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I. Wissenschaftliche Mittheilungen.

1. The Germ-layers in Bryozoan buds.

By C. B. Davenport,

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eingeg. 14. Mai 1892.

In the *Zoologischer Anzeiger*, No. 387, Dr. Braem makes three points against me: 1) That in my recent paper (1891) I have assigned to him a view (the entodermal nature of the inner layer of the Bryozoan polypide bud, and its origin by gastrulation) which he has never held and never uttered; 2) that, on the contrary, the idea supported by me (p. 88) that the inner layer of the polypide bud is »neither ectoderm nor entoderm but indifferent« only later becoming differentiated into ectoderm and entoderm agrees with that previously defended by him (Braem, 1890); and 3) that in my conclusion concerning the part played by embryonic tissue in budding I have overlooked his previously published conclusion which completely included mine.

In justice to Dr. Braem and myself I desire to make the following explanation.

1. Upon re-examining the passages referred to by Braem I am convinced that I was in error in interpreting him as I did. This error I regret.

2. I should never have suspected from reading Braem's paper (1890) that he held the same view as I expressed. For he repeatedly referred to the inner layer as being derived from the ectoderm of the larva (Braem, 1890 p. 116, 121; 1892 p. 114). To be sure, he agreed

with earlier authors in showing that alimentary tract and nervous system are both derived from this inner layer, but I did not suppose that this was sufficient proof that there was larval entoderm in the inner layer, which was the point at issue. I did not suppose, in fact, that one was justified in concluding that the cells going into the middle layer of the bud are neither ectoderm nor entoderm from observing their fate.

After calling attention to the previously known fact that the material of the inner bud layer is derived not from the larval ectoderm but from the region of the lips of the blastopore — the ect-ental region — I felt justified in drawing the conclusion which might naturally have occurred to any one under the same circumstances, that these cells are neither ectoderm nor entoderm only secondarily becoming differentiated. I do not think, however, that Braem had expressed this idea or that I may justly be accused of having appropriated his ideas without due credit.

3. The difference between Braem's idea and mine may be given in two quotations; the first column is taken from his work (1890, p. 29); the second from mine (1891, p. 72).

Sämmtliche Knospen der Colonie gehen auf einen begrenzten Complex embryonaler Zellen zurück, welche aus dem Material des Statoblasten oder des Eies ursprünglich erübrigt und von Knospe zu Knospe weitergeführt wurden.

There is in every stock of Bryozoa a mass of indifferent cell material, which is derived directly from indifferent cells of the larva or embryo, and whose function is to form the organs of the various individuals including the polypides. This indifferent cell material lies in the body wall, principally at the growing tip or margins of the stock. By its growth and differentiation it gives rise to the body wall, muscles, etc., and at intervals it leaves behind as a portion detached from itself, a mass of indifferent cells, which is capable of forming a polypide, or of becoming a new centre of growth or of both.

I further added (1891, p. 72): »This hypothesis differs from that of Braem in that the pre-existence of a Knospenanlage assumed by Braem is, according to my view a non-essential feature in the for-

mation of the colony: the pre-existence of an indifferent cell mass which does not itself constitute buds, but may give rise to masses which can, is the only essential feature.« In consequence of his view Braem was led to assume the former existence of a »Mutterknospe« at the proliferating tip of *Gymnolaemata* (*Paludicella*) — an assumption which my view renders needless. I cannot therefore admit either that I overlooked Braem's conclusions or that his fully included mine.

References.

- F. Braem, 1890. Untersuchungen über die Bryozoen des süßen Wassers. Bibl. Zool. Hft. 6.
 F. Braem, 1892. Die Keimblätter der Bryozoenknospe. Zool. Anz. No. 387.
 C. B. Davenport, 1891. Observations on Budding in *Paludicella*, etc. Bull. Mus. Comp. Zool. XX. 4.

2. Anmerkungen zu Piersig's Beitrag zur Hydrachnidenkunde¹.

Von F. Koenike in Bremen.

eingeg. 22. Mai 1892.

Arrenurus bisulcicodulus Piersig ist deutlich gekennzeichnet und wird als neue Art anerkannt werden müssen. Nur fällt auf, daß der Mangel eines Anhangs am vorletzten Gliede des vierten Fußes hervorgehoben wird, während doch sonst das vierte Glied des letzten Fußes mit einem Anhang (Sporn) ausgezeichnet zu sein pflegt. Zwar bin ich im Besitze eines männlichen *Arrenurus*-Individuums (*Arrenurus integrator* O. F. Müller), das thatsächlich einen Anhang am vorletzten Gliede des vierten Fußes (rechter Seite) trägt, doch handelt sich's hier selbstredend um eine Mißbildung.

Der Schwerpunkt von Piersig's Arbeit liegt auf entwicklungsgeschichtlichem Gebiete. Der Hydrachnologe hat namentlich das Nymphenstadium studiert. Er fand, daß die *Frontipoda*- (*Marica*-) Nymphen auf dem Geschlechtsfelde beiderseitig nur zwei Geschlechtsnäpfe (soll wohl heißen jederseits zwei, also im Ganzen vier) haben, und daß *Oxus oblongus* Kramer die Nympe zu *Pseudomarica formosa* Neuman und nicht, wie ich irrigerweise meinte, synonym zu *Frontipoda* (*Marica*) *spigata* O. F. Müller (muß wohl *strigata* heißen) sei. Zu eigener Einsicht meines bezüglichen Irrthums müßte Piersig mir nachweisen, daß *Frontipoda strigata* O. F. Müller und *Pseudomarica formosa* Neuman zwei verschiedene Arten sind. Ich erachte sie für gleichartig, mit welcher Ansicht ich nicht etwa allein stehe. Barrois

¹ Piersig, Beitrag zur Hydrachnidenkunde. Zool. Anz. 1892. No. 389. p. 151—155.

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