

ART. VI.—*Some New Species of Bryozoa from the Marion Islands,* with Notes on Bicellaria Grandis.*

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[Read 9th June, 1881.]

ON looking over a few specimens, part of a series kindly distributed by officers of the "Challenger" while in Melbourne, but only recently brought under my notice, I found six species of Bryozoa, marked as from the above locality. One was the well-known *Idmonea marionensis*. The other five appear to be new; and as they happen to be specially interesting just now, I have considered it advisable to describe and figure them at once, rather than wait for the appearance of Mr. Busk's work on the "Challenger" collection, which will probably not be available for some time, and which may not contain the present species.

I am encouraged in this haste to announce new forms by similar contributions that have appeared recently in several numbers of the *Annals and Magazine of Natural History*, from the pen of Dr. Hincks, and an article by Mr. Busk on *Kinetoskia*,† in *Quarterly Journal of Microscopical Science* for January of the present year.

The five species described below comprise an interesting addition to the genus *Alysidium*; a pretty *Bicellaria* of small dimensions; a very interesting form, that must be placed in Busk's family of FARCIMINARIADÆ, but requiring a new genus to be erected for it; the fourth is a *Vincularia* that deserves special notice, owing to recent remarks by Dr. Hincks on his genus *Steganoporella*‡ and on the genus *Vincularia*;§ and the fifth is a curious form placed in the genus *Hornera*, not without some hesitation.

* South Indian Ocean.

† The *Kinetoskia cyathus* there described seems to be very closely allied to *Bugula robusta*, Macgillivray, common in these seas; the cells are almost identical in the two species, but the stems are different.

‡ *Brit. Mar. Polyzoa*, p. 177. *Ann. and Mag. Nat. Hist.*, Vol. VI., No. 36, Nov., 1880.

§ *Ibid*, Vol. VII., No. 38, Feb., 1881.

It is to be regretted that the system of classification proposed by Dr. Hincks in the introduction to his valuable *History of British Marine Polyzoa* presents a primary difficulty, and a serious one for Australian observers, in that it allows of no expansion, while failing to provide places for many well-known forms. True, the work is confined to British species; but in the remarks on classification* the talented writer evidently refers to the whole class, and then proceeds to base his proposed system† on British species only. The result, unfortunately, is not comprehensive enough to embrace foreign species, and is so arranged as actually to prevent the intervention of fresh families‡ without straining and distorting the system. Thus, at the outset of the present paper, I am forced, not unwillingly, to revert to the older system of Busk, which permits the insertion of almost every known form, although arranged many years ago when comparatively little was known of the Bryozoa; while in the system that Dr. Hincks now proposes to substitute for it no place can be found for three of the five forms described below. Fam. VI., CELLARIIDÆ, seems to offer a home for the *Vincularia*, but the author has himself since relegated this genus to his Fam. IX., MICROPORIDÆ§ at the same time observing that *V. ornata*, Busk, and *V. neozelanica*, Busk, should be in Fam. VIII., MEMBRANIPORIDÆ. Accepting the statement of Dr. Hincks, that "our knowledge of the polyzoa is not yet sufficient to admit of a strictly natural classification, and our arrangement of them must still be to a large extent more or less artificial,"|| it must be apparent that the many reiterated attempts that have been made to make the system only a little less artificial are more likely to cause confusion than to prove beneficial. The time being not yet ripe for a natural system, it would have been better to have adhered to the classical work of Busk as a standard; improvement without confusion could then be obtained by subdivision and re-arrangement of the more cumbrous families and genera.

**Brit. Mar. Polyzoa*, Introduction, pp. cxviii—cxxxiv.

†*Ibid.*, pp. cxxxvi—cxli.

‡ This difficulty might have been partly obviated by omitting to number the families.

§*Ann. and Mag. Nat. Hist.*, Feb., 1881, p.

||*Brit. Mar. Polyzoa*, p. 183. (It is sad to think that this is written thirty years after Mr. Busk said the same thing, using almost similar words, in his *British Museum Catalogue*, Part II., p. 63.)

It is in this direction that Dr. Hincks' work is of real service; his subdivisions of the old genus *Lepralia* are very useful, and will readily commend themselves to all students. But, with regard to the general system, observers must feel that no classification of the Bryozoa can be useful that does not take into consideration the many varieties of form found living in Australian seas and fossil in Australian tertiaries.

It may be surmised that Prof. Smitt's efforts to construct a genealogical classification, and the stress he puts upon the assumed necessity of assigning first place to the form of the cell alone in the construction of families and genera, without regard to mode of growth, have greatly influenced the labours of Dr. Hincks; and, although the latter declines to accept in its entirety a proposition so revolutionary,* he has so far followed it that he assigns a strictly secondary place to mere zoarial habit;† and yet it must be maintained that in most genera zoarial habit *is* of equal importance with the character of the cell.

I am constrained to offer these views, doing so with great diffidence, because anxious to have the assistance of a really good system in working out the classification of a very large number of strange forms, obtained during several years of constant observation confined to this particular class. And after years of hopeful anticipation with regard to the long expected work of Dr. Hincks, I must confess great disappointment on finding it so little suited for the arrangement of Australian species. It is to be hoped, however, that that talented writer may soon be induced to publish a second edition of his otherwise admirable work; and that it will contain a system of classification more in accordance with the requirements of students in all parts of the world. Mr. Busk's advanced years and fully occupied time will probably preclude all hopes of extended labours in this direction; otherwise it might be anticipated from his long and intimate acquaintance with the subject, and the broad views evinced in his dealings with its difficulties in former years, that any alterations or elaboration of his old system, from his own pen, would be cordially welcomed by all observers.

* *Brit. Mar. Polyzoa*, p. 180.

† *Ibid*, Introduction, p. cxxix.

Sub-order CHEILOSTOMATA, Busk.

Family CATENICELLIDÆ, Busk.

Genus Alysidium, Busk.

Alysidium inornata, n. sp. Plate I.; Fig. 1.

Cells translucent, without ornament or appendage of any kind; much elongated and tubular below; aperture oblique, occupying the whole width of cell at distal end, contracted internally; operculum small, oval, central; ovicells —.

Locality.—Marion Islands. "Challenger" Expedition.

The cell walls are so transparent that in the living state this species would afford every facility for anatomical observation. My specimen has ten cells; in several the form of the zooid is plainly seen, showing, however, only the closed tentacles disappearing at the lower end in a small confused mass of clear granular matter; seeming to indicate an extremely small body of the simplest form.

Family BICELLARIADÆ, Busk.

Genus Bicellaria, Blainville.

Bicellaria pectogemma, n. sp. Plate I.; Figs. 2 and 2A.

Cells small, much expanded above, tubular long and attenuated below; each cell arising from a short tubular process on the breast of the cell below on the same side, and attached to the next cell on the other side by a slight expansion of the tube a little below where the next cell above is given off; aperture large, wide, and square at outer end, narrowing inwards; operculum wide, and nearly square above at upper and outer end; cells armed with 2-6 long curved spines, springing from a slightly raised process, set transversely across upper end of cell and about level with cell mouth; a single (?) spine slightly curved springing vertically from the centre of each cell on the dorsal surface; avicularium —; ovicell —.

Locality.—Marion Islands. "Challenger" Expedition.

This species is closely allied to *B. grandis*, Busk, but differs in several important characteristics. The form of the aperture is exactly the reverse of that of *B. grandis*, which is widest at the inner end; the latter has never more than four submarginal spines, more frequently only two, while six seems to be the prevailing number in the present species. The mode of attachment of the cells to each other is also very



Fig. 2^α
x 60

Back view

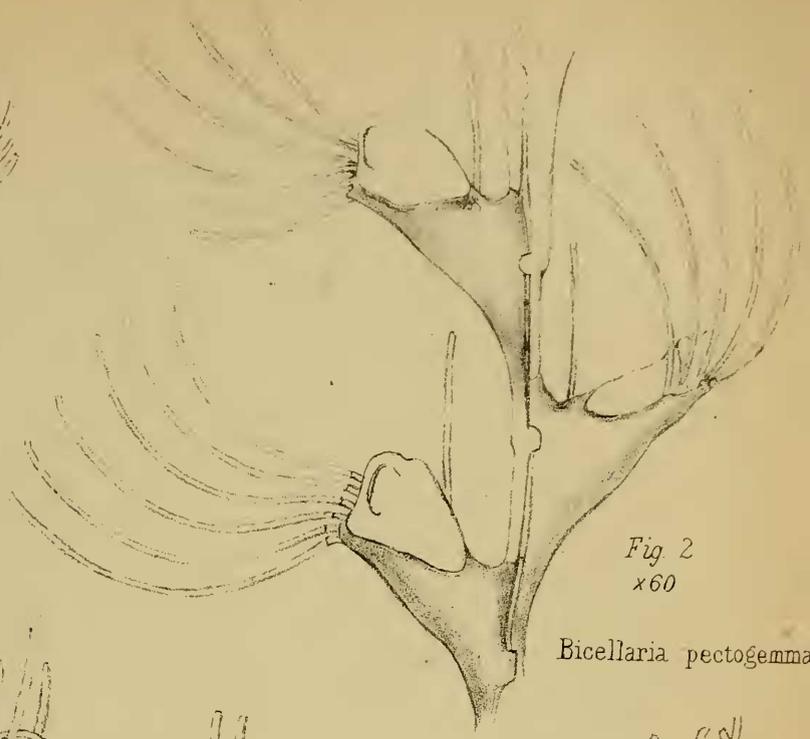


Fig. 2
x 60

Bicellaria pectogemma

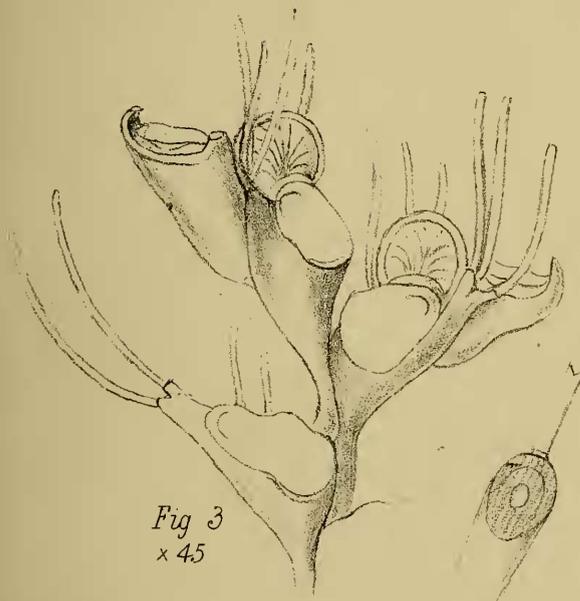


Fig. 3
x 45

Bicellaria grandis

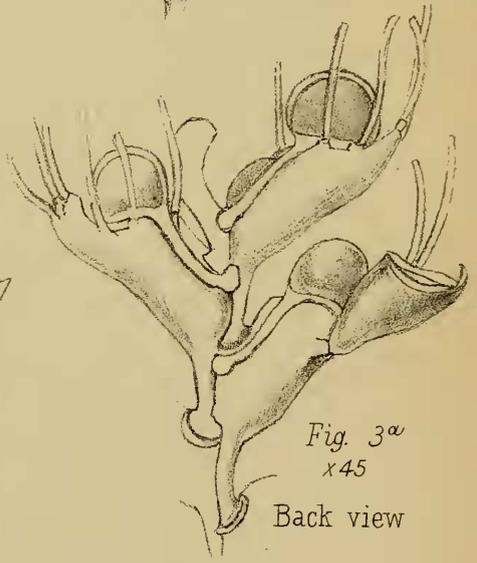


Fig. 3^α
x 45

Back view

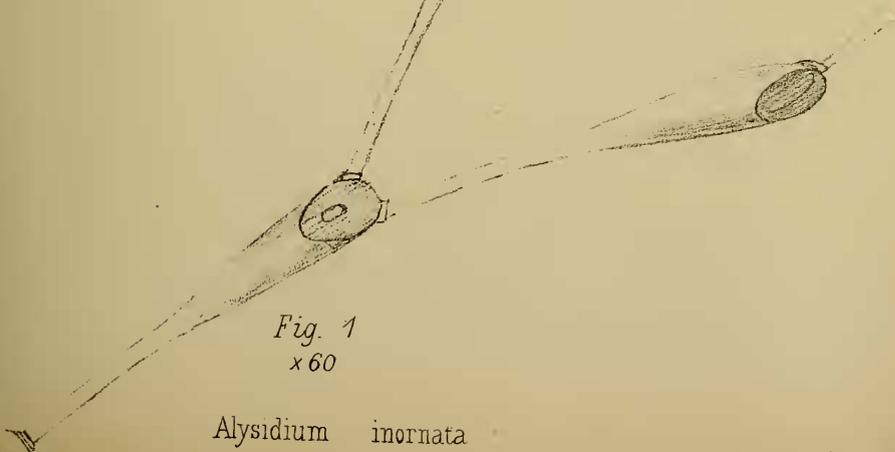


Fig. 1
x 60

Alysidium inornata

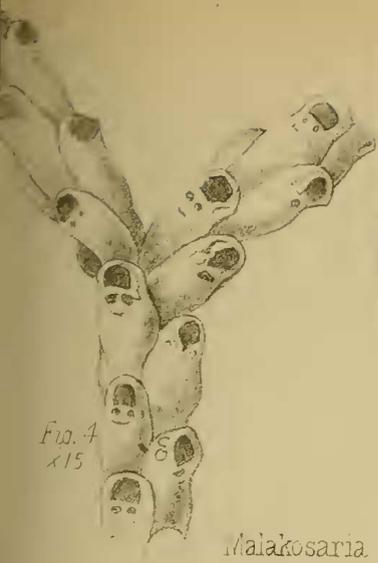


Fig. 4
x15

Malakosaria pholaramphos



Fig. 4^a
x40



Fig. 5
x20

Vincularia steganoporoides

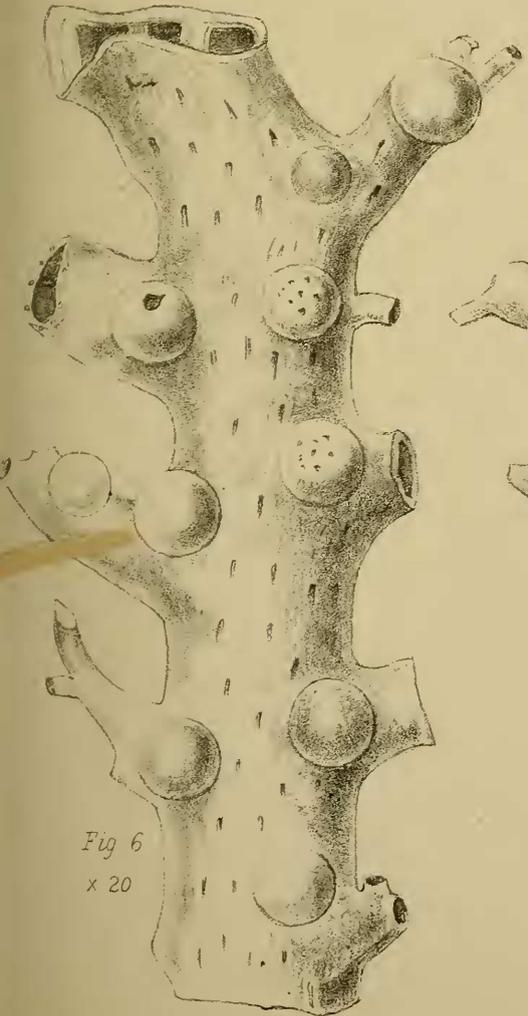


Fig 6
x 20

Hornera subdubia

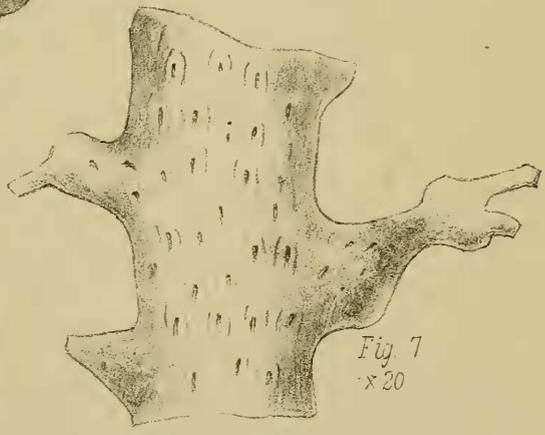


Fig. 7
x 20

Back view

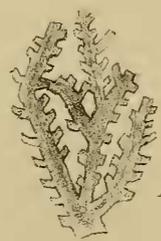


Fig 8

Natural size

