

December 1855, and the second specimen in the same month of the following year. Both these individuals, as soon as I had completed my notes, I sent to Mr. Hancock, who received them in good condition, and who, in conjunction with Mr. Alder, I am happy to say, has made drawings of all the species described in this paper,—I trust, in order to enrich, at an early period, another number of their admirable work on the Nudibranchiate Mollusca. Mr. Hancock suggests for this species the specific name of *fimbriata*; but, whilst admitting the propriety of the name, I trust he will fall in with my wish of identifying the district in which it was first taken.

I would here remark the irregular appearance of some of the Nudibranchs. Two species of *Doris*, formerly obtainable in Weymouth Bay in moderate abundance, are now scarce; *Eolis papillosa*, at one time very abundant, is now represented by an occasional specimen: these are all tidal species. *Eolis coronata* and *landsburgi* were never very plentiful, and are not less scarce than formerly; but far different is it with *Polycera 4-lineata* and *Antiopa cristata*. Some three years since, we could obtain a dozen of each of these species any day—I have seen three in one net (both these species appear to be gregarious); whilst during the whole of the past summer my captures have not exceeded half a dozen of both species for the whole year. The dearth was occasioned by the severe winter we had some few years since, and which also destroyed many fish, and rendered *Adamsia palliata* very rare.

##### 5. DESCRIPTION OF SIX HITHERTO UNDESCRIBED SPECIES OF BATS. BY ROBERT F. TOMES.

###### 1. SCOTOPHILUS MICRODON, n. s.

The present species is one having the same subgeneric characters as the common *Pipistrelle* of Europe and the *Scot. greyii* and *S. pumilus* of Australia. To the latter species it is, by the form of its head and ears, most nearly affine, but may at once be distinguished from it by its greater size and by its smaller teeth.

The crown is but little elevated above the facial line; but the muzzle, although short, is more pointed than is usual in the flat-crowned species. The ears are very small, nearly as broad as high, with the outer margin slightly hollowed out about the middle, below which is a faintly developed lobe, and immediately above which is the tip of the ear,—the latter being obtusely angular, and directed outwards. The inner margin is very much rounded, especially at two-thirds of the distance from the base, where the convexity is so prominent as to be quite as high as the tip itself, the portion between this prominence and the tip being nearly horizontal. Altogether the ear bears some resemblance to that of *Miniopterus*. *Scot. pumilus* is the only species which has ears of form similar to those of the present species; but they are, although the species is smaller, rather larger, relatively longer, and have their tips less



outwardly directed, and more rounded. The tragus, as in all others of this group, is curved inwards, and rounded at the end; but it differs from that of some others, in being rather widest in the middle.

In relation to the size of the animal, the wings are rather ample, and rather broad for their length, the fourth finger (that which determines the breadth of the wing) being longer than the two basal phalanges of the longest finger\*. All the wing-bones are somewhat slender. The thumb is rather long, not quite half enveloped in the membrane.

The legs are rather long and slender, the tibiæ being quite as long as in *S. gouldii*, a species of greater size than the present; they are just twice the length of those of *S. pumilus*. The feet are large, about the length of those of *S. leisleri* of Europe, the toes taking up half their entire length, and the wing-membranes extending to half the distance between the extremity of the tibia and the base of the toes. Tip of the tail enclosed in the membrane.

The fur of the head extends to rather near the end of the nose; and the upper lips are furnished with moustaches; so that the only naked space is around and in front of the eye. The fur of the back does not extend on to the interfemoral membrane, and only to a very limited extent on those of the wings; but that of the under parts encroaches on the membranes all round the body, especially beneath the arms, where it reaches nearly to the elbow. A straight line from that joint to the knee would pretty accurately define the hairy portions of the wing-membranes.

In quality the fur is soft, and rather long, bicoloured above and beneath. That of the back of a specimen from South Australia is dark brown at the root, with the terminal half of the hairs reddish-brown, uniformly of the latter colour around the rump and on the flanks; beneath, dark brown at the root, with the terminal third light cinnamon-brown, that on the membranes paler and unicoloured. Membranes lightish brown.

Another specimen from Van Diemen's Land differs only from the last in being much darker in colour; the fur of the upper parts black at the root, tipped with sepia-brown; beneath, the same, but the brown tips lighter and more tinged with rufous, especially that on the membranes and around the pubal region, where it is unicoloured and reddish-brown.

In the following table, the dimensions in column 1 are those of

\* In many species of this group the fourth finger is not more than equal in length to the two basal phalanges of the longest; and in the more typical species of the genus, such as the common Noctule, it does not extend much further than the middle of the second phalange of the longest finger. In making use of the relative lengths of the wing-bones, either as a generic or specific distinction, it is absolutely necessary that perfectly adult examples be examined; for in those which are not, they vary so much with the age of the individual, as not only to be useless as a means of distinction, but to lead to absolute error and consequent confusion. Judging from the figure given by M. Temminck of *V. brachypterus*, I should expect to find his specimen with the apophyses of the phalanges of the fingers imperfectly ossified.



the South Australian specimen, those in column 2 of the one from Van Diemen's Land, whilst those in the 3rd have been taken from a specimen of *S. greyii* from Port Essington (one of the types in the National Collection), and are added to show the difference in the size of the two species,—*S. greyii* being the only Australian bat appertaining to this restricted group which approaches in size the species here described.

	1.		2.		3.	
Length of the head and body ..	2	6	2	2	2	0
— of the tail .....	1	8	1	5	1	3
— of the head .....	0	7?	0	7	0	7
— of the ears .....	0	3	0	3	0	4
— of the tragus .....	0	2	0	2	0	2 $\frac{1}{4}$
— of the fore-arm .....	1	5	1	6 $\frac{1}{2}$	1	4 $\frac{1}{4}$
— of the longest finger ..	2	8	2	10		
— of the fourth finger....	2	0	2	1		
— of the thumb .....	0	4	0	4		
— of the tibia .....	0	8	0	8 $\frac{1}{2}$	0	6
— of the foot and claws ..	0	4	0	4	0	3 $\frac{3}{4}$
— of the <i>os calcis</i> .....	0	7	0	7		
Expanse of wings .....	11	3	11	8	8	6

The teeth of this species, although not sufficiently examined to furnish a comparative description, are nevertheless seen at a glance to be of very small size, not only in reference to the size of the animal, but also actually smaller than those of several other species of much less size, such as *S. trilatitius*, *S. lobatus*, and *S. abramis*. Hence the specific name of *microdon* here bestowed upon it.

## 2. SCOTOPHILUS DARWINI.

The next species which I have to describe has been presented to me by Mr. Darwin, with the information that it had been received from the Canary Isles.

In a collection of Bats from Madeira, given to me also by Mr. Darwin, I could only enumerate two species, both European, viz. *S. leisleri* and *S. marginatus*; and I was somewhat surprised to find in the present species one which I had not before met with. None of the descriptions of African species in the works of Temminck, Wagner, Peters, Smith, and others, apply to this species; and I therefore regard it as new, and describe it as follows:—

It is one of the same group as the species just described, and as the *S. kuhlii* and *S. pipistrellus* of Europe. It is characterized by a somewhat more robust make than these species, and has rather broader ears and tragi.

The head is rather broad and flat, the crown being but little raised above the facial line; the glands of the lips are considerably developed, and bulge sufficiently to occasion the nostrils to open nearly straight forward, although the interruption in the outer margins of the latter sufficiently indicates that with a more pointed



muzzle they would open sublaterally ; were the specimen taken from the spirit in which it is preserved and dried, it is probable that this would be the case. In the middle of the face is a kind of hollow, occasioned by the labial glands on each side being developed in an upward direction, thus leaving a depression between them\*. Between the nostrils is a space of moderate extent, and but very faintly emarginate. The ears are rather large, triangularly oval, as broad at the base as they are long, and have their tips brought to a rounded point ; about the middle of their outer margin they have a distinct but shallow notch, below which is a lobular portion, as in many other species of this group, but differing from all others which I have seen in having a small but very well-defined notch about its middle. These organs altogether are more like those of *S. kuhlii* than of any other species, but are larger, besides having the double emargination just noticed†. The tragus is rather short and broad, curved inwards, and with the end very much rounded ; on its outer margin, near the base, is a projecting angular point, without any accompanying notch.

The wing-membranes extend to the base of the toes, and the latter are half the length of the foot. The thumb is moderate, with the basal phalange much the shortest. The terminal vertebra of the tail is free.

The fur of the head extends forwards to between the eyes, and thence in a narrow strip towards the nose. Over each eye is a wart bearing a bundle of stiff hairs ; and a similar tuft springs from the top of the labial glands ; the upper lips are also slightly fringed with similar hairs, most conspicuous about the corners of the mouth. The remainder of the face, the ears, and the tragus are naked. The fur of the back spreads on the upper surface of the interfemoral membrane, sparingly, for nearly half its length, as in *S. kuhlii*, and similarly to a small extent on the membranes near the sides of the body. Beneath, the membrane immediately around the pubes is dusted with very short hairs, more abundant on the vertebræ of the tail than elsewhere. On the membrane contiguous to the sides of the body, fur of a much longer kind extends, to a much greater degree than in *S. kuhlii*.

On both surfaces of the body the fur is bicoloured : above, very dark brown at the base, tipped with lighter and more rufous brown, that on the membranes wholly of the latter colour ; beneath, it is dark at the base, tipped with paler brown, with less of the rufous tinge than that of the upper parts. On the under surface of the membranes the fur is uniformly of the same colour as the tips of the hairs on the belly, but on the pubes it is paler. Membranes dark brown.

Such appear to be the colours of the fur, so far as can be gathered from the examination of a specimen in spirit ; but it is necessary to

\* In the *Romicia calcarata* of Dr. Gray the lip-glands are so much developed as to leave a deep pit between them. It belongs to the present group.

† I am here comparing a specimen in spirit with others in skin,—a plan not always attended with perfectly satisfactory results.



consult others in skin before this point can be determined with accuracy.

Although in its external appearance *S. darwini* bears considerable resemblance to *S. kuhlii*, it differs, besides having a somewhat differently shaped ear and broader tragus, in the form and arrangement of the fore teeth. In *S. kuhlii* the upper incisors are rather long and slender; the inner ones are deeply forked at their apices, and longer than the outer ones, which are slender and pointed, somewhat like small canines; and there is a visible interval between the points of the inner and outer ones. In *S. darwini*, on the contrary, they are short and obtuse, of nearly equal length, the inner ones faintly cleft at their points, and the outer ones so closely packed to them as to leave no space even between their points. Again in *S. kuhlii* there is a space between the canine and the "carnassier" or sectorial tooth, in which is placed a small and conical premolar, within the line of the teeth, but distinctly visible from the outside; whereas in *S. darwini* the canine and the "carnassier" are contiguous, and there is a very small anomalous premolar placed in the inner angle formed at their bases, visible only from inside.

These differences in the dentition are alone sufficient to distinguish the species from *S. kuhlii*. From *S. marginatus*, *S. ursula*, and *S. nathusii* it may be also recognized by the form of the upper incisors; and these are the only European species with which it could be confounded.

Length of the head and body . . . . .	2	1
—— of the tail . . . . .	1	5
—— of the head . . . . .	0	8
—— of the ears . . . . .	0	4 $\frac{1}{2}$
—— of the tragus . . . . .	0	2
Breadth of the tragus . . . . .	0	1 $\frac{1}{2}$
Length of the fore-arm . . . . .	1	5
—— of the longest finger . . . . .	2	6
—— of the fourth finger . . . . .	1	8
—— of the thumb . . . . .	0	2
—— of the tibia . . . . .	0	6 $\frac{1}{4}$
—— of the foot and claws . . . . .	0	3
—— of the <i>os calcis</i> . . . . .	0	5
Expanse of wings . . . . .	9	9

*Hab.* Palma, Canary Isles.

*Obs.* The Madeiran species being European ones, and one of them African also (i. e. *S. marginatus*), renders it not unlikely that the species inhabiting the Canaries may also occur in Africa, and perhaps in Europe. With a view to the chance of this, I have compared this species with what now remains of the types of *Vespertilio aristippe*, *V. leucippe*, *A. alcythoe*, *V. vispistrellus*, and *V. savii*, but find nothing which leads me to regard it as referable to any of them; and I have therefore given such a detailed description as will be amply sufficient to distinguish it from all recorded European species.



### 3. *VESPERTILIO CALIGINOSUS*, n. s.

This is one of the smallest species of the genus, being rather less than the *V. mystacinus* of Europe, which in general appearance it very much resembles. *Vespertilio parvulus*, Temm., is the only species of this restricted group which I have yet seen, that is smaller than the present one.

There are a few Asiatic species of Bats which possess the characters of the group of which *V. mystacinus* is typical, but which have the tragus much shorter and less acute, and not so much bent outwards. *Vesp. trilatitius*, Temm. (not Horsfield), and *V. tenuis* of the same zoologist, may be mentioned as examples; and the species I am about to describe will constitute a third.

The top of the head is rather elevated, about as much so as in *V. mystacinus*; and the muzzle is pointed as in that species, but is considerably shorter. The ears are rather small, and have narrow but rounded tips, are notched at their outer margin near the base, below which is a distinct rounded lobe, which is almost hidden in the long fur of the neck. The tragus is rather short, not quite half the length of the ear; its inner margin is straight; its outer one curves evenly from the base to the tip, in such a manner that it is of pretty uniform breadth for about half its length, from which it narrows to a subacute tip. The tragus of *V. mystacinus* is precisely of this form for two-thirds of its length,—the outer margin being convex, the acute tip being produced, or as it were added, and taking an outward curvature in the dried specimens, but straight when fresh or preserved in spirit. Near the base is a well-defined notch dividing off an angular lobular portion, quite at the base. No such notch appears in the tragus of either *V. mystacinus* or *V. tenuis*.

The wings are proportioned much as in *V. tenuis*, excepting that the thumb is much smaller, whilst the bones of the wings, although this species is considerably less, are quite as stout as in that species. The feet are small, with toes which are rather more than half their entire length. Wing-membranes extending exactly to the base of the outer toe, which is much shorter than the others.

All the membranes are more strongly marked with lines than those of *V. tenuis*, and especially the interfemoral, on which may be counted as many as fifteen or sixteen transverse dotted lines, each dot bearing on the under side of the membrane one or more fine, short, bristle-like hairs. In *V. tenuis* about a dozen such lines may be observed.

Nearly the whole of the face is covered with thick soft hair, wanting only on the end of the snout, the front of the under lip, and immediately around the eye. On the glands of the upper lip it takes the form of two distinct tufts, projecting laterally, having the appearance of whiskers. In front of each eye is a single long hair, and a few other similar but shorter ones project from the upper lip and the chin. The fur of both surfaces of the body extends on to the interfemoral membrane very slightly; but the wing-membranes are free from hair.



On all parts of the body the fur is long and soft, and rather silky; and it is bicoloured above and beneath. That of all the upper parts is black at the base, more or less tipped with shining yellowish-chestnut, on the head and neck scarcely perceptible, but becoming more marked towards the middle of the back and on the rump, where it is much the brightest. Some of the darker examples of *V. mystacinus* bear some resemblance to the present species in this respect, but are less bright. Beneath, the fur is dead black, with the tips of the hairs greyish-brown, a little paler on the pubes.

Membranes and naked parts dark brown. The complete ossification of the finger-joints indicates that the specimen is adult; but the sex has not been ascertained.

Length of the head and body . . . . .	1	6
——— of the tail, about . . . . .	1	0
——— of the head . . . . .	0	6
——— of the ears . . . . .	0	4
——— of the tragus . . . . .	0	$2\frac{1}{4}$
——— of the fore-arm . . . . .	1	$2\frac{1}{2}$
——— of the longest finger . . . . .	2	2
——— of the fourth finger . . . . .	1	6
——— of the thumb . . . . .	0	2
——— of the tibia . . . . .	0	6
——— of the foot and claws . . . . .	0	$2\frac{3}{4}$
Expanse of wings . . . . .	8	6

*Hab.* I received this with a number of other Indian species from Mr. Warwick, with the statement that they all formed a part of a collection made by Capt. Boys. Amongst them were several specimens of *Scot. coromandelicus*; and the present species was confounded with them, until they were mounted for the cabinet, when the differences became sufficiently obvious.

#### 4. VESPERTILIO SERICEUS, n. s.

A species remarkable for the great beauty of its fur, which is thick, very soft, and with all the gloss of unspun silk. In size and proportions somewhat similar to *V. nattereri*, and the crown of the head elevated about as in that species; but the muzzle, although pointed, relatively a little shorter. Unfortunately the ears and tragi have been so much injured as to render it impossible to give an exact description of them; but it is evident that the ears were rather narrow, and more or less emarginate at their outer margin; and that the tragus was long and narrow, may be seen from what remains of one of them, the end only being lost.

The organs of flight are of medium size and proportions; the thumb is rather long, and has the basal phalange short, and the claw long and slender, with but a slight degree of curvature. The wing-membranes spring from the base of the toes. The feet are rather large,—the toes taking up a little more than half their entire length, and armed with claws, which, like those of the thumbs, are



rather long, slender, and but little curved. These parts have much the size and proportions of those of *V. nattereri*.

Nearly the whole of the face is hairy; but there is a naked space around each eye. A thick moustache borders the upper lips, which, extending from the angles of the mouth upwards and forwards, joins the fur of the forehead, which extends nearly to the end of the nose. The chin is destitute of hairs. The fur of the back encroaches to a trifling degree on the interfemoral membrane; and the same may be said of that of the belly; everywhere else the membranes are naked.

On all parts of the body the fur is bicoloured: above dark brown at the root, with the terminal third light reddish-brown; beneath similar, but the brown at the root darker and more extended, the tips of the hairs for one-fourth only of their length being greyish-brown, on the abdomen whitish-brown.

Everywhere the fur maintains its peculiar silky lustre, as much so on the under as on the upper parts of the body. This quality of fur will at once distinguish this species from every other which I have ever seen.

The dentition, as far as it can be studied in a stuffed specimen, is as follows:—Upper incisors in pairs, placed close together, with a considerable interval in the centre between the pairs, and also an interval on each side, between them and the canines. They are rather short and obtusely conical, the inner ones indistinctly bifid at the apex. The canines are rather small and short, and are followed by two small premolars on each side, of a bluntly conical form, the first being the larger of the two. To these succeed the two large premolars, or *carnassiers*, in this species with the point only a little raised above the crowns of the true molars. In the lower jaw the incisors, six in number, are somewhat irregularly ranged and trilobed, the canines short, and the two following premolars on each side of equal size, small and conical. The next premolar is of greater size and more acutely conical. The chief peculiarity in the dentition of this species is the shortness of the teeth, whilst they maintain throughout a medium degree of stoutness.

Length of the head and body, about . . . .	2	0
— of the tail . . . . .	1	5
— of the head . . . . .	0	9
— of the fore-arm . . . . .	1	5
— of the longest finger . . . . .	2	4
— of the fourth finger . . . . .	1	9 $\frac{1}{2}$
— of the thumb and claw . . . . .	0	3 $\frac{3}{4}$
— of the tibia . . . . .	0	8
— of the foot and claws . . . . .	0	4 $\frac{2}{3}$
Expanse of wings . . . . .	10	0

*Hab.* Not known.



5. *PHYLLORHINA AURITA*, n. s.

In size this species about equals *Rhinolophus hippocrepis* of Europe.

It may be readily distinguished from all others of the genus by the great size of its ears, and seems to hold the same position amongst the species of *Phyllorhina* that *Rhinolophus cornutus* does in the genus *Rhinolophus*.

So far as may be learned from the inspection of a specimen in skin, the facial crests greatly resemble those of *Ph. bicolor*, and the general form of the whole head, face, and ears is pretty much as in that species, excepting that the muzzle is relatively a little more compressed, and the ears much larger. These latter organs are one-fourth longer than the head, and of a broadly ovoid form, are somewhat diaphanous, and thickly marked with glandular dots. They have about sixteen transverse sulci, which do not quite extend to the outer margin of the ear, but are bounded by a well-defined line which runs parallel with the margin, and divides off a narrow portion, having the appearance of a distinct border. The inner or front margin of the ear has three such parallel lines, all running from that part of the ear which is near to the face, to near the tip. This peculiarity of having the ears margined as described, and the central part sulcated, is not confined to this species; but it is much more strongly marked in this than in any other which I have seen. *Ph. cervina* and *Ph. caffra* exhibit the same arrangement of lines in the ear, but in a much less degree.

The wings are broad for their length,—the fourth finger, which determines their breadth, being longer than the third\*. They are distinctly reticulated, especially near the side of the body. No great peculiarities are exhibited by the posterior extremities.

The fur is strictly confined to the body, with the exception of some on the hinder surface of the ears, at their base, and a narrow fringe on one of the lines bordering their front margin inside the ear.

On all the upper parts the fur is bicoloured, nearly white at the base for three-fourths of its length, then of a medium brown colour, with the extreme tips a little paler, giving a slightly hoary appearance. Beneath, it is somewhat similar, but rather paler, especially on the humeral region and down the sides of the body; but the colours are less clearly made out. On the throat and along the middle of the belly to the pubes it is much lighter in colour, and almost unicoloured. The membranes are of a medium brown colour.

The teeth have not been examined with care, but appear to be

\* In *Rhinolophus hippocrepis* these two fingers are of equal length; and the same is the case in *Ph. caffra*, *Ph. speoris*, *Ph. labuanensis*, and *Ph. cervina*: in *Ph. nobilis* and *Ph. insignis* the third is a little longer than the fourth, whilst in *Ph. bicolor* and the present species, the fourth is the longer of the two. Of course this difference in the relative lengths of the fingers determines the comparative breadth of the wings.



rather long, especially the canines. They are longer than those of *Ph. cervina*, which is a slightly larger species.

Length of the head and body . . . . .	"	"
—— of the tail . . . . .	1	0
—— of the head . . . . .	0	8
—— of the ears . . . . .	0	9½
Breadth of the ears, nearly . . . . .	0	9
Length of the fore-arm . . . . .	1	5½
—— of the longest finger . . . . .	2	3
—— of the third finger . . . . .	1	9
—— of the fourth finger . . . . .	1	11
—— of the thumb . . . . .	0	4
—— of the tibia . . . . .	0	8
—— of the foot and claws . . . . .	0	3½
—— of the <i>os calcis</i> . . . . .	0	4½
Expanse of wings . . . . .	9	9

*Hab.* Unknown.

#### 6. EMBALLONURA FULIGINOSA, n. s.

In general form this species somewhat resembles *E. monticola*, but differs in several important particulars. It is larger; and it has the fur of a uniform sooty brown, whilst in that species it is marked bicoloured, being nearly white at the root.

In its general outline the head is very similar to that of the other species of the genus; but the snout, although small and elongated, is not so pointed as in the American species, but is nevertheless more so than in the African *E. afra*, judging from the figure given by Dr. Peters. The nostrils are small and rather near together; the ears triangularly oval, longer than broad, with the outer margin entire and produced at the base along the face in a line midway between the cleft of the mouth and the eye, and ending immediately between the latter and the angle of the mouth, which are both in a vertical line: all three are therefore in a vertical line. The tragus has its two sides nearly parallel, but it is a little widest at the end; it curves slightly inwards, and has the end rounded as in the genus *Miniopteris*, but is relatively broader. Thumb rather long, with the two visible phalanges equal in length (the small terminal one, bearing the claw, being excepted), the basal one wholly enclosed in the interbrachial membrane. Wing-membranes extending to the distal extremity of the tibiæ; hinder limbs rather long and slender; toes half the length of the entire foot. *Os calcis* long; interfemoral membrane very ample, with three diverging lines from the tip of the tail to its hinder margin; one on each side of these, from the root of the femur to the point of the *os calcis*; and two others, one from the distal extremity of each femur to near the middle of the *os calcis*. Transversely, this membrane has about twenty closely dotted lines.

The fur on the crown is long and thick, and approaches rather nearly the end of the nose; the sides of the face, from the auditory



openings through the eyes to the upper lip, naked, or nearly so; but the upper lip is fringed with scattered short bristly hairs. The extreme margin of the lips, both above and below, are naked and smooth.

That part of the wing-membranes which is contiguous to the under surface of the body is a little hairy; and the fur of the rump extends, to a very trifling degree, on to the interfemoral; but all other parts of the membranes are perfectly naked.

On all parts of the body the fur is rather soft, thick, and long, and perfectly devoid of lustre. It is also perfectly unicoloured everywhere, being above of a deep sooty brown with a slight tinge of rusty, and similar, though a little paler, beneath.

Upper incisors, 4, in pairs as in *Vespertilio*; they are very small, narrow near the alveolus, and blunt at the tips. Upper canines furnished with a kind of lobe or talon behind, at the base; the lower ones with a similar one in front. Lower incisors very small, symmetrically ranged, and with their cutting edges lobated.

Length of the head and body, about . . . . .	2	0
—— of the tail . . . . .	0	7 or 8?
—— of the head . . . . .	0	9
—— of the ears . . . . .	0	5½
—— of the tragus . . . . .	0	2
—— of the fore-arm . . . . .	1	9
—— of the longest finger . . . . .	2	9
—— of the fourth finger . . . . .	1	10
—— of the thumb . . . . .	0	4
—— of the tibia . . . . .	0	8½
—— of the foot and claws . . . . .	0	3½
—— of the <i>os calcis</i> . . . . .	0	8½
—— from the end of the nose to the hinder margin of the interfemoral mem- brane . . . . .	3	6
Expanse of wings . . . . .	12	0

*Hab.* "Island of Ovalae (Fiji Islands), August 1856, H.M.S. 'Herald,' F. M. Rayner." Such was the label attached to the specimen when it recently reached Dr. Gray, through whose kindness I am enabled to give the above description.

*Obs.* Several species of Cheiroptera have fur of much the same quality and appearance as this species. *Nyctophilus unicolor*, from Van Diemen's Land, *Molossus norfolcensis*, Norfolk Island, and *M. acetabulosus*, Mauritius and Natal, are amongst these; and the American species *M. nasutus* also has fur which approaches closely in texture that of all these species.

The present species, although it differs materially from *E. monticola*, yet bears greater resemblance to it in the form of the head, ears, &c. than to any other species. To the African species, *E. afra*, Peters, it has some similarity in the form of the snout; and all these three are species which appertain to the genus *Emballonura* as



restricted by M. Paul Gervais, who separates, under the name of *Proboscidea*, those species which have a longer and more pointed snout, such as *E. saxatilis* and *E. villosa*.

# 6. ON THE GENUS *ELAPS* OF WAGLER. BY DR. A. GÜNTHER.

(Reptilia, Pl. XVI.-XVIII.)

One of the most happy generic combinations in Wagler's '*System der Amphibien*' is the genus *Elaps*. He takes as the character of *Elaps* the grooved fangs in front, which are not followed by smaller and smooth teeth (pp. 193, 283), and thus he not only excludes those non-venomous snakes included by Schneider (*Hist. Amphib.* ii. p. 289), the first founder of the genus, but by this admirably-chosen character he removes also those species of the subsequently discovered genera of *Diemansia* and *Hoplocephalus* which Schlegel afterwards united with *Elaps*. The diagnosis given by Wagler, p. 193, and more fully detailed at pp. 282, 283, is most accurate and definite:—"Body elongate, equally cylindrical; head not distinct from body; tail short, conical; eyes small; scales smooth, equal, those of the vertebral line not larger; subcaudals two-rowed. Mandibulary and facial bones only slightly expansible; grooved fangs in front, without smaller teeth behind." Thus we see the genus *Elaps*, as given by Duméril and Bibron in their '*Erpétologie Générale*,' already fully circumscribed by Wagler; and I am surprised that Duméril, when giving a historical sketch of the genus, does not mention that his predecessor was the actual definer of the genus *Elaps*. Besides, Wagler had already shown that the species coming from the same part of the globe exhibit common characters; and in enumerating the species he divides them into the following sections:—

α. Corpore vittato (ex Asia);

β. Corpore annulato:—

\* Ex Africa;

\*\* Ex America:

an arrangement which we see adopted in the "*Tableau Synoptique des Espèces*," '*Erpét. Génér.*' vii. p. 1207, but without reference to the geographical distribution. Australian *Elapes* were unknown to Wagler, it being impossible, without specimens, to trace the genus in the figure given by White, '*Journ. N. S. Wales*,' App. p. 259. Snake No. 2.

I need not enter on a detailed description of the mode of life of these Snakes, as it has been already given by distinguished travellers, who all agree in the fact that they belong to the slowest of the tribe, with the most uniform and sedentary life, always living on dry ground in shady places. No other Snakes exhibit such a similarity to *Elaps* in its mode of life, and such a powerless muscular organization, as the *Calamariidæ*; and this is why we so often find the former destroying the latter: the venomous snake is able to overpower the non-venomous, even if larger. Specimens dissected by me exhibited only a small number of eggs. Notwithstanding this sedentary life, and this diminished faculty of propagation, we find the genus *Elaps*





Tomes, R. F. 1859. "Description of six hitherto undescribed species of bats."  
*Proceedings of the Zoological Society of London* 1859, 68–79.

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