

In the Caprellina, observations based on *Caprella acanthifera*, Leach, *Caprella acutifrons*, Latr., "*Protella phasma* (Sp. Bate)," "*Proto pedata* (Flemm.) et *P. goodsirii* (Sp. Bate)," show an absence of the peri-cesophageal collar, though the blood-current pertaining to it exists in the usual place. The three pairs of lateral orifices in the heart are present, but the two first pairs are narrow and wanting in activity, especially in *Caprella acutifrons*, thus indicating an affinity between the Caprellina and the Corophinæ, in which the two first pairs of orifices have completely disappeared. They agree with the Corophinæ also in the circumstance that the hind limbs receive their blood from the aorta and return it to the ventral sinus, and do not, as in *Talitrus*, receive it from the ventral sinus and return it to the pericardium.

Of the Tanaidæ Dr. Delage examined more particularly *Paratanais savignyi* (*Tanais savignyi*, Krøyer), in which the heart has two pairs of lateral orifices, situated in the third and fourth segments, *Tanais vittatus*, Lillj., with a single pair in the fourth segment, and *Aapseudes latreillii*, Sp. Bate. He thence tabulates the affinities of the Tanaidæ with the Isopods, Amphipods and Decapods respectively. He connects them with the Amphipods by the form and position of the heart; by the absence of arteries springing from the heart with the exception of the aortas; by the small number of arterial ramifications; by the fact that the ventral sinus is arterial and not venous; by the pericardiac vessels; by the loose peri-cesophageal vascular collar not giving origin to a ventral median vessel, and, above all, by the peri-cerebral vascular ring characteristic of the Amphipoda.

For the Hyperina, which he had no opportunity of examining, he refers to Pagenstecher's account of *Phronima sedentaria*, 1861 (on p. 90 misprinted 1761), and various treatises by Claus, who has shown that in the Hyperina the heart has three pairs of lateral orifices besides two aortas with valves, the lower aorta communicating with the heart by a double opening, showing perhaps an indication, Dr. Delage suggests, of a tendency to the bifid arrangement actually found in the Isopods and in the two abdominal aortas of the Tanaidæ.

For the whole subject, compare Note on Wrześniowski, 1879; for the Tanaidæ, Note on Blanc, 1884.

1881. GORDON, G.

Phronima sedentaria and its *Beroe*. The Scottish Naturalist. A Magazine of Natural History. Edited by F. Buchanan White. Volume VI. Edinburgh and London, 1881-1882. pp. 56-59.

Mr. William Robertson, residing in Shetland, having procured specimens of *Phronima sedentaria* from Urrafirth, and kept them alive for some time in confinement, informed Dr. Gordon "that the tail of the crustacean was the sole moving power that carried both itself and dwelling round the sides of the vessel; that the *Phronima* often left and returned to its *Beroe*; that hundreds of them were cast ashore about the same time, January 1880, at Ronas Voe." Of the young, two or three days after their birth, he says, "these young crustaceans kept to the surface of the water, but if it was stirred, they then sank to the bottom, lay on their backs, and kept constantly working with their tails. The adults lay the same way when they were out of the *Beroes*." The way in which the *Beroe* is spoken of in parts of this paper might easily produce the impression that it was a still living animal, in which the *Phronima* was ensconced.