

Das Blutplasma erscheint bei jungen Exemplaren von *Goplana polonica* von gelblich rother, bei erwachsenen Individuen von mehr oder weniger grünlicher, bisweilen sogar smaragdgrüner Färbung. Die Körperfarbe des Thieres hängt in gewissem Grade von der Färbung des Blutes ab, so dass der Körper blasser wird, nachdem man das Blut entleert hat. Die Blutkörperchen derselben Art besitzen eine bedeutende Grösse und bestehen aus einem weichen, körnigen Protoplasma, an dem mitunter helle, pseudopodienartige Fortsätze zum Vorschein kommen. In dem Blutplasma bemerkt man auch mehr oder weniger zahlreiche Fetttropfen, die in dem ganzen Körper mitcirculiren.

## 2. The chambered organ of *Comatula*.

By P. Herbert Carpenter, M. A., Eton College, Windsor.

Prof. R. Greeff of Marburg has recently put forward a claim <sup>1)</sup> to the first discovery of the fact that the so called »heart« of the Crinoids does not consist of a single cavity as supposed by Müller, but that it is composed of five chambers arranged around a central axis. Ludwig has assigned the priority of its discovery to the researches of Dr. Carpenter, mentioning at the same time »die unabhängig davon gemachten Beobachtungen Greeff's und Teuschers.« Greeff, however, claims the priority for his own observations.

The facts of the case are as follows. — In the first number of the »Sitzungsberichte der Gesellschaft zur Beförderung der gesammten Naturwissenschaften zu Marburg« for 1876, we read »In der wissenschaftlichen Sitzung vom 13. Januar 1876 sprach Herr Prof. R. Greeff: 1. Ueber den Bau der Crinoideen.« In the paper then laid before the Society there occurs the following passage (p. 26). »Die Höhlung des Herzens ist aber nicht, wie man bisher angenommen hat, einfach, sondern durch fünf radiär um die mittlere Dorso-ventral-Achse gestellte und hier sternförmig sich vereinigende Septa in fünf Kammern getheilt. Die Septa sind zarte Häute, dicht mit einem feinen Plattenepithel bekleidet und mit spärlichen Muskelfasern durchsetzt.«

A week later Dr. Carpenter read a paper <sup>2)</sup> before the Royal Society (of London) in which he referred to the organ that »was described by Müller as a single chambered heart . . . . On making a transverse section of the hollow organ it is found to contain five cham-

1) »Die erste Mittheilung über das fünfkammerige ‚Herz‘ d. Crinoideen.« Marburg. Sitzungsberichte, No. 4. Mai 1879. p. 53—54.

2) On the Structure, Physiology and Development of *Antedon* (*Comatula* Lamk.) *rosaceus*. Proceedings of the Royal Society. Jan. 20th. 1876. No. 166. p. 218.

bers, clustered like the carpels of an orange round a central axis.« It is to this and similar passages that Greeff refers when he writes as follows<sup>3)</sup>. »Ich glaube hiernach die Priorität für die Beobachtung, dass das Herz der Crinoideen durch fünf Scheidewände in der beschriebenen Weise in fünf Kammern getheilt ist, in Anspruch nehmen zu dürfen.«

With respect to the »feinen Plattenepithel« and the »spärlichen Muskelfasern« I freely admit Prof. Greeff's claims to priority of discovery, except that like my friend Ludwig I have not succeeded in finding the muscular fibres at all, so that I am inclined to doubt their discovery!

But on the other hand, I cannot regard as at all valid Prof. Greeff's claims to be regarded as »der Entdecker« of the real nature of the chambered organ. For Dr. Carpenter's MS was received by the Royal Society as early as the 16th of December 1875<sup>4)</sup>, although it was not actually »read« until Jan. 20th 1876, a week after Prof. Greeff had described his own observations at Marburg. To make good his claim therefore, Prof. Greeff would have to show that his MS had been received by the authorities of the Marburg »Gesellschaft« etc. before Dec. 16th 1875.

Even then, however, the priority of discovery would rest with Dr. Carpenter, and that not by a week or ten days but by more than ten years. On June 15th 1865 Dr. Carpenter presented to, and read before the Royal Society the first part of his »Researches on the Structure, Physiology, and Development of *Antedon* (*Comatula* Lamk.) *rosaceus*«. This memoir which was published in extenso in the Philosophical Transactions for the same year (Vol. 156) contains the following passages that have apparently escaped the notice of Prof. Greeff; or else he would hardly have described<sup>5)</sup> the paper of Jan. 20th 1876 as containing Dr. Carpenter's »erste Mittheilung über das fünfkammerige Organ der Crinoideen«.

p. 738. »This canal (i. e. the central canal of the embryonic basal plate) gives passage to a large sarcodic cord that proceeds from the wall of a remarkable quinquelocular organ contained within the centrodorsal basin, which I shall hereafter describe under the name of the »centrodorsal vesicle«, and which I shall show to be an expansion of the original Crinoidal axis, hollowed out into a multiple ventricular cavity.«

3) Marburg. Sitzungsberichte. No. 4. 1879. p. 54.

4) For some reason or other the phrase »Received Dec. 16th 1875« was unfortunately omitted by the printer from the separate copies of Dr. Carpenter's paper. It is to be found in its place (just after the title) on p. 211 of Vol. XXIV of the Proceedings of the Royal Society for 1876.

5) Marburg. Sitzungsberichte. No. 4. Mai 1879. p. 53.

p. 711 »It (i. e. the central canal of each cirrus) was supposed by Prof. J. Müller, who first noticed its presence, to be occupied by a nutrient vessel, proceeding from an organ contained in the basin-shaped cavity of the Centrodorsal plate, which he designated as a heart.«

These passages were quoted by Dr. Carpenter in an addendum to a translation of Prof. Sempër's »Kurze anatomische Bemerkungen über *Comatula*« which appeared in the Annals and Magazine of Natural History for September 1875.

Prof. Greeff was presumably acquainted with this »addendum«, for in January 1876 he referred to Dr. Carpenter's views respecting the nervous system of *Comatula* which were first clearly stated therein, although they were indicated in 1865 on p. 705 of the »Researches«.

I think therefore that it will no longer be doubted that Ludwig was right in describing Dr. Carpenter as having been the first to make known the five-chambered nature of the so called »heart« of *Comatula*; and that Prof. Greeff's claim to priority for this observation will not bear examination.

One thing more; Prof. Greeff has done me the honour of commencing his last paper with a »Litteraturverzeichnis« that professes to be »genau entnommen« from a paper of my own, which Prof. Greeff quotes as follows —

»On the arms of *Antedon rosaceus*. Journal of Anatomy and Physiology. Vol. X. April 1877.«

A more correct reference would have been :

»Remarks on the Anatomy of the Arms of the Crinoids. Journal of Anatomy and Physiology. Vol. XI. October 1876« and the copy of the »Litteraturverzeichnis« would have been considerably more »genau« if the last two references had not been printed —

»S. R. Greeff, Ueber das Herz der Crinoideen. Sitzungsberichte d. Ges. z. Bef. d. ges. Naturw. zu Marburg. No 13. Jan. 28. 1876. p. 88.«  
but

»S. R. Greeff, Ueber d. Herz d. Crinoideen. Marburg. Sitzungsberichte. No. 5. Mai 18. 1876. p. 88—95.

»9. H. Ludwig, Beiträge zur Anatomie d. Crinoideen. II. Göttinger Nachrichten. No. 13. Juni 28. p. 1—9.«

### 3. *Sorex alpinus* Schinz, auf dem Riesengebirge.

Von Professor Dr. H. Nitsche in Tharand.

A. Frič bemerkt in »die Wirbelthiere Böhmens« p. 15 (Archiv für die naturwissenschaftliche Landesdurchforschung von Böhmen II. 2.

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