

NOTES ON WESTERLUND'S SPECIES OF FRESHWATER MOLLUSCS FROM CEYLON.

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Westerlund in 1885¹ described eight new species of freshwater molluscs from Ceylon collected by the "Vega" Expedition. Of the eight species two were Hydrobiids, one a Melaniid and five Planorbids. No reference to these species is included in any of the works published since that date except by Preston, who in his volume in the "Fauna of British India"² copied the Latin descriptions of the five Planorbids. Regarding the other three species he neither included any references to them, nor did he comment on their validity. Germain in his valuable Catalogue of the Indian Planorbids³ did not refer to any of the five species of Westerlund's Planorbids from Ceylon. From Westerlund's descriptions and figures I was not able to fully understand the species described by him and so requested Dr. Nils Hj. Odhner of the Riksmuseum, Stockholm, Sweden, who had the "Vega" collections under his charge, to kindly send me Westerlund's Ceylon specimens for examination. He was not only good enough to send me the whole material, but presented duplicates of the species, as far as available, for the collections of the Zoological Survey of India, Indian Museum, Calcutta. For all this I am greatly indebted to Dr. Odhner, and wish to express here my hearty thanks to him for his kindness.

As a result of my examination and comparison of the type-specimens with authentically named material in the Indian Museum, I find that all the species described by Westerlund as new are to be referred to already known species. I give below the species to which they are to be relegated as synonyms, but for the sake of easy reference have written up the notes under the names given by Westerlund. For the sake of comparison I also publish here outline text-figures of Westerlund's type-shells.

194. *Planorbis (Gyraulus) demissus* Westerlund.

1885. *Planorbis demissus*, Westerlund, *op. cit.*, pp. 204, 205, pl. iv, fig. 16.

1915. *Planorbis (Gyraulus) demissus*, Preston, *op. cit.*, p. 121.

Westerlund considered his specimens to be the same as those described as *P. compressus* by Hutton.⁵ Since the name *compressus* was already occupied by Michaud's species⁶ from France, he proposed calling it *P. demissus*. The species is, however, not Hutton's *P. compressus*, but what he called *P. convexiusculus*.

¹ Westerlund, *Land-och Sötvatten. Mollusker. Ur Vega Expeditionens Vetenskapliga Jakttagelser*, Vol. IV, pp. 143-220, pls. 2-6 (1885).

² Preston, *Faun. Brit. Ind. Freshw. Moll.* (1915).

³ Germain, *Rec. Ind. Mus.* XXI, (1921-1924).

⁴ These numbers are the ones given by Westerlund to his species in the paper cited.

⁵ Hutton, *Journ. As. Soc., Bengal* (2) III, p. 93 (1834).

⁶ Michaud, *Compl. Hist. Moll. France*, p. 81, pl. xvi, figs. 6-8 (1831).

I have carefully compared four shells of this species received from Dr. Odhner for the Indian Museum with large series of Indian shells of *G. convexiusculus* (Hutton)¹ and can find no differences between them to justify the separation of the Ceylon shells into a new species.

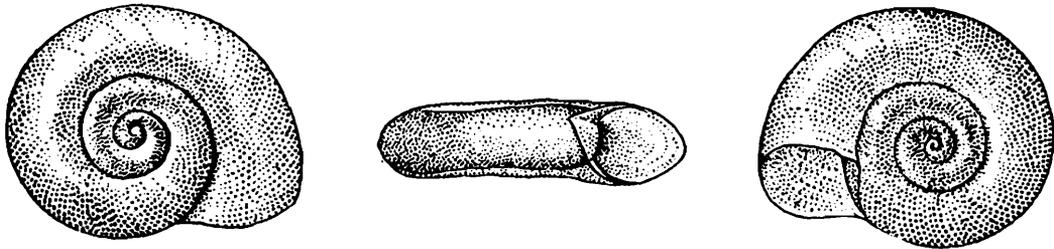


FIG. 1.—*Planorbis (Gyraulus) demissus* Westerlund. × 6.

I publish here figures of the largest specimen out of Westerlund's collection for comparison with the figures of *G. convexiusculus* published by the late Dr. Annandale and myself in 1919.

20. *Planorbis (Gyraulus) associatus* Westerlund.

1885. *Planorbis associatus*, Westerlund, *op. cit.*, p. 205, pl. iv, fig. 17.

1915. *Planorbis (Gyraulus) associatus*, Preston, *op. cit.*, p. 122.

As a result of my examination of the types of this species I have no doubt that the species is based on individuals of *G. stelzneri* (Dohrn).² Preston was wrong in remarking that it is "almost certainly a variety of *P. (G.) demissus*." The number of whorls is larger, the shape of the mouth is different, the shell is more carinate and the spiral sculpture is much more pronounced.

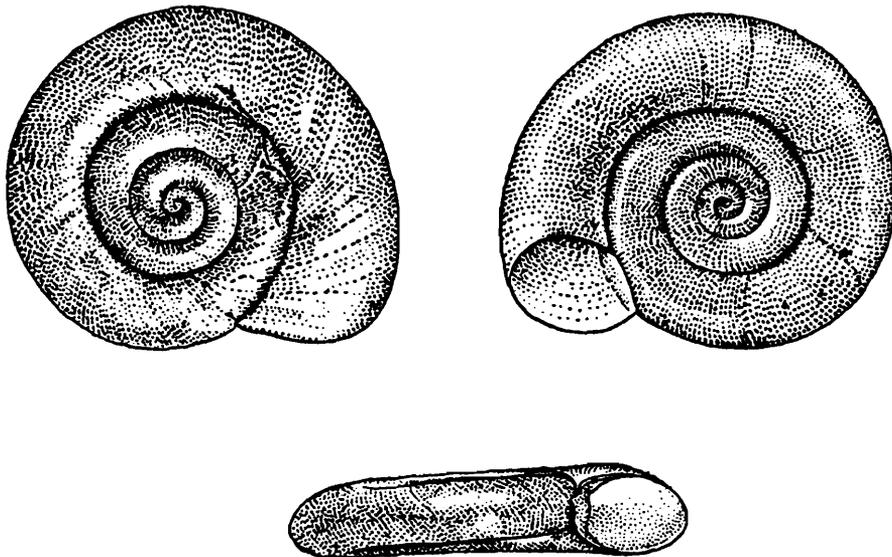


FIG. 2.—*Planorbis (Gyraulus) associatus* Westerlund. × 6.

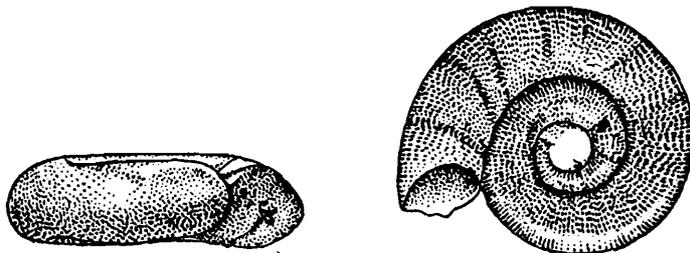
I reproduce above enlarged drawings of one of Westerlund's shells.

¹ See Annandale and Prashad, *Rec. Ind. Mus.* XVIII, pp. 52-54, fig. 7-B (1919), and Prashad, *Rec. Ind. Mus.* XXII, pp. 473, 474 (1921). Germain in 1922 (*Rec. Ind. Mus.* XXI, pp. 119-124) still referred to the species under the name *P. (G.) saigonensis*, but, as was shown in the first paper cited above, Crosse and Fischer's *saigonensis* is the same as Hutton's older species *convexiusculus*, and should be relegated to its synonymy.

² Dohrn, *Proc. Zool. Soc. London*, p. 134 (1885). Also see Germain, *Rec. Ind. Mus.* XXI, pp. 130, 131 (1923) for further references to the species.

21. *Planorbis (Gyraulus) liratus* Westerlund.1885. *Planorbis (Gyraulus) liratus*, Westerlund, *op. cit.*, p. 206, pl. iv, fig. 18.1915. *Planorbis (Gyraulus) liratus*, Preston, *op. cit.*, p. 121.

Of this species only two shells were sent to me for examination. Both the shells were rather imperfect and I am, therefore, not quite definite about their position. The form and size of the shells, the number of whorls, the sculpture, the outline of the mouth and their measurement, however, remind one of *G. rotula* (Benson). *G. rotula*¹ was originally described from Moradabad in the United Provinces of India, but a large number of specimens from the suburbs of Bombay were, I think, rightly assigned by Germain² to this species. If my conclusion that *Planorbis liratus* of Westerlund is the same as *G. rotula* is correct, then the range of distribution of *G. rotula* is more extensive than was hitherto believed. It may also be noted here that I agree with Preston and Germain that Sowerby's figure of *Planorbis rotula* in the *Conchologia Iconica*³ has no resemblance to Benson's species, which is, however, correctly figured by Hanley and Theobald in *Conchologia Indica*.⁴

FIG. 3.—*Planorbis (Gyraulus) liratus* Westerlund. × 8.

I reproduce here outline figures of one of the incomplete specimens prepared from a photograph which was taken for me in the Senckenberg Museum, Frankfurt a. Main.

22. *Planorbis (Hippeutis) versicolor* Westerlund.1885. *Planorbis (Hippeutis) versicolor*, Westerlund, *op. cit.*, p. 206, pl. iv, fig. 19.1915. *Planorbis (Hippeutis) versicolor*, Preston, *op. cit.*, p. 124.

As a result of my comparison of two specimens of the type-series of Westerlund's species with authentic specimens of *H. umbilicalis* (Benson)⁵ I am able to definitely confirm their identity. Both the specimens are half grown shells and do not differ in any respect from same-sized shells of *H. umbilicalis* from Sylhet and Manipur, Assam. Westerlund in his account of *P. versicolor* also referred to *H. umbilicalis* and stated that his new species was nearly allied to it. I give here figures of one

¹ Benson, *Ann. Mag. Nat. Hist.* (2) V, p. 351 (1850).² Germain, *Rec. Ind. Mus.* XXI, pp. 128, 129 (1923).³ Sowerby in Reeve's *Conch. Icon.* XX, fig. of sp. 121 (1878).⁴ Hanley and Theobald, *Conch. Ind.* pp. xviii, 40, pl. xcix, figs. 2, 3 (1876).⁵ Benson, *Journ. As. Soc. Bengal* V, p. 741 (1836).

of Westerlund's specimens from Point de Galle, Ceylon, and of another, shell from Manipur, Assam for comparison.

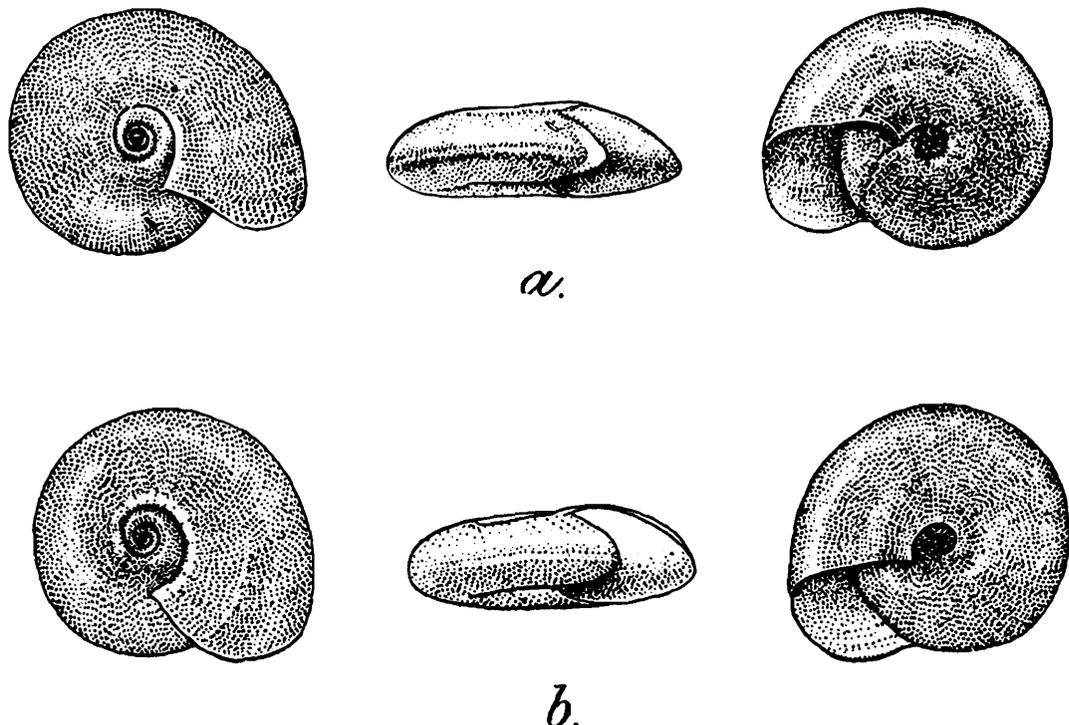


FIG. 4.—(a) *Planorbis (Hippeutis) versicolor* Westerlund; Point de Galle, Ceylon. $\times 4$
(b) *Hippeutis umbilicalis* (Benson); Manipur, Assam. $\times 4$.

It may be noted here that *umbilicalis*, as was proved by an examination of its soft parts,¹ should be placed in the genus *Hippeutis* and not *Segmentina* to which genus Germain assigns it.²

24. *Planorbis (Segmentina) spirodelus* Westerlund.

1885. *Planorbis (Segmentina) spirodelus*, Westerlund, *op. cit.*, p. 209, pl. v fig. 21.

1915. *Planorbis (Segmentina) spirodelus*, Preston, *op. cit.*, p. 126.

Westerlund in his notes on this species compared it with his new species *mica* from Japan and the European species *nitida*, and ignored the Indian species *calatha* (Benson), *cantoris* (Benson), etc.

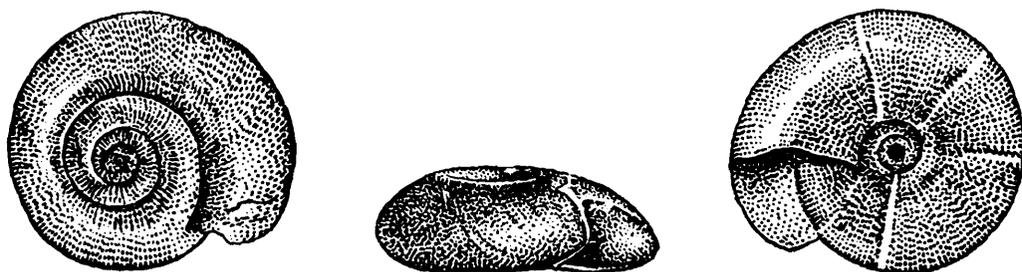


FIG. 5.—*Planorbis (Segmentina) spirodelus* Westerlund. $\times 6$.

As a result of my examination of one of the type-specimens I am certain that it is nothing more than *Segmentina calatha* (Benson),³ which

¹ Annandale and Prashad, *Rec. Ind. Mus.* XXII, pp. 584, 585 (1921).

² Germain, *Rec. Ind. Mus.* XXI, pp. 176-178 (1923).

³ Benson, *Ann. Mag. Nat. Hist.* (2) V, p. 349 (1850). See also Germain *Rec. Ind. Mus.* XXI, pp. 168, 169 (1923) for further references.

is widely distributed in India and is represented in the Indian Museum collection from Galle, Ceylon.

I give here outline drawings of Westerlund's specimens made from photographs of type-shells.

27. *Bythynia tumida* Westerlund.

1885. *Bythynia tumida*, Westerlund, *op. cit.*, p. 211, pl. v, fig. 23.

Westerlund in the remarks about this species compared it to *Bythynia orcula* (Benson MSS.) Frauenfeld. The type-specimen, which I have examined, is badly figured by Westerlund and I, therefore, publish

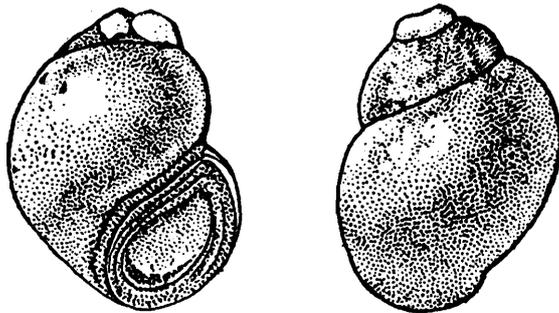


FIG. 6.—*Bythynia tumida* Westerlund. $\times 6$.

new figures here. The specimens are nothing more than *Bithynia stenothyroides* Dohrn, which, as Annandale¹ has shown, should be known as *Amnicola* (*Alocinma*) *stenothyroides* (Dohrn).

32. *Melania lentiginosa* var. *nymphula* Westerlund.

1885. *Melania lentiginosa* var. *nymphula*, Westerlund, *op. cit.*, p. 215, pl. vi, fig. 30.

I have examined three specimens of this variety presented to the Indian Museum by Dr. Odhner. These specimens are only var. *layardi*

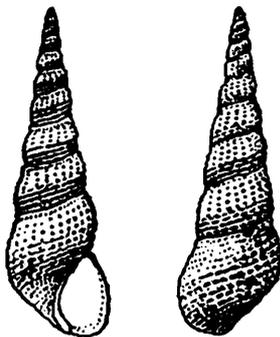


FIG. 7.—*Melania lentiginosa* var. *nymphula* Westerlund. $\times 1\frac{1}{2}$.

(Dohrn)² of *Melanoides tuberculata* (Muller). I figure one of the shells here.

¹ Annandale, *Rec. Ind. Mus.* XIX, p. 43 (1920).

² Dohrn, *Proc. Zool. Soc. London*, p. 135 (1885). See also Preston, *Faun. Brit. Ind. Freshw. Moll.*, p. 16 (1915). The generic name as was pointed out by Annandale, *Rec. Ind. Mus.* XIX, pp. 108, 109 (1920) should be *Melanoides* Olivier.

33. *Nematura ceylanica* Westerlund.

1885. *Nematura ceylanica*, Westerlund, *op. cit.*, p. 216, pl. v, fig. 25.

As Westerlund's descriptions and figures of this species show it is not to be referred to *Nematura* or rather *Stenothyra* as Benson¹ himself later changed the generic name owing to *Nematura* being pre-occupied. As a result of my examination of two of the specimens of the type-series I have no doubt that the species was based on young, complete

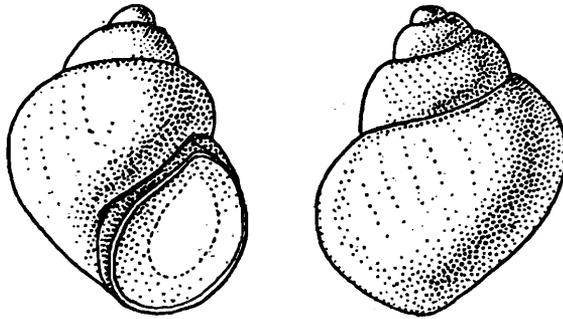


FIG. 8.—*Nematura ceylanica* Westerlund. × 8.

shells of *Amnicola* (*Alocinma*) *stenothyroides* (Dohrn). Westerlund's species *Bythynia tumida*, as pointed out above, was also described from shells of this species, but the shells were larger and had the apex eroded.

I figure one of the shells here for reference.

¹ Benson, *Ann. Mag. Nat. Hist.* (2) XVII, p. 496 (1856).