

FRESH-WATER BRYOZOA FROM EAST JAVA.

By

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A trip was made to East Java in the month of September '27 with the purpose of examining Bryozoa in some lakes and pools, corresponding with my examination on them in West Java, the results of which are to be found in this Volume page 1.

On this trip only Bryozoa of the *Plumatella* genus were found and they were for the greater part of the same kind as has been described for West Java to wit: *Pl. emarginata* ALLMAN, *Pl. fructicosa* ALLMAN, *Pl. javanica* KRAEPELIN and *Pl. punctata* var. *densa* KRAEPELIN. The latter was found here with very small statoblasts measuring ± 0.26 mm, while in West Java they were mostly found with statoblasts measuring ± 0.35 mm. In this point our description of the species in Java agrees with the drawings given by ANNANDALE fig. 42, pag. 212 in the Fauna of British India (Freshwater Sponges, Hydroids and Polyzoa), where he gives 2 different sizes of the statoblasts of his *Pl. punctata*, which is the phase *densa*.

In Lake Ngebel, situated 2500 feet high on Mount Wilis near Madioen, a species of the genus *Plumatella* was found, which has not yet been described for West Java. No doubt this form is a specimen of what KRAEPELIN calls the *repens* or *polymorfa* "Reihe". Should there be any doubt concerning this with regard to the free statoblasts, we have only to turn to the fixed statoblasts to become convinced. For the ring by which the capsule is fixed is covered with what seems to be a reticulation of rudimentary aircells just like the capsule itself. The zoarium agrees with the description of the phase called by KRAEPELIN *Plumatella polymorfa* var. *caespitosa*.

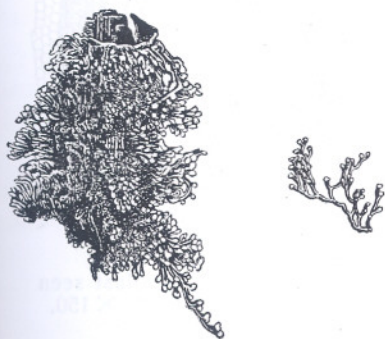


Fig. 1. Part of a colony growing on pneumatics roots of a *Ficus* and a part of the zoarium carefully dissected out showing the ramification of the branches.

Pl. polymorfa var. **caespitosa** KRAEPELIN (Fig. 1-3).

KRAEPELIN 1887. Die deutschen Süßwasser-Bryozoa pag. 123.

Zoarium. The zoarium has a rough appearance. Vertical branches of as much as half an inch or more are produced by adherent ramifying branches.

Zoecia. The zoecia are of a dark brown colour, except the extremities, which are colourless and greatly swollen. They are of almost equal width throughout without a furrow or keel except on some of the adherent branches where a feeble keel is seen on the dorsal side of the zoecia.

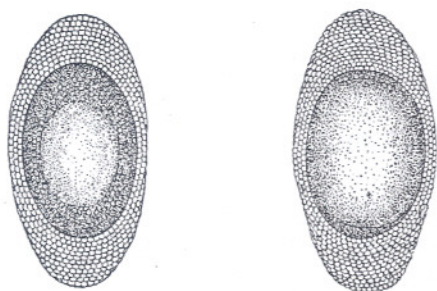


Fig. 2. Free statoblasts seen from the dorsal and ventral side; $\times 80$.

Polypide. As all the polypides are withdrawn by the fixation before they had been examined, this part of the description must be omitted.

Statoblasts. Free as well as fixed statoblasts are produced. The free statoblasts have a proportion of length and breadth of $\pm 1.9:1$ or $\pm 2.1:1$ with a length of ± 0.45 mm,

the capsule a proportion of $1.5:1$ with a length of ± 0.29 mm. The air-cells of the ring encroach a little on the dorsal side of the capsule, leaving visible an oval place in the centre. On the ventral side the swimming encroaches only at the extremities of the capsule. The fixed statoblasts are broad oval, with a proportion of length and breadth of $\pm 1.26:1$ and a length of ± 0.39 mm. The ring as well as the capsule itself are covered with a reticulation of cell walls. The ring does not show any denticulation or undulation at the outside.

Biology. The colonies were found growing in Lake Ngebel on pneumatic roots of a *Ficus*. These were hanging down in the water perpendicularly. So far as they were immersed in the water they were entirely overgrown with Bryozoa colonies. The colonies grew entangled in each other, thus forming a coherent mass, which proved to have a length of more than 2 yards.

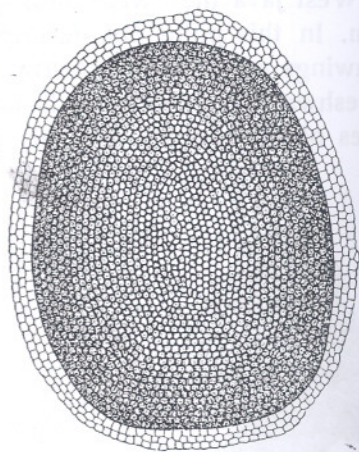


Fig. 3. A fixed statoblast seen from the dorsal side; $\times 150$.

List of the localities on which a research for Bryozoa was made.

	<i>Plumatella</i>				
	<i>emarginata</i>	<i>fructifera</i>	<i>punctata</i> var. <i>densa</i>	<i>javanica</i>	<i>polymorpha</i> var. <i>caespitosa</i>
Rawah Galapan and Rawah Bening (South Kediri)	—	+	+	+	—
Telaga Pasir, Saragan, + 4300 feet (Madioen)	+	—	—	—	—
Lake Ngebel, + 2500 feet (Madioen)	—	—	—	—	+
Ranoe Klakah (Pasuruan)	—	—	—	—	—
Lake Gratie (Pasuruan)	—	—	+	—	—

BEITRÄGE ZUR MALAYISCHEN ORTHOPTERENFAUNA.

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XX. GEÄDERSTUDIEN AN JAVANISCHEN GRYLLACRIS-ARTEN¹⁾.

Die ersten exakten Untersuchungen über das *Gryllacris*-Geäder auf Grund des Tracheenverlaufs in den Flügelscheiden der Larven habe ich 1925 (Zeitschr. f. wiss. Zool., CXXV, p. 35—54) veröffentlicht. Diese Untersuchungen boten so viel neues und überraschendes, dass ich schon damals beschloss, sie sobald als möglich an anderen Spezies fortzusetzen und zu vervollständigen; letzteres schien besonders auch deshalb nötig, weil in der genannten Mitteilung nur die Arten des normalen Typus IV Berücksichtigung gefunden hatten und mir speziell von der dort (p. 40) gleichfalls besprochenen, zum Typus I gehörigen *Gr. tibialis* SERVILLE nur ganz unzureichendes Material vorlag, wie ich dies schon damals ausdrücklich betonte. Ich komme daher in dem vorliegenden Beitrag jetzt nochmals auf diese Spezies zurück, umso mehr da es mir inzwischen durch Nachuntersuchung von Typenmaterial in den europäischen Sammlungen auch gelungen ist, in die systematischen Beziehungen mehr Klarheit zu bringen. Diese Nachuntersuchungen haben ferner auch noch sichergestellt, dass die bisher als eigene Spezies betrachtete *Gryllacris obscura* BRUNNER v. W. nichts anderes ist als die Sumatra-Rasse von *signifera*, während *Gr. obscura javanica* GRIFFINI als eigene, gut getrennte Spezies gelten muss. Ferner hat sich gezeigt, dass *Gryllacris appendiculata* BRUNNER v. W. eine nur im fernsten Osten vorkommende Art ist, während GRIFFINI und ich bisher gewisse zum *signifera-obscura*-Formenkreis gehörige Exemplare aus Sumatra und den nächst benachbarten Inseln (Nias etc.) auf Grund der unzureichenden Angaben bei BRUNNER für *appendiculata* gehalten haben. In Wirklichkeit ist die letztgenannte davon gut verschieden und kommt in der Gegend von Sumatra überhaupt nicht vor. Demgemäss ist auch in meiner Geäder-Mitteilung auf p. 37 anstelle von *appendiculata* stets *signifera obscura* zu setzen. Ebenso ist auch das von JACOBSON (Treubia, VI, 3—4, p. 438—441; 1925) ausführlich besprochene Exemplar, das er auf Grund meiner Determination als *appendiculata* bezeichnet hat, nunmehr zu *signifera obscura* zu stellen.

¹⁾ In diesem Beitrage sind — soweit nicht ausdrücklich anders bemerkt — alle Geäderfiguren bei ungefähr gleicher Vergrösserung wiedergegeben.