XI .- Notes on Voluta norrisii, V. piperita, V. sophia, and Description of a new Species. By EDGAR A. SMITH.

[Plate V.]

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Voluta norrisii, Gray (nec auctorum).

Voluta norrissii (sic), Gray, Ann. Nat. Hist. vol. i. p. 414 (1838). Voluta piperita, Sowerby, Proc. Zool. Soc. 1844, p. 150; Thes. Conch. vol. i. p. 199, pl. li. fig. 62 (1844); Reeve, Conch. Icon. vol. vi. pl. vii. figs. 16a, 16b (1849).

Scapha piperita, Gray, Proc. Zool. Soc. 1855, p. 56; List Moll. Brit. Mus. part i. Volutidæ, p. 10 (1855).

Voluta (Scapha) piperita, Angas, Proc. Zool. Soc. 1864, p. 51. Voluta (Vespertilio) piperita, Tryon, Man. Conch. vol. iv. p. 87, pl. xxvi. fig. 60; Crosse, J. de Conch. 1871, vol. xix. p. 280.

Hab. Woodlark Island (Angas); New Georgia, Solomon Islands (J. Brazier, fide Crosse); Rubiana, Solomon Archi-

pelago (Petterd).

The original description by Gray of Voluta norrisii appears to have been overlooked by or inaccessible to nearly every writer upon the genus; even Gray himself apparently forgot that he had described a species under that name, for in 1855 he quoted it as of Sowerby. Sowerby did indeed describe a Voluta norrisii in 1844, which is the shell that has been always known under that name. It is, however, quite distinct from Gray's norrisii, which, moreover, is the same as V. piperita of Sowerby. The following is Gray's description: - "Voluta norrissii [sic!]. - Greyish white, very minutely black dotted, with broad, black, wavy, irregular longitudinal streaks, with three bands with paler dots and streaks; nucleus blunt, upper part slightly crenated; last whorl subangular; mouth bright orange, with a white edge to the outer lip.

"Inhab. --? Cabinet, Mr. Norris.

"Very like Voluta nervosa [sic!], but the shell is minutely black dotted, the longitudinal streaks are broader, and the three dark bands are rather more towards the front of the shell; the hinder one occupies the whole of the spine [sic!, should be 'spire'] and hinder slope of the last whorl."

On comparing this description with the figures of V. piperita given by Sowerby and Reeve, it will at once be seen to agree perfectly with them-indeed, it must have been based upon the same shell from Mr. Norris's collection which was

described by Sowerby under the name of V. piperita, and at

the time was unique.

Voluta macgillivrayi, Cox*, from Woodlark Island, is a light-coloured variety of the present species, and V. ruckeri, Crosse, is also regarded as a highly coloured form.

Valuta oblita, nom. nov.

Voluta norrisii, Sowerby (non Gray), Proc. Zool. Soc. 1844, p. 150; Thes. Conch. vol. i. p. 201, pl. li. fig. 65; Reeve, Conch. Icon. vol. vi. pl. vii. fig. 15.

Scapha norrisii, Sowb. (non Gray), Gray, Proc. Zool. Soc. 1855, p. 56;

List Moll. Brit. Mus. part i. Volutidæ, p. 10 (1855). Voluta (Vespertilio) norrisii, Tryon, Man. Conch. vol. iv. p. 86, pl. xxv. fig. 55.

Hab. Depuch Island (Dring); Nichol Bay (Cox); Monte-bello Islands (T. H. Haynes); Tien Tsin, Flying Foam Passage, and Camden Harbour (Petterd); King George's

Sound (Angas). The last locality is doubtful.

This well-known species is the Voluta norrisii of all authors, but not the species described by Gray in 1838 under that name. It is closely related to V. nivosa, Lamarck, but is separable on account of the general tone of its coloration, usually shorter form, usually more strongly spinose coronation of the whorls, and much less distinct lineations on the transverse bands. These lines also, as a rule, are not so wavy. In the spaces between the lineated zones there is a mottling of brown or olivaceous markings, which does not occur in V. nivosa.

If we consider this shell a variety of V. nivosa, we must then, to be consistent, also unite with it V. sophia, Gray, which, with the exception of the rows of black spots and the white columellar folds, does not present any distinguishing features from the present species. Still the three forms, judging from the series of specimens which have been examined, are nearly always readily separable and have different geographical ranges. There is, however, a short coronated variety of nivosa which approaches very closely to some forms of oblita.

Voluta sophia, Gray.

Voluta sophia, Gray, Ann. & Mag. Nat. Hist. 1846, vol. xviii. p. 431; id. in Jukes's Voy. 'Fly,' vol. ii. p. 355, pl. i. figs. 1, 2 (1847); Reeve, Conch. Icon. vol. vi. pl. x. fig. 21 (1849); Sowerby, Thesaurus Conch. vol. iii. p. 270, pl. cclxi. fig. 132 (1864).

Voluta (Vespertilio) sophia, Tryon, Man. Conch. vol. iv. p. 87, pl. xxv.

fig. 59 (1882); Crosse, J. de Conch. 1871, vol. xix. p. 279.

^{*} Proc. Zool. Soc. 1873, p. 568, pl. xlviii. fig. 9.

Hab. Endeavour Straits and Port Essington, North Australia; Warrior Reef and Darnley Island (Petterd).

In the Proc. Zool. Soc. 1855, p. 63, and List of Volutidæ Brit. Mus. 1855, p. 20, Gray quotes this species as being figured in Stokes's Voy. in Australia, pl. iii. fig. 1. This certainly is a mistake, which evidently arose from the fact that the surname of the lady after whom the shell was named was Stokes, and this unfortunately was accidentally quoted instead of Jukes. Curiously enough there is a work by J. L. Stokes, 'Discoveries in Australia &c.,' published in 1846, the year in which this species was described.

Voluta irvinæ, sp. n. (Plate V.)

Voluta norrisii, var. irvinæ, Cox, MSS. in litt.

Shell oblong, subpiriform, rather ventricose, light salmonred, with numerous white flecks forming three zones upon the body-whorl—one at the shoulder or upper end, one central, and the third anterior. There are two intermediate zones without white flecks, but marked with numerous longitudinal, irregular, wavy, dark brown lines. The upper zone is the broader, and falls rather above the middle of the whorl. Whorls 6, the first three forming a large nipple-like apex, noduled above; the penultimate oblique and excavated above, then angled and coronated with about fourteen small short hollow spines; the body-whorl is also excavated above and has a similar coronation of about twenty spines; it is rounded at the shoulder below the spines; the concavity of these two whorls exhibits numerous radiating dark brown streaks of varying lengths; the anterior end and the fasciole of the body-whorl are marked with fine wavy red lines; aperture large, whitish within, becoming somewhat orange at the lip; the band of dark lines forms an obscure zone within at the middle; labrum not thickened, rather deeply sinuated at the suture; columellar folds four in number, white, prominent; extreme end of columella orange-red.

Length 110, diam. 60 mm.; aperture with the labrum

90 long, diam. 30 mm.

Hab. "From one of the many reefs off Rat Nest Island, off Freemantle in Western Australia" (Dr. J. C. Cox in litt.).

This remarkable shell was sent to Mr. J. H. Ponsonby by Dr. Cox, with the request that it might be described and placed in the British Museum. Mr. Ponsonby kindly handed on the specimen to me for examination and description.

Its nearest ally is V. nivosa, from which it differs in several characters. It is larger, the spire shorter, and the upper

part of the last two whorls is deeply channelled. The tubercles forming the coronation are hollow spines, and far more numerous, almost double the number of the nodosities in nivosa. The ground-colour is salmon-red and the white markings take the form of flecks or splashes rather than of spots and dots. The aperture is large and whiter within, and the columellar folds are white.

V. nivosa, V. irvinæ, V. oblita (=norrisii, auct., nec Gray), and V. sophia form a group of species which possess some features in common, namely, the radiating brown lines upon the spire, the coronated whorls, brown or reddish lineation on the anterior fasciole, and two transverse colour-bands, more or less lineated except in V. sophia, and they all exhibit white spotting or mottling upon the rest of the surface of the body-whorl. This is not seen in any of the published figures of V. sophia, but it does occur in some examples.

It becomes a question of regarding these four forms as distinct or as local races of one species with a wide geographical range upon the north and west coasts of Australia. V. nivosa and V. irvina are the two most southern forms, occurring off Swan River and as far north as Shark's Bay; V. oblita ranges further north, about the Dampier Archipelago, and V. sophia is restricted to the extreme north of the continent.

Mr. W. F. Petterd, who does not accord specific rank to norrisii (auct.) and sophia, Gray, has given the distribution of these forms and of V. nivosa (Journ. of Conch. vol. ii. p. 341).

XII.—New African small Mammals in the British Museum Collection. By Oldfield Thomas.

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Among the following new animals special attention may be directed to the interesting new genus of Muridæ discovered by Dr. Hinde in the coast region of British East Africa, to the new Taphozous also sent by him from the same district, and to the new Heterocephalus from Somaliland, in connexion with whose descriptions I have ventured on some speculations about the dental formula in the group.

Taphozous hildegardeæ, sp. n.

An African representative of the Asiatic black-bearded T. melanopogon.



Smith, E. A. 1909. "XI.—Notes on Voluta norrisii, V. piperita, V. sophia, and description of a new species." *The Annals and magazine of natural history; zoology, botany, and geology* 4, 95–98.

https://doi.org/10.1080/00222930908692646.

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DOI: https://doi.org/10.1080/00222930908692646

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