

MYRIOTROCHUS, Steenstrup.

1. *M. Rinkii*, Stp. Greenland.

EXPLANATION OF PLATE XIV.

- Figs. 1-17. Spicula of *Synapta digitata*, Mont., magnified 125 diameters.
 Figs. 1-16. Anchors in various stages of growth.
 Figs. 7-14. Anchor-plates in various stages of growth.
 Fig. 15. Dwarf anchor and plate, close to fig. 16.
 Fig. 16. One of the larger anchors.
 Fig. 17. Miliary plates from one of the muscular bands.
- Figs. 18-22. Spicula of *Synapta inharens*, Müll., magnified 125 times.
 Fig. 18. Long anchor and plate, from the Guernsey specimen.
 Fig. 19. Anchor-plate more fully formed, from the Guernsey specimen.
 Fig. 20. Miliary plates, from Bantry specimen.
 Fig. 21. Anchor and unfinished plate, from Bantry specimen.
 Fig. 22. Anchor and plate in use, seen obliquely.
- Figs. 23-25. Spicula of *Synapta bidentata*, W. & B., magnified 125 times.
 Fig. 23. Anchor of Chinese *Synapta*.
 Fig. 24. Anchor-plate; the anchor thrown out of focus.
 Fig. 25. Miliary plates; the more complex from near the head.
- Fig. 26. One of the wheels of *Chiridota laevis*, O. Fabr., Greenland, magnified 160 diameters.
- Figs. 27-31. Wheels of *Myriotrochus Rinkii*, Stp., Greenland, magnified 100 diameters.
 Figs. 27, 28. Young wheels, with unfinished spokes.
 Fig. 29. Wheel with the spokes full-grown and expanded at the ends.
 Fig. 30. Wheel with the spines beginning to appear on the tire.
 Fig. 31. Finished wheel of rather unusual size.

6. ON THE VESPERTILIO SUILLUS OF TEMMINCK, THE TYPE OF
 THE GENERA MURINA (GRAY), AND OCYPETES (LESSON).
 BY ROBERT F. TOMES.

Contemporaneously with the adoption of *Kerivoula* as a new genus, Dr. Gray gave the name of *Murina** to the species which Temminck had long before described under the name of *Vespertilio suillus*. During the same year, M. Lesson bestowed on it the generic appellation of *Ocypetes*†.

The departure in some of its external characters from the more ordinary species of *Vespertilio* was noticed by the original describer; but as his genus *Vespertilio* was a very comprehensive one, no generic separation was attempted. At a later date, but before the appearance of the names proposed by Dr. Gray and M. Lesson, Count Keyserling and Prof. Blazius, in the arrangement of the *Vespertilionidæ* appended to their paper on European Bats published in the fifth volume of Wiegmann's Archives, had placed this species by itself, immediately following their second group of the genus *Vespertilio*, as an aberrant form, but without any name.

* Ann. and Mag. Nat. Hist. vol. x. (1842), p. 258.

† Nouv. Tab. Règ. Anim. p. 30 (1842).

Dr. Gray and M. Lesson, as above noticed, have made it the type of a new genus, for which each has advanced a name; but the appearance of these names in one year, renders it difficult to ascertain which claims the priority—supposing that a name is required, which is by no means certain. As the name imposed by Dr. Gray has the advantage of that given by M. Lesson, in having an accompanying generic description, I should choose, if a name be required, to give it the preference, believing that the practice of making new genera by the mere alteration of a name, done in some instances in anticipation of the investigations of others, or on the mere chance of its turning out a genus, and without perhaps ever having seen the species, is a habit that cannot be too carefully avoided by the truth-seeking investigator.

At one time I was much disposed to adopt one of these names for the species under view; but a more intimate examination made me pause. I found that the external peculiarities on which the genus was founded were not supported by such characters in the cranium as I deemed essential to generic independence. But, at the same time, as I have been able to examine a limited number only of specimens, and all of them in the state of skin, I scarcely hold myself qualified to determine this point with certainty, and therefore shall content myself with giving what I believe will be found a more complete description than has yet appeared, and with pointing out some affinities with other species, which have been overlooked,—believing that this species, like many others, is one of those that are ever and anon appearing, to warn the scientific zoologist that while he constructs generic and other divisions, and expands or contracts them here or there, moulding them to what he thinks they should be, nature, working to her inscrutable ends, presents such an infinite variety of forms, as, in their numberless and complicated affinities, to baffle and perplex the most determined systematist.

In proceeding to give the characters of this species, I shall first give those which may be supposed to be of generic or subgeneric value, followed by a list of synonyms, and these again by the notice of such peculiarities, as appear purely specific. This paper will, by this arrangement, take the form of the other monographs which I have communicated to the Society.

The top of the head is but very little elevated above the facial line, just as in the group containing the *Vespertilio formosus*, *V. emarginatus*, *V. rufo-pictus*, and *V. Pearsonii*; and the muzzle is produced in about the same degree as in *V. formosus*. It has also about the same vertical thickness in relation to its breadth as in that species. The mouth and the end of the nose are also pretty much as in the examples of that group; but the nostrils have their margins so much produced as to have the appearance of two tubular excrescences, which, however, differ from the same parts in the Chinese examples of *V. formosus* (with which only I have compared it) in degree rather than in actual difference of form. The ears are rather large for the size of the animal, and are of a roundish oval form, with a

regular outline, and without trace of external basal lobe. In this respect they differ from those of the group above alluded to; but in the form of the tragus there is but a slight difference. It is straight, narrow, and pointed, but not so long; nor is the tip so acute.

The organs of flight are rather broad in relation to their length, and are furnished with a long and strong thumb having a very short basal phalange enclosed in a narrow piece of membrane extending from its joint along the upper surface of the index finger. Its second phalange is long, as in *V. formosus*, *V. emarginatus*, &c. The wing-membranes are said to extend the whole length of the foot, quite to the claws, which they certainly do in the specimen in the British Museum; but in a specimen in my own collection they do not reach to the claws; scarcely further than to the middle of the toes*. This I have been able to ascertain by softening the specimen; but one in spirit is required to determine this point with accuracy. The feet themselves are rather long, and have the toes of two-thirds their entire length.

The tail is a little longer in relation to the size of the animal than it is in the species of the group with which I have found it most nearly allied, *i. e.* the group containing the before-instanced species, *V. formosus*, &c.

All the membranes are somewhat translucent; those of the wings are rather distinctly veined; and near to the sides of the body and legs they are marked with dotted lines, as is also conspicuously the case with the interfemoral membrane. The ears are faintly marked with small dots, but not nearly so much so as in *Kerivoula*.

The fur of the head extends uninterruptedly to near the end of the nose, in precisely the same manner as it does in *V. emarginatus*; and there is a similar naked space around the eye. All the upper surface of the interfemoral membrane is hairy, and the upper surface of the wing-membranes near to the body; but everywhere else the membranes are naked. On the back the fur is tricoloured; on the under parts it is bicoloured.

In general form the cranium very much resembles that of *V. emarginatus*; and in form and relative proportion the teeth are also similar, but differ in numbering one more premolar in the upper jaw, and one less in the lower. Their number may be thus stated:

$$\text{In. } \frac{2-2}{6}; \text{ Can. } \frac{1-1}{1-1}; \text{ Prem. } \frac{2-2}{2-2}; \text{ Mol. } \frac{3-3}{3-3} = \frac{16}{18}.$$

Those of the upper jaw are arranged in two straight lines, which are nearly parallel; and across the front opening of these the incisors are placed in pairs, of nearly uniform size, close together, with a very moderate interval on each side between them and the canines, and a moderate central opening. They are simple in form, with their cutting edges somewhat flattened. The canines are short and stout, somewhat

* This specimen is one I purchased with other Indian mammals, which formed part of the collection made by Capt. Boys.

conical, without accessory cusp or point, and with a feebly developed *cingulum* inside the tooth. Following these are two premolars, short and stout, and somewhat pyramidal in form, without internal lobe or projection. The following two molars are of the form so common in all the *Vespertilionidæ*; but they, like all the other teeth, have their cusps less acute than is usual, and the inner ones rather less extended towards the central part of the palate. The last molar is of small size, and transverse in form.

In the lower jaw the teeth are, as may be inferred from those in the upper, arranged in two straight lines, a little narrower in front than behind. The incisors are of the ordinary form, and trilobed; but the canines are very short and rather stout, and are furnished with an obtuse lobe on their inner surfaces sufficiently prominent to occupy a space equal in breadth to the two outer incisors on each side, behind and above which it may be seen when looking at the jaw in front. The same peculiarity occurs, but in a less degree, in the canines of the common *Noctule Bat*. The two next teeth are triangularly pyramidal in form, short and blunt, with faint indications of inner accessory cusps. Following these are the three true molars, requiring only to be noticed as having their cusps less acute than is usual.

VESPERTILIO SUILLUS, Temm.

V. suillus, Temm. Mon. ii. p. 224. pl. 56. f. 4, 5, 6, 1835-41; Wagn. Supp. Schreib. Säugth. i. p. 512, 1840; Keys. et Blas. Weigm. Archiv, vi. p. 2, 1840.

Murina suillus, Gray, Ann. & Mag. Nat. Hist. v. 10. no. 65. p. 258, 1842; Zool. Voy. Samar. no. 5. p. 9, 1849; Gervais, Voy. Castelnau, Mamm. p. 78, 1855; Horsf. Proc. Zool. Soc. pt. 24. p. 394, 1856.

Ocyptes suilla, Less. Nouv. Tab. Règne Anim. p. 30, 1842.

Noctulinia lasypura, Hodgs. Journ. A. S. Bengal, no. 182. p. 896, 1847.

On all the upper parts, with the exception of the interfemoral membrane, the fur is tricoloured, brown at the base, succeeded by pale rufous, and with the ends of the hairs of a brighter and deeper tint of the same colour; and in the specimen in the British Museum the extreme tips are a little paler, giving an indication of a fourth colour. The hair on the interfemoral membrane is of a uniform light brownish rufous colour. Beneath it is bicoloured, dark brown at the base, with its terminal third brownish cream-colour, but rufous on the humeral region. The specimen in the British Museum (included in Dr. Gray's Catalogue) has the fur much more distinctly marked with the different tints than the one in my own collection, in which they are very faint. The specimen in the Museum of the Hon. East India Company, collected by Mr. Hodgson in Nepal, and forwarded with the name of *Noctulinia lasypura* attached, has the colours well-marked. This, with the one in the National Collection, is decidedly smaller than the one in my own collection. M. Tem-

minck's specimen would seem to be smaller than either; but I cannot find any other disparity, excepting that of size, sufficiently marked to establish the existence of a second species. Probably the smaller island example, from which M. Temminck took his description, may hold the same relation to those from the continent of India, which the smaller specimen of *V. Pearsonii* from Amboyna does to those collected by Dr. Pearson at Darjeeling, of which I have spoken in a previous communication.

In the following Table the dimensions of column No. 1 are those of the specimen in the British Museum; those of No. 2 are from the one in my own collection (collected by Capt. Boys); No. 3 from M. Temminck's description, but reduced to English measure; and No. 4 from Mr. Hodgson's description of *Noctulinia lasyura*. A specimen bearing the latter name having been forwarded by that gentleman to Dr. Horsfield, has enabled me to identify it with the *V. suillus* of M. Temminck.

	1.		2.		3.		4.	
	in.	lin.	in.	lin.	in.	lin.	in.	lin.
Length of the head and body...	2	2	2	0	1	9	2	6
— of the tail	1	6	.....	.....	0	8 $\frac{3}{4}$	1	9
— of the head.....	0	8	0	9	.....	.....	0	11 $\frac{1}{2}$
— of the ears	0	4 $\frac{3}{4}$	0	7	.....	.....	0	8 $\frac{1}{2}$
Breadth of the ears.....	.....	.....	0	5 $\frac{1}{2}$	.....	.....	.....	.....
Length of the tragus	0	3 $\frac{1}{2}$	0	4	.....	.....	.....	.....
— of the fore-arm	1	2	1	5 $\frac{1}{4}$	1	1	1	9
— of the arm .....	.....	.....	.....	.....	.....	.....	1	1 $\frac{1}{2}$
— of the longest finger ...	2	4	2	9	.....	.....	3	3
— of the fourth finger ...	.....	.....	2	2	.....	.....	.....	.....
— of the thumb	0	5	0	5	.....	.....	.....	.....
— of the tibia	0	7	0	8	.....	.....	.....	.....
— of the foot and claws ...	0	3 $\frac{1}{2}$	0	4 $\frac{1}{2}$	.....	.....	.....	.....
Expanse of wings.....	9	2	10	9	7	9	13	0

Hab. Java, Sumatra, and the continent of India.

Although Mr. Hodgson has forwarded an unquestionable example of this species under the name of *Noctulinia lasyura*, yet the dimensions which are appended to his description are more nearly those of *V. Pearsonii*. It is quite possible that the two may have been confounded.

During the examination of this singular species, its affinities with the group consisting of *V. formosus*, *V. emarginatus*, *V. rufo-pictus*, and *V. Pearsonii* become sufficiently manifest. The general form of the head and face, of the tragus, of the organs of flight and the members of support, the quality and distribution of the fur, but, more than all, the general conformation of the cranium and the shortness of the teeth, are points of essential resemblance,—whilst the differences are, with the exception of that in the number of the premolars, purely external. So external are they, that a neat hand, with the assistance of a pair of scissors and a sharp knife, might speedily, with very slight alteration, remove all the external peculiarities of *Murina*. If a very small piece were scooped out of the outer margin of the ear, it would resemble that of *V. Pearsonii*; if the

prominent rim of the nostril were reduced a little, the nose and face would precisely resemble the same parts in *V. formosus*; and if a mere scrap of membrane were taken from the margin of the wing near to the toes, reducing it to the base of the latter, the change would be complete.

The more important difference therefore consists in the presence of an additional premolar in the lower jaw, and the absence of one in the upper jaw.

Mr. W. H. Flower exhibited a flying fish (*Exocetus volitans*), to which was attached a specimen of *Penellus Blainvillii* (Milne-Edwards, Nat. Hist. des Crustacés)—*Leoneopenna Blainvillii* of Lesueur. The latter was $2\frac{1}{2}$ inches long; the head and three horn-like processes were buried in the muscular mass on the right side of the spinal column of the fish, and the whole of the exposed part gave lodgment to a colony of little Cirripeds—*Conchoderma virgata*, Spengler, sp. (Darwin's Monograph of *Cirripedia*); these were of various sizes, the largest measuring 9 lines in length.

When first caught they were all living, and being placed in a basin of sea-water, exhibited beautifully the characteristic motions of the Cirri; while a circulation was also observed in the Lerneæad.

The specimen was taken in the Atlantic Ocean, about $5^{\circ} 17'$ south latitude, and brought home by Mr. Walter Crisp, Surgeon to the 'Monarch,' East Indiaman.

July 27, 1858.

Dr. Gray, F.R.S., V.P., in the Chair.

Mr. Gould exhibited a drawing of a very remarkable Bat which had lately been transmitted to him from Melbourne, Victoria, by Dr. Ludwig Becker, under the impression that it was a new and undescribed species, but which proved to be identical with the *Molossus australis* of Dr. Gray, characterized more than twenty years ago from the unique example contained in the Museum of the United Service Institution. Mr. Gould remarked that the receipt of this drawing was of especial interest, inasmuch as it proved that the animal is a native of Australia, a fact which, from the circumstance of no other example than the one referred to having been hitherto found in that country, had been disputed; the form being Brazilian.