

## LIST OF BATS COLLECTED BY DR. W. L. ABBOTT IN SIAM.

BY GERRIT S. MILLER, JR.

During the year 1896, Dr. W. L. Abbott made an extensive collection of mammals in the State of Trong, Lower Siam, a region whose fauna has hitherto been practically unknown. The collection, which Dr. Abbott has presented to the United States National Museum, includes sixty-one bats, all but six of which were sent to Washington in formalin. Eleven species are represented. Three of these prove to be new, while several others are of special interest. Considerable time must elapse before it will be possible to prepare a complete account of Dr. Abbott's Malayan collections. Meanwhile it seems advisable to publish a list of the bats that he has thus far taken, and the following is printed here by permission of the Secretary of the Smithsonian Institution.

*Pteropus medius* Temminck.

One skin (♀ young adult, No. 83,277) taken on April 15, 1896 I refer with some hesitation to this species. Its measurements are as follows: head and body, 260;<sup>1</sup> expanse of wings, 1,296;<sup>1</sup> forearm, 175; thumb (with claw), 75; second finger, 127; third finger, 315; fourth finger, 246; fifth finger, 230; tibia, 85; foot (with claws), 55; ear from meatus, 39; ear from crown, 37; width of ear, 22; skull: basal length, 167; basilar length (Hensel), 164; palatal length, 39; palatal width (anterior end of first molar), 13.4; zygomatic breadth, 36; breadth across postorbital processes, 28; length of nasals, 20; greatest breadth of nasals, 6; maxillary tooth row (exclusive of canine), 20; crown of first molar, 6.6x4; canine at level of cingulum, 4x3.2; greatest length of mandible, 56; depth of mandible at anterior base of first molar, 6.6; depth of mandible through angular and coronoid processes, 24; mandibular tooth row (exclusive of incisors and canine) 27; crown of first lower molar, 6x3.4; lower canine at level of cingulum, 2.8x3.

*Cynopterus angulatus* sp. nov.

*Type*.—Adult ♂ (in alcohol), No. 83,569, United States National Museum, Trong, Lower Siam, collected in 1896 by Dr. W. L. Abbott.

<sup>1</sup> From fresh specimen by collector.

*General characters.*—Size medium (forearm 60–70); tail well-developed; incisors  $\frac{3}{4}$ ; ear conspicuously rimmed with white; posterior border of ear conch with well-developed angular projection immediately above base; general color dull rufous.

*Ears.*—Ears about double length of muzzle; laid forward they reach to anterior corner of eye. General form of ear as in *Cynopterus brachysoma* (see Dobson, Monograph of the Asiatic Chiroptera, p. 28), but projection at base of outer margin sharply angled instead of bluntly rounded. Tip of conch rather narrowly rounded off. A slight, though distinct, concavity in posterior border immediately below tip. Rim of ear with a conspicuous whitish border, about 1.5 mm. wide near base and narrowing to a mere trace at tip, but nevertheless continuous. Area occupied by white border on anterior margin distinctly thickened. Inner surface of ear conch with six indistinct cross ridges. Basal third of ear furred externally, the remainder naked inside and out except for a few hairs along anterior margin.

*Membranes.*—Membranes thick and leathery, broad and ample. Interfemoral membrane deeply emarginate, only 6 mm. wide in middle. Wings from sides of back and middle of outer toe.

*Fur and color.*—Throughout the body the fur is short and scant, that on the middle of back only 6 mm. in length. In males it is distinctly longer on sides of neck (10 mm. in type), and in both sexes it is much shorter on throat and on sides of body (this especially noticeable in females). The fur of the body extends to middle of forearm, both above and below, but does not reach the membranes except in middle of uropatagium. Propatagium thinly haired below through proximal half. Wings with scattered hairs below along sides of body and behind forearm.

General color of two males (skins) burnt umber, to a varying extent tinged with red and overlaid with olivaceous, darker on crown of head and paler along middle of belly. A female is paler throughout, the general color more closely approaching the chestnut and russet of Ridgway. Ears and membranes of dry specimens blackish, the former edged with dirty yellowish-white. Metacarpals and phalanges of fingers varied with whitish, which irregularly involves the membrane close to the bone.

*Skull.*—The skull is strongly built and moderately angular. Old individuals show a tendency to form a sagittal crest. Face line slightly concave immediately behind tip of rostrum, then nearly

straight to highest point about over middle of brain case. Frontal region with a broad longitudinal groove running from between post-orbital processes to within about 3 mm. of tip of rostrum. Post-orbital processes well-developed, about 4 mm. long. Extent of bony palate behind molars equal to distance between second premolars.

*Teeth.*—Upper incisors in pairs, the outer tooth slightly smaller than the inner. First upper premolar about as large as inner incisor, occupying less than half the space between canine and second premolar. Crowns of second and third premolars about equal when viewed from above, the first much the larger when viewed from the side. Molar about equal to third premolar, but with slightly narrower crown. Outer lower incisors distinctly larger than inner, the incisor row slightly bowed outward. First lower premolar more than double as large as first upper premolar, and like it occupying the middle of the space between the canine and second premolar. Crowns of second and third premolars and first molar subequal when viewed from above, but regularly graded in height from before backward when viewed from the side. Second lower molar about one-third as large as first and equal to first premolar.

TABLE OF MEASUREMENTS OF *CYNOPTERUS ANGULATUS*.

Number.....	83524	83569*	83572	83592	83593	84441	84491
Sex .....	♂	♂	♀	♀	♀	♀	♂
Total length .....	97	110	114	123	118		
Tail.....	8	9	11	10	9		
Tibia.....	24	24.6	24	29	28	26	25
Foot.....	13	15	14.6	16	16	14	14
Calcarr.....	7	6	6.4	7	7	7	7
Forearm.....	61	66	70	71	68	65	65
Thumb.....	23	26	26	29	28	26	
Second finger.....	47	45	48	49	50	45	
Third finger.....	111	110	118	120	115		
Fourth finger.....	88	84	91	93	91		
Fifth finger.....	87	83	89	89	88		
Ear from meatus.....	18.4	18	20	21	21		
Ear from crown.....	15	17	17	18	18		
Width of ear.....	12	13	14	14	14		
Skull: Basal length.....					29	28	27
Basilar length of Hensel.....					24.4	25	24
Greatest length.....					32	31.4	29
Zygomatic breadth.....					21	21	19
Width across postorbital processes.....					11.8	11.4	12
Width immediately behind postorbital processes.....					7	6.6	6.4
Length of palate.....					14	14	13
Breadth of palate at anterior border of molar.....					7	6.6	6.4
Upper tooth row exclusive of incisors.....					10	10.4	10
Length of mandible.....					24	25	22.6
Depth of mandible at anterior border of second premolar.....					3	3	2.8
Depth of mandible through angular and coronoid processes.....					13	13	11.8
Lower tooth row.....					12	12	11

\*Type.

*General remarks.*—*Cynopterus angulatus* bears a strong resemblance to *C. marginatus*, but is readily distinguishable by its considerably smaller size and by the form of the ear. It is larger than *C. brachysoma*, the only other known species with similarly formed ear, and quite different in color.

This bat is represented in Dr. Abbott's collection by two skeletons, three skins with skulls, and six specimens in formalin.

*Rhinolophus trifoliatus* Temminck.

Four specimens in formalin. For measurements see table.

*Rhinolophus affinis* Horsfield.

Four specimens in formalin.

TABLE OF MEASUREMENTS OF *RHINOLOPHUS TRIFOLIATUS* AND  
*R. AFFINIS*.

	<i>R. trifoliatus.</i>			<i>R. affinis.</i>		
	♂	♀	♂	♀	♂	♀
Number .....	83525	83537	83573	83538	83540	83571
Sex .....	♂	♀	♂	♀	♂	♀
Total length.....	96	104	100	85	87	85
Tail.....	38	38	35	23	25	25
Tibia.....	26	25	25	24	24	25
Foot.....	11	12	12.4	10	10	10.6
Calc. ....	16.4	12	14	7	7	10
Forearm.....	53	53	53	51	50	51
Thumb.....	7	8.4	8	8.6	7.6	9
Second finger.....	38	37	38	40	41	42
Third finger.....	87	90	90	77	74	78
Fourth finger.....	71	71	73	61	64	64
Fifth finger.....	74	78	77	63	65	65
Ear from meatus.....	26.4	27	29	20	22	22
Ear from crown.....	22	23	24	17	18	18
Width of ear (exclusive of antitragus).....	19	18	18	16.6	16	16
Length of nose leaf from lip.....	19	20	21	16	15	16
Greatest width of nose leaf.....	12	12	12	9	9	9.4

*Hipposideros larvatus* (Horsfield).

One skin and ten specimens in formalin.

The form occurring in Trong differs considerably from the *Hipposideros larvatus* of Dobson and Blanford, which is represented in the National Museum collection by two specimens (in alcohol) taken at Bhano, Upper Burma, by Fea. As the type of *Phyllorhina larvata* Horsfield came from Java, the probabilities are that if either of the mainland forms is referable to the typical subspecies, it is the one inhabiting the southern half of the Malay Peninsula. Assuming this to be the case, the form of *Hipposideros larvatus* found in Assam and Upper Burma is unnamed. As compared with the northern and better known form, that from Trong is slightly smaller in general size. The foot is disproportionately smaller, and the ear

is narrower in proportion to its length. The skull is smaller and the teeth, especially in the lower jaw, are comparatively slender and weak.

TABLE OF MEASUREMENTS OF TWO FORMS OF *HIPPOSIDEROS LARVATUS*.

	LOCALITY.											
	BHANO BURMA.		TRONG, LOWER SIAM.									
	18478	18479	83539	83543	83566	83544	83567	83568	83565	83541	83542	83570
Number.....	18478	18479	83539	83543	83566	83544	83567	83568	83565	83541	83542	83570
Sex.....	♂	♂	♂	♂	♀	♀	♀	♀	♀	♀	♀	♀
Total length.....	113	110	105	105	106	106	104	96	106	100	99	106
Tail.....	39	37	36	37	36.6	37	36	30	37	32	35	39
Tibia.....	26	25	23	23	23	24	22.4	22	24.6	22	21	23
Foot.....	12.6	13	10	10	9.8	9.4	10	10	10	10	10	10
Calcar.....	16	15	13	14	14	14.6	13	13.8	14	13	13	12.4
Forearm.....	63	59	57	58	58	59	57.6	56.4	61	57	55	59
Thumb.....	11	10.4	8.6	9	9.6	9.6	9	8	8.6	8.8	8.6	9
Second finger.....	52	50	46	47	48	48	47	46	50	47	45	47
Third finger.....	91	86	82	83	85	85	82	79	85	83	81	83
Fourth finger.....	68	70	65	66	66	67	65	64	67	65	64	67
Fifth finger.....	72	70	64	65	65	65	63	62	66	63	62	65
Ear from meatus.....	23	24	23	24	24	23.4	22	22	23	22.4	23	24
Ear from crown.....	18	19	19	18	18	17.4	17	16.4	17	18	17	19
Width of ear.....	21	20.4	18	18	19	18.6	18	18	18	19	18.4	19
Length of nose leaf from lip.....	10	9.6	9	10	11	11	10	9	9	9.6	9	10
Width of nose leaf	6.8	7	7	6.6	7	6.6	6	6	6	6.4	6	6.4

*Megaderma spasma* (Linnaeus).

An adult male in formalin and one skin. The latter is an adult female taken on March 28, 1896. On the label of this specimen Dr. Abbott has written: "Uterus contained a fetus about two inches in length and hairless. Discoidal placenta about  $\frac{3}{4}$  inch in diameter."

While this bat is clearly not related to *Megaderma lyra*, I am not satisfied that it is the *M. spasma* of Dobson and Blanford. From the descriptions of the latter species it differs in the following characters: skull with small but evident postorbital processes (more pronounced than in Dobson's figure of *M. lyra*); mesopterygoid fossa divided by a central longitudinal ridge in its anterior half only; first upper premolar very small and partly hidden by cingulum of second premolar which is almost, or quite, in contact with canine; inner basal cusp of upper canine indistinct; middle lower incisors trifold; posterior branch of tragus apparently longer; free upper part of nose leaf with very strongly convex sides and a deep constriction at base; heart shaped supplemental leaf above nostrils barely reaching edge of principal leaf.

Measurements: head and body, ♂, 77; head, ♂, 28; tibia, ♂, 32, ♀, 32; foot, ♂, 16, ♀, 15; calcar, ♂ 13.4, ♀, 11; forearm, ♂, 57;

thumb, ♂, 16.4, ♀, 18; second finger, ♂, 51, ♀, 51; third finger, ♂, 100, ♀, 101; fourth finger, ♂, 78, ♀, 73; fifth finger, ♂, 79, ♀, 78; ear from meatus, ♂, 38, ♀, 33; ear from crown, ♂, 32, ♀, 27; width of ear, ♂, 25, ♀, 23; tragus (from posterior base) to posterior tip, ♂, 20, ♀, 19; tragus (from posterior base) to anterior tip, ♂, 11.4, ♀, 10; nose leaf from edge of upper lip, ♂, 12.4, ♀, 12; greatest width of nose leaf (2 mm. below tip), ♂, 7.4, ♀, 7.8.

Skull: basilar length, ♂, 18; greatest length, ♂, 24.6, ♀, 25; length of bony palate in median line, ♂, 6.2; zygomatic breadth, ♂, 15; breadth across postorbital processes, ♂, 5.8, ♀, 5.6; upper tooth row, ♂, 10, ♀, 9.6; mandible, ♂, 17.8, ♀, 17; mandibular tooth row, ♂, 11.6, ♀, 11.4.

*Tylonycteris pachypus* (Temminck).

Twenty-eight specimens in formalin.

The genus *Tylonycteris*, although currently united with *Vespertilio* (= "*Vesperus*") appears to be perfectly valid. It may be defined as follows: Dental formula (as in *Vespertilio*),  $i, \frac{2-2}{3-3}; c, \frac{1-1}{1-1}; pm, \frac{1-1}{2-2}; m, \frac{3-3}{3-3}=32$ ; skull very broad and flat, with greatly reduced rostrum and no trace of sagittal crest; ball of thumb and sole of foot provided with broad, disc-shaped pads.

Four specimens from Buitenzorg, Java, agree in size with those from Trong, but in color they are much lighter. This difference may be due to alteration in color resulting from long immersion in alcohol. The Javan specimens were collected by G. B. Ferrari, and have been in the National Museum since 1890.

*Scotophilus kuhli* Leach.

An adult female and three young.

The genus represented by this bat is so closely related to the North American *Nycticeius* that it is doubtful whether the two can be regarded as distinct. The characters pointed out by Dobson, however, appear to be of nearly as much importance as those separating *Nycticeius* and *Rhogeessa*.

*Myotis muricola* (Hodgson).

Four specimens in formalin. These are chiefly interesting from the fact that they formed part of the meal of a nocturnal, bat-eating hawk, *Machærhamphus alcinus*.

*Kerivoula minuta* sp. nov.

*Type*.—Adult ♂ (in alcohol), No. 83,547, Trong, Lower Siam, September, 1896. Collected by Dr. W. L. Abbott.

*General characters.*—About the size of the Bornean *Kerivoula pusilla* Thomas,<sup>2</sup> but with shorter ears, feet and legs, less hairy wings, and more uniform coloration. Upper incisors bicuspidate; crowns of upper premolars with transverse diameter equal to or slightly greater than antero-posterior diameter.

*Ears.*—The ears are relatively shorter than in *K. hardwickii*; laid forward they reach to nostril. Anterior border extremely convex, much more so than in *K. hardwickii*, but probably about as in *K. pusilla*. Posterior border with subterminal concavity very shallow and close to tip of ear. Tragus essentially as in *K. hardwickii*, but with a distinct notch immediately above anterior base.

*Membranes.*—Membranes very thin and delicate, light brown with irregular pellucid mottling. The specimen is in an excellent state of preservation, so that this mottling of the membranes must be regarded as a normal character. Wings essentially naked as in *K. hardwickii*; uropatagium more hairy. The fur of the body extends along the base of the wings in a very narrow line only; beyond this a few inconspicuous hairs are scattered over the area bounded externally by the line from elbow to knee. Proximal half of inter-femoral membrane rather thickly sprinkled with yellowish hairs, which extend along the legs to feet.

*Fur and color.*—Fur long and soft, but not dense; that on middle of back about 10 mm. in length.

Color ochraceous buff throughout, scarcely paler on the belly, the hairs of the back faintly tipped with rufous. Except on the head and membranes the hairs are everywhere plumbeous at base.

*Skull.*—Skull much smaller than that of *K. hardwickii*, but with relatively broader and heavier rostrum. Brain case much more inflated anteriorly than in *K. hardwickii*.

*Teeth.*—Each upper incisor bicuspidate, relatively smaller than in *K. hardwickii*; the outer separated from the canine by a distinct space. First and second upper premolars subequal in all dimensions, the transverse diameter of each equalling or slightly exceeding the antero-posterior diameter. Crowns of molars relatively narrower than in *K. hardwickii*. Two inner lower incisors trifold and each considerably smaller than the unicuspid outer incisor. Lower premolars essentially like those of the upper jaw.

*Measurements.*—Total length, 70; head and body, 31 (33)<sup>3</sup>; tail,

<sup>2</sup> Ann. and Mag. Nat. Hist., 6th ser., XIV, p. 461, December, 1894.

<sup>3</sup> Measurements in parenthesis are those of the type of *K. pusilla*, an adult female, as given by Thomas in the original description.

35 (39); tibia, 11.4 (14); foot without claws, 4.4 (6.2); foot with claws, 5.2; calcar, 9; forearm, 27 (28); thumb, 4; second finger, 27 (28.5); third finger, 58 (56); fourth finger, 44; fifth finger, 42; ear from meatus, 10 (11.6); ear from crown, 8; width of ear, 10; distance between tips, 21 (25); tragus, 6.4. Skull: greatest length, 11.4; zygomatic breadth, 7; length of palate in median line, 5; upper tooth row (exclusive of incisors), 4.6; mandible, 8.8; lower tooth row (exclusive of incisors), 4.8.

*General remarks.*—*Kerivoula minuta* is in no way closely related to *K. hardwickii* or to any of the species hitherto known from the mainland of Asia. Its relationships are wholly with the small Bornean form recently described by Mr. Thomas as *K. pusilla*.

Dr. Abbott secured only one specimen of this species.

*Emballonura peninsularis* sp. nov.

*Type.*—Adult ♂ (in alcohol), No. 83,575, United States National Museum, Trong, Lower Siam, November, 1896. Collected by Dr. W. L. Abbott.

*General characters.*—In general appearance most like *Emballonura monticola* Temminck, one of the smaller members of the genus, but in size slightly surpassing *E. semicaudata* (Peale), the largest species hitherto known.

*Ears.*—Ears moderate; when laid forward they extend slightly beyond nostril. Anterior margin straight from base (over middle of eye) to about middle, whence it is faintly convex to slight concavity immediately below tip. Tip very narrowly rounded off. Posterior border concave immediately below tip, then gently and evenly convex to faint notch opposite base of tragus, after which it is more abruptly convex to base, which is distinctly below line of lower lip. Inner surface of conch with thirteen cross striations arising near posterior border and disappearing shortly beyond middle.

Tragus with anterior and posterior borders nearly parallel, though on close inspection each is seen to be very faintly concave. As a result the tragus is slightly narrower at mid height than at base or immediately below the bluntly rounded tip. Whole periphery of tragus faintly crenulate. A trace of a lobe on posterior margin just below level of anterior base.

*Membranes.*—The membranes are full and ample, but in no way peculiar. Wings from ankles. Uropatagium including tail to base of penultimate vertebra. Distance from tip of tail to free edge of

membrane considerably more than length of tail. Upper surface of uropatagium thinly furred to line of tip of tail. Lower surface of uropatagium rather thickly sprinkled with short hairs along veins except near legs. Wings naked except where fur of body extends both above and below to line joining middle of humerus with lower third of femur.

*Fur and color.*—Fur of middle of back about 11 mm. in length. Face and muzzle practically naked. Fur of head covering basal third of ears.

Dorsal surface uniform dark sepia; under parts much paler, very near the broccoli brown of Ridgway. Hairs everywhere, both above and below, indistinctly whitish at base. Muzzle, ears and membranes blackish.

*Feet.*—The feet are slender, a little less than half as long as tibia and considerably more than half as long as calcar. Calcar slender, weak and ill-defined, 3–5 mm. shorter than tibia, terminating in a small lobe.

*Skull.*—Skull thin and papery; muzzle about  $\frac{3}{4}$  as wide as brain case, slightly inflated laterally, and with a deep central longitudinal groove; postorbital processes long and very slender, reaching almost to highest point of zygomata; brain case strongly inflated posteriorly. Measurements of two skulls: No. 83,574, ♀ adult; greatest length, 14; basilar length, 10.4; zygomatic breadth, 8.8; greatest anteorbital breadth, 5.8; palatal length, 4; width of palate between posterior molars, 3.4; length of upper tooth row (exclusive of incisors) 5.2; mandible, 9.6; lower tooth row (exclusive of incisors), 5.6. No. 83,556, ♂ adult; greatest length, 14; basilar length, 10.4; zygomatic breadth, 9; greatest anteorbital breadth, 5.4; length of postorbital process, 3; palatal length, 4; width of palate between posterior molars, 3; length of upper tooth row (exclusive of incisors), 5.2; mandible, 9; lower tooth row (exclusive of incisors) 5.4.

*Teeth.*—The teeth are essentially as in the *E. monticola* of Dobson, except that the first upper premolar is tightly wedged between the canine and second premolar, and the first lower premolar is very much smaller than the second in cross section.

*General remarks.*—*Emballonura peninsularis* needs comparison with only one species, the *E. monticola* of Temminck.<sup>4</sup> I have seen no specimens from Java, the type locality of this form, but Tem-

<sup>4</sup> Van der Hoeven's Tijdschrift voor Natuurlijke Geschiedenis en Physiologie, V, p. 25, 1838.

minck's original description is so full that it furnishes a satisfactory basis for comparison. In passing it may be remarked that the Philippine bat referred by Dobson to *E. monticola*<sup>5</sup> is probably a distinct species from either the Javan or peninsular forms, as the discrepancies in measurements are too great to be the result of mere individual variation.

From *E. monticola* the peninsular form differs chiefly in its larger size (forearm 43-45 instead of 40, extent of wings about 280 instead of 215-230) and longer tail (see table of measurements). None of the Trong specimens show the snuff-colored head and fore-neck mentioned as occasionally occurring in *E. monticola*. The fur of the ventral surface of the body is nearly as noticeably whitish at base as that of the back, while in *E. monticola* it is said to be brown at base. As shown in the table of measurements, *Emballonura peninsularis* slightly exceeds *E. semicaudata* in size. It is thus the largest known species of the genus.

Dr. Abbott secured seven specimens, all of which were sent to the National Museum in formalin.

TABLE OF MEASUREMENTS OF *EMBALLONURA MONTICOLA*, *E. SEMICAUDATA* AN *E. PENINSULARIS*.

	<i>E. monticola</i> . <sup>6</sup>	<i>E. monticola</i> . <sup>7</sup>	<i>E. semicaudata</i> .	<i>E. peninsularis</i> .							
				3727*	83574 ♀	83579 ♀	83556 ♂	83575* ♂	83576 ♂	83577 ♂	83578 ♂
Number.....		57	3727*	83574	83579	83556	83575*	83576	83577	83578	
Sex.....				♀	♀	♂	♂	♂	♂	♂	
Total length.....				60	62	61	61	60	60	60	
Tail.....	12.7	10.4	15	12	14.6	16	13.6	13	14	15	
Width of interformal membrane beyond tail.....			18	20	20	22	21	19	20	21	
Tibia.....	11.4		16.4	16	16	17	17	16.4	16	16	
Foot.....			6.4	6.4	7	6.4	6	6.8	6.6	6.4	
Calcaneus.....			11	13	13	14	13	11	12	13	
Forearm.....	35.6	40	41	44	43	44	45	44	43	45	
Thumb.....	5.1		7	7	6	7.4	6	6	7	7	
Second finger.....			34	37	37	38	37	35	36	39	
Third finger.....			67	70	70	74	73	72	72	75	
Fourth finger.....			47	50	47	51	50	48	49	51	
Fifth finger.....			46	46	44	47	48	45	46	48	
Ear from meatus.....			11	12	11	13.4	12	11.4	12	11.4	
Ear from crown.....				9.8	10	10	11	10	10	10	
Width of ear.....			7	9	8.6	9	9.4	10	10	10	
Tragus.....	4.6		4.4	4.4	5	4.6	4.8	5	5.4	5	
Width of tragus at tip.....			2.4	2	1.6	1.6	1.6	1.4	1.8	1.6	

<sup>5</sup> Catal. Chiroptera Brit. Mus., p. 361-362.

<sup>6</sup> Luzon, Philippine Islands (from Dobson).

<sup>7</sup> Java (from Temminck).

\* Type.