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NOTE.—I find that Tuckett advises the use of a cover larger than the cell, in order to prevent running-in ; but as he does not withdraw the fluid from the space round the cell, his method gains no advantage over the ordinary plan in security from leakage.

Fossil Catenicellæ, from the Miocene Beds at Bird Rock, near Geelong. By J. BRACEBRIDGE WILSON, M.A.

[Read 25th September, 1879.]

I desire to call attention to certain peculiarly interesting forms, which I have been so fortunate as to discover in the Miocene Tertiary rocks of the Spring Creek section, fifteen miles south of Geelong. To show the value of the discovery, it is necessary first to state that this deposit is regarded as belonging to the same geological horizon as the beds at Mount Gambier and at Muddy Creek, near Hamilton.

From the remarks made by the Rev. J. E. Tenison-Woods, one of our greatest authorities on fossil Polyzoa, it will be gathered that the occurrence of *Catenicella* in our Miocene deposits is of no little interest, and some scientific importance. He says in the "Quarterly Journal of the Geological Society," vol. xxi. p. 393 :—"The Bryozoa of the Hamilton beds, and of Mount Gambier, resemble each other in the absence of those forms, such as *Catenicellida*, *Menipea*, *Dimetopia*, &c., which give to the recent genera of the Australian seas so peculiar a character. It would appear from this that *Catenicellida* are peculiar to the recent period." The value of the discovery of fossil *Catenicellida* will further appear from the statement of Busk respecting the genus *Catenicellida*, which he regards as a characteristic of Australian seas. "For although," he says, "it occurs elsewhere in the southern hemisphere, it does so but rarely, and is almost unknown in the northern hemisphere."

It is interesting therefore to find, that when our Miocene beds were being deposited at the bottom of a deep and tranquil sea, the Polyzoic Fauna presented precisely the same peculiar facies as at the present day.

At least twenty distinct species of *Catenicellæ* have already

been observed. The cells are isolated, the corneous connecting tubes having perished; but their most delicate features are often perfectly preserved. Geminate bifurcating cells are of frequent occurrence. None of the species yet obtained are identical with existing forms, though several have a great resemblance to them. Some, however, are quite distinct and not a little remarkable.

I hope, at no distant date, to lay before the society figures and complete descriptions of all the species of *Catenicellæ* to be obtained from the Miocene rocks of the Geelong district. As far as at present appears the same groups are to be recognized, except that, at present, no *auritæ* have been met with. The *fenestratæ* and *vittatæ* are abundant, and *simplices* are represented.

Sub-order, CHEILOSTOMATA. Family, CATENICELLIDÆ. Genus, CATENICELLA. Group I, FENESTRATÆ.

C. species i.—Cell broadly euneate, aperture large, scutum small, flat, occupied by six fenestræ radiating from a suboral pore; lateral processes very wide in line with the lip, narrowing sharply below, giving a triangular appearance to the lower half of the cell. Avicularia minute, two slight lateral projections just above the widest part indicate their position. Superior processes, acerose, from a narrow base, projecting nearly straight upwards, in the same plane as the face of the cell. Back of cell obtusely carinate, smooth; size about that of *C. elegans*.

C. species ii.—Cell ovate, aperture large, fenestræ 9. No superior process, a shallow lateral excavation for the avicularia. Back rounded and smooth.

C. species iii.—Cell cuneate, aperture large, scutum occupying nearly the whole front of the cell. Fenestræ 9. Avicularia minute. A slight lateral projection in line with the aperture. Superior processes very large, thick, and broadly triangular, their bases nearly meeting above the aperture.

C. species iv.—Cell broadly ovate, large, scutum large, slightly convex. Fenestræ numerous, 10-12? Avicularia gaping, directed laterally. Upper processes wanting; lower processes extending to base of cell, which thus becomes very broad below. Back smooth.

C. species v.—Cell ovate, broad below, scutum small, about the size of the aperture. Fenestræ 10-12? Shallow excavation on one side for avicularium, on opposite side wanting. Superior process short, triangular, broad at the base. Back faintly striated, especially on the dorsal aspect of the superior processes.

C. species vi.—Cell ovate, rounded below, aperture large, scutum large. Fenestræ 10-12. Avicularia minute. Back rounded, smooth, compressed.

C. species vii.—Cell cuneate, scutum large, oval, with mesial line, and lines radiating thence to the very numerous small fenestræ. Number of fenestræ? Superior processes sharply accrose, projecting backward. Back smooth, rounded, gibbous. Size about that of *C. ventricosa*.

C. species viii.—Cell broadly cuneate. Scutum flat, small. Fenestræ 7-9? Avicularia minute. Upper and lower processes very large. Upper process hollow, broad at the base, narrowing to a fine retroverted point, spreading slightly outwards. Back of cell gibbously carinate, faintly striated. Striæ very clear on back of processes.

C. species ix.—Cell oblong euneate, slender, and greatly attenuated towards the base, which projects forwards. Aperture large and prominent. The part round the aperture and upper part of scutum projecting in a convex form, sinking below to a flat surface, which joins the upward curve of the base. Scutum undetermined, but appears to extend low down, and follow the contour of the cell. A circular pore just above the base. Avicularia small, slightly inclined backwards. Superior process narrow at the base, inclined backward, and tapering above to a slender rounded point. On each side of the back a perfectly distinct lateral tooth or spine, extending outwards and backwards. The whole cell resembles porcelain, and is singularly graceful.

GROUP 2. VITTATE.

C. species x.—Cell elliptical, long, slightly curving forward at the base. Aperture and lateral processes occupy only one-third of length of cell. Vittæ lateral. Avicularia deeply excavated, slanting forwards. No superior appendage. Front and back of cell smooth.

C. species xi.—Cell oblong, elliptical. Aperture rather small and round. Vittæ very broad, extending to near aperture. Avicularia small, in a shallow excavation below the superior process. Upper process conical, thick, extending slightly outwards. Back rounded, smooth.

GROUP 3. SIMPLICES.

C. species xii.—Cell sub-globular. No appearance of fenestræ or vittæ. Avicularia obscure. Upper and lower processes immensely large in proportion to the cell. Back acutely carinate. This strongly resembles *C. carinata* in structure, though very unlike in shape.

A New Species of Polyzoa. By J. R. Y. GOLDSTEIN.

[With Plate.]

[Read 27th November, 1879.]

CATENICELLA PONDEROSA. *n. s.* Plate V. figs. 1, 2, 3.

Cells ovoid, massive, irregular in outline; front and back strengthened by clasping bands of considerable thickness; mouth arched above, sub-triangular below, with a strong denticle on each side, to which is hinged the operculum; the mouth surrounded by a portion of a band in the form of a stout collar, widened superiorly; avicularia minute; fenestræ five, large and irregular in shape; ovicell large, hooded, surmounted by, apparently, an abortive connecting tube; top of ovicell, under the hood, sparsely studded by strong papillæ, with, on each side superiorly, a dense band of short papillæ; mouth gaping, the fenestræ being lengthened so as to appear like a grating.

This species is peculiar in the thick, heavy cells. It forms dense tufts, about four inches high, and the branches are frequently altogether composed of acutely triangular, geminate cells. It has affinities with *C. plagiostoma*, and, like it, when fresh, presents a remarkable contrast of colours, the cell walls proper being of a bright orange red, while the bands are ivory white, but these colours soon disappear, and the dry specimens present the common horny appearance of other catenicellæ. It is not uncommon; I have found it pretty generally along the coast from Portland to Queenscliff, and have dredged it alive in six fathoms.