

Tidsskr. iv. p. 141, but their reference should have been to p. 492. For their own investigations they used "*Caprella linearis* Müll. and *Podalirius typicus* Krøy.," especially young specimens, for the sake of their transparency. The error of their opinion that *Caprella* never swim is pointed out by Dohrn, 1866. Their statement that "das Ganglion des zweiten Ringes, des Mesothorax, übertrifft an Mächtigkeit alle übrigen, wie das diesem angehörende Greiffusspaar die stärkste Extremität des ganzen Körper ist," is approved by Mayer on the general principle that the size of the ganglia depends, as might be expected, on the extent of the regions they have to provide for. In regard to the heart they say, "an ihm bemerkt man seitlich fünf paarige, mit Klappen versehene Spaltöffnungen. Das erste Paar liegt ganz am Anfang des Herzens, also noch in Kopfsegmente, das letzte Paar ganz an seinem Ende, also im sechsten Ringe. Die drei übrigen Paare sind so vertheilt, dass die eine Spaltöffnung am hinteren Theile des zweiten, die andere in der Mitte des vierten Ringes liegt, und endlich noch ein Paar Spaltöffnungen gerade am Uebergange des vierten in das fünfte Segment, also unterhalb der Conjunctiva beider Ringer, befindlich ist." For the correction of this view, see note on Delage, 1881. Delage attributes to these authors, among some errors and defects, "le fondement de ce que nous savons aujourd'hui sur la circulation des Caprelles."

To the Amphipoda they attribute seven instead of five pairs of lateral slits in the heart, although three would have been sufficient for the *Caprellæ* as well as the (other) Amphipoda. They consider that the so-called branchiæ in the *Caprellæ* are not sufficient to discharge the whole function of respiration, and that probably the legs and antennæ take a share in it.

Pages 136-168, "Verzeichniss der zur Fauna Helgoland's gehörenden wirbellosen Seethiere," are due to Dr. Leuckart alone. Among the Arthropoda, Crustacea *Malacostraca*, he enumerates the following Amphipoda:—" *Talitrus saltator* (Montag.) Milne Edw.—*Orchestia littorea* Leach.—O. sp. dub.—*Gammarus locusta* Fabr.—*G. elongatus* n. sp.—*G. Sabini* Leach.—*G. angulosus* Rathke.—*Melita palmata* (Mont.) Leach.—*Iphimedia obesa* Rathke [Köllik.]—*Amphitoe podoceroïdes* Rathke.—*A. gibba* n. sp.—*Podocerus capillatus* Rathke.—*P. calcaratus* Rathke.—*Metoecus medusarum* Krøy.—"*Caprella linearis* (Lin.) Latr.—*Podalirius typicus* Krøy."

The doubtful *Orchestia*, which he thinks may be "*Orchestia Bottæ*," Milne-Edwards, is obviously, as Boeck observes, only a young *Orchestia (littorea) gammarellus*. The *Gammarus elongatus*, n. sp., not mentioned in the Brit. Mus. Catal., is a little doubtfully united by Boeck with *Mæra longimana* (Leach) Thompson. In describing *Melita palmata*, Leuckart suggests that *Gammarus dugesii*, Milne-Edwards, is the same species, a view adopted by subsequent authors. He says that *Amphitoe gibba*, n. sp., "is distinguished from the nearly related *A. norvegica* Rathke and *A. Rathkii* Zadd., by the fact that the second, third and fourth segments of the postabdomen in the front half are narrowed, while projecting (buckelförmig) in a hump in the hinder half, giving the part of the body in question a peculiar appearance." None the less, or one might say, all the more, Boeck identifies it with *Calliopius læviusculus*, Krøyer. Leuckart recognises that *Podocerus* has a minute accessory appendage on the upper antennæ. He agrees with Krøyer in supposing that the fifth peræon-segment of *Podalirius typicus* has a (third) pair of branchiæ, misled, Mayer says, by "die weiblichen Geschlechtsklappen."

Among works consulted, Leuckart mentions "Kölliker (Beiträge zur Kenntniss der Samenflüssigkeit wirbelloser Thiere. Berlin 1841)." In this treatise perhaps would be found a reason for the addition of Kölliker's name to Rathke's as an authority for *Iphimedia obesa*.