

Sicherheit feststellen<sup>4</sup>. Da die betreffenden Mäuse von der erwähnten Eule ohne Zweifel in der nächsten Umgebung der bezeichneten Lokalität erbeutet worden sind, so ist das Vorkommen von *Microtus ratticeps* durch diesen Fund für die Gegend von Breitebruch nachgewiesen. Wegen der relativen Zierlichkeit der zugehörigen Skelettheile rechne ich sie zu der »varietas *Stimmingi*«.

Über diese Varietät theile ich noch mit, daß das sorgfältig präparierte Skelet eines Exemplars von Brandenburg 13 Brust-, 6 Lenden-, 2 Kreuz- und 19 Schwanzwirbel erkennen läßt, während die typische Form des *Microtus ratticeps* aus Nordrußland nach Giebel (Säugethiere, p. 609) 13 Brust-, 6 Lenden-, 4 Kreuz- und 15 Schwanzwirbel und der nahe verwandte *Microtus oeconomus* nach Pallas 14 Brust-, 6 Lenden-, 2 Kreuz- und 14 Schwanzwirbel aufweisen. Vgl. Pallas, *Novae species e glirium ordine*, p. 237. Ob diese Unterschiede constant sind, muß noch durch weitere Beobachtungen festgestellt werden. — In jedem Falle ist das Vorkommen einer Varietät der »nordischen Wühlratte« in Norddeutschland von großem zoogeographischen Interesse.

### 5. On the "Notochord" of *Cephalodiscus*.

By A. T. Masterman, B.A., D.Sc.

eingeg. 19. August 1899.

In No. 541 of the Zoologischer Anzeiger Dr. Harmer contributed an article under the above title criticising my first work upon *Cephalodiscus* (Quart. Journ. Micr. Sci. Aug. 1897).

In this article he formulated certain views as follows: — — —

1) The median Notochord of *Cephalodiscus* is really the homologue of the "Eicheldarm" of *Balanoglossus*.

2) The comparison of the median Notochord of *Cephalodiscus* with the proboscis-vesicle or heart-vesicle of *Balanoglossus* is untenable.

3) The proof of the homology of the so-called Notochords of *Cephalodiscus* and *Actinotrocha* with the Notochord of higher Chordata is not convincing.

The further discussion of this formulae was carried on in No. 545. Further work upon *Cephalodiscus* and its allies could not fail to clear up the points under discussion and my own views have undergone some alteration since that time. My work upon *Cephalodiscus* has been pursued intermittently, when the occasion arose. Although the full paper will not be long delayed in publication it is advisable that one or two points should be referred to here.

<sup>4</sup> Sowohl die unteren, als auch die oberen Molaren stimmen genau mit den Abbildungen bei Blasius, Säugeth. Deutschlands, p. 366, überein. Vgl. auch meine Abbildungen a. a. O., p. 68.

(2) Firstly, I have been led to agree with the second of Dr. Harmer's formulae, for the simple reason that I have been enabled to distinguish the true pericardium (Herzblase) occupying a considerable portion of the subneural sinus. Its relationships appear to be almost those suggested by Dr. Harmer, so far as one can judge. He remarked »I can quite confirm the accuracy of Mr. Masterman's description in most of these points, but I believe that his subneural sinus is the heart-vesicle, and therefore not a part of the vascular system; and that the structure which projects into it is the central blood-space of Spengel, which in *Balanoglossus* communicates with the dorsal blood-vessel. . . . I must however admit that I have not been able to convince myself with certainty that the central blood-space opens into any other vessels, though I have some slight evidence pointing in that direction.« (p. 345.)

I hope to be able to demonstrate the communications of this "heart" with the rest of the vascular system, which seem to be effected in a somewhat peculiar manner. In answering Dr. Harmer I remarked "immediately after the first examination of my sections of *Cephalodiscus* I supposed that the organs brought to view had exactly the structures and homologies since suggested by Mr. Harmer, but a closer inspection proved them to be untenable." (p. 444.) So far was this the case that in my first series of drawings the "heart" is coloured red and labelled as such. How is it possible then that I could find sufficiently strong evidence firstly to deny Dr. Harmer's statements and now in the main points to corroborate them? The evidence, for or against, depends upon the presence or absence of communications of one part with another and, as Dr. Harmer remarks, "the small size of the parts in question make it very easy, to be misled in regard to the way in which one space communicates with another;" but this is not all, for re-inspection of my former sections of the first 5 or 6 specimens I had available shows quite clearly the communications referred to. In fact, in both the longitudinal and transverse sections the lumen of the pericardium "is perfectly continuous with the dorsal blood vessel". Sections of some fresh material, however, in at least one clear case, show an extremely delicate but intact posterior wall to the pericardium, separating it from the dorsal blood vessel. This posterior wall is thinner than the mesenchymatous strands crossing the lumen. Under such circumstances one must assume that its absence in the others is due to extensive rupture leaving little or no trace of the dividing wall.

(Schluß folgt.)

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