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I. Wissenschaftliche Mitteilungen.

1. On an enigmatic body in certain Bryozoa.

By Mary Palk.

(With 2 figures.)

eingeg. 11. Mai 1911.

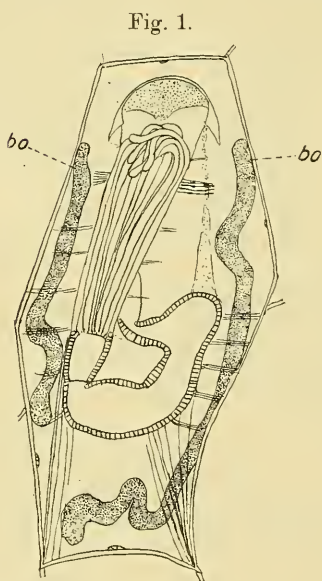
In describing the budding in *Flustra carbacea* [*Flustra papyrea* of Pallas (4), Waters (5)(7), and Harmer (2)] Haddon (1) has figured a zooecium containing two longitudinal cylindrical bodies of which he makes no mention in the text. These bodies occur with great frequency in this species of *Flustra*, and although they are not invariably present, it would seem legitimate to regard them as an integral part of the animal until some further light can be thrown upon their nature.

Attached to the parietal cuticle at the top of the zooecium, outside the occlusor muscles, lies a rounded mass which forms the upper extremity of a sausage or bolster-like body (fig. 1, *bo*) of varying size, position and shape. We may find it only about one-eighth of the length of the zooecium, and under these circumstances it always lies closely attached to the parietal wall. At other times it is about three quarters of the zooecial length and it then lies free in the cavity and can be moved by

the living polypide. Again it may be considerably longer than the zoecium and it is then found coiled up, sometimes making a heavy loop over the main parieto-vaginal muscle band, or curling under or behind the polypide. The cylindrical body is usually, but not always paired, the size and length being often totally unequal on the two sides. There is no communication between the two and if there is interzoecial communication between the long bodies of neighbouring zoecia it is only by means of the tissues in which the spherical heads lie imbedded.

In the living state the bulk of this body is not of such a bright colour as the polypide, but it is dotted over with flecks of exceedingly

Fig. 2.



bright, transparent orange colour. When dissected out in the living state it may be seen to consist of a mass of threads which show no movement and take no stain.

In preparations fixed with Flemming's fluid and stained with Heidenhain's iron haematoxylin the body is seen to consist of a cellular membrane in the form of a sheath in which the «threads» are closely packed, and within which lies a straight series of non-staining circular patches, seemingly empty; it is this row of non-staining flecks that show the very bright yellow colour in the living animal.

The contents of the sheath (fig. 2) are so closely convoluted that it is difficult to make out if they consist of one long thread or tubule or of an enormous number of short threads. Stained with iron haematoxylin and seen in a great mass they would appear to be spermatozoa, for a dark portion of the thread, surmounting a less staining prolongation is easy to make out; but when the threads are seen separately they seem to form a continuous cord dotted by darkly staining bands at more or less regular intervals apart (about 1μ). The spermatozoa, when they occur loose in the zoecium have a very discernible spear-shaped head and average about $1\frac{1}{2} \mu$ in length, whereas the threads in the long body are only surmounted by a dot. The enveloping membrane of the organ seems to be closed completely, but the cells which compose it are usually larger and more marked at one end or the other.

In zoecia in which spermatoc tissue occurs this body lies right in the testicular stroma; spermatozoa may be detected fastened in large numbers to it although it still appears to be closed. In zoecia which have formed a root process the body seems to make its way through the root aperture; it is largest and most conspicuous in zoecia which contain a brown body, whether there is a growing bud present or not. Although the most usual shape is that of a more or less even cylinder it may often be found with constrictions along its length giving it more the appearance of a string of sausages.

Waters (6) describes an unpaired «sausage body» in *Schizoporella sanguinea*, also containing unstaining patches. Fixed and stained in the same way as in the *Flustra* it shows a rather similar structure. The clear spaces seem like crystals, but tested by polarized light they prove not to be; the contents consist of threads so short that in thick section they appear to be granules, there is no possibility in this case of a single continuous tubule. A body of an allied nature occurs in *Beania magellanica* (Busk) and in *Beania hirsuta*, var. *cylindrica* (Hincks). Waters draws attention to the existence of a long body of unknown function in Scrupocellaridae (9) and (8) in *Bugula bicornis* (Busk); these may be homologous with the long body in *Flustra papyrea*. Whether this body is in truth a form of spermatophore, or, supposing it is a coiled tubule, what purpose it can serve, seems hard to understand. Jullien (3) and Waters (6) have hazarded the suggestion that there may be a double method of reproduction in the Cheilostomata as in the Phylactolaemata and that these organs may represent seasonal eggs; but the structure of the flustrine long body, the absence of any means of exit from the zoecium, its presence after the death of the polypide and the fact that it is to be found unfailingly in some part of the colony at all times of the year all tend to render the hypothesis unlikely.

What the body is, and what purpose it serves remains a subject for further investigation.

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Zoological Station Naples, May 1911.

2. Wieder eine flohähnliche Fliege.

Von Prof. Dr. Friedr. Dahl, Steglitz-Berlin.

(Mit 3 Figuren.)

eingeg. 11. Mai 1911.

Am 10. Mai 1908 fand ich in der Nähe von Berlin (bei Hermsdorf) an einem Kiefernstamm, etwa $1\frac{1}{4}$ m über dem Boden, auf einer leeren Schmetterlingspuppe ein eigenartiges Tier. Ich hielt dasselbe zuerst für irgend eine Mißgeburt und steckte es, ohne die Lebensbedingungen näher zu prüfen, in Spiritus. — Zu Hause erwies es sich als ein höchst eigenartiges Insekt, als ein flügel- und schwingerloser Zweiflügler (Fig. 1 ♀).

Ich hoffte im nächsten Jahre wieder zur selben Zeit an denselben Ort zu kommen und hob deshalb das Tier vorläufig auf. — Leider war es mir aber in den beiden folgenden Jahren (und auch in diesem Jahre) nicht möglich, meinen Plan auszuführen. — Da ich immerhin auf das eigenartige Tier aufmerksam machen wollte, übersandte ich es Herrn Baurat Th. Becker in Liegnitz, unserm hervorragendsten Diptero-logen. Herr Becker schickte es mir zurück mit der Bemerkung, daß er es als eine Nematocere erkenne, es aber nicht in eine bestimmte Familie zu stellen wage. — Ich übergab es dann Herrn Dr. Grünberg, dem Verwalter der Dipterenabteilung unsres Museums, mit der Bitte in irgend einer Weise auf das eigenartige Insekt hinzuweisen. Aber auch er brachte mir das Tier zurück, mit der Erklärung, daß er nicht wisse, was er aus dem Tiere machen solle. — So ging ich denn selbst daran, das Tier, so gut es eben gehen wollte, unterzubringen.

Da sogar Zweifel geäußert waren, ob das Tier eine Diptere sei, mußte ich zunächst die Ordnung mit einiger Sicherheit festzustellen suchen. — Es war mir klar — und jeder Zoologe, der das Tier sieht,

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