THE OCCURRENCE OF THE FRESHWATER POLYZOAN, *PLUMATELLA REPENS* (VAN BENEDEN), IN TASMANIA.

By

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Plate V.

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The present note records for the first time the occurrence of *Plumatella repens* in Tasmania. This widely distributed European species has already been found in Queensland, New South Wales, Victoria, South Australia, and New Zealand. It is not surprising, therefore, that its distribution should also extend to this State.

Our specimens were collected from a small creek which runs through the Punch Bowl Reserve, near Launceston, and we have met with it also in a creek running through Harland Rise, the estate of Mr. H. Dowling, near Evandale. The Polyzoan seems to flourish during the months October, November, and December. It is during this period that the creeks are running slowly and well stocked with algæ. The colonies of polypides are generally attached to the undersurface of stones and sunken logs, and a single colony may cover an area of 100 square centimetres.

The chitinous ectocyst is transparent when newly formed, but soon becomes brown and almost opaque, owing to foreign particles which adhere to its outer surface. The branching of the colony is characteristic of the species.

In January the creeks become almost stagnant, and the polypides die, leaving the brown ectocyst still attached to the surface on which the colony was growing. This somewhat disintegrated ectocyst generally contains a number of statoblasts.

The typical statoblast of *Plumatella* has the form of a more or less opaque ellipsoid germinative body, ringed with a semi-transparent annulus of air-cells, the float, which assists in dispersal; the whole structure exhibiting a rough resemblance to the samara of the common elm. As is well known, the statoblasts, even when derived from a single

polypide, manifest considerable diversity in size, colour, and details of structure, the variation being largely, but apparently not entirely, in accordance with the state of development.

The following records of dimensions, obtained by the measurement of ten examples, mounted in balsam, give some idea of the general variability in size:—

(*a*) Total length: maximum, 677μ; minimum, 377μ; average, 478·3μ.

(*b*) Total breadth: maximum, 382μ; minimum, 274μ; average, 324·5μ.

(*c*) Length, excluding float: maximum, 447μ; minimum, 250μ; average, 341·0μ.

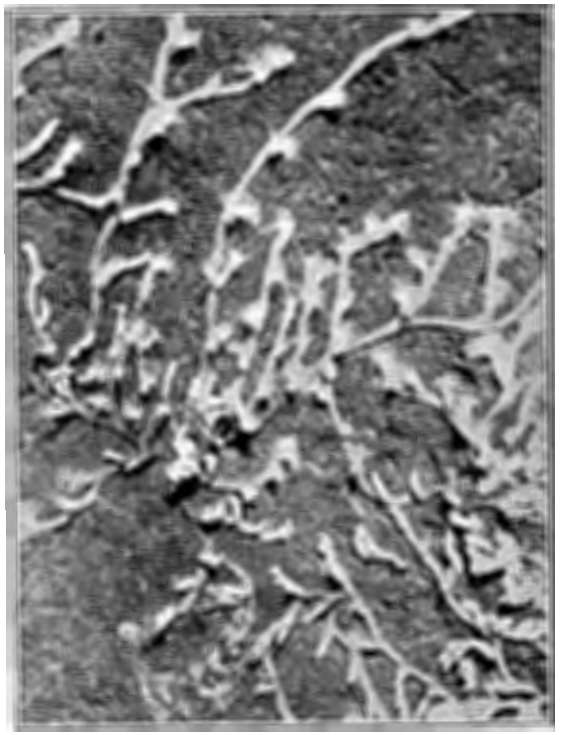
(*d*) Breadth, excluding float: maximum, 329μ; minimum, 202μ; average, 266·9μ.

The ratio of total length to total breadth ranges, in these ten examples, from 1·33 to 1·78, and has an average value of 1·47.

The central germinative body is brown or red in colour. In statoblasts found in the living colony, it is generally more or less granular in structure, the granules often exhibiting a tendency towards segregation into irregular polygonal groupings, which, exceptionally, may become fairly regularly hexagonal. Occasionally, presumably when development is well advanced, there may be observed about half a dozen concentric elliptical rings, surrounding a dark central spot. The body is bounded, in examples taken from living polypides, by a well-defined, apparently structureless amber-coloured ring, having an average width of 6 or 8 microns. A layer of hexagonal cells, apparently continuous with the cells of the float, usually invests the germinative mass, either partly, forming a peripheral annulus, commonly from 2 to 5 cells wide, or, especially in fully mature examples, wholly.

The float, which has the form of a thin, more or less transparent ring of slightly elongated hexagonal air-cells, is typically elliptical, or somewhat panduriform, in outline. It may be colourless, slightly greenish, pale-yellow, or, in older statoblasts, golden. It is, in general, fairly symmetrically disposed round about the germinative mass, normally extending further beyond it along the major than across the minor axis. Occasionally the lateral portions of the float are not in evidence at all when the statoblast is

P. and P. Roy. Soc. Tas., 1932. Plate V.



A Colony of *Plumatella repens* (van Beneden).

To face page 8.]

viewed from above or below, the whole structure then having the form of a central ellipsoidal mass, with a bluntly rounded wing projecting for a distance of about 100μ from either end. At times the periphery of the ring of air-cells exhibits a more or less pronounced rim, a single cell thick. In the so-called "sessile" statoblasts the float is absent. Two such floatless statoblasts were found to measure, when mounted, 433 by 350μ, and 447 by 338μ, respectively.

EXPLANATION OF PLATE.

A colony of *Plumatella repens* (Van Beneden), growing on underside of a stone from the Punch Bowl Creek, Launceston.