32 Mr. L. Barrett on two new species of Echinodermata.

- Fig. 4. Ditto, with second root-cell and rootlet-cell formed (lateral view): (d) primary nucleus received into the dilatation of the cell-wall, d', and rendered stationary; (g) oblique, sigmoid septum; (h) rootlet-cell; (k) secondary nucleus, elongated, presenting the hyaline vacuole in plurality; (l) nucleus of rootlet-cell. The remaining fixed protoplasm of the first root-cell having now been broken down by the vacuoles, circulates freely, with the rotating protoplasm, over the septum of the second root-cell and that of the rootlet-cell.
- Fig. 5. Ditto, ditto, with first or duplicating septum of rootlet-cell formed, and multiple division of primary nucleolus (direct view): (d) primary nucleus with nucleolus divided into smaller nucleoli; (m) vacuoles beginning to break down fixed protoplasm in the lower part of second root-cell; (n) septum duplicating rootletcell; (o, o) nuclei of rootlet-cells; (p) lower extremity of second root-cell which is partly behind rootlet-cell.
- Fig. 6. Ditto, ditto, with rootlet-cell quadrisected, and primary nucleus become effete (direct view): (d) effete nucleus from which the small nucleoli have disappeared; (q, q, q, q) nuclei of rootlet-cells; (s) second septum of rootlet-cell; (t) lower part of fixed protoplasm in second root-cell broken down and become rotatory. This cell is now brought into the state of figure 2.
- Fig. 7. More magnified view of primary nucleus when young, 1-300th of an inch in diameter : (a) nuclear utricle ; (b) mucus occupying its interior ; (c) nucleolus ; (d) hyaline vacuole.
- Fig. 8. Ditto of primary nucleus when old; hyaline vacuole in plurality.
- Fig. 9. Secondary nucleus soon after becoming visible; presenting double nucleoli.
- Fig. 10. Ditto, some time after this, with nucleoli united. The next stage is represented in fig. 7 and so on.
- Fig. 11. Nucleus with double nucleoli, presenting a transparent ring round them respectively, indicative of the presence of a capsule.
- Fig. 12. Lateral view of primary nucleus after having become stationary, presenting (a) vacuoles in its interior.
- Fig. 13. Élongated sac-like form of primary nucleus after having become stationary; presenting small nucleoli also elongated (a, a, a). This sac, which is a frequent termination of the nuclear utricle, is sometimes very long, and more or less irregular in form than the figure.
- Fig. 14. Globular cells connected with the "irregularly shaped bodies" (e, e); sometimes seen without the latter: (a) common form of this "body."
- Fig. 15. "Granules" much magnified : (a) round, elliptical, greenish; (b) angular, colourless.

III.—On two species of Echinodermata new to the Fauna of Great Britain. By L. BARRETT, F.G.S.

[With a Plate.]

THE two following species are interesting additions to our fauna, made by Mr. M'Andrew. The *Amphidotus* agrees with the brief description of *A. gibbosus*, Agass., in the Ann. Sc. Nat. t. viii. p. 11: the *Comatula* is new.



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anne courte



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