

little broader than the upper eyelid; tympanum scarcely visible. Fingers slender, with slightly swollen tips, first as long as second; toes moderate, free; subarticular tubercles very prominent; two oval metatarsal tubercles; a small tubercle on the middle of the inner edge of the tarsus. The tibio-tarsal articulation reaches the eye or the posterior border of the orbit, the tarso-metatarsal articulation the tip of the snout or a little beyond. Upper surfaces warty, the warts sometimes confluent into four longitudinal folds, viz. a pair from the snout to the nape and one on each side from behind the eye to the sacral region; a well-developed triangular parotoid, low down on the side, behind the tympanum and above the shoulder; no lumbar gland; lower surfaces granulate. Greyish olive above, head and sides sometimes paler; a light vertebral line may be present; upper lip with two or three vertical dark bars; limbs with dark cross bars; throat and breast brown, with a white median line; belly whitish, with small brown spots. Male with a large external vocal sac on each side of the throat and brown rugosities on the inner side of the inner finger.

From snout to vent 30 millim.

Two males and two females were presented to the British Museum by Mr. J. H. Hart, Superintendent of the Royal Botanic Gardens, Trinidad. "They are very seldom seen and generally discovered only when half drowned in a fountain or similar place in the Gardens, where they go to spawn."

XXXV.—Notes on the Genus *Lobiger*.

By EDGAR A. SMITH.

THE British Museum received in 1887 from Mr. Edgar Thurston, of the Madras Museum, a number of interesting specimens from Tuticorin, Southern India, and among them were two examples of a species of *Lobiger*. On comparing the shells with those of the Sicilian species, which is generally known under the name of *L. Philippii*, I could discover no sufficient differences of form or sculpture whereby to distinguish them, and, with the exception of the mantle of the Ceylonese specimens being striped with interrupted fine black lines, which are visible through the shell, there appears to be no appreciable difference in the soft parts.

In describing this animal Calcara does not mention the characteristic lateral lobes of the foot, and states that this organ is obtuse at both extremities and that the posterior is

covered by the shell. This is the case with three Sicilian specimens in the Museum and the two examples from Ceylon. None exhibit parapodia, and all have the foot sharply truncate behind, so that I am of opinion that this animal has not only *the power of casting off the lateral lobes*, as described by Krohn, but also, like the genera *Harpa* and *Gena*, is *able spontaneously to detach the hinder portion of the foot*.

Not one of the five specimens has the parapodia remaining, so that it must be concluded that they have either been cast off or have not been developed. The character of the cephalic or tentacular lobes is quite the same in all; the sides of the foot are more or less tubercular, and, when closely examined, are seen to be minutely speckled.

I have extracted the odontophore from one of the Ceylonese specimens and find that it corresponds precisely with the figure given by Vayssi re of that of *L. Philippii*.

From the similarity of habitat I conclude that the two specimens sent by Mr. Thurston belong to *L. viridis* of G. and H. Nevill. Beyond difference of locality and the interrupted linear markings on the mantle there appear to be no distinguishing features in this so-called species.

I have made tracings of all the figures which have appeared of the different species of the genus, and, on comparison, it is curious to note what slight variation exists in the shells; indeed, taking the figures which represent *L. Serradifalci*, one may observe more difference of outline among them than between some of them and the other so-called species. Allowing for alteration of form in respect of size and age, I cannot discover valid conchological distinctions in any of the species.

In the British Museum a specimen from Sicily received from the late Robert MacAndrew curiously enough more nearly resembles the figure given by Pease of *L. pictus* from the Society Islands than any other.

Below is given the synonymy of all the described species. *Lobiger Cumingii*, A. Adams*, as pointed out by G. and H. Nevill†, should be removed to the genus *Volvatella* of Pease.

Lobiger Serradifalci (Calcara).

1840. *Bullea*? *Serradifalci*, Calcara, Monogr. *Clausilia* &c. p. 44.

1845. *Dolabella Serradifalci*, Calcara, Rev. Zool. p. 280.

* Thesaurus Conch. vol. ii. p. 399, pl. cxxi. fig. 58.

† Journ. As. Soc. Beng. 1869, vol. xxxviii. pt. 2, p. 66.

1847. *Lobiger Philippii*, Krohn, Ann. Sci. nat. sér. 3, Zool. vol. vii. p. 52, pl. ii. figs. 1-4 (animal and shell).
 1850. *Lobiger Philippii*, Souleyet, Journ. de Conch. vol. i. p. 232, pl. x. figs. 13, 14 (shell).
 1850. *Lobiger Philippii*, A. Adams, in Sowerby's Thesaur. Conch. vol. ii. pp. 598 and 602, pl. cxix. fig. 18 (animal), pl. cxxi. fig. 57 (shell).
 1856. *Lobiger Philippii*, Fischer, Journ. de Conch. vol. v. p. 274.
 1858. *Lobiger Philippii*, H. & A. Adams, Gen. Moll. ii. p. 31, pl. lix. figs. 2, 2 a (animal and shell).
 1853. *Lobiger Philippii*, Philippi, Handbuch Conch. und Malacol. p. 227.
 1854. *Lobiger pellucidus*, A. Adams, Proc. Zool. Soc. 1854, p. 94.
 1854. *Lobiger Philippii*, Woodward, Man. Moll. p. 186, pl. xiv. fig. 16 (shell).
 1856. *Lobiger pellucidus*, Fischer, Journ. de Conch. vol. v. p. 274.
 1858. *Lophocercus pellucidus*, H. & A. Adams, Gen. Moll. vol. ii. p. 31.
 1859. *Lobiger Philippii*, Chenu, Man. Conch. p. 394, figs. 2993, 2994 (animal and shell).
 1859. *Lobiger Philippii*, Gray, Fig. Moll. vol. iv. pl. clxxvi. figs. 1, 1 a (animal), fig. 1 b (shell).
 1863. *Lobiger Philippii*, Mörch, Journ. de Conch. vol. xi. p. 47.
 1863. *Lobiger corneus*, Mörch, l. c. p. 48.
 1863. *Oxynoë pellucidus*, Mörch, l. c. p. 46.
 1868. *Lobiger Philippii*, Weinkauff, Conch. Mittelm. vol. ii. p. 180.
 1868. *Lobiger Philippii*, Pease, Am. J. Conch. vol. iv. p. 75.
 1869. *Lobiger Philippii*, Petit de la Saussaye, Cat. Moll. test. mers d'Europe, p. 265.
 1870. *Lobiger Serradifalci*, Aradas & Benoit, Conch. Viv. Mar. Sicil. p. 138.
 1878. *Lobiger Philippii*, Kobelt, Illust. Conchylienb. p. 176, pl. lix. fig. 29 (shell).
 1883. *Lobiger Philippii*, Tryon, Syst. Struct. Conch. vol. ii. p. 363, pl. lxxxix. figs. 65, 66 (animal and shell).
 1883. *Lobiger Philippii*, Fischer, Man. Conch. p. 571, pl. xiv. fig. 16 (shell).
 1885. *Lobiger Philippii*, Vayssière, Ann. Mus. Hist. Nat. Marseille, vol. ii. mém. 3, pp. 100-102 and 177, pl. ii. figs. 48-50 bis (animal, radula, and shell).

Hab. Sicily (*Calcara*, *Krohn*, and others); Gulf of Marseilles (*Vayssière*).

It has been pointed out by Petit in the first instance, and afterwards by Aradas and Benoit, that the *Bullea Serradifalci*, named by *Calcara* in honour of the Duke of Serradifalco (a small town in Sicily), is the same as *L. Philippii* of *Krohn*, and I am of opinion that this identification is correct.

L. pellucidus of A. Adams, described without locality and from shell-characters only, is not to be separated from the present species. The types in the Museum show this, and consequently prove that the brothers Adams, and Mörch after them, were wrong in referring the species to *Lophocercus* or *Oxynoë*.

L. corneus of Mörch has still slighter grounds to rank as a distinct species, being founded upon the figures of Adams and Woodward of *L. Philippii*. Why Mörch thought that those figures did not correctly represent the Mediterranean species it is impossible to say; I can only remark that on comparing them with Sicilian shells they more closely resemble them than do some of the figures which are admitted by Mörch to illustrate the true *L. Philippii*.

Lobiger viridis, G. & H. Nevill.

1869. *Lobiger viridis*, G. & H. Nevill, J. As. Soc. Bengal, vol. xxxviii. pt. 2, p. 68, pl. xiii. figs. 6-6*b* (shell).

Hab. Ceylon (G. & H. Nevill), Tuticorin, Southern India (Thurston).

Differs only from *L. Serradifalci* in having the mantle ornamented with interrupted fine black lines.

Lobiger Souverbii, Fischer.

1856. *Lobiger Souverbii*, Fischer, Journ. de Conch. vol. v. p. 273, pl. xi. figs. 7-10 (animal and shell).

Hab. Guadeloupe.

This species (?) is distinguished by the presence of a single lobe on each side, that on the right being situated more forward than that on the left. The shell offers no tangible differences from that of the Mediterranean species. Considering how uncertain are the presence and number of the parapodia, there seem to be insufficient grounds shown at present for specifically separating this form from *L. Serradifalci*.

Lobiger (Pterygophysis) pictus (Pease).

1868. *Lobiger pictus*, Pease, Am. Journ. Conch. vol. iv. p. 75, pl. viii. fig. 3 (animal), and pl. xii. fig. 26 (shell).

1871. *Lobiger pictus*, Martens & Langkavel, Don. Bismark. p. 54, pl. iii. fig. 5 (shell).

1883. *Lobiger (Pterygophysis) pictus*, Fischer, Man. Conch. p. 570 (animal).

Hab. Huaheine, Society Islands.

This species, according to Pease, has two instead of a single pair of tentacles and is differently coloured from the Sicilian form. The shell appears to be similar in both.



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