

**On the frogs collected during the 'Skeat expedition' to the Malay peninsula, 1899-1900 / by F.F. Laidlaw.**

**Contributors**

Laidlaw, Frank Fortescue, 1876-1963.  
Royal College of Surgeons of England

**Publication/Creation**

[London] : [publisher not identified], 1900.

**Persistent URL**

<https://wellcomecollection.org/works/cya9qm8x>

**Provider**

Royal College of Surgeons

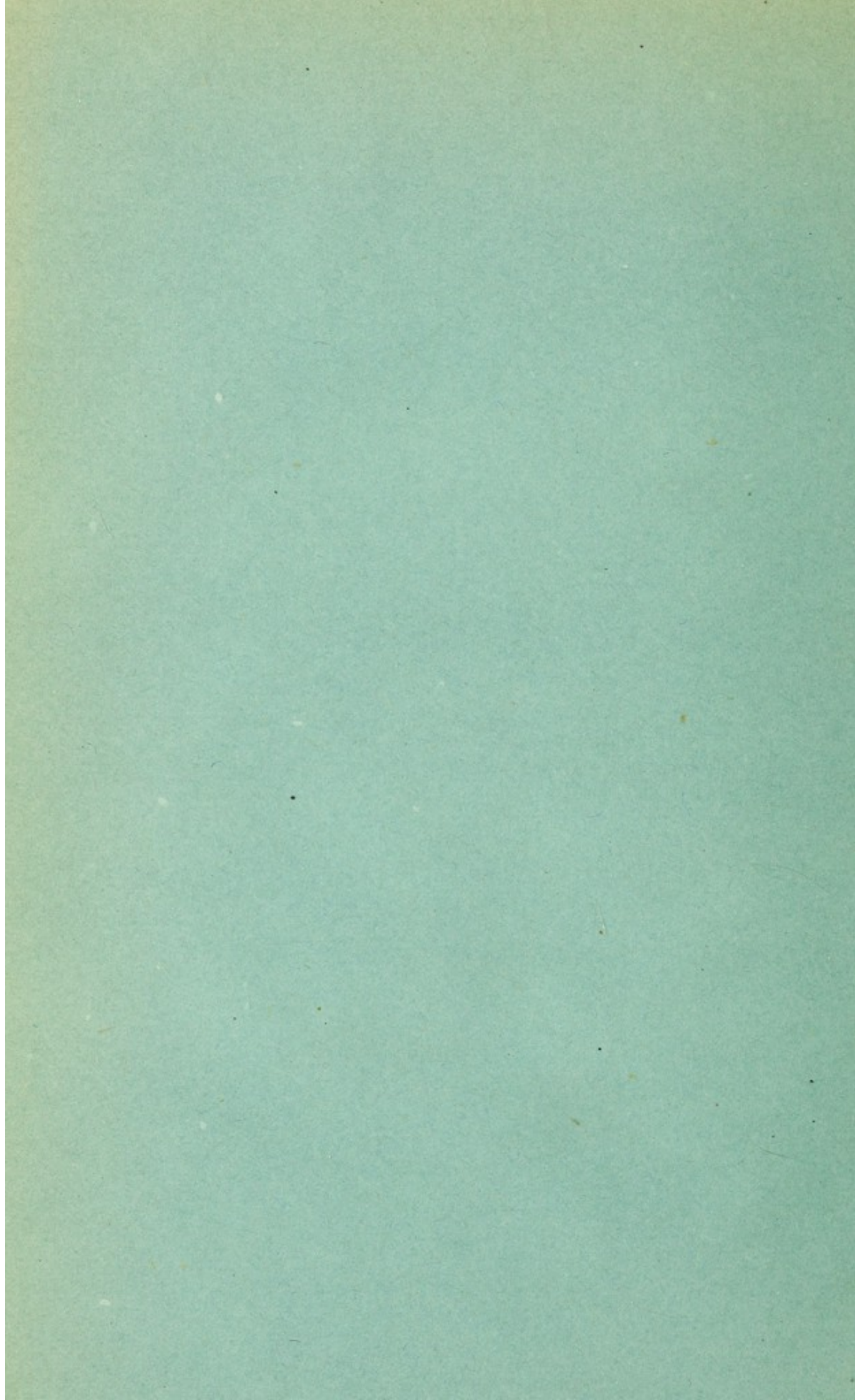
**License and attribution**

This material has been provided by This material has been provided by The Royal College of Surgeons of England. The original may be consulted at The Royal College of Surgeons of England. where the originals may be consulted. The copyright of this item has not been evaluated. Please refer to the original publisher/creator of this item for more information. You are free to use this item in any way that is permitted by the copyright and related rights legislation that applies to your use. See [rightsstatements.org](https://rightsstatements.org) for more information.



Wellcome Collection  
183 Euston Road  
London NW1 2BE UK  
T +44 (0)20 7611 8722  
E [library@wellcomecollection.org](mailto:library@wellcomecollection.org)  
<https://wellcomecollection.org>

(6.)



---

[From the PROCEEDINGS OF THE ZOOLOGICAL SOCIETY OF LONDON,  
December 4, 1900.]

---

On the Frogs collected during the "Skeat Expedition" to  
the Malay Peninsula, 1899-1900. By F. F. LAIDLAW,  
B.A.

(Plate LVII.)

The collection of Frogs made by Mr. Annandale and myself during the Skeat Expedition includes no specimens new to science, but we have been able to add four species to the fauna of the Peninsula.

These are, with their previously recorded habitats:—

*Rana signata*. Borneo.  
*Rana lateralis*. Burmah.  
*Bufo jerboa*. Borneo.  
*Microhyla inornata*. Burmah; Sumatra.

Of these *Rana signata* and *Bufo jerboa* were obtained in Perak; *Rana lateralis* and *Microhyla inornata* are from the east side of the Peninsula.

It is worth remarking that specimens of *Rana limnocharis*, *Bufo melanostictus*, and *Callula pulchra* from the neighbourhood of Patani

have in some cases carmine-coloured spots, which are symmetrical in one *Callula* (see Boulenger, P. Z. S. 1890, p. 31).

Some species appear to be very careless of the welfare of their young; it is very usual to find spawn or tadpoles in little puddles left after heavy rain which must dry up long before the wretched tadpoles can escape from them.

Frogs occur plentifully up to a height of at least 5000 feet above sea-level. At about this height I found several small pools, only a few feet across, in which there were numbers of tadpoles.

As to localities, beginning on the east coast, Patalung was the most northerly district in which collections were made, mostly near Singora, a large town at the mouth of the Talé-sap or Inland Sea which lies on the east coast of the northern half of the Peninsula. The next locality is Patani, a town on the east coast just below the narrowest part of the Peninsula. From here Mr. Annandale with the rest of the party travelled inland to Biserat, a village in a small state called Jalor; near this village is a hill about 3000 feet in height called Bukit Besar (Great Hill). From Biserat the party travelled south overland through Jalor, Legeh, and Raman, and reached the Kelantan River; then, passing up the Lebeh River, they stayed for some time at Kwala Aring, a small village at a point where the Aring River runs into the Lebeh. At this point I joined the party, which next moved down to Khota Bharu, the capital town of the state of Kelantan. After a short stay here we went by steamer to Tringganu, a large town some 60 miles farther down the east coast. From here we went back to Singapore, then to Penang, and thence reached Ulu Selama, a district about the headwaters of the Selama River, a tributary of the Krian River which runs between Kedah and Perak. Gunong Inas is the mountain in which the Selama River rises.

I have to acknowledge the kindly interest displayed by Mr. G. A. Boulenger in our collections and to thank him for much assistance in describing them.

#### Order ECAUDATA.

##### Fam. RANIDÆ.

##### OXYGLOSSUS LIMA (Gravenh.).

*Oxyglossus lima*, Boulenger, Cat. Batr. Sal. p. 5; id. Rept. & Batr. of British India, p. 436.

Three specimens from near Biserat in Jalor.

##### OXYGLOSSUS LEVIS Günther.

*Oxyglossus levis*, Boulenger, Cat. Batr. Sal. p. 6; id. P. Z. S. 1897, p. 288 (tadpole); id. Rept. & Batr. of British India, p. 437; S. S. Flower, P. Z. S. 1899, p. 886.

Several examples were collected by Mr. Annandale in the same locality as the last species. Two of them have very warty skin, and a third is by no means smooth.

**RANA MACRODON** Kuhl.

*Rana macrodon*, Boulenger, Cat. Batr. Sal. p. 24; S. S. Flower, P. Z. S. 1899, p. 888, pl. lix. ff. 1, 1 a.

I caught two adult specimens of the variety with the rounded snout in Singapore, and one half-grown individual at Khota Bharu, Kelantan. Of the variety with a pointed snout, one at Kwala Aring, Kelantan, and one at Ulu Selama, Perak.

**RANA LIMNOCHARIS** Wiegman.

*Rana gracilis*, Boulenger, Cat. Batr. Sal. p. 28.

*Rana limnocharis*, Boulenger, Rept. & Batr. of British India, p. 450; S. S. Flower, P. Z. S. 1899, p. 893.

Specimens were collected in Patalung, at Biserat, at Kwala Aring and Khota Bharu, Kelantan, and at Tringgana.

**RANA TIGRINA** Daud.

*Rana tigrina*, Boulenger, Cat. Batr. Sal. p. 26; id. Rept. & Batr. of British India, p. 449; S. S. Flower, P. Z. S. 1899, p. 891.

Specimens were collected at Biserat, Patani, Kwala Aring, and Khota Bharu, Kelantan.

**RANA MACRODACTYLA** Günther.

*Rana macrodactyla*, Boulenger, Cat. Batr. Sal. p. 54; id. Rept. & Batr. of British India, p. 455; S. S. Flower, P. Z. S. 1899, p. 896.

Mr. Annandale caught three specimens hopping about in a rice-field near Biserat in Jalor.

**RANA PLICATELLA** Stol.

*Rana plicatella*, Boulenger, Cat. Batr. Sal. p. 26; S. S. Flower, P. Z. S. 1899, p. 890.

A full-grown male of this species agrees with the specimen described by Flower in having an occipital knob, but with Stoliczka's type in having only eight longitudinal dorsal folds. This specimen and an adult female were caught at the foot of Gunong Inas. Two others, both young, were caught in rain-puddles—one at a height of about 3000 feet, the other about 4000 feet above sea-level.

**RANA HASCHEANA** (Stol.).

*Polypedates hascheana*, Stoliczka, J. A. S. B. 1870, p. 147, pl. ix. fig. 3.

*Rana hascheana*, S. S. Flower, P. Z. S. 1899, p. 894.

Three specimens from the foot of Gunong Inas, taken on different days just at dusk.

**RANA ERYTHRÆA** (Schleg.).

*Rana erythræa*, Boulenger, Cat. Batr. Sal. p. 65; S. S. Flower, 58\*

P. Z. S. 1896, p. 203, pl. xlv. fig. 2; Boulenger, Rept. & Batr. of British India, p. 460.

Specimens were collected at Belimbing (Legeh), Biserat, and Singapore in the botanical gardens.

*RANA LABIALIS* Blgr.

*Rana labialis*, Boulenger, Ann. & Mag. N. H. (5) xix. 1887, p. 345, pl. x. fig. 1; S. S. Flower, P. Z. S. 1896, p. 903, pl. xlv. fig. 3; id. P. Z. S. 1899, p. 896.

I caught a young specimen at Kwala Aring, and another nearly full-grown at the foot of Gunong Inas.

*RANA SIGNATA* Günther.

*Rana signata*, Boulenger, Cat. Batr. Sal. p. 71.

I caught a single young specimen of this Frog at the foot of Gunong Inas, and saw but could not catch a much larger individual in the same locality. It has not hitherto been recorded from the Peninsula, but is known in Borneo.

*RANA LARUTENSIS* Blgr. (Plate LVII. figs. 3, 4.)

*Rana larutensis*, Boulenger, Ann. & Mag. N. H. (7) iii. 1899, p. 273, pl. xi. fig. 1; S. S. Flower, P. Z. S. 1899, p. 898.

These handsome Frogs are extremely common along the banks of the rapid jungle torrents running about the foot of Gunong Inas. They sit on the great boulders strewn along the courses of the streams, and when one approaches them spring boldly into the water, no matter how fiercely it may be pouring down. Soon after being disturbed they will again take up their station on the rock which they had quitted, and in such a position their colouring renders them well-nigh invisible.

The tadpole is provided with a well-developed ventral sucker extending from the lower lip to beyond the middle of the abdomen. The beak is of two pieces, an upper and lower minutely serrated. The arrangement of the labial teeth is

$$\begin{array}{r} 4 \\ 5 \quad 5 \\ \hline 1 \quad 1 \\ 4 \end{array}$$

It is thus apparently closely allied to the tadpoles of *Rana jerboa* Blgr., *R. latopalmata* Blgr., *R. cavitympanum* Blgr., and *Staurois hainanensis* Blgr.

Coloration is much as in the adult, greenish white, mottled with dark green on the back; ventral surfaces white. There are a few minute black denticles scattered on the head. Total length of the single specimen caught 65 mm., tail 45 mm.

*RANA LATERALIS* Blgr. (Plate LVII. figs. 1, 2.)

*Rana lateralis*, Boulenger, Ann. Mus. Genov. (2) v. 1887, p. 483, pl. viii. fig. 2; id. Rept. & Batr. of British India, p. 457.

I caught a single example of a Frog, apparently belonging to this species, in thick jungle at Kwala Aring. It is a female and much larger than the type (70 mm. from snout to vent). The back is grey, with very curious glandular folds running obliquely backward from left to right, making an angle of about  $45^\circ$  with the long axis of the body. The tympanum is as large as the eye. A black line from the tip of the snout passes back through the eye and broadens above the shoulder, disappearing abruptly immediately behind the tympanum. The flanks are grey with a few black spots. This species has hitherto been found only in Burmah.

*RANA GLANDULOSA* Blgr.

*Rana glandulosa*, Boulenger, Cat. Batr. Sal. p. 73, pl. vii.; S. S. Flower, P. Z. S. 1899, p. 897.

One specimen from Bukit Timah, Singapore.

*RHACOPHORUS LEUCOMYSTAX* (Gravenh.).

*Rhacophorus maculatus*, part., Boulenger, Cat. Batr. Sal. p. 83.

*Rhacophorus leucomystax*, Boulenger, P. Z. S. 1889, p. 29; id. Rept. & Batr. of British India, p. 474; S. S. Flower, P. Z. S. 1899, p. 898, pl. lix. figs. 3, 3 a.

Malay name: "Katak pisang," Banana Frog.

This is perhaps the commonest of the Malay Frogs and is abundant everywhere. The measurements of the largest specimen obtained, a female, are:—

Snout to vent . . . . .	75 mm.
Thigh to knee . . . . .	38 "
Knee to ankle . . . . .	37 "
Ankle to end of 4th toe . . . . .	47 "

At Kwala Aring we found this species breeding in the month of September and the end of August. The eggs were laid in a frothy mass on the leaves of trees overhanging small pools of water. After a short time (I believe less than 48 hours) they slid off the leaves and fell into the water, where the frothy envelope is dissolved away, setting free the tadpoles. (Cf. S. Ikeda on *Rhacophorus schlegeli* Gnthr., Annot. Zool. Jap. i. part. iii. p. 113.)

Fam. ENGYSTOMATIDÆ.

*MICROHYLA ORNATA* (Dum. et Bibr.).

*Microhyla ornata*, Boulenger, Cat. Batr. Sal. p. 165; id. Rept. & Batr. of British India, p. 491; S. S. Flower, P. Z. S. 1899, p. 901, pl. lx. figs. 1, 1 a, 1 b.

A single specimen from Kwala Aring was caught in long grass close to a small pond on the edge of the jungle.

*MICROHYLA INORNATA* Blgr.

*Microhyla inornata*, Boulenger, P. Z. S. 1890, p. 37; S. S. Flower, P. Z. S. 1899, p. 905.



Mr. Annandale caught three specimens of this small Frog on Bukit Goah, near Biserat in Jalor. It has not, I believe, been reported previously to this from the Peninsula, but is known from Sumatra and Borneo.

*MICROHYLA ACHATINA* (Boie).

*Microhyla achatina*, Boulenger, Cat. Batr. Sal. p. 166; S. S. Flower, P. Z. S. 1899, p. 906.

One specimen from Kekabu, Rhaman, and three from Kwala Aring, these last from the same spot as *M. inornata*.

*MICROHYLA BERDMORII* (Blyth).

*Microhyla berdmorii*, Boulenger, Cat. Batr. Sal. p. 166; id. Rept. & Batr. of British India, p. 412; S. S. Flower, P. Z. S. 1899, p. 906.

A single specimen from Belimbing, Legeh, from very thick forest.

*CALLULA PULCHRA* (Gray).

*Callula pulchra*, Boulenger, Cat. Batr. Sal. p. 170 (fig.); S. S. Flower, P. Z. S. 1899, p. 906.

This strange creature was very plentiful at Khota Bharu, Kelantan, especially in the market-place, where they hide during the day amongst the numerous rubbish-heaps, coming out at night and making an intolerable noise when it rains. They are found down the east coast as far as Tringganu, but in this town are much scarcer than in Kelantan.

Fam. BUFONIDÆ.

*BUFO ASPER* Gravenh.

*Bufo asper*, Boulenger, Cat. Batr. Sal. p. 313; id. Rept. & Batr. of British India, p. 507; S. S. Flower, P. Z. S. 1899, p. 912.

Malay name: "Katak puru."

Specimens were collected in Legeh at Belimbing, at Biserat in Jalor, at Kwala Aring in Kelantan and near Ulu Selama.

*BUFO MELANOSTICTUS* Schneid.

*Bufo melanostictus*, Boulenger, Cat. Batr. Sal. p. 306; id. Rept. & Batr. of British India, p. 505 (fig. p. 506); S. S. Flower, P. Z. S. 1896, p. 911, pl. xlv. fig. 3; id. P. Z. S. 1899, p. 910.

Common all along the east coast of the Peninsula; two specimens from Biserat show carmine-coloured spots on the back and head.

*BUFO PARVUS* Blgr.

*Bufo parvus*, Boulenger, A. M. N. H. (5) xix. 1887, p. 346, pl. x.; S. S. Flower, P. Z. S. 1899, p. 911.

One specimen from near Biserat in Jalor, three from Ulu Selama in Perak.

## BUFO JERBOA Blgr.

*Bufo jerboa*, Boulenger, P. Z. S. 1890, p. 328, pl. xxv. fig. 3.

A Malay brought me a single male specimen of this interesting Toad, which he had caught squatting on the ground amongst dead leaves in dense forest on Gunong Inas. I believe this is the first specimen taken in the Peninsula. Its coloration and proportions are closely similar to those of the type specimen from Borneo.

Distance from snout to vent .....	30 mm.
"    "    thigh to knee .....	19 "
"    "    knee to ankle .....	20 "
"    "    ankle to end of toe .....	25 "

## Fam. PELOBATIDÆ.

## LEPTOBRACHIUM HASSELTII Tschudi.

*Leptobrachium hasseltii*, Boulenger, Cat. Batr. Sal. p. 441; S. S. Flower, P. Z. S. 1899, p. 913.

Mr. Annandale collected a large number of the tadpoles of this species at the foot of Bukit Besar in Jalor. They are very curiously coloured, being a pale yellow and spotted with numerous fine black dots. (See Hanitsch, Rep. Raffles Mus. & Libr. Singapore, 1897, p. 8.)

## MEGALOPHRYS NASUTA (Schleg.).

*Megalophrys montana*, part., Günther, Rept. Brit. Ind. p. 413.

*Megalophrys nasuta*, Boulenger, Cat. Batr. Sal. p. 443; S. S. Flower, P. Z. S. 1899, p. 913.

This Frog is fairly common in the Botanical Gardens at Penang, where I obtained two specimens, one young and one adult. A specimen in the University Museum at Cambridge from Java (labelled *Megalophrys montana*) is very much more richly coloured, especially on the under surface, than are either of my specimens or others that I have seen from the Peninsula.

## MEGALOPHRYS MONTANA Kuhl.

*Megalophrys montana*, Boulenger, Cat. Batr. Sal. p. 442; S. S. Flower, P. Z. S. 1899, p. 914.

Mr. Annandale caught an adult female on Bukit Besar in Jalor at a height of about 2000 ft.; and I found one adult and three young on Gunong Inas at from 1000 to 1500 ft. above sea-level. It is a very sluggish animal, as is also the first species of the genus

The following are the principal measurements of an adult:—

Snout to vent .....	65 mm.
Thigh to knee .....	25 "
Knee to ankle .....	26 "
Ankle to 4th toe .....	42 "
Total length of hind leg ....	93 "

The tadpoles of *M. montana* were found in the same locality

during the month of June, in a stream with a gravelly bed. They are provided with a very remarkable funnel-like float, formed by the lips, which are fused together at the angles of the mouth. This funnel is much wider than it is long, and opening dorsally at its wider end leads down to the mouth, which is subterminal and faces ventrally as in other tadpoles. The "buccal vestibule" so formed has on its inside rows of minute widely separated denticles. By means of it the tadpoles can apparently float motionless, hanging as it were from the surface of the water by their lips. The total length of the largest individual obtained by Mr. Annandale is 31 mm., the length of the head and body 8.5, and the breadth of the funnel-opening 7, the length about 3 mm.

A fuller account of this interesting creature, with figures, is given by Prof. Max Weber in the 'Annales du Jardin Botanique de Buitenzorg,' 1898, Supplément ii. pp. 5-10.

#### MEGALOPHRYS LONGIPES Blgr.

*Megalophrys longipes*, Boulenger, P. Z. S. 1885, p. 850, pl. lv.; Günther, A. M. N. H. (5) xx. 1887, p. 316; S. S. Flower, P. Z. S. 1899, p. 914.

Fairly common on Gunong Inas from a height of 3000 ft. upwards. I caught two females and a male which is much smaller than the females. This species is much more active than either of the preceding members of the genus.

The measurements of the larger female are:—

Snout to vent . . . . .	62 mm.
Thigh to knee . . . . .	30 "
Knee to ankle . . . . .	37 "
Ankle to end of 4th toe . . . .	48 "
Total length of hind leg . . . .	115 "

#### Order APODA.

#### Fam. CÆCILIIDÆ.

#### ICHTHYOPHIS GLUTINOSUS (Linn.).

*Ichthyophis glutinosus*, Boulenger, Cat. Batr. Grad. &c. p. 89, pl. iv. fig. 2; id. P. Z. S. 1895, p. 403; id. Rept. & Batr. of British India, p. 515, fig. p. 516; S. S. Flower, P. Z. S. 1899, p. 914.

Mr. Annandale collected many specimens, adult and young, at a small village near Biserat. The natives told him that they were found only in places where ants were not very plentiful. The Siamese speaking natives call them "Ngu kling (? pling)," and the Malays "Ular Belógelengong," or sugar-mill snake.

#### EXPLANATION OF PLATE LVII.

- Figs. 1, 2. *Rana lateralis*, p. 886.  
 Fig. 3. *Rana larutensis*, p. 886, tadpole, ventral surface.  
 4. " " enlarged view of mouth and sucker.



*Edwin Wilson, Cambridge.*

FROGS FROM THE MALAY PENINSULAR.

