

A catalogue of British fossil vertebrata : supplement for 1890 / by Arthur Smith Woodward and Charles Davies Sherborn.

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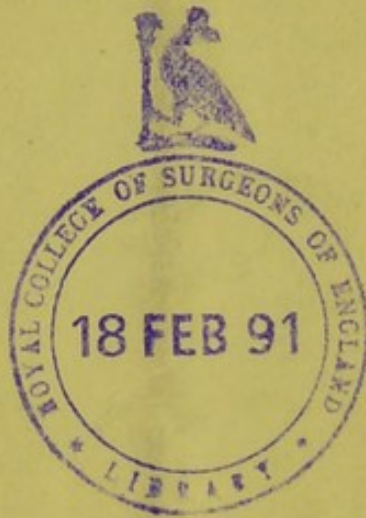
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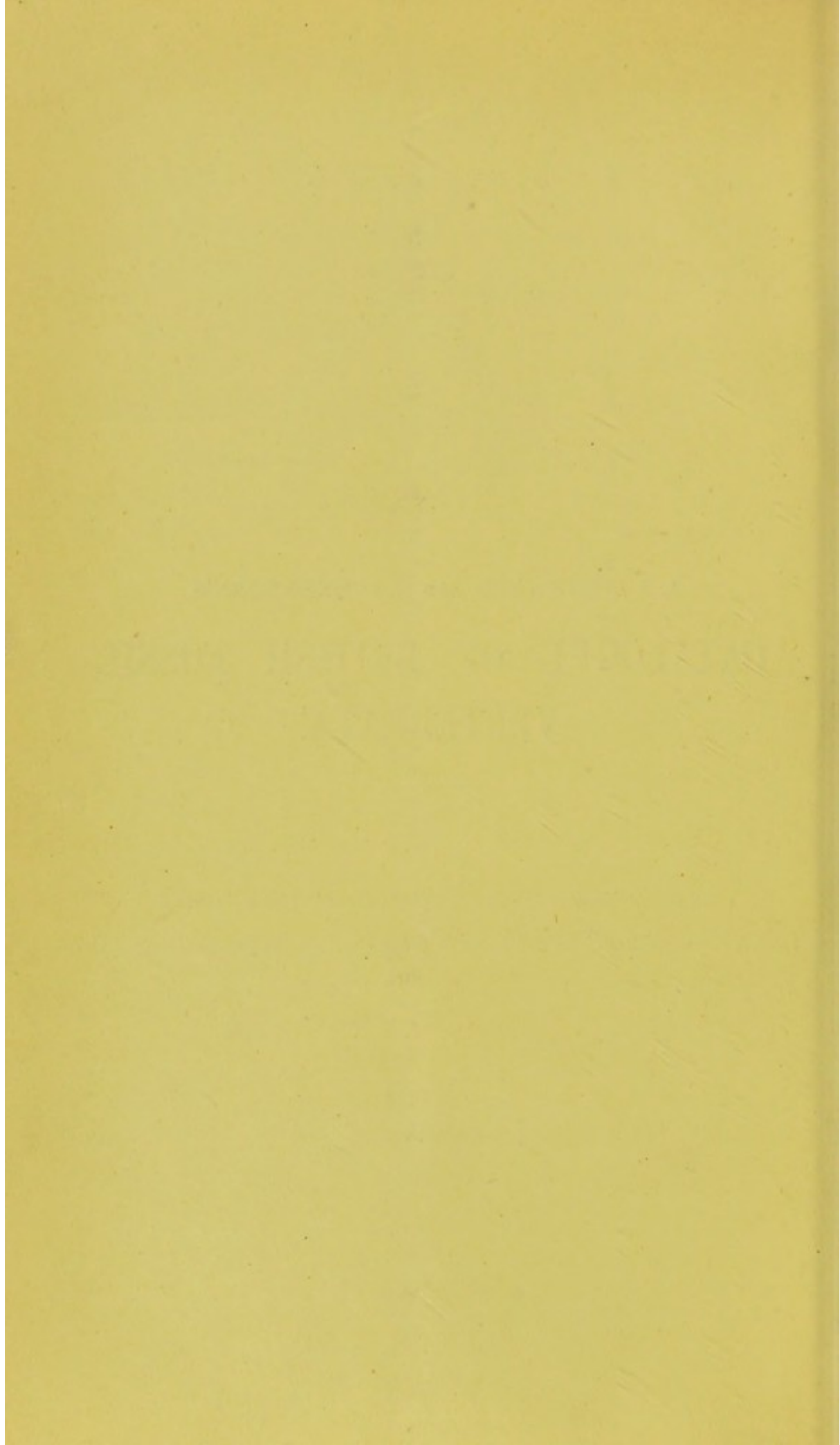
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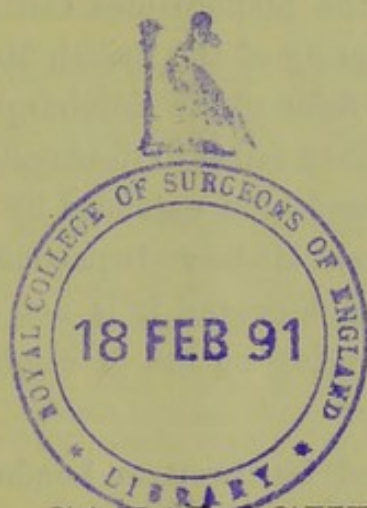


A. S. WOODWARD AND C. D. SHERBORN'S
CATALOGUE OF BRITISH FOSSIL
VERTEBRATA.

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A CATALOGUE

OF

BRITISH FOSSIL VERTEBRATA.

SUPPLEMENT FOR 1890.

By ARTHUR SMITH WOODWARD, F.G.S., F.Z.S.,

and CHARLES DAVIES SHERBORN, F.G.S., F.Z.S.

IN the Palæontology of the Vertebrata, so much progress is made in various directions in Britain, that it seems advisable to attempt to bring up to date the record of the subject prepared and published by the writers a year ago. The following list may thus be regarded as the first supplement to the work in question; and it is hoped, by the courtesy of the Editor, to issue such a list of additions annually in the GEOLOGICAL MAGAZINE.

With regard to general corrections it must be remarked, that the memoir of Mr. J. Ward, forming Vol. X. of the Trans. N. Staffs. Inst. Mining Engin., frequently quoted in connection with Carboniferous fishes, was not issued until February 1890, the publication having been delayed by unforeseen circumstances. Mr. J. Weston,

of Fenton, should have been mentioned as the collector of a fine series of fishes from the Staffordshire Coal-measures, which will shortly become the property of the British Museum. In connection with the Carboniferous fishes of the Edinburgh Coal-field, the writers also regret to add that they failed to distinguish between the private and public collections made and extended by Dr. R. H. Traquair, as Keeper of the Natural History Department in the Edinburgh Museum. In this case, however, it is not possible to rectify the error at present, there being no list or catalogue of either of these collections.

A few names applied by Owen to London Clay Teleosteans, in the Cat. Foss. Rept. Pisces Mus. R. Coll. Surgeons, were also overlooked; but most of these refer to species already recorded under the MS. names of Agassiz, and it is thus proposed to defer entering them until the synonymy has been investigated.

PISCES.

- Acanthodes Mitchelli*, Ag.: remarks and outline-figure by Traquair in Ann. Mag. Nat. Hist. [6] vol. vi. 1890, p. 481, woodc. 2, under name of *Mesacanthus Mitchelli*.
- Acanthodes sulcatus*, Ag.: Traquair, Proc. Roy. Soc. Edinb. vol. xvii. 1890, p. 392, and Ann. Mag. Nat. Hist. [6] vol. vi. 1890, p. 481, woodc. 1. Fife and Midlothian.
- *Wardi*, Eg.: Ward, Trans. N. Staffs. Inst. Min. Engin. vol. x. 1890, p. 157, pl. v. f. 2.
- Acrodus minimus*, Ag.: Portlock, Rep. Geol. Londonderry, 1843, p. 469, pl. xiv. f. 18 (? 17). Rhætic; N. Ireland.
- Acrolepis Hopkinsi*, M'Coy: Traquair, Proc. Roy. Soc. Edinb. vol. xvii. 1890, p. 398 (to include *A. Rankini*).
- *ortholepis*, R. H. Traquair, Proc. Roy. Soc. Edinb. vol. xvii. 1890, p. 398, and Ann. Mag. Nat. Hist. [6] vol. vi. 1890, p. 492 (olim *Elonichthys ortholepis*).
- *Rankini* (Ag.): synonym of *A. Hopkinsi*.
- *semigranulosus* [n. sp.], R. H. Traquair, Proc. Roy. Soc. Edinb. vol. xvii. 1890, p. 398. Calcif. Sandst.; Straiton. [Scales; Edinb. Mus.]
- Anodontacanthus attenuatus* [n. sp.], J. W. Davis, Proc. Yorks Geol. Soc. vol. xi. (2), 1890, p. 333. [? *Pleuracanthus*]. Carbonif.; Cultra, Co. Down. [Spine; C. Bulla Coll., Belfast.]
- Aspidorhynchus crassus* [n. sp.], A. S. Woodward, Proc. Geol. Assoc. vol. xi. (1890), p. 296, pl. iii. f. 11–15 (includes *A. sp.* (1888), *Belonostomus flexuosus*, and *Sauropsis mordax*).
- sp., A. S. Woodward: v. *A. crassus*.
- Asteracanthus Stutchburyi*, Ag.: synonym of *A. verrucosus* (E. Wilson, GEOL. MAG. 1890, p. 366). [Type, —Bristol Mus., probably from Purbeck Beds, Swanage.]
- *verrucosus*, Eg.: includes *A. Stutchburyi*, Ag.
- Belonostomus flexuosus*, Phillips: = ? maxilla of *Aspidorhynchus crassus*, A. S. W.
- *leptosteus*, Ag.: A. S. Woodward, Proc. Geol. Assoc. vol. xi. (1890), p. 296.
- Caturus pleiodus* [n. sp.], A. S. Woodward (ex. Ag.), Proc. Geol. Assoc. vol. xi. (1890), p. 294, pl. iii. f. 10 (genus uncertain).

- Centrolepis*, Eg. : A. S. Woodward, Ann. Mag. Nat. Hist. [6] vol. v. 1890, p. 430.
 ——— *asper*, Eg. (*ex Ag.*) : A. S. Woodward, *ibid.* p. 430, pl. xvi. f. 1.
- Ceratodus Phillipsi*, Ag. : A. S. Woodward, Proc. Geol. Assoc. vol. xi. (1890), p. 292, pl. iii. f. 5.
- Chirodopsis Geikiei*, Traq. : Traquair, Ann. Mag. Nat. Hist. [6] vol. vi. 1890, p. 494.
- Chirodus crassus* [n. sp.], R. H. Traquair, Proc. Roy. Soc. Edinb. vol. xvii. 1890, p. 400. Carb. Limest. ; Abden and Beith. [Scales ; Edinb. Mus.]
- Chirolepis Trailli*, Ag. : recorded from Achanarras, Caithness, by Traquair, Ann. Mag. Nat. Hist. [6] vol. vi. 1890, p. 485.
- Coccolepis liassica* [n. sp.], [—us], A. S. Woodward, Ann. Mag. Nat. Hist. [6] vol. v. 1890, p. 435, pl. xvi. f. 2–4. Lower Lias ; Lyme Regis. [Fish ; Brit. Mus.]
- Coccosteus*, Ag. : A. v. Koenen, GEOL. MAG. 1890, p. 191.
- *decipiens*, Ag. : Traquair, Ann. Mag. Nat. Hist. [6] vol. v. 1890, p. 125, pl. x. and GEOL. MAG. 1890, p. 235.
- sp., J. E. Lee, GEOL. MAG. 1880, p. 146, pl. v. f. 3. U. Devon. ; Chudleigh, S. Devon. [Median dorsal plate ; Brit. Mus.]
- Cœlacanthus Phillipsi*, Ag. : J. W. Davis, GEOL. MAG. 1890, p. 159.
- sp. [n.], J. W. Davis, Proc. Yorks. Geol. Soc. vol. xi. (2), 1890, p. 334. Carbonif. ; Cultra, Co. Down. [Bones ; C. Bulla Coll., Belfast.]
- Cosmolepis*, Eg. : synonym of *Oxygnathus*.
- *Egertoni*, Eg. : v. *Oxygnathus Egertoni*.
- Cosmoptychius*, Traq. : synonym of *Elonichthys*.
- *striatus* (Ag.) : v. *Elonichthys striatus*.
- Ctenodus interruptus*, Barkas : A. S. Woodward, Ann. Rep. Yorksh. Phil. Soc. 1889 (1890), p. 37, pl. i. f. 2 ; R. H. Traquair, GEOL. MAG. 1890, p. 249. Form. and loc. are Carb. Limest. and Calcif. Sandst., Fifeshire and Midlothian (not English Coal-Meas.)
- *Murchisoni*, Ag. MS. : first described by J. Ward, Trans. N. Staffs. Inst. Mining Engin. vol. x. 1890, p. 156. Additional locality is Longton, N. Staffordshire.
- *caudatus*, Barkas : v. *Sagenodus caudatus*.
- *corrugatus*, Atthey : v. *Sagenodus corrugatus*.
- *obliquus*, Atthey : v. *Sagenodus inæqualis*.
- *obliquus*, var. *quinquecostatus*, Traq. : v. *Sagenodus quinquecostatus*.
- *obtusus*, Barkas : v. *Sagenodus obtusus*.
- *octodorsalis*, Barkas : v. *Sagenodus octodorsalis*.
- Ctenolepis cycilus*, Phillips (*ex Ag.*) : A. S. Woodward, Proc. Geol. Assoc. vol. xi. (1890), p. 301. There is an early fig. of this sp. in C. Prevost, Ann. Sci. Nat. vol. iv. 1825, pl. xviii. f. 21.
- Dapedius dorsalis* (Ag.) : M. Browne, Trans. Leicester Lit. and Phil. Soc. n. s. vol. (1890), p. 196 (includes *Dapedius monilifer*).
- *monilifer* (Ag.) : synonym of *D. dorsalis*.
- Diplopterus Agassizi*, Traill : Traquair, Ann. Mag. Nat. Hist. [6] vol. vi. 1890, p. 484, woodc. 3.
- Drydenius* [n. g.], R. H. Traquair, Proc. Roy. Soc. Edinb. vol. xvii. 1890, p. 399.
- *insignis* [n. sp.], R. H. Traquair, *ibid.* Carb. Limest. ; Loanhead. [The type species, founded on jaws, etc. ; Edinburgh Mus.]
- Elonichthys*, Giebel : to include *Cosmoptychius*, Traquair, Proc. Roy. Soc. Edinb. vol. xvii. 1890, p. 396.
- *Dunsi*, Traq. : synonym of *E. nemopterus* (Ag.), Traquair, *ibid.* p. 395. [v. *E. Robisoni*].
- *intermedius*, Traq. : synonym of *E. nemopterus* (Ag.), Traquair, *ibid.* [v. *E. Robisoni*].
- *multistriatus* [n. sp.], R. H. Traquair, Proc. Roy. Soc. Edinb. vol. xvii. 1890, p. 396. Carb. Limest. ; Gilmerton and Loanhead [Fragments ; Traquair Coll.]
- *nemopterus* [Ag.] : Traquair, *ibid.* p. 394 (to include *E. Dunsi*, *intermedius*, *ovatus*, *Robisoni*, *striolatus*, *tenuiserratus*). [v. *E. Robisoni*].
- *ortholepis*, Traq. : synonym of *Acrolepis ortholepis*.
- *ovatus*, Traq. : synonym of *E. nemopterus* (Ag.), Traquair, Proc. Roy. Soc. Edinb. vol. xvii. 1890, p. 396. [v. *E. Robisoni*].
- *Robisoni* (Hibb.) : referred with several other supposed species to *E. nemopterus* by Traquair, as noted above. *Palæoniscus Robisoni*, however,

- being described by Agassiz before the so-called *Amblypterus nemopterus*, the specific name originally suggested by Hibbert must be adopted.
- Elonichthys striatus* (Ag.): Traquair, Proc. Roy. Soc. Edinb. vol. xvii. 1890, p. 396 (olim *Cosmoptychius striatus*).
- *striolatus* (Ag.): synonym of *E. nemopterus* (Ag.), Traquair, Proc. Roy. Soc. Edinb. vol. xvii. 1890, p. 395. [v. *E. Robisoni*.]
- *tenuiserratus*, Traq.: synonym of *E. nemopterus* (Ag.), Traquair, *ibid.* [v. *E. Robisoni*.]
- Eogaleus toliapicus*, R. Owen, Cat. Foss. Rept. Pisces Mus. R. Coll. Surgeons, 1854, p. 133. London Clay; Sheppey. [Vertebræ; Mus. R. Coll. Surgeons.]
- Eurycormus grandis*, A. S. W.: A. S. Woodward, Proc. Geol. Soc. 1890, p. 8, and GEOL. MAG. 1890, p. 289, pl. x. f. 1-8.
- Eurynotus crenatus*, Ag.: Traquair, Proc. Roy. Soc. Edinb. vol. xvii. 1890, p. 400 (to include *E. fimbriatus*, Ag.)
- *fimbriatus*, Ag.: synonym of *E. crenatus*, Ag., Traquair, *ibid.*
- *microlepidotus* [n. sp.], R. H. Traquair, Proc. Roy. Soc. Edinb. vol. xvii. 1890, p. 400. Carb. Limest.; Loanhead. [Imperfect fish; Traquair Coll.]
- Ganodus*, Ag.: A. S. Woodward, Proc. Geol. Assoc. vol. xi. (1890), p. 290, pl. iii. f. 4.
- Ganopristodus*, Traq.: synonym of *Uronemus*.
- *splendens*, Traq.: v. *Uronemus splendens*.
- Glyptolepis Flemingii*, H. Mitchell and J. Powrie: v. *Holoptychius Flemingi*.
- Glyptolepis paucidens* (Ag.): Traquair, Ann. Mag. Nat. Hist. [6] vol. vi. 1890, p. 483.
- Gyrolepis Albertii*, Ag.: Portlock, Rep. Geol. Londonderry, 1843, p. 469, pl. xiv. f. 12-14 and f. 11 (*G. tenuistriatus*). Rhætic: N. Ireland.
- Gyronchus oblongus*, Ag.: v. *Mesodon oblongus*.
- Gyrosteus mirabilis*, A. S. Woodw.: A. S. Woodward, Naturalist, 1890, p. 101.
- Helodus simplex*, Ag.: synonym of *Pleuroplax Rankini*.
- Holophagus*, Eg.: A. S. Woodward, Ann. Mag. Nat. Hist. [6] vol. v. 1890, p. 436.
- Holoptychius Flemingi*, Ag.: includes *Glyptolepis Flemingii*, H. Mitchell, Geologist, 1863, p. 43; J. Powrie, *ibid.*, p. 96.
- Ischyodus* sp. [n.], A. S. Woodward, Proc. Geol. Assoc. vol. xi. (1890), p. 290, pl. iii. f. 3. Great Oolite; Northampton. [R. palatine; Jesson Coll.]
- Leedsia*, A. S. Woodward, GEOL. MAG. 1890, p. 292 (substituted for *Leedsichthys*).
- *problematica*, A. S. Woodward, *ibid.* p. 292, pl. x. f. 9, 10 (olim *Leedsichthys problematicus*).
- Lepidotus maximus*, Wagner: *Sphærodus neocomiensis* (Ag.), W. Keeping, Foss. Upware, 1883, p. 81, pl. i, f. 4. Neocomian; Cambridgeshire and Bedfordshire.
- *tuberculatus*, Ag.: = suboperculum of *L. unguiculatus*, Ag. (A. S. Woodward, Proc. Geol. Assoc. vol. xi. (1890), p. 293).
- *unguiculatus*, Ag.: A. S. Woodward, *ibid.* p. 292, pl. iii. f. 7, 8. (Includes *L. tuberculatus* and *Pycnodus rudis*).
- Leptolepis disjecta* [n. sp.], [-us], A. S. Woodward, Proc. Geol. Assoc. vol. xi. (1890), p. 295, pl. iii, f. 16-19. Stonesfield Slate. [Preop., op., max., and dentary bones; Brit. Mus.]
- Macrosemius brevirostris* [n. sp.], A. S. Woodward (*ex* Ag.), Proc. Geol. Assoc. vol. xi. (1890), p. 293, pl. iii. f. 9. Stonesfield Slate. [Mandib. ramus; Brit. Mus.]
- Megalichthys levis* [n. sp.], R. H. Traquair, Proc. Roy. Soc. Edinb. vol. xvii. 1890, p. 394. Calcif. Sandst.; Straiton. [Imperfect fishes; Edinb. Mus.]
- Mesacanthus*, Traq.: genus maintained by Traquair, Ann. Mag. Nat. Hist. [6] vol. vi. 1890, p. 481. v. *Acanthodes Mitchellii*.
- Mesodon biserialis* [n. sp.], A. S. Woodward (*ex* Ag.), Proc. Geol. Assoc. vol. xi. (1890), p. 300, pl. iii. f. 28. Stonesfield Slate. [Mandib. dentition: Brit. Mus.]
- *Bucklandi* (Ag.): A. S. Woodward, *ibid.* p. 297, pl. iii. f. 20-22: the scales of "*Gyrodus perlatus*" are also figured in the same paper (pl. iii. f. 30, 31). New locality:—Great Oolite of Northampton.
- *Couloni* (Ag.): *Pycnodus Couloni* (Ag.) W. Keeping, Foss. Upware, 1883, p. 82, pl. i. f. 5. Neocomian; Cambridgeshire and Bedfordshire.
- *Damoni* [n. sp.], A. S. Woodward, GEOL. MAG. 1890, p. 158. This is the *M. sp.*, Woodward and Sherborn, Cat. Brit. Foss. Vert., 1890, p. 121.
- *Daviesi* [n. sp.], A. S. Woodward, Proc. Zool. Soc. 1890, p. 351, pl. xxviii. f. 5. Purbeck; Swanage. [Fish: Brit. Mus.]

- Mesodon ? discoides* [n. sp.], A. S. Woodward (*ex Ag.*), Proc. Geol. Assoc. vol. xi. (1890), p. 300, pl. iii. f. 32. Gt. Oolite; Oxford. [Vomer; Brit. Mus.]
- *latidens*, A. S. W.: misprint for *M. tenuidens*.
- *oblongus* (Ag.): *Gyronchus (Scaphodus) oblongus*, L. Agassiz, Poiss. Foss. vol. i. (1844), p. xlii. (name only). *Gyronchus oblongus*, E. Wilson, GEOL. MAG. 1890, p. 367.
- *rugulosus* (Ag.): A. S. Woodward, Proc. Geol. Assoc. vol. xi. (1890), p. 298, pl. iii. f. 23-27. (Includes *M. trigonus*.)
- sp., Woodward and Sherborn, Cat. Brit. Foss. Vert. 1890, p. 121: v. *M. Damoni*.
- *tenuidens* [n. sp.], A. S. Woodward, Proc. Geol. Assoc. vol. xi. (1890), p. 300 (*latidens*, misprint), pl. iii. f. 29. Stonesfield Slate. [R. splenial; Brit. Mus.]
- *trigonus* (Ag.): synonym of *M. rugulosus*.
- Mesolepis rhomba* [n. sp.], Traquair, Ann. Mag. Nat. Hist. [6] vol. vi. 1890, p. 493. Calcif. Sandst.; Eskdale. [Fish; Edinburgh Mus.]
- *tuberculata* [n. sp.], Traquair, *ibid.* p. 493. Calcif. Sandst.; Eskdale. [Fish; Edinburgh Mus.]
- Mesopoma* [n. g.], Traquair, Ann. Mag. Nat. Hist. [6] vol. vi. 1890, p. 493 (incompletely defined).
- *macrocephalum* [n. sp.], Traquair, *ibid.* p. 493.
- Rhadinichthys macrocephalus*, Traquair, Proc. Roy. Soc. Edinb. vol. xvii. 1890, p. 398. Calcif. Sandst.; Pumpherston, Edinburgh. [Fishes; Traquair Coll.]
- *politum*, Traquair, Ann. Mag. Nat. Hist. [6] vol. vi. 1890, p. 493 (olim *Canobius politus*).
- *pulchellum*, Traquair, *ibid.* p. 493 (olim *Canobius pulchellus*).
- Nemacanthus brevis*, Phillips: A. S. Woodward, Proc. Geol. Assoc. vol. xi. (1890), p. 289, pl. iii. f. 1.
- Nematoptychius gracilis*, Traq.: synonym of *N. Greenocki*.
- *Greenocki*, (Ag.): Traquair, Proc. Roy. Soc. Edinb. vol. xvii. 1890, p. 398. (Includes *N. gracilis* and also *Pygopterus elegans*, C. W. Peach, Rep. Brit. Assoc. 1871 (1872), p. 109, name only.)
- Oligopleurus vectensis* [n. sp.], A. S. Woodward, Proc. Zool. Soc. 1890, p. 346, pl. xxviii, f. 1-4, pl. xxix, f. 1, 2. Purbeck; Swanage. Wealden; I. of Wight. [Head; Brit. Mus.]
- Ophiopsis Flesheri* (Ag.): A. S. Woodward, Proc. Geol. Assoc. vol. xi. (1890), p. 293.
- Oracanthus Milleri*, Ag.: *O. minor*, E. Wilson, GEOL. MAG. 1890, p. 368.
- Osteolepis microlepidotus*, Pand.: Traquair, GEOL. MAG. 1888, p. 516, and Ann. Mag. Nat. Hist. [6] vol. vi. 1890, p. 484.
- Oxygnathus*, Eg.: A. S. Woodward, Ann. Mag. Nat. Hist. [6] vol. v. 1890, p. 431 (includes *Cosmolepis* and *Thrissonotus*).
- *Egertoni* (Eg.): A. S. Woodward, Ann. Mag. Nat. Hist. [6] vol. v. 1890, p. 432 (olim *Cosmolepis Egertoni*).
- *ornatus*, Eg.: Traquair, Palæoniscidæ (Pal. Soc. 1877), pl. ii. f. 2; A. S. Woodward, Ann. Mag. Nat. Hist. [6] vol. v. 1890, p. 432 (includes *Thrissonotus Colei*).
- Palæospondylus* [n. g.], Traquair, Ann. Mag. Nat. Hist. [6] vol. vi. 1890, p. 485.
- *Gunni* [n. sp.], Traquair, *ibid.* p. 485, woodc. 4. L. Old Red Sandst., Achanarras, Caithness. [The type species, Edinburgh Mus.]
- Phaneropleuron*, Huxley: Traquair, Proc. Roy. Soc. Edinb. vol. xvii. 1890, p. 393.
- Phlyctænaspis* [n. g.], R. H. Traquair, GEOL. MAG. 1890, p. 144. (Olim *Phlyctænius* [preoccupied Zittel, Spongida]).
- *Anglica*, Traq.: Traquair, *ibid.*, p. 144, (olim *Phlyctænius anglicus*). Includes *Cephalaspis Salweyi*, Lankester (in part), Fishes O.R.S. pt. 1 (Pal. Soc. 1870), pl. viii. f. 2-4.
- Phlyctænius*, Traq.: preoccupied, v. *Phlyctænaspis*.
- Pholidophorus minor*, Ag.: A. S. Woodward, Proc. Geol. Assoc. vol. xi. (1890), p. 293.
- Pleuroplax*, A. S. Woodw.: J. W. Davis, Ann. Mag. Nat. Hist. [6] vol. v. 1890, p. 291, pl. xiii.
- *Rankini*, H. and A.: J. W. Davis, *ibid.* p. 291, pl. xiii. (includes *Helodus simplex*).

- Pristacanthus securis*, Ag.: A. S. Woodward, Proc. Geol. Assoc. vol. xi. (1890), p. 290, pl. iii, f. 2.
- Psammosteus*: The types of *P. granulatus* and *P. vermicularis* are now in the Dublin Mus. Sci. and Art.
- Pterichthys Milleri*, Ag.: recorded from Achanarras, Caithness, by Traquair, Ann. Mag. Nat. Hist. [6] vol. vi. 1890, p. 483. There is also a specimen from this locality in the Worcester Museum.
- Ptychodus mammillaris*, Ag.: A. S. Woodward, Ann. Rep. Yorks. Phil. Soc. 1889 (1890), p. 39, pl. i. f. 3-14.
- *polygyrus*, Ag.: A. S. Woodward, *ibid.* p. 40, pl. i. f. 15-20.
- Pycnodus Couloni*, Ag.: v. *Mesodon Couloni*.
- *rudis*, Phillips: synonym of *Lepidotus unguiculatus*.
- Pygopterus elegans*, Peach: v. *Nematoptychius Greenocki*.
- Rhadinacanthus*, Traq.: genus maintained for *Diplacanthus longispinus*, Ag., by Traquair, Ann. Mag. Nat. Hist. [6] vol. vi. 1890, p. 483, but essential part of original definition admitted erroneous and none substituted.
- Rhadinichthys carinatus* (Ag.): Traquair, Proc. Roy. Soc. Edinb. vol. xvii. 1890, p. 397 (includes typical *R. Geikiei*).
- *delicatulus*, Traq.: synonym of *R. elegantulus*.
- *elegantulus*, Traquair, Proc. Roy. Soc. Edinb. vol. xvii. 1890, p. 398, and Ann. Mag. Nat. Hist. [6] vol. vi. 1890, p. 492 (includes *R. delicatulus* and so-called *R. Geikiei* from Eskdale).
- *Geikiei*, Traq.: synonym of *R. carinatus* and *R. elegantulus*.
- *lepturus*, Traq.: synonym of *R. ornatissimus*.
- *macrocephalus*, Traq. [n. sp.]: v. *Mesopoma macrocephalum*.
- *ornatissimus* (Ag.): Traquair, Proc. Roy. Soc. Edinb. vol. xvii. 1890, p. 397 (includes *R. lepturus*).
- Sagenodus*, Owen: This genus must be accepted for the so-called *Ctenodus obliquus* and allied species. It is first defined under the name of *Hemictenodus*, R. H. Traquair, GEOL. MAG. 1890, p. 251, and is in part equivalent to *Hemictenodus*, O. Jaekel, Sitzungsber. Ges. naturf. Freunde, 1890, p. 7.
- *caudatus*: correct name of *Ctenodus caudatus*.
- *corrugatus*: „ „ „ „ *corrugatus*.
- *inæqualis*, Owen: the correct name of *Ctenodus obliquus*, with synonyms as already quoted in the Catalogue.
- *obtusius*: correct name of *Ctenodus obtusus*.
- *octodorsalis*: correct name of *Ctenodus octodorsalis*.
- *quinquecostatus*, Traquair, Proc. Roy. Soc. Edinb. vol. xvii. 1890, p. 387. *Hemictenodus quinquecostatus*, Traquair, GEOL. MAG. 1890, p. 251 (olim *Ctenodus obliquus*, var. *quinquecostatus*).
- Saurichthys acuminatus*, Ag.: *S. apicalis*, Portlock, Rep. Geol. Londonderry, 1843, p. 470, pl. xiv. f. 19. Rhætic: N. Ireland.
- Sauropsis mordax*, Ag.: maxilla of *Aspidorhynchus crassus*.
- Scaphodus*, Ag. MS.: E. Wilson, GEOL. MAG. 1890, p. 367; A. S. Woodward, Proc. Geol. Assoc. vol. xi. (1890), p. 300.
- *heteromorphus* [n. sp.], A. S. Woodward (*ex* Ag.), p. 300, pl. iii. f. 33, 34.
- *oblongus*, Ag.: v. *Mesodon oblongus*.
- Strepsodus minor* [n. sp.], R. H. Traquair, Proc. Roy. Soc. Edinb. vol. xvii. 1890, p. 393. Calcif. Sandst.; Piteorthy. [Scales: Edinb. Mus.]
- Strobilodus purbeckensis* [n. sp.], A. S. Woodward, Proc. Zool. Soc. 1890, p. 350, pl. xxix. f. 4.
- Styracopterus*, R. H. Traquair, Ann. Mag. Nat. Hist. [6] vol. vi. 1890, p. 492 (undefined).
- *fulcratus*, R. H. Traquair, *ibid.* p. 492 (olim *Holurus fulcratus*, Traq.) Calciferous Sandstones, Tarras Foot (not Glencartholm).
- Tarrasius problematicus*, Traq.: R. H. Traquair, Ann. Mag. Nat. Hist. [6] vol. vi. 1890, p. 494. Locality is Glencartholm (not Tarras Foot, as originally stated).
- Thrissonotus*, Ag.: synonym of *Oxygnathus*.
- *Colei*, Ag.: v. *Oxygnathus ornatus*.
- Thynnus scaldisiensis* [n. sp.], R. Storms, Mém. Soc. Belge Géol. etc. vol. iii. (1889) p. 163, pl. vii. f. 17-22; A. S. Woodward, Ann. Mag. Nat. Hist. [6] vol. v. 1890, p. 294. White Crag: Suffolk. [Caudal vertebra; Brit. Mus.]

- Thynnus thynnus* (Linn.): E. T. Newton, GEOL. MAG. 1890, p. 264. Forest Bed: E. Runton. [Vert. centrum; Savin Coll.]
- Undina* (?) *barroviensis* [n. sp.], A. S. Woodward, Ann. Mag. Nat. Hist. [6] vol. v. 1890, p. 436, pl. xvi. f. 5. L. Lias.; Barrow. [Fish: Brit. Mus.]
- (?) sp. A. S. Woodward, Proc. Geol. Assoc. vol. xi. (1890) p. 292, pl. iii. f. 6 [also figd. by Prevost, Ann. Sci. Nat. vol. iv. 1825, pl. xviii. f. 20]. Stonesfield Slate. [Jugular and pterygo-quad.: Brit. Mus.]
- Uronemus*, Ag.: Traquair, Proc. Roy. Soc. Edinb. vol. xvii. 1890, p. 393 (includes *Ganopristodus*).
- *magnus*, Traq.: = tail of *Ctenodus* or *Sagenodus*, Traquair, GEOL. MAG. 1890, p. 252.
- *splendens*, Traquair, GEOL. MAG. 1890, p. 252 (olim *Ganopristodus splendens*).

AMPHIBIA.

- Anthracosaurus Russellii*, Huxley: Lydekker, Cat. Foss. Rept. B.M.¹ pt. iv. 1890, p. 158.
- Anthracerpetum crassosteum*, Ow.: Lydekker, Cat. Rept. pt. iv. 1890, p. 214.
- Erpetocephalus*, Huxley: synonym of *Ichthyerpeta*.
- *rugosus*, Huxl.: v. *Ichthyerpeta Bradleyæ*.
- Ichthyerpeta*, Huxley: Lydekker, Cat. Rept. pt. iv. 1890, p. 168 (includes *Erpetocephalus*).
- *Bradleyæ*, Huxl.: Lydekker, *ibid.* p. 169 (includes *Erpetocephalus rugosus*).
- Lepidotosaurus Duffi*, Hanc. and Howse: Lydekker, Cat. Rept. pt. iv. 1890, p. 214.
- Lepterpeta* sp. Lydekker, Cat. Rept. pt. iv. 1890, p. 199. Coal Meas.: Jarrow. [Skeleton: Brit. Mus.]
- Loxomma Allmani*, Huxley: Embleton, Rep. Brit. Assoc. 1889 (1890), p. 580; Lydekker, Cat. Rept. p. iv. 1890, p. 164, fig. 38.
- Macromerium Scoticum* [n. sp.], R. Lydekker, Quart. Journ. Geol. Soc. vol. xlvi. 1890, p. 291, pl. xii. f. 1, and Cat. Rept. pt. iv. 1890, p. 162. Carb. Limest.; Gilmerton. [Mandib. ramus: Brit. Mus.]
- Ophiderpetum Brownriggi*, Huxley: Lydekker, Cat. Rept. pt. iv. 1890, p. 206.
- Pholidogaster pisciformis*, Huxley: Lydekker, Cat. Rept. pt. iv. 1890, p. 195.
- Urocordylus reticulatus*, Hanc. and Atth.: synonym of *U. Wandesfordi*.
- *Wandesfordi*, Huxley: Lydekker, Cat. Rept. pt. iv. 1890, p. 196 (includes *U. reticulatus*).

REPTILIA.

- Bothriospondylus suffossus*, Owen: Lydekker, Cat. Rept. pt. iv. 1890, p. 242.
- Calamospondylus Foxi*, Lyd.: Lydekker, Cat. Rept. pt. iv. 1890, p. 243, f. 54.
- Camptosaurus Leedsi*, Lyd.: Lydekker, Cat. Rept. pt. iv. 1890, p. 258, f. 61.
- Cardiodon rugulosus*, Owen: Lydekker, Cat. Rept. pt. iv. 1890, p. 236. (Crown of tooth; Gt. Oolite, Cirencester.)
- Cimoliosaurus portlandicus* (Owen): Lydekker, Quart. Journ. Geol. Soc. vol. xlvi. 1890, p. 47, f. 5, and Cat. Rept. pt. iv. 1890, p. 274. (Cerv. vert.; Mid. Purbeck, Isle of Portland: Brit. Mus.)
- *Richardsoni*, R. Lydekker, Cat. Rept. pt. iv. 1890, p. 276, f. 66.
- Cælosaurus*, R. Owen, Cat. Rept. Mus. R. Coll. Surg. 1854, p. 15. [Genus founded on a mutilated centrum of a dorsal vertebra washed out of an oolitic stratum and from the drift of West Norfolk: Mus. R. Coll. Surg.]
- Cryptodraco eumerus* (Seeley): Lydekker, Cat. Rept. pt. iv. 1890, p. 256.
- Goniopholis carinata*: first described by R. Owen, Cat. Rept. Mus. R. Coll. Surg. 1854, p. 12, and stated to be from the Great Oolite of Cirencester.
- Goniopholis minor*, Koken: Lydekker, Cat. Rept. pt. iv. 1890, p. 229. Wealden: Isle of Wight. [Portions of Skeleton; Brit. Mus.]
- Ichthyosaurus communis*, Conyb.: Lydekker, Cat. Rept. pt. iv. 1890, p. 270.
- *Conybearei*, Lyd.: Wilson, GEOL. MAG. 1890, p. 365.
- *intermedius*, Conyb.: Lydekker, Cat. Rept. pt. iv. 1890, p. 271, f. 65.
- *thyreospondylus*, Owen: Wilson, *ibid.* p. 365; Lydekker, Cat. Rept. pt. iv. 1890, p. 270 (Portland Oolite, I. of Portland: centrum).

¹ Subsequent references to this work are briefly entered "Cat. Rept."

- Iguanodon Dawsoni*, Lyd.: Lydekker, Quart. Journ. Geol. Soc. vol. xlv. 1890, p. 38, f. 1 B, and Cat. Rept. pt. iv. 1890, p. 259.
- *fittoni*, Lyd.: Lydekker, *ibid.* pp. 38, 43, f. 1 C, and *ibid.* p. 260.
- *hollingtoniensis*, Lyd.: Lydekker, *ibid.* p. 40, f. 1 E, 2, and *ibid.* p. 262.
- cervical vertebra of: Lydekker, *ibid.* p. 44, f. 3.
- Megalosaurus Dunkeri*, Koken: Lydekker, Quart. Journ. Geol. Soc. vol. xlv. 1890, p. 46, f. 4, and Cat. Rept. pt. iv. 1890, p. 244. Wadhurst Clay; Hastings. [Metatarsus; Brit. Mus.]
- *Oweni*, Lyd.: Lydekker, *ibid.* p. 47, and *ibid.* p. 245.
- Metriorhynchus Moreli*, Desl.: Lydekker, Quart. Journ. Geol. Soc. vol. xlv. 1890, p. 285, f. 1.
- *superciliosum* (Blainv.): Lydekker, Cat. Rept. pt. iv. 1890, p. 232.
- Ophthalmosaurus icenicus*, Seeley: Lydekker, Cat. Rept. pt. iv. 1890, p. 267, f. 62.
- *Pleydelli* [n. sp.], R. Lydekker, Cat. Rept. pt. iv. 1890, p. 268, f. 63. Kimmeridge Clay: Billingham [Humerus; Dorset Mus.]
- Peloneustes*, Lyd.: Lydekker, Quart. Journ. Geol. Soc. vol. xlv. 1890, p. 49.
- *Evansi* (Seeley): Lydekker, *ibid.* p. 52 (olim *Pliosaurus Evansi*).
- Pelorosaurus Conybearei* (Mant.): Lydekker, Cat. Rept. pt. iv. 1890, p. 240, f. 53.
- *humero cristatus* (Hulke): Lydekker, *ibid.* p. 241.
- *Leedsi* (Hulke): Lydekker, *ibid.* p. 242.
- *Manseli* (Hulke): Lydekker, *ibid.* p. 241.
- Plesiosaurus dolichodirus*, Conyb.: Lydekker, Cat. Rept. pt. iv. 1890, p. 277.
- Pleurocælus valdensis*, Lyd.: Lydekker, Quart. Journ. Geol. Soc. vol. xlv. 1890, p. 182, pl. ix.
- Pliosaurus brachydiris*, Owen: Lydekker, Cat. Rept. pt. iv. 1890, p. 271. (Teeth; Kimmeridge, I. of Portland. Head of ischium and propodial; Portland Oolite, I. of Portland.)
- *Evansi*, Seeley: v. *Peloneustes Evansi*.
- *ferox*, Sauv.: Lydekker, Cat. Rept. pt. iv. 1890, p. 272.
- Rhamphorhynchus jessoni* [n. sp.], R. Lydekker, Cat. Rept. pt. iv. 1890, p. 226, and Quart. Journ. Geol. Soc. vol. xlv. 1890, p. 431, f. 1-4. Oxford Clay; St. Ives. [Bones; Brit. Mus.]
- Steneosaurus brevidens* (Phill.): Lydekker, Cat. Rept. pt. iv. 1890, p. 234. New locality is Great Oolite; Northampton.
- *Boutilieri*, Desl.: v. *S. robustus*.
- *robustus*, R. Owen, Cat. Foss. Rept. Mus. R. Coll. Surgeons, 1854, p. 11. M. Oolite; Oxfordshire. [Skull and mandible; ? Oxford Mus.] [Includes *S. oxoniensis* and *S. boutilieri*, according to G. A. Boulenger, *in litt.*]
- Streptospondylus Meyeri*, R. Owen, Cat. Rept. Mus. R. Coll. Surgeons, 1854, p. 16. Wealden; Brook. [Dorsal vertebrae, probably of *Iguanodon bernissartensis*; Mus. R. Coll. Surgeons.]
- Suchodus* [n. g.], Lydekker, Quart. Journ. Geol. Soc. vol. xlv. 1890, p. 288.
- *durobrivensis* [n. sp.], Lydekker, *ibid.* p. 288, f. 2, 3. Oxford Clay; Peterborough. [Mandib. symphysis; Leeds Coll.] The type species.
- Syngonosaurus macrocerus*, Seeley: Lydekker, Cat. Rept. pt. iv. 1890, p. 254, f. 60. [Vertebrae; Cambridge Greensand.]
- Teleosaurus brevirostris*, R. Owen, was first described in Cat. Rept. Mus. R. Coll. Surgeons, 1854, p. 8, as from "Oolite; Chipping Norton." [Skull and mandible; ? Oxford Mus.]
- Thecodontosaurus platyodon* (Riley and Stutch.): Lydekker, Cat. Rept. pt. iv. 1890, p. 246. (Two crowns of teeth; ? Keuper, Somersetshire.)
- [Genus non det.] Axis vertebra and intercentrum of Dinosaur: Lydekker, Cat. Rept. pt. iv. 1890, p. 245, f. 55. (See Woodward and Sherborn, Cat. Brit. Foss. Vert. 1890, p. 296.)
- "Horn-like Dinosaurian Bone," R. Lydekker, Quart. Journ. Geol. Soc. vol. xlv. (1890) p. 185, fig. [? Ungual phalanx.]
- "Ichnites," T. P. Barkas, Rep. Brit. Assoc. 1889 (1890), p. 565. (Carbonif. Sandst.; Northumberland.)
- Lydekker, Cat. Rept. pt. iv. 1890, p. 215.

AVES.

- Fulica atra*, Linn.: A. Milne-Edwards, Oiseaux Foss. vol. ii. 1871, p. 160. Fens; Cambridge.

- Haliaetus pelagicus* (Pall.): The type is a *tibia*, not *humerus*.
Phalacrocorax carbo (Linn.): A coracoid in Brit. Mus. has been referred to as =
Graculus carbo? by A. Milne-Edwards, Oiseaux Foss. vol. i. 1868, p. 277,
 vol. ii. 1871, p. 592.
Lithornis vulturinus, Owen: The type is in Mus. Coll. Surgeons, not in Brit. Mus.
Tetrao urogallus, Linn.: A. Newton and H. Saunders, in Yarrell, Hist. Brit. Birds,
 ed. 4, 1882-4, vol. iii. p. 47. [Bones; Cave, Teesdale.]

MAMMALIA.

- Ailurus anglicus*, Dawk.: Newton, Quart. Journ. Geol. Soc. vol. xvi. 1890, p. 451,
 pl. xviii. f. 9. [Molar from nodule-bed (Red Crag), Boyton; Mus. Pract.
 Geol.]
Alces latifrons (John.): The type of *Cervus booides* is a portion of skull, with beam;
 Norwich Mus.
 ——— *nachlis*, Ag.: The type of *A. palmatus*, Ow., is metacarpus, antibrachium
 and humerus, Brit. Mus.
Bos taurus, var. *longifrons*, Owen: The type of *B. longifrons* is a frontlet and
 horn-core; Mus. R. Coll. Surgeons. This was first named *Bos brachyceros*
 by Owen, and subsequently *Bos latifrons* by Wilde. It is also the "Small
 ox" of Wood; see Woodward and Sherborn, Cat. Brit. Foss. Vert. 1890,
 p. 322. The type of *Bison minor* is a metatarsal; ? Mus. R. Coll. Surgeons.
 ——— var. *primigenius* (Boj.): recorded from Crofthead by J. Geikie, GEOL.
 MAG. 1868, p. 393. The type of *Bos giganteus*, Davies, is a cranium;
 Brit. Mus.
Capra ibex, Linn.: A. Newton, Zool. Ancient Europe, 1862, p. 13, footnote. Pleist.;
 Fulbourne, Cambridge. [? Horns; Camb. Mus.]
Cervus elaphus, Linn.: The type of *Strongyloceros spelæus*, Ow., is a base of antler,
 Brit. Mus.
 ——— *giganteus* (Blum.): The type of *Megaceros hibernicus* is skeleton; Mus.
 R. Coll. Surgeons. This is also the type of the genus *Megaceros*. In the
 addenda to Woodward and Sherborn's Catalogue, p. 396, "page 333," the
 word "tooth" should read "portion of antler."
Dacrytherium ovium (Owen): v. *Xiphodon platyceps*.
Didelphys Colchesteri, Owen: There are some notes on these teeth in E. Charles-
 worth, Mag. Nat. Hist. n. s. vol. iv. app. pp. 44-72.
Felis brevirostris, Croiz. and Job.: Laing, Rep. Brit. Assoc. 1889 (1890), p. 582.
 Creswell Caves.
Hippopotamus amphibius, Linn.: The type of *H. major*, Ow., was a lower jaw,
 olim Miss Anna Gurney Coll.
Hyracotherium leporinum, Owen: W. H. Flower was the first to identify *Pliolophus*
vulpiceps, Ow., with this species. See Cat. Mus. Vert. R. Coll. Surgeons,
 1884, p. 380, and Ency. Brit. vol. xv. 1884, p. 428. [R.L.]
Leucippe Oweni, A. Pomel, Cat. Méth. Vert. Foss. 1853, p. 10. A name used for
 genus and species of English fossil bat: Pomel refers to Geol. Journ. London,
 without page or other reference.
Lutra dubia (Blainv.): E. T. Newton, Quart. Journ. Geol. Soc. vol. xvi. 1890,
 p. 444, pl. xviii. f. 1. Red Crag: Woodbridge. [R. mandib. ramus; E. C.
 Moor Coll.]
 ——— *Reevei* [n. sp.], E. T. Newton, *ibid.* p. 446, pl. xviii. f. 2. Norwich
 Crag; Bramerton. [Lower sectorial molar; Reeve Coll.]
Machærodus crenatidens [n. sp.] E. Fabrini, Boll. Com. Geol. Ital. vol. xxi. 1890,
 p. 162. (Refers Backhouse and Lydekker, Quart. Journ. Geol. Soc. vol. xlii.
 1886, p. 309, pl. x. to this form.)
Mesoplodon Floris [n. sp.], E. T. Newton, Quart. Journ. Geol. Soc. vol. xvi. 1890,
 p. 448, pl. xviii. f. 7 A-C (olim *M. Floweri*, Flower (ex Canham MS.) non v.
 Haast).
 ——— *Floweri*, Fl.: v. *M. Floris*.
 ——— *scaphoides* [n. sp.], E. T. Newton, *ibid.* p. 450, pl. xviii. f. 8. Red Crag;
 Woodbridge. [Rostrum; Mus. Pract. Geol.]
Microtus amphibius (Linn.): Newton, GEOL. MAG. 1890, p. 453. [Records mandib.
 fragment from Ilford in Mus. Pract. Geol. and says others are known from
 Crayford and Erith.—Pleistocene.]

- Microtus ratticeps* (Keys. and Blas.): Newton, *ibid.* p. 453, f. 1, 2. [Records remains from Crayford and Erith in Mus. Pract. Geol. and F. C. J. Spurrell Coll.]
- Myodes lemmus* (Linn.): Newton, *Geol. Mag.* 1890, p. 455, f. 7, 8. [Recorded from Erith Pleistocene: mandib. ramus and teeth, F. C. J. Spurrell Coll.]
- *torquatus* (Desm.): Newton, *ibid.* p. 454, f. 3-6. [Recorded from Erith Pleistocene: r. mandib. ramus, F. C. J. Spurrell Coll.]
- Neurogymnurus*, Filhol. Prof. Rosenberg, of Dorpat, points out that this name, though invariably adopted, is a misprint for *Necrogymnurus*.
- Phoca Moori* [n. sp.], E. T. Newton, *Quart. Journ. Geol. Soc.* vol. xlvi. 1890, p. 446, pl. xviii. f. 3. Red Crag: Woodbridge. [L. humerus; E. C. Moor Coll.]
- Phocanella minor*, P. J. van Beneden: E. T. Newton, *Quart. Journ. Geol. Soc.* vol. xlvi. 1890, p. 447, pl. xviii. f. 4. Red Crag: Woodbridge. [Humerus; E. C. Moor Coll.]
- Platychoerops Richardsons*, Charlesw.: [R. Lydekker] *Ann. Rep. Yorks. Phil. Soc.* 1889 (1890), p. 35, pl. 1, f. 1.
- Trogonthrium minus* [n. sp.], E. T. Newton, *Quart. Journ. Geol. Soc.* vol. xlvi. 1890, p. 447, pl. xviii. f. 5 (? 6). ? Includes incisor from Sizewell Gap, Norwich Crag, in *Geol. Soc. Mus.* (Owen, *Brit. Foss. Mamm.* 1846, p. 192). Red Crag; Woodbridge. [R. maxilla; E. C. Moor Coll.] ? Norwich Crag; Suffolk.
- Xiphodon platyceps*, Flower: "May be *Dacrytherium ovinum*," R. Lydekker, *Cat. Foss. Mamm. B.M.* pt. ii. 1885, p. 187.

N.B.—General information on the distribution of Pliocene and Pleistocene Fossil Vertebrata will also be found in the following works:—

W. WHITAKER, "The Geology of London and of Part of the Thames Valley," 2 vols. 8vo., London (Geol. Survey), 1889.

C. REID, "The Pliocene Deposits of Britain," 8vo., London (Geol. Survey), 1890. W. and S.



