—Ext.

†**canis*,[18] pp. 390, 490, 844: *Ctenocephalides;* Ctenocephalus [h].—Reported for: #413 *Felis* (*catus* [*dom.*], *jaguarondi*, *macrocelis*, *tigris*); #433 *Genetta* (*suahelica*); #435 *Civettictis* (*civetta*); #448 *Suricata* (*suricatta*); #450 *Cynictis* (*penicillata*); #458 *Atilax* (*galera robusta*); #464 *Herpestes* (*ichneumon*); #469 *Hyaena* (*striata*); #479 *Canis* (*dingo*, *familiaris* t. h., *lateralis*, *mesomelas*, species); #480 *Otocyon* (*megalotis*); #483 *Fennecus* (*brucei* so. *zerda*); #485 *Vulpes* (*alpherakyi*, species, *vulpes*, *vulpes crucigera*); #486 *Alopex* (*lagopus*); #488 *Urocyon* (*cinereoargenteus*); #561 *Procyon* (*lotor*); #563 *Nasua* (*solitaria*). Continued in later bulletins.

[*concoloris* Weyenbergh, 1881*a*, 274: Pulex [l].—Argentina [t].—So. ?*felis*, fide Dalla Torre, 1924*a*, 21.—Reported for: #413 *Felis* (*concolor* t. h., *concolor puma*).]

connatus, p. 845: *Ctenocephalides*.—Africa.—Reported for: #448 *Suricata* (*suricatta*); #450 *Cynictis* (*penicillata*); #451 [*Galerella*] (*gracilis badius*); #540 *Ictonyx* (*striata*). Continued in later bulletins.

conversus Jord. & Roths., 1913, Novit. Zool., v. 20 (3), Oct. 21, 531–532, figs. 3–5 [Ctenocephalus [h]]: *Ctenocephalides*.—Mutaragwa [t], Brit. E. Africa.—Reported for: #433 *Genetta* (*stuhlmanni*). Continued in later bulletins.

craterus Jord. & Roths., 1913, Novit. Zool., v. 20 (3), Oct. 21, 532–535, figs. 6–8 [Ctenocephalus [h]]: *Ctenocephalides*.—Mutaragwa [t], Brit. E. Africa.—Reported for: #433 *Genetta* (*stuhlmanni*). Continued in later bulletins.

[†*enneodus* [s], p. 390: Ctenocephalus [h].—So. *felis*.—Reported for: #413 *Felis* (*catus* [*dom.*]); #479 *Canis* (*familiaris*).]

†**felis*, pp. 390, 490: *Ctenocephalides;* Ctenocephalus [h].—Reported for: #413 *Felis* (*catus* [*dom.* t. h.], *concolor*, *jaguarondi*, *leo*, *macroura*, *pardalis*, *pardus leopardus*, species, *tigris*); #427 *Paradoxurus* (*hermaphroditus*, *tytleri*); #428 *Arctictis* (species); #438 *Viverricula* (*indica*);

[18] The host records for *Ctenocephalides canis* and *C. felis* are somewhat confused in literature. Earlier authors, notably Baker, 1904 and 1905, considered *canis* and *felis* identical. Hosts cited by these authors for *canis* are in fact for *canis+felis*. It is possible that certain African records for *felis* refer to *felis orientis* or *felis strongylus*.

#464 *Herpestes* (*birmanicus, brachyurus brachyurus, ichneumon funestus*); #479 *Canis* (*azarae, culpaeus magellanicus, dingo, familiaris, gracilis*, species); #483 *Fennecus* (*zerda*); #485 *Vulpes* (*vulpes, vulpes atlantica*); #563 *Nasua* (*socialis*); #570 *Ailurus* (*fulgens*). Continued in later bulletins.

[*nasuae* Weyenbergh, 1881*a*, 272: Pulex [1].—Argentina [t].—So. ? *felis*, fide Dalla Torre, 1924*a*, 21.—Reported for: #563 *Nasua* (*socialis* t. h.).]

[†*novemdentatus* [o], p. 390: Ctenocephalus [h].—Europe.—So. *canis*.—Reported for: #413 *Felis* (*catus* [*dom.*]); #479 *Canis* (*familiaris*).]

[*obscurus* Weyenbergh, 1881*a*, 273–274: Pulex [1].—Argentina [t].—So. ? *felis*, fide Dalla Torre, 1924*a*, 21.—Reported for: #479 *Canis* (*azarae, gracilis*).]

[†*serraticeps* [o], p. 390: *Ctenocephalides;* Ctenocephalus [h].—Reported for: #413 *Felis* (*catus* [*dom.*], *jaguarondi, macrocelis*); #469 *Hyaena* (*striata*); #479 *Canis* (*familiaris*); #483 *Fennecus* (*brucei* so. *zerda*); #485 *Vulpes* (species); #511 *Mustela* (*putorius*); #561 *Procyon* (*lotor*). Continued in later bulletins.]

strongylus Jordan, 1925, Novit. Zool., v. 32 (1), Apr. 30, 98–99 [Ctenocephalus [h] *felis*]: *Ctenocephalides felis*.—Voi [t], Kenya Colony.—Reported for: #413 *Felis* (*ocreata*); #479 *Canis* (*familiaris, lateralis* t. h.); #485 *Vulpes* (*pallida*).

—. **Spilopsyllus** Baker, 1905, Proc. U. S. Nat. Mus., v. 29 (1417), Oct. 3, 129, 131, 145, tod. *leporis* Leach. < †1634.—Ext.

†*cuniculi* Dale, 1878, Hist. Glanvilles Wootton, 291 [Pulex [l]] [nv]; Roths., 1903, Ent. Mo. Mag., v. 39 (469), June, 145: *Spilopsyllus*.—Glanvilles Wootton [t], England.—So. *leporis*, fide Baker, 1905, 145.—Reported for: #413 *Felis* (*catus, catus ferus* so. *silvestris*); #485 *Vulpes* (species). Continued in later bulletins; *Lepus* (*cuniculus* t. h.); also for #12 *Homo*.

[*goniocephalus* Tasch., 1880*a*, 82–83, pl. 3, fig. 20 (*leporis* renamed): Pulex [l].—Europe [t].—Syn. *cuniculi* [s].—Reported for: #485 *Vulpes* (*vulpes*). Continued in later bulletins.]

leporis [o] Leach in Curtis, 1829, Guide Brit. Ins., 201 [Ceratophyllus [l]] [nomen nudum]; Tasch., 1880*a*, 82–83, pl. 3, fig. 20 (renamed *goniocephalus*): *Spilopsyllus*; Ctenocephalus [h] [l]; Pulex [l]. — British Isles [t].—Syn. *cuniculi* [s], fide Dampf, 1908, 18.—Reported for: #485 *Vulpes* (*vulpes*). Continued in later bulletins; *Lepus* (species t. h.).

—. **Cediopsylla** Jordan, 1925, Novit. Zool., v. 32 (1), Apr. 30, 103, tod. *simplex* Baker, 1895. < †1634.—Ext.

**inaequalis* Baker, 1895, Canad. Ent., v. 27, 163 (2), 164 (3)–165 (4) [Pulex [l]]: *Cediopsylla;* Spilopsyllus [l].—Arizona [t].—Reported for: #479 *Canis* (*latrans*). Continued in later bulletins.

**interrupta* Jordan, 1925, Novit. Zool., v. 32 (1), Apr. 30, 103: *Cediopsylla inaequalis*.—Calif. [t].—Reported for: #485 *Vulpes* (species). Continued in later bulletins.

—. **Megarthroglossus** Jord. & Roths., 1915, Ectoparasites, v. 1 (1), Dec. 30, 46, tod. *procus*. < †1634.—Ext.

procus Jord. & Roths., 1915, Ectoparasites, v. 1 (1), Dec. 30, 47–50, figs. 50–52: *Megarthroglossus*.—Brit. Columbia [t].—Reported for: #553 *Spilogale* (species t. h.). Continued in later bulletins.

sicamus Jord. & Roths., 1915, Ectoparasites, v. 1 (1), Dec. 30, 50–52, figs. 49, 53–54: *Megarthroglossus*.—Sicamous [t], Brit. Columbia.—Reported for: #479 *Canis* (*latrans* t. h.).

—. **Anomiopsyllus** Baker, 1904, Proc. U. S. Nat. Mus., v. 27 (1361), Feb. 16, 377, 425–426, tod. mt. Typhlopsylla [l] *nudata* Baker. < †1634.—Ext.

**californicus* [s] Baker, 1904, Invert. Pacifica, v. 1, Feb. 10, 39–40: *Anomiopsyllus*.—Claremont [t], Calif.—So. *nudatus*, fide Jord. & Roths., 1915, 45.—Reported for: #553 *Spilogale* (*phenax* t. h.).

**falsicalifornicus* Fox, 1929, Ent. News, v. 40 (7), July, 218: *Anomiopsyllus*.—Los Angeles [t], Calif.—Syn. californicus [d] Fox, 1926, 183–184, fig. 9, misdet.—Reported for: #553 *Spilogale* (*phenax*). Continued in later bulletins.

**nudatus* Baker, 1898, J. N. Y. Ent. Soc., v. 6 (1), Mar., 56 [Typhlopsylla [1]]: *Anomiopsyllus*.—Tucson [t], Ariz.—Syn. *californicus* [s], fide Jord. & Roths., 1915, 45.—Reported for: #552 *Mephitis* (species). Continued in later bulletins; *Neotoma* (*albigula* t. h.).

#408 (489). Auditory bulla inflated. See #409.

#409 (467). Mastoid air space absent; squamosal and exoccipital bones lie close against wall of entotympanic. See #410.

#410 (417). Pm_2 absent. See #411 and also #465.

#411 (416). FELIDAE [19] Gray, 1821, London Med. Repos., v. 15, 302.—Cats, lions, lynxes, tigers, etc. Head short, rounded; digitigrade, toes 5–4 with

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[19] The subdivision of *Felis* [1] by various authors presents such divergent views that the problem is presented to recognize as many of the resulting groups as possible without being too inconsistent. In general, in cases of transitional classification of this nature the more conservative course seems to be to hold to broad genera but to recognize subgenera. There seems little room for doubt that #415 *Cynailurus* separates from #413 *Felis* [1] very distinctly, on basis of the claws. Regarding a number of the other genera there appears to be more room for difference of opinion. #413*n* *Lynx* is recognized as generically distinct by many authors, but Pocock's key brings it close to #413*m* *Felis* [r].

For purpose of this catalog, and holding an open mind as to eventual future developments, the most practical course seems to be to use *Felis* [1] in a broad generic sense and to recognize the other divisions as subgeneric. To emphasize the point that Pocock recognizes these subgenera as generic, the subgeneric names adopted by him as generic are here placed in heavy type, instead of italics. Synonymy is given under the names in Pocock's key.

For monograph of the FELIDAE see Lydekker, 1896*a*, A Hand-book to the Carnivora, pt. 1, cats, civets, mungooses, London, 1–312, pls. 1–32.

Pocock (1917, Ann. Mag. Nat. Hist., v. 20 (199), Nov., 329–350) has divided the FELIDAE into 3 subfamilies and numerous genera. Miller, 1924*a*, combines the classifications of Cabrera, 1911, Pocock, 1917, and Allen, 1919, but he retains only as "groups" of the genus *Felis* many of the genera recognized by Allen and Pocock. For practical purposes these groups of Miller are essentially subgenera. For purposes of this Key-Catalog, the genus *Felis* is adopted in a broad sense with Pocock's genera and Miller's "groups" inserted as subgenera, but brought into prominence by the use of heavy type.

The following key leads to the genera and synonymy recognized by Pocock, 1917, and will be found very useful in tracing species, regardless of the point whether one agrees with Pocock or not in respect to the taxonomic grades ascribed to the units he recognizes. See #413*a*.

#413*a*(*b'*). Suspension of hyoid normally ossified, holding larynx close up to base of skull and restricting its movement. FELINAE [r] of Pocock, 1917, Ann. Mag. Nat. Hist., 8th ser., v. 20 (199), Nov., 332. See #413*b*.

#413*b*(*c*). **Neofelis** Gray, 1867, Proc. Zool. Soc. London, 265–266, tsd. (1917; 1929) 1st sp. *nebulosa* Griff. = *macrocelis* Horsf.—Very long upper canines, immense postcanine space; chin long and vertical; nasals broad throughout, their maxillo-premaxillary suture almost straight; postorbital processes very short; occiput angular above. E. Himalayas to Borneo.

#413*c*(*b*). Without the combination of characters cited for *Neofelis*. See #413*d*.

#413*d*(*c*). **Ictailurus** Severtzow, 1858, Rev. Mag. Zool., Paris, 2d ser., v. 10, Sept., 387–388, 390, mt. *planiceps* Vigors & Horsfield.—First upper premolar long, conical, 2-rooted; 1st lower premolar higher than 2d; postorbital bar complete, with slightly rounded posterior margin; condyle and angular set well behind broad rounded coronoid; tip of lower canine projecting high above lower edge of nares. Malay Peninsula to Borneo.

Syns.: *Aelurin* ∘ ∘ Kretzoi, 1929, Xth Internat. Congress Zool., Budapest, pt. 2, 1326, mt. tod. *planiceps* Vig. & Horsf.;

Aelurina ∘ ∘ Gill, 1872, Arrang. Fam., Mamm., 60, tsd. (1917) *planiceps*;

Ailurin ∘ Gervais, 1855, Hist. Nat. Mamm., Paris, v. 2, 86–87, 1 fig., mt. tod. *planiceps*;

Ailurogale ∘ Fitzinger, 1870 (for 1869), Sitz.-Ber. Akad. Wiss., Wien, v. 60, Abt. 1, 249, mt. *planiceps*;

Plathaelurus = ∘ Kretzoi, 1929, Xth Internat. Congr. Zool., Budapest, pt. 2, 1329;

Plethaelurus ∘ Cope, 1882, Proc. Amer. Philos. Soc., Phila., v. 20 (112), Nov. 20, 475, tod. *planiceps*.

claws sharp, curved, completely retractile (except #415 *Cynailurus*). Dental formula: i. 3/3, c. 1/1, pm. 3/2 or 2/2, m. 1/1. Larger cheek-teeth of a strictly trenchant type, their crowns compressed and high, without crushing surfaces, last upper premolar and first lower molar presenting extreme phase of carnassial modification; inner lobe of upper carnassial (3 lobes to blade) small, in front of middle of crown; upper molar rudimentary, narrow, trenchant, the main axis of its crown transverse to tooth-row; auditory bulla highly inflated, divided into 2 chambers by a transverse partition (septum),

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#413*c*(*d*). Without combination of characters shown in *Ictailurus*. See #413*f*.

#413*f*(*g*). Leptailurus Severtzow, 1858, Rev. Mag. Zool., Paris, 2d ser., v. 10, Sept., 389, 390, mt. *serval* Schreb.—Rhinarium very large; ears nearly meeting on summit of head. Malar greatly expanded in front, where it is clamped externally to preorbital foramen; cheek low; narrow postcanine space. [Pupil circular.] Africa, mainly south of the Sahara.

Syns.: *Galeopardus* ◦ Heuglin in Fitzinger, 1866, Sitz.-Ber. Akad. Wiss., Wien, v. 54 (10), Abt. 1, 557, mt. *serval;*

Lepailurus ᵐ Grevé, 1894, Nova Acta Leop., Halle, v. 63, 76;

Septailurus ᵐ Severtzow, 1858, Rev. Mag. Zool., Paris, 2d ser., v. 10, Sept., 390;

Serval ʰ ◦ Gray, 1867, Proc. Zool. Soc. London, 272 [not #413*n* *Serval* Brehm, 1864, lynx], tat. *serval;*

Servalina ◦ Grevé, 1894, Nova Acta Leop., Halle, v. 63, 76, mt. *serval;*

Servalinae Wagner, 1841, Schreber's Säugthiere, Suppl., v. 2, 505, 1st sp. *F. serval.*

#413*g* (*f*). Without combination of characters shown in *Leptailurus*. See #413*h*.

#413*h* (*k*). Outer chamber of bulla very large, extending in front of narrowed apex of inner chamber; groove of partition passing from stylomastoid foramen to basioccipital suture. See #413*i*.

#413*i* (*j*). Trichaelurus Satunin, 1905, Ann. Mus. Zool., St. Petersb., v. 9 (4), 495–496, tsd. (1917; 1929) *manul* Pall.—Face strongly sloped; upper rim of anterior nares nearly level with compressed lower rim of orbit; forehead and frontal postorbital processes very wide. [Pupil vertical.] Central Asia as far south as the western Himalayas.

Syns.: Otoca obus ᵐ 1917, Ann. Mag. Nat. Hist., v. 20 (119), Nov., 335;

Otocolobus ʰ ◦ Severtzow, 1858, Rev. Mag. Zool., Paris, 2d ser., v. 10, Sept., 386, 390, mt. *manul* Pallas [not *Otocolobus* Brandt, 1844, spermophile];

Trichailurus ▪ Allen, 1919, Bul. Amer. Mus. Nat. Hist., N. Y., v. 41, 338.

#413*j* (*i*). Dendrailurus Severtzow, 1858, Rev. Mag. Zool., Paris, 2d ser., v. 10, Sept., 386, 390, mt. *strigilata* Wagner so. *colocolo* H. Smith, 1824 [not *colocola* Molina, 1782].—Face not strongly sloped; upper rim of nares much higher than thickened lower rim of orbit; forehead narrow, postorbital processes slender. S. America; Guiana, Chile; Uruguay to Patagonia.

Syns.: *Lynchailurus* ▪ Severtzow, 1858, Rev. Mag. Zool., Paris, 2d ser., v. 10, Sept., 386, 390, mt. *pajeros* Desm.;

Pajeros ▪ Gray, 1867, Proc. Zool. Soc. London, 269, mt. tat. *pampanus* Gray so. *pajeros* Desm.

#413*k* (*h*). Outer chamber of bulla smaller or very small, not extending anteriorly in front of wider end of inner chamber, groove of partition passing to anterior edge of bulla. See #413*l*.

#413*l* (*o*). Outer chamber of bulla comparatively large; partition rising some distance from crest of tympanic annulus. See #413*m*.

#413*m* (*n*). Felis ʳ Linn., 1758*a*, 41, tat. *felis* so. *catus*, etd. (1858) *minuta*.—Cats, Hinzen, Katzen. Nasal branch of premolars broad above behind nasal, then abruptly pointed; suborbital margins of palate deeply notched; upper pm^1 normally present. [Pupil vertical.] Central and S. Europe; S. Asia to Burma; Africa apart from western forested area.

Syns.: *Cati* Wagner, 1841, Schreber's Säugthiere, Suppl., v. 2, 532;

Catolynx ◦ Severtzow, 1858, Rev. Mag. Zool., Paris, 2d ser., v. 10, Sept., 385, 387, 389, 390, tsd. (1917) *catus*, tsd. (1929) *chaus* Güld. [not #413*r* Catolynx ʰ Gray, 1867];

Cattus Schmerling, 1834, Recherches Ossem-Foss., Liége, v. 2, 92, 94, pl. 18, figs. 23–24;

Catus ◦ Frisch, 1775, Das Natur-Syst. vierfüss. Th., in Tab., 12, Tab. Gen. [new name for *Felis*] [nv]; Fitz., 1855, Wiss.-pop. Naturg. Säugeth., v. 1, 265, tat. *catus* (as *domesticus*+*ferus*);

Chaus ▪ Gray, 1843, List Spec. Mamm. Brit. Mus., pp. xx, 44–45, tat. *chaus*=*lybicus*;

?Microfelis ▪ Roberts, 1926, Ann. Transv. Mus., v. 11 (7), Sept. 14, 250, mt. tod. *F. nigripes* Burch.; "there is little doubt that the virtual absence of an internal cusp to the third upper premolar and the enlarging of the tympanic bullae, characters found in none of the allied species, are important and separation becomes necessary if classification is to stand for progress";

Otailurus Severtzow, 1858, Rev. Mag. Zool., Paris, 2d ser., v. 10, Sept., 388, 389, mt. *megalotis* Müller (domestic cat from Timor).

#413*n* (*m*). Lynx Kerr, 1792*a*, Anim. Kingd., Syst. Catal. Mamm., inserted between pp. 32 & 33, 41, 155, tat. *lynx* Linn. syn. *vulgaris* Kerr.—Lynxes, Luchsen. Nasal branch of premolars gradually attenuated above; suborbital margins of palate not deeply notched; upper pm^1 absent or early deciduous. Boreal and temperate latitudes of northern hemispheres as far south as Mediterranean and Western Himalayas and Mexico (true lynxes); southwestern Asia and entire Africa (caracals).

not externally constricted. Alisphenoid canal absent. Carotid canal very minute. Form usually slender, legs moderately long; size moderate to large; metatarsus entirely hairy. Vertebrae: c.7, d.13, l.7, s.3, ca.13 to 29. Anal glands present. Entire continental region of both Old and New Worlds, to limits of tree growth; Malay Archipelago; in Europe west to Great Britain; not in Australia or Madagascar region. See #412.

Syns.: *Caracal* * Gray, 1843, List Spec. Mamm. Brit. Mus., 46, mt. tat. *caracal* so. *melanotis;*

Caracala ○ * Gray, 1843, List Spec. Mamm. Brit. Mus., pp. xx [46], 202, mt. tvt. *caracal* so. *melanotis;*

Cervaria [h] ○ * Gray, 1867, Proc. Zool. Soc. London, 276 [not *Cervaria* Walker, 1866, lepidopt.], tsd. (1901; 1924; 1929) 1st sp. *pardina* Temm. so. *pardellus* Miller (tsd. 1917);

Eucervaria * Palmer, 1903, Science, N. S., v. 17, May 29, 873 [for Cervaria [h] Gray, 1867], type by renaming (Art. 30*f*, Internat. Rules) *pardina* so. *pardellus;*

[Linx ○ Frisch, 1775, Das Natur-syst. vierfüss. Th. in Tab., 12, Tab. Gen. [nv], tsd. (1905) *lynx* Linn. Name not available.]

Lynces Wagner, 1841, Schreber's Säugthiere, Suppl., v. 2, 515;

Lynceus [h] ○ Gray, 1821, London Med. Repos., v. 15, 302, mt. *lynx* [not *Lynceus* Müller, 1776, Crustacea], tsd. (1917; 1929) *lynx* Linn.;

Lynchus ○ Gray in Jardine, 1834, Nat. Lib., Mamm., v. 2, 274, tsd. (1904; 1917) *lynx* Linn.;

Lyncus ○ Gray, 1825, Ann. Philos., N. S., v. 10 (5), 339 [nomen nudum here], tsd. (1917; 1929) *lynx;*

Pardina ○ * Kaup, 1829, Entw.-Gesch. Natürl. Syst. Europ. Thierwelt, v. 1, 57, 189, mt. tat. *pardina* so. *pardellus;*

Serval * Brehm, 1864, Führer Zool. Garten Hamburg, Auflage 6, 53 [nv] type *maculatus*, Algiers [not #413*f* Serval [h] Gray, 1867];

Urolynchus * Severtzow, 1858, Rev. Mag. Zool., Paris, 2d ser., v. 10, Sept., 389, 390, mt. *caracal*.

#413*o* (*l*). Outer chamber of bulla small or very small; partition rising close to crest of tympanic annulus. See *p*.

#413*p* (*q*). *__Puma__ Jardine, 1834, Nat. Lib., Mamm., v. 2, 266, tat. "the puma" = *concolor* Linn. (tsd. 1858; 1904; 1905; 1929); Severtzow, 1858, 123, mt. *concolor* syn. *puma* Molina.—[Pupil circular.] Skull short, rounded, zygomata wide, maxilla receding, not expanded above; palatine foramen in orbit very large, distance between it and orbital foramen only little greater than width of wide, short mesopterygoid fossa and than anterior nares; palate broad, sides of its posterior elongation widely divergent; postorbital processes short, blunt; occiput wide across mastoids. From the United States to Patagonia.

Syn. *Unicolores* * Grevé, 1894, Nova Acta Acad. Leop., Halle, v. 63, 48, tvt. (tpd.) 1st sp. *concolor*.

#413*q* (*p*). Without combination of characters shown in *Puma*. See #413*r*.

#413*r* (*s*). **Pardofelis** Severtzow, 1858, Rev. Mag. Zool., Paris, 2d ser., v. 10, Sept., 387, 390, mt. *marmorata*.—Mesopterygoid fossa lanceolate in front, with very thick lateral edges or large external crest; skull short, broad and high. East Indies from Himalayas to Borneo.

Syn. Catolynx [h] ○ Gray, 1867, Proc. Zool. Soc. London, 267, tsd. (1917, 1929) 1st sp. *marmorata* [not #413*m* *Catolynx* Severtzow, 1858].

#413*s* (*r*). Without combination of characters shown in *Pardofelis*. See #413*t*.

#413*t*(*u*). **Zibethailurus** Severtzow, 1858, Rev. Mag. Zool., Paris, 2d ser., v. 10, Sept., 387, 390, mt. *viverrina* Bennett.—External pterygoid crest reduced to a small triangular lamina; preorbital thickening of malar very large; masseteric crest on malar remote from its lower edge; skull powerful, with strong constrictions and upper half of occiput narrow but rounded above; coronoid wide and rounded at summit. [Pupil circular.] India and Ceylon to S. China, Formosa and Tenasserim.

Syn. *Viverriceps* ○ Gray, 1867, Proc. Zool. Soc. London, 268, tat. *viverriceps* syn. *bennettii* Gray so. *viverrina* Benn. (tsd. 1917; 1929).

#413*u*(*t*). Without combination of characters shown in *Zibethailurus*. See #413*v*.

#413*v*(*u*). **Prionailurus** Severtzow, 1858, Rev. Mag. Zool., Paris, 2d ser., v. 10, Sept., 387, 396, mt. *pardochrous* Hodg. so. *bengalensis* Kerr.—Masseteric crest on malar remote from its inferior edge; narrowest point of preorbital constriction nearly over center of orbit; postorbital processes long, often confluent, occipital area narrow, its width across mastoids less than width of cranium, its sides hardly emarginate, its summit rather narrowly rounded, and its width halfway above condyles about equal to transcondylar width; portion of bulla behind stylomastoid smaller than that in front of it. Ceylon and India east to Borneo and Philippines and north into China and Amurland.

#413*w*(*v*). Without combination of characters shown in *Prionailurus*. See #413*x*.

#413*x*(*y*). **Profelis** Severtzow, 1858, Rev. Mag. Zool., Paris, 2d ser., v. 10, Sept., 386, 390, mt. *celidogaster* Temm. so. *aurata* Temm.—Skull powerfully developed with wide occiput, narrowest point of preorbital constriction nearly above center of orbital space, maxilla not expanded above but inclined back well beyond lacrymal foramen; area of bulla behind stylomastoid foramen much smaller than that in front of it; mandibles with 1st premolar much lower than carnassial, condyle high above angular and well-developed submasseteric ridge. Himalayas and China to Indo-Malaysia; W. African forest region.

#412 (414). FELINAE Jardine, 1834, Nat. Lib., Edinburgh, v. 2, Mamm., 59, 265.—Without total suppression of cutaneous lobes guarding claws; tips of digits of both fore and hind feet furnished at least with a single cutaneous lobe protecting retracted claw on inner side of digits II and III and on outer side of digits IV and V. Syn. FELINA [c d] Turner, 1848, Proc. Zool. Soc. London, 87. See #413.

#413. Felis [119] Linn., 1758*a*, 41, tat. *felis* so. *catus*, etd. (1900) *leo*, etd. (1858) *minuta*.—Cats, lions, lynxes, tigers, etc. Claws guarded, at least partially, by cutaneous lobes; completely retractile within their investing horny sheaths. Inner tubercle of upper carnassial tooth well developed. Practically cosmopolitan (with exception of Australia, New Zealand, New Guinea, perhaps Celebes, Madagascar, West India Islands (not including Trinidad)). See #413*a*.

Syns.: *Catopuma* • Severtzow, 1858, Rev. Mag. Zool., Paris, 2d ser., v. 10, Sept., 387, 390, mt. *moormensis* Hodg. so. *temminckii* Vig. & Hors.;
Chrysailurus • Severtzow, 1858, Rev. Mag. Zool., Paris, 2d ser., v. 10, Sept., 389, 390, mt. *neglecta* Gray so. *celidogaster* Temm. so. *aurata* Temm.;
Crysailurus [m] Allen, 1919, Bul. Amer. Mus. Nat. Hist., N. Y., v. 41, 338;
Pyrofelis • Gray, 1874, Ann. Mag. Nat. Hist., ser. 4, v. 14 (83), Nov., 354, mt. *temmincki* Vig. & Hors. syn. *aurata* • Temm.

#413*y*(*x*). Without combination of characters shown in *Profelis*. See #413*z*.

#413*z*(*a'*). •**Leopardus** Gray, 1842, Ann. Mag. Nat. Hist., v. 10 (65), Dec., 260, tsd. (1916; 1917) 1st sp. *griseus* Gray=? *pardalis* Linn. (tsd. 1929) tsd. (1905) *leopardus* Schreb.—Jaguars, ocelots, etc.—Feet fully webbed with well-developed claw-sheaths, hair on neck reversed in direction of growth. From Sonoran district of N. America southward throughout forested districts of S. America.

Syns.: *Oncoides* • Severtzow, 1858, Rev. Mag. Zool., Paris, 2d ser., v. 10, Sept., 386, 390, tsd. (1904; 1905; 1917) 1st sp. *pardalis* Linn.;
Pardalis ○ • Gray, 1867, Proc. Zool. Soc. London, 270, tat. *pardalis* Linn.

#413*a'*(*z*). •**Herpailurus** Severtzow, 1858, Rev. Mag. Zool., Paris, 2d ser., v. 10, Sept., 385, 390, tsd. (1917; 1919; 1929) 1st sp. *jaguarondi* syn. (1919) *eyra*.—Feet with only moderately developed webs and claw-sheaths, hair on neck not reversed. [Pupil circular.] From Texas in Sonoran area of North America as far south as Argentina and Chile. Contains: *yaguarondi*-group and *geoffroyi*-group.

Syns.: *Margay* • Gray, 1867, Proc. Zool. Soc. London, 271, tat. *margay* so. *tigrina* Schreb. (tsd. 1917; 1929); etd. (1916) Felis [1] *macroura* Wied so. Felis [1] *wiedi* Schinz;
Noctifelis • Severtzow, 1858, Rev. Mag. Zool., Paris, 2d ser., v. 10, Sept., 386, 390, mt. *guigna* Molina;
Oncifelis • Severtzow, 1858, Rev. Mag. Zool., Paris, 2d ser., v. 10, Sept., 386, 390, mt. *geoffroyi* Gerv.;
Pardalina • Gray, 1867, Proc. Zool. Soc. London, 266, mt. *warwickii* Gray so. *himalayanus* so. *geoffroyi* D'Orb. & Gerv. (tsd. 1905; 1917; 1929).

#413*b'* (*a*). Suspensorium of hyoid imperfectly ossified, its inferior portion consisting of a larger or shorter elastic tendon conferring great mobility upon larynx, which is not held close up to base of skull. PANTHERINAE Pocock, 1917, Ann. Mag. Nat. Hist., 8th ser., v. 20 (199), Nov., 332. Contains *Panthera* and *Uncia*. See #413*c'*.

#413*c'* (*d'*). **Uncia** Gray, 1854, Ann. Mag. Nat. Hist., 2d ser., v. 14 (83), Nov., 394, tat. *uncia* Schreb. so. *irbis* Ehrenb.—Outer chamber of bulla very large and involving entire anterior portion of its cavity, line of partition remote from meatus and running from stylomastoid foramen to a point on inner surface close to basioccipital suture; a narrow valley between bulla and glenoid joint; basioccipital deeply excavated laterally, a deep pit at anterior end of excavation. Central Asia.

#413*d'* (*c'*). **Panthera** Oken, 1816, Lehrb. Naturg., Zool., 3 Th., Abt. 2, 1052–1066, tsd. (1902; 1929) *vulgaris* Oken so. *panthera* Pall. so. *pardus* Linn. (tsd. 1919) [not *Panthera* Hübner, 1816, lepidopt.].—Jaguars. Outer chamber of bulla comparatively small, not involving entire anterior portion of cavity; partition-line close to meatus and ceasing towards anterior edge of bulla; a wide valley between bulla and glenoid joint; basioccipital at most shallowly excavated laterally. Africa; Asia.

Syns.: *Jaguarius* • Severtzow, 1858, Rev. Mag. Zool., Paris, 2d ser., v. 10, Sept., 386, 390, mt. *onca* Linn.;
Leo • Oken, 1816, Lehrb. Naturg., Zool., Th. 3, Abt. 1, 1074, mt. tat. *leo* Linn. syn. *vulgaris;*
Leonina ○ • Grevé, 1894, Nov. Acta Acad. Leop., Halle, v. 63 (1), 60, mt. *leo;*
Leoninae Wagner, 1841, Schreber's Säugthiere, Suppl., v. 2, 460–469;
Pantherinae Wagner, 1841, Schreber's Säugthiere, Suppl., v. 2, 474;
Pardotigris • Kretzoi, 1929, Xth Internat. Congress Zool., Budapest, pt. 2, 1325, tod. *onca* Linn.
Tigrina • Grevé, 1894, Nova Acta Acad. Leop., Halle, v. 63 (1), 48–55;
Tigrinae • Wagner, 1841, Schreber's Säugthiere, Suppl., v. 2, 469, mt. *tigris* Linn.;
Tigris • Oken, 1816, Lehrb. Naturg., Zool., 3 Th., Abt. 2, 1066–1070, tat. *tigris* Linn.

#413 **Felis**[r] **affinis** Gray, 1830–1832, Illustr. Ind. Zool., London, pt. 1, pl. 3. So. #413 **Felis** (**Felis**) **chaus affinis,** *q. v.*

#413 **Felis**[1] **azteca** (Merriam, 1901, Proc. Wash. Acad. Sci., v. 3, Dec. 11, 592 [*F. hippolestes*]) Merriam, 1903, Proc. Biol. Soc. Wash., v. 16, May 29, 73. So. #413 **Felis** (**Puma**) **concolor azteca.**

#413 ***Felis**[1] [or *Lynx*] (#413*n* **Lynx,** Cervaria[h], *Eucervaria*[s], *Lynchus*[o]) **baileyi** (Merriam, 1890, N. Amer. Fauna, no. 3, Sept. 11, 79 [*Lynx*]) Lydekker, 1893–1894, Royal Nat. Hist., v. 1, 441. Bay lynx, Bobcat, Plateau lynx. Moccasin Spring[t], Arizona; Colorado; Utah.

Taenia[r] †325.

macrocystis.

Toxocara †484.—Intest.

[*species Hall, 1912.—Colorado.]

#413 **Felis**[1] (*Felis*[1]) *bangsi* **costaricensis** Merriam, 1901, Proc. Wash. Acad. Sci., v. 3, Dec. 11, 596. Central American Puma. Boquete, Chiriqui, Panama[t]. So. #413 **Felis** (**Puma**) **concolor costaricensis.**

#413 **Felis**[1] [or *Prionailurus*] (#413*v* **Prionailurus**[t], Lynx[1], Oncoides[1], Pardina[1]) **bengalensis** Kerr, 1792*a*, Anim. Kingd., 151. Leopard cat, spotted cat, Ban-billa, Ban Biral, Borka, Chita Billa, Chita billi, Chitta biral, Kla-hla, Kya-gyúk, Kye-thit, Rimau-ákar, Theet-Kyoung, Thit-Kyoung, Thit-kyúk, Wagati. Amurland; "Bengal"[t], India[t]; Borneo; China; Eastern Siberia; Formosa; Himalayas; Java; Malacca; Philippines; Siam; Sumatra.

Hepatozoon<†165.—Blood.
species Wenyon in Hamerton, 1929.—London Zoo.

Paragonimus †250.—Lungs.
†*westermani.*

Diphyllobothrium †295.
reptans.—Burma.
species Moghe, 1926.

Ancylostoma †387.—Intest.
†*ceylanicum.*

Chlamydonema †470*I.*
praeputiale.—India.

Gnathostoma †473.
†*spinigerum.*

Microfilaria †432.
species Hamerton, 1929.—London Zoo.

Strongyloides †355.—Intest.
†*intestinalis.*

Synthetocaulus<†418.
species Vevers, 1920.—London Zoo, from India.

Toxascaris †486.—Intest.
leonina.—India.

Toxocara †484.—Intest.
[†*mystax*[o].—India.]

Troglostrongylus <†418.—Frontal sinus.
troglostrongylus.—India[t].—T. h.

Haemaphysalis †869.—Ext.
canestrinii[s].—Burma.—So. † *leachi*[s].
† *leachi*[o].—Burma.

#413 **Felis**[1] (#413*v* **Prionailurus,** Oncoïdes[1], Servalinae[1]) **bengalensis minuta**[s] (Temm., 1824, Monog. Mamm., v. 1, 130) Trouess., 1897*c*, Cat. Mamm., Berolini, 358. Kueruck, Kuwuk, Zwergkatze. Malacca; Philippines. So. **bengalensis,** fide Lydekker, 1896, 126.

Platynosomum †276*I.*—Liver, gall bladder.
fastosum.—Zoo, Königsberg[t].—T. h.
[*symmetricum*[s].]

Toxocara †484.—Intest.
[†*mystax*[s o].]

#413 **Felis**[r] [or *Catus*[o]] **caeruleus** (Erxl., 1777, Syst. Anim., 522 [*F. catus*]). So. #413 **Felis** (**Felis**) **catus caeruleus.**

#413 **Felis**[r] [or *Chaus*[s], Lynx[1]] **cafra** Desm., 1822, Encycl. méth., Mamm., (2), 540. So. #413 **Felis**[r] (**Felis**) **ocreata cafra.**

#413 *Lynx* [s] **californicus** (Mearns, 1897, Proc. U. S. Nat. Mus., v. 20, 458 [*Lynx rufus*]) Merriam, 1899, N. Amer. Fauna, no. 16, 104. So. #413 **Felis** [1] (**Lynx**) **rufa californica,** q. v.

#413 ***Felis** [1] [or *Lyncus, Lynx*] (#413*n* **Lynx,** *Lynchus*) **canadensis** Kerr, 1792*a*, Anim. Kingd., 33, 157. Canadian lynx. E. Canada [t]; N. America, south to Pennsylvania and California. Syns.: cauadensis [m] 1901; conadensis [m] 1843.

Taenia [r] †325.—Intest.
laticollis.—?Canada.
**rileyi.*—Minnesota [t].—T. h.
Spirocerca 468*G*.
**sanguinolenta.*—Wash. Zoo.
Toxocara †484.—Intest.
[†*canis.*]
**crenulata.*—Stomach.—Phila. Zoo.
[†**mystax* [s o].—Army Med. Mus.—So. *cati.*]

Ceratophyllus †1627.—Ext.
**dentatus* [s].—Moscow [t], Idaho.—T.h.
**labiatus.*—Moscow [t], Idaho.—T. h.
**petiolatus.*—Moscow [t], Idaho.—T. h.
Foxella< †1626.—Ext.
ignotus albertensis.—Blackfalls [t], Alberta.
Hoplopsyllus †1628.—Ext.
**glacialis lynx.*—Moscow [t], Idaho.—T. h.

#413 **Felis** [1] [or *Lynx*] (#413*n* **Lynx**) **canadensis canadensis** (Kerr, 1792*a*, Anim. Kingd., 33, 157) Miller, 1912, U. S. Nat. Mus., Bul. 79, 119. Canada lynx. E. Canada [t].

#413 **Felis** [1] (#413*f* **Leptailurus**) **capensis** Forster, 1781, Phil. Trans., v. 71 (1), 4; Gmel. in Linn., 1788, Syst. Nat., v. 1, 81; Shaw in Miller, 1796, Cim. Phys., 76. Var. of *F.* (*Zibethailurus*) *serval*, fide Trouess., 1897*c*, 356. So. *F. serval*, fide Lydekker, 1896*a*, 135. Southern Africa.

#413 **Felis** [1] (#413*f* **Leptailurus**) **capensis hindei** Wroughton, 1910, Ann. Mag. Nat. Hist., ser. 8, v. 5, 205. East African Serval cat. Machakos [t], East Africa.

Haemaphysalis †869.—Ext.
†*leachi.*—Taganyika.
Ixodes †866.—Ext.
†*pilosus.*
†*rasus.*

#413 **Felis** [1] (#413*f* **Leptailurus**) **capensis phillipsi** Allen, 1914, Bul. Mus. Comp. Zool., v. 58, July, 337. El Garef [t], Blue Nile, Sudan, Africa.

Dipylidium †308.—Intest.
species Kofend, 1921.—Senaar, Sudan.

#413 **Felis** [1] [or *Lynx, Lynchus*] (#413*n* **Lynx,** *Caracal, Lynces, Lynchus, Urolynchus*) **caracal** [20]. A much confused name in literature. Caracal, lynx, Persian lynx, Karakal, Wüstenluchs, Ech, Hayanatro, Incawa, Roode-kat, Rooi-kat (red cat), Siyáh-gush (black ears), Tsogde, Tuane. Africa; Asia; Asia Minor.

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[20] Felis [1] *caracal* Schreber, 1776, Säugthiere, pl. 110; 1777, v. 3, 413, 587. Type locality, Cape of Good Hope Region, fide Allen, 1924, Bul. Amer. Mus. Nat. Hist., v. 47, 280.

Felis [1] *caracal* Mueller, 1776, Naturg., 30, based on Buffon's (vol. 9, pl. 24) caracal. Type locality, Barbarie, fide Allen, 1924, 280, so. *F. caracal berberorum* (Matschie, 1892), Algeria [t].

Felis [1] [or **Lynx**] *caracal* "Gueldenstaedt, 1776", Nov. Comm. Acad. Sci. imp. Petrop., v. 20, 500, same as *F. caracal* of Mueller, 1776, name not used by Gueldenstaedt; syn. *melanotis*, fide Pocock, 1917, 334 Hayanatro, Caspian Sea [t].

Mesocestoides <†299.—Intest.
lineatus.—Africa.
Haemaphysalis †869.—Ext.
bispinosa intermedia.—India.
†*leachi* [e] *leachi*.—Egypt [t].

Procaviopsylla <†1634.—Ext.
creusae.—Cape Colony [t].
divergens.—Cape Colony [t].
Pulex †1635.—Ext.
†*irritans*.—Cape Colony.

#413 **Felis** [or *Lynx*] (#413*n* **Lynx**, *Caracal*, *Lynchus*) **caracal nubica** Fischer, 1829, Synopsis Mamm., 210. Nubia, Africa.
Mesocestoides <†299.—Small intest.
lineatus.

#413 **Felis** [r] [or *Catolynx* [o], *Catus* [o], *Chaus* [s]] (**Felis**, *Cati*) **catus** [21] Linn., 1758*a*, 42. Clearly the "blotched tabby" domesticated cat, fide Pocock, 1907, Proc. Zool. Soc. London, 149, and Thomas, 1911, Proc. Zool. Soc. London, 137. Possibly some of the parasites reported under *Felis catus* should be transferred to *Felis silvestris*, as there has been a tendency to use *catus* for the wild cat and *domestica* or *catus domestica* for the domesticated cat. More or less cosmopolitan; Upsala, Sweden [t].

Amoeba †64.
**fecalis*.
[species Franchini, 1922: "amibes".—Exp. from plants.]
Anaplasma †172*S*.—Blood.
species Laveran & Franchini, 1914.
Babesia †173.—Blood.
felis.—Exp.
species Davis, 1929.—Exp.
tropica.—India.
Cytospermium [j] <†157.
villorum intestinalium canis [p].—So. †161 *Isospora bigemina*.

Eimeria †163.
felina.—Feces.—Holland [t].—T. [b] nova [b].—Esoph., stom., intest.
†*perforans*.—Neg. exp.
Endamoeba †37.
†**coli*.—Exp.
[†*dispar* [s].—Exp.]
[†*dysenteriae [d].—Exp.; natural infection, Peking.]
[**enterica*.]
* *gedoelsti*.—Intest.—U. S. A.[t]
†**gingivalis*.—Mouth.

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[21] For a discussion of the complicated question of the origin of the domesticated cats, see Pocock, 1907, Proc. Zool. Soc. London, June 12, 143–168, pls. 8–10. Pocock's views may be summarized as follows:

"The characters used by breeders and fanciers as a basis for their so-called breeds of English Domestic Cats have no scientific value, in the sense of affording a clue to affinity and descent.

"The pattern—or, in other words, the arrangement of the stripes—shows that English Domestic Cats are referable to two distinct types, whether they belong to the 'Manx,' 'Persian' or 'Short-haired' breeds.

"These two types of pattern are different in kind and do not intergrade. They are so distinct from each other that no one would hesitate to regard them as characterising two well-marked species if the animals presenting them existed in a wild as opposed to a domesticated state.

"In one type of pattern the stripes take the form of narrow transverse or vertical bands which sometimes break up into spots. To feral or domesticated examples of this Cat have been given many names, of which *torquata* is the best known and *angorensis* or *striata* possibly the oldest.

"This Cat (*torquata*) was apparently domesticated in Europe at least as early as the 16th century. There seems to be no reason therefore for regarding it as of Indian origin.

"It closely resembles in pattern two existing species, namely, the so-called Egyptian Cat (*F. ocreata*) and the European Wild Cat (*F. sylvestris*), both of which occur at the present day in the Mediterranean Region, and are very nearly related to each other. There is no difficulty in the way of believing that they are the ancestral forms or 'agriotypes' of this domesticated race (*torquata*).

"In the other type of pattern the stripes take the form of broad longitudinal or obliquely longitudinal bands forming a ring-like or spiral arrangement on the sides of the abdomen. To domesticated examples of this Cat, Linnaeus gave the name *catus*, which cannot be applied to any other form of the genus *Felis*. *Domestica* is its best-known synonym.

"This Cat (*catus*) is certainly known to have been domesticated in Europe in the middle of the 18th century. It was not, however, apparently known in India in the middle of the 19th century. Probably, therefore, it is of European descent.

"Its origin is unknown. Of the several hypotheses that may be held on this subject perhaps the following two are the most to be commended: that it arose as a sudden variation or sport from the *torquata*-breed, in which case European Domestic Cats are dimorphic in pattern; that it is the direct descendant of some extinct Pleistocene Cat, in which case there are two distinct species of Domestic Cat in Europe."

†**histolytica*.—Also exp.
**histolytica murina*.—Exp.
[intestinalis [h] [o].]
[species Houdemer, 1925.—Tonkin.]

Giardia †139.—Intest.
cati.—Paris [t].—T. h.
†**enterica*.—Italy.
**felis*.—Baltimore [t], Md.—T. h.
†intestinalis [d] [h].
†**lamblia*.—Exp.
species Deschiens, 1925.—Paris.—Neg. exp.

Hepatozoon <†165.—Blood.
canis.
felis [o].
felis-domestici [i] [s].—Leucocytes.—India [t].—T. h.

Isospora †161.
†*belli*.—Exp.[j]
†**bigemina*.—Intest.—Europe.
bigemina cati.—Intest.—T. h.
**felis*.—Intest.—Europe [t].—T. h.
†**rivoltai* [o].—Feces.—T. h.
species Tubangui, 1931. — Philippines.
[villorum intestinalium canis [p].—So. *bigemina*.]
viverrae.—Neg. exp.

Leishmania †88.
†*donovani*.—Algiers; Spain.
†*infantum*.
†**tropica*.—Exp.

Pentatrichomonas [i] [s] †134. So. †131 *Trichomonas*, q. v.

Pneumocystis <†156.
carinii.—Lungs.

Sarcocystis †151.—Muscles.
species Darling, 1915.—Panama.
species Krause, 1863.
species [i] Wasielewski, 1896.

Schizotrypanum †95.—Blood.
†*cruzi*.—Exp.

Treponema [i] †142*f*.
[*canis*.—Feces.—Accra, W. Africa.]
†*eurygyratum*.—Intest.
†*icterohaemorrhagiae*.—Blood.—Exp.
†*morsus-muris*.
[*regaudi*.]
[species Kasai & Kobayashi, 1919: "Stomach spirochaetes".—Tokyo.]
[species Kermogant, 1925.—Exp.]
[species Lim, 1920: "Spirochaetes".—Edinburgh.—Stomach.]
[species Pettit, 1927 (after Gross): "Spirochetides".—Stomach.]
†*vincenti*.

Trichomonas †131.
felis [i].—Intest.—Brazil [t]; Paris.—T. h.
**felistomae*.—Mouth.—Baltimore [t], Md.—T. h.
†**hominis* [i].—Exp.
†*intestinalis [d] [h].—Exp.
parva.—Exp.
species [i] Kessel, 1928.—Indistinguishable from *T. hominis*.—Exp. from *Homo*, monkey, pig, and white rat.
species Reichenow, 1925.—Germany.

Tritrichomonas [i] [s] †132. So. †131 *Trichomonas*, q. v.

Trypanosoma †94.—Blood.
†*brucei*.—Exp.
equiperdum.—Exp.
evansi.—Exp.
frobeniusi [o] [s] [*frobenius*].—Exp.
†*gambiense*.—Exp.
hippicum.—Murrina, Derrengadera, Verrenkung.—Exp.
marocanum [s].—Exp.
†*rhodesiense* [s].—Exp.
species Weck, 1914.—Africa.

Adleriella <†271.—Intest.
minutissima.—Palestine.

Alaria <†223*j*.—Intest.
americana.
[*asoviensis*.—? Small intest.—Russia [t].—T. h.]

Amphistoma [i] †229*a*.
species Parona, 1894*a*.—Pisa, Italy.

Apophallus †271*P*.—Intest.
donicum.—Russia.
mühlingi.
[**venustus*.—Germany; Washington, D. C.]

Centrocestus †271*L*.
†*armatus*.—Formosa.
[†*formosanum*.—Intest.—Formosa.]

Clonorchis †268.
†*endemicus*.—Liver, gall ducts.—China; Japan.
†*sinensis*.—Liver.—China; Japa
†*sinensis major* [o].
[†spathulatum [d].]

Cornatrium <†282.
fuscatum.—Japan [t].—T. h.
perpendiculum.—Japan.—Exp.

Cryptocotyle †271*F*.—Intest.
concava.—Crimea.
**lingua*.—Woods Hole, Massachusetts.—Exp.
quinquecangularis.—Russia [t].—T. h.
tanaitici.—U. S. S. R.—T. h.
Dexiogonimus <†271.—Intest.
ciureanus.—Palestine.
Diorchitrema <†271.—Intest.
pseudocirrata.—Palestine.
Distoma [1] <†238.
kalapai.—Larva in liver.—Exp.
Echinochasmus †262.—Intest.
†*japonicus*.—Japan.—Exp.
†*perfoliatus*.—Europe; Japan.
Echinostoma †255.
liliputanum.
Euparyphium †257.—Intest.
[*melis*.]
trigonocephalum [o].
Fasciola †246.
†*hepatica*.
Heterophyes †272.—Small intest.
aequalis.—Egypt; Palestine.
continuus.—Japan.—Exp.
dispar.—Egypt; Palestine.
dispar limatus.—Egypt [t].—T. h.
fraternus.—Intest.
†*heterophyes*.—Small intest., cecum.—China; Egypt; Japan.
heterophyes sentus.—Egypt [t].—T. h.
†*nocens*.—Japan.—Exp.
Macroorchis <†282.
spinulosus.
Metagonimus †273.—Intest.
parvus [s].—Somova [t].—T. h.
romanicus.
takahashii.—Japan.
†*yokogawai*.—China; Dutch East Indies.
Metorchis †267*i*.
albidus.—Gall bladder and ducts.—Königsberg [t] i. Pr., Germany.—T. h.
oesophagolongus.—Small intest.—Hamburg, Germany.—Exp.
Microphallus <†239*A*''.—Intest.
†*minus*.—Japan.—Exp.
Monorchotrema <†271.—Intest.
†*taichui*.—Palestine.
†*taihokui*.—Formosa; Palestine.
Nanophyetus <†271.
**salmincola*.—Western U. S. A.

Opisthorchis †267.
[conus [d s] of Gurlt, 1831.—Gall bladder and ducts.]
†*felineus*.—Gall bladder and ducts, liver, pancreas.—Asia; Europe (Italy [t]); Philippine Ids.—T. h.
[lanceolatum [d h o] 1836, not 1790, not 1803.—Liver.—Europe.]
†*noverca*.
**pseudofelineus*.—Liver, bile ducts.—Dutch Guiana; Lincoln [t], Nebraska.—T. h.
[*sibiricum* [s].—Liver.—Siberia.]
tenuicollis.
tenuicollis-felineus.
wardi.—Liver, bile ducts.—Philippine Ids.—T. h.
Ornithobilharzia <†280.
turkestanicum.—Branches of portal vein.
Paragonimus †250.—Lungs.
**kellicotti*.—U. S. A.
[†*pulmonale* [s].]
†*ringeri*.—Asia.
*species Feldman & Essex, 1929.—Rochester, Minnesota.
†*westermani*.—Korea; Manila, Philippine Ids.; Zululand.
Parametorchis <†265.
**complexus*.—Liver.—Eastern U. S. A.—T. h.
**noveboracensis*.—Gall bladder.—Ithaca [t], New York.—T. h.
Parascocotyle <†271.—Intest.
ascolonga.—Palestine.
longa.—Palestine.
minuta.—Brazil; Egypt, Tunis, N. Africa; S. Africa.
Pharyngostomum <†223*j*.—Intest.
cordatum.—China.
fausti.—U. S. S. R.—T. h.
Plagiorchis 239–41*A*.—Intest.
massino.—Armenia.
Platynosomum †276*I*.—Bile ducts.
fastosum.—Dutch Guiana.
Ponticotrema <†271.
euxini.—Crimea [t].—T. h.
Procerovum <†282.
varium.—Japan.—Exp.
Prohemistomum <†223*j*.—Intest.
appendiculatum.—Rumania.
Pseudamphistomum †270.
[*campanulatum* [s].—Liver.—Europe.]

[*conus* [s].—Gall bladder and ducts.]
danubiense.—Liver.—Somova [t].—T. h.
truncatum.—Liver, gall bladder, and ducts.—Europe.

Pygidiopsis <†271.
genata.—Palestine.
summus.—Japan.—Exp.

Schistosoma †281.—Blood vessels.
†*haematobium*.
†*japonicum*.—Liver, portal vein.—China; Japan; Philippines; S. Africa.

Stellantchasmus <†282.
falcatus.—Japan.—Exp.

Stephanopirumus <†282.
longus.—Japan.—Exp.

Stictodora <†271.—Intest.
sawakinensis.—Palestine.

Bothriocephalus <†286.—Intest.
species Braun, 1893*f*, 390.—Apparently Königsberg i. Pr.

Cysticercus †326.
†*cellulosae*.

Diphyllobothrium †295.—Intest.
decipiens [o].—Brazil; China; Calcutta Zoo, India.—T. h.
erinacei.—China.—Exp.
felis.—Calcutta, India.—T. h.
†*houghtoni*.—China.
†**latum*.—Also exp.
maculatum [s].
†*mansoni*.—Coelom, musculature. Adult in intest.—China; Korea; Puerto Rico.
[pancerii (Polonio) of Baer & Joyeux, 1927.—Adult in intest.—So. *ranarum*.—Exp.]
ranarum.—China; Europe.—Also exp.
species Tubangui, 1925.—Manila, Philippine Ids.
[species Wharton, 1917.—Philippine Ids.]

Dipylidium †308.—Intest.
†*caninum*.—Cosmopolitan.
caninum cati.—T. h.
caninum felis [h s].—Italy; Lausanne, Switzerland.—T. h.
carracidoi.—Granada and Madrid, Spain [t].—T. h.
chyzeri.—Intest., colon.—Algeria; E. Africa; Hungary; Spain; Tunis.
**compactum*.—California [t].—T. h.
cucumerina [s].
[*cuneiceps* [s].]
**diffusum*.—California [t].—T. h.
[*echinorhynchoides: Joyeuxia*.—N. Africa.]
[*elliptica* [o].]
[*fabulosum: Diplopylidium*.—Gizeh [t], Egypt.—T. h.]
felina [s].—Germany [t].—T. h.
[*felis* [s].—Europe [t].—T. h.]
[*fortunatum: Diplopylidium*.—Gizeh [t], Egypt.—T. h.]
**gracile*.—California [t].—T. h.
halli.—Manila [t], Philippine Ids.; Spain.—T. h.
**longulum*.—California [t].—T. h.
[*monoophoroides*.—Spain [t].—T. h.]
[*nölleri*.—Russian Turkestan [t].—T. h.]
örleyi.—Hungary [t]; Philippine Ids.—T. h.
pasqualei.—Egypt [t]; Spain.—T. h.
[*pasqualeiformis*.—Granada [t], Spain.—T. h.]
porimamillanum.—Granada [t], Spain.—T. h.
quinquecoronatum.—Granada [t], Spain.—T. h.
rossicum.—Russia.
sexcoronatum.—Cosmopolitan.
trinchesei.—Egypt; Italy [t]; Tunisia.—T. h.

Echinococcus †322.
granulatus, for ?*granulosus*.
†*granulosus*.—Adult in intest.—England; S. Africa.
polymorphus [s].—Larva in various organs.

Ligula †290.
intestinalis Linn.—U. S. S. R.
species Sakamoto & Tsuyuki, 1923.—Japan.

Mesocestoides <†299.—Intest.
[*canis-lagopodis* [s].—Intest.]
**latus*.—Rochester, Minnesota.
lineatus.—Tunis.
litteratus.—Intest.
[*pseudo-elliptica* [s].—Apparently France [t].—T. h.]
*species Schwartz, 1927.—Washington, D. C.—Exp.

Multiceps †324.
†*serialis*.—Small intest.—Wales.
[species Engelmayer [nv]: *Coenurus* [s].—Liver.]

Schistocephalus <†289.
gasterostei.—Greenland.

Taenia [1] <†299.
pectinata [j s].
Taenia (**Hydatigera** or **Reditaenia**) †325*c*.—Intest.
collo brevissimo [d].—Germany [t].—T. h.
†*crassicollis*.—Europe; India.
felina [h].
globulata [s].—Europe [t].—T. h.
moniliformis [s].
semiteres [s].—Ventric.
serrata [s].—T. h.
serrata felis [s].—T. h.
**taeniaeformis*.—Europe [t]; cosmopolitan.
Taenia (**Taenia**) †325*b*.—Adult in intest.
†*hydatigena*.—Larva in connective tissue.—Wales.
†*marginata* [s].—Larva.
novella.—Intest.—France [t].—T. h.
†*pisiformis*.
†*solium* [j].—Musculature.—Presence in cats needs confirmation.
Taenia (**Taeniarhynchus**) †325*d*.—Intest.
†*saginata* [j].—Presence in cats needs confirmation.
Tetrathyridium <†284*a*.
[*bailleti*.—Syn. railleti [m] 1894.]
elongatum [d h] 1882*a*.—Thoracic cavity, abdomen, serous membranes.—Germany.
[species Skrjabin, 1924.—U. S. S. R.]
Aelurostrongylus <†418.
abstrusus.—Adult in pulmonary vessel, eggs in blood stream, in lungs, larva in lungs and feces; lungs, bronchi, trachea.—T. h.
[*nanus*.—Munich.—T. h.]
[pusillus [h].]
Agamonema †375.
affine.—So. *spiralis*.
Agamospirura †457.
species Henry & Sisoff, fide Skrjabin, 1924.—U. S. S. R.
Ancylostoma †387.—Intest.
balsami [s].—Italy.—T. h.
[balsamis [m] *felis* [o], balsamoi [m], for *balsami*.]
†**braziliense*.—Brazil [t]; China; Formosa; India; Japan; Philippines; U. S. A.
†**caninum*.—Dutch Guiana; Freetown, W. Africa; U. S. A.
†*ceylanicum* [s].—Ceylon; Freetown, W. Africa; Durban, S. Africa.
†**duodenale*.—Error for *caninum*? But it has been transmitted experimentally to kittens.
[*felis*[o].]
trigonocephalum [d].—Manila.
tubaeforme [j s].—Duod. in tuberc.—Europe; S. America.—T. h.
Arthrostoma <†384.
felineum.—Exp.
Ascaris [1] †479.
cati [h] Gmelin, 1790*a*.—Intest.—Europe.
Capillaria †372*b*.
plica.
species Lewis, 1927.—Urinary bladder.—Wales.
Chlamydonema 470*I*.—Stomach.
felineum [s].—Batavia.—So. *praeputiale*.
praeputiale.—Brazil; China; Ceylon; Guianas; India; Zanzibar.—T. h.
[preputialis [c].—Brazil.]
Cylicospirura 468*f*.
[*felineus* [s].—Encysted in stomach wall.—India [t].—T. h.]
Dipetalonema †453.
dracunculoides.—Tunis.
Dirofilaria †447, 449*A*.
†**immitis*.—Heart.
Dracunculus †439.
†*medinensis*.
Eucoleus <†369.
aerophilus.—Bronchi.—Munich.
[*aerophyllum* [c].]
Filaria †435.
species Stiles & Hassall, 1894*e*.
Fusaria [l]=**Ascaris** [1] †479.
crenata.—Stomach, intest.
Gnathostoma †473.
pelecani.—Liver and peritoneal wall.
robustum [s].—Stomach.—So. ? *spinigerum*.
†*spinigerum*.—Stomach, gastric ulcer, digestive apparatus, kidney, stomach tumor.—Australia; China; India; Philippines.
Hepaticola †372.
hepatica.—Exp. neg.

Heterakis †488*N*.
papillosa [s].—Intest., stomach.—Derived from eating fowl.—[Cf. *vesicularis* and *inflexa*.]
Microfilaria †432.—Blood.
species Chatton, 1918.—Tonkin; S. Tunisia.
Nematoideum †352*a*.
species Dav., 1877*a*.—Lungs.
[species Sonsino, 1896*m*.—Egypt.—Larva in lungs.]
*species Wilson, 1922.—N. Carolina.
Ollulanus <†411*d*.
bicuspis [m].
**tricuspis*.—Tunic. ventric., lungs, intest., stom., gastric mucosa.—Germany [t], Europe, U. S. A.—T. h.
[trikuspis [e] for *tricuspis*.]
Physaloptera 470*H*.
gemina.—Stomach, intest.—Egypt [t].—T. h.
pacitae.—Encysted, stomach wall.—T. h.
species Skrjabin, 1924.—U. S. S. R.
Protospirura 470*B*.
**gracilis*.—Stom.—Washington [t], D. C.—T. h.
Rictularia 459*R*.
affinis.
cahirensis.—Sm. intest.—Armenia; Cairo; Turkestan.—T. h.
Soboliphyme 423*B*.
baturini.—Asia.
Spirocerca 468*G*.
sanguinolenta.—Exp.—Aortic wall.—Pekin.
Spirura 468*e*.
gastrophila [s].—Esophagus, stomach.—Europe; Madagascar.
rytipleurites.
talpae.
Strongyloides †355.—Intest.
fülleborni.—Exp.
*species Price & Dikmans, 1929.—Epithelial tumors, large intest.—U. S. A.
†**stercoralis* [r].—Exp.—U. S. A.; Japan.
stercoralis felis.—Calcutta.—T. h.
Thelazia †464.
†*callipaeda*.—Eye, exp.—China.
Toxascaris †486.—Intest.
[†*felis* [o].]
leonina.—England.
Toxocara †484.—Stomach, intest.
†**canis*.—Europe, U. S. A.
canis felis [s].—Host [j].
†*cati*.—Europe; Philippines.—T. h.
felis [o].
†*marginata* [o].
[myolare [m].—Brazil.]
†**mystax* [o].—Intest., stomach, mesentery.—Europe; India; Africa; U. S. A.—T. h.
[nuptax [m].]
[species Hall, 1912.]
species Hall, 1912.
[teres [felis].—Cf. *mystax*.]
Trichinella †366.
[†*pubis* [s].]
†**spiralis*.—Tongue; musc.; small intest.
Trichosoma †372*a*.
felis-cati.—Urinary bladder.
lineare [s].—Intest.—Cf. ? *felis-cati*.
species Sandground, 1921.—Bladder.
species Schlotthauber, 1860.
Trichuris †370.—Intest.
campanula.—Brazil.—T. h.
†*dispar*.—Trachea.
serrata.—T. h.
Uncinaria 390*B*.—Intest.
†**stenocephala*.
Wellcomea 494*A*.—Intest.
**compar*.—Calcutta, India; Philadelphia [t], U. S. A.—T. h.
Centrorhynchus †501*S*.
aluconis.—Intest.—Armenia.
erraticus.—Intest.—India.—T. h.
species Kostylew, 1926.—Intest.—Armenia.
Corynosoma †501*s*.
species Skrjabin, 1924.—U. S. S. R.
strumosum.
[*ventricosum* [s].]
Echinopardalis †501*m*.—Intest.
pardalis.
Echinorhynchus [l] †502.
species Braun, 1893*f*.—Germany.
Moniliformis †505.
†*moniliformis*.
Oncicola †501*o*.
**canis*.—Texas; District of Columbia.
Amblyomma †881.—Ext.
agamum.—Brazil.—Negative exp.
†**unipunctatum* [s].
†*variegatum*.

Argas †861.—Ext.
†vespertilionis.—Cape Province, Transvaal, S. Africa.
Armillifer †796.
†armillatus.
Cheyletiella †991*a*.—Ext.
parasitivorax.
Demodex †855.—Hair follicles.
folliculorum cati.—Europe [t].—T. h.
Dermacentor †873.—Ext.
bifurcatus.
variegatus.
Dermanyssus †895.—Ext.
†gallinae.
Haemaphysalis †869.—Ext.
bispinosa.
bispinosa intermedia.—India.
concinna.
†leachi [e] *leachi.*—Nyassaland.
leporis-palustris.
parmata.
punctata.
Hyalomma †880.—Ext.
†aegyptium aegyptium.
aegyptium impressum.—S. Africa.
Ixodes †866.—Ext.
**angustus.*—Washington, U. S. A.
†hexagonus.
*†*hexagonus cookei.*
**hexagonus longispinosus.*
†holocyclus.—Host[j].
†pilosus.—Transvaal.
†pilosus howardi.
†reduvius [s].—So. *ricinus*, pars so. *hexagonus.*
†ricinus.
Kiricephalus †795*a*.—Lungs.
pattoni.—China.
Leptus †955.
*†*americanus.*
Linguatula †800.
†rhinaria.
†serrata.—Larva and adult.
Metathrombium †964.—Ext.
†poriceps.
Microtrombidium †974.—Ext.
†meridionale [s].
†pusillum.—Europe.
Notoedres †936.—Ext.
†cati cati.—T. h.
[*minor* [o].—Nose, lips, ears, eyes.—Europe.—T. h.]
[*†notoedres.*]
Ornithodoros †863.—Ext.
†moubata.—S. Africa.
†savignyi.
Otobius †862.—Ext.
†megnini.—S. Africa.
Otodectes †944*c*.—Ext., ear.
[*auricularum.*]
[*auricularum canis* [s].]
[*auricularum cati* [o].—T. h.]
cynotis.
[*ecaudatus* [o].]
[*felis* [s].]
Rhipicephalus †875.—Ext.
†appendiculatus.
bursa.
evertsi.
[*†pulchellus.*]
†sanguineus.
Sarcoptes †942.—Ext.
†hominis.—Exp. negative.
[species Berge, 1923.—Dresden.]
Trombicula †970.—Ext.
†akamushi.—Japan.
†autumnalis.
†irritans.
shannoni.—Verrugas Cañon [t], Lima, Peru.—T. h.
species Kitashima & Miyajima, 1918.—Asia.
†tlalsahuate.
†vandersandei.
†wichmanni.
Trombidium †977.—Ext.
†holosericeum.
†striaticeps.—France [t].
Tydeus †949.—Ext.
†molestus.
Tetranychus †987.
molestissimus.
Uropoda <†890*a*.—Ext.
elongata.—Utrecht.
Aëdes †1459.—Ext.
†fasciatus [s].
Bogeria <†1573.
emasculator.—Larvae subcut.—N. America.
Ceratophyllus †1627.—Ext.
fringillae.
Cochliomyia †1581*A*.
†macellaria.
Cordylobia †1599.
†anthropophaga.—Larvae subcut.—Senegal.

Ctenocephalides †1639.—Ext.
†**canis.*—Europe; America.
[†*enneodus* [s].—Europe.]
†**felis felis.*—Europe; Asia; America.—T. h.
[†*novemdentatus* [o].—Europe.]
[†*serraticeps* [o].—Europe.]
Ctenophthalmus<†1626.—Ext.
agyrtes agyrtes.
Cuterebra<†1573.
*species Hall, 1924.—Larvae subcut.—Boontown, N. J.
*species Hall, 1925.—Larvae subcut.—U. S. A.
Echidnophaga †1633.—Ext.
bradyta.—S. Africa.
†*gallinacea.*—S. Africa.
Felicola<†1099.—Ext.
subrostratus.—Europe [t].—T. h.
Mesopsylla<†1626.—Ext.
hebes.—S. E. Russia.
Palaeopsylla<†1623.—Ext.
minor.—Frankfurt a. M.
Paradoxopsyllus<†1626.—Ext.
†*curvispinus.*
Pulex †1635.—Ext.
†*irritans.*—Germany.
Spilopsyllus<†1634.—Ext.
†*cuniculi.*
Triatoma †1153.—Ext.
†*megista.*
Tunga †1631.—♂ ♀ ext., gravid ♀ subcut.
†*penetrans.*—Cameroon.
Xenopsylla †1636.—Ext.
†*cheopis.*

#413 **Felis** [r] [or *Catus* [o]] (**Felis**) catus [d] of many authors. Wild cat, chat sauvage, Wildkatze. Europe. So. #413 **Felis** (**Felis**) **silvestris.**

#413 **Felis** [r] [or *Catus* [o]] (**Felis**) **catus caeruleus** Erxl., 1777, Syst. Anim., 522. Blue cat, Blaue Katze, Karthräuser Hauskatze. Syn. *coeruleus* [c].

Dipylidium †308.—Intest.
†*caninum.*
[*cuneiceps* [s].—Germany [t].—T. h.]

#413 **Felis** [r] (*Catus* [o]) **catus** *domestica* Erxl., 1777, Syst. Regn. Anim., 520. So. #413 **Felis** (**Felis**) **catus.**

#413 **Felis** [r] *catus ferus* [s] Erxl., 1777, Syst. Regn. Anim., 518. Germany [t]. So. #413 **Felis** [r] (**Felis**) **silvestris.**

#413 "**Felis** [r] **catus** var. *persica*, Persian cat."

Taenia (**Hydatigera** or **Reditaenia**) †325*c.*
semiteres.—Stomach.—Brit. Mus.—T. h.

#413 **Felis** [r] [or *Chaus* [s], Lynchus [l], Lynx [l]] (**Felis** [r], *Catolynx* [o], *Chaus*, Lynces [l], Lynx [l]) **chaus** Gueldenstaedt, 1776, Nov. Comm. Acad. Sci. Petrop., v. 20, 500. Chaus, Jungle cat, Reed cat, common wild cat of India, bulaste, lynx des marais, Kirmyschak, Sumpfluchs, Bamberal, Banberál, Bául, Bella-bek, Berka, Bháoga, Cherru-puli, Gúrba-i-Kuhi, Jangli-billi, Jurka-pilli, Kadabek, Katu-punai, Katu-pundi, Khatás, Khyoung tsek-koon, Kyoung-tset-kun, Mant-bek, Reit-Kat, Van-billi. Africa; Asia; Asia Minor; South Russia, northeast of the Caucasus; neighborhood of the Caspian [t].

Chlamydonema 470*I.*
malayense.—Intest.—Malay States.
[*praeputiale.*—India.]
Haemaphysalis †869.—Ext.
dentipalpis.—Federated Malay States [t].
†*leachi* [e] *leachi.*
Toxocara †484.—Intest.
†*mystax* [s o].—India.
Xenopsylla †1636.—Ext.
†*astia.*—India.

#413 **Felis** [r] (**Felis** [r], *Catolynx* [o]) **chaus affinis** (Gray, 1830–1832, Illustr. Ind. Zool., London, pt. 1, pl. 3 [*Felis*]) Trouess., 1904*c*, 275. Indian jungle-cat. Burma; Ceylon; India, from the Himalayas to Cape Comorin.

Haemaphysalis †869.—Ext.
bispinosa intermedia.—India.
†*leachi* [o] *leachi.*

#413 **Felis** [l] [or Leopardus [l] *pardalis;* Oncoides [l] *pardalis*] (#413*t* **Zibethailurus**) **chibigouazou** Gray in Griffith's Cuv., 1827, Anim. Kingd., 167. Brazilian ocelot, Jaguatirica. South Amer. [t]; Brazil and northeastern S. Amer. Syns.: chibiguazu [c] Schinz, 1844, Syst. Verz. Säug., v. 1, 440; chibiguouazon [m] 1917. Subspecies of *F. pardalis*, fide Ihering, 1911, 153; Allen, 1919, 348.

Echinopardalis †501*m*.
pardalis.—Intest.
Oncicola †501*o*.—Small intest.
oncicola.—Matto Grosso.

#413 ***Felis** [l] [or Leo [l], Leopardus [l], Lynx [l], Panthera [l], Pardus [l], *Puma* [t], Uncia [l]] (#413*p* **Puma** [t], Leoninae [l], Uncia [l], *Unicolores*) **concolor** Linn., 1771, Mantissa Plantarum, v. 2, 522. American lion, American panther, Cougar, Couguar, painter, "panther", Puma, couguar vrai, Cuguar, Silberlöwe, Onça parda, Sussuarana. São Paulo, Brazil [t]; Canada to Patagonia. Several subspecies, fide Nelson & Goldman, 1929, 346: *azteca, bangsi, browni, californica, concolor, coryi, costaricensis, couguar, hippolestes, improcera, incarum, mayensis, oregonensis, osgoodi, patagonica, pearsoni, puma, söderströmii, wavula.* Syn. concolar [m] 1842.

Diphyllobothrium †295.—Intest.
decipiens [o].—Brazil.
†*latum.*
Echinococcus †322.
[*crassicollis juvencula* [o].—S. America [t].—T. h.]
[*felis-concoloris* [s].—Brazil [t].—T. h.]
†*granulosus.*
oligarthrus.—Brazil [t].—T. h.
omissa.—S. America [t].
Mesocestoides <†299.—Intest.
lineatus.—Dutch Guiana.
Taenia (**Hydatigera** or **Reditaenia**) †325*c*.—Intest.
ammonitiformis [s].—London Zoo [t].—T. h.
†*taeniaeformis.*—Buenos Aires, Argentina.
Ancylostoma †387.—Intest.
trigonocephalum [d].
tubaeforme.
Cyiicospirura 468*f*.
subaequalis.—Stomach, small intest., tumors of esoph.—Brazil.
Gnathostoma †473.
robustum [s] [i].—Free or in tubercle of stomach.—Brazil.—T. h.
†*spinigerum.*—Stomach, gastric wall.—Brazil.
Physaloptera 470*H*.—Stomach.
digitata.—Brazil.—T. h.
terdentata.
Solenonema <†440.
[*felis-concoloris* [o].—Subcut. abdom., intermuscular.—Brazil [t].—T. h.]
striatum.—Subcut.—Brazil [t].
Syngamus †407.—Lungs, trachea.
dispar.—Brazil; ? Turkestan [j].—T. h.
Toxascaris †486.—Intest.
**leonina.*—Phila. Zoo.
Toxocara †484.—Intest.
[*anterospiralis* [s].—Stomach.—Brazil.]
[**felis-discoloris.*—U. S. A.]
[*leptoptera* [s].]
[*leptoptera crenulata.*]
[†*mystax* [o].—Dutch Guiana.]
Echinopardalis †501*m*.—Intest.
[*campanulatus* [o].—Brazil.]
[*pardalis.*]
Ixodes †866.—Ext.
†*bicornis.*—Mexico [t].
†**ricinus* [j].—U. S. A.
Ctenocephalides †1639.—Ext.
[*concoloris* [s].—Argentina [t].—T. h.]
†*felis.*—Argentina.
Dermatobia †1575.
†*cyaniventris.*—Larvae subcut.—S. America.

#413 **Felis** [l] (**Puma,** Felis [l], Uncia [l]) **concolor azteca** (Merriam, 1901, Proc. Wash. Acad. Sci., v. 3, Dec. 11, 592 [*Felis* [l] *hippolestes*]) Nelson & Goldman, 1929, J. Mamm., v. 10 (4), Nov., 347. Mexican Cougar. Colonia Garcia [t], Mexico.

Amblyomma †881.—Ext.
†*cajennense.*

Dermacentor †873.—Ext.
†**variabilis.*

#413 **Felis** [l] (#413*p* **Puma**) **concolor costaricensis** (Merriam, 1901, Proc. Wash. Acad. Sci., v. 3, Dec. 11, 596 [*Felis* [l] *bangsi*]) Nelson & Goldman, 1929, J. Mamm., v. 10 (4), Nov., 347. Central American Puma. Boquete, Chiriqui, Panama [t].

#413 ***Felis** [l] [or *Puma* [s]] (#413*p* **Puma,** Felis [l], Uncia [l]) **concolor couguar** (Kerr, 1792*a*, Anim. Kingd., 151) Nelson & Goldman, 1929, J. Mamm., v. 10 (4), Nov., 347. Eastern Puma. Pennsylvania [t], U. S. A.

Diphyllobothrium †295.—Intest.
decipiens [o].
sulcatum [s].

Echinococcus †322.
[crassicollis *juvencula* [o].—S. America.]
†*echinococcus* [s].
[*felis-concoloris.*—Brazil.]
†*granulosus.*
oligarthrus.—Small intest.—Brazil.
omissa.—Intest.—S. America.

Taenia (**Hydatigera** or **Reditaenia**) †325*c*.—Intest.
ammonitiformis [s].—London Zoo.
†*crassicollis* [s].
†*taeniaeformis.*

Syngamus †407.—Lungs.
[*dispar.*]

Toxocara †484.—Intest.
mystax [o].

#413 **Felis** [l] (#413*p* **Puma,** Felis [l]) **concolor oregonensis** Rafinesque, 1832, Atlantic J., Phila., v. 1 (2), 62 [Felix [m]]. Northwestern Puma. Oregon Mountains [t]; Northwest coast, U. S. A.

#413 **Felis** [l] (#413*p* **Puma,** Uncia [l]) **concolor puma** (Molina, 1817, Sagg. Stor. Nat. Chili, 245) Nelson & Goldman, 1929, J. Mamm., v. 10 (4), Nov., 346. Vicinity of Santiago [t], Chile; La Plata; Patagonia.

Ctenocephalides †1639.—Ext.
[*concoloris* [s].]

#413 **Felis** [l] costaricensis [h] Mearns, 1902, Proc. U. S. Nat. Mus., v. 25, Sept. 17, 245 [not Merriam, 1901], renamed *F. mearnsi*. Talamanca, Costa Rica [t]. So. #413 **Felis** (**Leopardus**) **mearnsi.**

#413 ***Felis** [l] [or *Puma*] **couguar** Kerr, 1792*a*, Anim. Kingd., 151. So. #413 **Felis** (**Puma**) **concolor couguar.**

#413 **Felis** [l] [or *Puma*] (#413*p* **Puma,** Uncia [l]) *discolor* [s] Schreb., 1777, Säugetiere, v. 3, 393, pl. 104*B*. So. #413 **Felis** (**Puma**) **concolor,** fide Trouess., 1897*c*, 352; Elliot, 1901, 293; Ihering, 1911, 160.

#413 **Felis** [r] (*Catus* [o]) *domestica* of authors. Nomenclatorially, *F. domestica* is a synonym [o] of *F. catus*; from a viewpoint of records in parasitology, however, it means little more than "domesticated cat" and may, therefore, refer to practically any line of descent. So. #413 **Felis** (**Felis**) **catus.**

#413 **Felis** [r] [or Lynchus [l], Lyncus [l]] (#413*m* **Felis** [r], Lynces [l], Lynchus [l]) *erythrotis* [s] Hodgson, 1835, J. Asiatic Soc. Bengal, v. 4, 522 [*Felis* (*Lynchus*)] [nn]; Hodgson, 1836, J. Asiatic Soc. Bengal, v. 5, 233 [Lynchus [l]]. Rothöhrige Luchs. India from Himalayas and Sind to Cape Comorin, Ceylon, and to Assam, Burma, Indo-China. So. *F. chaus*, fide Blanford, 1888, 86, and Lydekker, 1896*a*, 182; so. *F. chaus affinis*, fide Trouess., 1904, 275. See #413 **Felis** [r] (**Felis** [r]) **chaus.**

#413 **Felis** [l] [or Catus [l], Chat [l], *Herpailurus*, Panthera [l], Pardus [l], Puma [l]] (#413*a'* **Herpailurus,** Cati [l], Catopuma [l], Leopardus [l], Unicolores [l]) **eyra** Illiger, 1815, Abh. ph.-Kl. K. pr. Ak. Wiss. (1804-1811), 109, 122. The Eira, Eyra, Apache, Onza, Tiger cat. Paraguay [t]; Brazil; Guiana; supposed to range north to Central Amer. Syn. *eira* [e] Desm., 1816, N. Dict. Hist. nat., ed. 2, v. 6, 114. So. #413 **Felis** [l] (**Herpailurus**) **jaguarondi,** a colour-phase only, fide Pocock, 1917, 347. Lydekker says it is just by courtesy that this species is kept separate from *jaguarondi*.

Taenia (**Hydatigera** or **Reditaenia**) †325*c*.—Intest.

†*crassicollis* [s].

†*taeniaeformis*.

Ancylostoma †387.—Intest.

†*caninum*.

**pluridentatum*.—Wash. Zoo.

ANCYLOSTOMIDAE †384.—Intest.

species Weidman, 1923.—Phila. Zoo.

#413 **Felis** [l] [or Cervaria [h]] (#413*n* **Lynx**) **fasciata** (Rafinesque, 1817, Amer. Monthly Mag., v. 2 (1), Nov., 46 [*Lynx*]) Desmarest, 1820, Encycl. méth., Mamm., (1), 225. West coast North America (California; Oregon; Washington).

Taenia [r] †325.

macrocystis.

#413 **Felis** [l] [or *Lynx*] (#413*n* **Lynx**, Cervaria [h], *Lynchus* [o]) **fasciata fasciata** (Rafinesque, 1817, Amer. Monthly Mag., v. 2 (1), Nov., 46 [*Lynx*]; Desmarest, 1820, Encycl. méth., Mamm., (1), 225 [*Felis* [l]]) Miller, 1912, U. S. Nat. Mus., Bul. 79, 119. Barred Lynx, Red cat. "Northwest coast" [t], probably near mouth of Columbia River, U. S. A.

Nanophyetus <†271.—Intest.

[**salmincola*.—U. S. A.]

#413 [**Felis** [l] or] *Lynx* **fasciata pallescens** Merriam, 1899, N. Amer. Fauna, No. 16, Oct. 28, 104. Bob cat. South base of Mt [illegible]ms [t], near Trout Lake, Washington.

Nanophyetus <†271.—Intest.

**salmincola*.—Exp.

#413 **Felis** [l] [or *Herpailurus*, *Oncifelis*, Panthera [l], *Pardalina*] (#413*a'* **Herpailurus,** *Oncifelis*, Oncoides [l]) **geoffroyi** [s] d'Orbigny & Gerv., 1844, L'Institut, May, 189; 1844, Extr. P. V. Soc. Philom., Paris, 40; 1844, Mag. de Zool., v. 6 (2), pl. 57. Geoffroy's cat, Gato do matto, Gato montes. South America (Argentina). See #413 **Felis** (**Herpailurus**) **guigna.**

Echinopardalis †501*m*.

[*pardalis*.—Intest.]

#413 **Felis** [l] (#413*a'* **Herpailurus**) **guigna** Molina, 1782, Saggio storia nat. Chili, v. 1, 295. Geoffroy's cat, spotted tiger-cat, Monte-cat (Gato del monte). South America (Chile to Tucuman). There appear to be two races of this cat which some regard as distinct species: (1) the typical *F. guigna* extending from Chile to Tucuman; (2) the more southern and eastern *F. geoffroyi* of the Argentine, fide Lydekker, 1896*a*, 149.

#413 Felis [l] [or Cynofelis [l]] *guttata* Hermann, 1804, Obs. Zool., 38. Old World. So. #415 **Cynailurus** *guttatus*.

#413 **Felis** [l] (#413*a'* **Herpailurus,** Oncoides [l]) **guttula** Hensel, 1872, Beitr. Kenntniss Säugeth. Süd-Bras., Berlin, 73 [not Felis [l] *guttata* Hermann]. Forest of Rio Grande do Sul [t], S. Brazil, S. America. Syn. *F.* guttata [m] Lydekker, 1896*a*, 145.

#413 **Felis** [1] (#413*d'* **Panthera,** Leopardus) **hernandesii** (Gray, 1857, Proc. Zool. Soc. London, 278, pl. 58 [Leopardus [1]]) Mearns, 1901, Proc. Biol. Soc. Wash., v. 14, Aug. 9, 142. Hernandez's Jaguar. Mazatlan [t], Sinaloa, Mexico. So. *F. onca*, fide Lydekker, 1896*a*, 95; Elliot, 1901, 294; subspecies of *F. onca*, fide Elliot, 1904, 446.

Diphyllobothrium †295.—Intest.
†*latum.*

#413 **Felis** [1] *hippolestes* **azteca** Merriam, 1901, Proc. Wash. Acad. Sci., v. 3, Dec. 11, 592. So. #413 **Felis** [1] **(Puma) concolor azteca,** q. v.

#413 **Felis** [1] (#413*a'* **Herpailurus,** Catopuma [1], Leopardus [1]) **jaguarondi** Cuv., 1817, Règne Anim., v. 1, 163. Eyra, Jaguarondi, Leon miquero, Leon monero, Yaguarundi. Paraguay [t], Brazil, Guiana, to N. E. Mexico. Syns.: *jaguarandi* [c], *jaguarundi* [c], *juguarundi* [c], *yagouaroundi* [c], *yaguarandi* [c], *yaguarondi* [c], *yaguarundi* [c], *yaugouroundi* [c], *yuaguarundi* [c].

Diphyllobothrium †295.—Intest.
decipiens [o].
longicolle [s].—Provincia de Corrientes [t], Argentina.—T. h.

Echinococcus †322.—Intest.
oligarthrus.—Brazil.
omissa.

Taenia [r] †325.
macrocystis.

Ancylostoma †387.
†*caninum.*—Duodenum.

ANCYLOSTOMIDAE †384.—Intest.
species Weidman, 1923.—Hookworms. Phila. Zoo.

Cylicospirura 468*f.*
[*felis-yaguarondi* [o].]
subaequalis.

Filaria †435.
felis-mellivorae (pulmonalis [o p]).

Molineus †411*Q.*—Small intest.
felineus.—S. America.—T. h.

Toxocara †484.—Intest.
†*canis.*

Uncinaria 390*B.*
catholica.—S. America.
species Weidman, 1916.—S. America.

Oncicola †501*o.*
oncicola.—Stomach, intest.

Ctenocephalides †1639.—Ext.
†*canis.*—Caracas.
†*felis felis.*
[†*serraticeps* [o].]

#413 Felis [1] **jubata** Schreb., 1777, Säugeth., v. 3, 392, pl. 105 (1776). Africa; S. W. Asia. So. #415 **Cynailurus jubatus.**

#413 **Felis** [1] [or *Leo* [t], *Panthera, Tigris*] (#413*d'* **Panthera,** Felis [1], *Leonina* [s], *Leoninae*, Uncia [1]) **leo** Linn., 1758*a*, 41. Lion, Löwe, Ambassa, Asced, Babar-sher, Ibubesi, Ibulubesi, Imbubesi, Imbubi, Ingonyama, Karamo, Leeuw, Lendja, Lendjandnek, Libba, Libbaka, Lugwarii, Nkalamo, Nkango, Rastar, Sáwach, Sher, Shingal, Simba, Singh, Süh or Suh (♂), Siming (♀), Tau, Tauw, Untia-bágh (Camel-tiger), Zaki. Africa [t]; Asia.

Babesia †173.—Blood.
species Leger & Bédier, 1922.—Paris, from Mauritania, Fr. Sudan.

Eimeria †163.
felina.—Leningrad Zoo.

Giardia †139.
species Deschiens, 1925.—Feces.—Paris from Haute Volta, Gold Coast, W. Africa.

Isospora †161.
species Möller, 1923.—Feces.—Berlin Zoo.—T. h.

Trypanosoma †94.—Blood.
species Weck, 1914.—Africa.

Diphyllobothrium †295.—Intest.
†*latum.*

Taenia [1] < †299.—Intest.
species Parona, 1896*k.*

Taenia [r] †325.—Intest.
regis.—Sudan [t].—T. h.

Taenia (Hydatigera) †325*c.*—Intest.
†*crassicollis* [s].
†*taeniaeformis.*

Taenia (Taenia) †325*b.*—Intest.
†*hydatigena.*
†*marginata* [s].
†*pisiformis.*—Calcutta Zoo.

Ancylostoma †387.—Intest.
†brasiliense.
*†*ceylanicum.*—Phila. Zoo.
*†*duodenale.*—Wash. Zoo.
tubaeforme [i s].—So. † *caninum* or unidentifiable.
Cylicospirura 468*f*.
subaequalis.—Africa.
Dirofilaria 449*A*.
sudanensis.—Sudan [t].—T. h.
Filaria [l] †435.
leonis.—Subcut.; blood.—Sudan.
Galoncus < †384.
perniciosus.—Berlin Zoo.
Lagochilascaris †487.
major.
minor.
Spiroptera [l] †458.
leonis.—Esophagus.
Toxascaris †486.—Stomach.
**leonina.*—Breslau [t]; India; Phila. Zoo.—T. h.
Toxocara †484.—Intest.
[*leptoptera* [s].—Esoph., stomach, intest.; feces.]
[*leptoptera crenulata.*]
[†*mystax* [o].—Pretoria Zoo.]
[*mystax* leonis [h].—Italy.—T. h.]
Uncinaria [r] 390*B*.—Intest.
catholica.
Amblyomma †881.—Ext.
eburneum.—Africa [t].
hebraeum.—S. Africa.
Armillifer †796.—Encysted.
†armillatus.—Adult.
Haemaphysalis †869.—Ext.
bispinosa.
†leachi [e] *leachi.*—Massimani, Africa.
Ixodes †866.—Ext.
†bicornis.—[Host? "Lion."]
Linguatula †800.—Encysted.
nuttalli.—T. h.
†rhinaria.
Porocephalus †798.—Encysted.
†crotali.—Larva in body cavity.
Rhipicephalus †875.—Ext.
armatus.—Balarli [t], Africa.
†pulchellus.
†sanguineus.
†simus.
Sarcoptes †942.—Skin.
†scabiei leonis.—France.
Ctenocephalides †1639.—Ext.
†felis.—Berlin Zoo.
Tunga †1631.—Ext., gravid ♀ subcut.
†penetrans.

#413 **Felis** [l] (#413*d'* **Panthera**) **leo sabakiensis** Lönnberg, 1908 (1910), Wissensch. Ergebn. Schwed. Zool. Exped. Kilimanjaro, 1905–1906, Mammals, 22–23, pl. 3, fig. 4; Lönnberg in Lydekker, 1908, Game Anim. Africa, p. xix of Addenda. Kilimanjaro lion. Kibonoto, Kilimanjaro, Africa [t].

Lagochilascaris †487.
major.—Kilimanjaro.—T. h.
Haemaphysalis †869.—Ext.
†leachi [e].—Africa.

#413 **Felis leopardalis** Kerr, 1792*a*, Anim. Kingd., 148. Not determinable, fide Allen, 1895, Bull. Amer. Mus. Nat. Hist., v. 7, 188.

Haemostrongylus <†418.
subcrenatus.
Haemaphysalis †869.—Ext.
†leachi.

#413 **Felis** [l] [or Leopardus [l], *Panthera*] (Leopardus [l]) **leopardus** Schreb., 1777, Säugeth., v. 3, 387, pl. 101 (1776). So. #413 **Felis** [l] (**Panthera**) **pardus leopardus.**

#413 **Felis** [r] [or *Chaus* [o t]] (#413*m* **Felis** [r]) **libyca** [e] Meyer, 1793, Zool. Entdeck., 101 [*F.* lybica]; Olivier, 1801, Voy. Egypt, v. 2, 41 [*F. libyca* [e]]. So. *F. caligata*, fide Trouess., 1897*c*, 363.

Of Geoffr., 1844, 56, so. *caffra*, fide Lydekker, 1896*a*, 155.

Of Locke, 1867, 42, so. *chaus*, fide Lydekker, 1896*a*, 183.

Dipylidium †308.—Intest.
†***caninum***.

Taenia (**Hydatigera** or **Reditaenia**) †325*c*.—Intest.
†*taeniaeformis*.

Felicola <†1099.—Ext.
subrostratus.—Buenos Aires.

#413 **Felis** (#413*m* **Felis**) **libyca** domestica [h] (Fischer, 1829, Syn. Mamm., 207) Trouess., 1904, Cat. Mamm., Berolini, 273.

Notoedres †936.—Skin.
†*cati*.—Buenos Aires.

#413 **Felis** [l] *longicaudata* [s] Blainville, 1843, Ostéographie, *Felis*, 47. So. #413 **Felis** [l] (**Pardofelis**) **marmorata.**

#413 Felis **lupus.** Probably lapsus for #479 **Canis lupus.**

Diphyllobothrium †295.
decipiens [o].

#413 **Felis**[l] [or *Lynchus*, *Lyncus*, *Lynx*] (#413*n* **Lynx,** *Lynchus*[o], *Lynces*) **lynx** Linn., 1758*a*, 43. Lynx, European lynx, European Red Lynx, lynx du nord, loup-cervier, gemeiner Luchs, Gaupen, Patsalan, Sweden [t]; wooded portions of Europe from extreme north to Alps and Pyrenees, and from Atlantic coast eastward. Now practically exterminated except in wilder portions of Scandinavian Peninsula; Asia. Syn. *F.* lunx [m] 1920.

Mesocestoides <†299.—Intest.
species Hall, 1910.

Taenia [r] †325.—Intest.
laticollis.—Mus. Vienna.—T. h.
laticollis [o] "Rud." of Linstow, 1903*u*.—Renamed *monostephanos*.
monostephanos.—Gouv. St. Petersburg.—T. h.

Ancylostoma †387.—Intest.
†*caninum*.

Toxocara †484.—Intest.
†*mystax* [o].

Uncinaria [r] 390*B*.
species Vevers, 1920.—London Zoo, from Tibet.

Macracanthorhynchus †508.
†*hirudinaceus*.

Prosthenorchis †501*p*.
pachyacanthus.—Intest.—Africa.
[*spirula*.—Brazil; Africa; Madagascar.]

#413 **Felis** [l] [or Leopardus [l], *Neofelis*, Panthera[l], Uncia [l]] (#413*b* **Neofelis,** Pantherinae[l], Tigrina[l], Uncia[l], Zibethailurus [l]) **macrocelis** Temminck, 1825, Zool. J., v. 1 (4), Jan., 543, pl. 21. Clouded leopard, Nebelparder. Syn. *macroscelis* [c] Trouess., 1897*c*, Cat. Mamm., Berolini, v. 1, 356. So. *F. nebulosa*, fide Blanford, 1888, 72; Lydekker, 1896*a*, 114.

Haemaphysalis †869.—Ext.
†*leachi*.

Ctenocephalides †1639.—Ext.
†*canis*.
[†*serraticeps* [o].]

#413 **Felis**[l] [or *Leopardus*] (#413*z* **Leopardus,** *Oncoides*, Pantherinae[l], Pardina[l]) *macroura* Max Wied, 1822, Abb. Naturges. Brasil. (1). Langschwänzige Tiegerkatze, Langschwanzkatze. Patagonia to Magellan Strait. Syn. *F. macrura* [c] Lydekker, 1896*a*, 144; so. #413 **Felis**[l] (**Leopardus**) **wiedii,** q. v., fide Trouess., 1904*c*, 279; Pocock, 1917, 344.

Diphyllobothrium †295.—Intest.
decipiens [o].
gracile.—Brazil [t].—T. h.
†*latum*.
Taenia [r] †325.
macrocystis.
Taenia (**Hydatigera** or **Reditaenia**) †325*c*.—Intest.
†*crassicollis* [s].
†*taeniaeformis*.

Solenonema < †440 or **Dirofilaria** 449*A*.
striatum.—Subcut., intermuscular.—Brazil.
Toxocara †484.—Intest.
crenulata.
leptoptera [s].
Ctenocephalides †1639.—Ext.
†*felis*.

#413 **Felis** [l] maculata [h] Vig. & Horsf., 1829, Zool. J., v. 4 (15), Jan., 381 [**not** Kerr, 1792]. Mexico. So. #413 **Felis** [l] (**Lynx**) **rufa** maculata[h].

#413 **Felis** manicata, probably lapsus for #413 **Felis** [r] (**Felis**) **maniculata, q. v.**

Echidnophaga †1633.—Ext.
tarda.—Abyssinia.

#413 **Felis** [r] [or *Catolynx* [o]] (**Felis**[r], *Cati*, *Catus* [o]) **maniculata** Cretzschmaer in Rüpp., 1826, Atlas, Reise (Senckenb. Nat. Ges.), Säug., (1), 1. Chat ganté, Falbkatze. Nubia, Kordofan, Africa; Syria; Arabia; India. So. *cafra*, fide Lydekker, 1896*a*, 155. Var. of *libyca*, fide Trouess., 1904, 273.

Dipylidium †308.—Intest.
†*caninum*.
[*elliptica* [o].]
Taenia (**Hydatigera** or **Reditaenia**) †325*c*.—Intest.
†*crassicollis* [s].
†*taeniaeformis*.
Cylicospirura 468*f*.
[*subaequalis*.—Bône.]

Habronema †470.
chevreuxi.—Bône.
Protospirura 470*B*.
numidica.—Algeria.
Streptopharagus 468*C*.
numidicus.
Toxocara †484.—Intest.
†*mystax* [o].—Stomach.

#413 **Felis** [r] (#413*m* **Felis**) **maniculata** domestica [h] Fitzinger, 1869, Sitzungsber. Akad. Wiss., Wien, v. 59 (1), 685.

Metorchis †267*i*.
albidus.
Taenia (**Hydatigera** or **Reditaenia**) †325*c*.
†*crassicollis* [s].

#413 **Felis** [l] [or Catolynx [h], Leopardus [l], Panthera [l], Pardus [l], Uncia [l]] (#413*r* **Pardofelis,** Pantherinae [l], Tigrina [l], Zibethailurus [l]) **marmorata** Martin, 1837, Proc. Zool. Soc. London, pt. 4 (47), Feb., 108. The marbled cat, Marmelkatze, marmorirte Katze, Dosal, Sikmar. Himalayas from Sikhim to Assam; Baram River; Burma to Malay Peninsula; Malacca; Sumatra; Java; Borneo.

Rhipicephalus †875.—Ext.
†*sanguineus*.—Burma; Ceylon; India.

#413 **Felis** [l] (**Leopardus**) **mearnsi** Allen, 1904, Bul. Amer. Mus. Nat. Hist., v. 20, Feb. 29, 71, costaricensis [h] Mearns, 1902 [not Merriam, 1901], renamed. Costa Rican Ocelot, Manigorda. Talamanca, Costa Rica [t].

Rhopalopsyllus †1635*A*.—Ext.
cacicus saevus.—La Cabima [t], Panama.—T. h.
klagesi samuelis.—Canal Zone.

#413 **Felis** [1] (#413*z* **Leopardus**) **melas** Péron in Desm., 1820, Encycl. méth., Mamm., (1), 223. So. #413 **Felis** [1] (**Leopardus**) **pardus melas,** q. v.

#413 **Felis mellivora** Illiger, 1815, Abh. ph.-Kl. K. pr. Ak. Wiss. 1804–1811, 109, 122. Azara's yagouaroundi, Papamel. Brazil [t]. Syn. jaguarondi.

Diphyllobothrium †295.—Intest.
decipiens [o].
†*latum.*
Taenia (**Hydatigera** or **Reditaenia**) †325*c*.—Intest.
†*crassicollis* [s].
†*taeniaeformis.*
Ancylostoma †387.—Intest.
tubaeforme [j] [s].
Cylicospirura 468*f*.
subaequalis.—Tumors of esophagus, stomach.—Brazil.
Filaria [1] †435.
felis-jaguarondi.—Brazil.—T. h.
felis-mellivorae (*pulmonalis*).—Lungs.—Ypanema, Brazil.
Echinopardalis †501*m*.—Intest.
[*campanulatus* [o].]
[*pardalis.*]

#413 **Felis** [1] (#413*v* **Prionailurus,** Oncoides [l]) **microtis** Milne-Edwards, "Apr. 1871", Rech. Mamm., Paris, 221, pl. 31*a*, pl. 31*b* (figs. 1, 1*a*, 1*b*). North China (Peiping as far as Mongolia).

Paragonimus †250.—Lungs.
†*westermani.*—Korea.

#413 **Felis** [1] **minuta** Temm., 1824, Monog. Mamm., v. 1, 130. So. #413 **Felis** (**Prionailurus**) **bengalensis minuta,** q. v.

#413 **Felis** [1] [or Leopardus [1], Panthera [1], Pardus [1]] (#413*a'* **Herpailurus,** Oncoides [1], Pardina [l]) *mitis* [s] Cuv. in Geoffr. & Cuv., 1820, Hist. Nat. Mamm., v. 1 (18), July, 3. Chati, Mbaracaya, Tschati. Patagonia to Brazil. So. *F. tigrina*, fide Lydekker, 1896*a*, 144; Elliot, 1904, 449. So. *F. pardalis chibigouazou*, fide Ihering, 1911, 178.

Diphyllobothrium †295.
decipiens [o].
†*latum.*—Intest.
reptans.—Larva in subcutaneous tissue.
Echinococcus †322.
†*granulosus.*
pardi [s].
Taenia (**Hydatigera**) †325*c*.—Intest.
†*crassicollis*[s].
†*taeniaeformis.*
Ancylostoma †387.—Intest.
pluridentatum.—Brazil.—T. h.
Toxocara †484.
leptoptera.
Uncinaria 390 *B*.—Intest.
catholica.
Echinopardalis †501*m*.—Intest.
[*campanulatus.*]
pardalis.

#413 **Felis** [1] [or Leopardus [1]] (#413*x* **Profelis** [t], Cati [1], *Catopuma*) *moormensis* [s] Hodgson, 1831, Gleanings in Sci., v. 3, 177. Moormikatze. Borneo. Syn. *F. murmensis* [c] Hogdson, 1835, J. Asiatic Soc. Bengal, v. 4, 522. So. *F. temminckii*, fide Blanford, 1888, 75; Lydekker, 1896*a*, 120; Trouess., 1897*c*, 365.

Toxocara †484.—Intest.
[*globulus.*—Sunda Islands [t].—T. h.]

#413 **Felis** [1] [or *Neofelis*] (#413*b* **Neofelis** [t], Zibethailurus [l]) *nebulosa* [s] Griffith, 1821, Descript. Vert. Anim. Carnivora, 37. Clouded leopard, clouded tiger, leopard, tree tiger, Arimau-dahan (tree tiger), Kung, Lamchitia, Pungmar, Rimau-Dahan, Sarchack, Satchuk, Thit-Kyoung, Zik. Sumatra [t]; Himalaya, from Nepal to Sikhim and Assam; hill regions of Burma and Siam; Malay Peninsula; Borneo; China; Formosa; Java. So. #413 **Felis** (**Neofelis**) **macrocelis,** fide Pocock, 1917, 343.

Diphyllobothrium †295.—Intest.
decipiens °.—Calcutta Zoo.
felis.—Calcutta.
reptans.—Hanoi.
Ancylostoma †387.—Intest.
caninum.
†*ceylanicum*.—Feces.
Chlamydonema 470*I*.
praeputiale.
Microfilaria †432.—Blood.
[species Plimmer, 1913.—London Zoo, from Malay.]
Galoncus <†385.
perniciosus.
tridentatus.—Large intest. in nodules.—London Zoo.—T. h.
Gnathostoma †473.
†*spinigerum*.
Habronema †470.
chevreuxi.
Lagochilascaris †487.
minor.
Toxocara †484.—Intest.
†*mystax* °.
Haemaphysalis †869.—Ext.
gestroi.—Burma [t].
†*leachi* [e].

#413 **Felis** [or *Microfelis* [t]] (**Felis**) **nigripes** Burchell, 1824, Travels in Interior Southern Africa, v. 2, 592. Black-footed cat, black-footed wild cat, Burchell's cat, Kakikaan, Tsipa. South Africa (Bamanguato; Deelfontein; Vredefort Road, Orange River Colony; Bechuanaland; Kalahari Desert).

Haemaphysalis †869.—Ext.
†*leachi* [e] *leachi*.—Transvaal.

#413 **Felis** [l] [or *Lynx*] (*Caracal*, *Lynchus*) **nubica** (Fischer, 1829, Synopsis Mamm., 210 [*F. caracal*]) Trouess., 1897*c*, Cat. Mamm., Berolini, v. 1, 367. So. #413 **Felis** [l] (**Lynx**) **caracal nubica.**

#413 **Felis** [r] (#413*m* **Felis** [r]) **ocreata** Gmel., 1791, Anhang zu Bruce, Reisen Afr., 79. African wild cat, booted lynx, Egyptian wild cat, Kafir cat, Chat ganté, Wilde kat, Phagi. Africa, exclusive of forest-zone and Sahara; Sardinia; formerly in Gibraltar. "Apparently crossed with *F. catus*, and thus forming possibly chief progenitor of European domesticated cat."

Babesia †173.—Blood.
felis.—Sudan [t].—T. h.
species Davis, 1929.—Sudan.—Host "Sudanese wild cat".
Taenia (**Hydatigera**) †325*c*.
†*taeniaeformis*.—Intest.
Cylicospirura 468*f*.
felineus [s].
subaequalis.—Tissues of esoph.—Algeria.
Habronema †470.—Stomach.
chevreuxi.—Algeria [t].—T. h.
Protospirura 470*B*.—Stomach.
numidica.—Setif.—T. h.
Ctenocephalides †1639.—Ext.
felis strongylus.—Africa [t].
Xenopsylla †1636.—Ext.
nubicus.—Darfur, Africa.

#413 **Felis** [r] [or *Chaus* [s], Lynx [l]] (#413*m* **Felis** [r]) **ocreata cafra** (Desm., 1822, Encycl. méth., Mamm., (2), 549) Fitzsimons, 1919, Nat. Hist. S. Afr., v. 1, 146. Bull Head, Caffer cat, Caffre cat, Kafir cat, Vaal Bush Cat, Wild cat, Wilde Kat, Graauw-kat, Imbodhla, Impaka, Ingada, Inxataza. Africa, from Egypt and Algeria to the Cape; southern Asia (Syria, Arabia); southern Europe; Id. Sardinia; ? Morea. Breeds freely with domesticated cat. Syns.: *Chaus caffer* [e] Gray, 1843, List Mamm. Coll. Brit. Mus., 45; *caffra* [e] Blanford, 1888, Fauna Brit. India, Mamm., 86.

Diphyllobothrium †295.—Intest.
theileri.—Pretoria, S. Africa.
Dipylidium †308.—Intest.
fuhrmanni.—Pretoria, S. Africa.
Chlamydonema 470*I*.—Intest.
felineum [s].—Transvaal.
Trichodectes †1100.—Ext.
caffra.—Block Spruit [t], Transvaal.—T. h.

#413 *Felis [l] [or Leopardus [l], *Panthera, Pantherinae*, Pardina [l], Pardus [l], Uncia [l]] (#413*d'* **Panthera,** Felis [l], Leopardus [l], Pardina [l], Yaguarius [l]) **onca** Linn., 1758*a*, 42. American tiger, Jaguar, tigre, Unze, Cangussú, Jaguareté, Onça Pintada, Onça Preta. Pernambuco [t], Brazil [t]; North & So. America, from Louisiana, Texas, and northern Mexico to about the Rio Negro, on the northern confines of Patagonia.

Diphyllobothrium †295.—Intest.
decipiens [o].
†*latum.*—Zoo, Buenos Aires, Argentina.
Taenia (**Hydatigera**) †325*c.*—Intest.
†*crassicollis* [s].
†*taeniaeformis.*
Ancylostoma †387.—Intest.
†**caninum.*—Washington, D. C.
tubaeforme [i s].
Dirofilaria †447, 449*A.*—Heart.
†*immitis.*—Surinam.
[species Horst, 1889.—Surinam.—"Probably *immitis.*"]
Filaria [l] †435.
felis-oncae.—Intermusc.—Brazil [t].
felis-oncae (intermuscularis) [p s].—Intermusc.—Brazil.
Physaloptera 470*H.*—Stomach.
anomala.—Brazil [t]; Dutch Guiana.—T. h.
Toxocara †484.—Intest.
crenulata.—T. h.
leptoptera [s].
Uncinaria 390*B.*—Intest.
catholica.

Echinopardalis †501*m.*—Intest.
[*campanulatus* [s].—Brazil.]
pardalis.
Oncicola †501*o.*
oncicola.—Stomach, intest.—Brazil.—T. h.
Amblyomma †881.—Ext.
†*fossum.*
†*ovale.*
Dermacentor †873.—Ext.
†**electus* [s].—Cf. *variabilis.*
Ixodes †866.—Ext.
†*bicornis.*—Mexico.—T. h.
†*ricinus.*
Linguatula †800.
recurvata.—Frontal sinus, trachea.—T. h.
†*serrata.*
†*taenioides.*
Dermatobia †1575.
†*cyaniventris.*—Larvae subcut.—America.
Pulex †1635.—Ext.
†*irritans.*—Brazil.

#413 *Felis [l] **oregonensis** Rafinesque, 1832, Atlantic J., Phila., v. 1 (2), 62 [Felix [m]]. So. #413 **Felis** (**Puma**) **concolor oregonensis.**

#413 **Felis** [or *Chaus*, Lynx [l]] (#413*m* **Felis,** *Chaus*, Oncoides [l]) **ornata** Gray, 1830, Illustr. Ind. Zool., v. 1 (2), pl. 2. The Indian desert cat. India.

Haemaphysalis †869.—Ext.
bispinosa.
bispinosa intermedia.—India.

#413 **Felis** [l] [or Leopardus [l]] (#413*d'* **Panthera,** Leopardus [l]) *panthera.* A confused name.

New World. Schreber, 1777, Säugth., v. 3, 384, 586, pl. 99 (1776). A jaguar. So. #413 **Felis** (**Panthera**) **onca,** q. v.

Old World. Erxl., 1777, Syst. Regn. Anim., 508; Pallas, 1811, Zoog. Ross.-As., v. 1, 18. A leopard. So. #413 **Felis** (**Panthera**) **pardus,** q. v.

Echinococcus †322.
†*granulosus.*
Ancylostoma †387.—Intest.
tubaeforme [i s].
Ixodes †866.—Ext.
†*pilosus.*

#413 ***Felis** [1] [or *Leopardus*, Panthera [1], Pardus [1]] (#413*z* **Leopardus,** Felis [1], *Oncoides*, Pantherinae [1], Pardina [1], Zibethailurus [1]) **pardalis** Linn., 1758*a*, 42. Mexican ocelot, True ocelot, tiger cat, Ozelot, Pardelkatze, Manigordo. Mexico [t]; America, as far north as Arkansas, Louisiana, Texas, and Mexico; thence through Central Amer. to S. Amer. east of Andes, south to Patagonia.

Diphyllobothrium †295.—Intest.
decipiens [o].
reptans.—Larva subcutaneous.
Taenia (**Hydatigera**) †325*c*.—Intest.
†*crassicollis* [s].
Ancylostoma †387.—Intest.
†**caninum*.—Washington, D. C., Phila. Zoo.
**pluridentatum*.—Phila. Zoo.
ANCYLOSTOMIDAE †384.—Intest.
species Weidman, 1923.—Phila. Zoo.
Ascaris [1] †479.
species Stiles & Hassall, 1894*c*.—D. C.
Dirofilaria 449*A*.
species Canavan, 1931.—Phila. Zoo.
striata.—Subcutaneous.—Surinam.
Gnathostoma †473.
†*spinigerum*.—Stomach.—Phila. Zoo.
Oslerus 473*D*.
felis.—Lungs or sm. intest?—Hamburg from S. America.—T. h.
Toxocara †484.—Intest.
leptoptera [s].
†*mystax*.—Phila. Zoo.
Trichuris †370.—Intest.
species Canavan, 1931.—Phila. Zoo.
Uncinaria 390*B*.—Intest.
species Weidman, 1923.—Phila. Zoo.
Echinopardalis †501*m*.—Intest.
[*campanulatus*.—Brazil.—T. h.—So. *pardalis*.]
pardalis.—Brazil.—T. h.
Amblyomma †881.—Ext.
†**americanum*.
†**unipunctatum* [s].—Labrador; Florida, Pennsylvania [t].
Ixodes †866.—Ext.
**affinis* [s].—Costa Rica; U. S. A.—T. h.
affinis communis [o].—Costa Rica.—T. h.
fuscipes.—Panama; S. America; Brazil [t], Colombia.
†**reduvius* [s].—U. S. A.[j]
†**ricinus*.
†*scapularis*.
Ctenocephalides †1639.—Ext.
†*felis*.

#413 **Felis** [1] [or *Leopardus*] (#413*z* **Leopardus**) *pardalis* **mearnsi** (Allen, 1904, Bull. Amer. Mus. Nat. Hist., v. 20, Feb. 29, 71) Elliot, 1904, Land & Sea Mamm., Zool. ser., v. 4 (1), 448. Costa Rica Ocelot. Talamanca, Costa Rica [t]. So. #413 **Felis** (**Leopardus**) **mearnsi.**

#413 **Felis** [1] [or *Prionailurus* [s]] (#413*v* **Prionailurus** [t], Oncoides [1]) *pardochroa* [s] Hodgson, 1844, Calcutta J. Nat. Hist., v. 4, 286. Nepal. Var. of *F. bengalensis*, fide Trouess., 1897*c*, 358; so. *F. bengalensis*, fide Blanford, 1888, 78; Lydekker, 1896*a*, 126; fide Pocock, 1917, 338.

Toxocara †484.
†*mystax* [o].
[species Glaue, 1910.]

#413 **Felis** [1] [or Leopardus [1], *Panthera* [s], Pardus [1]] (#413*d'* **Panthera,** Felis [1], Leopardus [1], *Pantherinae*, Pardina [1]) **pardus** Linn., 1758*a*, 41. Large spotted cat, Leopard, Panther (part), Pard (part), tiger (in S. Afr.), afrikanischer Tiger, Parder, Parther, Adnára, Asnea, Bai-hira, Bibia-bágh, Bibla, Bíbta, Borbacha, Burkál, Chinna-pali, Chinna-puli, Chirate, Chirchu, Chiru-thai, Chita, Chíta-Bágh (spotted tiger), Chíta-Wagh, Chóta-Bágh, Diho, Ghor-hé, Goral-hé, Gorbacha, Gordág, Harvard, Hasánya, Hongiya, Honiga, Hurrea-kon, Ingwe, Ingwi, Inkwi, Jerkos, Kajengla, Kam-kei, Karda, Kekhi, Kerkal, Kiché-phong, Kiraba, Kírrbah, Kla-preung, Kurrkuda, Kutiya, Kya-lak, Kya-thit, Lakhar-bagha (hill tribes near Simla, elsewhere used for the hyaena), Misi-patrai, Morrh, Ngo, Nyalugwi, Palang,

Pali, Puli, Rimau-bintan, Rimau-bintang, Rusa, Sannhuli, Sejjiak, Shabel, Sik, Singhal, Siveri, Sona-chita (golden chita), Sonora, Srighas, Súh, Syiak, Syik, Tahir-hé, Tehr-he, Tekhu Khuia, Tenderwa, Tendwa, Tenduwa, Teon-Kula, Théndwa, Tidua, Tijger, Vlackte tijger. Old World: Africa (Egypt [t]); Asia Minor, the Caucasus, Syria, Palestine, Persia, Baluchistan, Afghanistan, Central Asia, India, Assam, Burma, Ceylon, the Malay Peninsula, Siam, China, Manchuria, Java, Sumatra, Asia.

Endamoeba †37.
[species Houdemer, 1925.—Intest.—Tonkin.]

Diphyllobothrium †295.—Intest.
decipiens [o].—Brazil; Calcutta Zoo.
felis.—Calcutta Zoo.
[*felis-pardi* [s].—Paris Mus.—T. h.]
†*latum*.
maculatum [s].—Calcutta Zoo.—"*Felis*, Leoparden t. h."
[*pardi* [o].]
reptans.—Larva in subcutaneous tissue.
species Joyeux & Mathias, 1926.—Dongou (Ouellé).
sulcatum [s].—Calcutta Zoo; Padua [t], Italy.—T. h.

Dipylidium †308.—Intest.
species Joyeux, 1920.—Upper French Guinea.

Echinococcus †322.
†*granulosus*.
pardi [s].—T. h.

Multiceps †324.
[species Southwell, 1922.—Calcutta Zoo.—So. *multiceps*.]

Taenia (Hydatigera) †325*c*.—Intest.
serrata [s].
†*taeniaeformis*.

Taenia (Taenia) †325*b*.—Intest.
†*pisiformis*.—South Ceylon.
polycalcaria [s].—Ceylon [t].—T. h.

Ancylostoma †387.—Intest.
†*brasiliense*.—Sierra Leone Leopard.
†*caninum*.—Sierra Leone Leopard.
†*ceylanicum*.
tubaeforme [i] [s].

Chlamydonema 470*I*.
felineum [s].
praeputiale.—Zanzibar; India.

Cylicospirura 468*f*.
subaequalis.—Intest.—Sierra Leone.

Dirofilaria 449*A*.
granulosa.—Subcut.—Königsberg Mus.—T. h.

Dracunculus †439.
medinensis.

Galoncus <†385.
perniciosus.—Cysts, small intest.—Belgian Congo; Calcutta Zoo.

Gnathostoma †473.
†*spinigerum*.—Gastric wall, small intest.—Belgian Congo.

Habronema †470.
grimaldiae.—Stomach.—Algeria.—In "panther."

Haemostrongylus <†418.
subcrenatus.—Bronchi.—Belgian Congo.—T. h.
vasorum.

Physaloptera 470*H*.
terdentata.

Toxascaris †486.—Intest.
leonina.

Toxocara †484.—Intest.
†*cati*.—Tonkin.
[*circumflexa* [s].—Stomach.—Padua.—T. h.]
†*mystax* [o].—India.

Trichonema †395*m*.—Intest.
nassatum.—Tonkin.

Echinopardalis †501*m*.—Intest.
[ovatus [b].]
pardalis.

Echinorhynchus [l] †502.
pardi.

Oncicola †501*o*.
oncicola.—Stomach, intest.

Amblyomma †881.—Ext.
tholloni.—Belgian Congo.—Leopard.

Armillifer †796.—Encysted.
†*armillatus* [i].—[?Africa].—Indian Civet.
†*moniliformis*.—[?India.]

Dermacentor †873.—Ext.
auratus.—United Prov., India.

Haemaphysalis †869.—Ext.
koningsbergeri [s].—Java [t].—T. h.
†*leachi* [o].—S. Africa.
papuana.—Java.

parva.—India.
spinigera.
Ixodes †866.—Ext.
oldi.—Chirinda, S. Rhodesia; Africa.
†*pilosus*.—Cape Province, Orange Free State, Africa.
pilosus howardi.
†*rasus*.—Belgian Congo.—Ashanti.—Leopard.
LINGUATULIDAE †792.
species Bequaert, 1930.—Liver.—Belgian Congo.
Porocephalus †798.
†*crotali*.—Larva encysted in body cavity, etc.—Confusion [j] of parasite or of host?
Echidnophaga †1633.—Ext.
larina.

#413 **Felis** [l] (#413*d*′ **Panthera,** Leopardus [l]) **pardus antiquorum** Ham. Smith in Griffith's Cuv., 1827, Anim. Kingd., Mamm., Syn., 165. Indian local race of *F. pardus*, Atlas leopard, Morocco leopard. Old World (Ceylon, India, Morocco and neighbouring countries).

Habronema †470.
chevreuxi.—Tumors in stomach.—Algeria.
grimaldiae.—Stom.—Algeria.

#413 **Felis** [or Leopardus [l], *Panthera*] (#413*d*′ **Panthera,** Leopardus [l]) **pardus leopardus** (Schreb., 1777, Säugeth., v. 3, 387, pl. 101 (1776)) Lydekker, 1896, A Handbook to the Carnivora, 71. West African leopard, Panthère d'Afrique. Africa (West Africa [t]); Asia (Persia, India); Asia Minor.

Diphyllobothrium †295.—Intest.
decipiens [o].
maculatum [s].
Ancylostoma †387.—Intest.
tubaeforme [i].
Echinopardalis †501*m*.
[ovatus [h s].—Small intest.]
Haemaphysalis †869.—Ext.
†*leachi*.
Ctenocephalides †1639.—Ext.
†*felis*.
Echidnophaga †1633.—Ext.
larina.—Daroli, Abyssinia.

#413 **Felis** (#413*d*′ **Panthera**) **pardus melanotica** Günther, 1885, Proc. Zool. Soc. London, 243, pl. 16; 1886, Proc. Zool. Soc. London, 203–205. Cape leopard. Grahamstown district [t], Africa.

Haemaphysalis †869.—Ext.
†*leachi*.
Ixodes †866.—Ext.
†*pilosus*.
Echidnophaga †1633.—Ext.
larina.—S. Africa.

#413 **Felis** [l] (#413*z* **Leopardus**) **pardus melas** (Péron in Desm., 1820, Encycl. méth., Mamm., (1), 223) Blanford, 1888, Fauna Brit. India, Mamm., 69. Indo-China; Java; Sumatra. A black variety of *F. pardus;* the occurrence of black and spotted cubs in the same litter having been repeatedly recorded, fide Blanford, 1888, 69. So. *F. pardus*, fide Lydekker, 1896*a*, 71; so. *F. pardus variegata*, fide Trouess., 1897*c*, 354.

Diphyllobothrium †295.
species Southwell, 1922.
Toxocara †484.
†*mystax* [o].
[species Glaue, 1910.]

#413 **Felis** [l] (#413*d*′ **Panthera,** Leopardus [l]) **pardus orientalis** (Schlegel, 1857, Handleiding Beoef. Dierkunde, v. 1, 23, pl. 2, fig. 13) Trouess., 1897*c*,

Cat. Mamm., Berolini, v. 1, 354. Luipaard van Korea. Korea [t] ; Amur, Asia.

Paragonimus †250.
†westermani.—Korea.
Diphyllobothrium †295.—Intest.
†mansoni.—Korea.

#413 **Felis** [l] (#413*d'* **Panthera,** Leopardus [l]) **pardus suahelica** (Neumann, 1900, Zool. Jahrb., Syst., v. 13, 551 [*F. leopardus*]) Lydekker, 1908, Game Anim. Afr., 428. German E. Africa into Uganda.

Chlamydonema 470*I*.
praeputiale.—Tanganyika.
Haemaphysalis †869.—Ext.
†leachi.—Tanganyika.

#413 **Felis** [l] (#413*d'* **Panthera,** Leopardus [l]) **pardus viliosa** (Bonhote, 1903, Ann. Mag. Nat. Hist., ser. 7, v. 11, 475) Lydekker, 1907, Game Anim. India, Burma, etc., London, 316. Manchurian leopard. Amur Bay [t], E. Siberia.

Diphyllobothrium †295.—Intest.
decipiens [o].—China.

#413 **Felis** pardus [h] Pallas, 1811, Zoogr. Ross.-As., v. 1, 17 [not Linn.]. Afgansch, Bars, Chachai, Irbis, Kúnik, Once, Pu-pi, S'tagg, Tóra, Unza. So. **Felis** (**Leopardus**) **uncia,** fide Trouess., 1897*c*, 353.

#413 **Felis** [l] [or *Aelurina* [t], *Ailinura* [t], *Ailurina* [t], *Ailurogale* [t], Catus [l], Chaus [l], *Ictailurus* [t], *Plethaelurus* [t], Viverriceps [l]] (#413*d* **Ictailurus,** *Ailurin* [t], Cati [l], Felis [l], Pardina) **planiceps** Vig. & Horsf., 1827, Zool. J., v. 3 (2), 450. Flat-headed cat, little fire cat, little Malayan red cat, rusty tiger cat, Hechtkatze, Marderkatze. Baram River, Sarawak, Borneo; Malacca; Malay Peninsula; Mount Dulit; Sumatra.

Alaria < †223*j*.—Small intest.
species Cameron, 1928.—London Zoo, from Malay States.
Platynosomum †276*I*.—Small intest.
planicipitis.—London Zoo, from Malay States [t].—T. h.
Aelurotaenia < †310.—Intest.
planicipitis.—London Zoo, from Malay States [t].—T. h.
Cysticercus †326.
species Cameron, 1928.—London Zoo, from Malay States.
Ancylostoma †387.—Intest.
†brasiliense.—London Zoo, from Malay.
Capillaria †372*b*.—Sm. intest.
species Cameron, 1928.—London Zoo, from Malay.
Dirofilaria 449*A*.
species Cameron, 1928.—Connective tissue.—London Zoo, from Malay.
Filaria †435.
species Cameron, 1928.—Connective tissue.—London Zoo, from Malay.
Gnathostoma †473.
species Cameron, 1928.—Mesentery.—London Zoo, from Malay.
Nematostrongvlus < †411.—Intest.
planicipitis.—London Zoo, from Malay.—T. h.
Porrocaecum †476*u*.—Intest.
species Cameron, 1928.—London Zoo, from Malay.
SPIRUROIDEA †455.
species Cameron, 1928.—Encysted.—London Zoo, from Malay.
Strongyloides †355.
species Cameron, 1928.—London Zoo, from Malay.
Toxocara †484.—Intest.
†mystax [o].—London Zoo, from Malay.
Armillifer †796.—Encysted.
†moniliformis.—Asia [t].
[*wedlii* [s].—T. h.]

#413 **Felis** [1] (Uncia [1]) **puma** Molina, 1817, Sagg. Stor. Nat. Chili, 245. So. #413 **Felis** (**Puma**) **concolor puma.**

#413 **Felis** [1] [or Panthera [1], *Prionailurus* [s], Serval [1], Viverriceps[1]] (#413*v* **Prionailurus,** Oncoides [1], Pardina [1], Servalinae [1]) **rubiginosa** Geoffr., 1834, Bélanger's Voy. Indes Orient., (2), 140. Rubiginous cat, Rusty-spotted cat, Röthelkatze, Ark-Phílli, Coolla-deeya, Kiraba-Bekku, Kula diya, Namali pilli, Verewa-poony, Verewa puni. Pondicheri, Madras [t]; Ceylon; India.

Ancylostoma †387.
minimum.—Stomach.—Ceylon.—T. h.
Physaloptera 470*H*.
brevispiculum.—Stomach.—Ceylon [t].—T. h.
Echidnophaga †1633.—Ext.
†*gallinacea.*—Transcaspia [j].

#413 ***Felis** [1] [or *Lynx* [s], *Lynchus* [o], *Lyncus* [o]] (#413*n* **Lynx,** Cervaria [h], *Eucervaria* [s], *Lynces, Lynchus* [o]) **rufa** Schreber, 1778, Säugth., v. 3, 412; Kerr, 1792*a*, Anim. Kingd., 158. American wild cat, Bay lynx, red lynx, short-tailed cat, wild cat, Rothluchs, Chimbi, Cochinnes, Gato montes, No-mé. New York [t], North America generally.

Babesia †173.—Blood.
species Wenyon & Hamerton, 1930.—London Zoo, from N. America.—Resembles *B. felis.*
Giardia †139.
*species Hegner, 1924.—Feces.—Zoo, Baltimore.
Paragonimus †250.—Lungs.
†**westermani.*—Phila. Zoo.
Taenia [r] †325.
balaniceps.
macrocystis.
Ancylostoma †387.—Intest.
†*caninum.*—Duodenum.
pluridentatum.—Phila. Zoo.
tubaeforme [j s].
ANCYLOSTOMIDAE †384.—Intest.
species Weidman, 1923.—Phila. Zoo.
Ascaris [1] †479.
*species Stiles & Hassall, 1894*e*.—D. C.
Dirofilaria 449*A*.
species Canavan, 1931.—Phila. Zoo.
Filaria †435.
**fasciata.*—Muscles, intermusc.—Wild cat.—Phila.
Microfilaria †432.—Blood.
[species Plimmer, 1917.—London Zoo, from Mexico.]
Solenonema < †440.
striatum.—Thigh muscles.
Toxascaris †486.—Intest.
**leonina.*—Phila. Zoo.
Toxocara †484.—Intest.
†**canis.*—Texas.
marginata [o].
†*mystax* [o].
Uncinaria 390*B*.—Intest.
*species Weidman, 1916.—Phila. Zoo.
Notoedres †936.—Skin.
†*minor cati.*
Ceratophyllus †1627.—Ext.
**nepos dieteri.*—Los Angeles Co. [t], Calif.—T. h.
Felicola <†1099.—Ext.
**subrostratus.*—Calif.

#413 **Felis** [1] (#413*n* **Lynx,** *Lynchus*) **rufa californica** (Mearns, 1897, Proc. U. S. Nat. Mus., v. 20, 458 [*Lynx*]) Trouess., 1897*c*, Cat. Mamm., v. 1, 368. California lynx. San Diego [t], California.

Felicola <†1099.—Ext.
**subrostratus.*—Calif.

#413 **Felis** [1] (#413*n* **Lynx,** *Lynchus*) **rufa** maculata [h o] (Horsf. & Vig., 1829, Zool. J., v. 4 (15), Jan., 381 [not *Felis* (*Lynx*) *vulgaris maculata* Kerr, 1792*a*, Thibet lynx]) Trouess., 1897*c*, Cat. Mamm., v. 1, 368. Renamed #413 **Felis** (**Lynx**) **rufa texensis,** q. v.

#413 **Felis** [or *Lynx*] (#413*n* **Lynx,** Cervaria [h], *Eucervaria*) **rufa texensis** (Allen, 1895, Bul. Amer. Mus. Nat. Hist., v. 7, June 20, 188 [*Lynx*], renaming of

rufa maculata [h] (Horsf. & Vig.)) Mearns, 1897, Prelim. diag. new mamm. genera *Lynx*, etc. from Mexican bound. line, Jan. 12, 2 [*Lynx rufus*]. Spotted Lynx, Wild Cat, Gato montes (for all Lynxes in Mexico). Mexico [t].

Taenia [r] †325.
**balaniceps*.—Nevada; S. New Mexico.
Ancylostoma †387.—Intest.
†**caninum*.—Phila. Zoo.
ANCYLOSTOMIDAE †384.—Intest.
*species Weidman, 1923.—Phila. Zoo.
Subulura 488*W*7.—Intest.
**distans*.—Phila. Zoo.
Toxascaris †486.—Intest.
**leonina*.—Phila. Zoo.
Toxocara †484.—Intest.
†**mystax*.—Phila. Zoo.
Uncinaria 390*B*.—Intest.
*species Weidman, 1916.—Phila. Zoo.

#413 **Felis** [or *Galeopardus*, Leopardus [l], *Leptailurus* [t], Serval [h], Zibethailurus [l]] (#213*f* **Leptailurus** [t], Lepailurus [m], *Servalina*, *Servalinae*, Zibethailurus [l]) **serval** Müller in Linn., 1776, Syst. Nat., Suppl., 30; Schreb., 1777, Säugth., v. 3, 407, pl. 108 (1776); Erxl., 1777, Syst. Regn. Anim., 523. African serval, Tegree cat, afrikanische Tigerkatze, Serval, Bosch-Katte, Buschkatze, Indhloti, Indhlozi, Tali, Tijger-bosch-kat (Tiger Bush cat), Tijger-kat, Tlodi. Africa, from Algeria to the Cape of Good Hope.

Trypanosoma †94.—Blood.
species Weck, 1914.—Africa.
Diphyllobothrium †295.—Intest.
decipiens [o].—Yei, Belgian Congo.
theileri.—Pretoria, S. Africa.
Dipylidium †308.—Intest.
chyzeri.—Yei, Belgian Congo.
fuhrmanni.—Pretoria, S. Africa.
Sparganum †293.
species Shipley, 1902.—Yei, Belgian Congo; Sudan.
Toxascaris †486.—Intest.
leonina.—Breslau.
Toxocara †484.—Intest.
†*mystax* [o].
[species Gendre, 1928.]
[species Glaue, 1910.]
[species Henry & Joyeux, 1920.—Kouroussa.]
Armillifer †796.
†*armillatus*.
Haemaphysalis †869.—Ext.
†*leachi* [e] *leachi*.

#413 **Felis** [l] (#413*f* **Leptailurus,** Zibethailurus [l]) *serval* **capensis** (Forster, 1781, Phil. Trans., v. 71 (1), 4; Gmel. in Linn., 1788, Syst. Nat., v. 1, 81; Shaw in Miller, 1796, Cim. Phys., 76) Trouess., 1897*c*, Cat. Mamm., Berolini, v. 1, 356. So. #413 **Felis** (**Leptailurus**) **capensis,** q. v.

#413 **Felis** [r] (#413*n* **Felis** [r], *Catus* [o]) **silvestris** Schreb., 1777, Säugthiere, v. 3, 397 [*Felis* (*Catus* [o])]. Wild cat of Europe. Germany [t]; Central and Southern continental Europe from northern Spain to northern Germany, and from the Atlantic coast eastward at least to Black Sea; eastern limits of range not known. Syn. *sylvestris* [o] Billberg, 1828, Syn. Faun. Scand., ed. 2, v. 1 (1), 46.

Alaria <†223*j*.—Intest.
alata.—Braila, Rumania.
Metorchis †267*i*.
albidus.—Liver, gall bladder.—Braila, Rumania.
Pharyngostomum <†223*j*.—Intest.
cordatum.—Europe [t]; Braila, Rumania.—T. h.
Diphyllobothrium †295.—Intest.
decipiens [o].
felis.
Dipylidium †308.—Intest.
†*caninum*.
[*cuneiceps* [s].]
[*elliptica* [o].]
trinchesei.—Syn. trinchesii [d].

Mesocestoides <†299.—Intest.
lineatus.—Ilsenburg Forest [t].—T. h.
litteratus.
longistriatus.
Taenia (**Hydatigera** or **Reditaenia**) †325*c*.—Intest.
†*crassicollis* [s].
species Bellingham, 1844.—North Ireland.—? So. *taeniaeformis.*
†*taeniaeformis.*—England.
Ancylostoma †387.—Intest.
balsami.—Italy.
†*caninum.*
[*balsami felis* Zuern, 1882*a*, for *balsami.*]
trigonocephalum [l].
Capillaria †372*b*.
[*cati.*—T. h.]
felis-cati.—Intest., urinary bladder.—Europe; Ireland.
linearis [s].—Small intest.—So. ?felis-cati.—Host confusion (U. S. A.)?
[species Creplin, 1846.]
Gnathostoma †473.
†*spinigerum.*—Gastric wall.
Liorhynchus <†495.
[*cati-feri.*—Stomach wall.—Vienna Mus.]
species [j] Rudolphi, 1819*a*.—Intest., stomach.—Vienna Museum.
Toxocara †484.—Intest.
†*canis.*
[*canis felis* [o].—Host [j].]
[†*cati.*]
†*mystax* [o].—Europe.
Trichonema †395*m*.
[*affine.*—Intest.—Ghinda, Eritrea [t], N. E. Africa.—T. h.]
Ixodes †866.
ricinus.
Linguatula †800.
†*serrata.*
Spilopsyllus †1634.—Ext.
†*cuniculi.*—Europe.

#413 **Felis** [l] **sondiaca** (Fitzinger, 1868, Sitzungsber. Akad. Wiss., Wien, v. 58 (3–4), 454 [*Tigris*]). So. #413 **Felis** (**Panthera**) **tigris sondiaca,** q. v.

#413 **Felis species,** often in sense of "wild cat" (cf. *Felis silvestris*) other than European wild cat.

Trypanosoma †94.—Blood.
species Weck, 1914.—Africa.—Wild cat.
Alaria <†223*j*.—Intest.
alata.—Chat sauvage.
Clonorchis †268.—Liver.
†*sinensis.*—China.—Wild cat.
Metorchis †267*i*.
albidus.—Gall bladder.—Chat sauvage.
Paragonimus †250.—Lungs.
†*westermani.*—Korea.—Wild cat.
Diphyllobothrium †295.—Intest.
decipiens [o].—Peking, China.—Wild cat.
Dipylidium †308.—Intest.
species Meggitt, 1927.—Wild cat.
Echinococcus †322.
omissa.
Mesocestoides <†299.—Intest.
lineatus.—Wild cat.
longistriatus.—Ghinda [t], Eritrea.—Gatto selvatico t. h.
Ancylostoma †387.—Intest.
†**caninum.*—Wild cat.
Capillaria †372*b*.
**felis-cati.*—Intest., urinary bladder.—U. S. A.
Chlamydonema †469*d*, 470*I*.
[*malayensis.*—Tiger cat, bush cat.]
Dracunculus †439.
†*medinensis.*—Wild cat.
Filaria †435.
**fasciata.*—Philadelphia.—Wild cat.
species Weidman, 1923.—Phila. Zoo.—Wild cat.
Oesophagostomum †400.
ventri.—Stomach.—Brazilian wild cat t. h.
Physaloptera †469, 470*H*.
vandenbrandeni.—Intest.—Leopoldville.—Wild cat.
Spirocerca 468*G*.
?**sanguinolenta.*—Tumors.—Texas.—Wild cat.
Toxocara †484.—Intest.
[†*cati.*]
†**mystax* [s] [o].—U. S. A.

Dermacentor †873.—Ext.
bifurcatus.
†*variabilis.*
†venustus.—Probably †873 *andersoni.*

Ixodes †866.—Ext.
**bifurcatus* [s].—Texas [t].—Wild cat [=?*rufa texensis*].
†*reduvius* [s].
†*ricinus.*

Ctenocephalides †1639.—Ext.
†*felis.*—Palawan, P. I.—Wild cat.

#413 **Felis species** (miscellaneous).

Isospora †161.
species Triffitt, 1927, 62–63.—Feces.—London Zoo.—Eyot-cat.

Trypanosoma †94.—Blood.
species Weck, 1914.—Africa.—Leopard.

Alaria <†223*j*.
alata.

Clonorchis †268.—Liver.
†*endemicus* [s].—"Cats."

Metagonimus †273.
†*yokogawai.*—Syn. yokogawi[m].

Metorchis †267*i*.
albidus.

Opisthorchis †267.
**pseudofelineus.*—Rice Institute, Texas.—Persian cat.

Paragonimus †250.—Lungs.
†*ringeri.*—Korea.—Panther.
†*westermani.*—Korea.—Panther, tiger.

Parametorchis <†265.
complexus.—Rice Institute, Texas.—Persian cat.

Pharyngostomum <†223*j*.
cordatum.

Platynosomum †276*I*.
[*symmetricum* [s]: Dicrocoelium [l] *lanceatum.*—Liver.—Georgetown [t], Brit. Guiana.—Cat t. h.]

Prohemistomum <†223*j*.—Intest.
appendiculatum.—Rumania.

Dipylidium †308.—Intest.
†*caninum.*—Egypt; India.—"Cat."
catus.—Almora [t], United Prov., India.—"Siamese cat" t. h.

Echinococcus †322.
†*granulosus.*—Larva in panther.

Taenia [l] <†299.
species Moniez, 1880*a*.—Panther.

Taenia [r] †325.—Intest.
macrocystis.
triserrata.—Paraguay[t].—T. h.

Taenia (Taenia) †325*b*.—Intest.
novella.

Ancylostoma †387.—Intest.
†**brasiliense.*—Tonkin.—Panther.
†**caninum.*—Europe; N. America.
†*ceylanicum.*
**pluridentatum.*—Washington Zoo.
[trigonocephala[l].]

Capillaria †372*b*.
plica.

Chlamydonema 470*I*.
praeputiale.—Malay tiger; panther.

Cylicospirura 468*f*.
subaequalis.

Galoncus <†385.
perniciosus.—In intestinal cysts.—Berlin Zoo.—Panther.

Gnathostoma †473.
species Houghton, 1913.—Shanghai, China.
†species Morishita & Faust, 1925.—Stomach.—China.

Habronema †470.
chevreuxi.—N. Africa.—Panther.
grimaldiae.—N. Africa.—Panther.

Physaloptera 470*H*.
species Milne, 1912.—Stomach.—Jhansi, India.

Spirocerca 468*G*.
sanguinolenta.—Exp.—China.

Spirura 468*e*.
[*gastrophila.*—Intest.—Cat.]

Strongylus †378*a*.
species Dubler, 1892*a*.—Nodules of intest.—Zool. Garden, Switzerland.—Panther.

Syngamus †407.
dispar.—Trachea, and in lungs of puma.

Toxocara †484.—Intest.
[†*cati.*—Panther from Tonkin.]
†*mystax* [o].—"American wild cat".
[*mystax* [o] *felis* [o].—S. Africa.—Black footed cat.]
[*teres felis.*]

Uncinaria 390*B*.—Intest.
species Railliet, 1900.
stenocephala.

Corynosoma †501*s*.
strumosum.
Echinopardalis †501*m*.
[*campanulatus* °.]
Echinorhynchus †502.
pardi: Echinor.[1]
species Braun, 1893.—Intest.—Germany.
Armillifer †796.
†*armillatus*.
Dermacentor †873.—Ext.
†**variabilis*.
†*venustus [t].—So. †*andersoni*.
Haemaphysalis †869.—Ext.
†*leachi* ° *leachi*.
parva.—Panther.
Hyalomma †880.—Ext.
†*aegyptium*.
Ixodes †866.—Ext.
**brunneus*.—N. America [t].
†**hexagonus*.
†*holocyclus*.
oldi.—Chirunda, S. Rhodesia; Sierra Leone [t], W. Africa.—Bush cat t. h., leopard, panther.
†*pilosus*.—Leopard.
pilosus howardi.
**pratti*.
†*rasus*.
reduvius.—Leopard, *panther [j].
†*ricinus*.—Panther.
Linguatula †800.
†*taenioides* [s].
Microtrombidium †960*a*; †974.—Ext.
†*pusillum*.
Notoedres †936.—Skin.
cati.
Otobius †862.—Ear.
[†**megnini*.]
Otodectes †944*c*.—Ear.
[*auricularum* [s].]
Rhipicephalus †875.—Ext.
haemaphysaloides.—Bishar, Orissa, Punjab, India.—Leopard.
†*sanguineus*.
Trombicula †970.—Ext.
†*autumnalis*.—Claws, tail.
species Sambon, 1928.
Trombidium †977.—Ext.
†*striaticeps*.
Acanthopsylla <†1626.—Ext.
saphes.—Victoria [t], Australia.—Native cat t. h.
Ceratophyllus †1627.—Ext.
anisus.—Yokohama [t], Japan.
Ctenocephalides †1639.—Ext.
†*felis*.—Pampas Katze.
Hoplopsyllus †1628.—Ext.
exoticus.—Boquete [t], Panama.—T. h.
Rhopalopsyllus †1635*A*.—Ext.
†*lugubris*.—Peru.

#413*n* Lynx species.

Isospora †161.
species Triffitt, 1927, 61–62.—Feces.—London Zoo.—Lynx.
Heterobilharzia <†280.
**americana*.—Mesenteric veins.—Zoo, Washington, D. C.—T. h. Probably #413 *Felis uinta*.
Mesocestoides <†299.—Intest.
species Hall, 1910.
Chlamydonema 470*I*.
malayense.
Rhipicephalus †875.—Ext.
†*sanguineus*.—Lynx.
Ceratophyllus †1627.—Ext.
thambus.—Red Deer [t], Alberta.—T. h.
Pulex †1635.—Ext.
†*irritans*.—Alberta.

#413 **Felis** *sylvatica*. Probably for #413 **Felis** (**Felis**) **silvestris,** q. v.
Dipylidium †308.—Intest.
[*aegyptica: Joyeuxia*.—T. h.]

#413 **Felis** *sylvestris* ° Billberg, 1828, Syn. Faun. Scand., ed. 2, v. 1 (1), 46. So. #413 **Felis** (**Felis**) **silvestris.**

#413 *Tigris teguexim*. See #413 **Felis** (**Lynx**) **rufa texensis.**

#413 **Felis**[1] [or Catus [1], Panthera [1], *Profelis*, *Pyrofelis* [t]] (#413*n* **Profelis,** Cati [1], *Catopuma* [t], Pardina [1]) **temminckii** Vig. & Horsf., 1828, Zool. J., v. 3, 451, tab. suppl. 22. Bay cat, Golden cat, Fuchskatze. Asia (Sumatra [t]), Himalayas and China to Indo-Malaysia (Nepal, Sikhim, Tenasserim, Borneo, Burma, Malay Peninsula).

Ancylostoma †387.—Intest.
†*brasiliense.*
†*caninum.*
Arthrostoma < †384.—Intest.
felineum.—Sumatra.—T. h.
Chlamydonema 470*I*.
malayense.—Calcutta, India.
Microfilaria †432.
[species Plimmer, 1912.—Sumatra.]
Strongyloides †355.—Intest.
species Cameron, 1927.—Sumatra.

#413 **Felis** [1] [or *Herpailurus* [s], *Margay* [t], Oncoides [l]] (#413*a*′ **Herpailurus,** Leopardus[l], Oncoides [l], Pantherinae [l], Pardina [l]) **tigrina** Schreb., 1777, Säugthiere, v. 3, 396, pl. 106 (1776); Erxl., 1777, Syst. Regn. Anim., 517. The Margay, Tiger cat, Maragua, Marguay, Tigerkatze, Cauzel. Cayenne [t], South America [t]; America; from Mexico southward on east side of Andes as far as Paraguay and wooded interior districts of Argentina. Perhaps Trinidad.

Bothridum < †292.
megalocephalum [o].
Diphyllobothrium †295.—Intest.
decipiens [o].
†*latum.*
reptans.—*Sparganum* in subcutaneous tissue.
Echinococcus †322.—Intest.
omissa.
Taenia [r] †325.
macrocystis.
Taenia (**Hydatigera**) †325*c*.—Intest.
†*crassicollis* [s].
† *taeniaeformis.*
Taenia (**Taenia**) †325*b*.—Intest.
† *pisiformis.*
Ancylostoma †387.—Intest.
**pluridentatum.*—Washington Zoo.
tubaeforme [i].—Brazil.
Capillaria †372*b*.
pachykeramota.
Chlamydonema 470*I*.
praeputiale.
Gnathostoma †473.
americanum.—Stomach.—Brazil.—T. h.
spinigerum.
Microfilaria †432.—Blood.
species Carini & Maciel, 1917.—Brazil.
Physaloptera †469, 470*H*.
terdentata.—Stomach.—Brazil [t].
Trichuris †370.—Intest.
[*felis.*—Brazil.—T. h.]
Echinopardalis †501*m*.—Intest.
[*campanulatus* [s].—Brazil.]
pardalis.—Brazil.

#413 **Felis** [1] (#413*a*′ **Herpailurus,** Oncoides [l]) **tigrina guttula** (Hensel, 1872, Beitr. Kenntniss Säugeth. Süd.-Bras., Berlin, 73 [not Felis [1] *guttata* Hermann]) Lydekker, 1897*c*, Cat. Mamm., v. 1, 359. S. America. So. #413 **Felis** [1] (**Herpailurus**) **guttula,** q. v.

#413 **Felis** [1] [or *Panthera*] (#413*d*′ **Panthera,** Felis [1], *Tigrina, Tigrinae,* Uncia [l]) **tigris** Linn., 1758*a*, 41. Tiger, tigre royal, Königstiger, Tieger, Arimau Babr, Bágh, Bághni, Botha-o, Bürsh, Garúmkúla, Go-vágh, Harimau, Humpi, Htso, Keh-va, Kei, Khi, Khudi, Kla, Krodi, Kúdua, Kula, Kuli, Kya, Lákhra, Matsá, Mazar, Misi, Náhar, Nári, Padar-suh, Patayat-bágh, Pedda-púli, Perain-púli, Peram-pilli, Pirri, Púli, Púli-redda-púli, Ragdi, Rimau, Sa, Sad, Sathong, Schi, Sela-vágh, Sher, Sherni, Shinh, Shink, Sirong, Sü, Sumyo, Tag, Tekhu, Tük, Túkt, Tupuli, Tut, Wahág. Asia [t]; from Caucasus through northern Persia, India, Assam, Burma, and Malay Peninsula to Malay Islands, China, Manchuria, Amurland, and Korea; absent from Ceylon.

COCCIDIOMORPHA †156.
[*hartmanni:* Genus not stated.—Locality not given.—T. h.]
Eimeria †163.
novowenyoni.—Feces.—Leningrad Zoo[t].—T. h.
Paragonimus †250.—Lungs.
kellicotti [j].—Malay States.
†*pulmonale* [s].
†*ringeri.*
†*westermani.*—Holland; India; Sumatra.—Syns.: *westermanii, westermanni.*—T. h.
Bothridium <†292.—Intest.
megacephalus [c], for *megalocephalum.*
pithonis.—India.
Diphyllobothrium †295.—Intest.
[*decipiens* [o].—Calcutta Zoo.]
felis.—Calcutta Zoo.
†*latum.*
Mesocestoides <†299.—Intest.
lineatus.—Calcutta Zoo.
Taenia [r] †325.—Intest.
species Southwell, 1922.—Calcutta Zoo.
Taenia (Hydatigera) †325*c*.—Intest.
serrata [s].—Bengal.
Taenia (Taenia) †325*b*.
†*pisiformis.*—India.
Ancylostoma †387.—Intest.
†**brasiliense.*
†**caninum.*
†**ceylanicum.*—Phila. Zoo.
†*duodenale.*—India.
perrodens.
pluridentatum.—Malay States.
tubaeforme [j].
Ascaris [l] †479.
species Weidman, 1916.—Phila. Zoo.
Chlamydonema †469*d*, 470*I*.
malayense.—Stomach.—Fed. Malay States.
praeputiale.
Cylicospirura 468*f*.
subaequalis.—S t o m a c h.—Malay States.

Dirofilaria 449*A*.
†*immitis.*—Heart.—Tonkin.
Galoncus <†385.
perniciosus.—Hamburg Zoo.—T. h.
Gnathostoma †473.
robustum [s].—Stomach.
†*spinigerum.*—Stomach, gastric wall, subcut.—T. h.
Spiroptera †458.
tigridis.—Esoph., stomach.—China.
Toxascaris †486.—Intest.
leonina.
[*tigridis.*]
Toxocara †484.—Intest.
leptoptera [s].—Berlin.
†*mystax* [o].
Amblyomma †881.—Ext.
testudinarium.
Armillifer †796.
†*moniliformis.*
Haemaphysalis †869.—Ext.
bispinosa.
hystricis.
kinneari.—India.—T. h.
†*leachi* [e] *leachi.*—India.
leachi australis.
papuana.—Sumatra.
spinigera.—India.
Hyalomma †880.—Ext.
hussaini brevipunctatum.—Bihar and Orissa, India.
kumari.—Assam.
Ixodes †866.—Ext.
granulatus.—Burma.
Rhipicephalus †875.
haemaphysaloides.—Assam.
Acanthopsylla <†1626.—Ext.
rothschildi.—Sydney Zoo, N. S. Wales.
Ctenocephalides †1639.—Ext.
†*canis.*
†*felis.*—Sumatra.—Tiger [=? *F. tigris sondiaca*].
Trichodectes †1100.—Ext.
tigris.—T. h.

#413 Felis [l] **(#413*d*′ Panthera) tigris coreensis** or **koreensis.**

Paragonimus †250.—Lungs.
†*westermani.*—Korea.—Syn. ***westermanii.***
Diphyllobothrium †295.—Intest.
†*mansoni.*—Korea.

#413 **Felis** [1] [or *Panthera*] (**Panthera,** *Tigrina*) **tigris sondiaca** (Fitzinger, 1868, Sitzungsber. Akad. Wiss., Wien, v. 58 (3–4), 454 [*Tigris*]) Grevé, 1894, Nova Acta Acad. Leop., Halle, 49, 53. Javan race; Inseltiger. Java [t]; Bali; Sumatra; Borneo.

Paragonimus †250.—Lungs.
†*westermani.*—Syn. *westermanni.*
Ancylostoma †387.—Intest.
perrodens.—Munich Zoo, from Sumatra.
Dirofilaria 449*A*.
†*immitis.*—Heart.

#413 ***Felis** [1] [or *Lynx* [s]] (#413*n* **Lynx,** Cervaria [h], *Eucervaria* [s]) **uinta** (Merriam, 1902, Proc. Biol. Soc. Wash., v. 15, March 22, 71 [*Lynx*]) Elliot, 1905, Mamm. N. Amer. Continent, etc., Field Columbian Mus. Public. 105, Zool. ser., v. 6, 373. Bobcat, Uinta Mountains Lynx. Bridger Pass, south slope Uinta Mountains, Wyoming [t].

Heterobilharzia<†280.
**americana.*—Mesenteric veins.—Zoo, Washington, D. C.—Host [i].
Taenia (**Hydatigera**) †325*c*.—Intest.
†*taeniaeformis.*
Dermacentor †873.—Ext.
†**andersoni.*

#413 **Felis** [1] [or Leopardus [l], *Uncia* [t]] (#413*c'* **Uncia,** Leopardus [l]) **uncia** Schreb., 1777, Säugthiere, v. 3, 386, pl. 100 (1776). Onza, Ounce, snow leopard, Unze, Bharal h'aye, Bharal-hē, Ikar, Sachak, Safed Chita, Sáh, Stean, Suth Chita, Thurwágh, Zig. Asia; Asia Minor.

Toxascaris †486.—Intest.
leonina.

#413 **Felis** viverra. ? Lapsus for #413 **Felis viverrina.**

#413 **Felis** [1] [or Galeopardus [l], Leopardus [l], Serval [l], *Viverriceps, Zibethailurus* [s]] (#413*t* **Zibethailurus,** Pardina [l], Servalina [l], Servalinae [l]) **viverrina** Bennett, 1833, Proc. Zool. Soc. London, 68. Asiatic wild cat, Fishing cat, Taraikatze, Tüpfelkatze, Bagh, Bágh-dásha, Banbiral, Báráun, Bardeen, Chittra Bilow, Hándún-diva, Khupya-bágh, Mach-bágral. Bengal; Burma; Ceylon; Formosa; India[t]; Malabar coast; Malay Peninsula; South China; Tenasserim. Syn. viverinna [m] 1926.

Opisthorchis †267.—Liver.
†*viverrini.*—T. h.
Dipylidium †308.—Intest.
†*caninum.*—Calcutta Zoo.
gervaisi.—Calcutta Zoo.
Taenia (**Hydatigera**) †325*c*.—Intest.
†*crassicollis* [s].—Calcutta Zoo.
†*taeniaeformis.*—Calcutta Zoo.
Ancylostoma †387.—Intest.
†*caninum.*
†*ceylanicum.*—India.
†*duodenale.*
tubaeforme [i].
Chlamydonema †469*d*, 470*I*.
praeputiale.—London Zoo; India.
Gnathostoma †473.
†*spinigerum.*
Toxascaris †486.—Intest.
**leonina.*—Phila. Zoo.
Toxocara †484.—Intest.
†*mystax* [o].—India.
Amblyomma †881.—Ext.
integrum.
Armillifer †796.
moniliformis.—Larva.
Haemaphysalis †869.—Ext.
parva.—India.
Rhipicephalus †875.—Ext.
haemaphysaloides.—Bihar and Orissa Prov., India.
†*sanguineus.*—Ceylon; Burma, India.

#413 **Felis** [*Leopardus*] (#413*z* **Leopardus,** Margay [1], *Oncoides* [s]) **wiedii** Schinz, 1821, Cuvier's Thierreich, v. 1, 235. Small ocelot, Spotted tiger, Wiedische Katze, Gato do Matto. Brazil [t]. Syn. *F. wiedi* [c o] Trouess., 1904, Cat. Mamm., Berolini, 271.

Diphyllobothrium †295.
decipiens [c].
gracile.—Brazil.

Taenia [r] †325.
macrocystis.
Taenia (**Hydatigera**) †325*c*.—Intest.
†*taeniaeformis*.

#413 **Felis** [1] [or Catus [1], *Herpailurus*, Leopardus [1], Panthera [1], Puma [1]] (#413*a'* **Herpailurus,** Cati [1], Catopuma [1], Unicolores [1]) *yagouaroundi* [c o] Desmarest, 1820, Mamm., Paris, pt. 1, 230. So. #413 **Felis** [1] (**Herpailurus**) **jaguarondi,** q. v.

#414(412). ACINONYCHINAE [22] Pocock, 1917, Ann. Mag. Nat. Hist., 8th ser., v. 20(199), Nov., 332.—Total suppression of cutaneous lobes guarding claws. As in *Felinae* suspension of hyoid normally ossified, holding larynx close up to base of skull and restricting its movement. Contains #415 *Acinonyx* or *Cynailurus*. See #415.

#415. **Acinonyx** Burnett, 1830, Q. Journ. Sci. (R. Inst. Gt. Brit.) (for Dec., 1829), 349 (from Brookes,[23] 1828, 33, not available); or **Cynailurus** [23] Wagler, 1830, Natür. Syst. Amphib., 30, mt. *jubatus* Linn., syn. *guttata* Schreb.—Hunting-leopard, Hundskatze, Gueparden, Jagdpanther. Claws smaller, less curved, without cutaneous lobes; not completely retractile (always remaining partly exposed). Inner tubercle of upper carnassial, though supported by a distinct root, without salient cusp; tubercular molar more in a line with the other teeth. Skull short and high, frontal region broad and elevated in consequence of large development of frontal air-sinuses. Head small and round; body light, slender; limbs and tail long. Colour pale yellowish-brown with small black spots. Africa, southwestern Asia as far as southern India.

#415 **Cynailurus**, [or *Cynaelurus* [c], *Cynofelis* [c], *Gueparda* [c]] (*Cristatae* [c]) *guttatus* [s] (Hermann, 1804, Observ. Zool., 38 [Felis [1]]) Leunis, 1883*a*, Synop. Thierkunde, v. 1, 186. Guépard moucheté, Afrikanischer Gepard, Fahhad, schlanke Gepard. Africa. So. #415 **Acinonyx jubatus,** q. v.

#415 **Acinonyx** [or **Cynailurus,** *Cynailura* [c], *Cynaelurus*, *Cynofelis* [c], Felis [1], Guepar, *Gueparda* [c], *Guepardus*] (*Cristatae*) **jubatus** (Schreb., 1777, Säugethiere, v. 3, 392, pl. 105 (1776) [Felis [1]]) Hollister, 1911, Proc. Biol. Soc. Wash., v. 24, 226. Cheeta, cheetah, chita, guepard, hunting-leopard, hunting-serval, guépard à crinière, asiatischer Gepard, Jagdleopard, Jagdtiger, Tschitah, Chircha, Chitra, Chitra-puli, Chita puli, Ihlose, Ihlosi, Ihlozi, Ingululi, Laggar, Leñau, Luipard, Ngulule, Nki, Nkwani, Shlozi, Sigakaka, Sivungi, sometimes Vlackte tijger, Yuz, Yuz-palang. Africa to S. W. Asia.

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[22] Mammalogists accept Brookes' (1828) names which we reject. On account of this difference of opinion we refrain from changing the subfamily name ACINONYCHINAE (based upon a name which we reject) to one based on *Cynailurus*, until the case is decided by some committee or commission on nomenclature. If *Acinonyx* 1830 antedates *Cynailurus* 1830, the family name stands.

[23] Syns.: Acinonyx [d] Brookes, 1828, Catal. Anat. & Zool. Mus. Joshua Brookes, 33, mt. *venator* so. (1929) *venatica* Burnett, tsd. (1929) *jubata*;
Cristatae [c] Wagner, 1841, Schreber's Säugthiere, Suppl., v. 2, 501, contains *jubata* and *guttata*;
Cynaelurus [c o] Gloger, 1842, Hand- u. Hilfsbuch Naturg., v. 1, 63, contains *jubatus* and *guttatus*;
Cynailura Bogdanow in Grevé, 1894, Nova Acta Acad. Leop., Halle, v. 63, 94;
Cynofelis [c] Lesson, 1842, Nouv. Tabl. Règne anim., Mamm., 48, contains *jubata* and *guttata*;
Gueparda [c] Gray, 1843, List Spec. Mamm. Brit. Mus., pp. xx, 46, mt. *jubatus*.

CESTODA †283.
[species Ratcliffe, 1930.]
Ancylostoma †387.—Intest.
†*caninum*.
trigonocephalas[d].
Capillaria †372*b*.
pachykeramota.—Intest.—Vienna.—T. h.
Cylicospirura 468*f*.
subaequalis.
Dracunculus †439.
aethiopicus [s].—Subcut.—Paris; Kordofan, Africa.
†*medinensis*.
Toxascaris †486.—Intest.
leonina.
Toxocara †484.
†*mystax* [o].—Africa.
Armillifer †796.
†*armillatus*.—Africa [t].
Haemaphysalis †869.—Ext.
†*leachi*.
Psoroptes †938.—Ext.
communis [s].—Ear.—Leipzig.

#416 (411). Head elongate. See #417.

#417 (410). Pm_2 present. See #418, also #465.

#418 (465). VIVERRIDAE [e] [l] Gray, 1821, London Med. Repos., v. 15, 301 [VIVERRIDAE [d]].—Civet cats, genets, ichneumons or mongooses, paradoxures or tree-civets, etc. Toes generally 5 on each foot, claws variable; metatarsus hairy or naked. Teeth (typical formula): i.3/3, c.1/1, pm. 4/4, m.2/2. 5 or 6 teeth in molar series of each jaw; upper molars usually 2–2, and upper carnassial with no anterior lobe, usually with 3 outer cusps. Auditory bulla externally constricted, divided into 2 chambers (except NANDINIIDAE). Alisphenoid canal nearly always present. Dorsal vertebrae 13 or 14. Form usually rather slender; head and body elongate. Legs moderately short; digitigrade or plantigrade. In warmer portions of Old World (exclusive of Australia); north to Iberian Peninsula and southern France. See #419.

#419 (421). NANDINIIDAE Pocock, 1929, Encycl. Brit., 14th ed., v. 4, 898.—African palm civet. Auditory bulla undivided, wall of its posterior portion permanently cartilaginous; mastoid portion of skull large, shelflike in form; paroccipital directed backward away from bulla. Body and tail long; muzzle elongate and narrow; the full complement of facial vibrissae retained; ear with bursa and a ridgelike supratragus. Legs short, feet subplantigrade; claws short, curved, partially retractile; digits evenly spaced; plantar pad four-lobed, on forefoot continuous with bilobed carpal pad and on the hind foot with metatarsal area which is naked and has two ridge-like pads. Palatine foramina of skull in front of suture; cheek-teeth moderately trenchant, pm 4/2, m 4/2. Abdominal scent glands in front of the genital organs; penis short and close to scrotum. Africa. See #420.

#420. Nandinia Gray, 1843, List Spec. Mamm. Brit. Mus., pp. xx, 54, mt. *binotata* Gray, 1830.—African spotted palm-civet, African tree civet. Rudimentary marsupial pouch present. Cusps of hinder premolars and molars smaller, much less sharp and pointed than in *Genetta*, *Viverra*, and *Paradoxurus*. With additional characters as given for NANDINIIDAE. Forest region of W. Africa.

#420 **Nandinia** [Paradoxurus [l]] **binotata** (Gray, 1830, Spicil. Zool., pt. 2, 9 [Viverra [l]]) Gray, 1843, List Spec. Mamm., Brit. Mus., 54. Two-spotted palm civet, West African Palm-Civet. Forest region of West Africa (Fernando Po, Ashanti [t], Angola). Syn. *N.* inotata [m], for *binotata*.

Setaria †452.
species Walton, 1927.—In stomach tumor.

#421 (419). Auditory bulla divided by a partition into two chambers, wall of posterior portion of bulla completely ossified. See #422.

#422 (442). VIVERRIDAE [e f] Gray, 1821, London Med. Repos., v. 15, Apr. 1, 301 [VIVERIDAE [d]].—Civets, genets, and allies. Circumanal sac absent. Auditory bulla divided by a partition into two chambers, wall of posterior portion of bulla completely ossified, and the posterior surface applied to paroccipital process which projects downward; mastoid process relatively small. Scent-glands when present either entirely or partly perineal, never entirely abdominal in position. See #423.

#423 (439). Scent-gland present in one or both sexes. See #424.

#424 (424*a* [24]). Bulla without bony tubular meatus. See #425.

#425 (429). PARADOXURINAE Gill, 1872*a*, 4.—Oriental palm civets. Plantigrade; claws retractile. Prepuce far in advance of scrotum, intervening area usually occupied by large simple scent-pouch; vulva surrounded by scent-gland. India to Philippines and Celebes. See #426.

#426 (428). Ears not tufted; tail long, not prehensile; tarsus half naked behind. See #427.

#427 (427*a* [25]). **Paradoxurus** Cuv., 1821, Hist. nat. Mamm., livr. 24, Jan., 5, tod. *typus*.—Asiatic palm-civets, paradoxures, toddy-cats, tree-cats, Roller, Rollmarder. Teeth large, 40: i. 3/3, c. 1/1, pm. 4/4, m. 2/2; blunt and rounded form of cusps of hinder pm. and m. teeth distinguishes this genus from most members of family. Anal and preanal (in ♂♂ prescrotal) glands present; preanal glands discharge into a slight fold instead of into a deep pouch, secretion has little or no scent of civet; preanal tract naked. Spots the chief type of marking. Body long. Head elongate, conical, pointed in front; pupil vertical; orbit very incomplete; nose flat, central groove beneath; ears small, rounded. Tail long, nonprehensile, can be rolled. Legs moderate; palms and soles almost entirely naked, joining the footpads without the intervention of any hairy space; claws completely retractile, small, sharp. Nocturnal and arboreal. Southeast Asia; Indo-Malayan archipelago to Philippines.

Syns.:

Paguma [g] Gray, 1831, Proc. Zool. Soc. London, pt. 1 (8), Aug. 5, 95, mt. *larvata* Ham. Smith & Gray, China;

Platischista [c] Trouess., 1897*c*, Catal. Mamm., 329;

Platyschista Otto, 1835, Nova Acta Leop., Halle, v. 17 (2), 1102, tod. *pallasii* [o] Otto, renaming of *hermaphrodita* Pall. in Schreb., 1777.

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[24] **#424*a*** (424). GALIDICTINAE Mivart, 1882, Proc. Zool. Soc. London, Feb. 7, 143.—Madagascar mongooses. Bony tubular meatus of bulla present; jaws short; teeth sectorial. Scent-gland restricted to ♀. Prepuce far in advance of scrotum. Anal pouch absent. Feet narrow with nonretractile claws. Contains *Galidia*, *Galidictis* (syn. Galictis [b] Geoffr., 1837) and *Hemigalidia* (syn. *Salanoia*).

[25] **#427*a*** (427). **Arctogalidia** Merriam, 1897, Sci., N. S., v. 5 (112), Feb. 19, 302, tod. Paradoxurus [i] *trivirgatus* Gray, from Moluccas.—Small toothed palm-civets. Extremely small and slightly separated molars; upper carnassial almost triangular; cheek teeth often not in contact with one another. Naked preanal (prescrotal in ♂ ♂) tract absent; scent-gland absent in ♂. Palate frequently convex longitudinally between carnassials, and greatly produced behind last molar; very narrow bony aperture of posterior nares; nose compressed, flat with central groove beneath. Soles of feet more naked than in *Paradoxurus*, pollex and hallux more divergent. Body longitudinally striped or with rows of spots; tail not ringed. Burma, Dutch E. Indies (Java, Sumatra), Malay Archipelago.

Syn.: Arctogale [b o] Peters in Gray, 1864, Proc. Zool. Soc. London, 508, 542-543, mt. Paguma *trivirgata* Gray [not #513 *Arctogale* Kaup, 1829, MUSTELIDAE].

#427 **Paradoxurus** [or Genetta [1], *Paguma* [s]] **bondar** (Blainv. in Desm., 1820, Encycl. méth., Mamm., (1), 210 [Viverra [1]]) Gray, 1832, Proc. Zool. Soc. London, (17), July, 66. Musk weasel, Musky weasel. So. *Paradoxurus niger*, fide Blanford, 1885, 792 and 1888, 106; so. *Paradoxurus hermaphroditus*, fide Lydekker, 1896*a*, 233; so. *Paradoxurus hermaphrodyta niger*, fide Trouess., 1897*c*, 329.

#427 **Paradoxurus** [or *Paguma* [s]] **grayi** Bennett, 1835, Proc. Zool. Soc. London, pt. 3 (32), Oct., 118. Himalayan palm civet, ungefleckte Roller. India [t]; Himalayas; Arakan and Andaman Ids.

Paragonimus †250.—Lung.
edwardsi.—Kumaon Hills [t], India.—T. h.
Diphyllobothrium †295.
species Southwell, 1922.—Calcutta.
Dipylidium †308.—Intest.
†*caninum*.—Calcutta Zoo.
Taenia [1] < †299.
paradoxuri.—Dejecta.—Philadelphia Zoo, from India [t].—T. h.

#427 **Paradoxurus** [or Genetta [1]] **hermaphroditus** (Pallas in Schreb., 1777, Säugthiere, v. 3, 426 [Viverra [1]]) Gray, 1832, Proc. Zool. Soc. London, pt. 2 (17), 67. Common palm-civet, Malayan palm civet, Palmenroller, Zwitterstinkthier, Bághdánkh, Bhondar, Khabbo-palaing, Kyoung-na-ga, Kyoung-won-baik, Músang, Músang Pándan, Sapo-mi-aing. Barbary [t]; Dutch E. Indies; India; Indo-China; Malacca; Malay Peninsula; Siam. Syns.: hermaphroditicus [m] 1922; hermaphrodyta [e] Trouess., 1897*c*, Cat. Mamm., Berolini, v. 1, 329.

Cyclorchida < †306*I*.—Intest.
crassivesicula.—Malay States [t].—T. h.
Dipylidium †308.—Intest.
†*caninum*.—Calcutta.
gervaisi: Dipylidium; Joyeuxia.—Calcutta Zoo.
Proteocephalus < †283.
punicus.—Calcutta Zoo.
Gnathostoma †473.
†*spinigerum*.—Malay.
Rictularia 459*R*.
plagiostoma.—Malay.
Echinolaelaps < †898.—Ext.
echidninus.—Buitenzorg, Java.
Ctenocephalides †1639.—Ext.
†*felis*.—Karlsruhe zoo, Germany.

#427 **Paradoxurus hermaphroditus bondar.** Cf. #427 *Paradoxurus bondar*.
Rictularia 459*R*.—Intest.
species Baylis & Daubney, 1922.—Intest.—Calcutta.

#427 **Paradoxurus** [*Paguma* [s], Viverra [1]] (*Paguma*, *Paradoxurus*, Viverra [1]) **larvatus** (Temm. in Griff.'s Cuv., 1827, Anim. Kingd., v. 2, 281, fig. 1 [Gulo [1]]) Gray, 1832, Proc. Zool. Soc. London, pt. 2 (17), 67. Chinese palm civet, gem-faced civet, masked genet, masked glutton, Larvenroller. China, Formosa.
Paragonimus †250.—Lung.
†*westermani*.—China; Monaco.—Syn. *westermanni*.
Rictularia 459*R*.
plagiostoma.—London Zoo.
Haemaphysalis †869.—Ext.
birmaniae.—Burma, Asia.
bispinosa.—China; Japan.

#427 **Paradoxurus niger** (Desm., 1820, Mamm., Paris, pt. 1, 208–209 [Viverra [1]]) Blanford, 1885, Proc. Zool. Soc. London, no. 51, Nov. 3, 792. Palm civet, Palmroller, toddy cat (of Europeans in many parts), Bhám, Bhondar, Chingár, Jhár-ka-Kutta, Kera-bek, Khatás, Lakáti, Machabba, Malwa, Manu-pilli, Marrapilli, Maru-pilli, Menuri, Togot, Ud, Ugudora, Veruvú. India, Ceylon, extending to Himalayas. Var. of #427 *hermaphroditus*, fide

Trouess., 1897*c*, 329; so. #427 *hermaphroditus*, fide Lydekker, 1896*a*, 233, 234; distinct species, fide Blanford, 1888, 106; Pocock, 1915, 403. Cf. Cabrera, 1917, Bol. Soc. esp. Hist. nat., Madrid, v. 17 (8), 487.

Haemaphysalis †869.—Ext.

cuspidata.—Ceylon.

#427 **Paradoxurus philippinensis** Jourdan, 1837, C. r. Acad. Sci., Paris, v. 5 (15), 523–524. Philippine palm-civet. Borneo; Palawan, Philippines [t]. Syn. *P.* [or Martes [l]] *philippensis* Jourdan, 1837, Ann. Sci. Nat., Paris, ser. 2, v. 8, Zool., Dec., 372.

Sparganum †293.

philippinensis.—Peritoneum.—Los Baños [t], Philippine Ids.—T. h.

Gnathostoma †473.

radula [s].—Philippines.

†*spinigerum*.—Gastric wall.—Philippines.

Armillifer †796.

moniliformis heymonsi.—Abdomen.—Los Baños.

#427 **Paradoxurus species.**

Trichinella †366.—Muscles, intest.

†**spiralis*.—Phila. Zoo.

Haemaphysalis †869.—Ext.

cuspidata.—Colombo, Ceylon.

dentipalpis.—Malay [t].—T. h.

†*leachi* [e] *leachi*.

leporis.

vidua.—Malay [t].—T. h.

#427 **Paradoxurus** *tytlerii* [s] Tytler, 1864, J. Asiatic Soc. Bengal, v. 33, June 20, 188. Andaman Ids. (Viper Id.[t]). So. *grayi*, fide Lydekker, 1896*a*, 237; Blanford, 1888, 112; syn. tylleri [m].

Ctenocephalides †1639.—Ext.

†*felis*.—Berlin zoo.

#428 (426). **Arctictis** [26] Temminck, 1824, Prospectus Monogr. Mamm., Paris, Mar., v. 1, p. xxi [nv], mt. *binturong* Raffles, Sumatra.—Binturong. Ears tufted, short; tail long, truly prehensile; tarsus naked behind. Head conical; nose acute, underside flat, with broad central groove; eyes small, pupil vertical. Teeth: i. 3/3, c. 1/1, pm. 4/3, m. 2/2; sometimes 4 lower premolars, and last upper molar often absent; canine teeth large, compressed, very sharp behind, concave externally in front of posterior edge; molars small, rounded; both molars and incisors slightly separate from each other. Whiskers numerous, long, rigid, more slender on cheeks, throat, and eyebrows. Fur coarse, long, shaggy. Feet thoroughly plantigrade; toes 5 on each foot; claws compressed, short, slightly curved, acute, partially retractile; soles of hind feet broad, entirely bald and callous to heel. Large prescrotal glands opening into a deep fold. Southern Asia from Nepal through Malay Peninsula to Sumatra and Java.

#428 **Arctictis** [or Arctitis [m]] **binturong** (Raffles, 1821, Trans. Linn. Soc. London, v. 13 (1), 253–254 [Viverra [l]]) Fischer, 1829, Synop. Mamm., 157. Bear-cat, binturong, Myouk-kyá (monkey-tiger), Untarong, Unturong,

[26] Syns.: Arctitis [m] Grevé, 1894, Nova Acta Acad. Leop., Halle, 217;

Ictides [e] Valenciennes, 1825, Ann. Sci. nat., Paris, v. 4, Jan., 57–61, pl. 1, figs. 1–4, mt. tod. Paradoxurus [l] *albifrons*;

Ictis Schinz, 1824, Naturg. Abbild. Säugethier, v. 1, 110, mt. *albifrons* Cuv. [not #513 Ictis [h] Kaup, 1829, MUSTELIDAE.]

Young. Malacca [t]; Himalayas from Simla to Assam, Burma, Siam, Malay Peninsula, Sumatra, Java, Borneo.

Rictularia 459*R*.

mjöbergi.—Intest., mesentery, abd. cavity.—Mt. Penrissen [t], Sarawak.—T. h.

#428 **Arctictis species.**

Ctenocephalides †1639.—Ext.

†*felis*.

#429 (425). Digitigrade (subplantigrade in EUPLERINAE).

#430 (430*a* [27]). Not semiaquatic in habits; premolars not adapted for holding fish and crushing shells of crabs and mussels. See #431.

#431 (431*a* [28]). VIVERRINAE Gill, 1872*a*, 4.—Civets, Genets. Scent-glands elaborately developed. Teeth trenchant, usually 40: i. 3/3, c. 1/1, pm. 4/4, m. 1 or 2/2 (in *Poiana* 2d upper molar absent). Digitigrade; claws usually retractile. Syn. VIVERINAE [d] Swainson, 1835, Nat. Hist. Class. Quad., pp. vii, 361. See #432.

#432 (432*a* [29]). Teeth 40: i. 3/3, c. 1/1, pm. 4/4, m. 2/2. See #433.

#433 (434). **Genetta** Oken, 1816, Lehrb. Naturg., Zool., 3 Th., 2 Abth., pp. xi, 1010, tat. *genetta* Linn.; tsd. (1900) *vulgaris* so. *genetta;* Cuv., 1817, Règne anim., Paris, v. 1, 156, tat. *genetta*.—Genets. General form cat-like. Interglandular space in ♂ ♂ and some ♀ ♀ divided into 3 compartments by 2 transverse ridges of integument, in other ♀ ♀ forming a small, shallow pouch; metatarsus with long narrow double pad. Slenderer animals with shorter legs; feet hairy; soles with long narrow naked line. Skull elongate, narrow; auditory bulla large, elongate, rounded at both ends; pupil contracting to a linear aperture; ear higher than wide. Teeth compressed, sharp pointed; inner side of the third upper premolar has a tubercle. Tail long, slender, ringed. Fur short, soft, spotted or cloudy. Pouch for storing secretion of scent-gland absent. Africa; Mediterranean region of Europe; Palestine.

Syn. *Odmaelurus* [o] Gloger, 1841, Hand- u. Hilfsbuch Naturg., v. 1, 72, mt. *genetta* Linn.

#433 **Genetta abyssinica** (Rüppell, 1835, Neue Wirbelthiere Abyssin., Frankfurt a. M., 33, pl. 2 [Viverra [1]]) Lydekker, 1896*a*, Handbook to the Carnivora,

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[27] **#430***a* (430). CYNOGALINAE Gill, 1872*a*, 4.—Fish-eater adapted for semiaquatic habits; teeth modified for holding fish and crushing shells of crabs and mussels; premolars peculiarly elongated, compressed, pointed, recurved, somewhat as in seals, but molars are tuberculated. Head elongated, muzzle broad, depressed. Vibrissae numerous, rigid; rhinarium on summit of very wide muzzle. Ears small, rounded. Soles of feet naked; toes short, slightly webbed at base; claws partially retractile. Scent-gland reduced. Tail short, cylindrical, covered with short hair. Fur very dense, soft, dark brown, mixed with black and gray. See #430*b*.

#430*b*. **Cynogale** Gray, 1837, Proc. Zool. Soc. London, pt. 4 (46), Feb., 88, mt. tod. *bennetti* Gray, 1837.—Otter-civet, Mampalon. With the characters of subfamily. Malay States to Borneo.

[28] **#431***a* (431). HEMIGALINAE Gill, 1872*a*, 4.—Scent-pouch reduced in size in both sexes. Teeth sharper cusped than in PARADOXURINAE, and feet more digitigrade. Oriental. Contains *Chrotogale*, *Diplogale*, and *Hemigalus*.

[29] **#432***a* (432). **Poiana** Gray, 1864, Proc. Zool. Soc. London, 507, 520, mt. *richardsoni* Gerrard so. (tsd. 1904) *poensis* Waterhouse, from Fernando Po, fide Palmer, but synonymy not accepted by Cabrera, see also Pocock, 1907, Proc. Zool. Soc. Lond., v. 2, 1039.—Teeth 38: i. 3/3, c. 1/1, pm. 4/4, m. 1/2; 2d upper molar absent. Sole of foot with narrow bald band running up toward tarsus. Africa.

Poiana was placed provisionally in LINSANGINAE by Pocock (1915, Ann. Mag. Nat. Hist., 8th ser., v. 16, 350) on basis of absence of scent-glands. Since 1915, this genus has been found to have elaborate scent-glands and consequently Pocock (1929, Encycl. brit., 14th ed., v. 4, 898) places it in VIVERRINAE.

pt. 1, 219; Matschie, 1902, Verh. Internat. Zool.-Congresses, Berlin, 1140. Die streifige Zibethkatze, Sennar-Genette. Abyssinia [t].

Dipylidium †308.—Intest.
gervaisi.—Eritrea.
Hymenolepis †314.
liguloides.

#433 **Genetta afra** Cuv. in Geoffr. & Cuv., 1825, Hist. nat. Mamm., v. 3 (51), Sept., 2. Mauren-Genette, Shib-beardon. Morocco; S. Spain.

Dipylidium †308.—Intest.
monoophorum.—Tunis, N. Africa.
triseriale.—Tunis, N. Africa.

#433 **Genetta** afra [h] of Trouess., 1910, Faune Mamm. Europe, 88, 89. [So. #433 **Genetta genetta genetta,** fide Miller, 1912, Cat. Mamm. W. Europe, 451.

#433 **Genetta** *afra* **bonapartei** [e] (Loche, 1857, Rev. Mag. Zool., ser. 2, v. 9, 385, pl. 13). So. #433 **Genetta bonapartei,** q. v.

#433 **Genetta bonapartei** [e] Loche, 1857, Rev. Mag. Zool., ser. 2, v. 9, 385, pl. 13. Streifen-Genette. La Bouzaréa, Algeria [t].

Habronema †470.
nouveli.—Stomach, intest.—Algeria.—T. h.
Protospirura 470*B*.
numidica.—Sétif, Algeria.
Spirocerca 468*G*.
sanguinolenta.

#433 **Genetta dongolana** (Hempr. & Ehrenb., 1832, Symb. Phys., dec. 2 [Viverra [l]]) Anderson & Winton, 1902, Zool. Egypt, Mamm., London, 188, pl. 26; Matschie, 1902, Vth Intern. Congr. Zool. Berlin, 1140. Dongolan Genet, Nubische Genette. Dongola, Kassala, Nubia [t], Suakim.

Dipylidium †308.—Intest.
dongolense.—London Zoo, from Africa.—T. h.
[*genettae* Beddard, 1913.—London Zoo, from Africa.—T. h.]
Xenopsylla †1636.—Ext.
†*cheopis.*—Egyptian Sudan.
nubicus.—Shendi [t], Africa.

#433 **Genetta felina** (Thunberg, 1811, Kongl. Vet. Acad. Handl., v. 32 (3), 165, 1 fig., tab. 7 [Viverra [l]]) Lesson, 1842, N. Tab. Règne Anim., Nov., 59. Feline Genet, small-spotted Genet, Insimba, Inywagi, Misselyat-kat, Musk-kat, Tshipa. Africa [t], Cape Province north to Angola.

Haemaphysalis †869.—Ext.
†*leachi.*—S. Africa.

#433 **Genetta** (*Genetta*) **genetta** (Linn., 1758*a*, 45 [Viverra [l]]) Cuv., 1817, Règne anim., v. 1, 157. Genette, Ginsterkatze. Spain [t]; Africa, Mediterranean region of Europe.

Dipylidium †308.—Intest.
genettae Gervais, 1847*a*.—Montpellier [t], France.—T. h.
gervaisi.
monoophorum.—N. Africa.—Host probably *Genetta afra* Cuv.
triseriale.—N. Africa.—Host probably *Genetta afra* Cuv.
Mesocestoides <†299.—Intest.
ambiguus.—T. h.
Taenia [r] †325.—Intest.
platydera.—Montpellier [t], France.—T. h.

Taenia (Hydatigera) †325*c*.
†crassicollis [s].—London Zoo, from Spain.
†taeniaeformis.—London Zoo, from Spain.
Ancylostoma †387.—Intest.
†caninum.
Toxocara †484.—Intest.
brachyoptera [s].—Vienna Museum from Algeciras, Spain.—T. h.
†mystax [o].
Uncinaria 390 *B*.—Intest.
crassa.—Senegal.
Armillifer †796.
†armillatus.
Haemaphysalis †869.—Ext.
gestroi [j] [s].—Burma.
†leachi [e] *leachi*.—S. Africa.
Ixodes †866.—Ext.
pilosus howardi.
†ricinus.
Rhipicephalus †875.—Ext.
†sanguineus.
Trichodectes †1100.—Ext.
acuticeps.—Abyssinia [t].

#433 **Genetta genetta genetta** (Linn., 1758*a*, 45 [Viverra [1]]) Miller, 1912, Cat. Mamm. W. Europe, 451. Spain [t]; central and southern Spain; limits of range unknown.

#433 **Genetta genetta rhodanica** (Matschie, 1902, Vth Internat. Zool.-Congr. Berlin, 1139) Miller, 1912, Cat. Mamm. W. Europe, 452. Rhone-Genette. Montpellier [t], Herault, France; southwestern France from valleys of Rhone and Loire to Bay of Biscay; perhaps westward through Asturias.

Eutrichophilus <†1099.—Ext.
genettae.—Vigo [t], Spain.—T. h.

#433 **Genetta ludia** Thomas & Schwann, 1906, Proc. Zool. Soc. London, no. 39, 579–581. The Senegal genet. Western Africa south to Kalahari (Klein Letaba [t], Transvaal).

Taenia [r] †325.—Intest.
parva.—Pretoria, S. Africa [t].—T. h.
Ancylostoma †387.—Intest.
†caninum.—S. Africa.
Chlamydonema 470*I*.
felineum.
Trichodectes †1100.—Ext.
genetta.—Jericho [t], Transvaal.—T. h.

#433 **Genetta** [or Viverra [1]] **pardina** Geoffr., 1832, Mag. Zool., v. 2, pl. 8. Pardine genet, Panther-Genette. West Africa (North Cameroon, Senegal [t], Togo).

Dirofilaria †447.
genettae.—Connective tissue?—Okoya [t], Nigeria.—T. h.
Amblyomma †881.—Ext.
marmoreum.
Armillifer †796.
†armillatus.—Larva.—Senegal.

#433 **Genetta rhodanica** Matschie, 1902, Vth Internat. Zool.-Congr. Berlin, 1139. So. #433 **Genetta genetta rhodanica,** q. v.

#433 **Genetta senegalensis** (Fischer, 1829, Synop. Mamm., 170 [Viverra [1]]) Gray, 1832, Proc. Zool. Soc. London, pt. 2 (17), 63. The Senegal genet. Africa (Senegal [t]).

Microstrongylus <†411.
genettae.—London Zoo.—T. h.
Uncinaria [l] 390*B*.—Intest.
crassa.—Intest.
Armillifer †796.
†armillatus.—Larva.
Haemaphysalis †869.—Ext.
†leachi.—Africa.
Synosternus <†1634.—Ext.
caffer.—Cape Town, S. Africa.

#433 **Genetta species.**

Dipylidium †308.—Intest.
genettae Gervais, 1847*a*.
Mesocestoides <†299.—Intest.
ambiguus.
Taenia [r] †325.—Intest.
platydera.
Ancylostoma †387.—Intest.
†*brasiliense*.—"Genet".
†*duodenale*.
Habronema †470.
nouveli.
Rictularia 459*R*.
macdonaldi.—Intest.—Algeria.
Amblyomma †881.—Ext.
marmoreum.
Armillifer †796.—Encysted.
†*armillatus*.—Senegal.
Haemaphysalis †869.—Ext.
†*leachi*.—Transvaal.
Ixodes †866.—Ext.
†*reduvius* [s].
Trichodectes †1100.—Ext.
acuticeps.—Abyssinia [t].—T. h.

#433 **Genetta stuhlmanni** Matschie, 1895, Säugethiere Deutsch-Ost. Afr., 73–75, 146 [nv]; 1902, Vth Internat. Zool.-Congr. Berlin, 1142. Bukoba-Genette. Bukoba, Mengo in Uganda.

Ascaris †479.
species Spaul, 1923.—Tanganyika.
LINGUATULIDAE †792.
species Bequaert.—Belgian Congo.
Ctenocephalides †1639.—Ext.
conversus.—Brit. E. Africa.
craterus.—Brit. E. Africa.

#433 **Genetta suahelica** Matschie, 1902, Vth Internat. Zool.-Congr. Berlin, 1143. Suaheli-Genette. German E. Africa as far as Mombasa and Nguruman.

Haemaphysalis †869.—Ext.
†*leachi* [o] *leachi*.—German E. Africa.
Ixodes †866.—Ext.
ugandanus djaronensis.—Kilimanjaro [t], Tanganyika.—T. h.
Rhipicephalus †875.
†*simus*.
Ctenocephalides †1639.—Ext.
†*canis*.—Kibonoto, Africa.

#433 **Genetta tigrina** (Schreb., 1777, Säugthiere, v. 3, 425, pl. 115 (1776) [Viverra [i]]) Gray, 1843, List Spec. Mamm., Brit. Mus., 49. Blotched genet, large-spotted genet, Bisamkatze, Grossfleckige Kap-Genette, Insimba, Inywagi, Misselyat-kat, Musk-kat, Tshipa. South Africa, northward on the east coast through Natal and Mozambique to Abyssinia.

Dipylidium †308.—Intest.
gervaisi.—Eritrea.

#433 **Genetta** *tigrina* **pardina** (Geoffr., 1832, Mag. Zool., v. 2, pl. 8). So. #428 **Genetta pardina,** q. v.

#433 **Genetta** *vulgaris* [o] Lesson, 1827, Man. Mamm., 173, renaming of *genetta* Linn. So. #433 **Genetta genetta,** q. v.

#434 (433). Interglandular space not divided by transverse ridges into 3 compartments, and in ♀ ♀ always forming a deep, capacious pouch; metatarsal pad absent or very short. See #435.

#435 (436). **Civettictis** Pocock, 1915, Proc. Zool. Soc. London, v. 1, March 26, 134, mt. *civetta* Schreb.—African civet. Each half of the gland excavate to form a pouch communicating with the interglandular space by a constricted orifice. A small metatarsal pad above plantar pad; carpal pad markedly

bilobed; sole of foot in front and at the sides of plantar pad quite naked; claws longer, unsheathed, less retractile. Africa.

#435 **Civettictis** (Viverra [1]) **civetta** (Schreb., 1777, Säugthiere, v. 3, 418, pl. 111 (1776) [Viverra [1]]) Pocock, 1915, Proc. Zool. Soc. London, v. 1, March 26, 134. African civet, civet-cat, afrikanische Zibethkatze, civet kat, Civette, Lisisi, Mpicamadhloti (i. e., "that which puzzles spirits", so-called because of its shy and secretive habits). Africa, south to Mashonaland and eastern Transvaal.

Babesia †173.—Blood.
civettae.—Senegal [t].—T. h.
Isospora †161.
viverrae.—Epithelium of small intest.—S. Africa [t].—T. h.
Dipylidium †308.—Intest.
monoophorum.—Tunis [t], N. Africa.—T. h.
triseriale.—Tunis [t], N. Africa.—T. h.
Ancylostoma †387.—Intest.
†*ceylanicum.*
†*duodenale.*
Amblyomma †881.—Ext.
†*hebraeum.*
Haemaphysalis †869.—Ext.
†*leachi* [e] *leachi.*—Liberia.
Ctenocephalides †1639.—Ext.
†*canis.*—Belgian Congo.

#435 [**Civettictis**] (Viverra [1]) **civetta orientalis** (Matschie, 1892, Sitz.-Ber. Gesellsch. Naturf. Fr., Berlin, 140, 229 [Viverra [1]]). East Africa.

Haemaphysalis †869.—Ext.
†*leachi.*—Tanganyika.
Rhipicephalus †875.
†*simus.*

#436 (435). Halves of the gland not excavate to form a pouch as in **Civettictis;** metatarsal pad absent; carpal pad not so markedly bilobed; sole of foot partially or wholly hairy; claws shorter, more retractile. See #437.

#437 (438). **Viverra** Linn., 1758*a*, 43, tsd. (1900; 1904; 1911) *zibetha* Linn.—Oriental civets, Zibethkatze. Pollex and hallux (as in *Genetta* and *Civettictis*) low down, their digital pads approximately on a level with the posterolateral angle of the plantar pad; claws of 3d and 4th digits of fore foot guarded by large skin-lobes (at least in *Viverra zibetha*). Fur rather long and loose, and in mid line of neck and back elongated to form an erectile black dorsal crest or mane. Teeth 40: i. 3/3, c. 1/1, pm. 4/4, m. 2/2; teeth stouter and less compressed than in the other genera; 2d upper molar especially larger. Orbit of skull incomplete; auditory bulla smaller and more pointed in front. Body shorter and stouter; legs longer; tail shorter, tapering, ringed, not prehensile. Claws strongly curved, rather short, blunt, only partially retractile; soles completely clothed with hair. Neck with a black gorget. Pupil oblong, vertical, circular when contracted. Scent-glands present (prescrotal in ♂ ♂, and in corresponding position in ♀ ♀); the secretion, known as civet, escapes by a number of minute orifices into a large sac, the external opening of which appears as a longitudinal slit, resembling a large vaginal aperture. The 2 anal glands which surround the anus secrete an offensive odor. Tropical Asia.

#437 Viverra [1] **abyssinica** Rüppell, 1835, 33. Syn. Viverra [1] abissinica [m] 1894. So. #428 **Genetta abyssinica,** q. v.

#437 Viverra [1] **bondar** Blainv. in Desm., 1820, Encycl. méth., Mamm. (1), 210. So. #427 **Paradoxurus bondar,** q. v.

#437 Viverra [1] **capensis** Schreb., 1777, Säugth., v. 3, 450, pl. 125 (1776); Erxl., 1777, Syst. Anim., 493. So. #538 **Mellivora capensis,** q. v.

#437 Viverra [1] **caudivolvula** Pallas in Schreb., 1777, Säugth., v. 3, 453, pl. 125*B* (1776). So. #568 **Potos** [t] **caudivolvula,** q. v.

#437 Viverra [1] **cinche** Müller in Linn., 1776, Syst. Nat., Suppl., 32. Syns.: *chinche* [c o] 1777; *chinga* [c o] 1782; *chingha* [c o] 1876. So. #552 **Mephitis cinche,** q. v.

#437 Viverra [1] **civetta** Schreber, 1777, Säugthiere, v. 3, 418, pl. 111 (1776). So. #435 **Civettictis civetta,** q. v.

#437 Viverra [1] **foetens** [o] Thunberg, 1791, D. D. Mus. Ac. Upsal. App. I, iii, renaming of *putorius*, fide Miller, 1912*a*, 423; 1798, Beskrifning på Svenske Djur, 15. So. #511 **Mustela** [1] (**Putorius**) **putorius putorius.**

#437 Viverra [1] **genetta** Linn., 1758*a*, 45. So. #433 **Genetta genetta,** q. v.

#437 Viverra [1] **ichneumon** Linn., 1758*a*, 43. So. #464 **Herpestes ichneumon,** q. v.

#437 Viverra [1] *indica* Desm., 1804, Nouv. Dict. Hist. nat., ed. 1, 17, tab. 24 [nv]. So. #438 **Viverricula** *indica*, q. v.

#437 Viverra [1] **malaccensis** Gmel. in Linn., 1788, Syst. Nat., v. 1, 92. So. #438 **Viverricula malaccensis,** q. v.

#437 Viverra [1] **mungo** Gmel. in Linn., 1788, Syst. Nat., v. 1, ed. 13, 84. So. #455 **Mungos mungo,** q. v.

#437 Viverra [1] **narica** Linn., 1766, 64. So. #563 **Nasua narica,** q. v.

#437 Viverra [1] **senegalensis** Fischer, 1829, Synop. Mamm., 170. So. #433 **Genetta senegalensis,** q. v.

#437 **Viverra species.**

Opisthorchis †267.
†viverrini.

CESTODA †283.
[species Ratcliffe, 1930.—"Moon civet."]

Diphyllobothrium †295.
tangalongi.—Stomach, intest.—Borneo.—"Tangalong, Civet Cat," see #437 *Viverra tangalunga.*

Taenia [1] <†299.—Intest.
species Parona, 1900*a*.—Eritrea.

Taenia [r] †325.—Intest.
species Setti, 1897*a*.—Massaua, Eritrea.

Ancylostoma †387.—Intest.
†brasiliense.

Uncinaria [1] 390*B*.—Intest.
crassa.—Senegal.—T. h.

Haemaphysalis †869.—Ext.
†leachi [o] *leachi.*
spinigera.—Amboina.

Ixodes †866.—Ext.
†pilosus.—Orange Free State, Cape Province, Transvaal, S. Africa.

Lorryia <†953.—Ext.
superba.—Amboina [t].—T. h.

#437 **Viverra** (*Viverra*) **tangalunga** (Gray, 1832, Proc. Zool. Soc. London, pt. 2 (17), 63) Trouess., 1897*c*, Cat. Mamm., Berolini, v. 1, 324. Javan civet, spotted civet. Amboina, Dutch East Indies (Celebes, Java, Sumatra), Malay Peninsula (Borneo), Philippine Ids. Syn. tungalunga [m] Trouess., 1904*c*, Cat. Mamm., Berolini, 248.

Giardia †139.—Duodenum.
hegneri.—Philippine Ids.[t]—T. h.

Diphyllobothrium †295.
tangalongi.—Stomach, intest.—Borneo [t].—T. h.

#437 **Viverra** (*Viverra*) **zibetha** (Linn., 1758*a*, 44) Trouess., 1904*c*, Cat. Mamm., Berolini, 248. Indian civet, large Indian civet, asiatische Zibethkatze, echte Zibethkatze, edle Zibethkatze, Bágdos, Bhrán, Khatás, Kung, Kyoungmyeng (horse-cat), Mach-bhondar, Nit biralu, Puda-ganla, Saphiong, Tangalong, Tanggallong. China, Eastern Himalayas, India (Assam, Bengal [t], Burma), Malay Peninsula and adjoining islands, Siam.

Eurytrema †276*K*.
concinnum.—Gall bladder.—Königsberg Zoo.—T. h.
Diphyllobothrium †295.
[†*mansoni: Sparganum*.—Tonkin, Indochina.]

Dipylidium †308.—Intest.
triseriale.—India.
Strongylus [1] †378*a*.
brauni.—Lungs.—Königsberg Zoo.
Haemaphysalis †869.—Ext.
gestroi.—Burma [t].
†*leachi* [e] *leachi*.—Burma.

#438 (437). **Viverricula** Hodgson, 1838, Ann. Mag. Nat. Hist., v. 1 (2), Apr., 152,? tsd. (date?) *malaccensis* syn. *indica*.—Oriental civets. Pollex and hallux higher up, above postero-lateral angle of plantar pad; claws of 3d and 4th digits of fore foot unguarded by lobes of skin. No erectile mane along back. Teeth 40: i. 3/3, c. 1/1, pm. 4/4, m. 2/2; teeth small, compressed and sharp. Orbit of skull complete; alisphenoid canal generally absent, although rarely present; anterior chamber of auditory bulla much more inflated than hinder chamber, so that the apparent length of the whole bulla is increased. Animal smaller than *Viverra*; build slighter, muzzle finer, claws sharper and more curved, and entire animal more adapted for arboreal habits and climbing. Head tapering; throat with lunate dark bands. Tail almost as long as body, conical, tapering, dark ringed. Pupil oblong, vertical. Heel with a small bald spot. Anal and scent glands present as in *Viverra*. Tropical Asia (India; Malay; Nepal [t]; South China).

#438 Viverricula [or *Civetta*, Genetta [1], Viverra [1]] *indica* [e] ("Geoffr." Desm., 1804, Nouv. Dict. Hist. nat., 17, tab. 24 [Viverra [1]]) Hodgson, 1838, Ann. Mag. Nat. Hist., London, v. 1 (2), Apr., 152. Burma, China, India, Java. So. #427 **Viverricula malaccensis.**

Armillifer †796.
† *moniliformis*.—Gall bladder.—Djambi.
Ctenocephalides †1639.
†*felis*.

#438 Viverricula (*Viverricula*) **malaccensis** (Gmel. in Linn., 1788, Syst. Nat., v. 1, 92 [Viverra [1]]) Cantor, 1846, J. Asiatic Soc. Bengal, v. 15, 199. Lesser Indian Civet, little spotted civet, small Indian Civet, Rasse, Bagh-niyal, Bag-myúl, Chita Billa, Gandha gokal, Gando gaula, Jabadio, Jowádimánjur, Jubat, Kasturi, Katás, Koung-ka-do, Mashk-billa, Múshak-bílli, Mushk Billa, Puluk-Phílli, Púnagin bek, Punagina-Bekku, Púnagú pilli, Punkassibekk, Saiyar, Sogot, Uralawa, Wa-young-kyoung-byouk. Ceylon, China, Cochin-China, Comoro Ids., Formosa, India, Java, Madagascar, Malacca [t], Malay countries, Nepal, Philippine Ids., Singapore, Socotra, Sumatra, Tenasserim Provinces.

Taenia (**Hydatigera**) †325*c*.—Intest.
†*taeniaeformis*.—London Zoo, from India.
Ancylostoma †387.—Intest.
†*caninum*.
†*ceylanicum* [s].—Ceylon [t].—T. h.
Rictularia 459*R*.
cahirensis.

Armillifer †796.
†*moniliformis*.
Amblyomma †881.—Ext.
integrum.—Orissa Prov.
Haemaphysalis †869.—Ext.
bispinosa.—Assam; Bengal; China; India; Japan.
parva.—India.—Host [j].

#438 Viverricula rasse (Horsfield, 1823, Zool. Researches Java, (6) [Viverra [1]]) Horsfield, 1841, J. Asiatic Soc. Bengal, n.s., no. 35, v. 10 (119), 909. Java [t]; Ceylon; Comoros Id.; Madagascar; Socotra.

Felicola <†1099.—Ext.
viverriculae.—E. Madagascar.—T. h.

#439 (423). Scent-glands absent in both ♂ and ♀, vulva tolerably close to anus; feet digitigrade or subplantigrade, and hairy down to plantar pads, metatarsal pads reduced or absent and carpal pads or pad much smaller and narrower than plantar pad. See #440.

#440 (440*a* [30]). EUPLERINAE Mivart, 1882, Proc. Zool. Soc. London, Feb. 7, 143.—Subplantigrade and fossorial. Hallux and pollex with large digital pads and close to 2d digit. Jaws feeble, long, slender; teeth degenerate, reduced in size, canines exceedingly small and premolars widely spaced. Alisphenoid canal absent; supracondyloid foramen present; bulla hardly everted posteriorly. Madagascar. See #441.

#441. Eupleres Doyère, 1835, Bul. Soc. Sci. nat., France, no. 3, March, 45; no. 5, June, 103, mt. tod. *goudotii;* Ann. Sci. nat., Paris, 2d ser., v. 4, Nov., 280, mt. tod. *goudotii*, Madagascar.—Small-toothed mongooses. Toes 5 on each foot. Claws short, hooked. Hind soles hairy. Skull ventricose, very much produced, slender, compressed; lower jaw compressed and produced in front; eyes large; ears large, triangular; nose and upper lip medianly grooved. Body vermiform. Tarsi elongate, hairy beneath; a very slender bald streak to the heel as in *Genetta* but not so distinct; toes "apparently" united, with scattered hairs above, thumb very short; great toe short and high up; claws acute, "semiretractile." Incisors 6/6; canines (scarcely distinguishable from first 3 premolars) small, compressed; premolars 3, very small, compressed, far apart, the hinder with a small central internal lobe; carnassial triangular, about as long as wide, inner lobe central; molars trigonal, somewhat like carnassial. Madagascar.

#441 **Eupleres** [or Viverra [1]] **goudotii** Doyère, 1835, Bul. Soc. Sci. nat., France, no. 5, June, 103; 1835, Ann. Sci. nat., Paris, 2d ser., v. 4, Nov., 280, pl. 18. Small-toothed mungoose. Madagascar.

Trichodectes †1100.—Ext.

madagascariensis.—Madagascar [t].—T. h.

#442 (422). Circumanal sac present, scent-glands absent. See #443.

#443 (445). CRYPTOPROCTIDAE Flower, 1869, Proc. Zool. Soc. London, 37.—Claws retractile, sharp, compressed, very curved. Perineal scent-glands absent; capacious circumanal sac present; penis highly complex in structure, with large bone. A large supracondyloid foramen present; bulla not distinctly everted. Teeth 36: i. 3/3, c. 1/1, pm. 4/4, m. 1/1; jaws short; teeth sectorial, closely resembling those of FELIDAE. See #444.

#444. Cryptoprocta Bennett, 1833, Proc. Zool. Soc. London, v. 1 (4), May, 46, mt. tod. *ferox.*—The fossa, Beutelfrett. Teeth 36: i. 3/3, c. 1/1, pm. 4/4, m. 1/1; 1st premolar of both jaws very minute and early deciduous; upper carnassial has a very small inner anterior tubercle; true molar very small and placed transversely; lower carnassial with large trenchant bilobed blade, and a very minute talon, but no inner cusp. Head conical; whiskers rigid, very long; skull like *Felis* but proportionately longer and narrower; orbit

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[30] ≅*440a* (440). Digitigrade. Hallux and pollex very short, with small digital pads and set well above 2nd digit; skull and teeth unmodified. See #440*b*.

#440*b* (*c*). FOSSINAE Pocock, 1929, Encycl. brit., 14th ed., v. 4, 898.—Civet-like animal. Feet with large digital pads, not imbedded in velvety hair; digitigrade; claws nonretractile or at most partially retractile, unguarded by lobes of skin; area between plantar and digital pads naked or mostly so; hallux high above plantar pad, with accessory pad close to it. Madagascar. Contains *Fossa*.

#440*c* (*b*). PRIONODONTINAE Gill, 1872*a*, 4.—Linsangs. Elegant genet-like animals. Feet with small digital pads, imbedded in velvety fur; digitigrade; claws completely retractile and probably guarded by skin-lobes; area between plantar and digital pads thickly hairy; hallux scarcely higher up than plantar pad, its accessory pad (hallucal lobe) close to or touching plantar pad. Penis small, close to scrotum. Southeastern Asia. Contains *Prionodon* (syn. *Linsang*) and *Pardictis*. Syn. LINSANGINAE Pocock, 1915, Ann. Mag. Nat. Hist., 8th ser., v. 16 (94), Oct., 350.

widely open behind; ears moderate, covered with short hair externally; nose with a distinct, naked, central longitudinal groove below. Vertebrae: C. 7, D. 13, L. 7, S. 3, Cd. 29. Body elongated. Limbs moderate in size; feet subplantigrade, soles naked; toes, 5 on front foot, 5 on hind, well-developed, united by a web. Tail long and cylindrical, covered with long flaccid hair. Madagascar.

#444 **Cryptoprocta ferox** Bennett, 1833, Proc. Zool. Soc. London, pt. 1 (4), May, 46. Fossa, Foussa, Beutelfrett. Madagascar [t].

Toxoplasma †89.—Blood.

species Plimmer, 1915.—London Zoo, from Madagascar.

#445 (443). Claws not retractile; prescrotal gland absent. See #446.

#446. MUNGOTIDAE [31] Pocock, 1916, Proc. Zool. Soc. London, 349.—Anus opens into a sac; alisphenoid canal present; supracondyloid foramen present. Secretion of anal glands (the orifices of which are outside the anus) discharged into a nearly naked, glandular, cutaneous sac capable of being closed by juxtaposition of upper and lower halves of its thickened rim. Perineal scent-gland absent in both sexes. Vulva close beneath lower rim of anal sac. Prepuce close to scrotum; glans penis short, with orifice on its lower surface; baculum present. Feet with fossorial, nonretractile, usually long claws; pollex and hallux, when present, arise just above plantar pad. Ear rounded, small or moderate, without marginal bursa, but with anterointernal ridge (intratragus) curving abruptly backwards beneath supratragus, and high above the intertragal notch. Bulla distinctly everted. Syn. HERPESTIDAE Gill, 1872*a*, 5; Pocock, 1929, Encycl. brit., 14th ed., v. 4, 898. See #447.

#447 (449; 452). Toes 4 on front feet, 4 on hind feet. See #448.

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[31] Pocock (1919, 522–524) has divided this family into 2 subfamilies as follows:

A (*B*). MUNGOTINAE Pocock, 1919, Ann. Mag. Nat. Hist., London, 9th ser., v. 3 (18), 522.—Mongooses. Supratragus large and valvular, with a valvular flap just above it. Plane of base of skull subparallel to plane of palate; bullae much longer than wide, inflated, project some distance below condyles. Contains all genera except *Suricata*. Syn. HERPESTINAE Gill, 1872*a*, 5.

B (*A*). SURICATINAE Thomas, 1882, Proc. Zool. Soc. London, Jan., 59; Pocock, 1919, Ann. Mag. Nat. Hist., London, 9th ser., v. 3 (18), 522.—Supratragus a simple ridge with no valvular flap above it. Plane of base of skull inclined at an obtuse angle to plane of palate; bullae nearly as wide as long, very flat, and project only slightly below occipital condyles, which are situated between their postero-superior portion; ridge of mastoid extends on outer side of bulla below inferior edge of auditory meatus. One genus #448 *Suricata*.

Pocock's classification and key to genera are very suggestive and may eventually stand. Pending further experience by mammalogists, however, we adopt, for purpose of this bulletin, as basis for the generic key a grouping which (though not pretending to be phylogenetic) is easier to follow, as it starts out with characters of the toes and nose.

The generic and specific synonymy of this group is very confused in literature, especially as respects the names *Herpestes*, *Mungos*, and *mongo*. Allen, Pocock, and Thomas have done much to straighten out the difficulties, but it is necessary to keep in mind the type species and locality adopted by a given author or the reader becomes hopelessly confused.

#448 (448*a*[32]). **Suricata** [33] Desm., 1804, Nouv. Dict. Hist. nat., ed. 1, 15, tab. 24 [nv], mt. *capensis* Desm., 1804, tsd. (1882; 1900; 1904) *tetradactyla* Schreb., 1777 syn. (1904) *capensis* Desm. syn. (tsd. 1918) *suricatta* syn. *zenik*.—Suricates, Meerkats, Schnarrthier. Philtrum absent. Head spherical; nose elongate, produced; underside hairy, convex, without any central groove; nostrils long, opening on sides; ears small, semicircular, and set well back and low down on head; teeth 36 to 38: i. 3/3, c. 1/1, pm. 3/3–4, m. 2/2; dentition more generalized, rather crushing than sectorial, upper carnassial (pm.[4]) set forwards so that its posterior angle is well in advance of root of malar arch, the whole or practically the whole of m [1] being also in advance of that point, the line of the cheek-teeth forming a much more even curve at the junction of pm [4] and m [1]. Body elongate; hair soft, annulated. Legs moderate; tarso-metatarsus naked; claws long, not retractile; front very long, nearly twice the length of those on hind feet, slender, compressed, arched; pollex and hallux suppressed. Anal glands 2. Tail tapering, slender, covered with short hair, and rather pencilled at tip. S. Africa.

#448 **Suricata** [or *Ryzaena* °] **suricatta** (? Schreb., 1776, Säugth., v. 3, pl. 97; Erxl., 1777, Syst. Regn. Anim., 488 [Viverra [1]]) Thomas, 1882, Proc. Zool. Soc. London, no. 6, 92. Cape Colony, S. Africa. So. #448 *Suricata tetradactyla*, fide Thomas, 1882, 92; Lydekker, 1896*a*, 276; Trouess., 1897*c*, 340.

Filaria †435.
setariosa.—Adipose tissue surrounding intest.—Transvaal [t], S. Africa.—T. h.

Microfilaria †432.
[species Plimmer, 1912.—S. Africa.]

Haemaphysalis †869.—Ext.
†*leachi*.—S. Africa.

Ctenocephalides †1639.—Ext.
†*canis*.—S. Africa.
connatus.—Grahamstown, S. Africa.

#448 **Suricata suricatta hamiltoni** Thomas & Schwann, 1905, Proc. Zool. Soc. London, v. 1 (9), 134. Wakkerstroom [t], S. E. Transvaal.

Trichodectes †1100.—Ext.
cooleyi.—Pretoria District [t], Transvaal.—T. h.

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[32] #448*a* (448). Philtrum present. See *b*.

b (*c*). *Bdeogale* Peters, 1850, Mitth. Ges. naturf. Fr. Berlin, Nov. 19 [nv]; 1852, Bericht Verhandl. König. Preuss. Akad. Wiss., Berlin, 81–82; Naturwiss. Reise nach Mossambique, Zool., I, Säugeth., 119–125; tsd. (1882; 1904; 1919; 1924) *crassicauda*.—Webs deep as compared with length of digits; palmar and plantar surfaces of feet furred; metatarsus covered with hair almost to plantar pad. Ears moderate or small, with no pocket behind antitragal ridge; skull elongate, low; teeth 40; pm. 4/4; inner portions of upper molars 1 and 2 thick, strong; last lower molar with median external cusp. Africa.

Syns.: Beleogale ≈ Marschall, 1873, Nomenclator Zool., Mamm., 3;

Galeriscus * Thomas, 1894, Ann. Mag. Nat. Hist., London, ser. 6, v. 13 (78), June, 522, mt. *jacksoni* Thomas, 1894.

c (*b*). *Paracynictis* Pocock, 1916, Ann. Mag. Nat. Hist., ser. 8, v. 17 (98), Feb., 177–179, mt. tod. *selousi* de Winton, Bulawayo[t].—Webs very shallow as compared with length of digits, especially between 3 and 4, 4 and 5; pollex and hallux suppressed; metatarsals hairy down to plantar pad. Ears very large for the group, with a small pocket behind antitragal ridge; skull short, high; inner portions of upper molars 1 and 2 slender, weak; last lower molar without median external cusp.

[33] Syns.: Rizaena ≈ Blainville, 1817, Nouv. Dict. Hist. nat., v. 9, 339;
Rhyzaena * Wagner, 1841, Schreber's Säugthiere, Suppl., v. 2, 330, mt. *tetradactyla* Pall. syn. *capensis* Desm. syn. *zenik* Linn.;
Rysaena ≈ Lesson, 1827, Man. Mamm., Paris, 178;
Ryzaena ° Illiger, 1811, Prodr. Syst. Mamm. et Avium, 134, mt. *tetradactyla* syn. *zenik*.

The synonymy of *tetradactyla* is rather confused and brings up the controversial point in nomenclature regarding erroneously determined species. The generic name *Suricata* follows *capensis*.

#448 **Suricata suricatta suricatta** (Erxl., 1777, Syst. Regn. Anim., 488 [Viverra [1]]). Slender-tailed Meerkat, typical suricate. S. Africa.

Echidnophaga †1633.—Ext.
bradyta.—S. Africa.
†*gallinacea*.—S. Africa.

Xenopsylla †1636.—Ext.
erilli.—S. Africa.

#448 **Suricata** [or *Rhyzaena* [e], *Ryzaena* [o]] **tetradactyla** (Pallas in Schreb., 1777, Säugth., v. 3, 434, pl. 117; Zimm., 1777, Spec. Zool., 482 [Viverra [1]]) Thomas, 1882, Proc. Zool. Soc. London, no. 6, 92. Slender-tailed Meerkat, Schnarrthier, Surikate, vierzehige Rüsselträger, vierzehige Schnarrthier. South Africa [t]; Cape Colony, ranging to Algoa Bay.

Giardia †139.—Intest.
suricatae.—Pretoria [t].—T. h.
Haemaphysalis †869.—Ext.
†*leachi* [e].—Cape Colony; Sierra Leone.
Echidnophaga †1633.—Ext.
bradyta.—Cape Colony [t].
†*gallinacea*.—Cape Colony.
Xenopsylla †1636.—Ext.
erilli.—Cape Colony.

#449 (447; 452). Toes 5 on front feet, 4 on hind feet. See #450.

#450 (451). **Cynictis** Ogilby, 1833, Proc. Zool. Soc. London, pt. 1 (4), May 24, 48, mt. *steedmanni* so. (tsd. 1900; 1904; 1919) *penicillata* Cuv.—Meerkat. Teeth 40: i. 3/3, c. 1/1, pm. 4/4, m. 2/2; inner portions of upper m^1 and m^2 slender, weak; last lower molar without median external cusp. Rhinarium naked, skin of upper lip (from rhinarium to mouth) appears to be naked, but it is covered with very fine hair; mid line of upper lip has a very narrow, naked groove (philtrum), which is easily overlooked, extending from rhinarium to margin of upper lip (fide Miller). Ears very large for the group, with a small pocket behind the antitragal ridge; skull short, high; frontal portion of skull strongly convex, brain-case high; a well-marked vacuity in floor of auditory meatus, consisting of a more or less rounded hole, which, as the animal gets older, gradually fills up, but never produces the row of small holes found in *Suricata*. Body slender. Tail with long hairs, flattened horizontally. Legs short; forefoot hairy down to carpal pad, hind soles quite hairy down or almost down to plantar pad; front claws elongate, compressed, arched; webs very shallow as compared with length of digits, especially between digits 3 and 4, 4 and 5; hallux suppressed. South Africa (Uitenhage [t], on borders of Caffraria).

#450 **Cynictis** [or Mangusta [1]] **penicillata** (Illiger, 1815, Abh. König. Akad. Wiss., 1804–1811, Berlin, 79, 86 [Herpestes [1]]) Ogilby, 1839, Smiths Illustr. Zool. S. Afr., v. 1, tab. 16 [nv]; Thomas, 1882, Proc. Zool. Soc. London, no. 6, 83. Bushy-tailed Meerkat, Fuchs-Manguste, Geel, Igala, Rooi Meerkat. S. Africa.

SARCOSPORIDIA †149.—Striated muscles.
[species Viljoen, 1921: Sarkosporidien.—S. Africa.]
Dipylidium †308.—Intest.
zschokkei.—Sekuma [t], S. Africa.
Subulura †488*A*′.
schebeni.—Intest.—S. W. Africa.
Haemaphysalis †869.—Ext.
†*leachi* [o] *leachi*.—Transvaal.
Ctenocephalides †1639.—Ext.
†*canis*.—S. Africa.
connatus.—S. Africa.
Echidnophaga †1633.—Ext.
bradyta.—Cape Colony.
†*gallinacea*.—S. Africa.

Listropsylla<†1626.—Ext.
dolosus stygius.—Uganda.
Felicola<†1099.—Ext.
cynictis.—S. Africa [t].—T. h.

Xenopsylla †1636.—Ext.
erilli.—S. Africa.

#450 **Cynictis species.**

Dipylidium †308.—Intest.
zschokkei.—S. Africa.

#451 (450). **Galerella** Gray, 1864, Proc. Zool. Soc. London, 509, 564, mt. *ochracea* Gerrard,? so. tsd. (1882; 1904) *gracilis* Rüppell, E. Africa.—Weasel-like mongooses. Teeth 38, pm. 4/3. Philtrum present. Head elongate, conical; auditory bullae with subequally developed chambers, posterior little larger than anterior. Body diminutive, slender; short, fine, close-lying pelage. Tail elongate, slender, tapering, covered with shortish hairs. Legs short; feet small, weak; toes 5 on front feet, 4 on hind feet; pollex and hallux greatly reduced; hind toes 3 and 4 webbed; claws short, weak, compressed, acute; soles furred for nearly proximal half. Abyssinia to Cape. The species *ochracea* is accepted by Palmer as synonymous with *gracilis*, but this view is not adopted by Thomas (1929) and Cabrera (personal letter).

#451 **Galerella brunneo-ochracea** Matschie [nv].

Haemaphysalis †869.—Ext.
†*leachi*.—Belgian Congo.
Felicola <†1099.—Ext.
rammei.—Belgian Congo.

#451 [**Galerella**] [or Calogale [1], Herpestes [1], Mungos [1]] *cauui* (Smith, 1836, App. Rep. S. Afr. Exp., 42 [nv]). Slender mungoose. Eastern parts of Cape Province, Pondoland, Natal, and northward to Abyssinia and Cape Verde. So. #451 [**Galerella**] **gracilis badius,** fide Thomas, 1882, 68; Trouess., 1897*c*, 334; Sclater, 1900, 62. Syns.: Mungos [1] *caaui* [c] Fitzsimons, 1919, Nat. Hist. S. Afr., v. 2, 23; Herpestes [1] *cawi* [c o] Trouess., 1897*c*, Cat. Mamm., Berolini, 334.

Chiastopsylla <†1626.—Ext.
†*rossi*.—S. Africa.
Felicola <†1099.—Ext.
calogaleus.—Transvaal.—T. h.
Listropsylla <†1626.—Ext.
agrippinae.—Cape Province.

#451 **Galerella** [or Mungos [1]] (Herpestes [1]) **gracilis** (Rueppell, 1836, Neue Wirbelth. Abyssin., v. 7, 29 [Herpestes [1]]) Thomas, 1882, Proc. Zool. Soc. London, no. 4, 63. Slender mungoose, Sakie. Africa south of Sahara (Massowa [t] on Red Sea).

Oochoristica 319*K*.—Intest.
ichneumontis.—Pretoria, S. Africa [t].—T. h.
Felicola <†1099.—Ext.
mungos.—German E. Africa.—Host "*Herpestes affin. gracilis.*"
Pulex †1635.—Ext.
†*irritans*.—Somaliland.

#451 [**Galerella**] (Herpestes [1]) **gracilis badius** (Smith, 1838, Illus. Zool. S. Afr., Mamm., pl. 4 [Herpestes [1]]; Thomas, 1882, Proc. Zool. Soc. London, no. 5, 68–69 [Herpestes [1] *gracilis*]). Ruddy mungoose, Fuchs-Manguste. S. Africa extending from the Cape to Zanzibar (Old Latakoo [t] in neighborhood of Kuruman in Bechuanaland).

Ctenocephalides †1639.—Ext.
connatus.—S. Africa.
Echidnophaga †1633.—Ext.
†*gallinacea*.—Cape Province.
Felicola< †1099.—Ext.
mungos.—Zanzibar.
Listropsylla < †1626.—Ext.
dorippae.—Deelfontein[t], Cape Colony.—T. h.
vicinus.—Transvaal [t].—T. h.

#451 [**Galerella**] [or Calogale [1], Herpestes [1], Mungos [1]] *ratlamuchi* [s] (Smith, 1836, Rep. exped. explor. Central Afr., Cape Town, 42 [Ichneumon [h s] *ratlamouchi*] [nv]; Smith, 1837, Cat. S. Afr. Mus., 22 [Mangusta [1] *ratlamuchi*]). Bay mungoose, ruddy mungoose. South Africa to Zanzibar. So. #451 **[Galerella] gracilis badius,** fide Sclater, 1900, 62.

Echidnophaga †1633.—Ext.
†*gallinacea*.—S. Africa.

#451 **Galerella** [or Calogale [1]] (Herpestes [1]) **sanguineus** (Rueppell, 1836, Neue Wirbelth. Abyss., (7), 27 [Herpestes [1]]) Allen, 1924, Bul. Amer. Mus. Nat. Hist., N. Y., v. 47, 178. Abu Wusie. Egypt.

Oochoristica 319*K*.
herpestis.—Sudan[t].—T. h.

#452 (447; 449). Toes 5 on front feet, 5 on hind feet. See #453.

#453 (457). Philtrum absent. See #454.

#454 (454*a* [34]). Teeth 36: i. 3/3, c. 1/1, pm. 3/3, m. 2/2. Palate flat. Ears small and rounded. Legs short, semiplantigrade, forepaws broad, with very long claws; soles bare, at most the heel of hind foot hairy. Africa. [*Crossarchus* [1] of Mivart, 1882, 206; Sclater, 1900, 72; and Thomas, 1882, 63.] See #455.

#455 (456). **Mungos** [r 35] Geoffr. & Cuv., 1795, Mag. Encycl., v. 2, 184, 187, tat. *mungos*, tsd. (1919; 1924) *mungo* Gmel., of Africa; as of Allen, 1919, 27–31, Allen, 1924, 186, and Gray, 1864, 509.—African banded mongoose. Anal sac complex. Infranarial portion of rhinarium shallow; snout short; pm. 3/3; foramen rotundum opens directly into temporal fossa (instead of into alisphenoid canal as in other genera). Toes 5 on front feet, 5 on hind feet; front and hind toes 3 and 4 webbed; hind soles naked.

#455 Mungos [1] **brachyurus brachyurus** (Gray, 1837, Proc. Zool. Soc. London, pt. 4 (46), Feb., 88 [Herpestes]; Pocock, 1916, Proc. Zool. Soc. London, 349 [Mungos [1]]). So. #464 **Herpestes brachyurus brachyurus,** q. v.

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[34] **#454*a*** (454). **Rhynchogale** Thomas, 1894, Proc. Zool. Soc. London, pt. 1, June [1], 139, mt. (tsd. 1900; 1904; 1919) *melleri*, Rhinogale [h] Gray, 1864 [not Gloger, 1841, MUSTELIDAE] renamed.—Teeth 40 (exceptionally 42): i. 3/3, c. 1/1, pm. 4/4 or 5/4, m. 2/2. Palate deeply concave both transversely and longitudinally. Legs long, digitigrade, forepaws narrow, claws short, hind soles hairy, metatarsus covered with hair almost to the plantar pad. Ears long. Posterior cheek-teeth flat-crowned; mesopterygoid fossa set forward. S. Africa. Syn. Rhinogale [h s] Gray, 1864, Proc. Zool. Soc. London, 509, 573, mt. *melleri* [not *Rhinogale* Gloger, 1841].

[35] Syns.: *Ariela* Gray, 1864, Proc. Zool. Soc. London, 509, 565, mt. Herpestes [1] *taenionotus* Smith so. tsd. (1882; 1904) *fasciatus* Desm. of Natal, South Africa; Pocock, 1916, Proc. Zool. Soc. London, 349; Pocock, 1919, Ann. Mag. Nat. Hist., Ser. 9, v. 3, 523;

Crossarchus [1], in part, of most recent authors [not Cuvier], as Thomas, 1882, Proc. Zool. Soc. London, 86 (in part) and Sclater, 1900, 72;

[Mongo "Ogilby" of Lesson, 1842, Nouv. Tabl. Règn. anim., Mamm., 63, tat. Mangusta *mongo*, erroneously as so. *ichneumon*, subg. of *Herpestes*, confusion as to geographical locality];

Mungo [s] Muirhead, 1819, Brewster's Edinb. Encycl., v. 13 (2), 415, tat. *mungo* Linn.;

Mungos of Gray, 1843, List Spec. Mamm. Brit. Mus., 50, tsd. (1882; 1904) 1st sp. *gambianus;*

Mungos of Gray, 1864, Proc. Zool. Soc. London, 575, type, by tautonomy (1924), 2nd sp., Herpestes [1] *mungo* Desm.=*Mungos fasciatus* Gray, from Africa;

[Not Mungos Geoffr. & Cuv., of Thomas, 1907, Ann. Mag. Nat. Hist., ser. 7, v. 19, 119];

[Not Mungos [h] Ogilby, 1835, Proc. Zool. Soc. London, pt. 3 (31), 102–103, mt. *vitticollis* Bennett].

#455 **Mungos** [or *Ariela*, Atilax [1], Crossarchus [1]] *fasciatus* [o] (Desmarest, 1823, Dict. Sci. nat., v. 29, 58 [Herpestes [1]], renaming of *mungo* Gmel.) Gray, 1843, List Mamm. Coll. Brit. Mus., 50. Banded mongoose of Africa; broad-banded cusimanse, Marsh mongoose, gebänderte Manguste, Zebramanguste. Africa (Kaffraria through Natal, Transvaal, and northward into East Africa). So. #455 **Mungos mungo,** q. v.

#455 Mungos [1] **ichneumon funestus** Osgood, 1910, Field Mus. Nat. Hist., Zool. ser., v. 10 (3), Apr. 7, 17. So. #464 **Herpestes ichneumon funestus, q. v.**

#455 **Mungos** [or Herpestes [1], Ichneumon [h], Mangusta [1]] **mungo** (Gmel. in Linn., 1788, Syst. Nat., v. 1, 84 [Viverra [1]]) Wroughton, 1912, J. Bombay Nat. Hist. Soc., v. 21 (2), Mar. 31, 401. Banded mongoose of Africa, Antur, Binguidaro, Dhor, Hou-Kera, Kera, Kiri, Kiripilai, Koral, Mangisu, Mangús, Mugatea, Múngali, Mungili, Mungisa, Mungli, Múngsi, Mungús, Newal, Newala, Newar, Noriyo, Nyul, Rasu, Sarambumbui, Yentawa. Africa; India [t] erroneously. Syns.: Mangusta [1] *mungos* Elliot, Mad. J. Linn. Soc. X, 102 [nv]; Mangusta [1] *mungoz* Gray in Griffith's Cuv., 1827, Anim. Kingd., Syn., 156.

Babesia †173.—Blood.
[species Martini, 1923.]
Theileria †174.—Blood.
species "Patton, 1910."
Trichomonas †131.
species Reichenow, 1925.—Germany.
Paragonimus †250.—Lungs.
compactus.—India.—T. h.
Filaria †449.
martis.—India.
Subulura †488*A'*.
loveridgei [s].—Africa.—T. h.
Thelazia †464.
depressa.—E. Africa.

Armillifer †796.
†*armillatus.*
Haemaphysalis †869.—Ext.
cuspidata.—"Ceylon" [i].
†*leachi.*—"India."—Host confusion? Cf. #464 "*Herpestes mungo*" from India.
leachi indica.—"India."
Tympanospinctus < †887.—Ext.
paradoxus.—Greenwood Park [t].—T. h.
Ceratophyllus †1627.—Ext.
fasciatus.

#455 [**Mungos mungo**] **senescens** (Thomas & Wroughton, 1907, Proc. Zool. Soc. London, 291 [Crossarchus [1] *fasciatus* [o]]). Gale. Coguno [t], near Inhambane, Portuguese East Africa.

SARCOSPORIDIA †149.—Striated muscles.
[species Viljoen, 1921: Sarkosporidien.—S. Africa.]

#455 Mungos [1] **urva** (Hodgson, 1836, J. Asiatic Soc. Bengal, v. 5, 238 [Gulo [1]]). So. #464 **Herpestes urva,** q. v.

#456 (455). **Crossarchus** Cuv. in Geoffr. & Cuv., 1825, Hist. nat. Mamm., v. 3 (47), Feb., 5, mt. tod. *obscurus* Cuv.— Cusimanses, Rüsselmanguste. Anal sac simple. Infranarial portion of rhinarium deep; snout long; head roundish; teeth 36 (i. 3/3, c. 1/1, pm. 3/3, m. 2/2); underside of nose convex, hairy, without any central longitudinal groove; hair rigid, short, shorter on head and throat; muffle large, callous; pupil circular; ears rounded. Body slender. Fur harsh, with longer and more rigid hairs. Tail slightly compressed, tapering, covered with shorter hairs. Toes 5 on front feet, 5 on hind feet, free; two middle toes longest; front inner toe large, hinder smaller; hind soles naked; claws rather elongated, compressed, hooked, acute, sometimes very much so. Africa.

#456 Crossarchus [1] *fasciatus* [o] (Desmarest, 1823, Dict. Sci. nat., v. 29, 58 [Herpestes [1]]) Thomas, 1882, Proc. Zool. Soc. London, 86. So. #455 **Mungos** *fasciatus*, q. v.

#456 **Crossarchus** [t] **obscurus** Cuv. in Geoffr. & Cuv., 1825, Hist. nat. Mamm., v. 3 (47), Feb., 3. Braune Rüsselmanguste, Cusimanse, Kusimanse. West Africa (Cameroon, Congo).

Agamospirura †457.—Intest.

liberiae.—Liberia [t].—T. h.

Armillifer †796.

†*armillatus.*—Africa [t].

Haemaphysalis †869.—Ext.

†*leachi.*—Ears, eyelids, face.—Liberia.

#456 Crossarchus [l] [*fasciatus* [o]] **senescens** Thomas & Wroughton, 1907, Proc. Zool. Soc. London, 291. So. #455 [**Mungos mungo**] **senescens,** q. v.

#457 (453). Philtrum present. This is practically *Herpestes* [l] of Thomas, 1882, with many synonyms. Pocock (1919) suspects "this genus will prove to be divisible into three or more genera when better known"; Allen (1924) divides *Herpestes* into six genera, but it is somewhat difficult to separate these clearly into a key. Furthermore, Allen mentions the fact that some of his "uniform" characters have exceptions. See #458.

#458 (459). **Atilax** Cuv. in Geoffr. & Cuv., 1826, Hist. nat. Mamm., v. 3 (54), June, 2, tod. vansire=(tsd. 1882; 1900; 1904) *galera* Schreb.=(tsd. 1918; 1919; 1924) *paludinosus* Cuv.— Marsh mongoose, water mungooses. Toes 5 on front feet, 5 on hind feet; digits 2 to 5 entirely free (unwebbed), separated down to plantar pad; palmar and plantar surfaces naked. Braincase very broad; rostrum short; teeth and jaws massive; premolars 3/3; molars large. Glandular anal sac well developed. Pelage soft, thick, long. Syn. *Athylax* [e] Blainville, 1837, Ann. Sci. nat., Paris, 2d ser., Zool., v. 8, 272, 278, "vansire", Africa.

#458 **Atilax** [t] [or *Athylax,* Herpestes [l], Ichneumon [h], Mangusta [l], Viverra [l]] (*Athylax,* Herpestes [l]) **galera** (Erxl., 1777, Syst. Regni Anim., v. 1, 453 [Mustela [l]]) Thomas, 1882, Proc. Zool. Soc. London, no. 4, 63. Rufous mungoose, water mungoose, Bruin Kommetjegat-kat, dunkle Manguste, Ivuzi, Zwarte Muishond. W. & S. Africa.

Fide Pocock (1915, Ann. Mag. Nat. Hist., ser. 8, v. 16, Aug., 123–124) and Allen (1924, Bul. Amer. Mus. Nat. Hist., v. 47, Apr. 11, 166), *galera* is unidentifiable; it is not identical with the vansire of Cuvier so. *paludinosus* Cuvier type of *Atilax.*

Syns.: Herpestes [l] calera [m] "Erxl." Bédier, 1924, C. r. Soc. Biol., v. 90 (6), 415; galea [m].

Babesia †173.—Blood.

legeri.—Paris [t], France from Africa.—T. h.

Cotugnia †305*b*.—Intest.

pluriuncinata.—Dahomey [t], W. Africa.—T. h.

Raillietina (Raillietina) †305*k*.—Intest.

africana.—Dahomey [t], W. Africa.—T. h.

pintneri.—Dahomey, W. Africa.

Felicola <†1099.—Ext.

acutirostris.—Pemba [t], Africa.—T. h.

rammei.—Amani [t], German E. Africa.—T. h.

#458 **Atilax** [or Herpestes [l]] (Herpestes [l]) **galera robusta** (Gray, 1864, Proc. Zool. Soc. London, no. 35, 558 [*Athylax* [e]]) Thomas, 1882, Proc. Zool. Soc. London, no. 5, 72. E. Africa (White Nile [t]).

Ctenocephalides †1639.—Ext.

†*canis.*—Kibonoto, Africa.

#458 **Atilax** [t] [or *Athylax* [c], Mangusta [l], Mungos [l], Viverra [l]] **paludinosus** (Cuvier, 1829, Règne anim., 2d ser., v. 1, 158 [Herpestes [l]]) Pocock, 1916, Proc. Zool. Soc. London, 349. Marsh mongoose, water mungoose, Bruin Kommetjegat-kat, Ivusi, Zwarte Muishond. Cape of Good Hope [t]; south Africa north to equator. Syn. *Athylax* [c] *paludosus* [c] [o] Gray, 1864, Proc. Zool. Soc. London, no. 35, 557.

Cloeoascaris <†476*q*.
spinicollis.—Alimentary canal.—Tanganyika.
Armillifer †796.
†*armillatus*.

#458 **Atilax "paludinosus robustus"** (Gray, 1864, Proc. Zool. Soc. London, no. 35, 558 [*Athylax* [o]]). Cf. #458 *Atilax galera robusta*.

Haemaphysalis †869.—Ext.
†*leachi*.—Belgian Congo.—Host [j].

#459 (458). Toes 2 to 5 united, beyond margin of plantar pad, by web. See #460*A*.

#460*A* (460*B*). **Helogale** Gray, 1861, Proc. Zool. Soc. London, no. 20, 308, tsd. (1900; 1904; 1919) 1st sp. *parvula* Sundeval, from Natal.—Lesser mungooses. Pm [1] suppressed, no diastema between upper canine and pm [2]. Teeth 36: i. 3/3, c. 1/1, pm. 3/3, m. 2/2. Body small, slender. Head oval; skull short, broad, smooth; face short; a bare line runs from nose to upper lip; ears distant. Legs short, strong; feet broad; toes 5 on front foot, 5 on hind, heavily developed, inner toe small; claws strong, burrowing, front claws rather elongate, compressed, acute; soles of hind feet partly bald. Tail conical, short, thick, rounded at base, covered with elongate hairs. Anal glands 1 pair. Mozambique to Natal, Africa.

#460*A* **Helogale brunnula** Thomas & Schwann, 1906, Proc. Zool. Soc. London, 581. Mashli. Klein Letaba [t], Zoutpansberg, N. E. Transvaal.

SARCOSPORIDIA †149.—Striated muscles.
[species Viljoen, 1921: Sarkosporidien.—S. Africa.]

#460*A* **Helogale varia** Thomas, 1902, Proc. Zool. Soc. London, 119. N. Nyasaland.

Haemaphysalis †869.—Ext.
†*leachi*.—Rhodesia.

#460*B* (460*A*). Pm [1] present or absent; if absent a diastema is present between upper canine and pm [1]; teeth 40 or 36. See #461.

#461 (463). Soles hairy (furred); toes 5–5; teeth 40. See #462.

#462 (462*a* [36]). **Ichneumia** Geoffr., 1837, Ann. Sci. nat., Paris, ser. 2, Zool., v. 8, Oct., 251; 1837, C. r. Acad. Sci., Paris, v. 5 (17), post Oct. 23, 580; tsd. (1839 Lasiopus [b] renamed; 1919) 1st sp. *albicauda* Cuvier, E. Africa, Senegal.—Soles hairy; toes 3 and 4 webbed. Teeth 40; dentition heavy, especially pm [4] and all molars; last lower molar cuspidate; frontal region elevated, expanded; tail short, thick. Philtrum present. Syn. Lasiopus [b] Geoff., 1835, in Gervais' Résumé Mamm., v. 1, 37, mt. *albicauda* [nv] [not *Lasiopus* Dejean, 1833, coleopt.].

[36] **#462***a* (462). **Xenogale** Allen, 1919, J. Mamm., v. 1 (1), Nov., 26–27, mt. tod. *microdon*.—Soles and palms furred; teeth 40. Skull short, broad, especially postpalatal region; postorbital constriction deep and close behind postorbital process; brain case short. Tail short, thick. Belgian Congo, Africa.

#462 **Ichneumia** [or Ichneumon [h], Mangusta [l], Viverra [l]] (*Ichneumia*) **albicauda** (Cuvier, 1829, Règne anim., ed. 2, v. 1, 158 [Herpestes [l]]) Geoffr., 1837, C. r. Acad. Sci., Paris, v. 5, Oct., 580. Large African mongoose, white-tailed mungoose, weissschwänzige Manguste. Senegal [t]; eastern Abyssinia to Natal, W. Africa (Guinea, etc.); Arabia. Syns.: Ichneumon [h] *albicaudatus* [c] Boyer de Fonscolombe, 1847, Ann. Soc. ent. France, ser. 2, v. 5, May, 62; Ichneumon [h] *albicaudis* [c] A. Smith, 1834, S. Afr. Quart. J., v. 2, no. 2 (1), Mar., 115 [nv]; Herpestes [l] laticauda [m] Parona, 1893*a*, 6.

Cysticercus †326.
herpestis.—Liver, mesentery, peritoneum.—Eritrea [t].—T. h.
Diphyllobothrium †295.
folium.
†*latum*.—Africa.
Toxocara †484.—Intest.
†*canis*.
†*mystax* [o].
Amblyomma †881.—Ext.
species Neum., 1902*e*: *Amblyomma*.—Abyssinia.
Armillifer †796.
†*armillatus*.
Haemaphysalis †869.—Ext.
†*leachi* [c] *leachi*.
Echidnophaga †1633.—Ext.
†*gallinacea*.
Xenopsylla †1636.—Ext.
nubicus.—Shendi [t], Africa.

#462 **Ichneumia leucurus** [a] (Hempr. & Ehrenb., 1833, Symb. Phys., Mamm., dec. 2, pl. 12, 6 pages [Herpestes [l]]) Lesson, 1842, N. Tab. Règne anim., Nov., 64. Abu Turban. Africa (E. Dongala Aethiopiae [t]). So. *Ichneumia albicauda*, fide Sclater, 1900, 66; Lydekker, 1896, 264; Trouess., 1897, 337. Distinct species, fide Allen, 1924, 194.

Diphyllobothrium †295.—Intest.
folium.—Sennar [t], Sudan.—T. h.

#463 (461). Soles naked. See #464.

#464. Herpestes [37] [38] Illiger, 1811, Prodr. Syst. Mamm., 135 (Herpertes [m]), 297 (*Herpestes*), Ichneumon [h] 1799 + "*Mangusta* 1804" renamed, ergo tod. also tsd. (1878; 1882; 1900; 1904; 1915; 1924) 1st sp. *ichneumon* Linn., of

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[37] **Syns.:** *Calictis* [a] Gray, 1864, Proc. Zool. Soc. London, 509, 564–565, mt. Herpestes [l] *smithii* Gray, from Ceylon;
Calogale [a] Gray, 1864, Proc. Zool. Soc. London, 509, 560, tsd. (1882) 2d sp *nepalensis* Gray, from Nepal;
Herpetes [m] Cuv., 1825, Dents Mamm., Paris, 252;
Ichneumon [h] [o] Lacépède, 1799, Tab. Mamm., 7, mt. *pharaon* Lacépède, from Egypt, so. (tsd. 1882; 1900) *ichneumon* Linn. [not *Ichneumon* Linn., 1758*a*, hymenopt.];
Mangasta [m] Hodgson, 1835, J. Asiatic Soc. Bengal, v. 4, 522;
Mangouste, 1803, Nouv. Dict. d'Hist. nat. An xi, 1 ed., v. 14, 54 [nv].

Monsieur Paul Rode, Assistant de Mammalogie au Muséum national d'Histoire Naturelle de Paris, very kindly looked up the bibliographic reference to "Mangusta Olivier, Nouv. Dict. Hist. nat., 1 ed." as given by Horsfield, 1822, Zool. Res. Java. This reference, Monsieur Rode writes, was evidently erroneous, but it has been copied by various authors. In regard to vol. 14, Nouv. Dict. d'Hist. nat., 1 ed., he writes:

"page 54: *Mangouste*.

"Aucune mention d'un genre *Mangusta* Olivier. On trouve seulement en 4 pages, la description des genres: Mangouste des Indes, Mangouste du Cap de Bonne Espérance, Mangouste d'Egypte (ichneumon)."

Mangusta [o] "Olivier" Horsfield, 1822, Zool. Res. Java, no. 5, Oct., [pp. 1–13], pl. is *M. javanica*, from Java;
"Mangusta Olivier, 1804, Nouv. Dict. Hist. nat., 1 ed., v. 14, 504" [nv] of Palmer, 1904*a*, 398. See Mangouste;
Martes [h] [o] "Illig." Wagler, 1830, Natür. Syst. Amphib., 29, tpd. *ichneumon* Linn. [Martes [h] substitute for *Herpestes* Illiger, preoccupied in botany] [not #521 *Martes* Pinel, 1792, MUSTELIDAE];

Africa; as of Allen, 1919, 31; Thomas, 1882, 63; and Gray, 1864, 508.—Manguste. Teeth 40 (or 36): i. 3/3, c. 1/1, pm. 4/4 (or 3/3 with diastema), m. 2/2; last lower molar with 2 external cusps. Body long and slender. Pupil linear, erect; ears short, wide, rounded, hardly projecting beyond surrounding fur; anterior chamber of auditory bulla small, posterior enormously enlarged; palate long; muzzle pointed; philtrum present. Fur of two kinds, the longer usually ringed or annulated, giving animal a grizzled appearance, the long overhair coarse and harsh. Legs short; feet plantigrade; toes 5 on front feet, 5 on hind feet, first toes of fore and hind feet very small, probably rudimentary; toes not entirely free, front and hind toes 3 and 4 webbed; claws short, compressed, of medium strength; soles entirely naked. Tail very thick, conical, full proximally, tapering to a thin point, long, about one half to nearly the length of head plus body. Africa; Asia Minor; Orient; Persia; South Europe.

#464 Herpestes [1] **albicauda** Cuv., 1829, Règne anim., ed. 2, v. 1, 158. So. #462 **Ichneumia albicauda,** q. v.

#464 Herpestes [1] *albicaudatus* [c] (Fonscolombe, 1847, Ann. Soc. ent. France, ser. 2, v. 5 (1), May, 62 [Ichneumon [h]]) Flower & Lydekker, 1891*a*, Mamm., 536. So. #462 **Ichneumia albicauda,** q. v.

#464 **"Herpestes** albopunctatus [d]". Mangouste, Mongoose. For #464 **Herpestes birmanicus,** q. v., fide Meggitt *in litt.*

#464 **Herpestes** [or Mangasta [m], Mungos [l], Viverra [l]] (*Herpestes*) **auropunctatus** (Hodgson, 1835, J. Asiatic Soc. Bengal, v. 4, 522 [*Mangusta*]) Hodgson, 1841, Calcutta J. Nat. Hist., v. 2 (6), July, 213. Small Indian mungoose, goldpunktirte Manguste, Mush-i-Khourma, Núl. S. W. Persia, Sind, Kandahar, lower ranges of Himalayas and neighboring plains from Kashmir to Sikhim, Lower Bengal.

#464 **Herpestes** *auropunctatus* **birmanicus** Thomas, 1886, Ann. Mag. Nat. Hist., ser. 5, v. 17, Jan., 84. So. #464 **Herpestes birmanicus,** q. v.

#464 Herpestes [1] **badius** Smith, 1838, Illus. Zool. S. Afr. Mamm., pt. 2, pl. 4. So. #451 [**Galerella**] **gracilis badius,** q. v.

Mesobema [a] Hodgson, 1841, J. Asiatic Soc. Bengal, v. 10 (2), no. 119, n.s., July to Dec., 910, mt. tod. *cancrivora* Hodgson [renaming of *Urva* Hodgson, 1837, q. v.]; 1841, Calcutta J. Nat. Hist., v. 2 (6), July, 214, mt. *Urva cancrivora* Hodgson so. (1904) Gulo [1] *urva* Hodgson, 1837, of Nepal, India;

Mungos [b] Ogilby, 1835, Proc. Zool. Soc. London, pt. 3 (31), 102-103, mt. *vitticollis* Bennett, from India [not #455 *Mungos* Geoffr. & Cuv., tsd. *mungo*];

Onychogale [e] Gray, 1864, Proc. Zool. Soc. London, 570, mt. Herpestes [1] *maccarthiae,* from Ceylon;

Osmetectis [g] Gray, 1842, Ann. Mag. Nat. Hist., v. 10 (65), Dec., 210, 260, mt. *fusca* Gray, from India, also tsd. (1882) *urva;*

Osmetictis [c] Agassiz, 1846, Nomencl., Mamm., Addenda, 7;

Taeniogale [g] Gray, 1864, Proc. Zool. Soc. London, 569, mt. Mungos [1] *vitticollis* Bennett, from India;

Urva [g] Hodgson, 1837, J. Asiatic Soc. Bengal, v. 6 (2), July, 560, tat. *urva* Hodgson syn. (tsd. 1904) *cancrivora* Hodgson, from India; 1838, Ann. Nat. Hist., London, v. 1 (2), April, 152, mt.tod. *cancrivora* Hodgson, from Nepal.

[25] The subdivisions of #464 *Herpestes* are still *sub judice.* Allen separates *Calogale* at least as a special subgenus as follows:

A (*B*). **Herpestes** Illiger, 1811, Prodr. Syst. Mamm., 135 (Herpertes [m]), 297, tsd. (1878) *ichneumon,* of Africa.—Posterior chamber of auditory bullae inflated downward twice as much as anterior chamber, postpalatal region narrow. Africa.

B (*A*). **Calogale** Gray, 1864, Proc. Zool. Soc. London, 509, 560, tsd. (1882) 2d sp. *nepalensis* Gray, Nepal.—Common mongooses of India. Posterior chamber of auditory bullae not inflated downward below level of anterior chamber; postpalatal region broad. India.

Syns.: *Calictis* [g] Gray, 1864, Proc. Zool. Soc. London, 509, 564-565, mt. Herpestes [1] *smithii* Gray, from Ceylon;

Galogale [m] Wallace, 1876, Geogr. Distr. Anim., v. 2, 195.

#464 **Herpestes** [or Mungos [l]] (*Herpestes*) **birmanicus** (Thomas, 1886, Ann. Mag. Nat. Hist., ser. 5, v. 17, Jan., 84 [*Herpestes auropunctatus*]) Blanford, 1888, Fauna Brit. India, Mamm., 122. Small Burmese Mungoose. Assam; Burma[t]; perhaps Malay Peninsula; introduced and widely established in the West Indies.

Oochoristica 319*K*.—Intest.
amphisbeteta.—Rangoon [t], Burma.—"Herpestes albopunctatus" t. h., for *Herpestes birmanicus*.
Sparganum †293.
species Meggitt, 1924.—Mesentery, body cavity.—Rangoon, Burma.
Ctenocephalides †1639.—Ext.
†*felis*.—Hawaii.
Echidnophaga †1633.—Ext.
†*gallinacea*.—Hawaii.

#464 **Herpestes** [or Mungo [l], Mungos [l]] (*Herpestes*) **brachyurus brachyurus** (Gray, 1837, Proc. Zool. Soc. London, pt. 4 (46), Feb., 88) Charlesworth's Mag. Nat. Hist., n. s. v. 1, 578). Short-tailed mungoose. Indian Ids.[t], Borneo, Malacca, Malay Peninsula; Sumatra; Calamianes Id., Palawan Id., Philippines.

Ctenocephalides †1639.—Ext.
†*felis*.—Sumatra.

#464 **Herpestes** [or Ichneumon [h], Mangasta [m], *Mangusta*, Mungos [l], Mustela [l]] (*Herpestes*) **cafra** (Gmel. in Linn., 1788, Syst. Nat., ed. 13, v. 1, 85 [Viverra [l]]) Illiger, 1811, Prodr. Syst. Mamm., 135. Black-tailed mungoose, Caffre mungoose, Kafir mungoose, large grey mungoose, Kaffern-Manguste, Grijse Muishond, Kommetje-gat-kat, Mvunti, Umvuzi. Africa south of Sahara. Syns.: Mungos [h] cafer [c o] Trouess., 1904*c*, Catal. Mamm., 255; Ichneumon [h] *caffer* [c o] Fischer, 1814, Zoogn., v. 3, 188; Viverra [l] *caffra* [c o] Lydekker, 1896*a*, 18, 155, 184.

Armillifer †796.
†*armillatus*.—Africa [t].
Haemaphysalis †869.—Ext.
†*leachi* [e] *leachi*.—German E. Africa.
Felicola †1099.—Ext.
inaequalis.—Rotterdam Zoo.

#464 "*Herpestes* [l] calera [m] Erxl." Bédier, 1924, C. r. Soc. Biol., v. 90 (6), 415. Mangouste d'Afrique. So. #458 **Atilax galera,** q. v.

#464 Herpestes [l] *cauui* [s] (Smith, 1836, App. Rep. S. Afr. Exp., 42 [Ichneumon [h]] [nv]) Trouess., 1897*c*, Cat. Mamm., Berolini, 334. So. #451 [**Galerella**] *cauui*, q. v.

#464 Herpestes [l] *fasciatus* [o] Desm., 1823, Dict. Sci. nat., v. 29, 58. So. #455 **Mungos** *fasciatus* [o], q. v.

#464 **Herpestes flavidens** Kelaart, 1852, Prodr. Fauna Zeyl., 44. Ceylon [t]; southern India? Yellow Mungoose, Ram-Moogatea. So. *Herpestes fulvescens* Blyth, 1851, J. Asiat. Soc. Bengal, 20, fide Trouess., 1897*c*, 336. Syn. flavideus [c].

Haemaphysalis †869.—Ext.
cuspidata.

#464 Herpestes [l] **galera** (Erxl., 1777, Syst. Regn. Anim., v. 1, 453 [Mustela [l]]) Illiger, 1815, Abh. ph.-Kl. K. pr. Ak. Wiss. (1804–1811), 79. Syn. Herpestes [l] galea [d], lapsus for *galera*. So. #458 **Atilax galera,** q. v.

#464 Herpestes [l] **galera robustus** (Gray, 1864, Proc. Zool. Soc. London, no. 35, 558 [*Athylax* [e]]) Thomas, 1882, Proc. Zool. Soc. London, no. 5, 72. E. Africa. So. #458 **Atilax galera robusta,** q. v.

#464 Herpestes [l] **gracilis** Rueppell, 1836, Neue Wirbelth. Abyssin., v. 7, 29. So. #451 **Galerella gracilis,** q. v.

#464 Herpestes [l] **gracilis badius** (Smith, 1838, Illus. Zool. S. Afr. Mamm., pl. 4; Thomas, 1882, Proc. Zool. Soc. London, 68). So. #451 **[Galerella] gracilis badius,** q. v.

#464 **Herpestes** *griseus* [s] of authors, from India. Mungos, indische Manguste. So. #464 **Herpestes nyula,** fide Allen, 1924, 160.

Gnathostoma †473.
[*radula* [s].—Bombay.–So. *spinigerum.*]

#464 **Herpestes** [t] [or *Mangusta* [o], Mungos [l], Ursus [l]] (*Herpestes,* Mungos [l]) **ichneumon** (Linn., 1758*a*, 43 [Viverra [l]]) Illiger, 1811, Prodr. Syst. Mamm., Berolini, 135. Egyptian mongoose, Egyptian mungoose, Ichneumon, Mangouste, Pharaonsratte. Africa north of Sahara (Egypt [t]); Asia Minor; Palestine; S. Spain.

Babesia †173.—Blood.
herpetedis [e].—Portugal [t].—T. h.
Echinococcus †322.
†*granulosus.*—Liver.
Tetrathyridium <†284*a*.
bailleti.—Syn. railleti [m].
[elongatum [h s].—Peritoneum.]
Filaria [l] †435.
species Sonsino, 1896*m.*—Subcut. connective tissue, lung.—Egypt.
Rictularia 459*R*.
proni.—Intest.—Bordj-Menaiel.
Spirocerca 468*G*.
sanguinolenta.
Spirura 468*e*.
gastrophila.—Esoph.
Syphacia †494.
†*obvelata.*—Stom.
Ixodes †866.—Ext.
†*rasus.*
Ctenocephalides †1639.—Ext.
†*canis.*
Felicola <†1099.—Ext.
inaequalis.—Rotterdam Zoo.—T. h.
Synosternus <†1634.—Ext.
†*pallidus.*—Egypt [t].—T. h.

#464 **Herpestes ichneumon funestus** (Osgood, 1910, Field Mus. Nat. Hist., Zool. ser., v. 10 (3), April 7, 17 [Mungos [l]]) Allen, 1924, Bul. Amer. Mus. Nat. Hist., April 11, v. 47, 174–175. British E. Africa (Naivasha [t]); German E. Africa.

Ctenocephalides †1639.—Ext.
†*felis.*—Brit. E. Africa.

#464 "Herpestes [l] laticauda" [m] Parona, [1893*a*,] Catal. coll. elminth. del Parona, Geneve, 6. So. #462 **Ichneumia albicauda,** q. v.

#464 Herpestes [l] *leucurus* [s] Ehrenb., 1833, Symb. Phys., Mamm., dec. 2, pl. 12, 6 pp. So. #462 **Ichneumia** *leucurus* [s], q. v.

#464 "Herpestes mungo" from "India." Cf. #455 *Mungos mungo,* Africa. Possibly a host confusion.

#464 **Herpestes** [or *Calogale*] **nyula** (Hodgson, 1836, J. Asiatic Soc. Bengal, v. 5, 236 [*Mangusta*]) Trouess., 1897*c*, Cat. Mamm., 336.

#464 **Herpestes** pluto [h] Gray, 1864, Proc. Zool. Soc. London, no. 35, 552 [not Temm.]. Arabia. So. #462 **Ichneumia albicauda,** fide Thomas, 1882, 75, and Trouess., 1897*c*, 338.

#464 **Herpestes** *pluto* [s] Temminck, 1853, Esquisses Zool. Guiné, Mamm., pt. 1, Leiden, 95 [nv]. Guinea, Africa. So. #458 **Atilax galera,** fide Lydekker, 1896*a*, 253, Thomas, 1882, 73, and Trouess., 1897*c*, 335.

Felicola <†1099.—Ext.
subrostratus.—Cameroon.

#464 **Herpestes** [or *Calogale* [s], Mungos [1]] (*Herpestes*) **pulverulentus** Wagner, 1839, Münch. Gel. Anzeig., v. 9, 426 [nv]. East African mungoose, pepper and salt cat, small grey mungoose, Staub-Manguste, Grijse Muishond, ilitse, Neethaar. S. & W. Africa.

Echidnophaga †1633.—Ext.
larina.—Cape Colony.
Felicola <†1099.—Ext.
calogaleus.—Cape Province.

#464 Herpestes [1] *ratlamuchi* (Smith, 1836, Rep. exped. explor. Central Afr., Cape Town, 42 [Ichneumon [h] ° *ratlamouchi*] [nv]; Smith, 1837, Cat. S. Afr. Mus., 22 [Mangusta [1] *ratlamuchi*] [nv]) Trouess., 1897*c*, Cat. Mamm., v. 1, 334. So. #451 [**Galerella**] *ratlamuchi*, q. v.

#464 Herpestes [1] **sanguineus** Rueppell, 1836, Neue Wirbelth. Abyssin., (7), 27. Abu Wusie. Egypt. So. #451 **Galerella sanguineus,** q. v.

#464 **Herpestes** or Ichneumon [h] ° **species.**

SARCOSPORIDIA †149.—Striated muscles.
[species Viljoen, 1921: Sarkosporidien.—S. Africa.]
Echinococcus †322.
†*granulosus*.
Tetrathyridium <†284*a*.
[*species Schwartz, 1927.—Larva in peritoneal cavity and lungs. Adult exp. in dogs and cats.—Washington, D. C.]

Arthrocephalus 388*d*.
gambiensis.—London Zoo, from Gambia [t].—African mongoose t. h.
Spirura 468*e*.
gastrophila.
Haemaphysalis †869.—Ext.
†*leachi*.—Africa.
Metathrombium †964.—Ext.
†*poriceps*.
Echidnophaga †1633.—Ext.
†*gallinacea*.
Xenopsylla †1636.—Ext.
erilli.—Africa.

#464 **Herpestes** [or *Mesobema* [t], Mungos [1], *Osmetectis* [t], *Urva* [t]] (*Herpestes*) **urva** Hodgson, 1836, J. Asiatic Soc. Bengal, v. 5, 238 [Gulo [1]]) Anderson, 1878, Anat. Zool. Res. Zool. Results Yunnan Exped., v. 1, 189. Crab-eating Mungoose, Arva, Urvá. Himalayas from Nepal [t] to Assam, Arakan, Burma, N. Tenasserim, and southern China.

#465 (418). PROTELIDAE Flower, 1869, Proc. Zool. Soc. London, 37.—Toes 5 on front feet, 4 on hind feet; claws blunt. Cheek-teeth widely spaced, all alike and peg-like, jaws correspondingly weak; eats carrion and white ants; molars almost rudimentary; no functionalized sectorial molars; premolars 4/3–4, very small, simple in character, premolar $_2$ present or absent. Alisphenoid canal absent. See #466.

#466. **Proteles** Geoffr., 1824, Bul. Sci. Soc. Philom., Paris, Sept., 139, tod. *lalandii* Geoffr., 1824, from Cape of Good Hope; 1824, Mém. Mus. Hist. nat., Paris, v. 11, 355, 370, mt. *lalandii* [s] Geoffr. so. tsd. (1900) *cristatus* Sparrman.—Aard-Wolf, Earth-Wolf, Erdwolf. Head short, broad; muzzle truncated; ears long, pointed. Body short; copious mane of long hair along mid line of neck and back, can be erected when animal is excited. Legs elongate, front longest; pollex short with a distinct claw; claws all strong, blunt, subcompressed, nonretractile. Tail short, bushy. Teeth 30 or 32 (i. 3/3, c. 1/1, p. and m. 4/3 or 4); molars very small, placed far apart, almost rudimentary in character; canines long and rather slender. Vertebrae: C. 7, D. 15, L. 5, S. 2, Cd. 24. Burrowing, nocturnal animal, feeding on decomposing animal substances, larvae and termites. Tropical and South Africa. Syn. *Geocyon* ° Wagler, 1830, Natür. Syst. Amphib., 30, mt. *lalandei* Geoffr. so. (1904) *cristata* Sparr.

#466 **Proteles** [t] **cristatus** (Sparrman, 1783, Resa till Goda Hopps Udden, Stock., v. 1, 581 [Viverra [1]]) Blyth, 1839, The Analyst, v. 10 (28), July, 71. Aard Wolf, Earth Wolf, Grey Jackal, Wehr Wolf, Erdwolf, Zibethhyäne, Inci, Isingci, Maanhaar (i. e., Mane-hair) Jackal, Nadrou Jackal, Tuku. Somaliland through Central Africa to Cape Colony.

Dipylidium †308.—Small intest.
†*caninum*.—S. Africa.
Dipetalonema †453.
dracunculoides.—Peritoneal cav.—S. Africa.—T. h.

Armillifer †796.—Encysted.
†*armillatus*.
†*moniliformis* [j].—Larva.—Host [j].
[*protelis* [s].—Mesentery.—T. h.]
Pulex †1635.—Ext.
†*irritans*.—S. Africa.

#466 **Proteles** [t] [or *Geocyon* [o] [t]] *lalandii* [s] Geoffr., 1824, Bul. Sci. Soc. Philom., Paris, 139. Erdwolf, Zibethhyäne. Cape of Good Hope [t], S. Africa. Syn. *Geocyon* [o] [t] *lalandei* [e] Wagler, 1830, Nat. Syst. Amphib., 30. So. #466 **Proteles** [t] **cristatus.**

#467 (409). Squamosal and exoccipital bones form with wall of entotympanic a mastoid air space which is posterior to tympanic chamber. See #468.

#468 (470). HYAENIDAE Flower, 1869, Proc. Zool. Soc. London, 28, 29, 35.—Condyloid and glenoid foramina concealed or wanting. Toes 4–4. Head large, slightly elongate; skull remarkable for great development of sagittal crest (serving for attachment of powerful temporal muscles); zygomatic arches very strong; auditory bulla inflated; paroccipital process distinct; alisphenoid canal and pterygoid fossa absent; palate extends back but a short distance behind posterior molars. Teeth: i. 3/3, c. 1/1, pm. 4/3, m. 1/1; well developed; upper carnassials particularly large, with 3 distinct lobes; lower carnassials with a large blade and a small talon; $molar_2$ very small. Dorsal vertebrae 15. Legs rather long; no entepicondylar foramen to humerus; claws slightly curved, strong, blunt, not retractile; hallux and pollex absent; tarsus and metatarsus entirely hairy; feet with median or plantar pad and one to each digit. Truly digitigrade. Tail moderate. Anal sac present; preputial scent gland absent. India; Africa. Syn. Hyaenadae [d] Gray, 1821, London Med. Repos., v. 15, 302. See #469.

#469. **Hyaena** [139] Brisson, 1762, Regnum Animale, 168–169, 248, tat. *hyaena* Linn., from Africa, tsd. (1900) *striata;* or Brünn., 1772; or Zimmermann, 1780.—Hyaena, hyäne. Teeth 34, usually: i. 3/3, c. 1/1, pm. 4/3, m. 1/1; canines and premolars, especially, very large, strong, conical; upper carnassials with very large, distinctly trilobed blade and moderately developed inner tubercle placed at anterior extremity of blade; molars very small, placed transversely close to hinder edge of carnassial as in the FELIDAE; lower carnassial (sectorial) consists of little more than the bilobed blade. Zygomatic arches very wide and strong; sagittal crest high (giving attachment to very powerful biting muscles); orbits incomplete behind. Vertebrae: C. 7, D. 15, L. 5, S. 4, Cd. 19. Legs, especially anterior pair, rather long; digitigrade, 4

[139] The three existing species may be arranged into two subgenera, which, however, are bridged over by transitional fossil species. See #469.A.

#469.*A* (469*B*). **Hyaena** [r] Brisson, 1762, Regnum Animale, 168–169, 248, tat. *hyaena* Linn., Africa.—Striped hyaena. Euhyaenine group: Upper molar moderately developed and 3-rooted; lower molar with inner cusp and hind talon more or less developed. Ears large, pointed. Hair long, forming a mane on back and shoulders. Africa, Asia.

#469*B* (469*A*). **Crocotta** Kaup, 1829, Ent. Gesch. u. Natürl. Syst. Europ. Thierwelt, v. 1, 74, 78, tat. *crocuta*.—Spotted hyaena. Crocutine group: Upper molar extremely small, 2- or 1-rooted, often deciduous; lower molar without trace of inner cusp, and with an extremely small talon. Africa south of Sahara. Syn. Crocuta [b] [o] Kaup, 1828, Oken's Isis, v. 21 (11), 1145, mt. tat. Hyaena [l] *crocuta* Erxl. [not *Crocuta* Meigen, 1800, Diptera].

subequal toes on each foot; stout nonretractile claws; pollex and hallux represented only by rudimentary metacarpal and metatarsal bones. Tail rather short. Large post-anal median glandular pouch, into which largely developed anal scent glands discharge. South Asia; Africa. Syn. *Hyena* [o] Zimmermann, 1780, Geogr. Gesch., Leipzig, v. 2, 256.

#469 **Hyaena** [or Crocuta [h]] (**Hyaena**) **brunnea** Thunberg, 1820, K. Vetensk. Acad. Handl. Stockholm, v. 1, 59. Brown Hyaena, Strand Wolf, Strandwolf, Incuka, Strand Jut. Kalahari, S. W. Africa; Western Rhodesia.

Taenia [r] †325.—Intest.
hyaenae.—Pretoria, S. Africa [t].—T. h.

#469 **Hyaena** [l] [or Crocuta [h]] (**Crocotta**) **crocuta** (Erxl., 1777, Syst. Regn. Anim., 578 [Canis [l]]) Boddaert, 1785, Elench. Anim., Rott., 94. Cave Hyaenas, Laughing Hyaena, Spotted Hyaena, Tiger wolf, hyène tachetée, gefleckte Hyäne, gefleckte Hyene, Tiegerwolf, Fisi, Impisi, Isadawane, Kurri, Kuzupa, Phiri, Tijger Wolf, Waraba. Africa, south of Sahara. Syn. *Hyena crocata* [c] [o] Zimmermann, 1780, Geogr. Gesch., Leipzig, v. 2, 256.

Hepatozoon <†165.—Blood.
canis.—Senegal.
chattoni [j] [s].—Upper Senegal and Niger [t].—So.[j] *Hepatozoon canis*, fide Wenyon, 1926*a*, 1091.—T. h.
[*rotundata hyenae-crocutae* [s].—So.[j] *Hepatozoon canis.*—Syn. *hyenae-croculae* [m].—T. h.]
Trypanosoma †94.—Blood.
†*brucei.*—Africa.
congolense.—Reservoir.
†*gambiense.*
Dipetalonema †453.
dracunculoides.—Periton. cav., mesentery.—Bamako, Africa.
Dirofilaria 449*A*.
repens.
Filaria [l] †435.
species Leger, 1911.—Blood.
Haemaphysalis †869.—Ext.
†*leachi.*
Echidnophaga †1633.—Ext.
larina.—Daroli, Abyssinia.

#469 **Hyaena** (**Hyaena**) **hyaena** (Linn., 1758*a*, 40 [Canis [l]]) Desmarest, 1804, Nouv. Dict. Hist. nat., tab. 24, 18. Tarras. Benna Mountains [t], Laristan, S. Persia.

Macracanthorhynchus †508.
†*hirudinaceus.*—Intest.
Amblyomma †881.—Ext.
sublaeve.—Siam [t].
Haemaphysalis †869.—Ext.
bispinosa intermedia.—India.
Arctopsylla <†1626.—Ext.
hyaenae.—Caucasus.
Synosternus <†1634.—Ext.
†*pallidus.*—Egyptian Sudan.
[*witherbyi* [s].—Africa.]

#469 **Hyaena** [l] [or Crocuta [h]] **maculata** Thunberg, 1811, Mém. Acad. Imp. Sci. St. Petersb., v. 3, 302.
Taenia [r] †325.—Intest.
species Baer, 1923.—Sudan.

#469 **Hyaena species.**

Multiceps †324.
†*serialis.*—Ngoa, Northeastern Rhodesia.—Spotted leopard.
Dirofilaria 449*A*.
sudanensis.—Subcut.
Caparinia †944*b*.—Ext.
hyenae [o].
setifera.
Rhipicephalus †875.—Ext.
shipleyi.—T. h.
Sarcoptes †942.—Ext.
†*leonis.*
Echidnophaga †1633.—Ext.
tarda.—Abyssinia[t].

#469 **Hyaena** [1] (**Hyaena**) *striata* [s] (Zimm., 1780, Geog. Gesch., v. 2, 256 [Hyena [d]]) Leunis, 1883*a*, Synop. Thierkunde, v. 1, 187. Striped hyaena, hyène rayée, gestreifte Hyäne, gestreifte Hyene, Aptar, bagha Lakra, Cherak, Chirak, Derko-tud, Dhopre, Dumul-gundu, Harvagh, Hebar-kula, Hondar, Jhirak, Kalu-thai-korachi, Kirba, Korna-gundu, Kut-kirba, Lakar-bagh, Lakar-bagha, Lakha-bagh, Lidder, Renhra, Taras. Ranges over greater portion of Indian peninsula and thence westward through S. W. Asia, including Bokhara and Arabia, to Caucasus and North and East Africa. So. *hyaena*, fide Trouess., 1904*c*, 244; Thomas, 1911, 134.

Dipylidium †308.—Intest.
†*caninum*.—Calcutta Zoo, India.
Chlamydonema †469*d*.
malayense.—Nigeria.—Host [j].
Macracanthorhynchus †508.—Intest.
†*gigas* [s].
†*hirudinaceus*.
Rhipicephalus †875.—Ext.
†*pulchellus*.
Arctopsylla <†1626.—Ext.
hyaenae.—Transcaucasia; Persia.
[*striatus* [o].—Transcaucasia; Persia.]
Ctenocephalides †1639.—Ext.
†*canis*.
[†*serraticeps* [o].]
Gasterophilus †1572.
equi [d s] of Clark.—Larvae in stom.
Synosternus <†1634.—Ext.
somalicus.—Africa.
Xenopsylla †1636.—Ext.
brasiliensis.

#469 **Hyaena** [1] (**Hyaena**) *vulgaris* [o] Desmarest, 1820, Mamm., Paris, pt. 1, 215, renaming of *hyaena*. Africa; Asia. So. #469 **Hyaena** (**Hyaena**) **hyaena**, q. v.

#470 (68). CANIDAE [40] Gray, 1821, London Med. Repos., v. 15, 301.—Dogs, wolves, jackals, foxes. Condyloid and glenoid foramina present. Toes 5 on front feet (except *Lycaon* which has 4), 4 on hind feet (except some domesticated dogs which have 5). Tympanic bulla large, in contact with paroccipital process, without septum. Alisphenoid canal present. Teeth 38 to 44, exceptionally to 48, generally 42: i. 3/3, c. 1/1, pm. 4/4, m. (variable) 1 to

[40] There are certain major difficulties involved in the classification of the genera and species of this family Among these may be noted the following:

1. As in many other groups, authors have frequently proposed genera without designation of genotypes. This has resulted in later confusion.

2. The genus *Canis* has for its type *C. familiaris*, of Europe, but domesticated dogs the world over are classified more or less generally as belonging to this species. Except for the teeth, domesticated dogs vary so extensively in characters that if an attempt is made to compare them systematically with the wild species, one encounters difficulties. Gray (1868, 494) made a suggestion to meet this situation, namely, he confined the genus *Canis* to the *domesticated* dogs, recognizing (pp. 508–509) four species (*familiaris, ceylanicus, tetradactyla*, and *dingo*). By this plan Gray avoided considerable difficulty, but despite the practical nature of his proposition it has not appealed to authors generally, doubtless because its practical aspect is not supported by scientific data as interpreted by specialists in the group.

3. Generic and subgeneric characters in this family have been based to a considerable extent on details of skull structure, and these are not always easily recognized externally. Accordingly, although the specialist goes into details in working out his classification, the average zoologist would be less likely to do so in making a determination.

4. Many of the anatomical data used in classification are comparative in nature (as Genus *A*, with canine teeth longer [or broader] than in the Genus *B*; or some similar expression), rather than a direct presence or absence or regional location, of a character. Not only is the mental reaction to characters of this nature rather unfavorable among zoologists who are accustomed to dealing with animals of soft tissue (hence subject to extreme contraction), but unless specimens of both *A* and *B* are present for comparison, the character of "longer" or "broader" loses in value.

As a result of these various factors, the natural tendency is to use the genus *Canis* in a very broad sense and, except for outstanding groups, to reduce to subgeneric status the numerous genera recognized by some authors. In adopting this conservative plan, we are not only conforming to precedent of very well known mammalogists but are at the same time reducing the difficulties for the parasitologists.

The preferred restricted generic or subgeneric name, in addition to *Canis* [1], will be placed in heavy type under *Canis* [1].

4/1 to 4; larger cheek-teeth of a combined trenchant and crushing type; last upper premolar and 1st lower molar strongly differentiated as carnassials, the former 3-rooted, its inner lobe in front of middle of crown, its position, somewhat posterior to level of anteorbital foramen, at point of greatest mechanical efficiency. Body usually rather light; size moderate; legs long· feet digitigrade; claws exserted, blunt, nonretractile. Os penis grooved. Essentially cosmopolitan; in Europe west to Ireland.

#471 (481). Lupine or Thooid series as of Flower & Lydekker, 1891*a*, 548, and Lydekker, 1911, Encycl. brit., v. 5, 371.—Wolf-like. Dogs, wolves, jackals. Pupils usually circular when contracted; in *Pseudalopex* elliptical when contracted. Postorbital process of frontal bone regularly smooth and convex above, its extremity bent downward; frontal air sinuses present; skull generally thick and solid. Essentially subgenus *Lupina* as of Leunis, 1883*a*, 188; section LUPINAE Burmeister, as of Gray, 1868, 495. See #472.

#472 (474). Subf. LYCAONINAE ° Gray, 1868, Proc. Zool. Soc. London, 494, 495 (LYCAONINA).—Cape Hunting dog. Toes 4–4. Head short, broad; nose short, broad; teeth large, close together; palate very broad, short. Tail short, straight, bushy. Contains one genus. See #473.

#473. Lycaon [41] Brookes in Griffith's Cuvier, 1827, Anim. Kingd., v. 5, 151, mt. Canis [1] *tricolor* Brookes so. Hyaena [1] *picta* Temm.—Hunting dog, Hyaena dog. Teeth 42; massive and (in cross section) rounded; premolars acutely dentated on the front, and especially on the hinder edge; upper carnassials strong, elongate, trigonal, broad, with small but well-marked interior lobe in front; upper tubercular tooth [1] large, with a broad rounded internal lobe; upper tubercular tooth [2] oblong transverse, much smaller; lower hinder tubercular very small, cylindrical. Skull short, broad; nose short, broad, swollen; palate short, very broad; internal nasal opening broad; postorbital process thick, convex above, bent down at end. Africa.

#473 Lycaon capensis.

Echinococcus †322.

granulosus.—London Zoo, from S. Africa.

longimanubrius.—S. Africa [t].—T. h.

species Chapin, 1921.—Zoo, Washington, D. C.

#473 Lycaon [t] [or Canis [1], *Cynhyaena* °, *Cynhyoena* °, *Hyenoides* °, *Kynos* °] (Lupina [1]) **pictus** (Temm., 1820, Ann. Gén. Sci. Phys., v. 3, Jan., 54 [Hyaena [1]]) Smith, 1833, S. Afr. Quart. J., v. 2, no. 1 (3), Dec., 91. Burchell's Lycaon, Cape hunting-dog, Hyaena dog, bunter Hund, buntfarbige Hund, gefleckter Hund, Hyänenhund, Hyänenwolf, Jagdhyäne, scheckige Hyänenwolf, Simr, Budaja, Inkentshana, Inkentshani, Inkentyane, Ixwili, Letlhalérwa, Matshabidi, Wilde-Hond, Wilde Honde. South and east Africa.

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[41] Syns.: *Cynhyaena* ° Cuv., 1829, Dict. Sci. nat., v. 59, 454, mt. *picta* Temm.;
Cynohyaena ° ° Blainville, "1840", Ostéog. Mamm. Récents et Foss., v. 2, 43;
Cynohyoena ° ° Blainville, 1837, Ann. Sci. nat., Paris, 2d ser., v. 8, Zool., 279;
Cynus ° Agassiz, 1846, Nomenclator Zool., Index Univ., 113, for *Kynos;*
Hyenoides ° Boitard, "1842", Jardin Plantes, Mamm., 163–164, mt. *picta* Temm., syn. *venatica* Broocks, syn. *tricolor* Griff.; Boitard in Orbigny, "1843", Dict. Univ. Hist. nat., Paris, v. 3, 566, mt. *picta*, syn. *venatica* Burch. & Brooks;
Kynos ° Rüppell, 1842, Mus. Senckenberg., Frankfurt a. M., v. 3 (2), 163, mt. *pictus*, Africa.

CESTODA †283.
[species Ratcliffe, 1930.—"Cape hunting dog."]
Echinococcus †322.—Small intest.
†*granulosus*.—S. Africa.
Taenia (**Taenia**) †325*b*.
†*hydatigena*.—"Lac Rodolphe", Africa.
†*pisiformis*.—Stomach, small intest.—Zoo, Washington, D. C.
Toxascaris †486.—Small intest.
leonina.—Phila. Zoo.
†**limbata*.—Washington [j], D. C.
Toxocara †484.—Intest.
†*mystax* [o].
Amblyomma †881.—Ext.
†*hebraeum*.
[*poortmani* [s].—Cape of Good Hope [t].—T. h.]
Rhipicephalus †875.—Ext.
†*appendiculatus*.
†*simus*.

#473 **Lycaon pictus** *venaticus*, apparently for #473 *Lycaon pictus* syn. *venaticus* [o].

#473 **Lycaon** *venaticus* [o] Gray, 1868, Proc. Zool. Soc. London, 497, substitute for *pictus* Temm. So. #473 **Lycaon pictus,** q. v.

#474 (472). Toes 5–4. Head more or less elongate; nose tapering; teeth moderate; palate elongate. [=CANINA [l] Gray, 1868, Proc. Zool. Soc. London, 494, 497.] See #475.

#475 (478). CUONINAE as of Miller, 1924*a*, 155.—Teeth 38 to 40; heel of sectorial tooth with single compressed cutting cusp. Head short. Toes 5–4. See #476.

#476 (477). **Cuon** [42] Hodgson, 1838, Ann. Nat. Hist., London, v. 1 (2), Apr., 152, mt. tod. *primaevus* Hodgson, from Nepal, so. (1888) *dukhunensis* Sykes, 1831.—Dholes or wild dogs of Asia. Teeth 40: i. 3/3, c. 1/1, pm. 4/4, m. 2/2; heel of lower carnassial with single compressed cutting cusp; skull short; facial profile slightly convex; nasals elongate; pupil circular. Mammae 12 or 14. Long hair between footpads. Color uniform. Wolflike. Central Asia.

#476 **Cuon** [or *Chryseus* [o], *Cyon* [o], *Primoevus* [t]] **dukhunensis** (Sykes, 1831, Proc. Zool. Soc. London, (8), Aug., 100 [Canis [l]]) Gray, 1843, List Mamm. Coll. Brit. Mus., 57. Indian wild dog, southern Dhole, Adavi-Kútá, Bankutta, Bhansa, Bhaosa, Bhúnsa, Buánsú, Chennai, Eram-naiko, Hazí, Jangli, Jungli Kutta, Kennai, Kolasna, Kolasra, Kolsa, Kolsum, Paoho, Pharâ, Rám-Hun, Rám-kutta, Reza-Kútá, Sa-túm, Shin-nai, Siddaki, Son-kutta, Tani, Vatai-karau. "Dukkun" [t]; Upper Indus valley; eastern Tibet, throughout Himalayan forests from Kashmir to Assam forests of India. Var. of *javanicus*, fide Trouess., 1897*c*, 513; so. *javanicus*, fide Mivart, 1890, 179.

Babesia †173.—Blood.
canis.
species Plimmer, 1915.—London Zoo, from India.—Possibly *B. gibsoni*, fide Wenyon, 1926*a*, 1021.
Hepatozoon <†165.—Blood.
canis.—India.
Ancylostoma †387.—Intest.
†*caninum*.—India.
†*ceylanicum*.

[42] Syns.: *Chrysaeus* [o] Blanford, 1888, Fauna Brit. Ind., Mamm., 142, 606;
Chryseus [o] Ham. Smith, 1839, Jardine's Nat. Lib., v. 9, 167, tod. *primaevus* Hodgson;
Cyon [o] Agassiz, 1846, Nomenclator Zool., Index Univ., 113;
Kuon [m] Agassiz, 1846, Nomenclator Zool., Index Univ., 113;
Primaevus [o] "Lesson" Gray, 1843, List Spec. Mamm. Brit. Mus., pp. xx, 212;
Primoevus [o] Hodgson, 1842, Lesson's Nouv. Tableau Règne Anim., Mamm., 39, mt. *buansu* Lesson syn. *primoevus* Hodgson, syn. *dukhunensis* Sykes.

Spirocerca 468*G*.
sanguinolenta.—India.
Haemaphysalis †869.—Ext.
bispinosa.
bispinosa intermedia.—India.
†*leachi* [o].—India.

Trichodectes †1100.—Ext.
forficula.—India.

#476 **Cuon** [t] [or *Chryseus* [o]] *primaevus* [s] (Hodgson, 1832, J. Asiatic Soc. Bengal, v. 1, 342 [Canis [l]]) Hodgson, 1838, Ann. Mag. Nat. Hist., v. 1 (2), Apr., 152. Buansu. Nepal [t]. So. #476 **Cuon dukhunensis,** fide Blanford, 1888, 143.

#477 (476). **Icticyon** [43] Lund, 1843, Oversigt K. danske Vidensk. Selsk. Forhandl., Kjöbenhavn, for 1842, no. 6, 80, mt. *venaticus* Lund, 1842.—Guiana bush dog. Teeth 38: premolars 4/4; molars 1/2, rarely 2/2 or 1/1, comparatively small; lower carnassial characterized by loss of inner cusp or blade, and by the secant form of its hind talon. Head short, broad. Haif short. Legs short. Tail short. South America.

#477 **Icticyon** [or *Speothos* [s]] **venaticus** (Lund, 1842, K. danske Vidensk. Selsk. Nat. Math. Afhandl., Kjöbenhavn, v. 9, 203 [Cynogale [h] [o]]) Lund, 1843, Oversigt K. danske Vidensk. Selsk. Forhandl., Kjöbenhavn, for 1842, no. 6, 80. Bush dog, Cachorro do matto. Brazil; Guiana. Syn. *Speothos* vinaticus [m] Jordan & Rothschild, 1908, Parasitol., v. 1 (1), 73.

Amblyomma †881.—Ext.
†*ovale*.
Ixodes †866.—Ext.
boliviensis.—Bolivia [t].

Rhopalopsyllus †1635*A*.—Ext.
australis tupinus.—Bolivia [t].—T. h.
†*lugubris*.—Bolivia [t].—T. h.

#478 (475). CANINAE [44] Gill, 1872*a*, Nov., 5, 63.—Dogs, wolves, foxes. Teeth usually 42 (rarely to 48): i. 3/3, c. 1/1, pm. 4/4, m. 2 to 4/3 to 4. Toes 5 on front feet, 4 on hind feet. See #479.

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[43] Syns.: *Abathmodon* [s] Lund, 1843, Oversigt K. danske Vidensk. Selsk. Forhandl., Kjöbenhavn, for 1842, no. 6, 80, fossil teeth;
Cynalicus [s] Gray, 1846, Ann. Mag. Nat. Hist., ser. 1, v. 17 (112), Apr., 293, mt. *melanogaster* Gray so. (1904) *venaticus* Lund, Brazil;
Cynalius [c] Gray, 1847, List Osteol. Spec. Brit. Mus., pp. x, 18;
Cynalycus [m] Gray, 1869, Cat. Carniv. Pachy. Edent. Mamm., Brit. Mus., 183;
Cynogale [h] [o] Lund, 1842, K. danske Vidensk. Selsk. Nat. Math. Afhandl., Kjöbenhavn, v. 9, 203, mt. *venatica* Lund, 1842 [not #430*b* *Cynogale* Gray, 1837, VIVERRIDAE];
Ictidocyon [s] Agassiz, 1846, Nomenclator Zool., Index Univ., 194;
Melictes [m] Gray, 1868, Proc. Zool. Soc. London, 498;
Melictis [s] Schinz, 1848, Rev. Zool., Paris, June, 177, mt. *beskii* Schinz, Brazil;
Speothos [s] Lund, 1839, Ann. Sci. nat., Paris, 2d ser., v. 11, 224, 232, mt. *pacivorus* Lund, fossil, Brazil.

[44] Gray (1868, 494, 495) distinguished wolves, dogs, and fox-tailed wolves as follows:

b. Subf. CANINA.—Head more or less elongate; nose tapering Teeth moderate. Palate elongate. See *c*.

c (*d*; *e*). Wolves.—Tail short, straight, bushy. Skull elongate. Old World and America. Contains, *Icticyon, Cuon, Lupus, Simenia, Chrysocyon*.

d (*c*; *e*). *Caninia* Gray, 1868, 495.—Dogs. Tail elongate, bent or curled to left. Skull short or elongate. One genus, *Canis*.

e (*c*; *d*). Fox-tailed wolves.—Tail elongate, straight, hairy. South America. Contains, *Lycalopex, Pseudalopex*.

If one works only with European forms, it is not so difficult to define a wolf, a dog, and a fox. But taking the world's fauna into consideration, this is more difficult.

#479 (480). **Canis** [i 45] Linn., 1758*a*, 38, tat. *familiaris* syn. *canis* Gesner, tsd. (1901) *lupus*.—Includes dogs, wolves, foxes, wild and domesticated. Teeth 42: i. 3/3, c. 1/1, pm. 4/4, m. 2/3. Cecum generally coiled, contorted.

It is to be recalled that the generic name *Canis* has been used by different authors in different senses varying from the exceedingly broad concept of Linné, 1758*a*, to the exceedingly restricted concept of Gray, 1868.

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[45] #479*A* (*F*). Not confined to South America. See #479*B*.

#479*B* (*E*). Not confined to Asia; pupils circular. See #479*C*.

#479*C* (*D*). ***Canis** [r] Linn., 1758*a*, 38, tat. *familiaris* syn. *canis*.—Dogs and wolves proper. Canine teeth thick, broad, short; outer incisors greatly enlarged, more than twice the size of inner incisors, being somewhat hyena-like in this respect; carnassials large; upper molars without definite cingulum; pm 4 without 3d cusp on posterior border. Head [elongate] moderate; nose broad. Temporal muscle separated by a narrow linear central ridge. Tail elongate, bent, or curled. Africa; America; Asia; Europe.

Syns.: *Chaon* * Ham. Smith, 1839, Jardine's Nat. Lib., v. 9, 129, tpd. 1st sp. *vulgaris* so. *lupus* Linn.;

Dysodus [i] * Cope, 1879, Proc. Acad. Nat. Sci., Phila., Aug. 12–Nov. 4, 479, mt. *praeus*, Japanese sleeve dog;

Lupus * Oken, 1816, Lehrb. Naturg., 3 Th., Zool., Abt. 2, 1039–1040, tat. *C. lupus* Linn. syn. *L. vulgaris*, from Europe; Gray, 1868, Proc. Zool. Soc. London, 494, 501–504, tat. *C. lupus* Linn. syn. *L. vulgaris* Brisson;

Synagodus [i] * Cope, 1879, Proc. Acad. Nat. Sci., Phila., Aug. 12–Nov. 4, 179, 186, mt. *mansuetus*, lap dog.

#479*D*(*C*). **Thos** Oken, 1816, Lehrb. Naturg., Zool., Th. 3, Abt. 2, 1037, tsd. (1914; 1924) vulgaris Oken so. *Canis aureus* Linn.—Coyotes, jackals, small prairie wolves, Schakale. Canine teeth long, slender, *Vulpes*-like; outer incisors small, carnassials small; upper molars with well-marked cingulum; pm 4 with minute extra cusp on hind border. Teeth 42, with same formula as *Canis* [r].

Syns.: *Dieba* * Gray, 1869, Cat. Carn. Edent. Mamm. Brit. Mus., 180, 189, mt. *anthus* Cuv.;

Jacalius = Bourguignat, 1875, Ann. Sci. Géol., Paris, v. 6 (6), 16, footnote, for *Sacalius;*

Lupulus Blainville, 1830, Mamm. [nv];

Lupulus [i] Blainville, "1843", Ostéog. Mamm. récents et foss., v. 2 (13), 30–32 (cites *cancrivorus, brachyteles, brachyotos* or *procyonoides*); Gervais, 1855, Hist. nat. Mamm., 60–62;

Lyciscus * Ham. Smith, 1839, Jardine's Nat. Lib., v. 9, 160, tsd. (1912) 1st sp. *latrans* Say, Nebraska [t];

Neocyon * Gray, 1868, Proc. Zool. Soc. London, 506, mt. *latrans* Say, Nebraska [t];

Oxygoüs * Hodgson, 1841, Calcutta J. Nat. Hist., v. 2 (6), July, 213, mt. *indicus* Hodgson so. (1904) *Canis aureus indicus*, from Nepal, India;

Proamphicyon * Hatcher, 1902, Mem. Carnegie Mus., v. 1 (2), Sept., 95, mt. tod. *nebrascensis* Hatcher, Nebraska [t], fossil;

Sacalius ◦ Ham. Smith, 1839, Jardine's Nat. Lib., v. 9, 206, tod. *aureus* Linn., Europe [t];

Saccalius = Grevé, 1894, Nova Acta Leop., Halle, 119;

Thous * Ham. Smith, 1839, Jardine's Nat. Lib., v. 9, 193, tod. *anthus* Cuv., from Egypt;

Vulpicanis ◦ Blainville, 1837, Ann. Sci. nat., Paris, 2d ser., Zool., v. 8, Nov., 279, mt. *aureus* Linn.

#479*E*(*B*). **Nyctereutes** Temminck, 1838–1839, Hoeven's Tijdschrift Natuur. Geschied. Physiol., v. 5 (4), [post Oct. 11, 1838] 285, tsd. (1904) *procyonoides* Gray so. *viverrinus* Temm., China and Japan.—Raccoon dog. Confined to Asia. Fur loose, long; tail short, straight, bushy; ears short. Upper carnassials compressed, 3-lobed, with a small anterior internal lobe. Syn. Nyctoractes = Jäger, 1850, Nova Acta Acad. Leop., Halle, v. 22 (2), 772.

#479*F* (*A*). Confined to South America. See #479*G*.

#479*G* (479*H*). **Chrysocyon** Ham. Smith, 1839, Jardine's Nat. Lib., v. 9, 241, mt. *jubatus*, S. America.—Aguara wolves. Legs long; distal articulations of metacarpals and metatarsals abnormal. Tail short, reaching only to hocks. Cervical mane short; coronal sagittal crest single, linear. Head very long; nose slender, very long; skull elongate; postorbital process thick, convex above, bent down at tip; temporal muscles separated by a narrow, linear, central ridge; pupil circular; teeth 42; premolars approximate, large; upper carnassials moderate, in same line as other teeth; internal palate narrow.

#479*H* (479*G*). Legs not especially long; distal articulations of metacarpals and metatarsals normal. Tail long, extending below the hocks. Angular process of mandible low and narrow; lower margin of mandible convex, not provided with sub-angular process. See #479*I* to *N.* as revised by Cabrera, 1931.

#479*I* (479*J*). **Lycalopex** Burmeister, 1854, Syst. Uebers. Thiere Bras., Th. 1, 95, tsd. (1914; 1931) *Canis vetulus* Lund, 1842, (1930 [o]) *magellanicus* Gray.—Small-toothed dogs. Muzzle short; facio-cephalic index (fide Cabrera, 1931, 57, = distance from posterior end of nasal to incisor alveoli×100, divided by basal length) about 45; carnassials small; length of pm 4 hardly greater than length of m 1; length of m 1 about equals length of m 2+m 3; upper molars subquadrate, very little extended transversely. S. America. Syns. (fide Cabrera, 1931, J. Mamm., v. 12 (1), 57):

Eunothocyon * Allen, 1905, Reports Princeton Univ. Exp. Patagonia 1896–1899, v. 3 (1), 152, tod. *Canis sladeni* Thomas, 1903, so. (1911; 1931) *Canis vetulus* Lund, 1842;

Nothocyon * Wortman & Matthew, 1900 (for 1899), Bul. Amer. Mus. Nat. Hist., v. 12, Feb., 124 (type either *urostictus* or *parvidens*) [not Nothocyon [h] Matthew, 1900 (for 1899), 20, 62, nomen nudum ,tsd. (1902) *geismarianus*, fossil dog].

For the purpose of this catalog we follow Miller, Cabrera, Lydekker, and Flower & Lydekker as closely as feasible, using *Canis* in a rather broad sense and dividing it into subgenera.

Authors are not entirely in accord in regard to the subgenera of *Canis*, and it is difficult to key these groups unless one uses the factor of geographic distribution. Provisionally, for the purpose of this Host-Catalog, and pending further anatomical comparisons by mammalogists, *Canis* may be divided into the following groups (subgenera or genera, according to subjective views as to subgeneric vs. generic values). See #479*A*.

#479 **Canis** [1] [or Vulpes [1]] (*Lupulus* [,#479*D* **Thos** [b]]) **adustus** Sundevall, 1846, Öfvers. K. Vet. Ac. Förhandl., v. 3 (5), 121. The Side-striped Jackal. Africa.

Babesia †173.—Blood.
rossi.—Spleen, liver.—Cambridge [t], from Brit. E. Africa.—T. h.
Hepatozoon <†165.—Blood.
canis.
canis-adusti.—Cambridge [t], from Brit. E. Africa.—T. h.
Microfilaria †432.—Blood.
species Scott, 1928.—London Zoo.
Haemaphysalis †869.—Ext.
†*leachi*.—Africa.

#479*J* (479*I*). Muzzle long; facio-cephalic index 50 or more. Carnassials large; length of pm [4] always much greater than length of m [1]; length of m [1] always greater than length of m [2]+m [3]; upper molars much extended transversely. See #479*K*.

#479*K* (479*L*). **Dusicyon** Ham. Smith, 1839, Jardine's Nat. Lib., v. 9, 248, tsd. (1914; 1931) *Canis antarcticus* Bechstein so. (1931) *C. vulpes australis* Kerr.—Falkland dogs. Tail shorter, white tipped, its length rather less than twice that of hind foot. Pm [4] with protocone drawn backwards, facing middle of main cusp; m [1] with metaconid placed conspicuously low, almost at level with cusps of talonid. Falkland Ids.

Syns.: Dasicyon [m] Trouess., 1897*c*, Cat. Mamm., new ed., fasc. 2, 299;
Dusocyon Bourguignat, 1875, Ann. Sci. Géol., Paris, v. 6 (6), 24, 29;
Dysicyon [e o] Agassiz, 1846 ,Nomenclator Zool., Index Univ., 132.

#479*L* (479*K*). Tail dark tipped, long, always more than twice as long as hind foot. Pm [4] with protocone drawn forwards, facing anterior base of main cusp; m [1] with metaconid placed high, its point almost on level with paraconid. See #479*M*.

#479*M* (479*N*). **Cerdocyon** Ham. Smith, 1839, Jardine's Nat. Lib., v. 9, 259, tsd. (1914) *brasiliensis* Wied, 1821, syn. (1931) *azarae* Wied, 1824, tsd. (1931) *Canis azarae* Wied, of eastern Brazil, tsd. [a] (1930) *magellanicus* Gray.—Aguara foxes, crab-eating dogs. Feet with digital and plantar pads very large; interdigital webs slightly extensible; claws short. Forehead high, upper contour of braincase forming a conspicuous angle with facial profile; molar with masseteric ridge of malar very near lower edge; mandible with condyle drawn upwards and angle very broad vertically. S. America.

Syns.: *Carcinocyon* Allen, 1905, Reports Princeton Univ. Exp. Patagonia 1896–1899, v. 3 (1), 153, 162, tod. *Canis thous* Linn. syn. *Canis cancrivorus* Desm.;
Cercodocyon [m] Allen, 1905, ibidem, 154;
Thous [b a] Gray, 1868, Proc. Zool. Soc. London, 494, 514, tsd. by renaming (1905) *cancrivorus* Desm. so. *thous* Linn. [not #479*D* *Thous* Ham. Smith, 1839, tod. *anthus* Cuv., jackal from Africa].

#479*N* (479*M*). **Pseudalopex** Burmeister, 1856, Erlaüt. Faun. Bras., 24, 44, tsd. (1914; 1930; 1931) *Canis magellanicus* Gray, of southern Patagonia.—Culpeos and South American foxes. Feet with digital and plantar pads small; interdigital webs very extensible; claws long and slender. Forehead low, depressed, upper contour of braincase almost in line with profile of face; malar with masseteric ridge near the middle; mandible with condyle drawn backwards and angle slender.

Syns. (fide Cabrera, 1931, J. Mamm., v. 12 (1), 62):
Angusticeps [a] Hilzheimer, 1906, Zool. Anzeig., v. 30 (5), Apr. 17, 114, tod. *reissii* Hilzheimer;
Microcyon [a] Trouess., 1906, C. r. Acad. Sci. Paris, v. 143 (26), 1186, mt. tod. *Speothos riveti* Trouess., 1906, from Alchipichi [t], Province of Pichincha, Ecuador, so. (1931) *Pseudalopex culpaeus reissii* Hilzheimer;
Pseudolycos [a] Philippi, 1903, Arch. Naturg., Berlin, v. 1 (1), 157;
Viverriceps [d b] Hilzheimer, 1906, Zool. Anzeig., v. 30 (5), Apr. 17, 116, lapsus for *Angusticeps* [not #413*t* *Viverriceps* Gray, 1867, 268, FELIDAE].

#479 **Canis** [1] **algericus.**

Spirura 468*e*.
gastrophila.

#479 **Canis** [1] **americanus.** = ?

Dioctophyme †426.
†*gigas* [s].

#479 **Canis** [1] [or *Dieba* [t], Lupus [1], *Thous* [t]] (Lupulus [1], #479*D* **Thos** [r]) **anthus** Cuv. in Geoffr. & Cuv., 1820, Hist. Nat. Mammal., v. 1 (17), June, 3. Morocco jackal, North-African Jackal, Chacal d'Alger. N. W. Africa.

Haemaphysalis †869.—Ext.
†*leachi* [e].—Host [j].

Rhipicephalus †875.—Ext.
†*sanguineus*.

#479 **Canis** [1] **aquaticus** [?(Linn., 1758*a*, 39)] Jauffret, 1800, Zoograph., 16.

Dipylidium †308.
[*prismatica* [s].]

#479 Canis [1] **[vulpes] atlantica** Wagner, 1841, Reis. Regentsch. Algier, v. 3, 31 [nv]. So. #485 **Vulpes vulpes atlantica,** q. v.

#479 **Canis** [1] [or Leucocyon [1], Lupus [1], *Sacalius* [o t], Saccalius [m]] (Lupina [1], *Lupulus*, *Lyciscus* [s], *Sacalius* [o t], #479*D* **Thos** [b t], *Vulpicanis* [o t]) **aureus** Linn., 1758*a*, 40. Common jackal, Indian jackal, gemeine Schakal, Schakal, Amu, Chacal, Chota-Bagh, Gidár, Hian, Hijai, Hiyál, Hokol, Ihigal, Joksat, Kalla-Nari, Karaken, Karincha, Kocla, Kolá, Kolial, Laraiya, Meshrong, Mye-khwe, Nakka, Nari, Naria, Nerka, Phiál, Sháaj, Shál, Shiál, Shigal, Siyál, Strigala, Tolágh. Persia [t]; Africa; Asia; Asia Minor; Europe.

Babesia †173.—Blood.
canis.—Exp.
gibsoni.
rossi.

Hepatozoon < †165.—Blood.
canis.
[*rotundata canis-aurei* [o].—So.[j] < †165 *Hepatozoon canis*.—T. h.]
[*rotundata canis-familiaris* [s].—So.[j] < †165 *Hepatozoon canis*.]

Trichomonas †131.
[*canis-aurei* [e] [auri [m]].—Cecum.—Calcutta [t], India.—T. h.]

Diphyllobothrium †295.
†*mansoni*.—Subcutaneous.
serratum [s].

Dipylidium †308.—Intest.
†*caninum*.
cucumerinum [s].

Echinococcus †322.—Intest.
†*echinococcus* [s].
†*granulosus*.

Mesocestoides < †299.—Intest.
lineatus.
litteratus.

Multiceps †324.—Intest.
†*multiceps*.—Calcutta Zoo.

Taenia [r] †325.
balaniceps.—London Zoo, from India.

Taenia (Taenia) †325*b*.—Intest.
†*pisiformis*.—Calcutta, India.
serrata [s] of Authors.—So. *pisiformis*.

Ancylostoma †387.—Intest.
†*caninum*.—India.

Dracunculus †439.
†*medinensis*.—Trieste.

Rictularia 459*R*.
affinis.

Spirocerca 468*G*.
sanguinolenta.

Toxascaris †486.
†*limbata* [s].

Toxocara †484.—Intest.
†*canis*.
[*canis-aurei* [s].]
[*marginata* [o].]
[mistax [m].]
mystax [o].

Macracanthorhynchus †508.
†hirundinaceus [m].
Oncicola †501*o*.
**canis*.—Texas.
Prosthenorchis †501*p*.
pachycanthus.—Intest.
spirula.
Amblyomma †881.—Ext.
†*variegatum*.
Haemaphysalis †869.—Ext.
bispinosa.
leachi indica.—Calcutta.—T. h.
†*leachi* [e].—India.
parva.—Ceylon.—T. h.
Ixodes †866.—Ext.
†*bicornis*.
Rhipicephalus †875.—Ext.
†*sanguineus*.—India.
†*simus*.
Pulex †1635.—Ext.
†*irritans*.—Asia Minor.

#479 **Canis** [l] [(#479*D* **Thos** [r])] **aureus** *dalmatinus* [s] Wagner, 1841, Schreber's Säugthiere, Suppl., v. 2, 383. Dalmatia [t]. So. #479 *Canis aureus*, fide Miller, 1912, 315.

Dipylidium †308.—Intest.
†*caninum*.
cucumerinum [s].

#479 **Canis** [l] [or #479*M* **Cerdocyon** [t], Lycalopex [l], Pseudalopex [l], Thous [b], Vulpes [l]] **azarae.**
Wied, 1824, Abbild. Naturg. Bras., (6). Crab-eating dog of Brazil. So. #479 **Canis** [l] **thous azarae,** q. v.
Of Authors [not Wied]. Agüarachai of Azara, Aguarachay, Agouarachay, Azara's dog.

Trypanosoma †94.—Blood.
hippicum.—Murrina, Derrengadera, Verrenkung.—Venezuela.
venezuelense.
Alaria <†223*j*.—Intest.
alata.
vulpis [o].
Diphyllobothrium †295.—Intest.
†*latum*.
reptans.—Larva in subcutaneous tissue.
serratum [s].—Brazil [t].—T. h.
Echinococcus †322.—Intest.
†*granulosus*.
Mesocestoides <†299.—Intest.
litteratus.
michaelsenii.—Quilpué [t], Peña Blanca.—T. h.
Ancylostoma †387.—Intest.
†*caninum*.
trigonocephalum [d].
Dioctophyme †426.
†*gigas* [s].—Kidney, urinary bladder. [species von Ihering, 1902*a*.]
†*viscerale* [s].
Filaria †435.
acutiuscula.—Pectoral muscles.—Vienna Museum from Caiçara, Brazil.—T. h.
canis [o].—Vienna Museum from Brazil.
Haemostrongylus <†419.
raillieti.—Heart and pulmonary artery.—Brazil [t].—T. h.
Rictularia 459*R*.
cahirensis.—S. America.
Toxocara †484.—Intest.
†*canis*.
†*marginata* [o].
†*mystax* [o].
Uncinaria 390*B*.—Intest.
carinii.—Brazil.—T. h.
catholica.—Buenos Aires.
stenocephala.—S. America.
Amblyomma †881.—Ext.
†*cajennense*.
incisum.
maculatum.
†*ovale*.
striatum.

Sarcoptes †942.—Skin.
†*scabiei*.

Ctenocephalides †1639.—Ext.
†*felis felis*.—Argentina.
[*obscurus* [a].—Argentina.]

#479 **Canis** [l] **brachyurus** Illiger, 1815, Abh. ph.-Kl. K. Ak. Wiss. 1804–1811, 109, 121 [nv].

Dirofilaria †447.
†*immitis*.—Heart.
Filaria [l] †435.
canis-brachyuri (*trachealis*) Mol., 1858*c*.—Subcut. in trachea.—Brazil.
canis-brachyuris [o].—Heart muscles; abdomen.—Brazil.
papillicauda.—Heart muscles; abdomen.—Brazil.—T. h.

#479 **Canis** [l] [or *Carcinocyon* [t], #479*M* **Cerdocyon** [r], Lycalopex [l], Thous [h], Viverra [l]] (Thos [l], Thous [h]) *cancrivorus* [a] Desm., 1820, Encycl. méth., Mamm., (1), 199. Crab-eating dog, Chien des bois, Carasissi, Agoura, Cachorro do Mato (forest dog), Rapozao (larger fox). South America. So. #479 **Canis** [l] **thous thous,** fide Cabrera, 1931, 59.

Alaria <†223*j*.—Intest.
alata.
vulpis[o].

#479 Canis [l] **cerdo** Gmel. in Linn., 1788, Syst. Nat., ed. 13, v. 1, 75. So. #483 **Fennecus cerdo**, q. v.

#479 Canis [l] **cinereoargenteus** Schreb., 1776, Säugthiere, pl. 92; Erxl., 1777, Syst. Regni Anim., 567. Syn. *cinereoargentatus* [a] Trouess., 1904, Cat. Mamm., Berolini, 239. So. #488 **Urocyon cinereoargenteus,** q. v.

#479 Canis [l] **cinereoargenteus scottii** (Mearns, 1891, Bul. Amer. Mus. Nat. Hist., v. 3 (2), June 5, 236–238 [*Urocyon virginianus*]). So. #488 **Urocyon cinereoargenteus scottii,** q. v.

#479 **Canis** [l] **coeruleus.**

Dipylidium †308.
[*cuneiceps* [s].]

#479 **Canis** [l] corruleus [m].

#479 [**Canis** [l]] [or Cerdocyon [l], Lycalopex [l], #479*N* **Pseudalopex** [t], Thous [l], Vulpes [l]] (Cerdocyon [l], Lupulus [l], #479*N* **Pseudalopex** [t]) **culpaeus magellanicus** (Gray, 1837, Proc. Zool. Soc. London, pt. 4 (46), Feb., 88 [nn]; Gray, 1837, Ann. Mag. Nat. Hist., n. s., v. 1, Nov., 578 [Vulpes [l]]) Cabrera, 1931, J. Mamm., v. 12 (1), Feb., 63 [*Pseudalopex* [t]]. Port Famine, Straits of Magellan [t]; Patagonia; southern Chile.

Ctenocephalides †1639.—Ext.
†*felis*.—Chile.

#479 [**Canis** [l] or] #479*N* **Pseudalopex** [r] **culpaeus reissii** (Hilzheimer, 1906, Zool. Anz., v. 30, Apr., 114, figs. 3, 4 [*Canis* [l] (*Angusticeps*)]) Cabrera, 1931, J. Mamm., v. 12 (1), Feb., 63. Quito [t]; Andes of Ecuador.

#479 **Canis** [l] (#479*C* **Canis** [r]) **dingo** Blumenb., 1780, Handb. Naturg., 103 [*Canis* [l] *familiaris*]; Meyer, 1793, Zool. Entdeck., 33. Dingo or Australian dog. Domesticated by natives. Syns.: *C.* diago [m] Temm., 1838–1839, Hoeven's Tijschrif. Natuur. Geschied. Physiol., v. 5 (4), 285.

Anaplasma †172*S*.—Blood.
species Gilruth et al., 1911.—Melbourne Zoo.
Dipylidium †308.
†*caninum*.
Echinococcus †322.—Intest.
†*echinococcus* [s].
†*granulosus*.
species (Lindenfeld or Johnston) Stiles, 1906.
Dirofilaria †447.
†*immitis*.—Heart.
Toxascaris †486.—Intest.
leonina.—Phila. Zoo.
Toxocara †484.—Intest.
†*canis*.—Phila. Zoo.
Ixodes †866.—Ext.
species Steel, 1919.—Australia.
Ctenocephalides †1639.—Ext.
†*canis*.—N. S. Wales.
†*felis*.—N. S. Wales.
Trichodectes †1100.—Ext.
latus [o].—N. S. Wales.

#479 **Canis** [l] *domestica* (Linn., 1758*a*, 39 [*Canis* [l] *familiaris*]) Ham. Smith, 1840, Nat. Lib., v. 28, Dogs II, June, 137. So. #479 **Canis** [l] **familiaris,** q. v.

#479 **Canis** [l] **domesticus sinensis.**
Toxocara †484.—Intest.
†*canis*.

#479 Canis [l] **dukhunensis** Sykes, 1831, Proc. Zool. Soc. London, (8), Aug., 100. So. #476 **Cuon dukhunensis,** q. v.

#479 Canis [l] **eckloni** Przewalski, 1884, Reisen in Tibet, Jena, 111. Thibet Fox. So. #485 **Vulpes ferrilatus eckloni,** q. v.

#479 **Canis** [l] (#479*C* **Canis,** Lupina [l]) **familiaris** Linn., 1758*a*, 38. House or domesticated dog, chien, Harshund, Hund, Hunden. Probably some parasites reported for "dog" were in reality obtained from some other species. Upsala [t], Sweden.

Amoeba [l] †64.
**fecalis*.
[*species Ackley, 1913.—Intest.?, causes "salmon poisoning".—Washington State, U. S. A.]
Anaplasma †172 *S*.—Blood.
canis.—Red blood cells.—T. h.
species [p. 436] Laveran & Franchini, 1914: *Anaplasma*.
Babesia †173.—Blood.
**bigemina*.
canis.—Biliary fever or malignant jaundice, Italy [t].—T. h.
[**commune*.—Infectious jaundice of dogs.—Ohio [t], U. S. A.—T. h.]
gibsoni.—Madras [t].—T. h.
tropica.—Piroplasmosis of pack dogs.—India.
vitalii.—"Nambinou."—Brazil [t].—T. h.
Bartonella [s] †177.
canis.—Europe [t].—T. h.
Bodo †108.
phlebotomi.—Produces lesions resembling Oriental sore.—Exp.
Cercomonas †111.
canis [i] [s].—Stomach.
Coccidium [l] †163*A*.
nudum [i].—Skin.—Italy [t].—T. h.
species Cauchemez, 1923.—France.
species Liénaux, 1891*a*.—Lungs.—Europe.
Cytospermium [i] <†157.
hepatis canis familiaris [p].—Biliary ducts.—Trematode egg, fide Wenyon, 1926*a*, 807.
villorum intestinalium canis [p].
Dermosporidium [i] <†156.
canis [i].—Skin.—Italy [t].—T. h.
Eimeria †163.
canis.—Feces.—London [t].—T. h.
nova [h].—Kidney.
†*perforans*.—Intest.
[*perforans* variety Labbé, 1899*a*.]
†**stiedae*.—Liver.
Encephalitozoon †212.
cuniculi.—Exp.
negrii.—T. h.
†*rabiei*.—Renamed †212 *Glugea lyssae*.
Endamoeba †37.
[†coli [d].—Exp.]
[†**dysenteriae* [d].]
†**gingivalis*.—Exp.

†*histolytica*.—Also exp.
[species Dold & Fischer, 1920.—Feces in dysentery.—Shanghai.]
[species Houdemer, 1925.—Tonkin.]
[†*venaticum* [s].—Panama [t].—Not differentiated from *E. histolytica*, fide Wenyon, 1926*a*, 227.—T. h.]

Endolimax †39.
†*phagocytoides*.

Giardia †139.—Intest.
**canis*.—Baltimore [t], Md.; Russia.—T. h.
†**enterica*.—Exp.
†*intestinalis [d h].
†**lamblia*.—Exp.

Glugea †212.
†*lyssae* [o].—†212 *Encephalitozoon rabiei* renamed.

Hepatozoon <†165.—Blood.
canis.—Leucocytes.—India [t]; Ceylon; Gambia.—T. h.
chattoni [i s].—Leucocytes.—Senegal.—So. [i] *H. canis*.
[*rotundata canis-familiaris* [s].—Abyssinia.—T. h.]
[species Franchini, 1925.—Liver, spleen, bone marrow.—Italy.]

Herpetomonas †91.
**pattoni*.—Blood.—Lincoln [t], Nebraska.—Host [j].
phlebotomi [s].

Isospora †161.—Intest. epithelium.
†*belli*.—Neg. exp.
†**bigemina*.—Paris [t].—T. h.
canis.—T. h.
**felis*.—Europe [t].
†**rivoltai* [e].—England; France; U. S. A.
species Nieschulz, 1925.—Netherlands.
[species Virchow, 1860.—So. *bigemina*.]
[villorum intestinalium canis [p].—So. *bigemina*.]
viverrae.—Neg. exp.

Leishmania †88.
†*braziliensis*.—Skin.—Brazil [t].—Exp., also suspected reservoir.
canis.
†*donovani*.—Tissues.—Kala Azar.
†*donovani archibaldi*.—Sudan.—Exp.
†*furunculosa* [s].—Oriental sore.
†*infantum*.—Infantile leishmaniasis.—Chief reservoir, fide Nicolle.
species Gachet in Neveu-Lemaire, 1927.—Oriental boil region.
†*tropica*.—Also exp.
tropica canina.—Turkestan [t]; Italy.—T. h.

Leptomonas <†86.
ctenocephali.—Blood.—Exp.

Monocystis †155.
†*sphaerica*.—Suprarenal capsules.—Moscow.

Nuttallia [s j] †172*i*, *O*.—So. †173 **Babesia**, q. v.

Pentatrichomonas [s j] †134.—So. †131 **Trichomonas**, q. v.

Plasmodium †170.—Blood.
canis.
†**vivax*.—Exp.

Pneumocystis <†156.
carinii.—Endothelial cells; lungs, kidney.—Paris [t].

Protozoa †212.
species Gerrard, 1906.—Leucocytes.—Federated Malay States.—Probably *Hepatozoon canis*.
**species* Jackson, 1921.—Salivary gland.—Chicago.

Psorospermium <†212.
species Neumann, 1866.—See †163 *Eimeria perforans*.
species Virchow, 1860.—See †161 *Isospora bigemina*.

Rangelia [j s] †172*o*, *I*.—So. †173 **Babesia**, q. v.

Sarcocystis †151.—Muscles.
species Krause, 1863.
species [l] Wasielewski, 1896.

Schizotrypanum †95.—Blood.
†*cruzi*.—Also exp.

Toxoplasma †89.
canis.—Blood, spleen, etc.—Turin [t]; Brazil.—T. h.
gondii.—Exp.

Treponema [l] †142*f*.
†*aboriginale*.—In granulomatous affection of genitalia.
[*canina*.—Blood.—Marengo [t], Algeria.—T. h.]
[*canis* Macfie, 1916.—Feces.—Accra [t], W. Africa.—T. h.]
[*equi*.—Exp.]
[*hispanicum marocanum*.—Exp.]
†*icterohaemorrhagiae*.—Exp.
†**icteroides* [j s].—Exp.
†**interrogans*.—Exp.

[*laverani* [s].—In carcinoma.—So.[j] *Spirillum minus.*]
[*melanogenes* canis [d].—Gastroenteritis.—Brno [t], Czechoslovakia.—T. h.]
†*microgyratum.*
†*morsus-muris.*
†**pallidum.*—Exp.
[*regaudi.*—In normal stomach.—T. h.]
[species Balfour, 1906.—In intestinal ulcers in trypanosomiasis.—Sudan.]
[†species Brumpt: Pseudospirochaetes.—Blood.—?So. Spirella *regaudi.*—Exp.]
[species Gaiger, 1915.—Blood.—India.]
[species Kasai & Kobayashi, 1919: "Stomach spirochaetes."—Tokyo.]
[species Kolmer & Wagner, 1916.—Stomach.—Vienna.]
[species [2 kinds] Ogura, 1925.—Prepuce.—Japan.]
tabacalense.—Blood.—Tabacal [t], S. Amer.—T. h.
†*vincenti.*

Trichomonas †131.
†**buccalis.*—Calif.—Exp.
**canistomae.*—Mouth.—Baltimore [t].—T. h.
felis [j].
†**hominis* [l].—Exp.

Trypanosoma [l] †94.—Blood.
anceps [s].—Nyasaland [t].—T. h.
annamense [s].—Annam [t].
berberum [s].—"Debab, taher, tmerdjin."—N. Africa [t].—Exp.
†*brucei.*—Nagana.—Africa.—Exp.
cazalboui [s].
congolense.—Exp.
dimorphon [s].
equinum.—Exp.
equiperdum.—Dourine.—Exp.
evansi.—Surra.
frobeniusi [o s] [*frobenius*].—Exp.
†*gambiense.*—Blood, milk.—Exp.
hippicum.—Murrina, Derrengadera, Verrenkung.—Venezuela.—Also exp.
marocanum [s].—Also exp.
montgomeryi [j s].—Africa.
†*ninae-kohl-yakimov* [s].—Exp.
pecaudi [s].
pecorum [o].
†*rhodesiense* [s].—In milk.—"Reservoir host."
soudanense [s].
species Balfour, 1906.—Exp.
species [j s] Bruce et al., 1909.—Zanzibar.
species Donatien & Parrot, 1922.—Sahara.
species Pinto, 1927.—Brazil.—Of *equinum* type.—Exp.
species Vialatte, 1915.—Beni-Abbes, Algeria.
species Weck, 1914.—Africa.
venezuelense [s].—S. America.
vickersae.—Exp.
†*vivax.*—Exp.

Adleriella <†271.—Intest.
minutissima.—Palestine.

Alaria <†223*j*.—Intest.
alata.—Occasionally stomach.—Europe; ? S. America.
**americana.*—Detroit [t], Michigan; Washington, D. C.—T. h.
**michiganensis.*—Detroit [t], Michigan.—T. h.

Apophallus †271*P*.—Intest.
donicum.—Rumania; Russia [t].—T. h.
mühlingi.—Rumania.—Exp.
[**venustus* [s].—Washington, D. C.]

Ascocotyle †271*J*.—Intest.
arnaldoi.—Brazil [t].—Syn. arnoldi 1929.

Centrocestus †271*L*.—Intest.
†*armatus.*—Japan.—Exp.
cuspidatus.—Formosa.
cuspidatus caninus [s].—Feces.—Formosa [t].—T. h.
[†*formosanum.*—Formosa.—Exp.]

Clonorchis †268.—Liver.
†*endemicus* [s].—China; Japan.
†*major* [o].
†*sinensis.*—China; Indo-China; Japan.
[†spathulatum [d].—Japan.]

Cornatrium <†282.
perpendiculum.—Japan.—Exp.

Cryptocotyle †271*F*.—Intest.
**americana* [s].—America.
[**caninum* [s].—Detroit [t], Michigan.—T. h.]
concava.—Crimea.

**lingua*.—England; Europe; Nova Scotia; U. S. A.
[*ransomii*.—Crimea [t].—T. h.]

Dexiogonimus <†271.—Intest.
ciureanus.—Palestine.

Dicrocoelium †277.
†*dendriticum*.—Bile ducts.
†*lanceatum* [s].—Liver.—Japan.

Diorchitrema <†271.—Intest.
pseudocirrata.—Palestine.

Distoma [1] <†238.
kalapai.—Larva in liver.—Exp.

Echinochasmus †262.—Intest.
elongatus.—Japan.—Also exp.
†*japonicus*.—Japan.—Also exp.
†*perfoliatus*.—Hungary [t], Europe; Hanoi, Indochina; Japan.—T. h.
perfoliatus shieldsi.—China [t].—T. h.
species Ross, 1930.—Ova in feces.—Japan.

Echinoparyphium <†252.—Intest.
†*koidzumii*.—Formosa.—Exp.

Echinostoma †255.—Intest.
campi.—Manchuria [t].—T. h.
cinetorchis.—Tokyo, Japan.—Syn. conetorchis [m].—Exp.
conoideum [s].
echinatum.
echiniferum [s].
[*excavatum* [s].]
gregale.—Bucharest [t], Rumania.—T. h.
hortense.—Tokyo [t], Japan.—T. h.
militare.
piriforme.—Montpellier [t], France.—T. h.
recurvatum.—Egypt.—Exp.
†*revolutum*.—Formosa.—Exp.
[species Parona, 1894*a*.—? So. *echinatum*.—Modena, Italy.]

Euparyphium †257.—Intest.
[*melis*.—Russia.]
[*putorii* [s].]

Eurytrema †276*K*.
rebelle.—Pancreatic ducts.—Hué [t], Indochina.—T. h.

Fasciolopsis †248.—Intest.
†*buski*.—China.

Heterophyes †272.—Intest.
aequalis.—Egypt; Jerusalem, Palestine.
continuus.—Tokyo, Japan.
dispar.—Egypt; Jerusalem, Palestine.
fraternus [s].—Egypt.
†*heterophyes*.—Small intest., cecum.—Egypt; Orient.
heterophyes sentus.—Egypt.
†*katsuradai*.—Japan.—Exp.
†*nocens* [s].—Japan.—Exp.

Macroorchis <†282.
spinulosus.—Exp.

Mesorchis <†252.
denticulatoides.—Crimea [t].—T. h.

Metagonimus †273.—Intest.
[*dobrogiensis* [s].—Rumania.]
parvus [s].
romanicus [s].—Somova [t].—T. h.
takahashii.—Japan.
†*yokogawai*.—Syns.: yokogawa [m]; yokogowai [m].—Asia; Crimea.

Metorchis †267*i*.
?*albidus*.—Gall bladder.

Microphallus <†239*A*″.
†*minus*.

Monorchotrema <†271.
†*taichui* [s].—Formosa; Palestine.
†*taihokui*.—Formosa; Palestine.

Nanophyetus <†271.—Intest.
**salmincola*.—Corvallis [t], Oregon, U. S. A.—Cause of "salmon poisoning" in dogs.—T. h.

Opisthorchis †267.—Liver.
†*conjunctus*.—Bile ducts.
†*felineus*.—Bile ducts.—Asia; Europe.
[†kongenitum [d], for *conjunctus*.]
[lanceolatum [d h o] of Sieb., 1836.]
[lanceolatum [o] of van Tright, 1885*a*.—Liver.—Utrecht.]
†*noverca*.—India.
[†*sibiricum* [s].—Small intest.]
tenuicollis.

Paragonimus †250.—Lungs.
**kellicotti*.—California, Indiana, Ohio [t], U. S. A.; Venezuela.—T. h.
†*pulmonale* [s].
[†*pulmonis* [s].]
†*ringeri*.—Formosa, Japan, Korea.
[species Kellicott, 1894*a*.—So. *kellicotti*.]
†*westermani*.—Asia.—Syns.: *westermanii*, *westermanni*.

Parametorchis <†265.
**complexus*.—Pelvis of kidney.—Albany, New York.

Parascocotyle <†271.—Intest.
ascolonga.—Palestine.
italica.—Italy [t]; Palestine.—T. h.
longa.—Palestine.
minuta.—Brazil; Egypt, Africa; N. America.
Plagiorchis 239–41*A*.—Intest.
massino.—Armenia.
Prohemistomum <†223*j*.—Intest.
**appendiculatum*.—Rumania; Southern Ukraine, Russia; Washington, D. C., U. S. A.
industrium.—China [t].—T. h.
Pseudamphistomum †270.—Liver.
[*campanulatum* [s] .— Europe.— Syn. complanatum [m].—T. h.]
[*conus* [s].—Syn. conis [m].]
danubiense.
†*truncatum*.—Europe.
Pygidiopsis <†271.
genata.—China; Palestine.
summus.—Tokyo, Japan.
Schistosoma †281.—Blood vessels.
†*japonicum*.—Fetus; ova in wall of large intest., liver, pleura.—China; Japan; Philippines; S. Africa.
Stephanolecithus <†282.
parvus.—Formosa.
Stictodora <†271.
sawakinensis.—Palestine.
Tauridiana <†271.—Intest.
pontica.—Kerchi [t], Crimea.—T. h.
Anoplocephala 318*B*.—Intest.
species Gaiger, 1915.—Lahore, India.
Bothriocephalus [l] <†286.—Intest.
species Krabbe, 1865*e*.—Denmark.
CESTODA †327.
species Joyeux & Houdemer, 1927: ? *Sparganum* or ? *Tetrathyridium*.—Larva in peritoneum.—Hanoi.
Cysticercus †326.—Encysted.
canis [d s] Rud., 1809*a*.—Alfort [t], France.—T. h.
canis-familiaris [d].
†*cellulosae*.—In various organs.—Cosmopolitan.
Diphyllobothrium †295.—Intest.
**americanum*.—Detroit [t], Michigan.—T. h.
[*canis* [s].—Italy [t].—T. h.]
†*cordatum*.—Formosa; Greenland [t].
decipiens [o].—Argentina (exp.); China.
[*dubius* [s].—Iceland [t].—T. h.]
erinacei.—China.—Also exp.
fuscum.—Iceland [t].—T. h.
†*houghtoni*.—China.
[lanceolatum.—So. *ranarum*.—Exp.]
†**latum*.—Europe; N. America.—Also exp.
†**mansoni*.—More or less cosmopolitan.
okumurai.—Tokyo [t], Japan.—T. h.—Exp.
[pancerii [s] (Polonio) of Baer & Joyeux, 1927.—Adult.—So. *ranarum*.—Exp.]
raillieti [s].
ranarum.—Burma; China.—Also exp.
reptans.
reptans [s] of Meggitt, 1924.—Burma.—So. *ranarum*, fide Joyeux & Baer, 1927.—Exp.
[*reticulatus* [s].—Iceland [t].—T. h.]
serratum [s].—Italy.
species Mazza & Vogelsang, 1928.—Mature segments.—Tucumán, Argentina.
species Tubangui, 1925.—Manila, Philippine Ids.
[species Wharton, 1917.—Philippine Ids.]
species Wigdor, 1921.
Dipylidium †308.—Intest.
buencaminoi. — Manila [t], Philippine Ids.—T. h.
†**caninum*.—Also anal gland.—Cosmopolitan; Europe [t].—T. h.
canis [o].—Italy [t].—T. h.
[*cateniformis* [s].—Germany [t].—T. h.]
**crassum*.—California [t], U. S. A.—T. h.
cucumerinum [s].—Europe [t].—T. h.
[*elliptica* [o].]
**gracile*.—California [t].—Syn. graciele [m].
örleyi and *oerleyi*.—India; Philippine Ids.
pasqualei.—Egypt; Spain.
pasqualeiformis.—Granada, Spain.
porimamillanum.—Granada, Spain.
rossicum.—Russia.
**sexcoronatum*.—Cosmopolitan; Budapest [t], Hungary.—T. h.
species Gaiger, 1915.—Lahore, India.
species Henry & Leblois, 1923.—Intest.; macerated segments in anal gland.

*species Shaw, 1928.—Kansas.
walkeri.

Echinococcus †322.—Intest.
†*alveolaris* [s].
†*echinococcus* [s].—India.
†*granulosus.*—Adult in intest.; larva in various organs.—Cosmopolitan.
†*multilocularis.*
†*polymorphus* [s].—Adult and larva. Abdominal cavity.—Germany.

Hymenolepis †314.—Intest.
†*diminuta.*—Japan.
†*nana.*
species Gaiger, 1915.—Lahore, India.

Ligula †290.
species Sakamoto & Tsuyuki, 1923.

Mesocestoides <†299.—Intest.
canis-lagopodis.
lineatus.—Europe; Iceland; India; S. Africa.
litteratus.—Europe.
[*pseudo-cucumerina* [s].—France [t].—T. h.]
[*pseudo-elliptica* [s].—France [t].]
[serrata *astephana* [s].—Vienna.—T. h.]
*species Schwartz, 1927.—Washington, D. C.—Exp.
tenuis.—Burma [t].—T. h.
utriculiferus [s].

Multiceps †324.—Intest.
[*brachysoma* [s].—Italy [t].—T. h.]
brauni.—Ghinda [t], Eritrea.—T. h.
coenurus [o].
gaigeri.—Ceylon; Lahore, India.
†*multiceps.*—S. Africa.
**packi.*—Minnesota.—Exp.
†*serialis.*—Cosmopolitan.
[serialis [o] of Gaiger, 1907.—India.—Renamed *gaigeri.*—Exp.]
**serialis theropitheci.*—Washington, D. C.—Exp.
species Pagenstecher, 1877.—Subcutaneous tissue.
*species Shaw, 1928.—Kansas.

Proteocephalus <†283.
punicus.—Tunis [t].—T. h.

Schistocephalus <†289.
gasterostei.

Taenia [l] <†299.
canis Vandelli, 1758*a*.
species Henry & Leblois, 1923.—Intest.
species Meggitt, 1928.—Haifa, Palestine.
species Southwell, 1922.—Intest.—Lahore, India.

Taenia [r] †325.—Intest.
antarctica.—Winterstation [t].—T. h.
**balaniceps.*—Nevada [t], U. S. A.—T. h.
canina [h s] Bloch, 1782*a*.—Europe [t].—T. h.
erythraea.

Taenia (Hydatigera) †325*c*.
†*taeniaeformis.*—Near Sydney, N. S. Wales.

Taenia (Taenia) †325*b*.—Intest.
[caninae [o] Werner, 1782*b*.—Not a specific name, see *canina solium.*]
cucurbitina [o].
cucurbitina canis [h s] Batsch, 1786*a*.
cynica [o].—T. h.
†*hydatigena.*—Cosmopolitan.
krabbei.—Lappland; Alaska.
marginata [s].—Tucumán, Argentina; Lausanne, Switzerland.
**ovis.*—Cosmopolitan.
†*pisiformis.*—Cosmopolitan.
serrata [s] of Authors, of dogs.—Intest., anal gland.—Cosmopolitan.
serrata canis [h o] Gmelin, 1790*a*.—T. h.
serrata fusa [o].
serrata vera [o].—Germany [t].—T. h.
†*solium.*—Probably most specimens from dogs are *hydatigena.*
solium [s] of Werner, 1782*a*.—T. h.

Tetrathyridium <†284*a*.
[*bailleti.*—Thorax, abdomen.—Europe.—Syn. railleti [m].]
elongatum [d h s] Blumenb., 1882*a*.—Peritoneum.—Europe.
[*martis* [s].—Europe.]
[*taxi.*—Europe.]

Agamonema †375.
[*affinis.*—Intermusc.—So. ? *Trichinella spiralis.*]
[**gaylordi.*—Thyroid gland.—Maine, U. S. A.—Syn. gacpordi [m].—T. h.]
[species Bochefontaine, 1874*a*.—Kidney.]

Ancylostoma †387.—Intest.
[*balsami* [s].—Italy.]
brasiliense [e] for *braziliense.*

†**brasiliense*.—Florida; Texas; Argentina; Rio de Janeiro, Brazil; Philippines; S. Africa.

†**caninum*.—Also intra-uterine infection.—Cosmopolitan; U. S. A.; W. Africa.—T. h.

†*ceylanicum* [e].—Bengal; Ceylon; Sumatra; W. Africa.—Cf. *brasiliense*.

†*duodenale*.—Tokyo; Egypt.—Young stages experimentally in young dogs.

species Bodkin & Cleave, 1916.—Brit. Guiana.

[trichocephalus, trigocephalus, trigonacephalus, trigonocefalo, trigonoceohalus, trigonocoefalus, trigonouphalus, variants [d] for trigonocephalum [d].]

trigonocephalum [1].

Anguillula †337.

species Schneider, 1896.—Skin.

Ascaris †481.—Intest.

†*lumbricoides*.—England; China; Japan; Zungeru.

Bunostomum <†388*c*.—Intest.

trigonocephalum.—Accidental in dog.

Capillaria †372*b*.

**plica*.—Urinary bladder.—Europe; U. S. A.

Chlamydonema 470*I*.

praeputiale.

Cloacina <†409*a*.

octodactyla.—Pfalz.—T. h.

Dioctophyme †426.—Kidney.

[canis [b].]

[*giganteus* [o].]

†*gigas* [e].—Abd., kidney.—England; Italy.

[*gulonis-sibirici* [e].]

†**renale*.—Liver, kidney, abd. cav.—More or less cosmopolitan.—T. h.

[*renum canis* [e].]

[sanguineus in rene canis [d].]

viscerale [e].—Kidney, urinary organ, perirenal tissue.—Punjab.

Dipetalonema †453.

dracunculoides.—Cav. periton., pleura.—Africa, Belgian Congo; Tunis.

grassii.—Connective tissue,subcut.—Vector, †875 *Rhipicephalus sanguineus*.

reconditum.—Kidney, perirenal tissue; larvae in blood.—Argentine; Italy.—Syn. rekondita [m].

Dirofilaria 449*A*.

[*crino* [e].]

[crinon [e].]

†**immitis*.—Heart; pleural cav.; pulmon. artery; circulatory app.; skin.—More or less cosmopolitan.

ochmanni.—Periton. cav., skin, blood.

repens.—Periton. cav., skin.—Annam; Bologna.

[*sanguinis* [e] Cobbold, 1869*a*; Ercolani, 1875*e*.—Blood, heart.—France [t]; Bologna.—T. h.—So. *immitis*.]

Dracunculus †439.

†*medinensis*.—Connective tissue.

Enterobius †492.

†*vermicularis*.—Cecum.

Eucoleus <†369.

aerophilus.—Lungs.

Filaria[1] †435.

acutiuscula.—Connective tissue.

canis [o].—Tumors of aorta.—So. ? *acutiuscula*.

hepatica.—Larva encysted on intest. wall and liver.—England.

oculi canini[d].—Eye.—So. *trispinulosa*.

papillicauda [e].—Heart.—Brazil.—So. 449*A immitis*, fide Stossich, 1896*b*, 34.

sanguinis [h] Fayrer, 1879*e*.

sanguinis [h] canis [h] Pease, 1901*c*.—India.

species Berl. Tier. Wochenschr., 1895.—Eye.

trispinulosa.—Corp. vitr. oculi.

Fusaria [1] †479.

species Braun, 1883*b*.—Intest.—Germany.

Gnathostoma †473.

robustum [e].—Stomach of Pariah dog.—India.—So. ? *spinigerum*.

†species Chandler, 1927.—India.

[species [e] Lewis, 1874.—Stomach.—India.—So. *spinigerum*.]

†species Morishita & Faust, 1925.—China.

†*spinigerum*.—Gastric wall.—China; India.

Haemostrongylus <†418.
[? *subulatus* [s].—Lung; prostate, penis.—Dresden.—So. *vasorum*.]
vasorum.—Heart, pulmonary artery, eye, bronchi (embryo), embryo in blood.—Europe.—T. h.
[*vasorum* canis.—Heart.—Syn. vasorum kanis [o].]

Hepaticola †372.—Liver.
†*hepatica*.—Exp.
*species Wright, 1930.—Washington, D. C.

Metastrongylus †421.
[*octodactyla*.—Landau bei Niederhochstat.]

Microfilaria †432.—Blood.
auquieri.—Algeria [t].—T. h.
lewisi [o].—India [t].—T. h.
[sanguinis [l] canis [h] Pease, 1901*c*.—India [t].—T. h.]
[species Heinrich & Schuchmann, 1924.]
species Léger & Baury, 1922.

Necator †390.—Intest.
†**americanus*.—Louisiana.—Very rare in dogs.

Nematoideum †352*a*.
canis-familiaris.—Esoph.
species Par., 1894*a*.—Turin.

Oslerus 473*D*.
[bronchialis canis [d o p].]
[canis bronchialis [d o p].—Montreal.—Renamed *osleri*.]
**osleri*.—Nodules on respiratory apparatus.—Canada; Texas, U. S. A.
[pulmonalis [d o].]
[tracheo-bronchialis canis [d o p].]

Passalurus †488*g*; †488*J'*.—Intest.
ambiguus.

Physaloptera †470*H*.
canis.—Pretoria [t].—T. h.
**rara*.—Duodenum.—Michigan.—?Accidental infection.

Porrocaecum †476*u*.—Intest.
decipiens.

Rhabditis †339.
†*pellio*.
plicata.
strongyloides.—Skin; in dermatitis verminosa.

Rictularia 459*R*.
cahirensis.—Small intest.—Turkestan; Armenia.

Spirocerca 468*G*.
arctica.—Russia [t].
[lupi.]
**sanguinolenta*.—Stomach, esoph., bronchi (embryo), embryo in blood, aorta, lymph glands, lung, skin, mesentery glands.—Cosmopolitan.

Strongyloides †355.—Intest.
canis [j s].—Orient.
fülleborni.—Exp., transient.
species [s] Gonder, 1907.—Exp. negative.
†**stercoralis* [r].—Exp. to dog.—China, Japan, U. S. A.
[†*strongyloides*.]
westeri.—Exp. negative.

Strongylus †378*a*; †395*c*.
[*equinus*.—Stomach wall.]
species Della-Rovere, 1863*a*.—In tumor.—Italy.
species Parona, 1894*a*.—Pisa.
[variegata [h s] Brug., 1792*a*.]

Syngamus †407.—Larynx.
laryngeus.—Java.

Thelazia †464.—Eye.
†*callipaeda*.—Under nictitating membrane.—N. Punjab; Rawal Pindi.
**californiensis*.—California.
[†*circumocularis* [s].—China.]
lacrymalis [j].—Lachrymal glands, eyeballs under eyelids.
[palpebralis [h s].—China.]
species Wenyon, 1930.—Hair follicles of eyelid.—Case of oriental sore.

Toxocara †484.—Intest.
†*canis* Werner.—Cosmopolitan.
†*cati*.
[†*felis* [o].]
†**marginata* [o].—Dutch Guiana.—Also exp. prenatal.
[mistax [m].]
[myolare.—Brazil.—? Misprint for *mystax*.]
†**mystax* [o].—Also gall ducts.—Cf. *cati*.—In pups 4 to 5 days old.
[nuptax [m].]
*species Hall, 1912.—Colorado.
[teres canis [s] Goeze.]
[*tricuspidata* [s].]
[*triquetra* [s].]
**vulpis*.—Massachusetts.
[†*werneri* [o].]

Toxascaris †486.—Intest.
[†*alata*.—So. ?*limbata* or ?*mystax*.]
[†*caniculae*.—So. *limbata*.]
[caniculi, canikuli, for *caniculae*.]
[†canis [d] Werner of Glaue, 1919.—So. *limbata*.]
[†*felis* [o].—So. *limbata*.]
leonina.—Poland; S. Africa.
†**limbata*.—Europe.—Cf. *leonina*.
†marginata [d].—So. *limbata*.

Trichinella †366.—Intest., muscles.
[*canis* [s].—Germany.]
[†pubis [m].]
†**spiralis*.
[†*trichina* [o].]

Trichosoma[1] †372*a*.
species Sandground, 1921.—Bladder.

Trichuris †370.—Intest.; cecum.
**depressiuscula* [o].—More or less cosmopolitan.
ovis.—China.
[species Faust, 1922.—China.]
**vulpis*.—Europe; U. S. A.

Uncinaria 390*B*.—Syn. Uncicaria [m] 1926.—Intest.
**criniformis*.—Australia, U. S. A.
**polaris* [s].
species Galli-Valerio & Bornand, 1927.—Switzerland.
[species Rail., 1890*w*.—Japan.]
†**stenocephala*.—Alaska, N. America; Europe.—One cause of †creeping eruption, Germany, exp.
[*tetragonocephalus* [o].—Germany.]
vulpis.

Wellcomea 494*A*.—Intest.
?*compar*.

Echinorhynchus[1] †502.
canis [h o] Porta, 1914.—Intest.— Belgium [t].—T. h.

Macracanthorhynchus †508. Syn. Miracanthorhynchus [m] 1926.
catulinus.—Intest.—Turkestan [t].—T. h.
†*hirudinaceus* [hirundinaceus [m]].

Moniliformis †505.—Intest.
[*belgicus* [s].—Ghent [t], Belgium.]
[canis [h o].—Ghent [t], Belgium.]
[*grassii* [s].—Sicily [t], Europe.—T. h.]
†*moniliformis*.—Europe.

Oncicola †501*o*.—Intest.
**canis*.—Texas.
[*species Ward, 1897.—Nebraska.]

Haemadipsa †552.—Ext.
†*japonica*.—Japan.
†*japonica taiwana*.—Formosa.
†*zeylanica*.

Limnatis †547.
†*nilotica*.—Digestive and respiratory apparatus.—Lahore, India.

Acarus †924.
†*farinae*.—Intest.—Germany.

Amblyomma †881.—Ext.
agamum.—Brazil.—Neg. exp.
†**americanum*.—U. S. A.; Brazil.
†*cajennense*.
calcaratum.—Brazil, S. America.—T. h.
conspicuum [s].—Brazil.[t]—T. h.
darlingi.—Panama [t].
exornatum: Amblyomma[1]; *Aponomma*.—S. Africa.
†*fossum*.
†*hebraeum*.
[**inornatum:* †881*b* *Aponomma*.—*Texas* [t].—T. h.]
†**maculatum*.—U. S. A. to Argentina and Chile.
oblongoguttatum.—S. America.
†*ovale*.—Mexico.
pictum.
†*persicum*.
†*rotundatum*.—S. America.
†*striatum* [s].—S. America.
triguttatum.—Australia.
**tuberculatum*.
†**unipunctatum* [s].
†*variegatum*.
varium.

Armillifer †796.—Encysted.
†*armillatus*.
†*moniliformis*.

Boophilus †878.—Ext.
†**annulatus*.
†*australis*.
†**bovis* [s].—Panama.
†*decoloratus*.—Panama; Africa.
†*microplus*.

Cheyletus †996.
†*eruditus*.—Intest.—Europe.

Demodex †855.—Hair follicles.
caninus [s].—T. h.
†*folliculorum*.
**folliculorum canis*.—Cosmopolitan.

Dermacentor †873.—Ext.
†*americanus [d].—Baltimore, Md.
†*andersoni.*
atrosignatus.—? Australia.
†**electus.*
†**occidentalis.*
†*reticulatus.*—Vector of †173 *Babesia canis.*—France.
†**variabilis.*
**variegatus.*
†*venustus [d].—So. *andersoni.*
Dermanyssus †895.—Ext.
†*gallinae.*
Eulaelaps <†898.—Ext.
stabularis.—Kennels.—Europe.
Haemaphysalis †869.—Ext.
birmaniae.
bispinosa.—Assam, India.
bispinosa intermedia.
campanulata.—Mongolia [t], China; S. India; Japan.—T. h.
[*chelifer.*]
concinna.—France; Poland; Japan.
cornigera.—E. Bengal, India.
concinna hirudo [o].—Japan [t].
concinna kochi.—Japan, Asia.
flava flava.—Japan [t], Mongolia, Asia.
formosensis.—Formosa [t].—T. h.
hystricis.—Assam, Malay.
indica.
†*leachi* [o] *leachi.*—Transmits malignant jaundice.—Congo Free State.
montgomeryi.—India [t].
neumanni.—Japan; Ceylon.
otophila.—Macedonia.
parmata.—Cameroon.
†*punctata.*
wellingtoni.—Borneo [t]; Siam.
Hyalomma †880.—Ext.
†*aegyptium aegyptium.*—Skin; ear.—India; Congo Free State; S. Africa.
†*aegyptium impressum.*—S. Africa.
aegyptium isaaci.—India.
fabricii [s].
hussaini.—India.
hussaini brevipunctatum.—Anantapur [t], Madras Pres., India.—T. h.
kumari.—India.
monstrosum.—Bihar and Orissa Prov., India.
syriacum.—Mytilene, Asia Minor.

Ixodes †866.—Ext.
australiensis.—Australia [t].
autumnalis [s].—England [t].—So. *hexagonus.*—T. h.
canisuga.—England [t].—T. h.
communis [s].—So. *affinis.*
erinacei [s].
erinaceus [o].—Gr. Britain.
†**hexagonus.*—Europe; U. S. A.
hexagonus cookei.
**hexagonus inchoatus.*—Europe; U. S. A.
†*holocyclus.*—Epileptiform attacks; paralysis.—Indes; Queensland.
**kingi.*—Wyoming [t].
megathyreus [s].
nairobiensis.—Africa.—T. h.
pilosus howardi.—S. Africa [t].—T. h.
†*pilosus.*
plumbeus.—France.—So. ?*ricinus.*
**pratti.*
†*rasus.*—Ashanti, Africa.
†*reduvius* [s].
†*ricinus.* — Skin, eye.—Transmits tick paralysis in Australia. Suspected vector of †173 *Piroplasma canis* (hematuria, tick fever).
ricinus ovatus [s].—Japan.
†**ricinus scapularis.*—Texas; Fla.; Costa Rica.
**rugosus: Ixodes cookei.*—Oregon [t].—T. h.
scapulatus.
Leptus †955.
†**americanus.*
Linguatula †800.—Nasal cavities.
denticulata.—Exp. head.—Germany.
†lanceolata [h s].—Buenos Aires.
†*rhinaria* [s].
†**serrata.*—Alabama; India; England.
†*taenioides* [o].
Metathrombium †964.—Ext.
†*poriceps.*
Microtrombidium †974.—Ext.
†*meridionale.*
†*pusillum.*
species Ross, 1926.—Australia.
Notoedres †936.—Ext.
†*cati.*—Head, ears.—Australia.
[†*notoedres.*]

Ornithodoros †863.—Ext.
†*moubata*.—S. Africa.
†*savignyi*.
Otobius †862.—Ext.
†**megnini*.—Ear.
Otodectes †944*c*.—Ear.
[**auricularum* ˢ.—Louisiana.—T. h.]
[*auricularum canis* ˢ.]
[*auricularum cati* ° (*felis* 1860, renamed).]
cynotis.—Europe ᵗ.—T. h.
[*ecaudatus* ˢ.]
[*felis* ˢ.—Europe.]
furonis.—Exp. negative.
Porocephalus †798.
[*proboscideum* °.—Exp., larva, died young.]
Psoroptes †938.—Ext.
equi cuniculi.
Rhipicentor †874.—Ext.
vicinus.—Pretoria ᵗ.
Rhipicephalus †875.—Ext.
†*appendiculatus*.—Africa.
†*bursa*.—S. Africa.
capensis.—Africa.
dugesii ˢ.—France ᵗ.—T. h.
†*evertsi*.
falcatus.
haemaphysaloides.
lunulatus.—Congo ᵗ.
pulchellus.
punctatissimus.—Africa ᵗ.
†*sanguineus*.—Ear, skin.—Transmits †173 *Babesia canis* and <†165 *Hepatozoon canis*.—Panama; Manaos; world-wide in tropical and subtropical region.—†1581*A* *Chrysomyia* oviposits in tick lesion.
†*simus*.
species Franchesi, 1925.—Italy.
**lexanus*.—Texas ᵗ.
Sarcoptes †942.—Ext.
†*canis* ˢ Gerl.—Europe ᵗ.—T. h.
†canis ʰ Rail.—Europe.
cuniculi ʰ.—Exp. negative.
†*ovis*.—Europe.—Exp. negative.
†*scabiei*.
scabiei furonis.—Exp. negative.
squamiferus °.
[species Berge, 1923.—Dresden.]
Tarsonemus †913.—Ext.
sauli.—In tumors.—Europe.
Tetranychus †987.
molestissimus.
Trombicula †970.—Ext.
†*akamushi*.
†*autumnalis*.—Europe.
†*irritans*.
†*tlalsahuate*.
†*vandersandei*.
†*wichmanni*.
Trombidium †977.—Ext.
†*holosericeum*.
†*striaticeps*.—Europe.
Tydeus †949.—Ext.
†*molestus*.
Achorutes †1062.—Pseudoparasite.
viaticus.
Aëdes †1459.—Ext.
†*fasciatus* ˢ.
Amphipsylla <†1626.
contigua contigua.
Anopheles †1460.—Ext.
†*superpictus*.—Mediterranean Region; India.
Auchmeromyia †1580.
†*luteola*.—Larvae suck blood—Africa.
Bogeria <†1573.
emasculator.—Larvae in scrotum.—Montreal, Que.
*species Hall, 1924.—Larvae in feces.—Miss.
Ceratophyllus †1627.—Ext.
†*fasciatus*.—Brit. Columbia.
Cochliomyia †1581*A*.
†**macellaria*.—Larvae in nasal cav., ova in tick lesions.—Panama; America.
Cordylobia †1599.
†*anthropophaga*.—Larvae subcut.—Africa.
gruenbergi ˢ. — Larvae subcut. — Africa.
Ctenocephalides †1639.—Ext.
†**canis*.—America; Europe.—T. h.
[†*enneodus* °.—Europe.]
†**felis felis*.—America; Europe.
felis strongylus.—Africa ᵗ.
[†*novemdentatus* °.—Europe.]
[†*serraticeps* °.—Europe.]
Cuterebra <†1573.
*species Hall, 1925.—Larvae subcut.—Ill.

Dermatobia †1575.
†*cyaniventris*.—Larvae subcut.—C. & S. America.
noxialis [s].—Larvae subcut.—Mexico.
Echidnophaga †1633.—Ext.
†*gallinacea*.—Africa.
larina.—Somaliland.
Gasterophilus †1572.
equi [s d] of Clark.—Larvae in stom.—Paris.
†*intestinalis*.—Larvae in stom.
Glossina †1601.—Ext.—Africa.
†*brevipalpis*.
†*longipalpis*.
†*longipennis*.
†*morsitans*.
†*pallidipes*.
†*palpalis*.
†*tachinoides*.
Haematobia †1602.—Ext.
exigua.
Heterodoxus <†1097.—Ext.
**armiferus* [s].—Berkeley [t], Calif.—T. h.
longitarsus.—Rio Piedras, Puerto Rico.
spiniger [s].—Africa.—T. h.
Hippobosca †1617.—Ext.
†*canina* [s].—Europe.
†*capensis*.—Europe; Asia; Africa.—T. h.
†*equina*.
equina canina [h].—Bulgaria [t].—T. h.
francilloni [s].—Asia; Africa.
†*maculata*.—Dutch E. Indies.
Linognathus <†1108.—Ext.
[**bicolor* [s].—La. [t]—T. h.]
[*canis-familiaris* [s].—Europe [t].—T. h.]
[*flavidus* [s].—Europe [t].—T. h.]
piliferus [s].—Europe [t].—T. h.
setosus [nv].—Transvaal.
Lucilia †1583.
carnicera.—Ova in tick lesions.—Panama.
Oestrus †1574.
†*ovis*.—Larvae in frontal sinus.—Algeria.
Phthirus †1107.—Ext.
†*pubis*.—Europe.
Procaviopsylla <†1634.—Ext.
isidis.—Somaliland.
Pulex †1635.—Ext.
†**irritans*.—Europe; Asia; U. S. A.
Pycnosoma †1611.
†*flaviceps*.—Ceylon.
Rhopalopsyllus †1635*A*.—Ext.
†**sigmodoni*.—Houston [t], Texas.
Sarcophaga †1587.
†*carnaria*.
†*ruficornis*.—Larvae subcut.—India.
Simulium †1480.—Ext.
†*pertinax*.—Brazil.
†*venustum*.—Brazil.
Stomoxys †1613.—Ext.
†*calcitrans*.
nigra.
Synosternus <†1634.—Ext.
†*pallidus*.—Africa.
somalicus.—Africa.
Tabanus †1487.—Ext.
†*gratus*.
Trichodectes †1100.—Ext.
canis.—Europe [t].—T. h.
latus [o].—Europe [t].—T. h.
octopunctatus [s].—Great Britain.
Tunga †1631.— ♂ ♀ ext., gravid ♀ subcut.
[canis [s].—S. America [t].—T. h.]
†*penetrans*.—S. America [t].
Typhloceras <†1623.—Ext.
[*bisnovemdentatus* [j s].—Europe.]
Wohlfartia †1591.
†*magnifica*.—Larvae in nasal cav.—Europe.

#479 **Canis** [l] **familiaris borealis.**
Taenia (Taenia) †325*b*.—Intest.
serrata monostephana.—T. h.

#479 **Canis** [l] **familiaris fricator** Linn., 1758*a*, 39.
Filaria [l] †435.
oculi canini [d s].—Eye.
trispinulosa.—Eye.—T. h.

#479 **Canis** [1] **familiaris pomeranus.**

Diphyllobothrium †295.—Intest.

serratum [s].

#479 *Canis [1] **fulvus** Desm., 1820, Encycl. méth., Mamm., (1), 203. So. #485 **Vulpes fulva,** q. v.

#479 **Canis** [1] [or #479*N* **Pseudalopex** [r]] **gracilis** Burmeister, 1861, Reise La Plata-Staat., Halle, v. 2, 406. Outskirts of Mendoza [t].

Ctenocephalides †1639.—Ext.

†*felis.*—Argentina.

[*obscurus* [s].—Argentina.]

#479 [**Canis** [1] or] #479*N* **Pseudalopex** [r] **gracilis domeykoanus** (Philippi, 1901, Anal. Univ. Santiago Chile, v. 108, 168 [*Canis*[1]]) Cabrera, 1931, J. Mamm., v. 12 (1), Feb., 65. Copiapo [t].

#479 [**Canis** [1] or] #479*N* **Pseudalopex** [r] **gracilis gracilis** (Burmeister, 1861, Reise La Plata-Staat., Halle, v. 2, 406) Cabrera, 1931, J. Mamm., v. 12 (1), Feb., 65. Zorro der Einheimischen. Outskirts of Mendoza [t]; Plains of western Argentina, from Santiago del Estero to Venquen.

#479 [**Canis** [1] or] **Pseudalopex** [r] **gracilis patagonicus** (Philippi, 1866, Archiv Naturg., v. 1, 116 [*Canis*[1]]) Cabrera, 1931, J. Mamm., v. 12 (1), Feb., 66. Straits of Magellan [t]; Patagonia.

#479 **Canis** [1] **griseus.** A confused specific name. See following host entries.

Amblyomma †881.—Ext.

†*maculatum.*

Sarcoptes †942.—Ext.

†*scabiei.*

Malacopsylla < †1626.—Ext.

androcli [s].—Santa Cruz [t], Brazil.—T. h.

grossiventris.—Argentina.

Pulex †1635.—Ext.

†*irritans.*—Valparaiso, Chile.

#479 Canis [1] *griseus* [o] Boddaert, 1784, Elench. Anim., Roterdami, 97. Gray fox. So. #488 **Urocyon cinereoargenteus,** q. v.

#479 **Canis** [1] [or *Lupus* [s]] (#479*C Lupus* [s]) griseus [d] (of Sabine, 1823, Franklin's Narr. Journey Polar Sea, 654 [*Canis lupus*]) Merriam, 1897, Mazama, v. 1 (2), Oct., 224. Northern gray wolf. Cumberland House, Saskatchewan, Canada [t].

#479 **Canis** [1] [or Cerdocyon [1], #479*N* **Pseudalopex** [r]] (Thous [1]) griseus [d] of Gray, 1837, Proc. Zool. Soc. London, pt. 4 (46), 88 [nn]; Gray, 1837, Ann. Mag. Nat. Hist., n. s., v. 1, Nov., 578 [Vulpes [1]] [not *griseus* of Bodd., 1784; not of Sabine, 1823]. Patagonia. So. #479*N* **gracilis patagonicus,** fide Cabrera, 1931, 66.

#479 **Canis** [1] griseus [d] of Wolffsohn & Porter, 1908, Rev. Chil. Hist. Nat., v. 12, 76 [not Boddaert, 1784; not of Sabine, 1823; not of Gray, 1837]. So. #479*N* **gracilis domeykoanus,** fide Cabrera, 1931, 65.

#479 **Canis** [1] (Cerdocyon [1], Thous [1]) griseus **gracilis** (Burmeister, 1861, Reise La Plata-Staat., v. 2, 406) Trouess., 1904, Cat. Mamm., Berolini, 234. So. #479 **Canis** [1] **gracilis gracilis,** q. v.

#479 **"Canis indicus."**

Haemaphysalis †869.—Ext.

†*leachi.*—India.

#479 Canis [1] **japonica** (Gray, 1868, Proc. Zool. Soc. London, 517 [*Vulpes*]) Flower & Lydekker, 1891, Introduct. Mamm., 552. Japan. So. #485 **Vulpes vulpes japonica,** q. v.

#479 **Canis** [1] [or #479*G* **Chrysocyon** [t], Lupus [1]] (Canis [1], #479*G* **Chrysocyon** [r t]) **jubatus** Desm., 1820, Encycl. méth., Mamm., (1), 198. Brazilian wolf, maned wolf, Aguara-guazu, Guará, Lobo. S. America.

Ancylostoma †387.—Intest.
†*caninum.*
trigonocephalum [d].
Dioctophyme †426.
†*gigas.*—Kidneys.
[species von Ihering, 1902*a*.]
†*viscerale* [s].

Microfilaria †432.—Blood.
species Migone, 1916.

#479 [**Canis** [1] or] #479*E* **Nyctereutes** [r] **koreensis** Mori, 1922, Ann. Mag. Nat. Hist., ser. 9, v. 10 (60), Dec., 607. Giseifu [t], Seoul, Korea.

Diphyllobothrium †295.
†*mansoni.*—Larva and adult.—Korea.

#479 Canis [1] **lagopus** Linn., 1758*a*, 40. So. #486 **Alopex lagopus.**

#479 **Canis** [1] (*Lupulus* [s], #479*D* **Thos** [r]) *lateralis* [s] Sclater, 1870, Proc. Zool. Soc. London, no. 19, 279, pl. 23. Side-striped jackal. River Fernand Vas, south of Gaboon [t]; Africa (Gaboon in the west and Uganda in the east to Zululand in the south). So. *C. adustus*, fide Trouess., 1897*c*, 305; Mivart, 1890, 49; Lydekker, 1908, 460.

Ctenocephalides †1639.—Ext.
†*canis.*—Brit. E. Africa.
felis strongylus.—Voi [t], Kenya Colony.—T. h.

#479 ***Canis** [1] [or Chrysocyon [1], *Lupulus* [s], *Lyciscus* [s t]] (*Canis* [1], Lupina [1], *Lupulus* [s], *Lyciscus* [s], *Neocyon* [s t], #479*D* **Thos** [r]) **latrans** Say, 1823, Long's Exped. Rocky Mts., v. 1, 153, 332. Barking coyote, N. American coyote, Prairie-wolf, Heulwolf, Prairien-Wolf, Prairiewolf, Steppenwolf. Vicinity of Council Bluffs [t], Iowa; humid prairies and bordering woodlands of northern Mississippi Valley, in Iowa and Minnesota, and northern edge of plains westward to base of Rocky Mts. in Province of Alberta.

Opalinopsis <†188.
**nucleolobata.*—Liver.—Phila. Zoo [t].—T. h.
Opisthorchis †267.
**pseudofelineus.*—Gall ducts.—Nebraska, U. S. A.
Multiceps †324.—Intest.
†*multiceps.*
Taenia (**Taenia**) †325*b*.—Intest.
†*pisiformis.*
Ancylostoma †387.—Intest.
†**caninum.*—Washington, D.C.
trigonocephalum [d].
Toxascaris †486—Intest.
leonina.—Phila. Zoo.
Dermacentor †873.—Ext.
†**variabilis.*
†*venustus [d].—So. †*andersoni.*

Sarcoptes †942.—Skin.
†*scabiei lupi.*
Cediopsylla <†1634.—Ext.
**inaequalis inaequalis.*—Montana.
Ceratophyllus †1627.—Ext.
†**acamantis.*—Brit. Columbia; Montana.
**lucidus* [s].—Montana.
Megarthroglossus <†1634.—Ext.
sicamus.—Sicamous [t].—Brit. Columbia.—T. h.
Trichopsylla <†1626.—Ext.
setosa.—Canada [t].
Trichodectes †1100.—Ext.
latus [o].

#479 **Canis** *latrans texensis*=? #479 *Canis nebracensis texensis.*

Oslerus 473*D*.
**osleri.*—Texas.
Oncicola †501*o*.
**canis.*—Texas.

#479 *Canis [1] (Canis, *Lupulus* [s], *Lyciscus* [s], #479*D* **Thos** [r]) **lestes** Merriam, 1897, Proc. Biol. Soc. Wash., v. 11, Mar. 15, 25. Robber Coyote. Toyabe Mts. near Cloverdale, Nye Co., Nevada [t]; Brit. Columbia, Washington State, Oregon, south to Arizona, to Mexican boundary.

Alaria <†223*j*.—Small intest.
**oregonensis*.—Redmond [t], Oregon.—T. h.
*species Cram, 1926.—Oregon.—So. *oregonensis*.
Nanophyetus <†271.
**salmincola*.—Northwestern U. S. A.
Dermacentor †873.—Ext.
†**andersoni*.
†*venustus [d].—So. †*andersoni*.

#479 **Canis** [1] [or *Lupulus* [s]] (#479*D* **Thos**) **lupaster** Ehrenb., 1833, Symb. Phys., Mamm., dec. 2. Egyptian jackal. Warmer regions of Old World.

Dracunculus †439.
†*medinensis*.

#479 **Canis** [r] lupis [m] Warburton, 1920, Parasitol., v. 12 (3), Sept., 279. So. #479 **Canis** [1] **lupus,** q. v.

#479 **Canis** [1] [or *Chaon* [t], *Lupus* [t]] (#479*C* **Canis** [b r], Lupina [l], *Lupus* [t]) **lupus** Linn., 1758*a*, 39. Wolf, loup, Ulven, Vargen, Baglura, Chanco, Chángú, Chanku, Gúrg, Gúrk, Kharmá, Rátnahún, Ratnakin. Europe (Sweden [t]); Asia.

Alaria <†223*j*.
alata.—Intest., stomach.—Europe.
Heterophyes †272.—Intest.
persicus.
Paragonimus †250.—Lungs.
†*westermani*.—Korea.—Syn. *westermanii*.
Pseudamphistomum †270.
[†*truncatum*.]
Cysticercus †326.
†*tenuicollis*.
tenuicollis hominis [d].
Diphyllobothrium †295.—Intest.
decipiens [o].
maculatum [s].
†*mansoni*.—Larva and adult.—Korea.—Host given as Vulpes *lupus*.
Dipylidium †308.—Intest.
pasqualei.
Echinococcus †322.—Intest.
†*echinococcus* [s].
†*granulosus*.
minimus.—Macedonia [t].—T. h.
Mesocestoides <†299.—Intest.
utriculiferus [s].
Multiceps †324.—Intest.
†*serialis*.—Adult.
Taenia [1] <†299.—Intest.
opuntioides.—Berlin [t], Germany.—T. h.
species Fielden in Nares, 1878.
vulpina.
Taenia [r] †325.—Intest.
canina [h s].—Europe.
crassiceps.
Taenia (Taenia) †325*b*.
cysticercus [h o].
†*hydatigena*.—Intest.
lupina [s].—Intest.
†*marginata* [s].—Small intest.—T. h.
Ancylostoma †387.—Intest.
†**caninum*.—Washington, D. C.
trigonocephalum [d].—Stom.—Vienna Museum.
Capillaria †372*b*.
plica.—Berlin; Ireland.—T. h.
Crenosoma <†419.
[*annulatus* [s].—Air passages.—Europe.]
[lupi [d s] Molin, 1861.—Air passages.]
vulpis.—Europe.
Dioctophyme †426.
[*giganteus* [o].]
[*gigas* [s].—Kidney.]

[gulonis-sibirici [s].]
†*renale*.
[sanguineus in rene canis [s].]
viscerale [s].
Eucoleus <†369.
aerophilus.
Physaloptera †469.
papilloradiata.—Pectoral cavity.—Persia.—T. h.
Spirocerca 468*G*.
[*lupi* [s].—Intest., stomach.—T. h.]
sanguinolenta.—Stom., duodenum.—Germany.—T. h.
Toxascaris †486.
microptera.—Esoph., intest.—Vienna Museum; Germany.—T. h.
Toxocara †484.—Intest.
[*lupi* [s].]
†*mystax* [o].—Also esoph.
vulpis.
Trichuris †370.—Cecum.
vulpis.
Uncinaria 390*B*.—Intest.
catholica.—Buenos Aires.
criniformis.—Berlin Museum.
Ixodes †866.—Ext.
†*hexagonus hexagonus*.
hexagonus longispinosus.
Linguatula †800.—Nose.
†*rhinaria* [s].
serrata.
†*taenioides* [o].
Sarcoptes †942.—Skin.
†*scabiei lupi*.—France [t], Central Europe.—T. h.
Pulex †1635.—Ext.
†*irritans*.
Trichodectes †1100.—Ext.
†*canis*.—Europe.

#479 **Canis** [l] (#479*C Canis* [r]) **lupus** japonica [b] Nehring, 1885, Sitz.-Ber. Gesellsch. Nat. Fr. Berl., 139 [not #485 *Vulpes vulpes japonica* (Gray, 1868)]. So. *Canis hodophylax*, fide Trouess., 1897*c*, 301.

#479 **Canis** [l] (#479*C Canis* [r]) **lupus lupus** (Linn., 1758*a*, 39) Miller, 1912, Mamm. W. Europe, 313. Sweden [t]; northern and central Europe, exact limits of range unknown; formerly west to Ireland.

#479 **Canis** [l] **magellanicus** Gray, 1837, Proc. Zool. Soc. London, pt. 4 (46), Feb., 88 [nn]; Gray, 1837, Ann. Mag. Nat. Hist., n. s., v. 1, Nov., 578 [Vulpes [l]]. So. #479 **Canis** [l] **culpaeus magellanicus,** q. v.

#479 **Canis** [l] (*Cerdocyon*) **magellanicus riveti** (Trouess., 1906, C. r. Acad. Sci., Paris, v. 143 (26), July to Dec., 1185) Trouess., 1910, Arc Mérid. Equat. Amer. Sud., Paris, v. 9 (1), pp. *A*3, *A*12, pls. II–VIII. Alchiphichi [t], Pichincha Province, Ecuador. So. **culpaeus reissii,** fide Cabrera, 1931, 63.

Trichodectes †1100.—Ext.
riveti.—T. h.

#479 Canis [l] **megalotis** Desm., 1822, Encycl. méth., Mamm., (2), 538. So. #480 **Otocyon megalotis,** q. v.

#479 **Canis** [l] [or *Lupulus* [s], Lupus [l], #479*D* **Thos** [r], *Thous* [s], Vulpes [l]] (Lupina [l], *Lupulus* [s], #479*D* **Thos** [r]) **mesomelas** Schreb., 1776, Säugeth., v. 3, 370, pl. 95 (1776). Black-backed, golden, red, or silver-backed jackal, Cape jackal, fox, Jackhals, kapische Schakal, Schabrakenschakal, Impungutshe, Pukuye, Rooi Jackhals. Abyssinia to Cape Colony, Africa.

Dipylidium †308.—Intest.
†*caninum*.—S. Africa.
Echinococcus †322.
[†*echinococcus* [s].—S. Africa.]
†*granulosus*.
Mesocestoides <†299.
species Joyeux & Mathias, 1926.—Harar, Abyssinia.—"Chacal à manteau sp.", probably *Canis mesomelas*.
Multiceps †324.—Small intest.
†*multiceps*.—S. Africa.
Taenia [r] †325.—Small intest.
erythraea.—Massaua [t], Eritrea, N. E. Africa.—T. h.
Taenia (Taenia) †325*b*.—Intest.
†*hydatigena*.
†*marginata* [s].
Ancylostoma †387.—Intest.
†**caninum*.—Phila. Zoo.

Chlamydonema 470*I*.
felineum [s].
Haemaphysalis †869.—Ext.
†*leachi*.—Africa.
Ctenocephalides †1639.—Ext.
†*canis*.
Pulex †1635.—Ext.
†*irritans*.—S. Africa.
Tunga †1631.—Ext.
[species Roths.—Wante [t].]

#479 **Canis** [1] (#479*C* **Canis** [r]) **mexicanus** Linn., 1766, Syst. Nat., ed. 12, 60. Mexican timber wolf, mexikanische Wolf, Lobo. Southern Mexico [t].
Ancylostoma †387.—Intest.
†*caninum*.—Phila. Zoo.
ANCYLOSTOMIDAE †384.—Intest.
species Weidman, 1923.—Phila. Zoo.
Toxocara †484.—Intest.
**canis*.—Phila. Zoo.

#479 **Canis** [1] mexicanus [1] **nubilus** (Say, 1823, Long's Exped. Rocky Mts., v. 1, 155, 333) Rhoads, 1894, Amer. Nat., v. 28 (330), June, 524. So. #479 **Canis** [1] **nubilus,** q. v.

#479 ***Canis** [1] (Canis [1], #479*D* **Thos** [r]) **nebracensis** Merriam, 1898, Sci., n. s., v. 8 (205), Dec. 2, 782, renaming of pallidus [h] Merriam, 1897 [not *pallidus* Cretzschmar in Rueppell, 1827]. Johnstown [t], Nebraska; Great Plains from eastern Colorado northward into Canada, and is common throughout Montana except in the Mountains. Two subspecies. Syn. *nebrascensis* [c o] Trouess., 1904, Mamm., Berolini, 230.
Multiceps †324.—Intest.
†**multiceps*.
Taenia (**Taenia**) †325*b*.—Intest.
†**pisiformis*.
Toxocara †484.—Intest.
[*species Hall, 1912.—Colorado.]

#479 ***Canis** [1] (Canis [1], *Lyciscus* [s], #479*D* **Thos** [r]) **nebracensis nebracensis** (Merriam, 1898, Sci., n. s., v. 8 (205), Dec. 2, 782) Miller, 1912, U. S. Nat. Mus., Bul. 79, 79. Nebraska Coyote. Johnstown [t], Brown Co., Nebraska; arid plains from eastern Colorado to Montana and Assiniboia.
Rictularia 459*R*.
**splendida*.—Small intest.—Colorado.—T. h.

#479 ***Canis** [1] (#479*D* **Thos** [r]) **nebracensis texensis** Bailey, 1905, North Amer. Fauna, no. 25, Oct. 24, 175. Texas Coyote. Forty-five miles southwest of Corpus Christi [t], Nueces Co., Texas; Gulf region of Texas from Nueces Bay northward; probably throughout the lower Sonoran area of Texas, Oklahoma and Indian Territory.

#479 ***Canis** [1] (#479*C* **Canis** [r]) **nubilus** Say, 1823, Long's Exped. Rocky Mts., v. 1, 155, 333. Dusky wolf. Western U. S. A. (Vicinity of Council Bluffs [t], Iowa [t]).
Ancylostoma †387.—Intest.
†**caninum*.—Phila. zoo.

#479 **Canis** [1] [or *Lupus* [s]] (#479*C* **Canis**) **occidentalis** (Richardson, 1829, Fauna Bor.-Amer., London, 60 [*Canis* [1] lupus [1]]) Grevé, 1894, Nova Acta Acad. Leop., Halle, 114. Grey wolves, timber wolves. Canada from the plains of Saskatchewan to the Arctic coast [t]; name restricted by Miller to the form occurring at Fort Simpson, Mackenzie.

#479 Canis [1] **pallidus** Cretzschmar, 1827, in Atlas zu Rueppell, Reise (Senckenb. Nat. Ges.) Säug. (5), 33. Kordofan. So. #485 **Vulpes pallidus,** q. v.

#479 ***Canis** [l] pallidus [b] Merriam, 1897, Proc. Biol. Soc. Wash., v. 11, Mar. 15, 24 (not *pallidus* Cretzschmar in Rueppell, 1827), renamed *nebracensis*. Johnstown [t], Nebraska. So. #479 **Canis** [l] **nebracensis,** q. v.

#479 **Canis** [l] [or Lupulus [l], *Lupus* [s]] (#479*C* **Canis** [r]) **pallipes** Sykes, 1831, Proc. Zool. Soc. London, 101. Indian Wolf, wolf of Dukhun, Bagyár, Bhagad, Bheriya, Bighána, Gúrg, Hondár, Lándgá, Landgah, Nekra, Tola, Toralú. Dukhun [t]; India; Arabia.

Ancylostoma †387.—Intest.
†*caninum.*
†*ceylanicum.*
Toxocara †484.—Intest.
†*canis.*
†*marginata* [o].

Haemaphysalis †869.—Ext.
bispinosa.—India.
bispinosa intermedia.

#479 **Canis** [l] papillipes. Lapsus for #479 **Canis** [l] **pallipes,** q. v.

#479 Canis [l] **pardus.** Lapsus for #413 **Felis pardus,** q. v.

#479 Canis [l] [*vulpes*] *pennsylvanica* [e] Boddaert, 1784, Elench. Anim., Roterodami, v. 1, 97. So. #485 **Vulpes** *pennsylvanica* [e], q. v.

#479 "Canis persica?" ?Cf. #485 **Vulpes** *persicus* [s].

Rhipicephalus †875.—Ext.
†*sanguineus.*

#479 Canis [l] *primaevus* [s] Hodgson, 1832, J. Asiatic Soc. Bengal, v. 1, 342. So. #476 **Cuon** *primaevus* [s], q. v.

#479 **Canis** [l] [or #479*E* **Nyctereutes** [t], Nyctoractes [m], Sacalius [l]] (Vulpina [l]) **procyonoides** Gray, 1834, Illus. Indian Zool., v. 2 (13, 14), Mar., pl. 1. Long haired raccoon dog, raccoon-like dog, raccoon-like wild dog, Marderhund, Rakuhnhund, Tanuki. China; Japan. Syns.: *procynoides* [c], *procyonides* [c o].

Paragonimus †250.—Lung.
†*westermani.*—Japan.
Cysticercus †326.
species Penrose, 1882.—Peritoneum.
Diphyllobothrium †295.—Intest.
ranarum.—China.

Ascaris [l] †479.
species Onji, 1921.—Intest.—Japan.
Strongylus [l] †378*a*.
species Onji, 1921.—Intest.—Japan.
Trichodectes †1100.—Ext.
†*canis.*

#479 **Canis** [l] **rostratus.**
Dipylidium †308.—Intest.
echinorhynchoides [e].

#479 **Canis** [l] (#479*C* **Canis** [r]) **species.** Wolves and dogs proper.

Anaplasma †172 *S.*—Blood.
[species Yakimoff & Schokhor, 1917, 306: "anaplasmes".—Russian Turkestan.—Wolf.]
Babesia †173.—Blood.
gibsoni.—Host bazaar dogs exp.
[species Yakimoff & Schokhor, 1917, 305–306 [resembles *Piroplasma canis*].—Termese, Russian Turkestan.]
tropica.—India.—Pariah dog.
Hepatozoon <†165.—Blood.
canis.—Assam.—Pariah dog.

Plasmodium †170.—Blood.
canis.—Colombo [t], Ceylon.—Pariah dogs t. h.
Theileria †174.—Blood.
species Yakimoff & Schokhor, 1917, 306 ["Theiléries"].—Tashkent, Russian Turkestan.—Wolf.
Alaria <†223*j*.
alata.—Poland.—Also exp.—Wolf.
Haplorchis <†271.
pumilio.—Exp.—Wolf.
Heterophyes †272.
aequalis.—Persian wolf.

dispar.—Persian wolf.
persicus [s].—Intest.—Zoo, Berlin, Germany.—Persian wolf t. h.

Metagonimus †273.
†*ovatus.*
†*yokogawai.*—Syn. yokogawa [m].

Opisthorchis †267.
†*caninus* [s].—Liver.—India [t].—Indian dog, Pariah dog t. h.
†*conjunctus.*
indicus [o].—Kasauli [t], India.—Indian dog, Pariah dog t. h.
noverca.—India.—Dog.

Paragonimus †250.
†*ringeri.*—Korea.—Wolf.
†*westermani.*—Korea.—Wolf.

Parascocotyle <†271.
longa.—Persian wolf.

Pygidiopsis <†271.
genata.—Berlin Mus.—Persian wolf.

Avitellina 318*a*8.
lahorea.—Punjab, India.—Dog [j].

Diphyllobothrium †295.—Intest.
latum.—Lausanne, Switzerland.—"Chien loup."

Dipylidium †308.—Intest.
[cateniformis [l] [s] from wolf.]
örleyi.—Punjab, India.—Pariah dog.
[*prismatica* [s].—*Canis* t. h.]
sexcoronatum.—Punjab, India.—Pariah dog.
walkeri.—Punjab [t], India.—Pariah dog t. h.

Echinococcus †322.
[†*echinococcus* [s].]
†*granulosus.*—Punjab, India.—Pariah dog.

Mesocestoides <†299.—Intest.
elongatus.—Wolf t. h.

Multiceps †324.—Intest.
coenurus [o].
†*multiceps.*—Lahore, India.—Dog.

Taenia [r] †325.—Intest.
canina [h] [s] Bloch, 1782*a*.—Wolf.

Taenia (Taenia) †325*b*.—Intest.
†*hydatigena.*—Punjab, India.—Pariah dog.
ovis.—Punjab, India.—Pariah dog.

Ancylostoma †387.—Intest.
†*brasiliense.*—Wolf.
†*ceylanicum.*—Muktesar.—Pariah dog.
†*duodenale.*—Lucknow.—Pariah dog.

Capillaria †372*b*.
plica.

Crenosoma <†418.
vulpis.—Bronchi.

Dracunculus †439.
†*medinensis.*—Egyptian wolf.

Dirofilaria †447.—Heart.
†*immitis.*—Japan.—Japanese wolf.
[*sanguinis* [s].]

Gnathostoma †473.
robustum.—Pariah dog.
species Braun, 1903.—Calcutta, India.
[species Lewis, 1874.—Calcutta, India.—Pariah dog.]
species Morishita & Faust, 1925.—China.
†*spinigerum.*

Toxascaris †486.—Intest.
leonina.—Phila. Zoo.—Dog.

Toxocara †484.—Intest.
†*marginata.*—Wild wolf.

Uncinaria 390*B*.—Intest.
species Weidmann, 1916.—Phila. Zoo.—Gray wolf.

Amblyomma †881.—Ext.
†**americanum.*
†*maculatum.*

Boophilus †878.
australis.—Wolf.

Dermacentor †873.—Ext.
†**variabilis.*

Haemaphysalis †869.—Ext.
bispinosa intermedia.—India.—Wolf.
campanulata.—India.
choprai.—India [t].—Wolf t. h.
cornigera anomala.—Nagpur [t], India.—T. h.

Ixodes †866.—Ext.
australiensis.
**californicus.*
hexagonus inchoatus.
**kingi.*—Wyoming.
luteus.—S. Africa.

Rhipicephalus †875.—Ext.
†*sanguineus.*—Wild dog.

Ctenocephalides †1639.—Ext.
†*canis.*—Sumatra.—Dog.
†*felis.*—Samoa.—Dog.

Hippobosca †1617.—Ext.
capensis.—Pariah dogs.
francilloni [s].—Korea.—"Japanese dog."

#479 **Canis** [1] (#479*M* **Cerdocyon**) **species.** Crab-eating dogs.
#479 **Canis** [1] (#479*G* **Chrysocyon**) **species.** Aguara wolves.
#479 **Canis** [1] (#479*K* **Dusicyon**) **species.** Falkland dogs.
#479 **Canis** [1] (#479*I* **Lycalopex**) **species.** Small-toothed dogs.
#479 **Canis** [1] (#479*E* **Nyctereutes**) **species.** Raccoon dog.
#479 **Canis** [1] (#479*D* **Thos**) **species.** Coyotes, jackals, small prairie wolves, chacal, Schakal.

Leishmania †88.
†*donovani*.—Exp.
Trypanosoma †94.—Blood.
†*gambiense*.—Exp.
Nanophyetus <†271.
**salmincola*.—Northwestern U. S. A.—Coyote.
Dipylidium †308.—Intest.
†*caninum*.—Asiatic chacal.
echinorhynchoides.—W. Africa.—Chacal.
Echinococcus †322.
[†*echinococcus* [a].—Schakal.]
†*granulosus*.—Jackal.
Taenia (**Taenia**) †325*b*.—Intest.
†*hydatigena*.—W. Africa.—Chacal.
†*marginata* [a].—Jackal.
†*pisiformis*.—Jackal.
Ancylostoma †387.—Intest.
†*caninum*.—Jackal.
Dracunculus †439.
†*medinensis*.—India or Egypt?
Oslerus 473*D*.
**osleri*.—Texas Zoo.—Coyote.
Rictularia 459*R*.
affinis.—Intest.—Algeria.
Spirocerca 468*G*.
sanguinolenta.
Toxocara †484.—Intest.
†*marginata*.—Wild jackal.
Oncicola †501*o*.
**canis*.—Coyote [j].
Amblyomma †881.—Ext.
†*cajennense*.—Coyote.
darlingi.
†*variegatum*.—Africa.—Jackal.
Dermacentor †873.—Ext.
†**variabilis*.—Coyote.
†*venustus [d].—So. †*andersoni*.—Coyote.
Haemaphysalis †869.—Ext.
flava.—United Prov., India.—Jackal.
†*leachi*.—Congo, Africa.—Jackal.
Rhipicentor †874.—Ext.
bicornis.—Belgian Congo; S. Africa.
Rhipicephalus †875.—Ext.
haemaphysaloides.—India.—Jackal.
Heterodoxus <†1097.—Ext.
longitarsus.—Jackal.
Hoplopsyllus †1628.—Ext.
†*anomalus*.—Coyote.
Linognathus <†1108.—Ext.
piliferus.—Coyote.

#479 **Canis** [1] **species** [1] (miscellaneous).

Amblyomma †881.—Ext.
exornatum.
Boophilus †878.—Ext.
australis.
Haemaphysalis †869.—Ext.
†*leachi*.—Congo.
papuana.—Borneo, Malay States.
Hyalomma †880.—Ext.
†*aegyptium*.
Rhipicephalus †875.—Ext.
†*sanguineus*.—Wild dog.
Oropsylla <†1626.—Ext.
rupestris.—Alberta.
Pulex †1635.—Ext.
†*irritans*.—Abyssinia.
Trichopsylla <†1626.—Ext.
homoeus.—Ancouza [t], Central Asia.—T. h.
[*lasius*.—Ancouza [t], Central Asia.—T. h.]
Xenopsylla †1636.—Ext.
†*cheopis*.

#479 **Canis** [1] [or #479*M* **Cerdocyon,** *Carcinocyon* [a t], Thous [h t]] **thous** Linn., 1766, Syst. Nat., ed. 12, 60. Several subspecies.
#479 [**Canis** [1]] [or #479*M* **Cerdocyon** [r], Lycalopex [l], Pseudalopex [l], Thous [h], Vulpes [l]] (#479*M* **Cerdocyon,** Pseudalopex [l], Thous [h]) **thous azarae** (Wied, 1824, Abbild. Naturg. Bras., (6) [*Canis* [1]]) Cabrera, 1931, J. Mammal.,

v. 12 (1), Feb., 60 [*Cerdocyon*]. Crab-eating dog of Eastern Brazil. Bahia [t]; Eastern Brazil, from Cerara to São Paulo, westward to the plateau of Matto Grosso.

#479 [**Canis** [l]] [or #479*M* **Cerdocyon**] **thous thous** (Linn., 1766, Syst. Nat., ed. 12, 60) Cabrera, 1931, J. Mamm., v. 12 (1), Feb., 59. Dutch Guiana [t]; Savanna and wood zone of northern South America, from tropical zone of northern Colombia to the mouth of the Amazon.

#479 **Canis** [l] (*Lupulus* [s], #479*D* **Thos**) **variegatus** Cretzschmar in Rüppell, 1826, Atlas Reise nörd Afr., Zool., v. 1, 31, pl. 10. Variegated jackal, Gescheckter Fuchs. Nubia [t], Egypt; Abyssinia; Somaliland. Var. of *Canis anthus*, fide Trouess., 1897*c*, 305; distinct species, fide Trouess., 1904*c*, 232. Var. of *Canis aureus*, fide Hollister, 1918, 102.

Rhipicephalus †875.—Ext.
hilgerti.—Abyssinia [t].—T. h.
†*sanguineus*.

#479 *Canis [l] **velox** Say, 1823, Long's Exped. Rocky Mts., v. 2, 339–341. So. #485 **Vulpes velox.**

#479 **Canis** [l] [or #479*D* **Thos** [t]] *vulgaris* [s] Oken, 1816, Lehrb. Naturg., 3 Th., Zool., 2 Abth., 1039. So. #479 **Canis aureus.**

#479 **Canis** [r] vulgaris [h] [o] Gray, 1868, Proc. Zool. Soc. London, 501, renaming of *lupus* Linn. So. #479 **Canis lupus,** q. v.

#479 Canis [l] *vulpecula* [s] Hemprich & Ehrenberg, 1832, Symb. Phys., Berolini, dec. 1. Nile Valley, Egypt. So. #485 *Vulpes vulpes aegyptiacus*, fide Anderson, 1902, Zool. Egypt, 227.

Oxynema †488*w*4.
crassispiculum.
rectum [s].—Egypt.

#479 Canis [l] **vulpes** Linn., 1758*a*, 40. So. #485 **Vulpes vulpes,** q. v.

#479 Canis [l] **vulpes** *alopex* (Linn., 1758*a*, 40) Kerr, 1792*a*, Anim. Kingd., 142. So. #485 **Vulpes vulpes vulpes,** q. v.

#479 Canis [l] *vulpes pennsylvanica* [e] Boddaert, 1784, Elench. Anim., Roterodami, v. 1, 97. So. #485 **Vulpes** *pennsylvanica* [e], q. v.

#479 Canis [l] **zerda** Zimm., 1780, Geograph. Geschichte, v. 2, 247. So. #483 **Fennecus zerda,** q. v.

#480 (479). **Otocyon** [46] "Lichtenstein" Mueller, 1836, Archiv. Anat. Phys., Med., 1 [nv], mt. *caffer* Lichtenstein so. (tsd. 1900; 1918) *megalotis* Desm., S. Africa; Lichtenstein in Wiegmann, 1838, Arch. Naturg., v. 1, 290, mt. *megalotis* Desm. syns. *caffer* Licht., *lalandii* Geoffr.—Teeth 46 or 48: i. 3/3, c. 1/1, pm. 4/4, m. 3 or 4/4; molars are thus in excess of any other living heterodont mammal, and have the general characters as in *Canis*, with very pointed cusps; lower carnassial shows little of its typical characters, having 5 cusps on the surface; these cusps can, however, be identified as the inner cusp, the 2 greatly reduced and obliquely placed lobes of the blade, and the 2 cusps on the talon. Skull generally resembles that of the smaller Foxes, particularly the Fennecs; auditory bullae are very large; hinder edge of mandible of very peculiar form, owing to great development of an expanded, compressed, and somewhat inverted subangular process; ears very large. Vertebrae: C. 7, D. 13, L. 7, S. 3, Cd. 22. Limbs rather long. Toes 5 on front feet, 4 on hind feet. S. Africa.

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[46] Syns.: *Agriodus* [o] Ham. Smith, 1840, Jardine's Nat. Lib., Mamm., v. 10, 258, mt. tod. *auritus* so *megalotis* Desm., Cape of Good Hope;
Octocyon [s] Ameghino, 1889, Act. Acad. Nac. Cien. Cordoba, Buenos Aires, v. 6, 311.

#480 **Otocyon megalotis** (Desm., 1822, Encycl. méth., Mamm., (2), 538 [Canis [l]]) Lesson, 1842, N. Tab. Règne Anim., Nov., 39. Cape Fennec, Delalande's fox, Desert fox, great-eared fox, large-eared Cape dog, long-eared fox, Löffelhund, Bakoor (basin-eared) jackal, Motlose. Western S. Africa through Central Africa to Somaliland.

Dipylidium †308.—Intest.
†*caninum*.—S. Africa.
Lüheella< †285.—Intest.
pretoriensis.—Pretoria, S. Africa [t].—T. h.
Ancylostoma †387.—Intest.
trigonocephalum [d].
Oxynema †488*w*4.—Intest.
crassispiculum.
rectum [s].—Egypt.
Rhipicephalus †875.—Ext.
†*sanguineus*.
Ctenocephalides †1639.
†*canis*.

#481 (471). Vulpine or Alopecoid series as of Flower & Lydekker, 1891*a*, 552, and Lydekker, 1911, Encycl. brit., v. 5, 371.—Foxes. Pupil vertical, elliptical. Postorbital process of frontal bone hollowed above, with its outer margin (particularly of anterior border) somewhat raised; frontal air sinus absent. Mammae 8 or 10. N. America, Eurasia, Africa, not South America. Essentially subgenus *Vulpina* as of Leunis, 1883*a*, 190; section *Vulpinae* of Gray, 1868, 494. See #482.

#482 (487). Foxes.—Tail elongate, reaching to ground, bushy, covered with abundance of soft hair, forming a brush; with a gland covered with coloured hair on the upper part, gland above the base. Eyes often nocturnal with oblong erect pupils. Skull very long. Upper carnassials compressed, 3-lobed, with a small tubercle on front part of inner side. See #483.

#483 (484). **Fennecus** [47] Desmarest, 1804, Nouv. Dict. Hist. nat., ed. 1, v. 24, 18 [nv], tsd. (1904) *arabicus* so. *cerdo* Gmel. in Linn., Africa.—Ears extraordinarily large, elongate, hairy, spreading; bullae of ears very large, thin, swollen and rounded below; temporal muscles separated from each other by a very wide urn-shaped crown to the occiput; pupil roundish(?); skull elongate; braincase ovate; upper premolars compressed; carnassial compressed, with small internal process in front; tubercular grinder much wider than long. Tail elongate, bushy, covered with soft hairs. Africa.

#483 **Fennecus** *brucei* [o] Desm., 1820, Encycl. méth., Mamm., pt. 1, 235, renaming of *zerda*. So. #483 **Fennecus zerda,** q. v.

#483 **Fennecus** [or *Megalotis* [t], Otolicnus [h t], Vulpes [h t]] (Lupina [l]) *cerdo* [o] (Gmel. in Linn., 1788, Syst. Nat., ed. 13, v. 1, 75 [Canis [l]]) Children in Denham & Clapperton, 1826, Narr. Trav. Africa, App., 184. Fennec fox, Fennek, Grossohrfuchs, Wüstenfuchs. Africa (Sahara Desert [t]). Syn. *Megalotis* cerda [m] Illiger, 1811. So. #483 **Fennecus zerda,** q. v.

#483 Fennecus [l] **dorsalis** (Gray, 1837, Proc. Zool. Soc. London, 132 [Canis [l] (*Vulpes*)]) Trouess., 1897*c*, Cat. Mamm., Berolini, v. 1, 313. African fox. So. #485 **Vulpes dorsalis,** q. v.

#483 **Fennecus** [or *Megalotis*, Vulpes [h]] **famelicus** (Cretzschmar in Rueppell, 1826, Atlas Reise nörd Afr., Zool., v. 1, 15, pl. 5 [Canis [l]]) Lesson, 1842, N.

[47] Syns.: *Megalotis* Illiger, 1811, Prod. Syst. Mamm. et Avium, 131, mt. cerda [m] Illiger so. *cerdo* Gmel. in Linn.;
Otolicnus [h] Fischer, 1814, Zoognosia, v. 3, 212–214, mt. *cerdo;* [not *Otolicnus* Illiger, 1811, primate];
Vulpes [h] Skjöldebrand, 1777, K. Vetensk. Acad. Handl., Stockholm, v. 38, 265–267, pl. 6, mt. *minimus saarensis* [s] (from Sahara [t]) so. (tsd. 1904) *cerdo* [not #485 *Vulpes* Frisch, 1775, foxes].

Tab. Règne Anim., Nov., 39. Rüppell's Fennec, Sabbar. Africa (Kordofan [t]); Asia.

Oxynema †488*w* 4.—Intest.
crassispiculum.
rectum [s].
Synosternus <†1634.—Ext.
†*pallidus.*—Lower Egypt.

#483 Fennecus species.

Ancylostoma †387.—Intest.
†*caninum.*
Physaloptera 470*H.*
cesticillata.—Stomach.

#483 **Fennecus** [or *Megalotis*, Vulpes [h]] (*Megalotis*) **zerda** (Zimm., 1780, Geograph. Geschichte, v. 2, 247 [Canis [l]]) Lesson, 1842, N. Tab. Règne Anim., Nov., 39. N. African fennec fox, Fennek. Deserts, N. Africa. Syn. *Fennecus* zerdo [m] Grevé, 1894, Nova Acta Acad. Leop., Halle, 138. Cf. *cerdo.*

Alaria <†223*j.*
alata.—Intest.
Dipylidium †308.—Intest.
†*caninum.*
echinorhynchoides [e].—Nubia [t], N. E. Africa; Cairo, Egypt.—T. h.
Ancylostoma †378.—Intest.
†**caninum.*
trigonocephalum [d s].—Egypt.
Oxynema †488*w*4.—Intest.
crassispiculum.—Egypt.—Cecum.
rectum [s].
Physaloptera 470*H.*
cesticillata.—Stomach.—N. Africa.
Streptopharagus 468*C.*
numidicus.—Stomach.—S. Tunisia [t].—T. h.
Toxocara †484.—Intest.
[*masculior.*—T. h.]
Uncinaria 390*B.*—Intest.
stenocephala.
Macracanthorhynchus †508.
†hirundinaceus [m], for *hirudinaceus.*
Prosthenorchis †501*p.*
pachyacanthus.—Intest.—Egypt.
spirula.
Ctenocephalides †1639.—Ext.
†*canis.*
†*felis.*
[†*serraticeps* [o].—Tunisia.]
Pulex †1635.—Ext.
†*irritans.*—Egypt.

#484 (483). Ears not extraordinarily large. Temporal crests of skull linear or nearly linear. See #485.

#485 (486). ***Vulpes** Oken, 1816, Lehrb. Naturg., 3 th. Zool., Abth. 2, 1033, 1034, tat. Canis [l] *vulpes* Linn. syn. *Vulpes vulgaris*; or **Vulpes** Bowdich, 1821, Anal. Nat. Classif. Mamm., 40, tat. *Canis* [l] *vulpes*; compare *Vulpes* Skjöldebrand, 1777, based on *Canis cerdo*, fide Palmer.—Foxes. Build slight. Postorbital processes distinctly concave above; forehead rising gradually above level of rostrum; ear pointed; temporal crests of skull linear or nearly linear; no frontal sinus; muzzle long; nasal bones do not extend so far back on the face as the maxillaries; bullae of ear-bones moderate, oblong, strongly keeled, angular; teeth 42 (i. 3/3, c. 1/1, pm. 4/4, m. 2/3); ears moderate, erect, acute; pupil vertically elliptical in a strong light. Tail always considerably more than half length of head and body; covered with long, soft hairs uniformly mixed. America; Asia; Europe. Syn. Vulpis [m] Rau, 1926, Ind. J. Med. Res., v. 14 (1), 243.

#485 **Vulpes aegyptiaca** (Sonnini, 1816, Nouv. Dict. Hist. nat., v. 6, 524 [Canis [l]]) Trouess., 1899, Cat. Mamm., Berolini, 1362. So. #485 **Vulpes vulpes aegyptiaca,** q. v.

#485 ***Vulpes** (*Vulpes*) **alascensis** Merriam, 1900, Proc. Wash. Acad. Sci., v. 2, Dec. 28, 668. Alaska red fox. N. Alaska (Andreafski, near mouth of Yukon River, Alaska [t]).

Trichodectes †1100.—Ext.
species Baker.—N. Alaska.

#485 **Vulpes** (*Vulpes*) *alopex* [s] (Linn., 1758*a*, 40 [Canis [l]]) Ham. Smith, 1840, Nat. Lib., v. 28, June, 240. Common fox, Brandfuchs, Kashnuri, Laash (♀), Lomri, Luh (♂), Rubah, Wamu. Europe; Asia. So. #485 **Vulpes vulpes.**

#485 **Vulpes** (Vulpes) alopex **japonica** (Gray, 1868, Proc. Zool. Soc. London, 517) Trouess., 1897*c*, Cat. Mamm., Berolini, v. 1, 309. Japan. So. #485 **Vulpes vulpes japonica,** q. v.

#485 **Vulpes alpherakyi** Satunin, 1905, Mitt. Kaukas. Mus., Tiflis, v. 2 (1), 46, 71. East Transcaucasia [t].

Ctenocephalides †1639.—Ext.
†*canis.*—Tiflis Region, Caucasus.

#485 **Vulpes americana.** This is probably for the American fox, *Vulpes fulva*.

Dioctophyme †426.
†*gigas* [s].

#485 **Vulpes atlantica** (Wagn., 1841, Reisen Regentsch. Algier, v. 3, 31 [nv] [Canis [l] *vulpes*]) de Winton, 1897, Proc. Zool. Soc. London, 957. So. #485 **Vulpes vulpes atlantica,** q. v.

#485 Vulpes [l] **azarae** (Wied, 1824, Abbild. Naturg. Bras., (6), 338 [Canis [l]]) Lesson, 1842, N. Tab. Règne Anim., Nov., 42. So. #479 **Canis [l] thous azarae,** q. v.

#485 **Vulpes** [or Cynalopex [l], Vulpis [m]] (*Vulpes*) **bengalensis** (Bechstein in Pennant, 1799, Uebers. vierfüss. Thiere, v. 1, 273 [Canis [l]]) Gray, 1843, List Mamm. Coll. Brit. Mus., 61. Bengal Fox, Common Indian Fox, Indian Wolf, bengalische Fuchs, Chándak-Nari, Gúnta-Nakka, Kemp-Nari, Khakri, Khekar, Khekri, Khek-siyal, Khikir, Koka, Kokri, Kónk, Konkanakka, Kunní-Nari, Lhal, Lokri, Lom, Lomri, Lonkdo, Lukhariya, Lúmri, Poti-nara. India ("Bengal" [t]).

Hepatozoon<†165.—Blood.
canis.—Leucocytes.—Madras.
Ancylostoma †387.—Intest.
†*caninum.*
Physaloptera 470*H*.
species Baylis & Daubney, 1922.—Stomach.
Toxascaris †486.—Intest.
leonina.
Toxocara †484.—Intest.
†*canis.*
†*marginata* [o].—India.
Xenopsylla †1636.—Ext.
†*astia.*—India.

#485 ***Vulpes** (*Vulpes*) **cascadensis** Merriam, 1900, Proc. Wash. Acad. Sci., v. 2, Dec. 28, 665. Cascade Mountains Fox. Trout Lake, Cascade Mountains, Skamania Co., Washington [t]; Cascade Range in Oregon and Washington, and northern Sierra Nevada in California; northern limit unknown.

Trichodectes †1100.—Ext.
quadraticeps.

#485 Vulpes [h] *cerdo* Palmer, 1904*a*, North Amer. Fauna, no. 23, 708. So. #483 **Fennecus zerda,** q. v.

#485 **Vulpes** [or Fennecus [l]] (*Vulpes*) **chama** (Smith, 1833, S. Afr. Quart. J., v. 2, no. 1 (3), Dec., 89 [Canis [l]]) Sclater, 1900, Mamm. S. Afr., London, v. 1, 98. Cama fox, Silver-backed Jackal, silver fox, Draai Jakhals, Vaal Jakhals, Basuto-Mopheme. Africa south of Zambesi (Namaqualand [t]). Syns.: Canis [l] *caama* [e] Smith, 1837, Cat. S. Afr. Mus., 19; *Vulpes chaama* [o] Grevé, 1894, Nova Acta Acad. Leop., Halle, 137.

Echinococcus †322.—Small intest.
†*granulosus*.—S. Africa.

#485 **Vulpes** [or Fennecus [l]] (*Vulpes*) **dorsalis** (Gray, 1837, Proc. Zool. Soc. London, 132 [Canis [l] (*Vulpes*)]) Trouess., 1904, Cat. Mamm., Berolini, 237. African fox.

Babesia †173.—Blood.
bauryi.—Senegal, Africa [t].—T. h.
Dipetalonema †453.
dracunculoides.—Blood.

#485 **Vulpes** [or Canis [l], Cynalopex [l]] (*Vulpes*) **ferrilatus** Hodgs., 1842, J. Asiat. Soc. Bengal, v. 11, 278, pl. 1. Small Tibetan Fox, Igar, Igur, Lokri. Lhassa [t], Tibet. Syn. ferritatus [m].

Mesocestoides <†299.—Intest.
mesorchis.—London Zoo, from Nepal [t].—T. h.
Taenia [l] <†299.
retracta.

#485 **Vulpes** (*Vulpes*) **ferrilatus eckloni** (Przewalski, 1884, Reisen in Tibet, Jena, 111 [Canis [l]]) Trouess., 1897*c*, Cat. Mamm., v. 1, 311. Tibet Fox. Tibet [t].

Taenia [l]<†299.
retracta.—? Tibet.—T. h.

#485 ***Vulpes** (*Vulpes*) **fulva** (Desm., 1820, Encycl. méth., Mamm., (1), 203 [Canis [l]]) DeKay, 1842, Nat. Hist. N. Y., Mamm., 44. Black fox (color phase), Cross fox (intermediate phase), red fox, Silver fox (color phase), Rothfuchs. Virginia [t]; Northeastern United States. There seems to be a possible host confusion between #485 *fulva* and #486 *lagopus*. Accordingly, in tracing the parasites for either species, both entries should be consulted.

Alaria <†223*j*.
**arisaemoides*.—Attached to gut wall in region of jejunum.—Massachusetts [t].—T. h.
Cryptocotyle †271*F*.
lingua.—Host reported as *Vulpes fusca*, lapsus for ?*Vulpes fulva*.
Nanophyetus <†271.
**salmincola*.—Exp.
Opisthorchis †267.—Liver.
†*conjunctus*.—America [t].—T. h.
Parametorchis <†265.
**intermedius*.—Gall bladder.—Wisconsin [t].—T. h.
Pseudamphistomum †270.
[*conus* [s].—America.]

ANCYLOSTOMIDAE †384.—Intest.
species Weidman in Fox, 1923.—Phila. Zoo.
Capillaria †372*b*.
**plica*.—Kidney, urinary bladder.—New Jersey.
Eucoleus <†369.
aerophilus.—Bronchi.—Canada.
Toxascaris †486.—Intest.
limbata.—Canada.
Toxocara †484.—Intest.
†**canis*.
cati.—Canada.
†**marginata*.—Canada.
Trichuris †370.—Intest.
vulpis.

Uncinaria 390*B*.—Intest.
polaris.—Canada.
species Weidman in Fox, 1923.—Phila. Zoo.
stenocephala.

Otodectes †944*c*.—Ext.
cynotis.—Ears.—Canada.
Sarcoptes †942.
scabiei vulpis.—Canada.

#485 **Vulpes japonica** Gray, 1868, Proc. Zool. Soc. London, 517. So. #485 **Vulpes vulpes japonica,** q. v.

#485 Vulpes [1] **lagopus** (Linn., 1758*a*, 40 [Canis [1]]) Ham. Smith, 1840, Nat. Lib., v. 28, June, 236. So. #486 **Alopex lagopus.**

#485 **Vulpes** [or Canis [1]] (*Vulpes*) **leucopus** Blyth, 1854, J. Asiatic Soc. Bengal, v. 23 (7), 729. Indian desert Fox, Small Desert Fox, Lokri, Lombar, Lúmri, Rubah. Asia ("Desert of Western India" [t]).

Ancylostoma †387.—Intest.
†*caninum*.
Rhipicephalus †875.—Ext.
†*sanguineus*.

#485 **Vulpes** *melanogaster* [s] (Bonaparte, 1832, Iconogr. Faune Ital., (1) [Canis [1]]) Bonap., 1845, Atti 6 Ruin. Sci. Ital., 328. So. #485 **Vulpes vulpes** *melanogaster* [s], q. v.

#485 **Vulpes** *nilotica* (Desmarest, 1820, Encycl. méth., Mamm., (1), 204 [Canis [1]]) Ham. Smith, 1840, Nat. Lib., v. 28, June, 248. So. #485 **Vulpes vulpes** *nilotica*, q. v.

#485 **Vulpes** [or Cynalopex [1], Fennecus [1], Megalotis [1]] (Vulpes) **pallida** (Cretzschmar, 1827, in Atlas zu Rueppell, Reise (Senckenb. Nat. Ges.) Säug. (5), 33 [Canis [1]]) Boitard, 1843, Dict. Univ. Hist. Nat., v. 3, 562. Blässfuchs. Dongola, Somali (Suakim).

Ctenocephalides †1639.—Ext.
felis strongylus.—Kulme, Africa.

#485 ***Vulpes** (*Vulpes*) *pennsylvanica* [s] (Boddaert, 1784, Elench. Anim., Roterodami, v. 1, 97 [Canis [1] *vulpes*]) Rhoads, 1894, Amer. Nat., v. 28, June, 524. American Red Fox. Virginia [t]. So. #485 **Vulpes fulva,** q. v.

#485 **Vulpes** *persica* [s] Blanford, 1875, Ann. Mag. Nat. Hist., ser. 4, v. 16, 310. Rú-báh. Persia [t]. So. *Vulpes leucopus*, fide Trouess., 1897*c*, 312.

#485 **Vulpes rüppelli caesia** Thomas & Hinton, 1921, Nov. Zool., v. 28, May, 5. South side Mt. Baguezan, Asben, Northern Nigeria, Africa [t].

Synosternus <†1634.—Ext.
†*pallidus*.—Africa.

#485 **Vulpes species.** Foxes, Renard.

Coccidium [1] †163*A*.
[species Efimoff in Rastégaïeff, 1929: "Coccidies."—Feces.—E. Siberia.]
Isospora †161.
†**bigemina*.—Minnesota.—Syn. bigmenina [m] Riley, 1921, Parasitol., v. 13 (1), Mar., 87.
species Triffitt, 1927.—Feces.—London from Prince Edward Id., Canada.
Theileria †174.—Blood.
species Yakimoff & Schokhor, 1917, 309: Theilérièse.—Termese, Russian Turkestan.

Treponema [1] †142*f*.
†*icterohaemorrhagiae*.
[*hispanicum marocanum*.—Blood.—Recurrent fever.—Algeria.—Reservoir host.]
[*regaudi*.]
Trichomonas †131.
*species Chandler in Riley, 1921.—Michigan, U. S. A.
Trypanosoma †94.—Blood.
†*brucei*.—Nagana.—Also exp.
†*gambiense*.—Exp.
Alaria <†223*j*.—Intest.
alata.—America; Europe.

Catatropis <†225*e*.
verrucosa.
Cryptocotyle †271*F*.—Intest.
lingua.—Silver fox.
Distoma <†238.
intestinalis vulpis [p].
Echinochasmus †262.—Intest.
species Allen & Wickware, 1922.—Canada.—Silver black fox.
Heterophyes †272.
†*heterophyes*.—Egypt; Orient.—Fox and Palestinian fox.
Metorchis †267*i*.
albidus.—Gall bladder, liver.
Nanophyetus <†271.
**salmincola*.—Northwestern U. S. A.
Opisthorchis †267.—Liver.
conjunctus.—American fox.
†*felineus*.
†*noverca*.
Paragonimus †250.—Lungs.
†*ringeri*.—Korea.
†*westermani*.—Korea.
Parascocotyle <†271.—Intest.
longa.—Canada.—Silver black fox.
Pseudamphistomum †270.—Liver.
†*truncatum*.—Europe.
ANOPLOCEPHALINAE †318.
species Galli-Valerio, 1930.—Ova in feces.—Switzerland.
Cysticercus †326.
vulpis.—Europe.—*Vulpes* t. h.
Diphyllobothrium †295.—Intest.
†**latum*.—China; Europe; N. America.
Dipylidium †308.
[*cateniformis* [s].]
Echinococcus †322.
†*granulosus*.—England.—Exp.
Mesocestoides <†299.—Intest.
lineatus.—Europe.
litteratus.—Europe [t].—Fox t. h.
utriculiferus [s].
Taenia [r] †325.—Intest.
canina [h s].—Europe.
crassiceps.
crataegaria.
polyacantha.
Taenia (Taenia) †325*b*.—Intest.
†*pisiformis*.—England, Europe.
Tetrabothrius <†299.
vulpis.—Fox t. h.
Tetrathyridium <†284*a*.
elongatum [d h s] Blumenbach, 1882*a*.
Ancylostoma †387.—Intest.
†*caninum*.
trigonocephalum [d].
ANCYLOSTOMIDAE †384.—Intest.
species Weidman in Fox, 1923.—Newfoundland.
Capillaria †372*b*.
plica.
Cylicospirura 468*f*.
subaequalis.—Stom.—Algeria.
Dioctophyme †426.
†*gigas* [s].
†**renale*.—Europe; U. S. A.
Eucoleus <†369.
aerophilus.
Filaria [l] †435.
[intestinum.—Not a specific name.—See *Fil. vulpis*.]
vulpis.—Abdomen.
Numidica †488*A*′1.
numidica.—Algeria.
Ollulanus <†411
tricuspis.
Oxynema †488*w*4.
crassispiculum.
Rictularia 459*R*.
affinis.—Egypt.
plagiostoma.
Spirocerca 468*G*.
sanguinolenta.—In tumors of stomach and esoph. Embryos in blood.
Spirura 468*e*.
gastrophila [s].—Algeria.
Strongyloides †355.—Intest.
†*longus* [s].—Russia.
Strongylus †378*a*.
vulpis [h].—Mesenteric glands.
vulpis *glandularis* [s].—Vienna.
vulpis *oesophageus*.—M. C. V.
Toxocara †484.—Intest.
†*canis*.
†*marginata* [o].
triquetra [s].—Europe.
**vulpis*.
Trichinella †366.
†*spiralis*.—Fox.
Trichuris †370.—Intest., cecum.
**depressiusculus*.
Uncinaria 390*B*.—Intest.
**stenocephala*.—N. America.—Fur foxes.
[*tetragonocephalus* [o].—Large and small intest.]
vulpis.—Rectum.

Acarus †924.—Ext.
species Müller, 1927.
Amblyomma †881.—Ext.
†*americanum.*
†*maculatum.*
†*striatum.*
tuberculatum.
Boophilus †878.—Ext.
†*australis.*—S. America.—Negative exp.—"Fox."
Demodex †855.—Hair follicles.
†*folliculorum.*
Dermacentor †873.—Ext.
†*variabilis.*
Haemaphysalis †869.—Ext.
bispinosa intermedia.—India.
cinnabarina punctata.
†*flava.*—United Prov., India.
inermis.
†*leachi* [e].
Ixodes †866.—Ext.
canisuga.
erinacei [e].
erinaceus [o].
†**hexagonus.*
hexagonus inchoatus.
**hexagonus longispinosus.*—Colorado.
**marxi.*—Colorado.
†*reduvius* [e].
†*ricinus.*
Linguatula †800.—Nasal cavities.
denticulata.
†*rhinaria* [e].
†*serrata.*
Ornithodoros †863.
†*marocanus.*—In burrows.—Morocco.
Rhipicephalus †875.—Ext.
†*haemaphysaloides.*—India.—Fox.
†*sanguineus.*—Ceylon, Burma, India.
Cediopsylla <†1634.—Ext.
**inaequalis interrupta.*—Calif.[t]
Ceratophyllus †1627.—Ext.
**ponerus.*—Palo Alto [t], Calif.—T. h.
Ctenocephalides †1639.—Ext.
†*canis.*—Europe.
Linognathus <†1108.—Ext.
**setosus.*—Mass.
Paraceras <†1626.—Ext.
melis.—Europe.
Pulex †1635.—Ext.
†*irritans.*—Rumania.
Spilopsyllus <†1634.—Ext.
cuniculi.—Europe.
Synosternus <†1634.—Ext.
†*pallidus.*—India.
Tarsopsylla <†1626.—Ext.
[*uralensis* [e].—Altai Mts.]
Trichodectes †1100.—Ext.
vulpis Denny.—Europe.
Trichopsylla <†1626.—Ext.
globiceps.—Palaearctic Region.
homoeus.
trichosa.—Europe.
[vulpes [o].—Caucasus.—T. h.]
Xenopsylla †1636.—Ext.
eridos.—S. Africa.

#485 ***Vulpes** (*Vulpes*) **velox** (Say, 1823, Long's Exped. Rocky Mts., v. 2, 339–341 [Canis [l]]) Audubon & Bachman, 1851, Quadr. N. Amer., v. 2, 13. Kit Fox, Swift Fox. Colorado [t]; N. America. At least two subspecies.

Isospora †161.—Intest.
**bigemina canivelocis* [j] [s].—Western [t] U. S. A.—So. [j] *I. felis*, fide Wenyon, 1926*a*, 818.—T. h.
Ancylostoma †387.—Intest.
†**caninum.*—Phila. Zoo.
ANCYLOSTOMIDAE †384.—Intest.
species Weidman in Fox, 1923.—Phila. Zoo.
Toxocara †484.—Intest.
†**canis.*
Uncinaria 390*B*.—Intest.
*species Weidman in Fox, 1916; 1923.—Phila. Zoo.
? *vulpis.*
Pulex †1635.—Ext.
†*irritans.*—Alberta.

#485 **Vulpes** *vulgaris* [o] Oken, 1816, Lehrb. Naturg., 3 Th. Zool., 2 Abth., 1034, renaming of *vulpes*. Gemeiner Fuchs. So. #485 **Vulpes vulpes,** q. v.

#485 **Vulpes** (*Vulpes*, Vulpina [l]) **vulpes** (Linn., 1758*a*, 40 [Canis [l]]) Grevé, 1894, Nova Acta Acad. Leop., Halle, v. 63, 123. Common fox of Europe, Fuchs,

gemeiner Fuchs, Rothfuchs, Rafven, rødreven. Europe (Sweden [t]) into Asia; Africa. Several subspecies.

Eimeria †163.
vulpis.—Switzerland [t].—T. h.

Giardia †139.
[*vulpis.*—Switzerland [t].—T. h.]

Isospora †161.
vulpis.—Feces.—Switzerland [t].—T. h.

Trypanosoma †94.—Blood.
†*gambiense.*

Alaria <†223*j*.—Intest.
alata.—Germany [t].—T. h.
vulpis.—Germany [t].—T. h.

Distoma <†238.
intestinalis vulpis [p].

Euparyphium †257.—Intest.
[*melis.*—Europe.]
trigonocephalum [o].

Heterophyes †272.
†*heterophyes.*

Paragonimus †250.—Liver.
†*westermani.*—Korea.

Pseudamphistomum †270.
[*conus* [s].—Gall ducts and bladder.]
†*truncatum.*—Gall bladder.

Diphyllobothrium †295.—Intest.
†*latum.*
†*mansoni.*—Larva and adult.—Korea.

Dipylidium †308.—Intest.
†*caninum.*
echinorhynchoides [e].—N. Africa.

Echinococcus †322.
†*granulosus.*—England.

Mesocestoides <†299.—Intest.
lineatus.—Stomach.—Italy.
litteratus.—Europe.
utriculiferus [s].—T. h.

Multiceps †324.—Intest.
†*multiceps.*
†*serialis.*—Adult.

Taenia [l] <†299.
species Galli-Valerio, 1929.—Fragment in intest.
vulpina.—T. h.

Taenia [r] †325.—Intest.
crassiceps.—Europe [t].—T. h.
crataegaria.—T. h.
ovata.—Padua [t], Italy.—T. h.
polyacantha.—Giessen [t], Germany.—T. h.

Taenia [r] (**Taenia**) †325*b*.—Intest.
†*pisiformis.*
serrata canis domestici et -vulpes [p].
[Europe.]

Tetrabothrius <†299.
vulpis.

Tetrathyridium <†284*a*.
[*bailleti.*—Syn. railleti [m].]
elongatum [d h s] Blumenbach, 1882*a*.—Peritoneum, liver, lungs, abdominal cavity.

Ancylostoma †387.—Intest.
†*caninum.*
trigonocephalum [d].

Capillaria †372*b*.
[*canis-vulpis* [s].—Bladder.]
plica.—Bladder.—Europe.

Crenosoma <†419.
[*canis-vulpis* [s].]
decoratum [s].—Trachea.—Europe.
semiarmatum [o].—Lungs, trachea.—Vienna Museum from Greifswald.
vulpis.—Lungs, trachea.—Germany [t].—T. h.

Dioctophyme †426.
†*gigas* [s].—Omentum, intest.

Dirofilaria †447.
†*immitis.*—Heart.—China.

Eucoleus <†369.
aerophilus.—Intest., trachea.—T. h.

Filaria [l] †435.
vulpis.—Abdomen.

Habronema †470.
grimaldiae.—Esoph., stom.—Bou-Saâda, Algeria.—Cf. *Vulpes vulpes atlantica.*

Ollulanus <†411.
tricuspis.—Stomach.

Rhabditis †339.
plicata.

Rictularia 459*R*.
affinis.—Cairo.
plagiostoma.—Cairo.

Soboliphyme 423*B*.
baturini.

Spirocerca 468*G*.
sanguinolenta.—Esoph., stom.; embryos in blood.

Spirura 468*e*.
gastrophila.—Algeria.—Cf. *rytipleuritis*.
talpae.
Strongylus[1] †378*a*.
vulpis [h].
vulpis [h] *glandularis* [s].—Mesenteric glands.—Vienna Museum.
[vulpis [h] *oesophageus*.—Esoph.]
Toxocara †484.—Intest.
†*canis*.—Phila. Zoo.
†*marginata* [o].
†*mystax* [o].
[teres [1] *vulpis*.]
triquetra [s]. — Stom. — Europe.—So. *vulpis* 1789.
Trichinella †366.
†*spiralis*.—Intest., larva in muscles.
Trichuris †370.
depressiuscula [o].—Cecum, intest.
vulpis.
Uncinaria 390*B*.—Intest.
criniformis.
*species Weidman in Fox, 1916.—Phila. Zoo.
stenocephala.
[*tetragonocephalus* [o].—Europe.]
[*vulpinus* [o].]
vulpis [s].
Centrorhynchus †501*S*.
[*appendiculatus* [s].—Stom.]
buteonis.
Caparinia †944*b*.—Ext.
vulpis.—Central Europe.
Ixodes †866.—Ext.
†**cookei*.—U. S. A.
erinacei [s].—Württemberg, Germany, Europe.
†*hexagonus*.
hexagonus inchoatus.
hexagonus longispinosus.
reduvius [d s].—See *hexagonus*.
†*ricinus*.
Linguatula †800.—Nasal cavity.
†*serrata*.
†*taenioides* [o].
Rhipicephalus †875.—Ext.
†*sanguineus*.
Sarcoptes †942.—Ext.
†*scabiei vulpis*.—Central Europe.
Archaeopsylla †1638.—Ext.
†*erinacei*.
Ctenocephalides †1639.—Ext.
†*canis*.
†*felis*.
[†*serraticeps*.]
Mesopsylla <†1626.—Ext.
hebes.—S. E. Russia.
Paraceras <†1626.—Ext.
melis.—Europe.
Pulex †1635.—Ext.
†*irritans*.
Spilopsyllus <†1634.—Ext.
[*goniocephalus* [o].—Holland.]
leporis.—E. Prussia.
Tarsopsylla <†1626.—Ext.
[*uralensis* [s].—Europe.]
Trichodectes †1100.—Ext.
micropus [o].—Europe.—T. h.
vulpis Denny.—Great Britain [t].—T. h.
Trichopsylla <†1626.—Ext.
globiceps.—Europe [t].—T. h.
[vulpes.]

#485 **Vulpes** (*Vulpes*) **vulpes aegyptiaca** (Sonnini, 1816, Nouv. Dict. Hist. nat., v. 6, 524 [Canis [1]]) Trouess., 1904, Cat. Mamm., Berolini, 235. Abyssinia; Egypt.

Oxynema †488*w*4.
crassispiculum.
rectum [s].
Synosternus <†1634.—Ext.
†*pallidus*.—Africa.

#485 **Vulpes** (*Vulpes*) **vulpes atlantica** (Wagner, 1841, Reisen Regentsch. Algier, v. 3, 31 [Canis [1]] [nv]) de Winton, 1899, Proc. Zool. Soc. London, 544. Atlas Mountains fox. Africa.

Cylicospirura 468*f*.
subaequalis.—Stomach.—Algeria.
Habronema †470.
grimaldiae.—Esoph., stom., intest.—Algeria.
Numidica †488*A'*.
numidica.—Intest., cecum.—Algeria.
Oxynema †488*w*4.
crassispiculum.—Cecum.
Rictularia 459*R*.
affinis.—Egypt; Algeria.
Spirocerca 468*G*.
sanguinolenta.
Spirura 468*e*.
gastrophila [s].—Esoph., stom.—Algeria.—So. *rytipleurites*, fide Y. & M., 1926*a*, 294.
gastrophila.—So. *rothschildi*.
rothschildi.
Ctenocephalides †1639.—Ext.
†*felis*.—Tripoli.

#485 **Vulpes vulpes crucigera** (Kerr, 1792, Anim. Kingd., 144 [Canis [1]]) Miller 1912, Cat. Mamm. Western Europe, 331. Kreuzfuchs. Thüringen, Germany [t]; Central and southern Europe from Ireland eastward and from coast of Baltic to Pyrenees, Italy and Greece.

Ctenocephalides †1639.—Ext.
†*canis*.—Switzerland.
Trichopsylla <†1626.—Ext.
homoeus.—Switzerland.

#485 **Vulpes** (*Vulpes*) **vulpes japonica** (Gray, 1868, Proc. Zool. Soc. London, 517) Trouess., 1904*c*, Cat. Mamm., Berolini, 236. Japan.

Paragonimus †250.—Lungs.
†*westermani*.—Pleura.

#485 **Vulpes** (*Vulpes*) **vulpes** *melanogaster* [s] (Bonaparte, 1832, Iconogr. Faune Ital. (1) [Canis [1]]) Trouess., 1904*c*, Cat. Mamm., Berolini, 235. Schwarzbäuchige Fuchs. Neighborhood of Rome, Italy [t]; Sicily, Dalmatia. So. #485 **Vulpes vulpes crucigera,** fide Miller, 1912, Cat. Mamm., Western Europe, 331.

Dipylidium †308.
[*cateniformis* [s].]
Taenia [r] †325.
crassiceps.

#485 **Vulpes** (*Vulpes*) **vulpes** *niloticus* [s] (Desmarest, 1820, Encycl. méth., Mamm., (1), 204 [Canis [1]]). Nilfuchs. N. Africa, Asia Minor. So. #485 **Vulpes vulpes aegyptiaca,** fide Trouess., 1904, Cat. Mamm., Berolini, 235.

Heterophyes †272.—Intest.
†*heterophyes*.
Dipylidium †308.—Intest.
echinorhynchoides [s].
Rictularia 459*R*.
affinis.—N. Africa.
Pulex †1635.—Ext.
†*irritans*.—Morocco.
Synosternus <†1634.—Ext.
†*pallidus*.—Africa.
[*witherbyi* [s].—Africa.]

#485 **Vulpes vulpes vulpes** (Linn., 1758*a*, 40 [Canis [1]]) Miller, 1912, Mamm. W. Europe, 330. Upsala, Sweden [t]; Scandinavian Peninsula. Most of the parasites have been reported as in #485 **Vulpes vulpes,** q. v.

#485 **Vulpes** vulpis [d]. Lapsus for #485 **Vulpes vulpes,** q. v.

#485 Vulpes [1] (*Megalotis*) **zerda** (Zimmermann, 1780, Geograph. Geschichte, v. 2, 247 [Canis [1]]) Trouess., 1904, Cat. Mamm., Berolini, 239. So. #483 **Fennecus zerda,** q. v.

#486 (485). **Alopex** Kaup, 1829, Entw.-Gesch. Natürl. Syst. Europ. Thierwelt, v. 1, 189, mt. Canis [1] *lagopus* Linn.—Arctic foxes. Postorbital processes flat or very slightly concave above; forehead rising abruptly above level of rostrum; ear rounded; teeth 42 (i. 3/3, c. 1/1, pm. 4/4, m. 2/3); skull short, broad before the orbits. Tail very full and bushy. Fur, of the adult, white; of the young, greyish lead-colour. Soles of feet densely furred. Syns.: *Isatis* [o] "Cuv." Trouess., 1885, Bul. Soc. d'Études Sci. d'Angers, suppl. to 1884, 68 (as syn. of *Leucocyon* Gray, 1868); *Leucocyon* [o] Gray, 1868, Proc. Zool. Soc. London, 495, 521, mt. *lagopus* Linn.

#486 **Alopex** [t] [or Vulpes [l], *Leucocyon* [o t]] (*Alopex*, Vulpes [l], Vulpina [l]) **lagopus** (Linn., 1758*a*, 40 [Canis [l]]) Miller, 1912, Mamm. W. Europe, 319. Arctic fox, blue fox, polar fox, white fox, Blaufuchs, Eisfuchs, Polarfuchs, Steinfuchs, Fjällräfven, Fjellreven. Lappland [t]; Arctic portions of mainland of Europe and Asia; in Europe south along mountains of Scandinavia to southwestern Norway, and as an occasional visitant as far as southern Sweden; circumpolar. Several subspecies.

Eimeria †163.
mesnili.—Feces.—Murman Coast [t], Russia.—T. h.
Alaria < †223*j*.—Intest.
alata.
Apophallus †271*P*.—Intest.
[**venustus* [s].—Zoo, Washington, D. C. [t].—T. h.]
Cryptocotyle †271*F*.
lingua.
Nanophyetus < †271.
**salmincola.*—Exp.
Parascocotyle < †271.—Intest.
**longa.*—Zoo, Washington, D. C. [t]—T. h.
**nana.*—Zoo, Washington, D. C. [t]—T. h.
Diphyllobothrium †295.—Intest.
fuscum.
†*latum.*
simile.—Greenland [t].—T. h.
Mesocestoides < †299.—Intest.
canis-lagopodis [s].—T. h.
[*lagopodis* [o], for *canis-lagopodis.*]
lineatus.—Alaska.
species Hall, 1920.—St. George Island, Alaska.
Multiceps †324.—Intest.
coenurus [o].—Intest.
[*hyperborea* [s].—East Greenland [t].—T. h.]
†*multiceps.*
Taenia [r] †325.—Intest.
ovata.—Padua.
species Hall, 1920.—St. George Island, Alaska.
Ancylostoma †387.—Intest.
†*caninum.*
trigonocephalum [d].
ANCYLOSTOMIDAE †384.—Intest.
species Weidman in Fox, 1923.—Phila. Zoo.
Toxascaris †486.—Intest.
limbata [s].—Arctic Region.
Toxocara †484.—Intest.
†*canis.*—Alaska.
canis-lagopodis [s].—So. ? *mystax.*
cati [s].
†*marginata* [o].—Cf. *canis* 1782.
†*mystax.*
Trichinella †366.
†*spiralis.*
Uncinaria 390*B*.—Intest.
criniformis.
**polaris* [s].—N. America; Washington Zoo.—T. h.
species Weidman in Fox, 1916.—Phila. Zoo.
stenocephala [s].
Spirocerca 468*G*.
arctica.—Tumors of stomach.—North Europe, Russia.—T. h.
Ixodes †866.—Ext.
†*ricinus.*
Otodectes †944*c*.—Ears.
cynotis.
Ceratophyllus †1627.—Ext.
†*fasciatus.*
Ctenocephalides †1639.—Ext.
†*canis.*
Trichopsylla < †1626.—Ext.
globiceps.

#486 **Alopex** (Vulpes [1]) **lagopus innuitus** (Merriam, 1902, Proc. Biol. Soc. Wash., v. 15, Aug. 6, 170 [Vulpes [1]]) Miller, 1912, U. S. Nat. Mus., Bul. 79, 82. Continental Arctic fox, summit Arctic fox. Alaska (Karogar River, Point Barrow [t]) to Baffin Bay.

Linognathus <†1108.—Ext.
setosus.—Cross Id.

#486 **Alopex species.**

Multiceps †324.—Intest.
coenurus [o].—Arctic fox.

#487 (482). Bristle-tailed Foxes. Tail elongate, hairy, covered with soft, elongate hair, and with a median concealed crest of stiff hairs (bristles) along the upper edge unmixed with soft fur. Temporal muscles separated by a wide flat crown, narrow at occiput. Teeth like Foxes. See #488.

#488. ***Urocyon** Baird, 1857, Mamm. N. Amer., July, pt. 1, 121, 138, 143, tsd. (1901; 1904) 1st sp. *virginianus* Erxl. so. *cinereoargenteus* Schreb., from Eastern U. S. A.—Gray foxes, tree foxes, Colishé. Teeth 42 (i. 3/3, c. 1/1, pm. 4/4, m. 2/3, same as *Canis*). A supplementary tubercle on the lower sectorial; upper tubercular grinders large, long, and broad. Muzzle short; temporal crests of skull always widely separated; postorbital process thin, spread out, concave above; under-jaw with an angular emargination below; bullae of ear-bones moderate, ovate, swollen. From published records of "gray fox" it is often difficult to determine to which species or subspecies the host belongs. See *Urocyon* species.

#488 ***Urocyon californicus californicus** (Mearns, 1897, Proc. U. S. Nat. Mus., v. 20 (1126), 459 [*Urocyon cinereoargenteus*]) Miller, 1924, U. S. Nat. Mus., Bul. 128, 147. California Gray fox. San Jacinto Mountains, Riverside Co., California [t].

Mesocestoides <†299.
**variabilis*.—Mendocino Co.[t], California.

#488 ***Urocyon californicus sequoiensis** Dixon, 1910, Univ. Calif. Publ. Zool., v. 5 (7), Feb. 12, 303. Lagunitas, Marin Co., Calif.[t]; humid coast belt of Calif.

Trichodectes †1100.—Ext.
**quadraticeps*.—Calif.

#488 ***Urocyon cinereoargenteus** (Schreb., 1776, Säugthiere, pl. 92 [Canis [1]]; Erxl., 1777, Syst. Regni Anim., 567 [Canis [1]]) Rhoads, 1894, Amer. Nat., v. 28 (330), June, 524. American gray fox, Kit fox, tree fox, Colishé, Kitfuchs. Eastern North America [t]. Syn. *cinereoargentatus* [c o] Trouess., 1904, Cat. Mamm., Berolini, 239.

Diphyllobothrium †295.—Intest.
†*latum*.
Taenia (Taenia) †325*b*.—Intest.
†*pisiformis*.
*serrata.—Virginia.—So. *pisiformis*.
Ancylostoma †387.—Intest.
†*caninum*.
Ancylostomidae †384.—Intest.
species Weidman in Fox, 1923.—Phila. Zoo.
Uncinaria 390*B*.—Intest.
species Weidman, 1916.—Phila. Zoo.
Amblyomma †881.—Ext.
†*striatum*.—S. America.
Ixodes †866.—Ext.
†*ricinus*.
Ctenocephalides †1639.—Ext.
†**canis*.—Calif.
Trichodectes †1100.—Ext.
**quadraticeps*.—Calif.[t]

#488 *Urocyon *cinereoargenteus* **californicus** Mearns, 1897, Proc. U. S. Nat. Mus., v. 20 (1126), 459. California Gray Fox. San Jacinto Mountains, Riverside Co., Calif.[t] So. #488 **Urocyon californicus californicus,** q. v.

#488 ***Urocyon cinereoargenteus cinereoargenteus*** (Schreb., 1776, Säugthiere, v. 3, 360 [Canis[1]]; Erxl., 1777, Syst. Regni Anim., 567[Canis[1]]) Miller, 1912, U. S. Nat. Mus., Bul. 79, 86. Eastern North America[t].

#488 ***Urocyon** [or Canis[1]] **cinereoargenteus scottii** (Mearns, 1891, Bul. Amer. Mus. Nat. Hist., v. 3 (2), June 5, 236 [*Urocyon virginianus*]) Allen, 1895, Bul. Amer. Mus. Nat. Hist., v. 7, June 29, 253. Scott's grey fox. Pinal Co.[t], Arizona; western New Mexico; Southern California.

Toxocara †484.—Intest.

†**canis.*

#488 ***Urocyon** *cinereoargenteus* **sequoiensis** (Dixon, 1910, Univ. Calif. Publ. Zool., v. 5 (7), Feb. 12, 303 [*U. californicus*]). So. #488 **Urocyon californicus sequoiensis,** q. v.

#488 **Urocyon species.**

Ixodes †866.—Ext.

**californicus.*—Calif.—Grey fox.

#488 **Urocyon**[t] [or Vulpes[1]] (Vulpes[1], Vulpina[1]) *virginianus*[s] (Schreb., 1776, Säugthiere, v. 3, 361, pl. 92*B* [Canis[1]]) Gray, 1868, Proc. Zool. Soc. London, 522. Gray fox, dreifarbiger Fuchs, Grisfuchs, Kitfuchs, Colishé, Oztuhua, Tigrillo, Zorro. N. America. So. #488 **Urocyon**[t] **cinereoargenteus.**

Trichodectes †1100.—Ext.

**quadraticeps.*—Palo Alto[t], Calif.—T. h.

#489 (408). Auditory bulla not inflated or divided. See #490.

#490 (554). MUSTELIDAE[48 49] Swainson, 1835, Nat. Hist. Class. Quad., pp. vii, 361.—Badgers, martens, otters, weasels, etc. Alisphenoid canal absent. True molars 1–1 in upper jaw, 2–2 in lower (rarely 1–1, see #541 *Poecilogale*). Teeth generally: i. 3/3, c. 1/1, pm. 4/4, m. 1/2; the first premolar in many MUSTELIDAE is rudimentary, and is lost early; larger cheek-teeth of a combined trenchant and crushing type, the last upper premolar and first lower molar strongly differentiated as carnassials, the former 3-rooted, its inner lobe in front of middle of crown; upper carnassial with not more than 2 outer cusps. Form usually slender, size moderate or small (including the smallest known carnivores); legs always short; feet digitigrade or subplantigrade; toes 5 on front feet, 5 on hind feet. Essentially cosmopolitan; absent from Madagascar and Australia; in Europe west to Ireland. See #491. Syn. Mustelladae[d] Gray, 1821, London Med. Repository, v. 15, 301.

#491 (503). Hind feet larger than fore feet; head, fur, tail, and limbs modified in the normal mammalian fashion for aquatic life; kidneys lobulate. See #492.

#492 (501). LUTRINAE Burmeister, 1854, Syst. Ueber. Thiere Bras., Mamm., Berlin, 113.—Otters, Ottern. Hind feet with normally proportioned digits (digits 2 and 5 much shorter than 3 and 4). Tail long and highly muscular. External form long and slender; fur very dense. Legs unusually short; feet short, rounded; toes webbed; claws small, curved, blunt, or absent. Basicranial and basifacial axes approximately in one plane; teeth powerful, upper carnassial with talon large, nearly as long as blade; molar

[48] For a recent classification of the MUSTELIDAE into subfamilies, see Pocock, 1922, Proc. Zool. Soc., London, January, 803–837.

[49] In a classification of the MUSTELIDAE, Satunin, 1911, Mitt. kaukas. Mus. Tiflis, v. 5 (2–3), 266–286, proposes a new subgenus *Kolonokus* under *Putorius* for the *Mustela sibirica* group. We follow the classification of Miller and Pocock but place the species Satunin gives under *Mustela*[1] (*Kolonokus*).

wider than long, but about as large as carnassial; lower carnassial with long wide heel and large metaconid; skull, much flattened, shaped very much as in the typical MUSTELINAE (long cranial and short facial portions); cavity of bulla, where known, as in MARTINAE, but with roof depressed upon auditory annulus and not extending to paroccipital process; palatine foramina maxillary. Habits aquatic. Nearly cosmopolitan; absent only in Antarctic and high Arctic regions, Madagascar, Australia, and Pacific Islands. See #493.

#493 (496). Front claws absent; hind claws 1 and 5 absent, 2 to 4 rudimentary. Head+body over 90 centimeters long. Africa south of Sahara. See #494.

#494 (495). **Aonyx** Lesson, 1827, Man. de Mammalogie, Paris, 157, mt. *delalandi* Lesson, 1827, *inunguis* Cuv., 1823, renamed, so. (tsd. 1900) *capensis* Schinz, 1821.—African clawless otters. Antorbital portion of skull heavily developed, broad, with large incisors and canines, carnassials and molars only moderately developed in proportion to the size of the skull; skull fully 3 times the bulk of that of *Micraonyx*, which makes the palatal space between carnassials and molars of the maxillary series in *Aonyx* one and a half times greater than the transverse breadth of m[1]. S. Africa. Syns.: *Anahyster* Murray, "1861" (1863), Proc. Roy. Phys. Soc. Edinburgh, v. 2, 157, mt. *calabaricus* Murray, from Old Calabar, W. Africa; *Anonyx*[c,o] Agassiz, 1846, Nomenclator Zool., Index Univ., 24.

#494 **Aonyx**[t] **capensis** (Schinz, 1821, Cuvier's Thierreich, v. 1, 214 [Lutra[1]]) Allen, 1924, Bul. Amer. Mus. Nat. Hist., v. 47, 91. Large clawless otter. Africa.

Trypanosoma †94.—Blood.

species Fehlandt, 1911.—Tanganyika.—Host[j] "Fischotter."

#494 Aonyx[1] *leptonyx*[s] (Horsfield, 1823, Zool. Res. Java, London, pt. 7, 5 pp., 1 pl. [Lutra[1]]) Gray, 1843, List Mamm. Coll. Brit. Mus., 71. So. #495 *Micraonyx*[t] *leptonyx*[s], q. v.

#494 Aonyx[1] *leptonyx mayoii*. So. #495 [*Micraonyx*] *leptonyx mayoii*, q. v.

#495 (494). *Micraonyx*[s] Allen, 1919, J. Mamm., v. 1 (1), November, 24, tod. *leptonyx* Horsf., 1823 so. *cinerea* Illiger, 1815.—Asiatic clawless otters. Characters as in *Aonyx* reversed: facial portion of skull narrow and weak, with small incisors and canines, carnassials and molars enormously developed for the size of the skull, these teeth about equaling those of *Aonyx*; bulk of skull one-third or less than one-third that of *Aonyx*, which causes the palatal space between carnassials and molars of the maxillary series of *Micraonyx* to be much less than the transverse breadth of m[1]. Borneo; Java; Karimon Id.; Palawan Id.; Sumatra. Syns.: *Barangia* Gray, 1865, Proc. Zool. Soc. London, no. 8, 123, mt. *sumatrana* Gray so. *barang* Cuv., from Sumatra; Leptonyx[h] Lesson, 1842, Nouv. Tab. Règne Anim., Mamm., 72, mt. *barang* (syns. *leptonix* (tat.), *cinerea*, *perspicillata*) [not *Leptonyx* Swainson, 1821, birds; not Leptonyx[h] Gray, 1837, seals]. See also #498*a*, *concolor*[s] so. *cinerea*; if this synonymy is correct, *Micraonyx* is so. *Amblonyx*.

#495 *Micraonyx*[t] [or Aonyx[1], Enhydra[1]] **cinerea** (Illiger, 1815, Abh. ph.-Kl. K. pr. Ak. Wiss. Berlin (1804–1811), 90, 99 [Lutra[1]]) Allen, 1919, J. Mamm., v. 1 (1), Nov., 24. Clawless otter. Asia. Syn. *leptonyx*.

Armillifer †796.

[*aonycis*[s].—Peritoneal cavity.]

#495 *Micraonyx*[t] [or Aonyx[1]] *leptonyx*[s] (Horsf., 1823, Zool. Res. Java, London, pt. 7, 5 pp., 1 pl. [Lutra[1]]) Allen, 1919, J. Mamm., v. 1 (1), Nov., 24. Clawless otter, Javanese otter, kurzkrallig Fischotter, Anjing-ayer, Chusam, Simung, Suriam, Wargul, Welingsang. Assam; Burma, Himalayas, gener-

ally at low elevations; Java [t]; Lower Bengal; Malay Peninsula; Nepal; Singapore; south China; Sumatra. So. #495 *Micraonyx* [t] **cinerea,** q. v.

#495 [*Micraonyx* or] Aonyx [l] *leptonyx* [s] [so. *cinerea*] *mayoii* Author not traced. Otter.

Armillifer †796.

[*aonycis* [s].—Peritoneal cavity.—From River Indus, India.—T. h.]

#496(493). Front claws present though sometimes very small; toes 2 and 3 on hind feet longest, toes 1 and 5 shortest; toes of fore feet normal. Tail at least one-third of body length. Dorsal bristle hair completely covers the wool hair. See #497*A*.

#497*A* (497*B*). **Pteronura** Gray, 1837, Charlesworth's Mag. Nat. Hist., n. s., v. 1, 580, mt. *sambachii* [s] Gray, 1837 so. (1897; 1911) *brasiliensis* Zimm., 1780, Demerara [t].—Margined-tailed otter, Saumotter. Tail sword-shaped, very slightly attenuated, end rounded; distal two-thirds so depressed dorso-ventrally as to form lateral edges. Webs very large, lobes extending beyond the claws. Hair relatively short, lying smooth. Nose always pilose. Head + body about 100 centimeters long. Tropical South America. Syn. *Pterura* [c] [o] Wiegmann, 1838, Arch. Naturg., v. 1 (4), 285.

#497*A* **Pteronura** [or Lontra [l]] **brasiliensis** (Zimmermann, 1780, Geogr. Ges. Mensch., v. 2, 316 [Lutra [l]]) Ihering, 1911, Rev. Mus. Paulista, São Paulo, v. 8, 262. Ariranha. Guatemala to Guiana, Brazil, Paraguay, as far as Rio de la Plata. Syn. *Pteronura* [t] *sambachii*, fide Trouess., 1897, 286; Ihering, 1911, 263.

Alaria <†223*j*.—Intest.
clathratum.—Stomach.—Mattogrosso [t], Brazil.—T. h.
pseudoclathratum.—Brazil [t].—T. h.
Echinostoma †255.—Intest.
incrassatum.—Brazil.

Paragonimus †250.—Lungs.
rudis.—Brazil [t].—T. h.
Diphyllobothrium †295.
reptans.—Larva in musculature.

#497*B* (497*A*). Tail gradually attenuated to a point, conical, somewhat depressed dorso-ventrally. Webs do not extend beyond claws. Head + body at most 85 centimeters long. See #498.

#498 (498*a* [50]). Claws well developed; webs normal. Head + body over 50 centimeters long. See #499.

#499 (500). **Lutra** [51] Brisson, 1762, Regnum Animale, 201, 250, tat. *lutra* Linn., syn. (tsd. 1891; 1900) *vulgaris* Erxl.; or **Lutra** Brünn., 1780, Zool. Fundam., 34, tat. *Mustela lutra*.—Otter, Fischotter. Under jaw, under side and sides of neck not white up to eye-ear line; if a large neck spot is present

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[50] **498***a* (498). **Amblonyx** Rafinesque, 1832, Atlantic J., v. 1 (2), Summer (post May), 62, mt. *Lutra concolor* Raf., 1832 (concolar [m]) syn. *Lutra amblonyx* [o] Raf., 1832, from Assam [t]; *concolor* [s] so. #495 *cinerea*.—All claws rudimentary, short, blunt, but present, webs rudimentary. Head + body up to 51 centimeters long. Oriental. Cf. #495 *Micraonyx* [s] which is probably so. [s] **Amblonyx.** Cf. Pocock, 1921, Proc. Zool. Soc. London, 543. Cabrera and Miller agree with Pocock.

[51] Syns.: Hydrogale [h] Gray, 1865, Proc. Zool. Soc. London, no. 8, 131–132, mt. *maculicollis* Licht. [not #354 *Hydrogale* Kaup, 1829, insectivore];

Latax [h] Gray, 1843, Ann. Mag. Nat. Hist., v. 11 (68), Feb., 119, mt. *lataxina* Cuv., from South Carolina [not #502 *Latax* Gloger, 1827, sea otter];

Lataxia Gervais, 1855, Hist. nat. Mamm., Paris, v. 2, 118 (Latax [h] Gray, 1843, renamed);

Lataxina Gray, 1843, List Spec. Mamm. Brit. Mus., pp. xxi, 70, tat. *lataxina* Cuv. syn. *mollis* Gray (Latax [h] Gray, 1843, renamed);

Lontra Gray, 1843, Ann. Mag. Nat. Hist., v. 11 (68), Feb., 118, contains *canadensis, brasiliensis;*

Lutris [c] Duméril, 1806, Zool. Analytique, Paris, 12, 13;

Lutrix [o] Rafinesque, 1815, Analyse Nature, Palerme, 59, new name for *Lutra*; 1817, Amer. Monthly Mag., N. Y., v. 1, 437, cites only *americana* Raf.;

Lutronectes [s] Gray, 1867, Proc. Zool. Soc. London, no. 12, 180, mt. *whiteleyi* Gray, syn. ? *vulgaris* Temm. so. (1912) *lutra* Linn.;

Nutria Gray, 1865, Proc. Zool. Soc. London, no. 8, 128, mt. *felina* Molina.

this is not sharply defined. Skull broad, low (depth of braincase only about half mastoid breadth), entire dorsal profile nearly straight, zygomatic arches so widely expanded and postorbital region so much narrowed that distance from point of greatest narrowing to zygoma is greater than postorbital constriction; rostrum so shortened that posterior border of narial opening approaches level of anterior zygomatic root, and distance from orbit to gnathion is much less than half length of braincase; auditory bulla flattened, with conspicuous meatal tube; paroccipital process low and ridgelike but distinct from bulla. Teeth 36 (i. 3/3, c. 1/1, pm. 4/3, m. 1/2); large as compared with width of rostrum and palate (greatest transverse diameter of upper carnassial equal to half distance between carnassials); all of the small premolars opposed and capable of trenchant action with those of opposite jaw; upper carnassial with crown triangular in outline, the outer side occupied by a moderately high cutting edge formed by 2 cusps and a connecting ridge, the inner side (about half total crown area) by a flat crushing surface; upper molar rhombic in outline, its crown area about equal to that of carnassial (usually somewhat smaller), its greatest diameter transverse to axis of toothrow, 4 primitive cusps present; lower carnassial with 3 anterior cusps well developed, subequal, posterior heel slightly larger than anterior triangle. External form highly modified for aquatic life, body long and of approximately same width as neck and head, tail long, very muscular, broad at base, tapering distally, legs short, feet broad, toes webbed, short-clawed; fur soft, dense and impervious to water. Nearly cosmopolitan; absent only from the Antarctic and high Arctic regions, Madagascar, Australia and Pacific Islands.

#499 **Lutra annectens** Forsyth Major, 1897, Zool. Anz., v. 20 (529), Apr. 26, 142. Central American Otter, Nutria in Costa Rica. Rio de Tepic, Nayarit, Mexico [t]; Central America.

#499 Lutra [l] [or Lontra [l]] **brasiliensis** Zimmermann, 1780, Geogr. Ges. Mensch., v. 2, 316. So. #497*B* **Pteronura brasiliensis,** q. v., fide Ihering, 1911, 262.

#499 Lutra [l] **capensis** Illiger, 1815, Abh. ph.-Kl. K. pr. Ak. Wiss. (1804–1811), 79, 87 [nn]; Schinz, 1821, Cuvier's Thierreich, v. 1, 214. So. #494 **Aonyx** [t] **capensis**, q. v.

#499 Lutra [l] **cinerea** Illiger, 1815, Abh. ph.-Kl. K. pr. Ak. Wiss. (1804–1811), 90, 99 [nn]. So. #495 **Micraonyx cinerea**, q. v.

#499 **Lutra** [t] [or Latax [h]] (*Lutra*) **lutra** (Linn., 1758*a*, 45 [Mustela [l]]) Cuv., 1817, Règne Anim., v. 1, 151. Common otter, European otter, Sea otter, Nirrnai, Nirunai (Water-dog). Upsala, Sweden [t]; from British Isles to Caucasus, from Scandinavia to Spain and Greece; north Africa, eastward into Asia; limits of range not known.

Euparyphium †257.—Intest.
[*melis.*—Europe.]
[*trigonocephalum* [o].]

Schistocephalus <†289.—Intest.
nodosus [s].—Leningrad, U. S. S. R.

Dioctophyme †426.
[*giganteus* [o].]
gigas.—Intest. erratic, pelvis of kidney.—Alfort, Europe.
viscerale [s].

Filaria †435.
acuminata [h].—Pulm. arteries, embryos in blood.—Coll. Senckenberg, Frankfurt a. M.

Skrjabingylus <†418.—Frontal sinus.
[mustelarum [l s].—So. *nasicola.*]
nasicola.

Trichosoma [l] †372*a*.
putorii [s].—Russia.

Echinorhynchus †502.
species André, 1917.—Intest.—Rhone.

Ixodes †866.—Ext.
crenulatus [s].
†*hexagonus hexagonus.*—England.

Trichodectes †1100.—Ext.
exilis.—Palaearctic Region [t].—T. h.

#499 **Lutra** [or Aonyx [l], Hydrogale [h o]] **maculicollis** Lichtenstein, 1834, Verz. Samml. südafr. Nat., June, 7 [nn]; 1835, Arch. f. Naturg., v. 1 (1), 89, pl. 2. Spotted-necked otter, web-footed otter. Africa south of Sahara (Bambusbergen [t]).

#499 **Lutra matschiei** Cabrera, 1903, Bol. Soc. esp. Hist. Nat., v. 3 (4), 182. Muni River, Gaboon [t]. Species unrecognizable from description, fide Allen, 1924, Bul. Amer. Mus. Nat. Hist., N. Y., v. 47, 90.

Trichodectes †1100.—Ext.
matschiei.—Cameroon [t].—T. h.

#499 Lutra *nair*[s] Cuv., 1823, Dict. Sci. nat., v. 27, 247. Anjing Ayer, nirnayie, Indian otter. Asia; Europe. So. #499 **Lutra lutra**, fide Trouess., 1897*c*, 283.

Armillifer †796.
[*aonycis* [s].—Peritoneal cavity.]
†*moniliformis.*—Encysted.

#499 **Lutra paranensis** Rengger, 1830, Naturg. Säug. Paraguay, 128. Mexico to Straits of Magellan.

#499 **Lutra pruneri.**

Boopia <†1097.—Ext.
peregrina.—India [t].—T. h.

#499 **Lutra** *solitaria* [s] Natterer, 1842, Arch. Naturg., v. 8 (1). 358. So. #499 **Lutra paranensis,** fide Trouess., 1897*c*, 287.

Echinostoma †255.—Stomach, intest.
incrassatum.—Brazil [t].—T. h.
Diphyllobothrium †295.
reptans.—Larva in muscles.
Dioctophyme †426.
gigas [s].—Abdom.—Brazil.
viscerale.

#499 **Lutra species.**

Treponema [l] †142*f*.
[*lutrae.*—Batavia [t].—T. h.]
Trypanosoma †94.—Blood.
species Fehlandt, 1911.—Tanganyika.—Host [j] "Fischotter."
Echinostoma †255.
inerme.—T. h.
Cloeoascaris <†476*q*.—Intest.
spinicollis.—Kilosa [t], Tanganyika.—T. h.
Dioctophyme †426.
[*gulonis-sibirici.*—So. *gigas*=*renale.*—Sea otter.]
[sanguineus.—Otter.]
Ixodes †866.—Ext.
**hexagonus longispinosus.*—U. S. A.

#499 **Lutra** *vulgaris* [o] Erxl., 1777, Syst. Regni Anim., v. 1, 448, renaming of *lutra*. Common Otter, loutre commune, Fischotter, gemeine Otter, Uttern, Dalwai bek, Jalmanjar, Jal-mánus, Lad, Nirnai, Niru-Kuka, Nirunai, Páni kutta, Pánmanjar, Sag-i-áb, Ud, Ud biláo. Throughout Palaearctic region, extending into northwest Himalayas, India, Ceylon east of Bay of Bengal. So. #499 **Lutra lutra,** q. v.

#500 (499). **Lutrogale** Gray, 1865, Proc. Zool. Soc. London, no. 8, 127, first sp. *monticola* Hodgson, 1855, from Himalayas, but compare tsd. (1919; 1923) by elimination, *macrodus.*—Under jaw, under side and sides of neck up to eye-ear line white, the light color sharply defined from the dark. Oriental.

#501 (492). ENHYDRINAE Gill, 1872*a*, Arrangement Fam. Mamm., Smiths. Misc. Coll. no. 230, 6, 65.—Sea Otters. Differ from LUTRINAE as follows: Hind feet very large and paddle-like, with digits subequal, but the 5th slightly longer than the 3rd or 4th. Tail short. Basicranial axis depressed at an angle upon basifacial axis; angular of mandible remote from condyle; teeth with rounded cusps, median lower incisor suppressed. See #502.

Syn. LATAXINAE Pocock, 1922, Proc. Zool. Soc., London, part 4, no. 55, January, 830.

#502. Enhydra [52] Fleming, 1822, Philos. Zool., v. 2, 187, "Sea Otter", probably tsd. (1904) *Lutra marina* Steller, from coasts of North Pacific; tsd. (1924) Mustela [l] *lutris* Linn.—Sea otters. On hind foot toe 5 longest, toe 1 shortest, front toes very short. Tail not over one-fourth body length. Dorsal bristle hair so sparse that wool hair is exposed. Head+body much over 100 centimeters long. Coast of northern Pacific.

#502 **Enhydra** [or Enhydris [h o], *Latax* [o], Lutra [l], Phoca [l]] (*Latax* [o]) **lutris** (Linn., 1758*a*, 45 [Mustela [l]]) Gray, 1843, List Mamm. Coll. Brit. Mus., 72. Northern Sea Otter. Coasts of Bering Sea [t]; America; Asia.

#502 **Enhydra** [or Enhydris [h o], *Enydris* [o], *Latax* [o]] (*Enhydra*) *marina* [s] (Leem, 1767, Beskr. Finmark. Lapper, 208 [Lutra [l]]; Link, 1795, Beytr. Nat., v. 1 (2), 84 [Lutra [l]]; Exrl., 1777, Syst. Regn. Anim., 445 [Lutra [l]]) Gray, 1843, Ann. Mag. Nat. Hist., v. 11, Feb., 119. Sea otter, loutre de mer, edle Seeotter, Seeotter. So. #502 **Enhydra lutris,** fide Trouess., 1904*c*, 215, Elliott, 1905, 435, and Thomas, 1911, 138. Syn. *lutris*, fide Baird, 1857, 189.

#503 (491). Hind feet usually smaller, never larger than fore feet; no structural modification subservient to aquatic life; kidneys not lobulate. See #504.

#504 (507). Cavity of bulla completely divided into 2 subequal chambers by oblique partition passing from stylomastoid foramen forward and inward to carotid foramen. See #505.

#505. HELICTIDINAE Gill, 1872*a*, 6, 64.—Bulla not communicating with periotic hollow, its roof close to auditory annulus; upper carnassial with large bicuspid talon; molar wider than long, smaller than carnassial; lower carnassial with moderate heel and large metaconid; rhinarium very deep below nostrils, lateral slit of nostrils long and complete; no philtrum or groove on upper lip; ear with well-developed bursa. Feet fossorial, naked below, but narrow, with webbing extending only to proximal end of digital pads, which are widely separable; all pads coarsely striate; 2 long metatarsal pads. No anal pouch. See #506.

#506. Helictis Gray, 1831, Proc. Zool. Soc. London, pt. 1 (8), post June 28, 94, mt. (only definite species) *moschata* Gray (tsd. 1904).—Ferret-badgers, Spitzfrett. Size small. Body and head elongate; ears small, but distinct; nose prolonged and terminating in a naked, obliquely truncated snout, separated from upper lip by a narrow hairy space; nose naked above for about one-third the distance to eyes. Legs short; claws much compressed, fore claws about double the length of hind; soles naked; naked portion of hind foot terminates some distance in front of heel. Mammae 4. Teeth 38

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[52] Syns.: Enhydria [c] Zittel, 1893, Handb. Palaeozool., v. 4 (3), 652, *Enhydra* Fleming, 1822, renamed;
Enhydris [h o] Temminck, 1838–1839, Hoeven's Tijdschrift Natuur. Gesch. Physiol., v. 5, 285, quotes Enhydris *marina* [not *Enhydris* Merrem, 1820, reptile];
Enydris [o] Fischer, 1829, Synop. Mamm., 228 (syn. "*Enhydra* Fleming?"), mt. *stelleri*;
Euhydris [m] Jordan, 1888, Man. Vert. Anim. North. U. S., 5th ed., 339;
Latax [o] Gloger, 1827, Nova Acta Leop., Halle, v. 13 (2), 511, mt. *marina* Erxl., from coasts of North Pacific [t] so. (tsd. 1901; 1905) *lutris* Linn.;
Pusa [h o] Oken, 1816, Lehrb. Naturg., Th. 3, Zool., Abth. 2, 985, tsd. (1904) 3rd sp. *orientalis* Oken so. *marina* so. *lutris* Linn. [not *Pusa* Scopoli, 1777, PHOCIDAE].

(i. 3/3, c. 1/1, pm. 4/4, m. 1/2); upper carnassial (which in both Indian and Burmese forms is much larger than the true molar behind it) with very large bicuspid inner tubercle and a very small pointed cusp at the anterior extremity; lower carnassial with a heel (talon) about one-third as long as the tooth; molar broader than long, outer margin slightly indented, crown with several small cusps. Skull with the nasal portion rather narrow, palate extending backwards to about halfway between hindmost molars and glenoid fossa; infraorbital foramen large. Vertebrae: C. 7, D. 14, L. 6, S. 4, Cd. ?. Shorter legs and longer bodies than badgers, but are allied to latter and not to *Gulo* or any other genus of MUSTELINAE, so that it is incorrect to call them wolverines as Jerdon and others have done; Blyth's term Brockweasel is better, but animal is not a weasel. Eastern Asia.

Syns.: *Helictes* [c] Gray, 1847, List Osteol. Spec. Brit. Mus., pp. x, 20;
Melogale [s] Geoffr., 1834, Voy. Indes-Orient., Zool., Paris, 129–137, mt. *personata* Geoffr., 1834.

#506 **Helictis everetti** Thomas, 1895, Ann. Mag. Nat. Hist., ser. 6, v. 15, 331. Mount Kina Balu [t], N. Borneo.

Neotrichodectes <†1099.—Ext.
[*mephitidis* [s] Osborn.—Borneo.]

#507 (504). Cavity of bulla, when divided, separated into an anterior larger and a posterior smaller chamber by a transverse partition running from stylomastoid to foramen lacerum posticum. See #508.

#508 (516). Walls of bulla everywhere thick and permeated with air cells continuous with those of mastoid, cells of which may communicate with cavity of bulla. See #509.

#509. MUSTELINAE [r] Swainson, 1835, Nat. Hist. Class. Quad., pp. vii, 362.—Stoats, weasels, and polecats. Weasel-like. Skull with long cranial and short facial portions; teeth sectorial, talon of upper carnassial small, anterior; molar much wider than long; lower carnassial with cuspidate heel, metaconid present or absent; pm. 1 absent above and below; tympanic annulus in contact with roof of bulla; palatine foramina maxillary; rhinarium small; bursa of ear marginal, large or moderately so. Feet cursorial, usually hairy below, no metatarsal pad; other pads moderate or small, coarsely striate; claws short, compressed, acute, curved; digits webbed to proximal end of pads, the second, third, and fourth widely separable. Baculum with narrow, long, deep groove in its distal third beneath, ending in a median rounded apex. Northern hemisphere, south into northern Africa, Malay Archipelago, and northern and western S. America; in Europe west to Ireland. See #510.

#510 (511). **Vormela** Blasius, 1884, Bericht naturforsch. Gesellsch. Bamberg, v. 13, 9–10, 14, mt. tod. *sarmatica* Pallas so. (tsd. 1912) *peregusna* Gueldenstaedt.—Tiger polecats, Tigeriltisse. Lower carnassial with evident though small metaconid; hamular in contact with bulla. Back and sides spotted and striped. Skull narrow, somewhat flattened (depth of brain-case a little more than half mastoid breadth), dorsal profile slightly arched posteriorly, rather strongly bent down from orbital region forward, zygomatic arches not specially widened, and postorbital region not unusually narrowed (distance from point of greatest narrowing to zygoma less than breadth of postorbital constriction); rostrum rather short and broad, its width about equal to that of interorbital constriction, the distance from anterior rim of orbit to gnathion equal to one-half length of brain-case; auditory bulla moderately inflated, oval or subtriangular in outline, the meatus with a tubular rim, anterior extremity of bulla in contact with hamular and nearly or quite reaching

level of foramen ovale. Teeth 34 (i. 3/3, c. 1/1, pm. 3/3, m. 1/2); upper carnassial robust, width of its cutting portion about half of length, anterior cusp so developed that its greatest height is nearly three-fourths length of outer border of tooth; posterior cusp greatly reduced, appearing as a mere thickening of posterior margin of crown; inner lobe of carnassial much wider than in *Mustela*, its posterior border extending about to middle of crown; upper molar elongate-pyriform, the outer portion only a little narrower than inner, the median constriction slight, axis of crown strongly oblique to median line; protocone, paracone and hypocone small but distinct, metacone barely indicated; lower carnassial essentially as in *Martes*, metaconid small though evident, but posterior heel smaller, its area less than half that of cutting portion of crown. External form polecat-like; fur rather soft and dense, varied with black, brown, and whitish or yellowish. Tail about half as long as body, bushy. S. E. Europe to central China.

#510 **Vormela** [or Putorius [1]] (Putorius [1]) **peregusna** (Gueldenstaedt, 1770, Nov. Comm. Acad. Sci. Imp. Petrop., v. 14 (1), 441 [Mustela [1]]) Miller, 1910, Proc. U. S. Nat. Mus., v. 38, 385. Mottled polecat. Banks of River Don, southern Russia [t]; from central Asia west through Asia Minor and southern Russia to Roumania, Bulgaria and eastern Austria-Hungary (Bukowina).

#510 **Vormela** [t] [or Foetorius [1], Putorius [1], Rhabdogale [1], Viverra [1]] (Putorius [1]) *sarmatica* [s] (Pallas, 1771, Reise Prov. Russ. Reichs, St. Petersb., v. 1, 453 [Mustela [1]]) Blasius, 1884, Bericht naturforsch. Gesellsch. in Bamberg, v. 13, 9–10. Mottled polecat, Tiegeriltiss. Eastern Europe, parts of Western Asia, generally very rare, but common in S. Afghanistan. So. #510 **Vormela peregusna.**

Molineus †411*Q*.
patens.

Trichopsylla <†1626.—Ext. penicilliger of Kol.—Palaearctic Region.

#511–515 (510). **Mustela** [1 53] Linn., 1758*a*, 45, type *erminea* Linn. (quotes *Mustela vulgaris* Gesner), etd. (1901) *martes* Linn., etd. (1901) *lutra* Linn.—Ferrets, polecats, weasels, etc., Stinkmarder. Lower carnassial without metaconid; tip of hamular widely separated from bulla. Back and sides never spotted, rarely (in certain Asiatic species) with median dorsal stripe. Skull in general resembling that of *Martes*, but rostrum so shortened that distance from orbit to gnathion is less than width of rostrum between anteorbital foramina; auditory bulla without meatal tube, its outline variable but never flask-shaped; paroccipital process small and flattened, closely applied to posterior margin of bulla. Teeth 34 (i. 3/3, c. 1/1, pm. 3/3, m. 1/2); upper carnassial as in *Martes*, its posterior cusp low but well developed, the height of its main cusp about half outer border of crown; upper molar between pyriform and pandurate in outline, the constriction evident though not deep, the main axis of crown nearly perpendicular to sagittal line; lower carnassial without metaconid, the posterior heel crossed by a longitudinal trenchant ridge; other teeth essentially as in *Martes*. External form slender, muzzle obtuse, ears low and rounded, legs short, tail variable in length and in quality of hair, but never so bushy as in *Martes*. Northern hemisphere from the

[53] Certain authors (as Miller, 1924, U. S. Nat. Mus., Bul. 128, 116–127, and Anthony, 1928, N. Amer. Mamm., 98–111) divide the genus *Mustela* into the three subgenera *Mustela*, *Lutreola*, and *Putorius*; others (as Cabrera, 1922, Man. Mastozool., 201) use *Mustela* and *Putorius* as genera; still other authors use *Mustela*, *Putorius* and *Lutreola* as genera. Under the circumstances we follow the same system we adopted in #413 *Felis*, i. e., using *Mustela* in a broad sense and making the subgenus in question stand out by putting it in **heavy type**.

Arctic coast south in the Old World to northern Africa and the Malay Archipelago, and in America to the Andes; in Europe west to Ireland. See #512, also footnote 49.

#511 **Mustela** [l] [or Putorius [l]] (#513 **Mustela,** *Arctogale,* Ictis [h]) **affinis** Gray, 1874, Ann. Mag. Nat. Hist., v. 14, ser. 4, 375. Allied weasel, Collaraja. Colombia [t]; ranges north to Panama.

Ceratophyllus †1627.—Ext.

appollinaris.—Bogota [t], Colombia.—T. h.

#511 **Mustela** [l] (#513 **Mustela** [r]) **affinis costaricensis** (Goldman, 1912, Proc. Biol. Soc. Wash., v. 25, Jan. 23, 9–10) Allen, 1916, Bul. Amer. Mus. Nat. Hist., v. 35, Apr. 28, 101. Costa Rican weasel. San José [t], Costa Rica; Costa Rica and Panama, south through western Andes of Colombia to northwestern Ecuador (and Peru ?).

#511 Putorius [l] *affinis* [s] of Merriam, 1896, N. Amer. Fauna, no. 11, June 30, 31, not *affinis* Gray, 1874. So. #511 **Mustela** (**Mustela**) **affinis costaricensis,** q. v.

#511 Mustela [l] **americana** Turton in Linn., 1802, Syst. Nat., v. 1, 60. So. #521 **Martes americana,** q. v.

#511 Mustela [l] americana [h] (Desmarest, 1818, Nouv. Dict. Hist. nat., Paris, v. 21, 514 [*Mephitis*]) Baird, 1857, Mamm. N. Amer., 195. So. #552 **Mephitis** americana [h], q. v.

#511 ***Mustela** [l] (#513 **Mustela** [r], *Arctogale* [o], Ictis [h]) **arizonensis** (Mearns, 1891, Bul. Amer. Mus. Nat. Hist., v. 3, 234 [Putorius [l]]) Miller, 1912, U. S. Nat. Mus., Bul. 79, 99. Arizona weasel, mountain weasel. San Francisco forest, Yavapai Co., Arizona [t].

Ixodes †866.—Ext.

*species Henshaw & Birdseye, 1911.—Bitter Root Valley.

**texanus.*—Texas [t].

Ceratophyllus †1627.—Ext.

**acasti* [s].—Montana.

caedens durus.—Brit. Columbia [t].—T. h.

**howelli.*—Pine City [t], Calif.

**ciliatus mononis.*—Pine City [t], Calif.

**sexdentatus nevadensis.*—Pine City [t], Calif.—T. h.

**wickhami.*—Montana.

Foxella <†1626.—Ext.

ignotus recula.—Okanagan Landing [t], Brit. Columbia.—T. h.

#511 Mustela [l] **barbara** Linn., 1758*a*, 46. So. #525 **Tayra barbara,** q. v.

#511 Putorius [l] caudatus. Probably lapsus for #511 **Mustela** [l] (**Mustela**) **longicauda.**

Ceratophyllus †1627.—Ext.

abantis.—Alberta.

#511 Mustela [l] **caurina origenes** Rhoads, 1902, Proc. Acad. Nat. Sci., Phila., v. 54, 458. So. #521 **Martes caurina origenes,** q. v.

#511 **Mustela** [l] [or Putorius [l]] (#513 **Mustela** [r], *Arctogale* [o], Ictis [h]) **cicognanii** Bonaparte, 1838, Charlesworth's Mag. Nat. Hist., n. s., v. 2, Jan., 37. Bonaparte weasel, common weasel, small brown weasel. Northeastern North America [t].

#511 **Mustela** [l] [or Putorius [l]] (#513 **Mustela** [r]) **cicognanii cicognanii** (Bonaparte, 1838, Charlesworth's Mag. Nat. Hist., n. s., v. 2, Jan., 37) Miller, 1912, U. S. Nat. Mus., Bul. 79, 95. Northeastern North America [t]; Boreal forest covered parts of North America from New England and Labrador to coast of southeastern Alaska, and south in Rocky Mountains; it occurs in

interior of British Columbia (at Sicamous); common in New England and New York, and in forest-covered parts of Minnesota; probably occurs also in northern Michigan and Wisconsin.

#511 **Mustela**[l] [or Putorius[l]] (#513 **Mustela**[r], *Arctogale*[o], Ictis[h], Putorius[l]) **cicognanii richardsonii** (Bonaparte, 1838, Charlesworth's Mag. Nat. Hist., n. s., v. 2, Jan., 38 [*Mustela*]) Miller, 1912, U. S. Nat. Mus. Bul. 79, 95. Richardson's weasel. Fort Franklin, Great Bear Lake, Mackenzie, Canada[t]; to Alaska and Brit. Columbia.

Nearctopsylla <†1623.—Ext.
brooksi.—Alberta; Brit. Columbia.
hygini hygini.—Red Deer[t], Alberta.—T. h.

#511 *Putorius communis*[o] Lesson, 1842, N. Tab. Règne Anim., Nov., 69, renaming of *putorius.* So. #511 **Mustela**[l] (**Putorius**) **putorius,** q. v.

#511 **Putorius desertorum.**

Ctenophthalmus <†1626.—Ext.
rettigi.—Rumania[t].

#511 **Mustela**[l] [or #514 **Lutreola**[r], Putorius[l]] (Putorius[l]) **energumenos** (Bangs, 1896, Proc. Bost. Soc. Nat. Hist., v. 27, 5 [Putorius[l] *vison*]) Miller, 1912, U. S. Nat. Mus., Bul. 79, 415. Syn. *Lutreola* energamos[m]. So. #511 **Mustela**[l] (**Lutreola**) **vison energumenos,** q. v.

#511 **Mustela**[l] [or *Arctogale*, Foetorius[l], *Mustelina*, Putorius[l], Viverra[l]] (#513 **Mustela**[r], *Arctogale*, *Gale*[s], Ictis[h]) **erminea** Linn., 1758*a*, 46. Ermine, stoat, hermine, grosses Wiesel, Hermelin, Hermelinen, Røiskatten. Upsala, Sweden[t]; throughout Palaearctic region as far south as the Alps and Himalayas.

Hymenolepis †314.
species Galli-Valerio, 1931.—Ova in feces.

Taenia[l] <†299.
species Feilden in Nares, 1878.

Taenia[r] †325.—Intest.
brevicollis.—Berlin[t], Germany.—T. h.

Taenia (Hydatigera) †325*c*.—Intest.
†*crassicollis*[s].—Switzerland.
†*taeniaeformis.*

Ascaris[l] †479.
columnaris.—Intest.—Siberia.

Filaroides <†440.—Lungs.
bronchialis[o].
mustelarum[l s].—Russia.

Trichosoma[l] †372*a*.
putorii[s].

Trichostrongylus †414 or **Molineus** †411*Q*.
[foetus[m] for *patens.*—Switzerland.]
patens.—Small intest., duodenum.—Europe.

Skrjabingylus <†418.—Frontal sinus.
[mustelarum[d l s].]
nasicola.

Ceratonyssus †891*l*.—Ext.
†*musculi*[t].—Sneek.

Demodex †855.—Hair follicles.
ermineae.—Exeter[t], England[t].—T. h.

Hypoaspis <†898.—Ext.
celeripediformis.—Sneek[t], Holland.

Ichoronyssus †891*o*.—Ext.
albatus[s].—Europe.
arcuatus.
isabellinus.—Holland.

Ixodes †866.—Ext.
†*hexagonus.*—The Hague; Europe.
†*ricinus.*—England.

Laelaps †900.—Ext.
crassipes.—Sneek, Holland.
hilaris.
species Ouds., 1896.—Sneek, Holland.

Listrophorus <†930*a*.—Ext.
mustelae.—Central Europe.

Parasitus <†896.—Ext.
mustelarum.—Holland.
Trombidium †977.—Ext.
†*striaticeps*.—Europe; France [t].
Amphipsylla <†1626.—Ext.
contigua contigua.—Eger [t], Bohemia.—T. h.
contigua locuples.—E. Turkestan [t].
dumalis.—E. Turkestan [t].
primaris primaris.—E. Turkestan [t].—T. h.
Ceratophyllus †1627.—Ext.
†*fasciatus*.—Brit. Isles.
flaveolus.—Austria [j].
lunatus.—Savoy.
mustelae.—Brit. Isles.
penicilliger.—Brit. Isles.
sciurorum.—Brit. Isles.
walkeri.—Brit. Isles.
Ctenophthalmus <†1626.—Ext.
assimilis.—Denmark.
Felicola <†1099.—Ext.
subrostratus.
Hoplopsyllus †1628.—Ext.
glacialis profugus.—E. Turkestan [t].—T. h.
Hystrichopsylla <†1623.—Ext.
talpae.—Europe.
Leptopsylla †1624.—Ext.
spectabilis.—Great Britain.
Trichodectes †1100.—Ext.
dubius [o].—Great Britain.
pusillus [s].—Europe.
retusus [s].—Europe.
species Giebel, 1861.—Europe.

#511 *Lutreola europaea* [o] Homeyer, 1879, Zool. Garten, v. 20 (6), June, 184, substitute for *lutreola*. So. #511 **Mustela** [l] (**Lutreola**) **lutreola,** q. v.

#511 **Mustela** [l] [or *Foetorius, Putorius*] (#513 **Putorius** [r]) **eversmanii** Lesson, 1827, Man. Mamm., May, 144. Southeastern Russia and Caucasus; extending as far as Turkestan and the south of Siberia.

Ascaris [l] †479.
columnaris.—Intest.—Siberia.
Haemaphysalis †869.—Ext.
numidiana.—Central Asia.

#511 Mustela [l] **flavigula** Bodd., 1784, Elench. Anim., Roterodami, v. 1, 88. So. #521 **Martes flavigula,** q. v.

#511 **Mustela** [l] [or *Foetorius*] *foetida* [o] (Gray, 1843, List Spec. Mamm. Brit. Mus., 64 [*Putorius*], renaming of *putorius* Linn.) Grevé, 1894, Nova Acta Acad. Leop., Halle, 180, 269. Elk, Ilk, Iltis, Ratz, Stänker, Illern. So. #511 **Mustela** [l] (**Putorius**) **putorius,** q. v.

#511 Mustela [l] **foina** Schreb., 1777, Säugth., v. 3, 472, pl. 129 (1776). So. #521 **Martes foina,** q. v.

#511 **Mustela** [l] [or Putorius [l]] (#513 **Mustela** [r], *Arctogale* [o], *Gale*, Ictis [h]) **frenata** Lichtenstein, 1831–1834, Darstellung neuer oder wenig bekannter Säugethiere, pl. 42. Bridled weasel, gezäumte Wiesel, Comadreja, Onza (in Mexico). Valley of Mexico, near Mexico City, Mexico [t], north to southern Texas.

Filaria †449.
perforans [s].—Subcut.

#511 **Mustela** [l] (Lutra [l]) *fulva* [o] Kerr, 1792*a*, Anim. Kingd., 173, renaming of *lutreola*. So. #511 **Mustela** [l] (**Lutreola**) **lutreola,** q. v.

#511 **Mustela** [l] [or *Foetorius*, Martes [l], *Putorius*, Viverra [l]] (#515 **Putorius,** Mustela [l]) **furo** Linn., 1758*a*, 46. Ferret, furet, Frettchen. Usually assumed to be a domesticated variety of #511 *Mustela* (*Putorius*) *putorius*, but appears to be closely related to #511 *Mustela* (*Putorius*) *eversmannii*. Africa [t]; Europe.

Eimeria †163.
furonis.—Feces.—England [t].—T. h.
ictidea.—Feces.—England [t].—T. h.
Isospora †161.
laidlawi.—Feces.—England [t].—Syn. laidlaw [m].—T. h.

Treponema[1] †142*f*.
†*morsus-muris*.
Diphyllobothrium †295.
ranarum.—Plerocercoid in stomach, on surface of mesentery, intercostal muscles, subcutaneous cellular tissue of thoracic region.—Paris, from England.—Exp. in "ferret".
Trichinella †366.
†*spiralis*.—Muscles.—Exp.
Trichuris †370.
†*affinis*[s].
[species Railliet, 1893*a*.—Intest.—Female found, resembling *T. depressiusculus* of dog.]
Haemaphysalis †869.—Ext.
†*leachi*.—Africa.
Ixodes †866.—Ext.
†*hexagonus*.
†*reduvius*.
†*ricinus*.
Laelaps †900.—Ext.
species Ouds., 1896.—Holland.
Listrophorus <†930*a*.—Ext.
gibbus.—England.
mustelae.
putorii.—T. h.
Otodectes †944*c*.—Ext.
cynotis.
[**ecaudatus* °.—Maryland.]
furonis.
Sarcoptes †942.—Skin.
hydrochoeri.
†*scabiei*.—France.
scabiei cuniculi.
scabiei furonis.—France.—T. h.
Uropoda <†890*a*.—Ext.
parallela.
Ceratophyllus †1627.—Ext.
†*fasciatus*.—England.
[*furoris*[s].—Glanvilles Wootton[t], England.—Ferrets t. h.]
Ctenophthalmus <†1626.—Ext.
agyrtes.—England.—Ferret.
Linognathus <†1108.—Ext.
piliferus.—Ferret.

#511 **Mustela**[1] *gale* ° Pallas, 1811, Zoogr. Rosso-Asiat., v. 1, 94, renaming of *vulgaris*. So. #511 **Mustela**[1] (**Mustela**) *vulgaris*, q. v.

#511 Mustela[1] **galera** Erxl., 1777, Syst. Regn. Anim., v. 1, 453. So. #458 **Atilax galera,** q. v.

#511 Mustela[1] **gulo** Linn., 1758*a*, 45. So. #523 **Gulo gulo.**

#511 **Mustela**[1] *iltis* ° Boddaert, 1784, Elenchus Anim., Roterodami, v. 1, 87, renaming of *putorius*. So. #511 **Mustela**[1] (**Putorius**) **putorius,** q. v.

#511 **Putorius** *infectus*[s] Ogerien, 1863, Hist. Nat. Jura, Paris, v. 3, 59, substitute for *putorius*, fide Miller, 1912, 423. So. #511 **Mustela** (**Putorius**) **putorius,** q. v.

#511 **Mustela**[1] [or *Foetorius*, #515 **Putorius,** Vison[1]] **itatsi** Temm. in Siebold, 1844, F. Japon. (Mamm.), 34. Japan.

Sparganum †293.
species Ijima & Murata, 1888.—Japan.—Host given as "*Mustelus itatsi*."
Dioctophyme †426.
†*renale*.—Body cav.[—Japan.]
Gnathostoma †473.
†*spinigerum*.
Centrorhynchus †501*S*.
itatsinis.—Small intest.—Japan[t].—T. h.
Ceratophyllus †1627.—Ext.
andersoni.—Takamori[t], Japan.—T. h.
Trichopsylla <†1626.—Ext.
[*mikado*.—Japan[t].—T. h.]

#511 Mustela[m] *laevis*. See under Fishes.

#511 ***Mustela**[1] [or Putorius[1]] (#515 **Mustela**[r], *Arctogale* °, Ictis[h]) **longicauda** Bonaparte, 1838, Charlesworth's Mag. Nat. Hist., n. s., v. 2, Jan., 38. Long-tailed weasel. Carlton House, Saskatchewan, Canada[t]; Great Plains, from Kansas northward.

Ceratophyllus †1627.—Ext.
sexdentatus agilis.—Alberta[t]; Brit. Columbia.
labis.—Calgary[t], Alberta.—T. h.
Hystrichopsylla <†1623.—Ext.
dippiei.—Alberta.
Nearctopsylla <†1623.—Ext.
brooksi.—Alberta.

Neopsylla †1625*C*.—Ext.
inopina.—Calgary [t], Alberta.

Oropsylla <†1626.—Ext.
[*pocantis* [s].—Canada.]
rupestris.—Alberta [t].

#511 Putorius [l] **longicaudatus** [m] Jordan & Rothschild, 1922, Ectoparasites, v. **1** (4), 275. So. #511 **Mustela** (**Mustela**) **longicauda,** fide Jordan, 1929, Novit. Zool., v. 35, 32.

#511 Mustela [l] **lutra** Linn., 1758*a*, 45. So. #499 **Lutra lutra,** q. v.

#511 **Mustela** [l] [or Foetorius [l], *Hydromustela*, Lutra [l], #514 *Lutreola* [r], Putorius [l], *Vison* [o]] (#514 **Lutreola** [r]) **lutreola** (Linn., 1761, Faun. Suec., ed. 2, 5 [Viverra [l]]) Linn., 1766, Syst. Nat., ed. 12, 66. Vison d'Europe, Nörz, Sumpfotter (Marsh-Otter), Wasserwiesel. Finland [t]; Northern Asia, westward to Finland and southwestern France, southward to eastern Rumania; limits of range not known.

Euparyphium †257.—Intest.
[*melis*.—Europe.]
trigonocephalum [o].
Dioctophyme †426.
gigas.—Intest., pelvis of kidney.—Rennes; Boston.
viscerale.
Filaroides <†440.—Lungs.
bronchialis [o].
mustelarum [o].—Russia.

Gnathostoma †473.
robustum [s].—Stom.
sociale [s].—Stom.
Ixodes †866.—Ext.
cookei.
†*hexagonus*.

#511 Mustela [l] **lutris** Linn., 1758*a*, 45. So. #502 **Enhydra lutris,** q. v.

#511 Mustela [l] **martes** Linn., 1758*a*, 46. So. #521 **Martes martes,** q. v.

#511 Mustela [l] **melampus** Wagner in Schreb., 1840, Säugth., Suppl., v. 2, 229. So. #521 **Martes melampus,** q. v.

#511 **Mustela** [l] [*Cynomyonax* [t]] (#515 **Putorius** [r], *Cynomyanax* [e o], *Cynomyonax* [t]) **nigripes** (Audubon & Bachman, 1851, Quad. N. Amer., v. 2, 297, pl. 93 [*Putorius*]) Miller, 1912, U. S. Nat. Mus., Bul. 79, 102. American ferret, American polecat, black-footed ferret, black-footed mink. Lower waters of Platte River [t] (plains of Platte River, Nebraska [t], fide Elliott, 1901, 341; Miller & Rehn, 1901, 221. Fort Laramie, Wyoming [t], fide Miller, 1924, 127); Great Plains, from western North Dakota and northern Montana to Texas; not known west of eastern base of Rocky Mountains.

Dermacentor †873.—Ext.
†**andersoni*.

#511 **Mustela** [l] [or *Arctogale* [o], Putorius [l]] (#513 **Mustela** [r], *Arctogale* [o], Ictis [h]) **nivalis** Linn., 1761, Fauna Suec., ed. 2, 7. Common weasel, belette, Wiesel, Smavessalan, Snemusen. Province of Vesterbotten, Sweden [t]; Europe from Arctic coast to Mediterranean (including Balearic Islands, Corsica, Sardinia, Sicily, and Malta) and from Great Britain eastward into Asia. Several subspecies.

Treponema [l] †142*f*.
†*morsus-muris*.
Euparyphium †257.—Intest.
[*melis*.—Central Europe.]
[*trigonocephalum* [o].]
Taenia [l] <†299.—Intest.
mustelae.[—Europe.]
mustelae-vulgaris [o].
tenuicollis [h o] Rud., 1819*a*, not 1810*a*.—Mus. Vienna.

Ascaris [l] †479.
columnaris.—Intest.—Siberia.
Capillaria †372*b*.
alata [s].—Padua [t].
entomelas.—Intest.
mustelae [o].—Small intest.—Ireland.
Dioctophyme †426.
†*gigas* [s].—Rennes.
[*gulonis-sibirici* [s].]

Skrjabingylus <†418.—Frontal sinus.
mustelarum [d 1 s].—Russia.
nasicola.—Moscow from Siberia.
Strongyloides †355.—Intest.
†*longus* [s].—So. *papillosum.*
Syphacia †494.
†*obvelata.*
Trichostrongylus [1] †414; **Molineus** †411*Q.*
patens.—Sm. intest.—Europe.
Centrorhynchus †501*S.*
ninnii.—Intest., liver.—Europe.
Corynosoma †501*s.*
strumosum.
[*ventricosus* [s].]
Echinorhynchus [1] †502.
species Wedl, 1861*a.*—Larva in mesent. encysted.—Egypt.
Prosthenorchis †501*p.*
erinacei.
[*mustelae* [s].—Mesent.—C. E. V.]
napaeformis [o].—Mesent.
Asca <†887.—Ext.
affinis.—Holland.

Haemogamasus †892*a.*—Ext.
nidi.—England.
Ixodes †866.—Ext.
†*hexagonus.*—England.
Listrophorus <†930*a.*—Ext.
mustelae.—Central Europe.
Myobia †989*a.*—Ext.
brevihamata.
trouessarti.
Zercon <†887.—Ext.
species Ouds., 1896.—Holland.
Amphipsylla <†1626.—Ext.
contigua locuples.—E. Turkestan.
Ceratophyllus †1627.—Ext.
†*fasciatus.*—Brit. Isles.
sciurorum.—Brit. Isles.
walkeri.—Great Britain.
Ctenophthalmus <†1626.—Ext.
arvalis.—Volga Region.
bisoctodentatus.—Great Britain.
Hystrichopsylla <†1623.—Ext.
talpae.—Europe.

#511 **Mustela** [1] (#513 **Mustela** [r]) **nivalis nivalis** (Linn., 1761, Fauna Suec., ed. 2, 7) Miller, 1912, Mamm. Western Europe, 402. Vesterbotten, Sweden [t]; Europe from Arctic coast to Alps and Pyrenees, and from Great Britain eastward.

Amphipsylla <†1626.—Ext.
sepifera.—Zermatt [t], Switzerland.
Ceratophyllus †1627.—Ext.
†*fasciatus.*—Val Bavona, Switzerland.
lunatus.—Zermatt [t], Switzerland.—T. h.
sciurorum.—Val Bavona, Switzerland.
Ctenophthalmus <†1626.—Ext.
apertus.—France.
nivalis cervinus.—Switzerland.
Leptopsylla †1624.—Ext.
bidentata.—Zermatt, Switzerland.
Trichopsylla <†1626.—Ext.
homoeus.—Zermatt, Switzerland.

#511 [**Mustela** [l]] (#513 *Arctogale* [o]) **nivalis pallida** Barret-Hamilton, 1900, Ann. Mag. Nat. Hist., ser. 7, v. 5 (25), Jan., 48 [Putorius [l]]. Kokand [t], Ferghana; Afghanistan.

Amphipsylla <†1626.—Ext.
contigua locuples.—E. Turkestan [t].

#511 **Mustela** [1] (#513 **Mustela** [r], *Arctogale* [o], Ictis [h]) **noveboracensis** (De Kay in Emmons, 1840, Rep. Quadr. Mass., 45 [Putorius [l]]) Miller, 1912, U.S. Nat. Mus., Bul. 79, 97. Common weasel, Northern weasel, white weasel. Southern New York [t]; eastern United States from southern Maine south at least through transition zone and west to Illinois.

Ceratophyllus †1627.—Ext.
†**fasciatus.*—Ithaca, N. Y.
*species Harper.—Indian Lake, N. Y.
**vison.*—Ithaca, N. Y.
Neotrichodectes <†1099.—Ext.
[**mephitidis* [s] Osborn.—Ill.]
[**minutus* [s].—Marshall [t], Ill.—T. h.]

#511 **Mustela** [l] [or Foetorius [l], Putorius [l]] (#513 *Arctogale* [o], Ictis [h], Putorius [l]) **nudipes nudipes** (Cuv. in Geoffr. & Cuv., 1821, Hist. nat. Mamm., v. 2 (32), Sept., 2). Furet de Java, javanische Frett, Pulásan. Java [t]; Borneo; Malay Peninsula; Sumatra.

Xenopsylla †1636.—Ext.
†*cheopis*.—W. Sumatra.

#511 **Mustela numidica** (Pucheran, 1855, Rev. Mag. Zool., 2[e] sér., v. 7, Aug., 393 [Putorius [l]]). N. Africa [t] (Morocco, Algeria). So. #511 *Mustela subpalmata*, fide Trouess., 1897*c*, 276.

Xenopsylla †1636.—Ext.
ramesis.—Oran, Algeria.

#511 *Mustela [l] **[caurina] origenes** Rhoads, 1902, Proc. Acad. Nat. Sci., Phila., v. 54, 458. So. #521 **Martes caurina origenes,** q. v.

#511 **Mustela [l] pallida** (Barret-Hamilton, 1900, Ann. Mag. Nat. Hist., ser. 7, v. 5 (25), Jan., 48 [Putorius [l]]). So. #511 [**Mustela**] **nivalis pallida,** q. v.

#511 Mustela [l] **pennanti** Erxleben, 1777, Syst. Regni Anim., v. 1, 470. So. #521 **Martes** (**Pekania** [t]) **pennanti,** q. v.

#511 **Mustela** [l] [or *Foetorius*, *Putorius*] (#515 **Putorius** [r], Mustela [l]), **putorius** Linn., 1758*a*, 46. Polecat, putois, Elk, Ilk, Iltis, Iltiss, Ratz, Stänker, Illern. Sweden [t]; central Europe from central Scandinavia to northern Spain and Mediterranean coast, westward to Great Britain; eastern limit of range not known.

Isospora †161.
†*bigemina*.—In intestinal villi.
bigemina putorii.—Intest.—Locality not given.—T. h.

Microsoma †172.
mustelae.—Blood.—Moscow [t].—Little evidence that bodies were parasitic, fide Wenyon, 1926*a*, 1064.—T. h.

Agamodistomum †240.
putorii [h] Molin, 1858.—Pectoral cavity, muscles.—Padua [t].—T. h.

Diplostomulum <†223*j*.
putorii Linstow, 1877.—Larva encysted in intest. and esophagus.—T. h.

Euryhelmis <†271. Syn. Eurysoma [h o].—Intest.
squamula.—Mus. Vienna.—T. h.

Euparyphium †257.
[*armata* [o].]
[*melis*.—Central Europe.]
[*putorii* [s].—T. h.]
trigonocephalum [o].—Intest.—Leipzig.

Tetracotyle <†223*j*.
foetorii.—Encysted under skin of neck, between neck muscles and on esophagus.—T. h.

Troglotrema <†249.
acutum.—Ethmoid, frontal sinus, nasal cavities, intest.—T. h.

Cysticercus †326.
†*cellulosae*.—Trachea.—Syn. cellulosus [c].
cordatus [h] Tschudi, 1837.—Liver, omentum.—[Germany [t].—] T. h.

Sparganum †293.
ellipticum.—Connective tissue.—Padua.

Taenia [l] <†299.
mustelae.[—Europe.]
putorii [h o] Zeder, 1803*a*.—Intest., liver.
tenuicollis [h o] Rud., 1819*a*, not 1810*a*.—Intest.

Taenia (**Hydatigera**) †325*c*.—Intest.
intermedia [s].
†*taeniaeformis*.

Taenia (**Taenia**) †325*b*.
putorii [d] Gmelin, 1790*a*, *nomen nudum*.—T. h.
Tetrathyridium <†284*a*.
[*bailleti*.]
Capillaria †372*b*.
alata [s].—Intest., stom.—Dublin, Ireland; Italy; France.
entomelas.—Duodenum, intest.
Crenosoma <†419.
mustelae.—Lungs.—Switzerland [t].—T. h.
Dioctophyme †426.
**gigas* [s].—Phila.
viscerale [s].
Dracunculus †439.
†*medinensis*.
Filaria †449.—Skin.
martis.—Subcut.
mustelarum [l].—Subcut.
mustelarum subcutanea.—Subcut.—So. *martis*.
perforans [s].—Subcut., musc.
quadrispina [s].—Musc., subcut.—Europe.
subcutanea [i].
Filaroides <†440.—Lungs.
bronchialis.
mustelarum.—Also frontal sinus, os ethmoid.—Europe.
[mustelarum pulmonalis [h s].—Europe.]
[*mustelae-putorii*.]
[*putorius* [s].—Gr. Britain.]
Oxyuris [l] †490.
paradoxa.—Intest.—Padua [t].—T. h.
Skrjabingylus <†418.—Frontal sinus.
nasicola.—Germany.—T. h.
Strongyloides †355.
†*longus* [s].—Intest.
Trichinella †366.
†*spiralis*.—Intest., larvae in musc. encysted.
Trichosoma [l] †372*a*.
putorii [s].—Duodenum.—C. E. V.—T. h.
Trichostrongylus †414 or **Molineus** †411*Q*.
europaeus.—Sm. intest.—Germany.
patens.—Dublin.
Uncinaria 390*B*.
criniformis.—Intest.
Centrorhynchus †501*S*.
ninnii.
Corynosoma †501*s*.
semerme [s].
strumosum.
[*ventricosus*.—Intest.—T. h.]
Echinorhynchus [l] †502.
putorii (abdominalis).—Abd. cav.—Padua.
species Brems., 1811*a*.
species Par., 1894.
Moniliformis †505.
†*moniliformis*.—Stom.—Cosmopolitan.
Prosthenorchis †501*p*.
erinacei.—Larva in mesentery.—N. Africa.
Asca <†887.—Ext.
affinis.—Holland.
Ceratonyssus <†891*l*.—Ext.
musculi.—Holland.
Ichoronyssus †891*o*.—Ext.
[*arcuatus*.]
Ixodes †866.—Ext.
†*hexagonus*.—England; Europe.
hexagonus cookei.
**hexagonus longispinosus*.
†*ricinus*.—Europe.
Laelaps †900.—Ext.
lemmi.—Holland.
species Ouds., 1896.—Holland.
Listrophorus <†930*a*.—Ext.
mustelae.—Central Europe.
Microtrombidium †974.—Ext.
†*pusillum*.
Zercon <†887.—Ext.
species Ouds., 1896.—Holland.
Amphipsylla <†1626.—Ext.
rossica.—Charkov [t], Russia.—T. h. *Putorius vulgaris*.
Archaeopsylla †1638.—Ext.
†*erinacei*.—Germany.
Ceratophyllus †1627.—Ext.
†*fasciatus*.—Germany.
†*gallinae*.—Scotland.
mustelae [h s].—Russia [t].—T. h. *Putorius vulgaris*.
sciurorum.—Europe.
Ctenocephalides †1639.—Ext.
[*serraticeps* [o].]
Ctenophthalmus <†1626.—Ext.
agyrtes.—Europe.
bisoctodentatus.—Great Britain.
uncinatus.—New Alexandria [t], Russia.—T. h. *Putorius vulgaris*.

Neopsylla †1625*C*.—Ext.
spinea.—Rumania [t].
Palaeopsylla < †1623.—Ext.
minor.—Germany.
Paraceras < †1626.—Ext.
melis.—Europe.
Pulex †1635.—Ext.
†*irritans*.—Rumania.
Tarsopsylla < †1626.—Ext.
[*uralensis* [s].]
Trichopsylla < †1626.—Ext.
penicilliger of Kol.—Palaearctic Region.
rothschildi.—Hungary.—T. h.

#511 **Mustela** [l] **putorius** *domestica*, probably for #511 **Mustela** [l] (**Putorius**) **furo.**

#511 **Mustela** [l] [or Putorius [l]] **richardsonii** Bonaparte, 1838, Charlesworth's Mag. Nat. Hist., n. s., v. 2, Jan., 38. So. #511 **Mustela** [l] (**Mustela**) **cicognanii richardsonii,** q. v.

#511 Mustela [l] *sarmatica* [s] Pallas, 1771, Reise Prov. Russ. Reichs, St. Petersb., v. 1, 453. So. #510 **Vormela** [t] *sarmatica* [s], q. v.

#511 **Mustela** [or *Kolonokus*, Putorius [l], Vison [l], Viverra [l]] (**Kolonokus**, Lutreola [l], Putorius [l]) **sibirica** Pallas, 1773, Reise Prov. Russ. Reichs, St. Petersb., v. 2, 701. Kolinsky, Red House Stoat, Kulon. Siberia.

Crenosoma < †418.
taiga.—Bronchi.—Siberia [t].—T. h.
Molineus †411*Q*.
sibiricus.
Trichosoma †372*a*.
putorii.
Amphipsylla < †1626.—Ext.
sibirica.—Turuchansk [t], Siberia.—T. h.
Ceratophyllus †1627.—Ext.
penicilliger.—Turuchansk [t], Siberia.—T. h.

#511 **Mustela** [l] **species.**

Euparyphium †257.—Intest.
trigonocephalum [o].
Chabertia †402*a*.
[*hypostoma* [s].—Intest.]
Dioctophyme †426.
†*renale*.
Gnathostoma †473.
†*spinigerum*.
Demodex †855.—Hair follicles.
erinacei.
Ichoronyssus †891*o*.—Ext.
isabellinus.
Ixodes †866.—Ext.
kingi.—Host [j].
species Klugkist, 1909, 543.
Sarcoptes †942.—Skin.
†*vulpis*.
Ceratophyllus †1627.—Ext.
atrox.—Blackfalls [t], Alberta.—T. h.
caedens durus.—Brit. Columbia [t].
kaznakovi.—E. Tibet.
Ctenophthalmus < †1626.—Ext.
[orientalis [d] of Roths.: Typhlopsylla [l].—England.]
Foxella < †1626.—Ext.
ignotus albertensis.—Alberta.
ignotus recula.—Brit. Columbia.
Leptopsylla †1624.—Ext.
hamifer.—Blackfalls [t], Alberta.—T. h.
Nearctopsylla < †1623.—Ext.
hygini laurentini.—New Brunswick [t].—T. h.
Neopsylla †1625*C*.—Ext.
teratura.—E. Turkestan [t].
Rhadinopsylla < †1626.—Ext.
bivirgis.—E. Turkestan.—T. h.
pentacanthus.—Europe.
Trichodectes †1100.—Ext.
retusus [s].
dubius.

#511 **Mustela** (#514 **Lutreola**) **species.** Minks.

Clonorchis †268.
†*sinensis*.—Siberian mink.
Dicrocoelium †277.
†*dendriticum*.—Prince Edward Island.—Mink.

Dioctophyme †426.
gigas.—Kidney.—Mink.
[sanguineus [d].—Mink.]

Ixodes †866.—Ext.
kingi.
Trichodectes †1100.—Ext.
retusus [s].—Mink.

#511 Mustela [l] (#514 **Mustela** [r]) **species.** Stoats, weasels.

Capillaria †372*b*.—Intest.
entomelas.—Weasel.
Dioctophyme †426.
[*martis*.—Kidney.—So. *gigas*=*renale*.—Weasel.]
[sanguineus [d].—Weasel.]
Strongyloides †355.
†*longus* [s].—Weasel.
Dermacentor †873.—Ext.
†**variabilis*.—Weasel.
Ichoronyssus †891*o*.—Ext.
arcuatus.—Weasel.
isabellinus.—Central Europe.—Weasel.
Ixodes †866.—Ext.
†*hexagonus*.—Weasel.
**hexagonus longispinosus*.
species Klugkist, 1909.—Weasel.

Laelaps †900.—Ext.
hilaris.—Scotland.—Stoat, weasel.
Amphipsylla †1626.—Ext.
contigua locuples.—E. Turkestan [t].—White weasel.
Ceratophyllus †1627.—Ext.
†*fasciatus*.—England.—Stoat.
mustelae.—England [t].—Weasel t. h.
Ctenophthalmus <†1626.—Ext.
agyrtes.—England.—Stoat.
Rhadinopsylla <†1626.—Ext.
bivirgis.—Burkhan [t], E. Turkestan.—White weasel t. h.
Trichodectes †1100.—Ext.
mustelae.—Europe.—Gemeines Wiesel t. h.
**retusus* [s].—Ames, Iowa.—Weasel.

#511 Mustela [l] (#515 **Putorius** [r]) **species.** Polecats.

Oochoristica 319*K*.
ichneumontis.—Rhodesia.—Host "*Foetorius* [s] species."
Ceratophyllus †1627.—Ext.
kaznakovi.—E. Tibet [t].
monstrosus.—Bairam-Ali [t].
sexdentatus agilis.—Alberta.

Mesopsylla <†1626.—Ext.
hebes.—S. E. Russia.
Rhadinopsylla <†1626.—Ext.
accola.—Tibet [t].—T. h.
vicina.—E. Tibet [t].—T. h.

#511 Mustela [or Putorius [l]] (Ictis [h]) **subpalmata** Hemprich & Ehrenberg, 1832, Symbol. Phys., Berlin, Sept. [art. *Herpestes leucurus*] [not paged]. Egypt [t]. Syn. #511 *Mustela numidica*, fide Trouess., 1897*c*, 276.

#511 Mustela [l] [or Lutra [l], *Lutreola*, Putorius [l]] (#514 **Lutreola** [r], Martes [l], Putorius [l]) **vison** Schreber, 1777, Säugthiere, v. 3, 463, pl. 127*b* (1776). Mink, vison. Eastern Canada [t]. Several subspecies.

Distoma [l] <†238.
*species Stiles & Hassall, 1894*e*.—Maryland.
Paragonimus †250.—Lungs.
kellicotti.—France.—Host introduced into France.
Parametorchis <†265.
canadensis.—Gall bladder.—Kirkfield [t], Ontario, Canada.—T. h.
Mesocestoides <†299.—Intest.
litteratus.—France.—Host introduced into France.

Dioctophyme †426.—Kidney.
**gigas* [s].
[*gulonis-sibirici* [s].]
[sanguineus [s d].]
viscerale.
Filaria [l] †449.
**martis*.—Stom.
*species Stiles and Hassall, 1894*e*.
Gnathostoma †473.
socialis.—Stom.
†**spinigerum*.—Gastric wall.—N. America.

Ixodes †866.—Ext.
†**cruciarius*.—N. Y.
†*hexagonus*.
hexagonus longispinosus.
†*ricinus*.

Ceratophyllus †1627.—Ext.
**oculatus* [s].—Washington [t], D. C.—T. h.
**vison*.—Peterboro [t], N. Y.—T. h.
Lipeurus < †1098.—Ext.
**dissimilis*.—N. C.

#511 ***Mustela** [1] [or #514 *Lutreola*] (#514 **Lutreola** [r], Putorius [1]) **vison energumenos** (Bangs, 1896, Proc. Bost. Soc. Nat. Hist., v. 27, 5 [Putorius [1]]) Miller, 1912, U. S. Nat. Mus., Bul. 79, 101. Devilish mink, Western mink. Sumas, Brit. Columbia, Canada [t]; western North America, from northern British Columbia south to Sierra Nevada in California and Rocky Mountains in New Mexico.

Nanophyetus < †271.
**salmincola*.—Northwestern U. S. A.
Ceratophyllus †1627.—Ext.
†*acamantis*.—Brit. Columbia.

Hystrichopsylla < †1623.—Ext.
dippiei.—Brit. Columbia.
Nearctopsylla < †1623.—Ext.
hyrtaci.—Brit. Columbia [t].

#511 ***Mustela** [1] [or #514 *Lutreola*, Putorius [1]] (#514 **Lutreola** [r]) **vison** *lutreocephala* [s] (Harlan, 1825, Fauna Amer., Phila., 63 [Mustela [1]]) Miller, 1912, U. S. Nat. Mus., Bul. 79, 101. Brown mink. Maryland [t]; United States. Antedated by *vison mink*, fide Miller, 1912 and Hollister, 1914. So. #511 **Mustela** [1] (**Lutreola**) **vison mink,** q. v.

#511 **Mustela** [1] (**Lutreola**) **vison mink** (Peale & Beauvois, 1796, Cat. Peale's Mus., Phila., 39 [Mustela [1]]) Hollister, 1914, Proc. Biol. Soc. Wash., v. 27, Oct. 31, 215. Brown mink. Maryland [t]; eastern U. S. A., from coast of New England south to North Carolina, and, in the interior, to central Georgia and Alabama; westward through southern Pennsylvania and Ohio to Missouri and northeastern Texas.

Dioctophyme †426.
**renale*.—Kidney.
Filaria [1] †435.
*dentata [h o].—Muscle.—T. h.
**muscularis*.—Muscle.—T. h.
Gnathostoma †473.
**spinigerum*.—Stomach wall.

#511 **Mustela** [1] (#514 **Lutreola** [r]) **vison nesolestes** (Heller, 1909, Univ. Calif. Publ. Zool., v. 5, 259 [*Lutreola*]) Miller, 1912, U. S. Nat. Mus., Bul. 79, 102. Island mink. Windfall Harbor, Admiralty Id., Alaska [t]; Alexander Archipelago, Alaska.

Trichodectes †1100.—Ext.
retusus [s].—Alaska.

#511 ***Mustela** [1] (#514 **Lutreola** [r]) **vison vison** (Schreber, 1777, Säugthiere, v. 3, 463, pl. 127*b*) Miller, 1912, U. S. Nat. Mus., Bul. 79, 101. Eastern Canada [t], west to Hudson Bay; south in interior to Catskill Mts., New York, and to northern Pennsylvania. Not found on coast south of New Brunswick.

#511 **Mustela** [1] [or Foetorius [1], *Mustelina*, Putorius [1], Viverra [1]] (#513 **Mustela** [r], *Gale*, Ictis [h]) *vulgaris* [s 51] Schreb., 1777, Säugthiere, v. 3, 498, pl. 138 (1776). Kleines Wiesel. Central & west Europe (Brit. Ids., France, Germany). So. #511 **Mustela** [1] (**Mustela**) **nivalis.**

[51] See also next entry. On account of confusion in name of host, both #511 *nivalis* and #511 *putorius* should be consulted in connection with the records for *vulgaris*.

Eimeria †163.
[var. Labbé, 1899*a* [based on Eimer, 1870]: *Coccidium perforans.*]
Treponema [l] †142*f*.
[*marocanum:* Spirochaeta [l] *hispanicum.*—Exp.]
Taenia [l] < †299.—Intest.
mustelae.—Europe [t].—T. h.
mustelae-vulgaris [o].—Europe [t].—T. h.
tenuicollis [b o] Rud., 1819*a*.
Capillaria †372*b*.—Intest.
entomelas.
Dioctophyme †426.—Kidney.
[*martis.*—Europe.]
Trichostrongylus †414 or **Molineus** †411*Q*.—Intest.
patens.—Rennes, France.
Echinorhynchus [l] †502.
species Wedl, 1861*a*.—Mesentery.—Egypt.
Asca < †887.—Ext.
affinis.—Holland.
Ixodes †866.—Ext.
†*hexagonus.*—England.
hexagonus cookei.
Laelaps †900.—Ext.
crassipes.—Holland.
lemmi.—Holland.
Microtrombidium †974.—Ext.
†*pusillum.*
Myobia †989*a*.—Ext.
brevihamata.—T. h.
trouessarti.
Zercon < †887.—Ext.
species Ouds., 1896.—Holland.
Ceratophyllus †1627.—Ext.
†*fasciatus.*—Great Britain.
walkeri.—Great Britain.
Ctenophthalmus < †1626.—Ext.
agyrtes.—Europe.
Hystrichopsylla < †1623.—Ext.
talpae.—Europe.
Leptopsylla †1624.—Ext.
spectabilis.—Great Britain.
Rhadinopsylla < †1626.—Ext.
pentacanthus.—Tring [t], England.—T. h.
Trichodectes †1100.—Ext.
dubius [o].—Europe [t].—T. h.
mustelae.—Palaearctic.
pusillus.—Europe.
retusus [s].—Palaearctic.

#511 *Putorius* [Mustella [m]] vulgaris [b o] Gray in Griffith's Cuvier, 1827, Anim. Kingd., v. 5, 120, *putorius* renamed. So. #511 **Mustela** [l] (**Putorius**) **putorius,** q. v. See also footnote 54.

Echinorhynchus †502.
species Parona, 1894*a*.—Rome.
Asca < †887.—Ext.
affinis.—Holland.
Ixodes †866.—Ext.
hexagonus longispinosus.—Host [j].
Microtrombidium †974.—Ext.
†*pusillum.*
Pediculoides †910.
pilosus.—C. Europe.

#511 Mustela [m] [for *Mustelus*] *vulgaris* Mueller & Henle, a fish.
#511 ***Mustela** [l] [or Putorius [l]] (#513 **Mustela** [r], *Arctogale* [o], Ictis [h]) **xanthogenys** Gray, 1843, Ann. Mag. Nat. Hist., London, v. 11, 118. Yellow-cheeked weasel. Southern California [t].

Ixodes †866.—Ext.
**hexagonus cookei* [s].—Calif.
Ceratophyllus †1627.—Ext.
**wagneri ophidius.*—Calif. [t]
Dactylopsylla < †1626.—Ext.
bluei.—Calif. [t]—T. h.
Foxella < †1626.—Ext.
**ignotus franciscanus.*—Calif.
Neotrichodectes < †1099.—Ext.
[**mephitidis* [s] Osborn.—Calif.]

#511 ***Mustela** [l] (#513 **Mustela** [r], *Arctogale* [o]) **xanthogenys munda** (Bangs, 1899, Proc. New England Zool. Club, v. 1, June 9, 56 [Putorius [l]]) Miller, 1912, U. S. Nat. Mus., Bul. 79, 99. Point Reyes, Marin Co., California [t].

Neotrichodectes < †1099.—Ext.
[**mephitidis* [s] Osborn.—Calif.]

#511 **Mustela**[l] (#513 **Mustela**[r]) **xanthogenys xanthogenys** (Gray, 1843, Ann. Mag. Nat. Hist., v. 11, 118 [*Mustela*]) Miller, 1912, U. S. Nat. Mus., Bul. 79, 99. Southern California[t]; Sonoran and Transition faunas of California, on both sides of Sierra Nevada.

#511 Mustela[l] **zibellina** Linn., 1758*a*, 46. So. #521 **Martes zibellina,** q. v.

#512 (515). Brain-case narrow, mastoid width less than or about equal to distance between basion and palation; auditory bullae not triangular in outline. See #513.

#513 (514). **Mustela**[r,55] Linn., 1758*a*, 45, type *erminea* Linn. (quotes *Mustela vulgaris* Gesner).—Stoats and weasels. Rostrum convex above; inner margins of auditory bullae nearly parallel. Tail not bushy. Habits terrestrial. Form very slender; fur not modified for aquatic life. Skull without noticeably projecting mastoid processes; auditory bullae not triangular, the inner and outer borders nearly parallel; posterior border of pm^3 shearing against anterior border of pm_3; other small premolars not capable of trenchant action. Northern hemisphere, south in the Old World to northern Africa, and in the New World to the Andes; in Europe to Ireland.

#514 (513). **Lutreola** Wagner, 1841, Schreber's Säugthiere, Suppl., v. 2, 239, tat. *lutreola* Linn.—Minks. Rostrum flattened above; inner margins of auditory bullae strongly divergent posteriorly. Tail bushy. Habits semi-aquatic. Form moderately slender; fur modified for aquatic life. Skull without noticeably projecting mastoid processes; auditory bullae subtriangular; premolars more prehensive than in *Putorius*; inner lobe of upper carnassial functioning against apex of pm_4; anterior border of pm^3 shearing against posterior border of pm_3; point of pm^2 opposed to posterior border of pm_2. Northern portion of northern hemisphere from eastern Germany to Atlantic coast of North America. Syns.: *Hydromustela* Bogdanow, 1871, Trudy Obshch. Estestvois. Kazansk. Univ., v. 1, Mem. 1, 167 [nv]; *Vison*[o] Gray, 1843, List Spec. Mamm. Brit. Mus., pp. xx, 64, mt. tat. *Vison lutreola* Linn. syn. Mustela[l] *vison* Brisson.

#515 (512). **Putorius** Cuvier, 1817, Règne Anim., v. 1, 147, tat. *Mustela putorius* Linn.—Ferret, polecats, putois. Brain-case broad, the mastoid width decidedly greater than distance between basion and palation; auditory bullae triangular in outline. Form moderately slender. Tail bushy; fur not modified for aquatic life. Skull with noticeably projecting angular mastoid processes; inner lobe of upper carnassial functioning against paraconid of lower carnassial; interrelationships of teeth essentially as in *Mustela*, but small premolars more robust and less trenchant. Mediterranean region and central Europe from Great Britain eastward into China; central United States; exact limits of range not known. Syns.: *Cynomyanax*[c] Elliot, 1905, Field Columbian Mus., Public. 105, Zool. ser., v. 6, 425, mt. *nigripes; Cynomyonax* Coues, 1877, Fur-bearing Anim., Wash., 99, 101, 147, mt. *nigripes* Aud. & Bach.; Faetorius[m] Trouess., 1899*c*, Cat. Mamm., v. 2, 1394 (index); *Foetorius* Keyserling & Blasius, 1840, Wirbelthiere Europ., 68; Pictorius[m] Gray, 1869, Cat. Carn. Pachyderm., Edent. Mamm. Brit. Mus., 145.

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[55] Syns.: *Arctogale*[o] Kaup, 1829, Entw.-Gesch. Natürl. Syst. Europ. Thierwelt, v. 1, 189, tsd. (1897) 1st sp. *erminea;*

Eumustela Acloque, 1900, Faune France, Paris, 62, contains *vulgaris* Brisson and *herminea* Linn.;

Gale[s] Wagner, 1841, Schreber's Säugth., Suppl., Abth. 2, 234;

Ictis[b] Kaup, 1829, Entw.-Gesch. Natürl. Syst. Europ. Thierwelt, v. 1, 189, mt. *Mustela*[l] *vulgaris* Erxl., 1777, so. (tsd. 1901; 1912) *nivalis* Linn. [not #428 *Ictis* Schinz, 1824, VIVERRIDAE];

Mustelina Bogdanow, 1871, Trudy Obshch. Estestvois. Kazansk. Univ., v. 1, Mem. 1, 167 [nv];

Neogale[s] Gray, 1865, Proc. Zool. Soc. London, no. 8, 114.

#516 (508). Walls of bulla thin, its cavity either closed behind or opening into a spacious periotic hollow. See #517.

#517 (529). Cavity of bulla closed behind. See #518.

#518 (526). Teeth sectorial, approximately as in MUSTELINAE; upper carnassial longer than wide, with the talon anterior and narrow-necked, the molar wider than long, and the line of the upper incisors nearly straight. Feet scansorial and cursorial, with short sharp claws. See #519.

#519 (524). Carpal pads not fused. Pm. 1/1 present. Baculum branched. See #520.

#520 (522). MARTINAE [r] Pocock, 1922, Proc. Zool. Soc. London, pt. 4, no. 55, Jan., 832.—Martens. Two carpal pads separated by hairy space from narrow plantar pad, digital webs hairy below; no metatarsal pads. A well-developed marginal bursa on ear. No trace of pouch above anus. Pm. 1 retained above and below. Baculum with 2 or 4 branches. See #521.

#521. Martes [1 56] Pinel, 1792, Actes Soc. d'Hist. nat., Paris, v. 1 (1), 55, mt. *domestica* Pinel so. *foina* Erxl.—Fishers, Martens. Skull narrow, moderately high (depth of braincase much more than half mastoid breadth), the dorsal profile moderately curved, the zygomatic arches not specially widespreading, and postorbital region not unusually narrowed (distance between region of greatest narrowing and zygoma normally less than breadth of postorbital constriction); rostrum narrow and somewhat elongate, its width noticeably less than that of interorbital region, the distance from anterior rim of orbit to gnathion exceeding width of rostrum between anteorbital foramina; auditory bullae moderately inflated, the meatal tube evident though short, the longitudinal diameter of bulla greatest; paroccipital process small, slightly projecting, partly distinct from bulla. Teeth 38 (i. 3/3, c. 1/1, pm. 4/4, m. 1/2); cutting edges of 5 small premolars (2 upper and 3 lower) capable of trenchant action; upper carnassial long and narrow, not triangular in outline and without crushing surface, the small inner lobe standing as an offset to anterointernal extremity of crown, the sectorial portion consisting of a high anterior and low posterior cusp with somewhat concave connecting ridge; upper molar pyriform or pandurate in outline, its long axis nearly perpendicular to that of tooth-row, its crown mainly flat, but with a small paracone, still smaller, sometimes obsolete metacone, and crescentic ridgelike protocone; lower carnassial wider posteriorly than anteriorly, the anterior triangle much distorted, the metaconid reduced to a well defined postero-internal process on base of protoconid, the posterior crushing heel slightly more than half as large as trenchant portion of tooth. External form slender, somewhat catlike or squirrel-like. Head moderately elongated; muzzle pointed; the ears high and conspicuous. Tail long, bushy. Feet digitigrade, the moderately long claws partly retractile. Fur long, dense and soft. Northern hemisphere from limits of tree growth south to Mediterranean, Malay Archipelago, and central U. S.; in Europe west to Ireland. See #521*A*.

#521*A* (521*B*). **Martes** [r] Pinel, 1792, Actes Soc. Hist. nat., Paris, v. 1, 55.—Tail moderate, not so long as body and head, bushy. Skull elongate, narrow, nose rather pronounced.

#521*B* (521*A*). **Pekania** Gray, 1865, Proc. Zool. Soc. London, no. 7, 107, mt. *Martes* [1] *pennanti* Erxl., 1777.—Fishers. Tail elongate, slender. Skull elongate, narrow; nose produced.

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[56] Syns.: Mustela of Blasius, 1857, Säugethiere Deutschlands, 211, contains: *martes, foina;*
Zibellina Kaup, 1829, Entw.-Gesch. Natürl. Syst. Europ. Thierw., v. 1, 34, tat. *zibellina;*
?Charronia * Gray, 1865, Proc. Zool. Soc. London, 108-109, mt. *flavigula*.

#521 **Martes** (*Martes*, Mustela [1]) **americana** (Turton in Linn., 1802, Syst. Nat., v. 1, 60 [Mustela [1]]) Miller, 1912, U. S. Nat. Mus., Bul. 79, 92. North American sable or marten. North America (Eastern North America [t]).

Ceratophyllus †1627.—Ext.
caedens caedens.—Banff [t], Alberta.—T. h.

Nearctopsylla <†1623.—Ext.
brooksi.—Brit. Columbia.

#521 **Martes** (*Martes*, Mustela [1]) **caurina origenes** (Rhoads, 1902, Proc. Acad. Nat. Sci., Phila., v. 54, Sept. 30, 458 [Mustela [1]]) Miller, 1912, U. S. Nat. Mus. Bul. 79, 93. Rocky Mountain Marten. Marvine Mountain, Garfield Co., Colorado [t].

Ixodes †866.
**texanus*.

#521 **Martes** [t] *domestica* [s] Pinel, 1792, Actes Soc. Hist. nat., Paris, v. 1 (1), 55. France. So. #521 **Martes** [t] **foina**, q. v.

#521 **Martes** [or *Charronia* [s t]] (Mustela [1]) **flavigula** (Boddaert, 1784, Elench. Anim., v. 1, 88 [Mustela [1]]) Blyth, 1858, J. Asiat. Soc. Bengal, Calcutta, v. 26, 316. Indian Marten, Kusiar, Angra Prao, Chitrála, Huniah, Kasia, Múl sampra, Sakku, Tuturala. Throughout Himalayas from west of Kashmir to eastern extremity of Assam; Burma, Malay Peninsula, Sumatra, southern China and Amurland, India.

Ixodes †866.—Ext.
spinicoxalis.—Sumatra [t].—T. h.

Trichopsylla <†1626.—Ext.
appropinquans.—Ussuri Region. [t].—T. h.

#521 [**Martes** or] *Charronia* [s] **flavigula koreana** Mori, 1922, Ann. Mag. Nat. Hist., ser. 9, v. 10 (60), Dec., 610. Korio [t], near Seoul, Korea.

Diphyllobothrium †295.
†*mansoni*.—Korea.

#521 **Martes** [or Viverra [1]] (**Martes,** Mustela [1]) **foina** (Schreb., 1777, Säugth., v. 3, 472, pl. 129 (1776) [Mustela [1]]) Billberg, 1827, Syn. Faunae Scand., v. 1 (1), 9. Beech marten, Stone marten, white-breasted marten, fouine, Hausmarder, Steinmarder, Dalla kafak. Germany [t]; central and southern Continental Europe, from Atlantic coast eastward, and from the Mediterranean to the Baltic.

Treponema †142*f*.
[*buccalis mustelae*.—Mouth.—Lausanne [t].—T. h.]

Euparyphium †257.
[*melis*.—Central Europe.]
trigonocephalum [o].—Small intest.

Mesocestoides <†299.—Intest.
litteratus.

Sparganum †293.
ellipticum.—Muscles.—Italy.

Taenia (**Hydatigera**) †325*c*.—Intest.
conocephala [o].—Paris [t], France; Italy.—T. h.
†*crassicollis* [s].—Switzerland.
foinae [s].—Fontainebleau [t], France.—T. h.
intermedia [s].
†*taeniaeformis*.

Tetrathyridium <†284*a*.
[*martis* [s].—Thoracic cavity, abdomen.]

Ascaris [1] †479.
gulonis.—Host [j].

Capillaria †372*b*.
alata [s].
entomelas.—Intest.—Rennes.
mucronata.—Urinary bladder.

Dioctophyme †426.
†**gigas* [s].—Rennes; Boston.
†*viscerale* [s].

Echinorhynchus [1] †502.
depressus.—Wall of duodenum.—Europe.

Filaria [r] †435, †449.
martis.—Subcut., abdominal and thoracic cav.

medinensis [h s].
mustelae-foinae [h s].—Europe.
mustelarum [r s].—Europe.
mustelarum subcutanea.—Subcut., intermusc.—C. E. V.
perforans [s].—Interpericardium and cor, in thoracic and abdom. cavities, subcutaneous.
quadrispina [s].—Muscles and subcutaneous.—Trieste, Cittanova, Italy.—T. h.
species Parona, 1894*a*.
subcutanea.

Filaroides <†440.—Lungs.
bronchialis.—Europe.
[*mustelae foinae* [s].]
[mustelarum [l].]
[mustelarum [l] pulmonalis [h o].]

Strongylus [l] †378*a*.
foinae [j o].—Lungs.—Europe.

Skrjabingylus <†418.—Frontal sinus.
[*mustelarum*.—Os ethmoid.]
nasicola.—Os ethmoid.

Thelazia †464.
lacrymalis.—Eye.

Toxocara †484.—Intest.
[*mustelarum* [o].—Europe.]
mystax [o].

Trichinella †366.—Muscles.
†*spiralis*.

Trichosoma †372*a*.
putorii.—Russia.

Ixodes †866.—Ext.
†*hexagonus hexagonus*.
†*ricinus*.

Psoroptes †938.—Ext.
communis cuniculi.—Ear.—France.

Sarcoptes †942.—Ext.
scabiei cuniculi [d].—Exp.—France.

Neopsylla †1625*C*.—Ext.
[*microctenus*.—Europe [t].—T. h.]

Trichodectes †1100.—Ext.
retusus [s].—Europe [t].—T. h.

Trichopsylla <†1626.—Ext.
penicilliger of Kol.—Europe.

#521 **Martes** (**Martes**) **foina foina** (Schreb., 1777, Säugth., v. 3, 472, pl. 129 (1776) [Mustela [l]]) Miller, 1912*a*, Mammals of Western Europe, 375. Beech marten, stone marten, white-breasted marten; fouine; Steinmarder, Hausmarder. Germany [t]; W. Europe.

Ceratophyllus †1627.—Ext.
†*fasciatus*.—Switzerland.
sciurorum.—Formazza, Italy.

#521 **Martes** [or Viverra [l]] (**Martes,** Mustela [l]) **martes** (Linn., 1758*a*, 46 [Mustela [l]]) Thomas, 1911, Proc. Zool. Soc. London, March, 139. Pine marten, martre commun, Baummarder, Edelmarder, Marder, Mården, Skogmåren. Upsala, Sweden [t]; entire wooded region of Europe, from Ireland eastward into Asia, and from the Mediterranean coast and islands northward to limits of tree growth.

Euparyphium †257.
[*melis*.—Central Europe.]
trigonocephalum [o].

ANOPLOCEPHALINAE †318.
species Galli-Valerio, 1931.—Ova in feces.

Taenia [l] <†299.
mustelae.—Europe.
serrata martis [o].—Europe [t].—T. h.

Taenia (**Hydatigera**) †325*c*.—Intest.
intermedia [s].—Germany [t].—T. h.
servata [m] for *serrata*.
†*taeniaeformis*.

Tetrathyridium <†284*a*.
[*martis* [s].—Thoracic cavity, abdomen.—Europe [t].—T. h.]

Dioctophyme †426.—Kidney.
[*giganteus* [o].]
gigas [s].—Rennes; Florence.
[*gulonis-sibirici*.]
[*martis* [s].]
renale.
[sanguineus [d s].]
viscerale.

Eucoleus <†369.
aerophilus [s. aeorophyllum [m].]

Filaria [r] †449.
martis.—Subcutaneous.—Europe.
mustelarum [r].—Subcutaneous.—Europe.
mustelarum subcutanea [s].
perforans [s].—Musc., subcut.

quadrispina [s].—Musc., subcut.—Parma, Italy; Europe.

Filaroides <†440.—Lungs.
bronchialis [s].—Europe.—So. *mustelarum*, fide Mol., 1858*c*, 419[.—If Mol. is correct in regard to syn., *bronchialis* becomes valid name of species.]
[*martis.*]
[*mustelae-martis* [s].]
[mustelarum pulmonalis [d h o].—Europe.—T. h.]

Skrjabingylus <†418.—Frontal sinus.
[mustelarum [l].]

Toxocara †484.—Intest.
[martis [h s].]
[*mustelarum* [o].]
mystax [o].

Trichinella †366.—Intest., muscles.
† *spiralis.*

Trichuris †370.
[*nitzschi.*—"Bronch."]

Ixodes †866.—Ext.
†*hexagonus hexagonus.*
hexagonus inchoatus.
† *ricinus.*

Ceratophyllus †1627.—Ext.
†*fasciatus.*—Switzerland.
sciurorum.—Brit. Isles.

Leptopsylla †1624.—Ext.
bidentata.—Europe.
†*musculi.*—Europe.

Tarsopsylla <†1626.—Ext.
[*uralensis* [s].]

Trichodectes †1100.—Ext.
retusus [s].

Trichopsylla <†1626.—Ext.
matina.—Pyrenees [t].—T. h.
penicilliger of Kol.—Europe.

Typhloceras <†1623.—Ext.
[*bisnovemdentatus* [i].—Europe.]

#521 **Martes** (**Martes**) **martes martes** (Linn., 1758*a*, 46 [Mustela [l]]) Miller, 1912*a*, Mamm. W. Europe, 372. Vicinity of Upsala, Sweden [t]; Europe north of Mediterranean region, from Ireland eastward into Asia.

Ceratophyllus †1627.—Ext.
†*fasciatus.*—Formazza, Italy.

#521 [**Martes**] [or Putorius [l]] (*Martes*) **melampus** (Wagner in Schreb., 1840, Säugth., Suppl., v. 2, 229 [Mustela [l]]). Schwarzfüssiger Marder. Japan.

Paragonimus †250.—Lung.
†*westermani.*—Japan.

#521 **Martes** (**Pekania** [t], Mustela [l]) **pennanti** (Erxl., 1777, Syst. Regni Anim., v. 1, 470 [Mustela [l]]) Gray, 1865, Proc. Zool. Soc. London, no. 7, 107. Black cat, Fisher, Pekan, Pennant's marten, Wood-shock. E. Canada [t].

Ixodes †866.—Ext.
**texanus.*—Washington State.

#521 **Martes species.** Fishers, Martens, Sables.

Clonorchis †268.—Liver.
†*sinensis.*

Dioctophyme †426.
[sanguineus.—Marten.]

Filaroides †440.—Lung.
bronchialis.

Tarsopsylla <†1626.—Ext.
[*uralensis* [s].]

Trichodectes †1100.—Ext.
mustelae.

#521 **Martes** [Viverra [l]] (**Martes,** Mustela [l]) **zibellina** (Linn., 1758*a*, 46 [Mustela [l]]) Grevé, 1894, Nova Acta Acad. Leop., Halle, 174, 268. Sable, Zobel. Northern Tobolsk [t], N. Asia [t]; subarctic regions of continent of Europe (not in Scandinavia) extending through Siberia.

METASTRONGYLIDAE †418, METASTRONGYLINAE †419.
species.—Lung tissue.—Leningrad.

Soboliphyme 423*B*.
baturini.—Kamtschatka.—T. h.

Ceratophyllus †1627.—Ext.
†*fasciatus.*

Tarsopsylla <†1626.—Ext.
[*uralensis* [8].—Altai Mts.]

#521 **Martes zibellina yeniseensis** Ognew, 1925, J. Mamm., Balto., v. 6 (4), Nov., 277–278. Yenisei sable. Krasnojarsk district [4], the forest on the plain along Yenisei River; ranges over the great forests of districts of Krasnojarsk, Ashinsk, and Kansk.

Eimeria †163.
sibirica.—Russia [4].

#521 **Martes zibellina zibellina** (Linn., 1758*a*, 46 [Mustela [1]]) Ognew, 1925, J. Mamm., Balto., v. 6 (4), Nov., 276–277. Northern Tobolsk [4], N. Asia.

Eimeria †163.
sibirica.—Russia [4].

#522 (520). GULONINAE Miller, 1912*a*, Cat. Mamm. W. Europe, London, 432–433.—Wolverines.—Chiefly distinguishable from the MARTINAE by having the preorbital foramen in front of the orbit, the bullae small, auditory tube long, occipital region short, mastoid large, upper anterior premolars separated from the lower, and the metaconid of the lower carnassial suppressed. Northern forested portions of the Northern Hemisphere. See #523.

#523. Gulo Pallas, 1780, Spicil. Zool., Berolini, fasc. 14, 25; Storr, 1780, Prodr. Meth. Mamm., 34, tab. A, tsd. (1901) Ursus [1] *luscus* Linn., tsd. (1924) *Gulo* sibiricus Pallas so. (1924) Ursus [1] *gulo* Linn. (tsd. 1901; 1904; 1912).—Wolverine, Vielfrass. Skull heavily built, rather narrow but not so high as in *Martes* (depth of brain-case slightly more than half mastoid breadth), dorsal profile strongly curved downward anteriorly, zygomatic arches not specially widened, and postorbital region not unusually narrowed (distance from point of greatest narrowing to zygoma less than breadth of postorbital constriction); rostrum short and very robust, its width about equal to that of interorbital region, the distance from rim of orbit to gnathion about two-thirds length of brain-case; auditory bulla inflated along inner border, elsewhere rather flat, the meatus forming an ill-defined, gradually narrowing tube, the transverse diameter of bulla greatest; paroccipital process robust, long, standing out conspicuously behind bulla. Teeth 38 (i. 3/3, c. 1/1, pm. 4/4, m. 1/2), teeth relatively lower, wider and more robust than in *Mustela* (their actual size conspicuously greater); small premolars almost directly opposed, not fitting between each other when jaws are shut, and only pm^3 and pm_4 capable of being brought in contact; lower carnassial with crown wider anteriorly than posteriorly, metaconid absent, the area of posterior heel only about one-fifth that of cutting portion of crown. External form short and heavy, almost bear-like. Head moderately pointed; ears small, nearly concealed by the fur. Tail very short, not so long as head, densely bushy with hairs much longer than itself. Legs short, feet large, digitigrade, claws moderately long, partly retractile. Fur long, soft and dense. Northern forests of Northern Hemisphere; in Europe confined to Scandinavia and northern Russia.

#523 **Gulo** *arcticus* [o] Desm., 1820, Encycl. méth., Mamm., v. 1, 174, renaming of *gulo*. So. #523 **Gulo gulo,** q. v.

#523 **Gulo** *arctos* [o] Kaup, 1829, Entw.-Gesch. Natürl. Syst. Europ. Thierw., Th. 1, 68, 69. So. #523 **Gulo gulo**, q. v.

#523 Gulo [1] *barbatus* Desm., 1820, Encycl. méth., Mamm., v. 1, 175. So. #525 **Tayra barbara,** q. v.

#523 **Gulo** *borealis* Nilsson, 1820, Skand. Faun., v. 1, 95, pl. 31 [nv]. So. #523 **Gulo gulo,** q. v.

#523 **Gulo** [or Ursus [1]] **gulo** (Linn., 1758*a*, 45 [Mustela [1]]) Illiger, 1811, Prodr. Syst. Mamm., 129. Fielfrass, gemeiner Vielfrass, Järfven. Lappland [t]; northern forests of Old World; in Europe, confined to Scandinavia and N. Russia.

Opisthorchis †267.—Liver.
†*felineus.*
tenuicollis.
Pseudamphistomum †270.—Liver.
†*truncatum.*
Diphyllobothrium †295.
†*mansoni.*—Larva.—Korea.
Ascaris [1] = **Fusaria** †479.—Intest.; jejunum.
gulonis [b].—Europe.
gulonis.—Europe [t].—Host [j].
Dioctophyme †426.
†*gigas* [a].—Omentum.—So. *renale.*
†*viscerale* [a].—So. *renale.*
Strongylus [1] †378*a*.
[*gulonis:* Cystic.[1]—Europe.—Lungs.—Host confusion?—Syn. *Str. foinae.*]

#523 **Gulo** [or Meles [1]] (*Gulo*) **luscus** (Linn., 1758*a*, 47 [Ursus [1]]) Sabine, 1823, Franklin's Narrative Journey to Polar Sea, 650. American Glutton, Hudson Bay Wolverene, Quick-Hatch, Wolverene, Wolverine, Fjellfrasen. America (Hudson Bay [t]); Asia; N. Europe.

Bothriocephalus [1] <†286.
[species Stiles & Hassall, 1894*e*.]
Dioctophyme †426.
[*gulonis-sibirici* [a].]
viscerale.
Trichodectes †1100.—Ext.
retusus [a].

#523 **Gulo** luscus [a] of Trouess., 1910, Faune Mamm. Europe, Berlin, 71 [not *luscus* Linn., 1758*a*, 47]. So. #523 **Gulo gulo,** fide Miller, 1912, 434.

#523 **Gulo** sibiricus [b a] Pallas, 1780, Spic. Zool., v. 14, 35, pl. 2 [not #511 *Mustela* (*Kolonokus*) *sibirica*]. Wolverines. So. #523 **Gulo gulo,** fide Miller, 1924, U. S. Nat. Mus., Bul. 128, 128.

#523 **Gulo species.**

Opisthorchis †267.—Liver.
†*felineus.*
Dioctophyme †426.
†*renale.*—"Wild glutton."
[sanguineus [c].—"Glutton."]
Soboliphyme 423*B*.
**baturini.*—Montana.—Stomach.

#524 (519). TAYRINAE Pocock, 1922, Proc. Zool. Soc., London, pt. 4, no. 55, January, 833.—Differs from MARTINAE and GULONINAE as follows: Two carpal pads fused into a large mass as large and as wide as the large plantar pad and in contact with it; large metatarsal pad present; interdigital webs naked. Bursa shallow, remote from the posterior edge of the ear. Pm. 1/1 absent. Baculum apically unbranched. Shallow subcaudal pouch present. See #525.

#525. Tayra Oken, 1816, Lehrb. Naturg., Zool., Th. 3, Abt. 2, pp. xi, 1001, tsd. (1904; 1911; 1924) Mustela [1] *barbara* Linn.—Tayra. Much like *Grison* but tail much longer (almost as long as body without head). No whitish band on front and sides of head or on throat. With additional characters

of subfamily. Central and South America. Syns.: *Galera* Browne, 1789, Civil & Nat. Hist. Jamaica, pt. 2, book 3, 485, pl. 49, fig. 2, mt. *barbara* Linn.; Gray, 1843, List Spec. Mamm. Coll. Brit. Mus., pp. xx, 67, mt. *barbara* Linn.; *Laïra* Cuvier, 1826, Hist. nat. Mamm., V, livr. 55, pl. with 2 pp. text under "le Galéra," Sept. (new name for *Galera* Browne, 1789). Cf. *Eira* Smith, "1839" or 1842 or 1858; *Eirara* Lund, 1839; and *Eiraria* Gray, 1843.

#525 **Tayra** [or *Galera*, Galictis [1], Gulo [1], Putorius [1], Viverra [1]] (*Galera*, *Tayra*) **barbara** (Linn., 1758*a*, 46 [Mustela [1]]) Thomas, 1911, Proc. Zool. Soc. London, 138. Tayra, Hyrare, Irára Papa-mél. Central and South America (Brazil [t]).

Diphyllobothrium †295.
reptans.—Larva. Subcutaneous.
Dioctophyme †426.
viscerale.
Filaria †449.
martis.—Skin.
mustelae-barbarae [o].—Brazil.
perforans [s].—Thorax.
quadrispina [s].
Prosthenorchis †501*p*.—Intest.
elegans.
Amblyomma †881.—Ext.
†*fossum.*
Rhopalopsyllus †1635*A*.—Ext.
australis tamoyus.—São Paulo, Brazil.
Trichodectes †1100.—Ext.
barbarae.—Brazil [t].—T. h.

#525 **Tayra** [or *Galera* [o], Grison [1]] (*Galera* [o], *Tayra*) **barbara senex** (Thomas, 1900, Ann. Mag. Nat. Hist., ser. 7, v. 5, Jan., 146, 147 [Galictis [1]]) Miller, 1912, U. S. Nat. Mus., Bul. 79, 103. Gray-headed Grison, Cabeza, Cabeza de Viejo. Hacienda Tortugas, Jalapa, State of Vera Cruz, Mexico [t].

Diphyllobothrium †295.
reptans.—Subcutaneous.

#526 (518). Teeth not of sectorial type; upper carnassial about as wide as long, with the talon median and arising by a long base from the blade; molar about 3 times the size of carnassial, as long as wide; lower carnassial with a long wide heel, and the metaconid as large as the other cusps; upper incisive line curved. Feet fossorial, with long powerful claws. See #527.

#527. MELINAE [r] Baird, 1857, Mamm. N. Amer., 148, 190.—Badgers. Two carpal pads separated by a naked or hairy space from wide plantar pad; interdigital webs naked below, narrow between the digital pads; third and fourth digits of hind foot in contact; a well-developed, partially divided metatarsal pad. No trace of bursa on ear; rhinarium very deep beneath lateral slits of nostrils. A deep subcaudal glandular pouch. See #528.

#528. **Meles** Brisson, 1762, Regnum Anim., 183, 249, tat. *meles* Linn.; or **Meles** Storr, 1780, Prodromus, 34, tat. Ursus [1] *meles.*—True badgers, blaireau, Dachs. Skull narrow and high (depth of brain-case much more than half mastoid breadth), zygomatic arches not widely expanded, and postorbital region not specially narrowed (distance from point of greatest narrowing to zygoma less than breadth of postorbital constriction); rostrum elongate, distance from orbit to gnathion about three-fourths length of brain-case; auditory bulla elevated along inner margin, but elsewhere somewhat flattened, the meatal tube distinct; paroccipital process robust, standing out conspicuously behind bulla; teeth 38 (i. 3/3, c. 1/1, pm. 4/4 (in adults usually 3/4, due to early disappearance of the small pm [1]), m. 1/2), teeth not specially enlarged as compared with width of rostrum and palate (greatest transverse diameter of upper carnassial equal to a little more than one-third distance between carnassials); 3 small premolars (1 upper and 2 lower) capable of trenchant action; upper carnassial with crown triangular in out-

line, the cutting portion consisting of a single large anterior cusp with its slightly developed anterior commissure and more distinct posterior commissure, the crushing portion represented by the obliquely sloping inner base of this cusp and ridge; upper molar rhombic in outline, its crown area about 3 times that of carnassial, its greatest diameter in axis of tooth-row, the 4 primitive cusps present; lower carnassial with the 3 anterior cusps well developed, subequal, the posterior heel decidedly larger than anterior triangle; external form heavy. Head pointed; ears short but plainly visible. Body thick. Tail short, not muscular. Feet subplantigrade, toes with long fossorial claws and without webs. Fur coarse and loose. Northern temperate portions of Old World; in Europe from central Scandinavia to the Mediterranean, and from Ireland eastward. Syns.: *Melesium* ° Rafinesque, 1815, Analyse Nature, Palerme, 59, new name for *Taxus* Cuv.; *Taxus* ° Geoffr. & Cuv., 1795, Mag. encycl., v. 2, 184, 187, tsd. (1904) Ursus [1] *meles*.

#528 **Meles anakuma** Temminck in Siebold, 1844, Fauna Japon., Mamm., 30. Japan.

Paraceras <†1626.—Ext.
melis.—Japan.

Trichopsylla <†1626.—Ext.
globiceps.—Japan.

#528 **Meles arenarius** Satunin, 1895, Arch. f. Naturg., 111 [**Meles** taxus [h]]. Caucasus [t]. So. #528 **Meles** taxus [h], fide Trouess., 1897*c*, Cat. Mamm., v. 1, 254.

Paraceras <†1626.—Ext.
melis.—Palaearctic region.

#528 **Meles** *communis* ° Billberg, 1827, Synop. Faunae Scandinaviae, v. 1 (1), 16 [nv], *meles* renamed. So. #528 **Meles meles,** q. v.

#528 **Meles** *europaeus* ° Desm., 1816, Nouv. Dict. Hist. nat., v. 3, 465, *meles* renamed. So. #528 **Meles meles,** q. v.

#528 Meles [1] *labradorius* (Gmel. in Linn., 1788, Syst. Nat., ed. 13, v. 1, 102 [Ursus [1]]) Meyer, 1796, Zool. Archiv., v. 2, 45. So. #544 **Taxidea** [t] *labradoria*, q. v.

#528 **Meles** *leptorhynchus* [s] Milne-Edwards, 1867, Ann. Sci. Nat., Zool., Paris, v. 8, 374. Blaireau. North China [t]; Arakan; Assam; Nepal; Sylhet; East Yunnan. So. *Meles leucurus*, fide Trouess., 1897*c*, Cat. Mamm., v. 1, 255; var. of *Meles* taxus °, fide Grevé, 1894, Nova Acta Acad. Leop., Halle, 151.

Physaloptera 470*H*.
species Schwartz, 1926.—Liver.—China.

#528 **Meles** (Taxidia [m]) **leucurus** (Hodgson, 1847, Proc. Zool. Soc. London, pt. 15 (177), Nov. 10, 116 [Taxidea [1]]) Hodgson, 1847, J. Asiatic Soc. Bengal, v. 16, 763. Tibetan Badger, Túmphá. Arakan; Assam; China; Nepal; Plains of Tibet [t]; Yunnan.

#528 **Meles** [or *Taxus* °] (*Meles*) **meles** (Linn., 1758*a*, 48 [Ursus [1]]) Illiger, 1811, Prodr. Syst. Mamm., 130. European Badger, gemeiner Dachs. Upsala, Sweden [t]; Europe, west to Ireland, south to Mediterranean and north to central Scandinavia. Eastern limits of range not known. Several subspecies.

Endamoeba †37.
[†dysenteriae [d].]

#528 **Meles meles meles** (Linn., 1758*a*, 48 [Ursus [l]]) Miller, 1912, Mamm. W. Europe, 348. Upsala, Sweden [t]; central and southern Europe from southern Sweden to Pyrenees and Italy, and from Ireland eastward; eastern limit of range not known.

Euparyphium †257.—Intest.
[*melis*.—Europe [t].—Dachs t. h.]
trigonocephalum [o].
Harmostomum <†239*S*.
helicis.—Scandinavia.
leptostomum.—Intest.—*Meles* taxus [o] t. h.
Mesocestoides <†299.—Intest.
angustatus.—Europe.—*Meles* taxus [o] t. h.
lineatus.—Britain.
Oochoristica 319*K*.—Intest.
incisa.—Chateaudun [t].—*Meles* taxus [o] t. h.
Taenia [l] <†299.—Intest.
secunda [b].—Sweden [t].—*Meles* taxus [o] t. h.
species Léon, (1911), 1924.—Rumania.
Tetrathyridium <†284*a*.
[*taxi*.—Thoracic cavity.—M. C. V.—*Meles* taxus [o] t. h.]
Agamonema †375.—Muscles.
affine [s].
Ancylostoma †387.—Intest.
†*caninum*.
Crenosoma <†419.
species Rail., 1899*c*.—Bronchi.—France.
Filaria †449.—Connective tissue.
perforans [s].—Greifswald.
Liorhynchus <†495.—Intest.
truncatus.—Greifswald.
Oxyuris †490.—Large intest.
alata.
Trichinella †366.
†*spiralis*.
Trichosoma †372*a*.—Intest.
[species Bockum, 1888.]
Uncinaria 390*B*.—Intest.
criniformis.—Germany [t].—T. h.
[*melinus* [o].]
melis [s].
Demodex †855.—Hair follicles.
melesinus.—England.
Ixodes †866.—Ext.
auricularis.
canisuga.—Russia.
crenulatus.—Germany [t].—T. h.
†*hexagonus*.
hexagonus inchoatus.—Skin.—Wales; England.
mellinus.
†*ricinus*.
Ceratophyllus †1627.—Ext.
sciurorum.—Europe.
Gasterophilus †1572.
equi [d] [s].—Larvae in stom.
Paraceras <†1626.—Ext.
melis.—Europe.
Pulex †1635.
irritans.
Trichodectes †1100.—Ext.
crassus [o].—Europe [t].—T. h.
melis.—Europe [t].—T. h.
Trichopsylla <†1626.—Ext.
globiceps.—Rotterdam Zoo.
trichosa.—Switzerland.
[vulpes [o]: Pulex [l].]

#528 **Meles meles marianensis** (Graells, 1897, Mém. Real Acad. Cien., Madrid, v. 17, 170 [*Meles* taxus]) Miller, 1912*a*, Cat. Mamm. W. Europe, 352. Iberian Peninsula (Central Spain [t]).

Trypanosoma †94.—Blood.
pestanai.—Collares [t], Portugal.—Syn. pestani [m] Wenyon, 1926*a*, 1359.—*Meles* taxus [o] t. h.

#528 **Meles species.** Badger, blaireau. Probably largely *Meles meles meles*.

Clonorchis †268.—Liver.
†*sinensis*.
Euparyphium †257.
[*melis*.—Europe.]
Metagonimus †273.
species Onji, 1921.—Japan.
Paragonimus †250.—Lungs.
†*westermani*.

Ascaris †479.—Intest.
species Onji, 1921.—Japan.
Eucoleus <†369.
aerophilus.
Toxocara †484.—Small intest.
melis.—Mus. Brussels.
Trichuris †370.—Intest.
[species Onji, 1921.—Japan.]
Ixodes †866.—Ext.
hexagonus inchoatus.
**kingi*.
†*reduvius* [s].
Gasterophilus †1572.
equi [d s].—Larvae in stom.
Paraceras <†1626.—Ext.
flabellum.—Turkestan.
melis.—Brit. Isles.—Badger t. h.
Trichopsylla <†1626.—Ext.
globiceps.
trichosa.

#528 **Meles** taxus [b c] Boddaert, 1784, Elenchus Anim., v. 1, 80. Common European badger, gemeiner Dachs, Gräflingen, Svintoks. Europe. So. #528 **Meles meles meles,** q. v. There is a confusion between *Meles* taxus [b] 1784 so. *Meles meles meles* of Europe, and Meles [1] *taxus* 1777 so. #544 *Taxidea taxus*, q. v., of America.

#528 **Meles** *vulgaris* [c] (Tiedemann, 1808, Zoologie, v. 1, 376 [*Taxus* [c]], renaming of Ursus [1] *meles*) Leunis, 1883*a*, Synop. Thierkunde, v. 1, 198. Gemeiner Dachs. So. #528 **Meles meles,** q. v.

#529 (517). Cavity of bulla opening into a large or very large hollow space in mastoid portion of periotic. See #530.

#530 (548). Palate produced posteriorly, so that mesopterygoid fossa is far behind molar teeth; baculum, where known, a stout bone. See #531.

#531 (534). Rhinarium a subcircular flattish disk, continued to edge of upper lip by a narrow long philtrum resembling it in texture; nostrils anterior, above middle of rhinarium; lateral slits almost obliterated. Feet fossorial, with pads of second, third, fourth, and fifth digits united nearly to their apices. See #532.

#532. MYDAINAE Pocock, 1922, Proc. Zool. Soc. London, pt. 4, no. 55, Jan., 834.—Skull with muzzle and dentition much as in MELINAE, but frontal postorbital processes absent, zygomata and mandible slender, and mastoid not produced below auditory orifice; cavity of bulla ceasing just behind petrous portion of periotic, and opening laterally into hollow of mastoid portion of periotic by a single orifice as in MEPHITINAE; pinna of ear reduced to a simple rim. No subcaudal pouch. See #533.

#533. Mydaus Cuvier in Geoffr. & Cuv., 1821, Hist. nat. Mamm., v. 2 (27), April, 2, mt. *meliceps*.—Stinkdachs, Telagon, Teledu. Teeth 38 (i. 3/3, c. 1/1, pm. 4/4, m. 1/2); cranium elongate, face narrow and produced; suborbital foramen small, palate produced backward about midway between last molar tooth and glenoid fossa; head pointed in front; snout produced, mobile, obliquely truncated, nostrils inferior. Legs rather short, stout. Tail extremely short, clothed with rather long bushy hair. Anal glands largely developed, emitting an odour like that of the American skunks. Java; Sumatra. Syns.: *Midaus* [c] Cuvier, 1825 [1823], Cuvier's Recherches Oss. Foss., nouv. éd., v. 4, 241, 474; *Mydaon* [c] Gloger, 1842, Hand-u. Hilfsbuch Naturg., v. 1, pp. xxix, 57.

#533 **Mydaus species.**

Physaloptera 470*H*.—Stom.
mydai.—Kalabit Co. [t], Borneo.—T. h.

#534 (531). Rhinarium normal, nostrils much nearer its lower than its upper edge, the lateral slits long; no trace of philtrum and no groove on upper lip. Pads of second, third, fourth, and fifth digits free. See #535.

#535 (545). Tympanic annulus projecting as a free ridge into bulla, not confluent with its roof, the posterior rafter arched high above petrous, leaving a large space between the chambers, of which the posterior is not multiloculate; bullae encroaching on glenoid in front. See #536.

#536 (542). Teeth sectorial, in a general way like those of MARTINAE; occipital crest inclined backward and inward from mastoid, not semicircular from back view. See #537.

#537 (539). MELLIVORINAE Gill, 1872*a*, Arrangement Fam. Mamm., Smiths. Misc. Coll. no. 230, 6, 66.—Periotic hollow, comparatively small, not extended to tip of mastoid, which, like the paroccipital, stands prominently away from bulla, the latter rounded in front and remote from hamular; palatine foramina on suture; lower carnassial without metaconid; last lower molar lost; upper molar with wide cingulum; pinna of ear reduced to an integumental thickening. A glandular pouch round anus. Feet very broad; digits closely tied; large carpal and metatarsal pads in contact with wide plantar pads. See #538.

#538. Mellivora[57] Storr, 1780, Prodr. Meth. Mamm., 34, tab. A, tsd. (1900; 1904; 1924) *ratel* Sparrman so. (1924) *capensis* Schreb.—Ratels, honey-badgers. Body stout. Legs short, strong; fore claws very large. Tail short. No external ear. Coloration peculiar: upper parts whitish; lower parts, legs, and muzzle, uniformly black. Mammae 4. Anal glands well developed, one opening on each side of anus. Feet naked below, on hind feet the naked sole extends to the heel. Teeth 32 (i. 3/3, c. 1/1, pm. 3/3, m. 1/1); no lower tubercular molar; upper tubercular (or true) molar much broader than long, thus being transverse and more or less dumbbell-shaped, as in MUSTELINAE; upper sectorial large, with the inner tubercle quite at the anterior end; heel of lower sectorial very small. Vertebrae: C. 7, D. 14, L. 4, S. 4, Cd. 15. India, Africa.

#538 **Mellivora** [t] [or Gulo [l], *Ratelus*] **capensis** (Schreb., 1777, Säugth., v. 3, 450, pl. 125 (1776); Erxl., 1777, Syst. Anim., 493 [Viverra [l]]) Grevé, 1894. Nova Acta Leop., Halle, 160. Honig-Ratel, Kapischer Honigdachs. Africa. Syn. *Mellivora ratel.* There may possibly be some confusion in regard to the host of the parasites, cf. #540 *capensis.*

SARCOSPORIDIA †149.—Striated muscles.
[species Viljoen, 1921: Sarkosporidien.—S. Africa.]

Diphyllobothrium †295.
decipiens [o].
†*latum.*

Mesocestoides < †299.—Intest.
caestus.—London Zoo, from N. E. Africa [t].—*Mellivora ratel* [s] t. h.

Filaria †449.
martis.—Host confusion?—Subcut.—Eritrea; Africa.
perforans.—Host confusion?—Africa.
quadrispina [s].—Host confusion? Eritrea, Africa.

Physaloptera †469.—Stom.
elegantissima.—Eritrea, Africa.
species Monnig, 1924*a*, 449.—Intest.—Transvaal.

Trichuris †370.
[species Chatin, 1874.—Anal glands.]

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[57] **Syns.:** *Melivora* [o] Gray, 1847, List Osteol. Spec. Brit. Mus., pp. x, 19;
Ratellus Cuvier, 1827, Griffith's Cuvier, Anim. Kingd., v. 5, 118;
Ratelus [o] Bennett, 1830, Gardens Menagerie Zool. Soc., Chiswick, v. 1, 13, mt. *mellivorus* Bennett, from India;
Rattelus [m] Palmer, 1904*a*, Index Gen. Mamm., 601;
Ursitaxus [s] Hodgson, 1835, J. Asiatic Soc. Bengal, v. 4 (45), Sept., 522, mt. *inauritus* Hodgson;
Ursotaxus [o] Blyth, 1840, Cuvier's Anim. Kingd., London, 86, mt. *inauritus.*

#538 **Mellivora** [t] [or *Melivora* [c]] *ratel* (Sparrman, 1777, K. Vet. Akad. Handl., Stockholm, v. 38, 147, pl. 4, fig. 3 [Viverra [l]]) Gray, 1843, List Mamm. Coll. Brit. Mus., 68. Ratel, Honey-Ratel, Icelesi, Sisele, Indundundwana, Insele. Africa (from Cape [t] to French Congo and Nubia). So. #538 **Mellivora capensis,** q. v.

#539 (537). ICTONYCHINAE Pocock, 1922, Proc. Zool. Soc. London, pt. 4, no. 55, Jan., 835.—Periotic hollow larger, extending to tip of mastoid, which, like the paroccipital, is close to the bulla; the latter pointed in front and fused with hamular; palatine foramina on maxilla; lower carnassial with high acute metaconid; last lower molar retained; upper molar without wide cingulum. Ears with large pinna. Feet narrow; claws long; digits widely separable; pads small, carpals separated from plantar pad; metatarsal absent. Circumanal integument unmodified. See #540. Syn. ZORILLINAE Gill, 1872*a*, Arrangement Fam. Mamm., Smiths. Misc. Coll. no. 230, 6, 66.

#540 (541). **Ictonyx** [58] Kaup, 1835, Thierreich, v. 1, 352, mt. *capensis* Kaup so. (tsd. 1904) *zorilla* Erxl., tsd. (1900) *striata*.—African striped-zorillas, striped zorilles, striped muishond, Bandiltiss, Kralleniltisse, Zorillen. Teeth 34 (i. 3/3, c. 1/1, pm. 3/3, m. 1/2); upper molars smaller than carnassial and narrow from before backwards; lower carnassial with small narrow talon and distinct inner cusp. Form mungoose-like with pointed snout. Legs short; fore feet large and broad, with 5 stout, nearly straight, blunt, and nonretractile claws, of which I and V are considerably shorter than II to IV. Tail moderate, with longer hairs toward the end, giving it a bushy appearance. Hairs generally long and loose. Africa.

#540 **Ictonyx** [or *Zorilla* [o]] *capensis* [s] Kaup, 1835, Thierreich, v. 1, 353. Cape Polecat, Stink cat, Stink Muishond, striped Muishond, Capische zorille, Iqaqa. Cape of Good Hope to Senegal, Africa. So. #540 **Ictonyx zorilla.** Cf. also #538 *Mellivora capensis* for possible confusion in records of parasites.

#540 **Ictonyx** [or *Zorilla* [o]] **libyca** Hempr. & Ehrenb., "1832," Symb. Phys. Mamm., 2. Libyan Zorille. Libya [t]; Asia Minor; N. Africa.

Hartertia 470*b*2.
zorillae.—Algeria [t].—Subcutaneous.
Seuratum <459*t*.—Intest.
tacapense.
Spirura 468*e*.
gastrophila [d s].—Esophagus.—N. Africa.
Myoxopsylla <†1626.—Ext.
[*copulabilis* [s].—Tunisia [t].]
Synosternus <†1634.—Ext.
cleopatrae.—Algeria.
Trichodectes †1100.—Ext.
zorillae.—Tunisia.

#540 **[Ictonyx]** [or *Zorilla* [o]] *mustelina* [o] Wagner in Schreb., 1841, Säugth., Suppl., v. 2, 219, pl. 133*A* [*Rhabdogale*], renaming of *zorilla*. Der Bandiltiss. So. #540 **Ictonyx zorilla,** q. v.

#540 **Ictonyx** [or *Zorilla* [o]] *striata* [s] (Shaw, 1800, Gen. Zool., Mamm., v. 1 (2), 387 [Viverra [l]]) Layard, 1861, Cat. Mamm. S. Afr. Mus., 28 [nv]. The Striped Muishond, Stink or Getrepte Muishond, Iqaqa. C. and S. Africa from Benguela, Uganda, and Mozambique southward. So. #540 **Ictonyx zorilla.**

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[58] Syns.: Ictidonyx [c o] Agassiz, 1846*a*, Nomenclator Zool., Index Univ., 194;
Ozolictis [o] Gloger, 1842, Hand.-u. Hilfs. Naturg., v. 1, pp. xxix, 74–75, new name for *Ictonyx;*
Rabdogale [c] Pomel, 1854, Cat. méth. Vert. Foss. Bassin de la Loire, Paris, 47;
Rhabdogale Wiegmann, 1838, Arch. Naturg., v. 1, 278–279, footnote, based on "Die Zorillen Afrika's."
Zorilla [o] Oken, 1816, Lehrb. Naturg., 3 Th., Zool., 2 Abth., pp. xi, 1000, tsd. (1904) *zorilla* Erxl.; tsd. (1900) *striata*.

#540 [**Ictonyx**] *vaillantii* Loche, 1856, Rev. Mag. Zool., 497, pl. 22 [*Zorilla* °]. Algeria ᵗ, Africa. So. #540 **Ictonyx lybica,** fide Trouess., 1897*c*, 258.

Trichodectes †1100.—Ext.
zorillae.—Tunisia.

#540 **Ictonyx** [or Mephitis ¹, Mustela ¹, *Rhabdogale, Zorilla* °] (Viverra ¹, *Zorilla* °) **zorilla** (Schreb., 1777, Säugth., v. 3, 445, pl. 123 (1776) [Viverra ¹]) Grevé, 1894, Nova Acta Acad. Leop., Halle, 154. Cape Polecat, Bandiltis, Zorilla, Zorrilla. Africa.

Plasmodium †170.—Blood.
roubaudi.—Senegal ᵗ.—T. h.
Ancylostoma †387.—Intest.
mephitis ʰ Micheletti, 1929.—Africaᵗ.—T. h.
Filaria †435, †449.
martis.—Subcutaneous.—Transvaal.
rhabdogalis.—Larva in peritoneum.—Egypt.
Physaloptera †469.
species Monnig, 1924.—Transvaal, S. Africa.
Seuratum <459*t*.—Intest.
tacapense.
Haemaphysalis †869.—Ext.
†*leachi.*—Orange Free State; Rhodesia.
Ctenocephalides †1639.—Ext.
connatus.—Cape Colony.
Echidnophaga †1633.—Ext.
bradyta.—Cape Colony.
Trichodectes †1100.—Ext.
ovalis.—S. W. Africa.
Xenopsylla †1636.—Ext.
erilli.—Cape Colony.

#541 (540). **Poecilogale** Thomas, 1883, Ann. Mag. Nat. Hist., 5th ser., v. 11, 370, mt. *albinucha* Gray, 1864.—Teeth 28 (rarely 30) (i. 3/3, c. 1/1, pm. 2/2, m. 1/1 (rarely 1/2)). Form weasel-like, very short on the legs as compared with the length of body; coloration similar to *Ictonyx.* Snout somewhat rounded; auditory bulla flattened, so that it is hardly noticeable, opening of the meatus directed anteriorly. South Africa.

#541 **Poecilogale** [Ictonyx ¹, Mustela ¹] (*Poecilogale*) **albinucha** (Gray, 1864, Proc. Zool. Soc. London, no. 5, 69, pl. 10 [Zorilla ¹]) Trouess., 1897*c*, Cat. Mamm., v. 1, 259. Small striped pole cat of southern Africa, snake Muishond, snake Weasel, Slang Muishond (snake weasel). Central and southeast Africa, from Angola, Nyassaland, and German E. Africa to Natal and the eastern part of the Colony.

Trichodectes †1100.—Ext.
ovalis.—Onderstepoort ᵗ, Transvaal.—T. h.

#542 (536). Teeth not sectorial; upper carnassial enormous, with very large bicuspid talon; molar a little smaller than carnassial, triangular, its inner and anterior borders subequal as in MELINAE; lower carnassial with large cuspidate heel and large metaconid; occipital crest rising nearly vertically from mastoid, and nearly semicircular from posterior aspect. See #543.

#543. TAXIDIINAE Pocock, 1922, Proc. Zool. Soc. London, pt. 4, no. 55, Jan., 835.—American Badgers. Feet broad and fossorial with long claws as in MELLIVORINAE, but plantar pads narrower; a single small carpal pad remote from plantar pad; no metatarsal pad. No glandular pouch associated with anus. Ear with pinna well developed. See #544.

#544. Taxidea Waterhouse, 1838, Proc. Zool. Soc. London, pt. 6 (71), 154, mt. *labradoria* Gmel. in Linn., 1788 so. (tsd. 1912; 1924) *taxus* Schreb., 1777.—American badgers. Teeth as in *Meles*, except that the rudimentary anterior premolar appears to be always wanting in the upper jaw; upper carnassial much larger in proportion to the other teeth; upper molar about same size as carnassial, triangular, with apex turned backward; talon of lower carnas-

sial less than half as long as tooth; skull very wide in the occipital region; lambdoidal crest very greatly developed, and the sagittal but slightly, contrary to what obtains in *Meles*. Body very stoutly built and depressed. Tail short. North America. Syn. Taxidia [m] Hodgson, 1847, J. Asiatic Soc. Bengal, v. 16, 763.

#544 ***Taxidea** *americana* (Boddaert, 1784, Elench. Anim., v. 1, 80 [Meles [l] *taxus*]) Grevé, 1894, Nova Acta Acad. Leop., Halle, 157. Common American badger, Blaireau d'Amérique, amerikanischer Dachs. Hudson Bay [t]; U. S. A. from Wisconsin, Illinois, Iowa to Pacific Ocean. So. #544 **Taxidea taxus,** q. v., fide Rhoads, 1894, 524.

#544 **Taxidea** [t] [or Meles [l]] *labradoria* (Gmel. in Linn., 1788, Syst. Nat., v. 1, 102 [Ursus [l]]) Waterhouse, 1838, Proc. Zool. Soc. London, pt. 6, no. 71, 154. So. #544 **Taxidea** [t] **taxus.**

#544 **Taxidea** [or Taxus [l]] *labradorica* (Link, 1795, Beytr. Nat., v. 1 (2), 86 [Meles [l]]) Lesson, 1842, N. Tab. Règne Anim., Nov., 79. Amerikanischer Dachs. So. #544 **Taxidea** *labradoria*, q. v.

#544 Taxidea [l] **leucurus** Hodgson, 1847, Proc. Zool. Soc. London, pt. 15 (177), Nov. 10, 116. So. #528 **Meles leucurus,** q. v.

#544 **Taxidea species.** American badger. Probably chiefly or entirely *Taxidea taxus*.

Trichinella †366.
†**spiralis*.
Dermacentor †873.—Ext.
†**variabilis*.
†*venustus [d].—Cf. † *a n-dersoni*.

Ixodes †866.—Ext.
**hexagonus inchoatus*.

#544 **Taxidea** [or Meles [l], Melus [l]] **taxus** (Schreber, 1777, Säugthiere, v. 3, 520, pl. 142*B* (1778) [Ursus [l]]) Rhoads, 1894, Amer. Nat., v. 28 (330), June, 524. American badger. Labrador [t] and Hudson Bay [t]. Several subspecies. Cf. also #528 *Meles* taxus [d] for confusion.

Taenia [l] <†299.
*species Stiles & Hassall, 1894*e*.—Colorado.
Monopetalonema <†440.
**eremita*.—Muscle.—Wyoming.
Physaloptera †469.
papillotruncata.
turgida.—Stom.—Phila. Zoo.
torquata.
Dermacentor †873.—Ext.
†**andersoni*.
†**variabilis*.
†*venustus [d].—So. †*andersoni*.

Ixodes †866.—Ext.
**kingi*.—T. h.
Pulex †1635.—Ext.
†*irritans*.—Calif.[j]—Nat. Inst. Health No. 12315.
Trichodectes †1100.—Ext.
**interrupto-fasciatus*.—Calif.

#545 (535). Tympanic annulus confluent at its summit with roof of bulla; posterior rafter-like partition of bulla close down upon petrous, leaving narrow passage between the 2 chambers, the posterior of which is markedly multilocular; bullae remote from glenoid in front. See #546.

#546 (546*a* [59]). GRISONINAE Pocock, 1922, Proc. Zool. Soc., London, pt. 4, no. 55, January, 835.—Pinna of ear well developed, with bursa present, but small and in front of posterior margin. No subcaudal pouch. Teeth as in MUSTELINAE, but talon of upper carnassial much larger, occupying nearly half the inner surface of the tooth; palatine foramina maxillary. Feet not fossorial, almost as in TAYRINAE, but with carpal pads farther from plantar pad. See #547.

#547. Grison [60] Oken, 1816, Lehrb. Naturg., Zool., Th. 3, Abt. 2, pp. xi, 1000, mt. Viverra [1] *vittata* Schreb.; or **Galictis** [60].—Grisons. Teeth 34 (i. 3/3, c. 1/1, pm. 3/3, m. 1/2); molars small but stout; upper carnassial with inner tubercle near middle border of tooth; lower carnassial with talon small, and inner cusp small or absent. Body long. Legs short; claws non-retractile; palms and soles naked. Head broad and depressed. Tail of moderate length. South America.

#547 **Grison** [or Galera [1]] (*Galictis* [o]) **allamandi** (Bell, 1837, Proc. Zool. Soc. London, pt. 5 (52), Dec., 47 [*Galictis* [o]]) Elliot, 1904, Land & Sea Mamm., Chicago, Zool. ser., v. 4 (2), 526. Allamand's Grison. South America.

Microfilaria †432.—Blood.

[species Plimmer, 1917.—London Zoo, from Argentina.]

#547 *Galictis* [o] **barbara** Linn., 1758*a*, 46. So. #525 **Tayra barbara,** q. v.

#547 [**Grison**] *Galictis* [o] (*Galictis* [o]) **quiqui** [s] (Molina, 1782, Sagg. stor. nat. Chili, 292 [Mustela [1]]) Trouess., 1897*c*, Cat. Mamm., v. 1, 264. So. #547 **Grison vittata,** fide Trouess., 1897*c*, 264.

Neotrichodectes < †1099.—Ext.

[*mephitidis* [s] Osborn.]

#547 **Grison** [or *Galictis* [o]] **species.**

Taenia [r] †325.

macrocystis.—Brazil; Paraguay.

#547 **Grison** [or *Galictis* [o], *Grisonia*, Gulo [1], Lutra [1]] (*Galictis* [o]) **vittata** (Schreber, 1777, Säugth., v. 3, 447, pl. 124 (1776) [Viverra [1]]) Ihering, 1911, S. Paulo Rev. Mus. Paulista, v. 8, 244. Grison, Furão. S. America.

Dioctophyme †426.
†*gigas* [s].
†*renale*.—Eggs in urine.—Rio de Janeiro.

Amblyomma †881.—Ext.
†*ovale*.

Rhopalopsyllus †1635*A*.—Ext.
lutzi [o] *lutzi*.—São Paulo [t], Brazil.—T. h.

#548 (530). Palate not produced posteriorly, mesopterygoid fossa reaches almost up to line of upper molar teeth. Baculum unossified or ossified as an exceedingly slender undifferentiated rod. See #549.

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[59] #546*a* (546). LYNCODONTINAE Pocock, 1922, Proc. Zool. Soc. London, pt. 4, no. 55, January, 836.—Ear greatly reduced, no trace of bursa or of valvular supratragus. Differing from GRISONINAE in cranial and in external characters. Bullae inflated, not flattened externally toward auditory orifice, with anterior edge obliquely transverse, not emarginate; mesopterygoid fossa longer; pm. 2 lost above and below. Feet with long fossorial claws, unique in the family; digits webbed only for a short distance beyond plantar pads; hairy laterally, mesially naked below, like the reduced webs; carpal pads reduced to external moiety which is in contact with plantar pad, the rest of carpal area covered with hair, which encroaches over the middle of plantar pad; metatarsal pads absent; plantar pad of hind foot reduced like that of fore foot. Upper lip completely grooved. Contains *Lyncodon*.

[60] Syns.: *Galictis* [o] Bell, 1826, Zool. J., v. 2, 551-552, tod. Viverra [1] *vittata* Schreb.;
Gallictis [m] Waterhouse, 1839, Zool. Voy. H. M. S. Beagle, London, pt. 2, Mamm., 21;
Grisonia [o] Gray, 1825, Ann. Phil., n. s., v. 10, Nov., 339 [nomen nudum]; Gray, 1843, List Spec. Mamm. Coll. Brit. Mus., pp. xx, 68, mt. *vittata* Schreb.

#549. MEPHITINAE Gill, 1872*a*, 6, 66.—Skunks. Cavity of bulla simple, ceasing close behind petrous, communicating with large periotic hollow by means of small circumscribed orifice set forward in line with outer end of petrous and in front of stylomastoid foramen, which is set far in and narrowly separated from foramen lacerum posticum; bulla not nearly extending to paroccipital, but encroaching on glenoid in front; muzzle massive, but zygomata and postorbital processes weak; teeth resemble those of MELINAE and MYDAINAE, but upper incisive row nearly straight, upper molar not twice size of the carnassial and wider than long; pm.1 lost above and below; palatine foramina maxillary. Feet fossorial, soles naked, 2 carpal pads, and metatarsal pad; pads of third and fourth digits of hind foot basally united. Ear with orifice not concealed behind tragal ridge. Anus without pouches. See #550.

#550 (551). **Conepatus**[61] Gray, 1837, Charlesworth's Mag. Nat. Hist., v. 1, n. s., 581, type *humboldtii* Gray.—Bare-nosed skunks of S. Amer., South American skunks, white-backed skunks. Teeth 32 (i. 3/3, c. 1/1, pm. 2/3, m. 1/2). Body stouter than that of *Mephitis*. Nostrils opening downward and forward, not laterally; first premolar absent; pterygoid fossa short and rather narrow; palate extends beyond posterior border of molar; postorbital processes generally absent; superior outline of skull a gradual curve from occiput to end of premaxillae; fore claws large and strong; soles naked for half the length of foot. South America (Magellan Straits [t]). See #550*A*.

#550*A* (550*B*). **Oryctogale** Merriam, 1902, Proc. Biol. Soc. Wash., v. 15, Aug. 6, 161–162, tod. *Conepatus leuconotus* Licht., from Vera Cruz, Mexico.—Color black, with single broad white mid-dorsal band, beginning on top of head between ears (or midway between eyes and ears) and reaching caudad to tail.

#550*B* (550*A*). **Marputius** Gray, 1837, Charlesworth's Mag. Nat. Hist., v. 1, n. s., 581, mt. Mephitis [l] *chilensis* Geoffr.—Color black, back with two rather narrow parallel white stripes. Syn. *Marputias* [c] Ham. Smith, 1842, Jardine's Nat. Lib., v. 15, Mamm., 197.

#550 **Conepatus** [or Conipates [m]] (**Marputius**) **arequipae** Thomas, 1900, Ann. Mag. Nat. Hist., Ser. 7, v. 6, 466. Sumbay [t], Province of Arequipa, Peru.

Hectopsylla <†1630.—Ext.
coniger.—Pampa Olliga [t], Bolivia.—T. h.

Pulex †1635.—Ext.
†*irritans*.—Pampa Olliga, Bolivia.

#550 **Conepatus chorensis** Thomas, 1902, Ann. Mag. Nat. Hist., ser. 7, v. 9, Feb., 126. Choro [t], Bolivia. Syn. Conipates [m] churensis [m] 1908.

Pulex †1635.—Ext.
†*irritans*.—Chòro, Bolivia.

#550 **Conepatus** [t] [or Mephitis [l]] (**Conepatus**) *humboldtii* Gray, 1837, Charlesworth's Mag. Nat. Hist., n. s., v. 1, Nov., 581. Straits of Magellan [t]; Patagonia.

Hectopsylla <†1630.—Ext.
broscus.—Pampa Central [t], Argentina.—T. h.

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[61] Syns.: Conipates [m] 1908;
Gonepatus [m] Ihering, 1911, Rev. Mus. Paulista, v. 8, May 10, 252;
Rhinozolis Gloger, 1842, Hand-u. Hilfsbuch Naturg., v. 1, 58, Marpurito's, Conepatl's or Rüsselstinkthiere (*Thiosmus* Licht., 1838, renamed);
Thiosmus Lichtenstein, 1838, Abhandl. K. Akad. Wiss., Berlin, 270.

#550 **Conepatus** (**Conepatus**) **proteus** Thomas, 1902, Ann. Mag. Nat. Hist., ser. 7, v. 9, 239. Cruz del Eje [t], Central Cordova.

Diphyllobothrium †295.
species Vevers, 1920.—London Zoo, from Argentina.

Ancylostoma †387.—Intest.
conepati.

#550 **Conepatus** [or Gullo[1], Mephitis[1], *Thiosmus*] (**Conepatus**) **suffocans** (Illiger, 1815, Abh. ph.-Kl. K. pr. Ak. Wiss. (1804–1811), 109, 121 [Gulo[1]]) Trouess., 1897*c*, Cat. Mamm., Ber., v. 1, 261. South American skunk, südamerikanisches Stinkthier, Surilho, Yaguare, Zorilho Jaritataca. Brazil.

Ancylostoma †387.—Intest.
conepati.—Buenos Aires.
[*mephites.*—Buenos Aires.]
Physaloptera †469.
maxillaris.—Stom.—Buenos Aires.
mephites.—Buenos Aires.

Prosthenorchis †501*p*.
elegans.—Intest.
Pulex †1635.—Ext.
conepati.—Piauhy [t], Brazil.—T. h.

#551 (550). Teeth 34: i. 3/3, c. 1/1, pm. 3/3, m. 1/2. See #552.

#552 (553). ***Mephitis** Geoffr. & Cuv., 1795, Mag. encycl., v. 2, 187 (for mouffette), tsd. (1901) "Les Moufettes" (cf. *mephitis*), tsd. (1904; 1912; 1924) *mephitis* Schreb.—True skunks, moufette, Stinkthier. Skull highly arched, highest in frontal region; rostrum truncated with slight obliquity; posterior margin of palate nearly on a line with posterior border of last molars; periotic region not inflated; mastoid and paroccipital processes prominent; postorbital processes not prominent; coronoid process of mandible conical, erect. Teeth 34 (i. 3/3, c. 1/1, pm. 3/3, m. 1/2); snout not greatly produced; nostrils lateral. Tail long and bushy. Heavy, thickset animals, slow of movement, terrestrial, burrowing. North America. See #552*A*. Syns.: *Chincha* ° Lesson, 1842, Nouv. Tab. Règne Anim., Mamm., 67, mt. tat. *chincha* Lesson, so. americana Desm., so. *mephitis* Erxl.; *Mephites* ° Gray, 1847, List Osteol. Spec. Brit. Mus., pp. x, 20. See #552*A*.

#552*A* (552*B*). ***Mephitis**[r] Geoffr. & Cuv., 1795, Mag. encycl., v. 2, 187 (for mouffette), tsd. (1901) "Les Moufettes" (cf. *mephitis*), tsd. (1904; 1912; 1924) *mephitis* Schreb.—Large striped skunks. Audital bullae not greatly inflated. Back usually with a white stripe, divided posteriorly. Skull long and relatively narrow interorbitally; zygomata usually spreading broadly; interpterygoid fossa broad; palate ends either squarely or with a median notch or spine; anterior palatine foramina usually small and narrow; mastoids, and sagittal and supraorbital crests well developed. Size medium to large; build heavy. Soles broad; ears not prominent. Fur dense. Usual color pattern: A narrow median white stripe extends from nose to nape; a white dorsal band beginning with a broad nuchal patch, and narrowing between the shoulders, divides into 2 lateral stripes, which continue to the tail and sometimes down its sides; the rest of the body is black; tail with mixed black and white hairs, the white ones much the longer; all the tail hairs are white at the base. Syn. Subgenus *Chincha* [s] Lesson of Howell, 1901, North Amer. Fauna, No. 20, Aug. 31, 20, 22, tat. *chincha* so. americana so. *mephitis*.

#552*B* (552*A*). **Leucomitra** Howell, 1901, North Amer. Fauna, no. 20, Aug. 31, 20, 39, mt. tod. *Chincha*[1] *macroura* Licht., from mountains northwest of City of Mexico.—Hooded skunks. Audital bullae large, greatly inflated. Back usually wholly black or wholly white. Skull short and broad; interpterygoid fossa narrowly U-shaped; palate without notch or spine; anterior palatine foramina large and rounded; tube of auditory meatus short; periotic

region slightly inflated; mastoid processes and sagittal crest never greatly developed; zygomata never spreading abruptly, and often nearly parallel to axis of skull; interorbital constriction not marked; paroccipital processes directed outward and not sharply pointed; posterior margin of coronoid distinctly concave. Size medium to small; build much slenderer than that of *Mephitis* [r]. Feet slender. Tail very long. Ears prominent. Fur long and silky but not dense; hairs on the nape elongated and spreading sidewise, forming a sort of hood. Upper parts chiefly white, under parts black; or upper parts nearly all black, with narrow lateral stripes, and under surface of tail white; between these two extremes are many intermediate phases. Frontal stripe narrow and often absent.

552 **Mephitis** [or *Chincha* [t], Mustela [l]] (*Mephitis*) americana [h] Desmarest, 1818, Nouv. Dict. Hist. nat., Paris, v. 21, 514. So. #552 **Mephitis mephitis,** fide Howell, 1901, 15.

#552 **Mephitis cinche** (Mueller in Linn., 1776, Natursyst., Suppl., 32 [Viverra [l]]). Chinga. S. America [t]. Not positively identifiable, fide Howell, 1901, 15. Syns.: *chinche* [oo] 1777; *chinga* [oo] 1808; *chingha* [oo] 1815; *chincha* [oo] 1827.

Taenia [l] < †299.
crassipora.—Small intest.
Ascaris [l] †479.
alienata [h s].
**columnaris.*—Intest.—United States.

Physaloptera †469.
maxillaris.—Stom.—Brazil.

#552 **Mephitis** *chinga* [oo] Tiedem., 1808, Zool., v. 1, 362. So. #552 **Mephitis cinche,** q. v.

#552 ***Mephitis** (**Mephitis,** *Chincha*) **hudsonica** (Richardson, 1829, Fauna Borea.-Amer., pt. 1, 55 [*Mephitis* americana]) Bangs, 1895, Proc. Boston Soc. Nat. Hist., v. 26, 536. Hudson's Bay Skunk, Northern Plains Skunk. Saskatchewan [t], Canada; western Canada from Manitoba to Brit. Columbia (east of Cascades); south in United States to Colorado, Nebraska, and Minnesota.

Dermacentor †873.—Ext.
†**andersoni.*

#552 **Mephitis** [or *Mephites* [c]] (**Leucomitra** [t]) **macroura** Lichtenstein, 1832–1834, Darst. n. wenig bekannter Säugethiere, pt. 9, pl. 46. Hooded Skunk, Long-tailed skunk, langschwänziges Stinkthier. Mountains northwest of City of Mexico [t]; highlands of central and southern Mexico; south to Guatemala. Syn. *M. macrurus* [c] True, 1885, Proc. U. S. Nat. Mus., v. 7, 609.

Neotrichodectes <†1099.—Ext.
[**mephitidis* [s] Osborn.—Ariz.]

#552 **Mephitis** *memphitis* (Linn., 1758*a*, 44 [Viverra [l]]). Undeterminable, fide Howell, 1901, North Amer. Fauna, no. 20, 17.

#552 **Mephitis** *mephitica* [o] (Shaw, 1792, Mus. Leveriani, London, 171 [Viverra [l]], *mephitis* renamed) Flower & Lydekker, 1891*a*, Introduc. Mamm., London, 572. Common skunk. North America. So. #552 **Mephitis** (**Mephitis**) **mephitis,** q. v.

#552 ***Mephitis** [or Mustela [l]] (**Mephitis,** *Chincha*) **mephitis** (Schreber, 1776, Säugthiere, v. 3, 444, pl. 121 [Viverra [l]]; Erxl., 1777, Syst. Anim., 491 [Viverra [l]]) Allen and others, 1902, Science, n. s., v. 16 (394), July, 115. Canada skunk. Eastern Canada [t]; Nova Scotia, Quebec, and northern Ontario; west and north at least to Oxford House, Keewatin.

Eimeria †163.
**mephitidis*.—Intest.—N. America [t] from Ohio.—T. h.
*species Andrews, 1927.—See *E. mephitidis*.
Taenia [1] <†299.
*species Stiles & Hassall, 1894*e*.—Colorado.
Ascaris †479.—Intest.
*alienata [h s].—Carlisle, Pa.
**columnaris*.—Phila. Zoo.
dasypodina.
*species Stiles & Hassall, 1894*e*.—Colorado.
Physaloptera †469.
maxillaris.—England (from Canada).
Strongyloides †355.
†*longus* [s].—Intest.
Trichochelix †411*P*.
tuberculata.
Ixodes †866.—Ext.
†*cookei*.
Porocephalus †798.—Encysted.
[**subcylindricum* [s].—Florida.]
Neotrichodectes <†1099.—Ext.
[**mephitidis* [s] Osborn.—Nebr.]
**mephitidis* Packard.

#552 ***Mephitis** [or *Chincha*] (**Mephitis,** *Chincha*) **mesomelas** Lichtenstein, 1832–1834, Darstellung n. wenig bekannter Säugethiere, pt. 9, pl. 46. Louisiana skunk, zierliches Stinkthier. Louisiana [t]. Several subspecies.

Ascaris [1] †479.
columnaris.—Phila. Zoo.—Intest.
EUNEMATODA †330.
[*species.—Stomach.—Wichita Mts.]

#552 ***Mephitis** (**Mephitis**) **mesomelas mesomelas** (Lichtenstein, 1832–1834, Darst. n. wenig Säugethiere, pt. 9, pl. 46) Miller, 1912, U. S. Nat. Mus., Bul. 79, 108. Louisiana [t]; west side of Mississippi Valley from southern Louisiana to Missouri; westward along coast of Texas to Matagorda Island; up Red River Valley as far at least as Wichita Falls.

#552 ***Mephitis** (**Mephitis**) **minnesotae** Brass, 1911, Aus dem Reiche der Pelze, Apr., 532 [nv]. Forested region of Minnesota [t].

Mesocestoides <†299.—Intest.
**latus*.—Bemidji [t], Minnesota.—T. h.

#552 ***Mephitis** (**Mephitis**) **nigra** (Peale & Beauvois, 1796, Cat. Peale's Mus., Phila., 37 [Viverra [1]]) Hollister, 1914, Proc. Biol. Soc., Wash., v. 27, Oct. 31 215. Maryland [t]; New England and Middle Atlantic States; south to Virginia; west to Indiana.

#552 ***Mephitis** (**Mephitis,** *Chincha*) **occidentalis** Baird, 1857, N. Amer Mamm., 194-195. California skunk. Petaluma [t], Sonoma Co., California; N. Amer. Several subspecies.

Ixodes †866.—Ext.
†**hexagonus*.—San Francisco.
†**hexagonus cookei*.—San Francisco.
Ceratophyllus †1627.—Ext.
†**fasciatus*.—San Francisco, Calif.—Nat. Inst. Health No. 11471.
Neohaematopinus <†1108.—Ext.
**pacificus*.—California.
Neotrichodectes <†1099.—Ext.
[**mephitidis* [s] Osborn.—Calif.]
Pulex †1635.—Ext.
†*irritans*.—Nat. Inst. Health No. 12311.

#552 ***Mephitis** (**Mephitis**) **occidentalis occidentalis** (Baird, 1857, N. Amer. Mamm., 194-195) Miller, 1912, U. S. Nat. Mus., Bul. 79, 109. Petaluma [t], Sonoma Co., Calif.; northern and central Calif., from vicinity of Monterey Bay northward, west of the Sierra and Cascades, to Willamette Valley, Oregon.

Mesocestoides <†299.—Intest.
variabilis maior.—Mendocino Co.[t], California.—T. h.

#552 ***Mephitis** (**Mephitis**, *Chincha*) **occidentalis spissigrada** (Bangs, 1898, Proc. Biol. Soc. Wash., v. 12, Mar. 24, 31) Allen, 1901, Bul. Amer. Mus. Nat. Hist., v. 14, 334. Puget Sound Skunk. Sumas [t], Brit. Columbia, Canada; shores of Puget Sound and coast region of Washington State and northern Oregon.

Ceratophyllus †1627.—Ext.
†acamantis.—Brit. Columbia.

#552 **Mephitis** ohinche [m] for **chinche.**

#552 **Mephitis species.**

Ascaris [l] †479.
columnaris.
dasypodina.
mephitidis.—Intest.—T. h.

Filaroides <†440.—Lungs.
mustelarum [l s].

Skrjabingylus <†418.—Frontal bones. [mustelarum [l].]

Amblyomma †881.—Ext.
†americanum.

Dermacentor †873.—Ext.
*†*variabilis.*—East half of United States.

Ixodes †866.—Ext.
kingi [i].

Anomiopsyllus <†1634.—Ext.
**nudatus.*—Paradise, Ariz.

Ceratophyllus †1627.—Ext.
eumolpi cyrturus.—Paradise [t], Ariz.—T. h.
**pansus.*—Paradise [t], Ariz.
**sibynus.*—Paradise [t], Ariz.—T. h.

Hectopsylla <†1630.—Ext.
stomis.—Canada Mariano [t], Argentina.

Neotrichodectes <†1099.—Ext.
**mephitidis* Packard.—Wyoming [t].—T. h.

Oropsylla <†1626.—Ext.
[*†acutus* [s].—Nat. Inst. Health No. 12773.]

Paraceras <†1626.—Ext.
javanicus.—Gede [t], Java.—Skunk t. h.

Phalacropsylla <†1623.—Ext.
**paradisea.*—Ariz.

Pulex †1635.—Ext.
†irritans.—Nat. Inst. Health No. 12775.

Rhopalopsyllus †1635*A*.—Ext.
rimatus.—Argentina.

Trichodectes †1100.—Ext.
interrupto-fasciatus.—Bolivia.—Skunk.

#552 **Mephitis spissigrada** Bangs, 1898, Proc. Biol. Soc. Wash., v. 12, Mar. 24, 31. So. #552 **Mephitis** (**Mephitis**) **occidentalis spissigrada,** q. v.

#552 Mephitis [l] **suffocans** (Illiger, 1815, Abh. ph.-Kl. K. pr. Ak. Wiss. 1804–1811, 109, 121 [Gulo [l]]) Lichtenstein [1832–1834], Darst. Säugth., pt. 9, pl. 48. So. #550 **Conepatus suffocans,** q. v.

#553 (552). ***Spilogale** Gray, 1865, Proc. Zool. Soc. London, no. 8, 150, mt. *interrupta* Raf., 1820.—Little spotted skunk, little striped skunk. Skull flattened, rostrum only slightly depressed below plane of upper surface; periotic region and audital bullae greatly inflated; mastoid and paroccipital processes obsolete or very small; postorbital processes well developed; "step" in lower jaw not pronounced (sometimes lacking); tube of auditory meatus directed forward; zygomata highly arched, with highest point at middle of arch; antero-posterior diameter of upper molar less than transverse diameter; teeth 34 (i. 3/3, c. 1/1, pm. 3/3, m. 1/2). Slender and weasel-like in form, active, agile, somewhat arboreal, often making their homes in hollows of trees or crevices in cliffs. North American arboreal skunks.

#553 ***Spilogale** [t] **interrupta** (Rafinesque, 1820, Annals Nature, London, v. 1, 3 [Mephitis [l]]) Merriam, 1890, North Amer. Fauna, no. 4, Oct. 8, 8. Little striped skunk, white spotted skunk. Louisiana [t]; Iowa, southern Minnesota,

Nebraska, Kansas, Missouri, and Oklahoma; south in eastern Texas to about the middle of the State.

Neotrichodectes <†1099.—Ext.
[**mephitidis* [8] Osborn.—Iowa.]

#553 **Spilogale [phenax] latifrons** Merriam, 1890, N. Amer. Fauna, no. 4, Oct. 8, 15. So. #553 **Spilogale phenax latifrons,** q. v.

#553 ***Spilogale phenax** Merriam, 1890, N. Amer. Fauna, no. 4, Oct. 8, 13. Cheating spotted skunk. Nicasio [t], Marin Co., Calif. Two subspecies.

Anomiopsyllus <†1634.—Ext.
**californicus.*—Claremont [t], Calif.—T. h.
**falsicalifornicus.*—Los Angeles [t], Calif.
Neotrichodectes <†1099.—Ext.
[**mephitidis* [8] Osborn.—Calif.]

#553 ***Spilogale phenax latifrons** Merriam, 1890, N. Amer. Fauna, no. 4, Oct. 8, 15. Broad-Headed Spotted Skunk. Roseburg, Douglas Co., Oregon [t]; northern California; Brit. Columbia.

Ceratophyllus †1627.—Ext.
nepos nepos.—Chilliwack [t], Brit. Columbia.—T. h.

#553 ***Spilogale phenax phenax** (Merriam, 1890, N. Amer. Fauna, no. 4, Oct. 8, 13) Miller, 1912, U. S. Nat. Mus., Bul. 79, 106. Nicasio, Marin Co., California [t]; greater portion of California, excepting extreme northern part and southeastern desert regions.

Mesocestoides <†299.—Intest.
**variabilis.*—Mendocino Co., California.

#553 **Spilogale species.**

Megarthroglossus <†1634.—Ext.
procus.—Chilliwack [t], Brit. Columbia.—T. h.—Probably refers to *Spilogale phenax latifrons.*

#554 (490). Alisphenoid canal present; true molars 2–2 in upper jaw. See #555.

#555 (571). Feet comparatively long and slender, digits unequal, pads arranged in a strongly curved line round the comparatively narrow plantar pad. Tail at least long enough to reach the ground. M.3 of mandible suppressed; carotid foramen on inner side of bulla well in advance of foramen lacerum posticum. See #556.

#556 (569). PROCYONIDAE Bonaparte, 1850, Conspectus Syst. Mastozoöl., etc.—Raccoons, coatimundis, etc. Penis long, prepuce abdominal, remote from scrotum. Digital and plantar pads normally developed and quite naked; carpal pad or pads also well developed and close to plantar pad; toes 5 on each foot. No glandular area around anus. Pm.2 and pm.3 of maxilla comparatively small and 1- or 2-rooted (exceptionally in *Procyon*, pm.3 is 3-rooted); pm.3 unlike pm.4, at most with 1 main cusp and 3 minute cusps; alisphenoid canal absent; foramen rotundum of normal size, well separated from the for. lac. ant., and not sunk in a common pit with it; foramen ovale rounded. Anterior edge of coronoid inclined backward. America. See #557.

#557 (567). Mandible slender, the rami separable and with normal symphysis, lower edge arched and inclining upward without expansion toward angular process, which is well developed and close beneath the condyle; inner dentary foramen about midway between the condyle and the anterior margin of the coronoid; palate with arcuate sides, wider behind than in front, not depressed behind molars; paroccipitals and mastoids arising close to the bullae, which

have the carotid foramen about equally distant from for. lac. med. and for. lac. post., or nearer the latter; molars cuspidate when newly cut; pm.1 present. Tail not prehensile. No ventral glands. Anal glands retained in *Bassariscus*, *Procyon* and *Nasua*, unrecorded in *Bassaricyon*. See #558.

#558 (565). Mesopterygoid fossa short, separated from molars by a long posterior palate; molars with subequal conical comparatively blunt cusps; canines grooved, mutually sharpened. Bursa absent or reduced, its anterior flap at most very low and not excised. Metatarsus naked beneath. See #559.

#559 (562). Muzzle short, not compressed above; preorbital foramen close to anterior rim of orbit, which is above pm.3 or pm.4; inferior edge of anterior nares normally formed; canines only moderately sharp in front; posterior root of zygoma not abnormally expanded; typically no supplementary foramen on inner side of bulla between carotid and foramen lacerum posticum; upper edge of rhinarium not produced, its anterior surface convex, with normal nostrils and wide septum. See #560.

#560 (560*a*[62]). PROCYONINAE Gill, 1872*a*, 6, 67.—Raccoons. Mastoid large, larger than paroccipital and projecting far beyond auditory orifice; carotid foramen behind middle of bulla; foramen ovale not behind tip of hamular; ridges invading lower surface of posterior palate. Claws longer, blunter, and less curved; digits entirely free from webbing. Snout produced, upper lip undivided, no philtrum. Two normal anal glands. Bursa absent. See #561.

#561. ***Procyon**[63] Storr, 1780, Prodr. Meth. Mamm., 35–36, tab. A, tsd. (1891; 1904; 1912; 1915; 1924) Ursus [1] *lotor* Linn.—Raccoons, raton, raton laveur, Waschbär. Teeth 40; molars broad and tuberculated; upper carnassial with 3 cusps along the outer margin, and a very broad bicuspid inner tubercle, giving an almost quadrate form to the crown; lower carnassial with an extremely small and ill-defined blade, placed transversely in front, and a large inner cusp and hind talon; first molar with a large tuberculated crown, rather broader than long; second molar as long as first, but narrower behind, with 5 obtuse cusps. Body stout. Head broad behind, but with pointed muzzle. Feet plantigrade, but in walking the entire sole is not applied to the ground as it is when the animal is standing; toes, especially of the fore foot, very free, and capable of being spread wide apart; claws compressed, curved, pointed, and nonretractile. Tail moderately long, cylindrical, thickly covered with hair, annulated, nonprehensile. Fur long, thick, soft. Alaska to Central America.

#561 **Procyon** [or Urva [1]] (*Euprocyon* [s]) **cancrivora** (Cuv., 1798, Tabl. Élément., Paris, 113 [Ursus [1]]) Illiger, 1815, Abh. ph.-Kl. K. pr. Ak. Wiss. (1804–1811), 109. Crab-eating raccoon, Aguara, Guassini, Krabbenwaschbär, Krebsfresser. Cayenne, French Guiana [t]; ranges north to Central America.

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[62] **#560*a*** (560). BASSARICYONINAE Pocock, 1921, Proc. Zool. Soc. London, 422.—Mastoid small, not bigger than paroccipital and hardly surpassing auditory orifice; carotid foramen not behind middle of bulla; foramen ovale well behind tip of hamular; ridges of posterior palate marginal. Claws short, sharp, much curved; digits webbed for two-thirds of their length. Snout not produced; upper lip divided by wide philtrum. Bursa retained and marginal. Contains *Bassaricyon*.

[63] Syns.: *Campsiurus* [o] Link, 1795, Beytr. Nat., v. 1 (2), 52, 87, tsd. (1916) 1st sp. *lotor* Linn.;
Euprocyon [s] Gray, 1864, Proc. Zool. Soc. London, no. 45, 705–706, mt. *cancrivora* Cuv.;
Loter [m] Oken, 1816, Lehrb. Naturg., 3 th., 2 Abth., 1080;
Lotor Geoffr. & Cuv., 1795, Mag. encycl., v. 2 (6), 187, tat. *lotor*;
Procbyon [m] Swainson, 1835, Nat. Hist. Class. Quadr., 364.

Physaloptera †469.
maxillaris.
Uncinaria 390*B.*—Intest.
bidens.—Cecum.—Ypanema.
[forceps ursi-lotor [d p].—Brazil [t].—T. h.]
maxillaris.—Intest.—Ypanema.—So. ?*criniformis.*
Porocephalus †798.—Encysted.
†*crotali.*—Larva.
[*subcylindricum* [s].—Larva.—Liver, diaphragm.]

#561 **Procyon hernandezii** Wagler, 1831, Oken's Isis, v. 24, 514. So. #561 **Procyon lotor hernandezii,** q. v.

#561 **Procyon** hudsonica Brass, 1911, Aus dem Reich der Pelze, Apr., 564 [nv]. Hudson Bay Region. So. #561 **Procyon lotor lotor,** fide Miller, 1924*a*, 108.

#561 ***Procyon** [or Meles [l]] (*Procyon*) **lotor** (Linn., 1758*a*, 48 [Ursus [l]]) Illiger, 1811, Prodr. syst. Mamm., 129. Raccoon, Schupp, Waschbär. Eastern United States [t]. Several subspecies.

Babesia †173.—Blood.
species Wenyon & Scott, 1926.—London Zoo from N. Amer.
Trypanosoma †94.—Blood.
hippicum.—Exp.
Nanophyetus <†271.
**salmincola.*—Exp.
Diphyllobothrium †295.—Intest.
†*latum.*
Dioctophyme †426.
†*gigas* [s].
Filaria †435.
insignis.—Connective tissue, foot.
Trichinella †366.—Muscles.
†**spiralis.*
Uncinaria 390*B.*—Intest.
**lotoris.*—Prince Georges Co.[t], Md.—T. h.
Macracanthorhynchus †508.
†*hirudinaceus.*
Prosthenorchis †501*p.*
ingens.—Intest.—"Madagascar."
spirula.—"Africa"; Brazil; "Madagascar."

Dermacentor †873.—Ext.
**variabilis.*—East U. S. A.
Ixodes †866.—Ext.
cookei.
**diversifossus.*—New Mexico.—T. h.
**marxi.*—Montgomery Co., Alabama.
**texanus.*—Live Oak Co. [t], Texas.—T. h.
Ceratophyllus †1627.—Ext.
**wickhami.*—Penna.
Ctenocephalides †1639.—Ext.
†**canis.*—N. America.
[†*serraticeps* [o].]
Trichodectes †1100.—Ext.
crassus [o].
melis.—America.
octomaculatus.—Brit. Columbia.
procyonis.—Brit. Columbia [t].—T. h.
vulpis [d s] Tasch.

#561 ***Procyon** (*Procyon*) **lotor hernandezii** (Wagler, 1831, Oken's Isis, v. 24, 514) Allen, 1890, Bul. Amer. Mus. Nat. Hist., v. 3 (1), 176. Black footed raccoon, Hernandez's raccoon, Marpach, Apache, Tejon solitario. Southern Mexico [t]; north to Rio Grande of Texas and west to Pacific.

Trypanosoma †94.—Blood.
†*gambiense.*

#561 ***Procyon** [or Meles [l]] (*Procyon*) **lotor lotor** (Linn., 1758*a*, 48 [Ursus [l]]) Miller, 1912, U. S. Nat. Mus., Bul. 79, 89. Raccoon, Schupp, Waschbär. Eastern United States [t].

Agamodistomum †240.
**la-ruei.*—Lungs.—Near Douglas Lake, Michigan [t].—T. h.
Trichopsylla <†1626.—Ext.
**lotoris.*—Olcott [t], N. Y.—T. h.

#561 **Procyon** *lotor* **pacifica** (Merriam, 1899, N. Amer. Fauna, no. 16, Oct. 28, 107 [*Procyon psora*]) Elliot, 1901, Synop. Mamm. N. Amer., v. 2, Zool. ser., 319. Pacific Raccoon. So. #561 **Procyon psora pacifica,** q. v.

#561 **Procyon psora** Gray, 1842, Ann. Mag. Nat. Hist., v. 10, Dec., 261. Sacramento [t], Calif. Two subspecies.

Pulex †1635.—Ext.
†irritans.—Calif.[j]
Trichodectes †1100.—Ext.
**octomaculatus.*—Palo Alto [t], Calif.—T. h.

#561 ***Procyon** (*Procyon*) **psora pacifica** Merriam, 1899, N. Amer. Fauna, no. 16, Oct. 28, 107. Pacific coast raccoon. Lake Kechelus, Cascade Mountains, Washington [t].

Nanophyetus <†271.
**salmincola.*—Northwestern U. S. A.

#561 ***Procyon** (*Procyon*) **psora psora** (Gray, 1842, Ann. Mag. Nat. Hist., v. 10, Dec., 261) Miller, 1912, U. S. Nat. Mus., Bul. 79, 90. Sacramento, Calif.[t]

#561 **Procyon species.**

Dioctophyme †426.
[*gulonis-sibirici* [s].]
[sanguineus [d].]
Tetragomphius 388*f.*
procyonis.—Calcutta Zoo, India.—T. h.

#562 (559). NASUINAE Gill, 1872*a*, 6, 67.—Coatis. Muzzle elongate and compressed above; preorbital foramen remote from orbit, the anterior rim of which is above m^1; inferior edge of anterior nares thickened and produced; glenoid portion of zygoma much extended anteroposteriorly; a very distinct supplementary foramen between carotid and foramen lacerum posticum; upper edge of rhinarium produced, its anterior surface nearly flat, with vertically elongated nostrils and narrow septum. Digits fully webbed; claws powerful. Anal glands a series of small pockets on each side. Mastoid as in BASSARICYONINAE; palate as in PROCYONINAE; position of carotid foramen and f. ovale intermediate. Bursa retained but not marginal. See #563.

#563. Nasua Storr, 1780, Prodr. Meth. Mamm., 35, tab. A, tat. *nasua* Linn.—Coatis, Coati-Mundis, Cuati. Body elongated, rather compressed. Nose prolonged into a somewhat upturned, obliquely truncated, mobile snout; upper canines larger and more strongly compressed than in *Procyon*, molars smaller. Tail long, nonprehensile, tapering, annulated. Central America; Mexico. Syns.: *Coati* [o] Lacépède, 1799, Tabl. Mamm., 7, mt. *nasua*; Nasica [m] South, 1845, Encycl. Metrop., v. 7, 383.

#563 **Nasua** *fusca* [o] Fischer, 1814, Zoog., v. 3, 176, *narica*, q. v., renamed.

#563 **Nasua** [or Ursus [l]] **narica** (Linn., 1766, Syst. Nat., v. 1, 64 [Viverra [l]]) Desm., 1804, Nouv. Dict. Hist. nat., tab. 24, 15. Coati, Coati de vára, Coati mondéo, Pisoti, Tejon. America [t]; C. America; Mexico. Syn. *nasica* [o] Elliot, 1904, Land & Sea Mamm., Chicago, 497. Several subspecies.

Alaria <†223*j*.
**nasuae*.—Ceca.—Washington, D. C.—*Nasua nasica* [c] t. h.
Diphyllobothrium †295.
reptans.—Larva in muscles.
Taenia [l]<†299.—Intest.
crassipora.—Brazil [t].—T. h.
Filaria [l] †435.
incrassata.—Subcut.—Brazil [t].
viverae [s].—Brazil [t].—T. h.
Physaloptera †469.
semilanceolata.—Stom.—Brazil.
species Trav., 1927.—Matto Grosso.
Toxocara †484.—Intest.
brachyoptera [s].—Brazil.
mystax [o].
Uncinaria [l] 390*B*.—Intest.
bidens.—Ypanema.
[*viverrae-naricae* [o].]
Macracanthorhynchus †508.
[hirundinacea [m].]
Prosthenorchis †501*p*.—Intest.
lühei.—Brazil [t].—T. h.
spirula.—Brazil.
Ixodes †866.—Ext.
bicornis.—Costa Rica.
Trichodectes †1100.—Ext.
nasuatis.—Costa Rica [t].—T. h.
pallidus.—Rotterdam Zoo.—T. h.

#563 **Nasua narica bullata** Allen, 1904, Bul. Amer. Mus. Nat. Hist., v. 20, Feb. 29, 48. Dark Coati. Pozo Azul, Pirris Province, Costa Rica [t]. Syn. *Nasua nasica* [c] *bullata* Elliot, 1904, Land & Sea Mamm., Chicago, Zool. ser., v. 4 (2), 497.

Trichodectes †1100.—Ext.
pallidus.—Costa Rica.

#563 **Nasua narica narica** (Linn., 1766, Syst. Nat., v. 1, 64 [Viverra [l]]) Miller, 1924, U. S. Nat. Mus., Bul. 128, 110. State of Vera Cruz, Mexico [t].

#563 **Nasua narica panamensis** Allen, 1904, Bul. Amer. Mus. Nat. Hist., v. 20, Feb. 29, 51. Boqueron Coati. Boqueron, Chiriqui, Panama [t]. Syn. *Nasua nasica* [c] *panamensis* Elliot, 1904, Land & Sea Mamm., Chicago, Zool. ser., v. 4 (2), 498.

Strongyloides †355.
nasua [s j].—Panama.

#563 **Nasua** [t] [or Procyon [l], Ursus [l]] **nasua** (Linn., 1766, Syst. Nat., v. 1, 64 [Viverra [l]]) Desm., 1804, Nouv. Dict. Hist. nat., tab. 24, 15. America [t]. Syn. *rufa* [o].

Trypanosoma †94.—Blood.
hippicum.—Exp.
Toxocara †484.—Intest.
[*alienata* [s].—Brazil.]
†*mystax* [o].
Strongyloides †355.—Intest.
†*stercoralis* [r].

#563 **Nasua** *rufa* [o] Tiedemann, 1808, Zool., 379, **nasua,** q. v., renamed.

#563 **Nasua** *socialis* [s] of Saussure, 1862, Zool. Garten, v. 3, 52, 56 [not Wied]. Mexico. So. #563 **Nasua narica,** fide Trouess., 1897*c*, 250.

#563 **Nasua** *socialis* [s] Wied-Neuwied, 1826, Beitr. Naturg. Bras., Weimar, v. 2, 283, *nasua*+*rufa* renamed. Rüsselbär, gemeiner Cuati, geselliger Coati. East Brazil [t], S. America. So. *rufa*, fide Trouess., 1897*c*, 250; so. *narica*, fide Ihering, 1911, 233.

Atriotaenia <319*C*.
parva.—Brazil [t].—T. h.
Diphyllobothrium †295.
reptans.—Larva in muscles.

Taenia [l] <†299.
crassipora.—Intest.
Dioctophyme †426.
†*gigas* [s].—Prussia.
†*renale.*—Marajo.
[sanguineus [h o].]
Filaria [l] †435.
incrassata.—Subcut.
Physaloptera †469.
semilanceolata.—Stom.
Strongyloides †355.—Intest.
†*stercoralis* [r].—Exp. temporary.
Toxocara †484.—Intest.
[*alienata.*]
†*mystax.*
Uncinaria 390*B.*—Intest.
bidens.
Macracanthorhynchus †508
[hirundinaceus [m].]
Prosthenorchis †501*q.*
spirula.—Small intest.
Amblyomma †881.—Ext.
†*cajennense.*—Brazil.
†*fossum.*—Brazil.
†*ovale.*
Ctenocephalides †1639.—Ext.
†*felis.*—Argentina.
[*nasuae* [s].—Argentina [t].—T. h.]

#563 **Nasua** *solitaria* [s] Wied-Neuwied, 1826, Beitr. Naturg. Bras., Weimar, v. 2, 292. Einsamer Coati. East Brazil [t]. So. *narica*, fide Ihering, 1911, 233; so. *rufa*, fide Trouess., 1897*c*, 250.

Ctenocephalides †1639.—Ext.
†*canis.*—Pará, Brazil.

#563 **Nasua** *solitaria* [s] Saussure, 1862, Zool. Garten, v. 3, 52, 56 [not Wied]. Mexico. So. *narica*, fide Trouess., 1897*c*, 250.

#563 **Nasua species.**

Dioctophyme †426.
[*gulonis-sibirici.*]
[sanguineus [d].—"Coati."]
Notoedres †936.—Ext.
[†*notoedres.*]
Sarcoptes †942.—Ext.
species Colin, 1867*a.*—Paris.

#563 **Nasua** viverra, probably for Viverra [l] *nasua.* So. #563 **Nasua nasua.**

#565(558). BASSARISCINAE Pocock, 1921, Proc. Zool. Soc. London, 421.—Cacomistles. Mesopterygoid fossa long, extending to posterior molars; molars and premolars with pointed or blade-like cusps; canines rounded in section, not grooved and not mutually sharpened. Bursa of ear with anterior flap emarginate, posterior flap attached behind edge of pinna. Metatarsus with at most a small naked area above plantar pad; claws short, sharp, curved; digits fully webbed or nearly so. Facial portion of skull and zygoma as under #559; hamular in front of foramen ovale; no supplementary foramen behind carotid. See #566.

#566. ***Bassariscus** Coues, 1887, Sci., v. 9 (225), May 27, 516, tod. (Art. 30*f* Internat. Rules Nomen.) Bassaris [h] *astuta* Licht. (Bassaris [h] Licht., 1831, renamed).—Katzenfrett. Form more slender and of more elegant proportions than *Procyon*, sharper nose, longer tail, and more digitigrade feet, teeth smaller and more sharply denticulated. Central America; Mexico; southern United States. Syns.: *Basaris* [o] Gray, 1847, List Osteol. Spec. Brit. Mus., pp. x, 14; Bassaris [h o] Licht., 1831, Oken's Isis, Heft 1, 512, mt. *astuta* Licht., from Mexico [not *Bassaris* Hübner, 1816–21, lepidopt.].

#566 ***Bassariscus** [or *Basaris* [c]] **astutus** Lichtenstein, 1830, Abh. ph.-Kl. K. pr. Ak. Wiss. (1827), 119 [Bassaris [h o]]) Coues, 1887, Sci., v. 9, May 27, 516. Civet Cat, common raccoon-fox, gemeines Katzenfrett, cacamizli, cacamistl, cacomistl. S. Mexico [t]; western U. S. A.

Mesocestoides <†299.—Intest.
bassarisci.—New York Zoo, from Mexico [t].—T. h.
Uncinaria 390*B*.—Intest.
**lotoris.*—Texas.
Ixodes †866.—Ext.
rubidus.—Guanajuata [t], Mexico [t].
Neotrichodectes <†1099.—Ext.
[**mephitidis* [s] Osborn.—Calif.]
Phalacropsylla <†1623.—Ext.
**paradisea.*—Paradise [t], Ariz.—Civet cat t. h.
Trichodectes †1100.—Ext.
thoracicus.—Lake Co.[t], Calif.—T. h.

#566 **Bassariscus astutus astutus** (Lichtenstein, 1830, Abh. ph.-Kl. K. pr. Ak. Wiss. 1827, 119 [Bassaris [h o]]) Miller, 1912, U. S. Nat. Mus., Bul. 79, 88. Southern Mexico [t].

#566 ***Bassariscus astutus oregonus** (Rhoads, 1894, Proc. Acad. Nat. Sci., Phila., v. 45, Jan. 30, 416 [*Bassariscus flavus*]) Miller & Rehn, 1901, Proc. Boston Soc. Nat. Hist., v. 30, Dec. 30, 230. Grant's Pass, Oregon [t]. Fide Merriam, 1897, 186–187, this should stand as *Bassariscus raptor.*

Neotrichodectes <†1099.—Ext.
[*mephitidis* [s] Osborn.]

#566 ***Bassariscus** (*Bassariscus*) **astutus** *raptor* (Baird, 1859, Mamm. Mexican boundary, 19 [Bassaris [h o]]) Elliott, 1901, Synop. Mamm. N. Amer., Zool. ser., v. 2, 316. Robber raccoon-fox. Washington (supposed to have been brought from California). So. **astutus oregonus**, fide Miller, 1924, 113.

#567 (557). POTOSINAE Trouess., 1904*c*, Cat. Mamm., 183.—Kinkajous. Mandible very massive, the rami early fused by a long symphysis, the lower edge straight by the growth posteriorly of a large lamina, sometimes rounded, sometimes angled, beneath the angular process, which is reduced to a small excrescence beneath the condyle; inner dentary foramen beneath base of anterior edge of coronoid; palate parallel-sided, as wide in front as behind, depressed behind molars; paroccipitals and mastoids standing away from bulla, which has carotid foramen set forwards much nearer for. lac. med. than for. lac. post.; molars flat-crowned even when newly cut; pm.1 absent above and below. Tail prehensile. Two ventral cutaneous glands. Anal glands aborted. See #568. Syn. CERCOLEPTINAE Trouess., 1897*c*, Cat. Mamm., v. 1, fasc. 1, 248.

#568. Potos [64] Geoffr. & Cuv., 1795, Mag. encycl., v. 2, 187 (for Kincajou) tsd. (1904; 1924) Viverra [l] *caudivolvula* Schreb. so. *flavus* Schreb.—Kinkajous, Wickelbär. Teeth 36 (i. 3/3, c. 1/1, pm. 3/3, m. 2/2); molars with low flat crowns, very obscurely tuberculated. Skull short, rounded, with flat upper surface. Clavicles very rudimentary. Head broad and round. Ears short. Body long, musteline. Legs short. Tail long, tapering, prehensile. Fur short and soft. Tongue long, very extensile. Forests of warmer parts of South and Central America.

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[64] Syns.: *Caudivolvulus* [o] Duméril, 1806, Zool. Analytique, Paris, 14, mt. le kinkajou;
Cercolabes [h o] Grevé, 1894, Nova Acta Leop., Halle, 217, mt. *caudivolvus* [not *Cercolabes* Brandt, 1835, rodent];
Cercoleptes [o] Illiger, 1811, Prodr. Syst. Mamm. et Avium, 127–128, mt. *caudivolvula;*
Kincajou [m o] Lacépède, 1799, Buffon's Hist. nat., Didot ed., Quadr., XIV, 154, mt. *caudivolvulus;*
Kinkajou [o] Lacépède, 1799, Tabl. Mamm., 7, mt. *caudivolvula;*
Kinkaschu [o o] Fischer, 1813, Zoog., ed. 3, v. 1, 14;
Kinkaschus [o o] Fischer, 1813, Zoog., ed. 3, v. 1, 21;
Kinkojou Gill, 1872*a*, 67.

#568 **Potos** [t] [Cercolabes [h], *Cercoleptes* [t], Ursus [l]] *caudivolvula* (Pallas in Schreb., 1777, Säugth., v. 3, 453 [Viverra [l]]) Desm., 1820, Encycl. méth., Mamm., (1), 171. Kinkaju, Wickelbär. Surinam [t]. So. **flavus**.

Echinorhynchus [l] †502.
species Cobbold, 1866*b*.—Intest.—London Museum.

#568 **Potos flavus** (Schreber, 1775, Säugth. (1774), v. 1, pl. 42 [Lemur [l]]).

Crenosoma <†418.
potos.—Lungs.—London Zoo.—T. h.

#569 (556). AILURIDAE Flower, 1869, Proc. Zool. Soc. London, 15, 37.—Penis short, prepuce close to scrotum. Pads of feet reduced and functionless, completely concealed by wooly hair; carpal pad remote from plantar pad. Anus in center of glandular depressed area. Pm.2 and pm.3 of maxilla large and three-rooted; pm.3 quinquecuspid and closely resembling pm.4; alisphenoid canal present; foramen rotundum minute, lying beneath for. lac. ant., the two separated by a very thin plate of bone and sunk in a common pit; foramen ovale elongate. Anterior edge of coronoid inclined forward. Southern China; northeastern India. See #570.

#570. Ailurus Cuv. in Geoffr. & Cuv., 1825, Hist. nat. Mamm., June, v. 3 (50), 3, mt. *fulgens* Geoffr. & Cuv.—Panda. Teeth 38 (i. 3/3, c. 1/1, pm. 3/4, m. 2/2); head round; face short and broad; ears large, erect, pointed. Legs stout, claws large, sharp, semiretractile. Tail nearly as long as body, cylindrical, annulated, clothed with long hairs. Fur long and thick. Southern China; northeastern India. Syns.: *Aelurus* [c] Agassiz, 1846, Nomen. Zool., Index Univ., 25 [not Aelurus [h] Klug, 1840, hymenopt.]; *Arctaelurus* [o] Gloger, 1842, Hand-u. Hilfsbuch Naturg., v. 1, 55, mt. *fulgens*.

#570 **Ailurus** [t] [or *Aelurus* [c o]] (*Aelurus* [c o]) **fulgens** Cuv. in Geoffr. & Cuv., 1825, Hist. nat. Mamm., v. 3 (50), pl. 203, June, pp. 1–3.—Himalayan raccoon, panda, red cat-bear, Nigálya-ponya, Saknam, Sankam, Thokya, Thongva, Thongwa, Wah, Wakdonka, Woker, Yé. "Indes orientales" [t]; eastern Himalayas at an elevation between about 7,000 and 12,000 feet, as far westward as Nepal, and extending eastward through mountainous districts of Assam into Yunnan; unknown in Malay countries.

Ancylostoma †387.—Intest.
†*brasiliense*.
†*ceylanicum*[s].

Toxascaris †486.—Intest.
transfuga.—India.

Ctenocephalides †1639.—Ext.
†*felis*.

#571 (555). Feet short, broad; digits subequal, their pads forming a lightly curved line in front of broad plantar pad. Tail reduced to an anal operculum. M.3 of mandible retained; carotid foramen at posterior end of bulla, close to foramen lacerum posticum. See #572.

#572 (572*a* [65]). URSIDAE Gray, 1825, Thompson's Ann. Philos., n. s., v. 10 (5), Nov., 339.—Bears; ours; Bär. Cheek teeth comparatively small, especially pm.1–pm.3, which are mostly unicuspid and one-rooted, but pm.1 larger and more persistent than pm.2; upper pm.4 at most tricuspid, inner root normally fused with posterior root; lower pm.4 short, unicuspid; teeth generally 42 (i. 3/3, c. 1/1, pm. 4/4, m. 2/3); zygoma arising approximately above middle of m.2, which is far in advance of mesopterygoid fossa, the latter preceded by a long edentulous posterior palate; alisphenoid canal present; floor of external auditory meatus produced to reach approximately to end of thick mastoid process; mandible not thickened on inner side of coronoid, which does not conceal m.3 and is comparatively low and but little hooked; angular well developed, condyle and glenoid surface not abnormally wide. Fore foot without long radio-carpal sesamoid; feet thoroughly plantigrade, broad, adapted for digging, though not used for fossorial purposes; toes 5 on front feet, 5 on hind. Heavily built, short tails, protrusible lips, reduced vibrissae and no bursa on the ear. Northern hemisphere, south in Old World to Atlas Mountains and Malay Archipelago and in America to the Andes. Contains (fide Pocock, 1929, 899): *Helarctos*, *Melursus*, *Selenarctos*, *Thalarctos*, *Tremarctos*, *Ursus*. See #573 *Helarctos*, #574 *Melursus*, #575 *Thalarctos*, #576 *Ursus*.

#573. Helarctos Horsfield, 1825, Zool. J., v. 2 (6), July, 221–234, tod. *euryspilus* Horsfield, from Borneo.—Head short, broad; molar teeth comparatively broad (but length still exceeding breadth); tongue very long and extensile. Fur short, smooth. Borneo [t], India, Malay, etc. Generic names ending in *arctos* are usually quoted as masculine; in absence of a ruling to the contrary we follow this custom although it would seem that *arctos* feminine would perhaps be more classical. Syn. *Helarctus* Gloger, 1842, Hand- u. Hilfsb. Naturg., v. 1, pp. xxviii, 53, mt. *malayanus*.

#573 **Helarctos** [or *Helarctus*, Prochilus [l]] (*Helarctos*) **malayanus** (Raffles, 1821, Trans. Linn. Soc. London, v. 13 (1), 254 [Ursus [l]]) Horsfield, 1825, Zool. J., v. 2 (6), July, 225, 234. Malay bear, Malayan sun-bear, Sun bear, Bruan, malanischer Bär, Malayischer Bär, Brúang, Wek-won. Malay Peninsula, Sumatra [t], Java, Borneo, extends north into Tenasserim, Arakan, Chittagong, and the Garo hills of India.

Pentorchis<†306*I*.
arkteios.—Rangoon [t], Burma.—Syn. *arctius* [o] 1930.—T. h.
Ancylostoma †387.—Intest.
†*malayanum*.—Kandy, Ceylon.—T. h.
Toxascaris †486.—Intest.
transfuga [transfusa [m]].
Haemaphysalis †869.—Ext.
hystricis.—Malay.
†*leachi*.—Malay.

#574. Melursus Meyer, 1793, Zool. Entdeck., Leipzig, 155–160, mt. *lybius* Meyer so. Bradypus [l] *ursinus* Shaw renamed.—Sloth bears, Baerdachs. Four incisors in upper jaw, even in the young; teeth 40 (i. 2/3, c. 1/1, pm. 4/4, m. 2/3); all molars and premolars very small, the latter separated from

[65] **#572*a*** (572). AILUROPODIDAE Pocock, 1921, Proc. Zool. Soc. London, 420.—Giant panda. Cheek teeth excessively developed, except pm.1 of upper jaw, which is minute in maxilla, and absent in mandible; pm.2 of maxilla and pm 2 and pm.3 of mandible tricuspid; pm.3 of maxilla sexcuspid; pm.4 of same, with 3 large outer and 2 large inner cusps, its inner root not fused with posterior root; lower pm.4 long, tricuspid; zygoma arising approximately above middle of m.1; posterior end of m.2 reached or overlapped by anterior end of mesopterygoid fossa; no long edentulous posterior palate; alisphenoid canal absent; floor of external auditory meatus abbreviated and falling far short of long compressed mastoid; mandible thickened on inner side of coronoid, which conceals m.3 and is high and hooked; angular much reduced; condyle and glenoid surface abnormally wide. Fore foot with long radio-carpal sesamoid. Southern China; Tibet. Contains *Ailuropoda*.

each other by a considerable interval; lips very large, extensile; palate deeply concave. Claws very large and powerful; snout elongate and mobile. Hair black, coarse, very long; light horse-shoe-shaped mark present on chest; end of muzzle ashy gray. Otherwise as in *Ursus*. Vertebrae: C. 7, D. 15, L. 5, S. 5, Cd. 11. Indian Peninsula and Ceylon. Syns.: *Chondrorhynchus* [o] Fischer, 1814, Zoognosia, v. 3, 142–143, tsd. (1904) *ursinus* Shaw; Prochilus [h] Illiger, 1811, Prodr. Syst. Mamm., 109, mt. *ursinus* Shaw = (1904) *labiatus* Blainville [not *Prochilus* Walbaum, 1792, Pisces]; Prochylus [m] Wiegmann, 1835, Archiv Naturg., v. 2, 321.

#574 **Melursus** [or Prochilus [h]] *labiatus* [o] (Blainv., 1817, Bul. Soc. Philom., Paris, May, 74 [Ursus [l]], *ursinus* renamed) Grevé, 1894, Nova Acta Acad. Leop., Halle, 243. So. #574 **Melursus ursinus,** q. v.

#574 **Melursus ursinus** (Shaw, 1791, Nat. Misc., v. 2, pl. 58 [Bradypus [l]]) Blanford, 1888, Fauna Brit. India, Mamm., 201. Aswal or Sloth bear or Indian bear, Lippenbär, Adam-zád, Asol, Aswail, Bana, Bhalú, Bhalúk, Birmenai, Bir Mendi, Elugu, Kaddi, Karadi, Pani-karadi, Pani Karudi, Riksha, Rích or Rínch, Usa, Yedjal, Yerid. Interior parts of Bengal [t]; Peninsula of India from near the base of the Himalayas to Cape Comorin, and Ceylon, chiefly in hilly and jungle parts.

Ancylostoma †387.
†brasiliense.
†caninum.—India.
†ceylanicum [s].
†malayanum.

Toxascaris †486.
transfuga.—India.

Dermacentor †873.—Ext.
auratus.—United Prov., India.

#575. Thalarctos Gray, 1825, Ann. Phil., n. s., v. 10, July, 62, mt. *polaris* Gray so. *maritimus* Phipps.—Polar bears, Polargebiet. Cheek-teeth relatively small; incisors and canines enlarged and unusually prehensive in character. Similar to *Ursus*, but cheek-teeth much less robust, the combined length of the two upper molars not equal to width of palate; canines and incisors enlarged and more prehensive in general form. North Polar region, south to northernmost continental coasts. Syns.: *Thalassarctos* Gray, 1825, Ann. Phil., n. s., v. 10, Nov., 339, no species cited; *Thalassarctus* Gloger, 1842, Hand-u. Hilfs. Naturg., v. 1, pp. xxviii, 54, mt. *maritimus*; *Thalassiarchus* [o] Kobelt, 1896, Bericht Senck. naturf. Gesellsch. Frankfurt am Main, 93, mt. *maritimus*.

#575 **Thalarctos** [or *Thalassarctos, Thalassarctus*] (*Thalassarctos, Thalassarctus*) **maritimus** (Phipps, 1774, Voy. toward North Pole, London, 185 [Ursus [l]]) Gray, "1849", Zool. "Samarang", 36. Polar bear, ours blanc, Eisbär, Polarbär, Isbjörnen. Spitzbergen [t]; Arctic Ocean, south on floating ice occasionally to northern coast of Norway. Details of distribution unknown. Cf. also Linn., 1758*a*, 47, for name **maritimus.**

Bothriocephalus [l] < †286.—Intest.
species Foot, 1865.—Dublin Zoo.

Diphyllobothrium †295.
†latum.

Taenia [r] †325.—Intest.
ursi-maritimi.—Mus. Paris.—T. h.

Haemonchus †417.
*†*contortus.*—Phila. Zoo.

Toxascaris †486.—Sm. intest.
transfuga.

Trichinella †366.
†spiralis.—Phila. Zoo.

Uncinaria 390*B*.—Intest.
[*ursi.*—Mus. Wien; Mus. Paris.]
[*ursi-maritimi* [o].]

#575 **Thalarctos maritimus maritimus** (Phipps, 1774, Voy. toward North Pole, London, 185 [Ursus [l]]) Miller, 1924 *a*, 107. Spitzbergen [t]; Ellesmereland; Hudson Bay; West Greenland.

#575 **Thalarctos maritimus ungavensis** (Knottnerus-Myer, 1908, Sitzungsber. Gesellsch. naturf. Freunde Berlin, July, 181 [*Thalassarctos* (Ursus [l])]) Miller, 1912, U. S. Nat. Mus., Bul. 79, 77. Ungava Bay, Ungava, Canada [t].

#575 **Thalarctos** (*Thalarctos*) *polaris* [o] (Shaw, 1792, Mus. Leveriani, v. 1, 7, pl. 2, *marinus* plus *maritimus* renamed [Ursus [l]]) Gray, 1825, Ann. Philos., v. 26, July, 62. So. #575 **Thalarctos maritimus,** q. v.

#576. Ursus[66] Linn., 1758*a*, 47, tat. *arctos* Linn. syn. *ursus* Gesner.—Ordinary bears, black bears, brown bears, grizzly bears, Bär. Teeth 42 (i. 3/3, c. 1/1, pm. 4/4, m. 2/3); inner upper incisor well developed, permanent; first, second, and third premolars in both jaws small, single-rooted, readily deciduous, especially pm^2, pm_2, and pm_3; molars large and robust, length of the 2 upper teeth together equal to width of palate; upper carnassial considerably smaller than either of the true molars, which are both longer than broad, with flattened, tuberculated grinding-surfaces, much worn down in old animals; lower carnassial has a small and indistinct blade and greatly developed tubercular heel; second true molar about same length as lower carnassial, but broader; hindmost molar shorter. Feet broad and completely plantigrade, soles naked; toes 5–5, all well developed; claws long, compressed, moderately curved, nonretractile. Tail very short. Ears small, erect, rounded, hairy. Pupil round. Mammae 6. Skull elongate (except in *U. malayanus*); orbits small and incomplete behind; palate prolonged considerably behind last molars; alisphenoid canal present; a marked projection inside the base of lower jaw near the angle, as in seals. Northern hemisphere from northern limits of great continental areas south to Atlas Mts., the Himalayas, and Mexico.

#576 **Ursus** [or *Euarctos* [s]] (*Euarctos*, *Euarctus* [c]) **americanus** (Pallas, 1780, Spic. zool., fasc. 14, 5). American black bear, amerikanischer Schwarzbär, amerikanischer Bär, Baribal. Eastern N. America [t]. Several subspecies.

Nanophyetus <†271.
**salmincola.*—Exp.
Diphyllobothrium †295.
†*latum.*—Exp.
Toxascaris †486.—Small intest.
**transfuga.*—Phila. Zoo.
Dermacentor †873.
†*venustus [d l].—So. †*andersoni.*
Trichopsylla <†1626.—Ext.
setosa.—Mabel Lake, Brit. Columbia.

#576 **Ursus** (*Ursus*) **arctos** Linn., 1758*a*, 47. Brown bear, common European bear, European brown bear, snow bear or red bear of European sportsmen, only a local race of the brown bear, ours brun, europäischer, brauner, or gemeiner Bär, brune landbjørn, Barf-ka-rinch, Brabu, Dab, Drengmo, Drinmor, Dúb, Háput, Kunia-haput, Lál-bhálú, Tom-khaina. Sweden [t]; entire continent of Europe wherever sufficiently extensive forests remain, west formerly to Gr. Britain, where it became extinct about the 11th century; not certainly known to have occurred in Ireland; east into Asia; Africa. Syn. *arctus* [c] Blanford, 1888, Fauna Brit. India, Mamm., 194.

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[66] Syns.: *Danis* Gray, 1825, Ann. Philos., n. s., v. 10, July, 60, mt. *feroz* Desm. syn. *horribilis* Ord;
Euarctos Gray, 1864, Proc. Zool. Soc. London, no. 44, 692, mt. *americanus* Pallas;
Euarctus [c] Elliot, 1901, Synop. Mamm. N. Amer., Zool. Ser., v. 2, 313;
Myrmarctos [o] Gray, 1864, Proc. Zool. Soc. London, no. 44, 694, mt. *eversmanni* so. (1912) *arctos;*
Ursarctos [s] Heude, 1898, Mém. Hist. nat. Empire Chinois, v. 4, 18, 20, 23, tsd. (1904) *arctos yesoensis* Lydekker, from Yezo, Japan;
Vetularctos [s] Merriam, 1918, N. Amer. Fauna, no. 41, Feb. 9, 131–132, mt. tod. *inopinatus* Merriam, 1918.

Bothriocephalus [l] <†286.
ursi.—Zoo, Germany.—T. h.
Cysticercus †326.
†*cellulosae.*—Muscle.
Diphyllobothrium †295.—Intest.
†*latum.*
Taenia [r] †325.—Intest.
ursina.—Copenhagen Zoo, from Russia [t].—T. h.
Gongylonema †462, 466*C.*
contortum [h o].—Esophagus.—M. C. V.
ursi [o].—Esophagus.—M. C. V.
[*ursi-arcti.*—Mus. Vienna.]
Nematoideum †352*a.*
ursi.
Toxascaris †486.—Intest.
transfuga [transfusa [m]].—M. C. V.
Dermacentor †873.—Ext.
?†venustus [t].—So. †*andersoni.*
Arctopsylla <†1626.—Ext.
tuberculaticeps.—Valtellina [t], Italy.—T. h.
Trichodectes †1100.—Ext.
pinguis.—Europe [t].—T. h.
Trichopsylla <†1626.—Ext.
[*strandi.*—Norway [t].—T. h.]

#576 **Ursus** (*Ursus*) **arctos** *beringianus* [s] Middendorff, 1851, Sibir. Reise, v. 1, 53, 74, pl. 1, figs. 1–6 [nv]. Amur; Kamtschatka; north Japan. So. #576 **Ursus arctos collaris,** fide Lydekker, 1897, Proc. Zool. Soc. London, 421; Trouess., 1899*c*, Cat. Mamm., fasc. 6, 1291. Distinct subspecies, fide Trouess., 1904*c*, Cat. Mamm., 179.

Cyathostoma <†404.
bronchiale.—Small intest.—Phila. Zoo.
Toxascaris †486.—Intest.
**transfuga.*—Phila. Zoo.

#576 **Ursus** (*Ursus*) **arctos collaris** (Cuv. in Geoffr. & Cuv., 1824, Hist. nat. Mamm., v. 3 (42), June, pl. 213) Trouess., 1897*c*, Cat. Mamm., v. 1, 240. Kamchatkan Brown Bear. Eastern Siberia; northern China; Tengri Nor; Ural Mountains.

#576 **Ursus** *beringiana* [s] (Middendorff, 1851, Sibir. Reise, v. 1 (2), 53, 74, pl. 1, figs. 1–6 [*Ursus arctos*] [nv]) Merriam, 1896, Proc. Biol. Soc. Washington, v. 10, Apr. 13, 69. Amur; Kamchatka; north Japan. So. #576 **Ursus arctos** *beringianus* [s], q. v.

#576 Ursus [l] **cancrivorus** Cuv., 1798, Tabl. Elém., 113. So. #561 **Procyon cancrivora,** q. v.

#576 **Ursus** *fuscus* [o] Tiedemann, 1808, Zoologie, v. 1, 374, *arctos*, q. v., renamed.

#576 Ursus [l] **gulo** (Linn., 1758*a*, 45 [Mustela [l]]) Schreber, 1777, Säugth., v. 3, 525, pl. 144 (1776). So. #523 **Gulo gulo,** q. v.

#576 ***Ursus** (*Danis*) **horribilis** Ord in Guthrie, 1815, Geogr. gram., 2d Amer. ed., v. 2, 291. Grizzly bear, ours gris. U. S. A. (Montana [t]); Rocky Mountain range north to Arctic coast.

Toxascaris †486.—Intest.
transfuga.
Dermacentor †873.—Ext.
†*venustus [t].—So. †**andersoni.*
Arctopsylla <†1626.—Ext.
[*ursi* [s].—Alberta [t].—T. h.]

#576 ***Ursus** (*Ursus*) **horribilis horribilis** (Ord in Guthrie, 1815, Geogr. gram., 2d Amer. ed., v. 2, 291) Miller, 1912, U. S. Nat. Mus., Bul. 79, 73. Montana [t].

#576 Ursus [l] *labiatus* [o] Blainv., 1817, Bul. Sci. Soc. Philom., Paris, May, 74. So. #574 **Melursus** *labiatus* [o], q. v.

#576 Ursus [l] *labradorius* Gmel. in Linn., 1788, Syst. Nat., v. 1, 102. So. #544 **Taxidea** [t] *labradoria,* q. v.

#576 Ursus [l] **lotor** Linn., 1758*a*, 48. So. #561 **Procyon lotor,** q. v.

#576 **Ursus** malayanus [s] of Hodgson, 1832, J. Asiatic Soc. Bengal, v. 1, 340 [not *malayanus* Raffles]. Nepal. So. #576 **Ursus thibetanus,** fide Trouess., 1897*c*, 241.

#576 Ursus [l] **malayanus** Raffles, 1821, Trans. Linn. Soc. London, v. 13 (1), 254. So. #573 **Helarctos malayanus,** q. v.

#576 Ursus [l] *marinus* [s] Pallas, 1776, Reise durch verschiedene Provinzen des russ. Reichs, v. 3, 691. Arctic Ocean. So. #575 **Thalarctos maritimus,** q. v., fide Miller, 1912, Mamm. W. Europe, 298.

#576 Ursus [l] **maritimus** Phipps, 1774, Voyage toward North Pole, London, 185. So. #575 **Thalarctos maritimus,** q. v.

#576 Ursus [l] **meles** Linn., 1758*a*, 48. So. #528 **Meles meles,** q. v.

#576 **Ursus pruinosus** Blyth, 1854, J. Asiatic Soc. Bengal, v. 22, 589. Blue bear, eastern Tibetan form. Tibet [t].

Toxascaris †486.—Intest.
**transfuga.*—Phila. Zoo.

#576 Ursus species.

Babesia †173.—Blood.
[species Yakimoff in Yakimoff et al., 1910: "Piroplasmen" [Reported as *Plasmodium*, fide Wenyon, 1926*a*, 1354.—St. Petersburg Zoo.]
Echinococcus †322.
†*granulosus.*
Ancylostoma †387.—Intest.
†*malayanum.*
Ascaris [l] †479.
[species Weidman, 1923.—Phila. Zoo.]
Nematoideum †352*a*.
ursi.
Toxascaris †486.—Intest.
transfuga.
Trichinella †366.—Muscles.
[species Bockum, 1888.—Germany.]
[species Bihm, 1913.—Germany.]
†**spiralis.*
Dermacentor †873.—Ext.
†*auratus.*—Ceylon; India.
compactus.—India.
Haemaphysalis †869.—Ext.
bispinosa intermedia.
†*leachi* [e].
spinigera.—India.
Hyalomma †880.—Ext.
†*aegyptium.*—India.
hussaini.—Bihar and Orissa, India.
monstrosum.—Bihar and Orissa, India.
Rhipicephalus †875.—Ext.
†*haemaphysaloides.*—India.
†*sanguineus.*—Ceylon, Burma, India.

#576 **Ursus** (*Ursus*) **syriacus** Ehrenb., 1828, Symb. Phys., v. 1, 6 pages. Syrian brown bear, Bär des Lebanon, Syrischer Bär, weisser Landbär. Mt. Lebanon [t], Syria; Persia.

Toxascaris †486.—Intest.
**transfuga.*—Phila. Zoo.

#576 **Ursus** (*Ursus*) **tibetanus** Cuv. in Geoffr. & Cuv., 1824, Hist. nat. Mamm., v. 2 (39), 3, pl. 213. Kragenbär, Kuma. Asia. Syn. *thibetanus* [c] Blanford, 1888, Fauna Brit. India, Mamm., 197.

Taenia [r] †325.—Intest.
species Southwell, 1922.—Calcutta Zoo, India.
Toxascaris †486.—Intest.
transfuga.—India.
Dermacentor †873.—Ext.
auratus.—Burma [t].
Haemaphysalis †869.—Ext.
formosensis.—Host [j].—Formosa.
hystricis.—Burma [t].
Trichodectes †1100.—Ext.
pinguis.—Paris Zoo.

#576 **Ursus** *torquatus* ° Wagner, 1841, Schreb. Säugeth., Suppl., v. 2, 144, pl. 141*D*, *tibetanus* Cuv., renamed. Himalayan Black Bear, Kragenbär, Bhálu, Chúp, Dom, Háput, Hing-bong, Húghúm, Mágyen, Mam, Mapol, Mum, Múphúr, Musu-bhurma, Rích, Rínch, Sanár, Sápá, Sawom, Seván, Situm, Siyah-haput, Sona, Sutum, Thágua, Thega, Vúmpi, Wek-won. Asia (Hills of Nepal [1]): Himalayas, forest-regions, extending through parts of Afghanistan into Baluchistan; western limits about frontier of Persia. So. #576 **Ursus tibetanus,** q. v.

#577. Connecting number with key to *PINNIPEDIA*. Cf. #407*a*.

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Italics are used for available, valid, or *sub judice* names, regardless of rank. Roman type is used for dead names, regardless of rank.

Generic names marked § are adopted as valid [v] (with the type species cited here) in the Official List of Generic Names established by the International Commission on Zoological Nomenclature. Under the procedure of the Commission they are subject to change only upon a two-thirds affirmative vote by the Commission. Accordingly, both theoretically and practically, they are as permanent as it is reasonably possible to fix zoological names. For the full Official List of [about 550] Generic Names, see "Opinions [1–123] rendered by the International Commission on Zoological Nomenclature" (published by the Smithsonian Institution) or (Summaries of Opinions, 1 to 90) Proc. Biological Society of Washington, 1926, pp. 91–103, or (Summaries of Opinions, 1 to 123) Proc. International Zoological Congress, Padua.

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