

## NOTES ON LAMELLIBRANCHS IN THE INDIAN MUSEUM.

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### 7. ON A NEW SPECIES OF *VILLORITA* GRIFFITH & PIDGEON FROM BOMBAY WITH NOTES ON A JAPANESE SPECIES.

In 1921<sup>1</sup> I published a revision of the Indian species of the genus *Villorita* Griffith & Pidgeon, and from the available records concluded that species of this genus are confined to the brackish water areas on the Malabar Coast of Peninsular India. While working through the extensive collections of Corbiculidae in the Indian Museum, and those of various European Museums the authorities of which have been kind enough to lend me their collections for study, I found a form from Bombay, which could not be referred to the genus *Corbicula* Meg. v. Mühlfeldt, and appeared to be a primitive member of the genus *Villorita*. There is a single adult shell of this species in the collection of the Indian Museum, and a good series of shells of all ages was found among the Paris Museum collections labelled *Corbicula*; these shells are from the collections made by Mons. Dussumier in Bombay in 1837. It is described below under the name *Villorita corbiculoides*.

Deshayes in 1854<sup>2</sup> described from the Cuming Collection a species of unknown habitat under the name *Corbicula incrassata*. It was considered by Prime<sup>3</sup> to be synonymous with *C. cuneata* (Jonas) from Orinoco River, South America, and Clessin<sup>4</sup> followed him in this conclusion. I am unable to agree with these authors, and am of opinion that the specimen from the Cuming Collection, which Prime received as *C. incrassata*, must have been wrongly labelled.

In the Indian Museum collection I found a specimen from Japan presented by the late Dr. Anderson, and hitherto kept with the unnamed material of the genus *Corbicula*. This specimen agrees very well with Deshayes's description of *C. incrassata*, and with the figure, probably of the type, in *Conchologia Iconica*.<sup>5</sup> In my notes on the Corbiculas in the British Museum (Natural History) collection I had further made a note that the species *C. incrassata* was wrongly assigned to the genus *Corbicula*, and should, in my opinion, be placed in the genus *Villorita*. Prime's figure (*loc. cit.*) of *C. cuneata* (Jonas) is quite different from the shell which I saw in the British Museum labelled as *C. incrassata* Deshayes, and the hinge is quite different in the two cases.

This record of a species of the genus *Villorita* from Japan greatly extends the range of distribution of the genus. It is, so far as is known, very discontinuous, and points to the members of the genus having originated independently from marine ancestors in areas so far apart as

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<sup>1</sup> Prashad, *Rec. Ind. Mus.* XXII, pp. 111-119, pl. xv (1921).

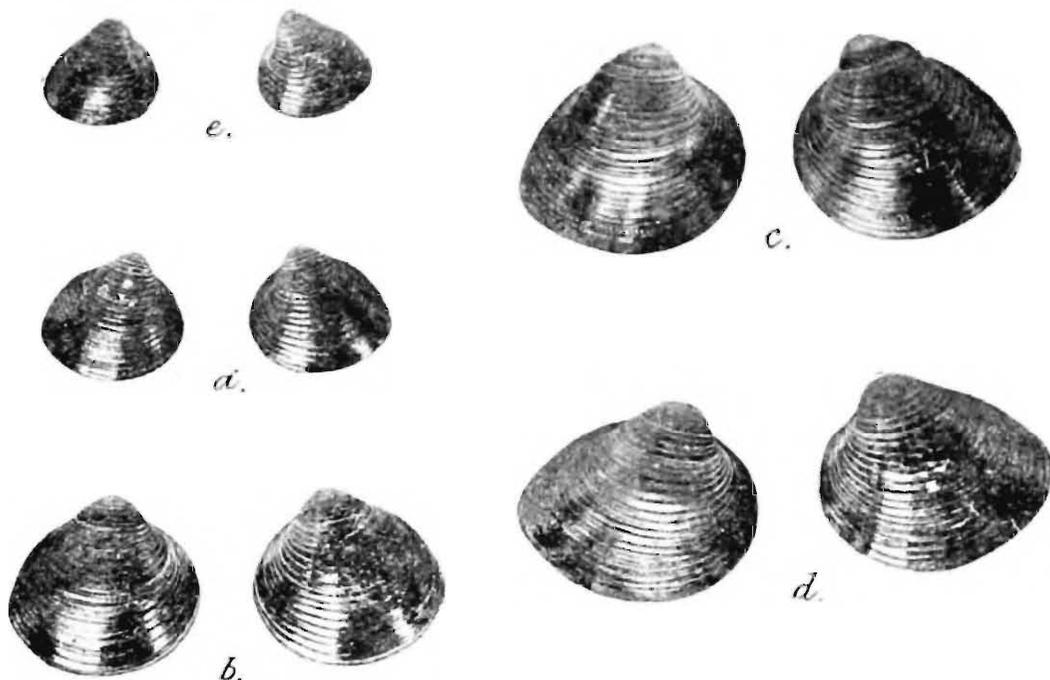
<sup>2</sup> Deshayes, *Proc. Zool. Soc. London*, p. 342 (1854); also see *Cat. Conch. Brit. Mus.* II, p. 233 (1854).

<sup>3</sup> Prime, *Smithson, Misc. Coll., Mon. Amer. Corbicul.* p. 6 (1865).

<sup>4</sup> Clessin, *Martini & Chemn. Conch.-Cab. (n.f.), Cyclädeen*, p. 158 (1877).

<sup>5</sup> Sowerby, *Conch. Icon.* XX, *Cyrena*, pl. xvi, fig. 86 (1876).

Japan on the one hand and the west or Malabar Coast of Peninsular India on the other. It is, however, likely that other species of the genus yet remain to be discovered from the intervening areas.



TEXT-FIG. 1. *a-d.* Four shells of different ages of *Villorita corbiculoides*, sp. nov., from Bombay; figure 1 *d* is a photograph of the holotype of the species; *e.* Photograph of *Villorita incrassata* (Deshayes) from Japan. All the figures are direct natural sized photographs.

It may also be noted that Preston's *Corbicula cochinensis*<sup>1</sup> is based on young shells of *Villorita cyprinoides* (Grey) and is not a new species of the genus *Corbicula*, as the author supposed.

#### ***Villorita corbiculoides*, sp. nov.**

Shell fairly large, trigonal, distinctly oblique, swollen in the umbonal and the middle regions of the shell, and greatly compressed below; umbones lying near the anterior margin, recurved forwards and inwards, nearly approaching each other and the hinge-line, hollow; anterior margin short, regularly curved; ventral border greatly arched, posteriorly curving up and produced into an acuminate beak-like region; posterior margin slightly arched, in adult shells much longer than the anterior margin and produced into a low keel; shell moderately thick, with low, almost equidistant, concentric ridges, somewhat less prominent in the middle and becoming almost obsolete in the posterior beak-like region; umbonal ridges prominent; a broad heart-shaped lunule anteriorly and a moderately thick external ligament posteriorly; epidermis shining yellow to light brown with in some cases darker zones in the posterior half of the shell; nacre white to light violet, slightly iridescent.

The hinge is more delicate than in the other forms of the genus figured by me (*loc. cit.*, p. 117, text-fig. 2). It is nearer that of *V. cyprinoides* var. *delicatula* (Preston), but the laterals are more elongate and

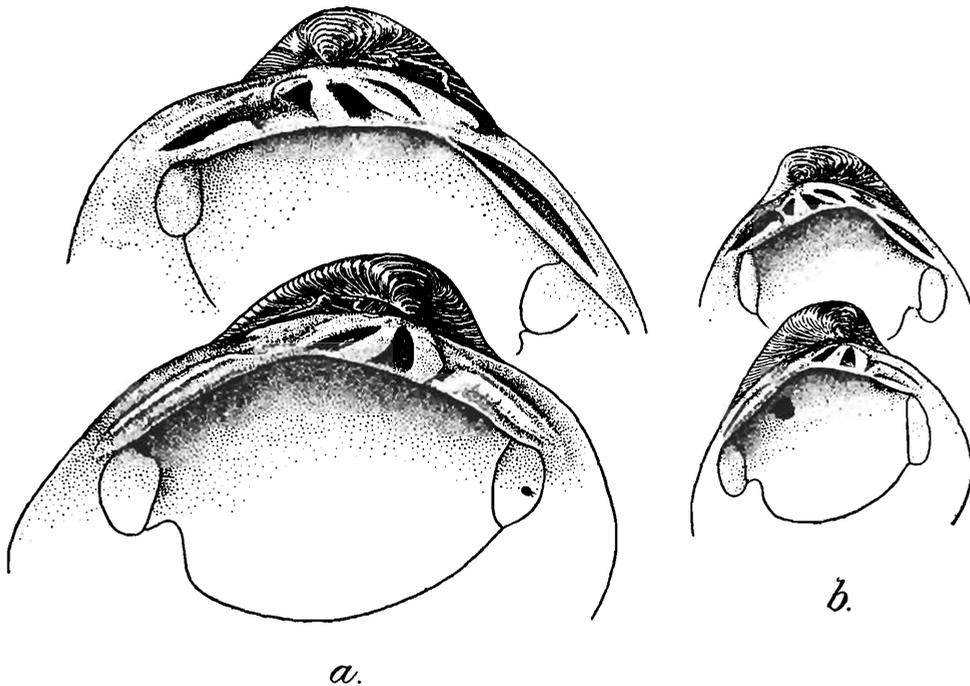
<sup>1</sup> Preston, *Rec. Ind. Mus.* XII, p. 36, figs. 12, 12*a*, *b* (1916).

relatively thinner. The cardinals also are not so strongly developed. The pallial line is slightly arched and the sinus is very distinctly marked.

*Measurements (in millimetres).*

	Holotype				
Length	30	30	29	24	17.4
Height	26.8	26.7	26.8	27	16.3
Maximum thickness	18	17.8	18.2	15	11

*Holotype* No. M.  $\frac{12703}{2}$  in the collection of the Zoological Survey of India (Indian Museum), Calcutta. *Paratypes* in the Natural History Museum, Paris.



TEXT-FIG. 2. Hinge teeth of (a) *Villorita corbiculoides*, sp. nov., and (b) *Villorita incrassata* (Deshayes).

*Locality.*—All the specimens, which I have seen, are from Bombay.

*Remarks.*—The species, as the name suggests, has a *Corbicula*-like facies, and is apparently one of the least highly evolved species of the genus *Villorita*. It is easily distinguished from all the other species by its more elongate shell, less pronounced sculpture and the weakly developed hinge. In young shells the posterior acuminate area is not fully developed, and the young shells appear less triangular. The sculpture on the young shells, on the other hand, is more prominent.

***Villorita incrassata* (Deshayes).**

1854. *Corbicula incrassata*, Deshayes, *Proc. Zool. Soc. London*, p. 342.

1854. *Corbicula incrassata*, Deshayes, *Cat. Conch. Brit. Mus.* II, p. 233.

1876. *Cyrena incrassata*, Sowerby, *Conch. Icon.* XX, *Cyrena*, pl. xvi, fig. 86.

The general considerations with reference to this species have already been dealt with in the introductory part, while the descriptions of the species by Deshayes and Sowerby are fairly complete.

The only shell before me is a half-grown specimen measuring (in millimetres)  $14 \times 13.8 \times 10$ , and in it the posterior margin is not so acuminate as is shown in Sowerby's figure of the species. As is shown in text-figure 2, the anterior lateral teeth are much shorter than the posterior, and are more or less transversely placed as in other species of *Villorita*. Both the pairs of lateral teeth are rather feebly developed, and so are the cardinals which in their arrangement are similar to those of the other species of the genus. The pallial line is only slightly arched and the sinus is well marked.

*Remarks.*—As noted above the only specimen before me now is from Japan (exact locality not stated), and is in the collection of the Zoological Survey of India (Indian Museum), Calcutta No. M. ( $\frac{12704}{2}$ ). The species appears to be closely allied to *V. corbiculoides* Prashad described above.