

NOTE ON THE SUBGENUS *MALLUVIUM*, MELVILL.

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Read 11th May, 1906.

IN the last part of these Proceedings (p. 81) Mr. Melvill has made some observations upon the genera *Amalthea* of Schumacher and *Capulus* of Montfort, and has created a new subgenus of the former to include a species described by me as *Capulus lissus*. I do not agree with the conclusions he has arrived at, hence the few following remarks.

Schumacher included two species in his genus *Amalthea*, namely, *A. conica* (= *Patella australis*, Lamk.) and *A. maxima* (= the well-known *Capulus hungaricus*). The latter had already been appropriated by Montfort for his genus *Capulus*, and therefore *Amalthea* is typically represented by the first species, *A. conica*.

The account of the animal of this species given by Quoy & Gaimard (Voy. Astrolabe, Zool., vol. iii, p. 434, pl. lxxii, figs. 25-34) shows that it is practically of the same character as that of *Hipponyx antiquatus* (see Fischer, Man. de Conch., p. 753, fig. 519), which is the type of that genus, for "*H. mitrata*, Gmelin," as quoted by DeFrance, the author of the genus *Hipponyx*, is presumably merely a misprint of *mitrula*, Gmelin, which is synonymous with *H. antiquatus*. With regard to *Amalthea*, Messrs. H. & A. Adams observe that it is "like *Concholepas* [= *Hipponyx*], but it simply excavates with its foot a superficial cavity in the surface of the shell or stone on which it fixes itself, not forming a shelly plate distinct from the substratum."

Such, however, is not invariably the case, for sometimes a shelly base, although it may be thin, is certainly secreted. It is also stated by Dr. Turton that he had in his collection a specimen of *Capulus hungaricus* which had formed "a thin laminar under-valve," but Jeffreys thought he must have been mistaken. His account of the circumstance, however, is so exact that I see no reason to doubt it.

Tryon observes concerning *Hipponyx*, "the same species will either excavate a cavity to which it adheres, or secrete a testaceous support." Seeing, therefore, that the same species of *Amalthea*, and perhaps *Capulus* also, either may or may not construct a shelly basal support, this cannot be regarded as an essential generic feature.

The *Capulus lissus* upon which Mr. Melvill has founded his subgenus *Malluvium* appears to form a thickened shelly base only under exceptional circumstances. On a specimen of *Rostellaria delicatula* from the Bay of Bengal it has formed a scar on the surface, and only secreted a film of callus and a slight thickening at the edge of the depression. The fact of its being smooth, instead of radiately striated like other species, does not seem to me of subgeneric value, nor do I regard the presence or absence of colour-rays of any importance.

If difference of sculpture be sufficient to constitute a new subgenus, we might propose one for *Capulus irregularis*, Smith, which is neither smooth nor radiately ridged or striated, but only concentrically lamellated. It also possesses one of the other features characteristic of *Malluvium*, namely, colour-rays. To sum up—(1) We have at present no knowledge of the soft parts of this mollusc (*C. lissus*), so that it is impossible to say whether it will show greater affinity with *Capulus* or *Amalthea*.¹ (2) Conchologically it differs only from *Amalthea* in being smooth instead of radiately ridged or striated, a feature even variable in degree among the known species, for *A. australis* (Lamk.), the type of the genus, is very strongly radiately costate, whereas *A. antiquata* (Linn.) is conspicuously concentrically lamellated with only very faint delicate striæ. I think, therefore, that *Malluvium*, at all events, may be regarded as premature, if not unnecessary.

In conclusion, I may point out that the genus *Hipponix* (*sic*) was described by DeFrance in the Journ. de Physique, 1819, vol. lxxxviii, p. 215, and not in the Bull. Soc. Philom., 1819, p. 9, which is only a notice of it by Blainville.

¹ Since this was written the radulæ, extracted from some dried-up specimens, have been very kindly examined by Professor H. M. Gwatkin. He is of opinion that, among the genera known to him, the odontophore of *C. lissus* is certainly nearest that of *Amalthea*.



Smith, E. A. 1906. "NOTE ON THE SUBGENUS MALLUVIUM, MELVILL."
Proceedings of the Malacological Society of London 7, 122–123.

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