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## RESULTS OF THE ARCHBOLD EXPEDITIONS. NO. 49

### FURTHER NOTES ON THE *RHINOLOPHUS PHILIPPINENSIS* GROUP (CHIROPTERA)

BY G. H. H. TATE

Since the publication of notes upon oriental *Rhinolophus* (Tate and Archbold, August, 1939) a certain amount of additional material referable to the *R. philippinensis* group has been gathered. Miss Lawrence (November, 1939) has written new facts on *R. philippinensis* and has described a new race, *R. p. alleni*, which appears to be very closely related to *R. maros* Tate and Archbold, from South Celebes. Shamel (1942) has published notes on *R. coelophyllus* and others. Miss Lawrence and Mr. Shamel have both lent specimens representing their material for study. Receipt of these species of the *philippinensis* group in this country permits comparison with the Chinese large-eared *R. rex* G. M. Allen and others.

There is some question whether reference of the smaller rather than the larger of Miss Lawrence's two forms to *philippinensis* Waterhouse (1843) would not have been preferable—just as she herself (*tom. cit.*, p. 38) pointed out in the case of Taylor's (1934) *Eonycteris longicauda*. The dimensions of Waterhouse's type of *philippinensis*, apparently a young individual (forearm, 46–47 mm.; 2 inches 1¼ lines, *fide* Waterhouse; 2".85, *fide* Dobson, 1878, p. 107) are considerably less than those of even the smaller of Miss Lawrence's small form (*alleni*); and Dobson's description, "base of the central leaf expanded, with upturned edges, forming a deep cut between and above the nostrils. . ." agrees rather more closely with *alleni* and less exactly with "*philippinensis*." In the case of Shamel's examples of *R. coelophyllus*, those from Koh Chiang represent a new race (see beyond).

In the paper alluded to above (Tate and Archbold, 1939), four main subgroups of the *philippinensis* group were proposed: *philippinensis*, *sedulus*, *trifoliatus*, *macroctis*. Earlier Andersen (1905b) had set up three sections of the same group: *philippinensis*, *sedulus* and *trifoliatus*, later modified by him (1918) to a single (*luctus*) group, and (1905c) had treated *macroctis* as a separate group.

For reasons which will appear beyond, the following arrangement has been adopted.<sup>1</sup>

- 1.—Expansion of zygomata less than mastoid width; upper incisors minute, widely separated; sella broad, rounded or flattened on top; sella without expanded lappets at base (incipient in *episcopus*); internasal lobes at base of sella (on internarial septum) forming cup-shaped structure. . . . . *philippinensis* section (including all of former *macroctis* section except *pearsoni*).
- 2.—Expansion of zygomata greater than mastoid width; upper incisors minute, widely separated; sella high, cuneate, round-pointed; sella with expanded lappets at base, which may be folded inwards in front of sella; internarial lobes at base of sella small, less distinctly cup-shaped; nasal leaves almost unpigmented. . . . . *trifoliatus* section.
- 3.—Expansion of zygomata greater than mastoid width; upper incisors distinctly larger and approximated; sella moderately high and broad; sella with basal lappets usually flexed inwards towards each other; internarial lobes at base of sella forming broad, rather flat saucer; nasal leaves well pigmented. . . . . *luctus* section.

These three sections are of unequal weight and homogeneity, the *philippinensis*

<sup>1</sup> This contradicts my suggestion (1939, p. 4) that *macroctis* and *philippinensis* were unrelated. I had not then seen *philippinensis*.

sis section including a wider range of morphological variation than does either the *trifolatus* or the *luctus* section. In fact the latter two may represent merely well defined species, each with a number of geographical races.

### Rhinolophus philippinensis Section

As just stated the bats of this section show well marked anatomical distinctions. They include four main types: true *philippinensis* and allies, *macrodis* and allies, *coelophyllus* and *rex*. The last two are sharply and divergently specialized. *Macrodis*, formerly considered a distinct group (Andersen, 1905; Tate and Archbold, 1939), includes *episcopus* Allen. *R. pearsoni* and its subspecies *R. p. chinensis*, now removed to the *luctus* section, have the width across zygomata greater than the mastoid width.

The characters distinguishing the four divisions of the *R. philippinensis* group are shown in the key which follows:

- 1.—Size moderate (forearm,  $\pm 45$  mm.); "cup" at base of sella scarcely wider than sella; sella with incipient "lappets"; posterior noseleaf tall, weakly haired, its tip rounded;  $p_2$  usually in tooththrow; its crown length only one-fifth of crown length of  $p_1$ . . . . . *macrodis* and allies.
- 2.—Size moderate (forearm,  $\pm 42$  mm.); "cup" distinctly wider than sella (Peters, Pl. xxxv); sella small, lacking "lappets"; posterior noseleaf low, triangular, fringed with hairs, a cross-shaped depression in its face (Peters, Pl. xxxv) present or absent.  $p_2$  excluded from tooththrow (Peters, Pl. xxxv) . . . . . *coelophyllus*.
- 3.—Size larger (forearm, 50–55 mm.); "cup" much enlarged, broadened, twice as wide as sella; sella without lappets; posterior noseleaf as in *macrodis*;  $p_2$  in tooththrow, its crown length one-third to one-fourth of crown length of  $p_1$ ; infraorbital canal short. . . . . *philippinensis* and allies.
- 4.—Size still larger (forearm, 60–63 mm.); "cup" very broad, its lateral edges different from those of *philippinensis* from the fact that instead of merging with the sides of the sella, they pass behind the sella and merge with the base of the posterior noseleaf; sella without lappets, very broad; standing within the "cup"; posterior noseleaf very low, barely rising above the hair-fringed supplemental leaves just anterior to it; infraorbital canal long. . . . . *rex*.

The four sections of the *philippinensis* subgroup with their subspecies and type localities are listed:

<i>Rhinolophus philippinensis</i> SUBGROUP	
<i>R. philippinensis</i> Waterhouse	Philippines
<i>R. p. alleni</i> Lawrence	Mindoro
<i>R. p. maros</i> Tate and Archbold	South Celebes
<i>R. p. achilles</i> Thomas	Kei Islands
<i>R. macrodis</i> Blyth	Masuri, north-west India
<i>R. m. siamensis</i> Gyldenstolpe	Siam
<i>R. m. dohrni</i> Andersen	Sumatra
<i>R. m. episcopus</i> G. M. Allen	Szechwan
<i>R. m. caldwelli</i> G. M. Allen	Fukien
<i>R. m. hirsutus</i> Andersen	Guimaras, Philippines
<i>R. coelophyllus</i> Peters	Salween River, Burma
<i>R. coelophyllus shameli</i> , new subspecies	Gulf of Siam
<i>R. rex</i> G. M. Allen	Szechwan

### Rhinolophus macrodis Blyth

*Rhinolophus macrodis* BLYTH, 1844, Jour. Asiatic Soc. Bengal, XIII, p. 485.

According to my present grouping of forms, *R. macrodis* comprises six races, four of which, *macrodis*, *dohrni*, *episcopus* and *caldwelli*, are very much alike and perhaps only doubtfully separable. *R. m. siamensis* is, however, sharply smaller, as shown by the length of the forearm (36 mm.) and  $c-m^3$  (9.3–9.5 mm.). *R. m. hirsutus* from the Philippines is a larger race, with longer tail and  $p_2$  half out of the row, according to Andersen.

*R. macrodis* and allies may well represent the basic type of the *philippinensis* group from which the three more specialized sections, *philippinensis*, *coelophyllus* and *rex*, have developed.

### Rhinolophus coelophyllus Peters

*Rhinolophus coelophyllus* PETERS, 1866, Proc. Zool. Soc. London, p. 426.

Recently Shamel (1942) has published notes on several male specimens which he refers to this species. He has very kindly lent them for examination during preparation of this paper. Shamel included two distinct types, which he found so different that he concluded they required separate descriptions, and I strongly agree with him.

The two forms come, respectively, from Chiangmai, at the extreme northern end of the railroad running north from Bangkok, and among the foothills of the mountains of the Shan States, and from Koh Chang, a coastal island in the Gulf of Siam.

In both races of *coelophyllus* the distinctive depression in the posterior noseleaf, in the bottom of which the rear end of the connecting process is attached, agrees closely with Peters' description and illustration, as does the attendant fringe of fine hairs on the margins and anterior face of the posterior leaf. But the cross-shaped depression indicated by Peters is apparent in neither. In both, also, displacement of  $p_1$  agrees with the type.

The specimen from north Siam is probably referable to the type from the Salween Valley, Burma.

Gyldenstolpe's (1916) material from Koh Lak (Siamese Malaya), with forearm 41-42 mm., but  $c-m^3$ , 6.3-6.8, against 7.5-8.3 (Koh Chang and Chiangmai specimens), may possibly indicate a third race of this still rare species.

In the species *coelophyllus* which may be regarded as derived from a *macrotis*-like ancestor, the sella is unbroadened, and specialization becomes manifest in the posterior noseleaf and the displacement of  $p_1$ .

#### *Rhinolophus coelophyllus shameli*, new subspecies

TYPE.—U.S.N.M. 267255, ♂; Koh Chang (Island), Gulf of Siam, Siam; collector, H. G. Deignan. The type, a skin with skull, in good condition.

DESCRIPTION.—Considerably larger than true *coelophyllus*, the color pattern more brilliant, sides and rump tawny instead of dull, light brown; teeth hypsodont (see beyond).

MEASUREMENTS.—See Shamel (1942); also table accompanying this paper. Hypsodontism indicated by comparison with *R. coelophyllus*, U.S.N.M. 267260, ♂, from Chiangmai, northern Siam. Heights above cingula:  $\frac{c}{c}$ ,  $\frac{?}{2.4}$ ;  $\frac{2.4}{1.9}$ ;  $p \frac{4}{4}$ ,  $\frac{1.7}{1.3}$ ;  $\frac{1.3}{1.5}$ ;  $m \frac{1(\text{metacone})}{1(\text{protoconid})}$ ,  $\frac{1.2}{1.7}$ ;  $\frac{0.7}{1.3}$ .

#### *Rhinolophus philippinensis* Waterhouse

*Rhinolophus philippinensis* WATERHOUSE, 1843, Proc. Zool. Soc. London, p. 68.

Of the four races here assigned to this

species, true *philippinensis* (with forearm length of type, 46.4 mm.) is the smallest. *R. p. alleni* Lawrence and *R. p. maros* Tate and Archbold are virtually indistinguishable, and it is possible that although larger, both represent true *philippinensis* Waterhouse. *R. philippinensis* Lawrence (forearm, 56-57 mm.) is still larger, slightly, and *R. p. achilles* Thomas (forearm, 54 mm.) from Kei Island is again exceedingly like *R. p. maros* and *R. p. alleni*. A comparison of the dimensions of these several races is shown in the table beyond.

These bats are seemingly a specialized offshoot from a *R. macrotis*-like ancestry. Specialization appears in the greater enlargement of the ears and nasal foliations.

#### *Rhinolophus trifoliatus* Section

Structural variation in this section and in the next following (*luctus* section) is much less than in the *philippinensis* section. As pointed out in the key to sections, bats allied to *trifoliatus* and to *luctus* differ from those related to *philippinensis* by the presence of a lateral process or lappet at either side of the base of the sella, placed between the sella and the "cup" on the internarial septum. In addition the zygomatic width is greater than the mastoid width in these two sections (less in *philippinensis*).

The bats of the *trifoliatus* section are distinguished from those of the *luctus* section by the high, tapered (instead of broad) sella, the weakly pigmented skin, especially in the regions of the facial membranes, the elbows and the knees (see Temminck's plate of *trifoliatus*) also weakly pigmented, the pallid fur, the much reduced and widely spaced upper incisors (this last is characteristic of most sections of the genus; in *luctus* the closeness of the incisors is exceptional).

The following named forms are referred to the *trifoliatus* section. Indeed, they probably represent local races of one single species, *trifoliatus*.

<i>R. trifoliatus</i> Temminck	Bantam, Java
<i>R. t. edax</i> Andersen	Singapore
<i>R. t. solitarius</i> Andersen	Banka
<i>R. t. niasensis</i> Andersen	Nias

Intermediate in some respects between

the *trifoliatus* and *luctus* sections come the two species *sedulus* Andersen and *mitratus* Blyth.

*R. sedulus*, from Sarawak, resembles in the dark, crimped characters of its pelage, the *luctus* section; in fact, together with *lanosus* from Fukien, it was made by Andersen the prototype of a special "*sedulus* section." But in the skull the upper incisors are reduced and widely spaced as in *trifoliatus*. Forearm, 43 mm.

*R. mitratus* Blyth, from "Chyebassa, Central India" was described as having "a conspicuous lappet . . . given off from each side of the central facial depression, overhanging the nostrils, and forming a round mesial cup. . . ." The pelage, "fur at base rich light brown, paler at bases. . . underparts shorter and much paler. . ." suggests *trifoliatus* rather than *luctus*. But "anterior noseleaf [sella] subovate, or nearly rounded, contracted at base. . ." is quite unlike the tall, subcuneate sella to be seen in *trifoliatus*. Forearm, 54-57 mm. No type material of *mitratus* has been examined. The cotypes are probably in India.

#### Rhinolophus trifoliatus Temminck

*Rhinolophus trifoliatus* TEMMINCK, 1835-1841, Monogr. Mamm., II, p. 27.

The Archbold Collection includes specimens from Perboewa, northwest Borneo; Badang, northeast Borneo; Riam, southwest Borneo; and Parit, south Borneo. Those from Parit are slightly smaller than the others (see measurements).

In a specimen from See Chol, Siam, borrowed from U. S. National Museum the forearm is not measurable, but the lengths  $c-m^3$  and  $m^{1-3}$  are in excess of any of the Sunda material measured. It is only doubtfully referable to the race *mitratus* which was described from central India.

Cotype "b" was examined and measured by me in Leyden. The skull was badly broken.

#### Rhinolophus sedulus Andersen (?)

*Rhinolophus sedulus* ANDERSEN, 1905, Ann. Mag. Nat. Hist., (7) XVI, p. 247.

Andersen gave the forearm length of this species as "43.5-49.2 mm." I measured

the type in London, B.M. 7.1.1.292, ♀, and found the forearm length only 42 mm. Unfortunately I took no skull measurements. Andersen (p. 257) gave  $c-m^3$ , 7.8-8.4; width of braincase, 8.5-8.8; zygomatic width, 10-10.1; mastoid width, 10.0 or less.

The Archbold specimen, A.M.N.H. 106801, from northwest Borneo, is referred here provisionally. Forearm (broken but measurable), 43 mm. Skin very like a small example of *R. luctus* in general shape and in color and texture of pelage. The sella is somewhat narrowed at the top. The skull, badly broken, has  $i^{1-1}$  reduced and rather widely separated, almost as in *trifoliatus*, but not approaching such spacing as appears in *philippinensis*. In lower jaw,  $p_3$  displaced outwards.

#### Rhinolophus luctus Section

As in the case of the *trifoliatus* section, most of the *luctus* bats probably represent races of one species. Some no doubt are synonyms.

Most are large bats (forearms, 60-75 mm.), with smoky, slightly curled pelage, membranes deeply pigmented, the lappets of the sella frequently bent inwards towards each other; sella with broad, rounded summit; posterior noseleaf tall and tapered; skull showing wide zygomatica, and relatively large upper incisors placed close together. The following are the named forms now referred to that group. Their treatment as races is provisional.

<i>R. luctus</i> Temminck	Tapos, Java
<i>R. l. geminus</i> Andersen	East Java
<i>R. l. foetidus</i> Andersen	Sarawak
<i>R. l. morio</i> Gray	Singapore
<i>R. l. beddomei</i> Andersen	Mysore
<i>R. l. sobrinus</i> Andersen	Ceylon
<i>R. l. perniger</i> Hodgson	Nepal
<i>R. l. lanosus</i> Andersen	Northwest Fukien
<i>R. l. chinensis</i> Andersen	Northwest Fukien
<i>R. l. pearsoni</i> Horsfield	Darjiling, Assam
<i>R. l. spurcius</i> G. M. Allen	Hainan

It is to be noted that *R. lanosus* Andersen and *R. pearsoni chinensis* Andersen were both collected by La Touche at Kuantun, northwest Fukien. Their forearms are, respectively, 71.5 and 52.7 mm. If the commonly held assumption is correct, that

two subspecies of a species cannot occur in the same locality, then these two *Rhinolophus* must be either full species or synonyms.

*R. p. chinensis* was placed by Andersen (1905b) in his "*R. macrotis* group" (here made part of the *R. philippinensis* section). His description is meager, "lateral borders of the sella are peculiarly crenulate" (p. 291). He characterized the skulls of his *macrotis* group, "very narrow temporal fossa . . .," yet my photograph of the type skull of *chinensis* shows the zygomatic width distinctly broader than the mastoid width. The group is still unrecorded from the Philippine Islands and from Celebes.

### Rhinolophus luctus Temminck

*Rhinolophus luctus* TEMMINCK, 1835-1841, Monogr. Mamm., II, p. 24.

In the Archbold Collections there are

three specimens from Perboewa, northwest Borneo, referable to the race *R. l. foetidus*, with type locality Sarawak. A single female specimen from Oeboed, Bali, comes geographically closest to *R. l. geminus* from eastern Java. It must be confessed that to me it is indistinguishable from the Bornean material.

The U. S. National Museum has kindly placed at my disposal two male specimens of the group from Siam, one from peninsular Siam, the other from continental Siam, which Mr. Shamel referred to *morio*. It will be noted that their measurements fit very perfectly with those of others of the *luctus* group. In addition the American Museum contains a few individuals representing *lanosus* and *spurcus* (including the type of the latter) from China.

A detailed and painstaking analysis with a large quantity of material will be required before the races of *R. luctus* can be worked out satisfactorily.

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SELECTED MEASUREMENTS, TAKEN LARGELY FROM TYPE SPECIMENS, TO INDICATE THE INTERRELATIONSHIPS OF MEMBERS OF THE *Rhinolophus philippinensis* GROUP IN ASIA

	Locality	Sex	Forearm	e-m <sup>3</sup>	m <sup>1-3</sup>	Width l <sup>1</sup>	Thick- ness l <sup>1</sup>	Dist. apart l <sup>1-1</sup>	Inside cingulum width	Crown area p <sup>1</sup>	Remarks
<i>R. philippinensis</i> section											
<i>R. macrotis</i>	Himalaya	..	45.0	6.3	..	..	..	..	..	..	..
<i>R. m. episcopus</i>	Szechwan	♂	46.0	7.1	4.10	0.30	0.20	0.9	2.00	0.70 × 0.50	Paratype
A.M.N.H. 56897	"	♂	44.0	6.9	4.10	0.40	0.25	1.0	2.30	0.70 × 0.50	"
A.M.N.H. 84888	"	♀	49.0	7.2	4.20	..	..	..	2.20	0.70 × 0.55	Allen
A.M.N.H. 56894	Fukien	♀	43.0	..	..	..	..	..	..	..	Cotype
<i>R. m. caldicelli</i>	Sumatra	♂	42.7	6.7	..	..	..	..	..	..	Glydenstolpe
<i>R. m. dohrni</i>	Northwest Siam	♂	36.1	5.3	..	..	..	..	..	..	Paratype
<i>R. m. siamensis</i>	"	♀	..	5.2	..	..	..	..	..	..	Andersen
"	"	♀	44.7	..	..	..	..	..	..	..	Peters
<i>R. m. hirsutus</i>	Guimares, Phil.	..	42.0	..	..	..	..	..	..	..	..
<i>R. coelophyllus</i>	Burma	♂	45.0	7.6	4.50	0.30	0.25	0.9	2.60	0.60 × 0.50	..
U.S.N.M. 267260	North Siam	♂	46.0	8.5	5.10	0.45	0.30	0.8	2.70	0.75 × 0.50	Type
<i>R. c. shameli</i>	Gulf of Siam	♂	46.7	7.7	4.50	..	..	..	..	..	Dobson. Photo.
<i>R. philippinensis</i>	Philippines	..	..	..	..	..	..	..	..	..	..
<i>R. philippinensis</i> Lawrence	Luzon	♀	56.0	8.3	4.90	0.50	0.30	0.7	2.80	0.70 × 0.60	..
M.C.Z. 35007	"	♀	55.0	7.7	..	..	..	..	..	..	Type
<i>R. p. alleni</i>	Mindoro	♀	56.0	8.0	4.60	0.40	0.30	0.6	2.70	0.70 × 0.60	Paratype
M.C.Z. 35098	"	♀	53.0	8.1	4.90	..	..	..	..	..	Type
<i>R. p. maros</i>	South Celebes	♂	54.0	8.3	4.70	0.40	0.30	..	3.00	0.70 × 0.60	Paratype
A.M.N.H. 102351	"	♀	52.0	8.1	4.60	0.40	0.25	0.8	2.80	0.75 × 0.60	"
A.M.N.H. 102348	"	♀	52.0	7.7	4.60	..	..	..	2.80	0.70 × 0.60	"
A.M.N.H. 102352	"	♂	54.0	8.2	4.60	..	..	..	..	..	Thomas. Photo.
<i>R. p. achilles</i>	Kei Islands	♂	..	..	..	..	..	..	..	..	..
<i>R. trifoliatus</i> section											
<i>R. trifoliatus</i> Leyden "b"	Bantam, Java	..	49.0	8.4	5.15	..	..	..	..	0.70 × 0.70	Cotype
A.M.N.H. 106242	Southwest Borneo	♀	52.0	9.0	5.20	0.55	0.40	..	..	0.80 × 0.50	..
A.M.N.H. 103826	South	♂	47.0	8.0	4.90	0.40	0.30	0.6	2.70	0.70 × 0.65	..
A.M.N.H. 106837	Northwest	♂	49.0	9.0	5.30	0.60	0.35	0.3	..	..	Type
<i>R. t. edax</i>	Singapore	♂	49.0	8.5	..	..	..	..	..	..	"
<i>R. t. solitarius</i>	Banka	♀	46.5	..	..	..	..	..	..	..	"
<i>R. t. niasensis</i>	Nias	♀	52.2	8.8	..	..	..	..	..	..	Cotypes
<i>R. mibratus</i>	Central India	..	54-57	..	..	..	..	..	..	..	..
U.S.N.M. 255766	Siam	♀	43.0	9.2	5.80	0.50	0.40	0.3	2.85	0.75 × 0.75	Type
<i>R. sedutus</i>	Sarawak	♀	43.0	7.8	4.50	..	..	..	2.50	..	..
A.M.N.H. 106801	Northwest Borneo	♀	43.0	7.8	4.70	0.40	0.30	0.3	2.50	0.70 × 0.60	..

		Locality	Sex	Forearm	e-m <sup>3</sup>	m <sup>1-3</sup>	Width i <sup>1</sup>	Thick- ness i <sup>1</sup>	Dist. apart i <sup>1-1</sup>	Inside cingulum width	Crown area p <sup>1</sup>	Remarks
<i>R. lucius</i> section												
<i>R. l. lucius</i>												
		West Java	♀	62.0	11.7	6.7	..	..	...	3.80	.....	Type
		East Java	♀	73.0	12.0	7.0	..	..	...	3.90	.....	Type. Photo.
		Bali	♀	66.0	11.2	6.7	..	..	...	3.10	1.10 × 1.00	.....
		Sarawak	..	64.5	12.2	7.4	..	..	...	4.00	.....	Type. Photo.
		Northwest Borneo	♂	..	11.1	6.5	0.80	0.70	0.1	..	0.90 × 1.10	.....
		"	♂	61.0	10.9	6.4	0.70	0.60	..	3.50	0.90 × 1.10	.....
		"	♂	64.0	11.2	6.7	0.80	0.60	0.0	3.30	0.90 × 1.00	.....
		Singapore	..	64.0	11.5	6.2	0.80	..	0.3	3.50	.....	Type. Photo.
		Pen. Siam	♂	..	12.7	7.3	0.75	0.60	0.3	4.10	1.10 × 1.10	.....
		U.S.N.M. 253456	♂	..	12.1	7.0	0.75	0.50	0.3	3.70	1.00 × 1.00	.....
		U.S.N.M. 256897	♂	..	12.1	7.0	0.80	0.60	0.2	3.50	1.00 × 1.10	.....
		A.M.N.H. 83711	♂	71.0	12.1	7.0	0.80	0.60	0.2	3.50	1.00 × 1.10	.....
		Laos	♂	71.0	12.2	7.2	0.80	0.50	0.2	3.80	1.10 × 1.20	.....
		North Burma	♂	71.0	12.2	7.2	0.80	0.50	0.2	3.80	1.10 × 1.20	.....
		Nepal	..	73.0	12.1	7.2	..	..	...	4.40	.....	Type. Photo.
		<i>R. l. perniger</i>	♀	71.0	11.1	..	..	..	...	..	.....	Andersen
		<i>R. l. lanosus</i>	♀	71.0	11.5	6.7	0.80	0.55	0.2	4.20	0.90 × 0.90	Topotype
		A.M.N.H. 444704	♂	..	..	..	..	..	...	..	.....	Type. Photo.
		<i>R. l. chinensis</i>	♂	52.7	..	..	..	..	...	..	.....	Type
		Hainan	♂	70.0	11.3	..	..	..	...	..	.....	Dobson
		<i>R. l. spureus</i>	♂	57.0	..	..	..	..	...	..	.....	Type. Photo.
		<i>R. l. pearsoni</i>	♂	57.0	..	..	..	..	...	..	.....	Type. Photo.
		<i>R. l. beddomei</i>	♂	59-63	10.5	6.3	..	..	...	..	.....	Type. Photo.
		<i>R. l. sobrinus</i>	♀	57.0	9.7	..	..	..	...	..	.....	Type. Photo.
		Ceylon	..	..	..	..	..	..	...	..	.....	Type. Photo.

