

1878. CLAUS, C.

Ueber Herz und Gefäß-system der Hyperiden. Zoologischer Anzeiger. 1. Jahrgang. No. 12. Leipzig, 1878. pp. 269-271.

He here notices the two lateral pairs of arteries belonging to the heart of *Phronima*, which he had at one time supposed to be merely strings of connective tissue. The same pairs of vessels, he says, are found also in *Phronimella*, and in two new Mediterranean Phronimidæ from Messina, for which he institutes the new genera *Phronimopsis* and *Paraphronima*. In the latter genus there is a third pair of arteries in the fifth peræon-segment. This he finds also in *Phrosina*, *Hyperia*, *Oxycephalus*, *Thamyris*, *Platyscelus* (*Typhis*) and *Vibilia*. He is inclined to consider three pairs (in the third, fourth, and fifth segments) the normal number for the Platyscelidæ and Oxycephalidæ, especially as three is the prevailing number for the pairs of venous ostia (in the second, third, and fourth segments) in the Phronimidæ and Gammaridæ. Sometimes the first pair of ostia is wanting, and sometimes the third pair of arteries. "Two pairs," he says, "of lateral slits, which then uniformly belong to the third and fourth peræon-segments, I find in almost all Platyscelidæ, e.g., *Typhis*, *Lycæopsis*, n. gen., and in *Oxycephalus*, *Vibilia*, and *Hyperia*."

He assigns three pairs of lateral ostia (in the second, third, and fourth peræon-segments) alike to the Gammaridæ and Caprellidæ. In the genus *Tanais* the elongate heart is, he says, quite Amphipod-like in its relations, but has only two lateral openings in the third and fourth very elongate peræon-segments.

The heart as a rule runs from the beginning of the first to about the middle of the sixth peræon-segment, but in *Oxycephalus* the cephalic aorta begins at the beginning, and in *Typhis* and *Lycæopsis* at the end of the second segment. The two pairs of valves are described which are found at the origin both of the cephalic and abdominal aorta, and some other details are entered into.

1878. DEZSÒ, BÉLA.

Ueber den Zusammenhang der Kreislaufs- und respiratorischen Organe bei den Arthropoden. Zoologischer Anzeiger. I. Jahrgang. Leipzig, 1878. p. 274.

The general results only of Dr. Dezsò's investigations are given in the following terms:—

"Bei *Crustaceen*, die ihre Kiemen als Körperanhänge an der Bauchseite des Abdomens und Postabdomens haben, kommen ebenfalls so viele Paare von Spalten am Dorsalgefäße vor, wie viele Paare von Kiemen existiren.

"Bei *Crustaceen*, die ihre Kiemen unter der Thoraxschale beherbergen, kommen am Herzen so viele Paare von Spalten vor, wie viele Paare von Kiemen sich unter der Thoraxschale vorfinden."

These results do not seem to tally with those arrived at by Fritz Müller, Claus and Delage, with regard to the heart in the Amphipoda, among which five pairs of branchiæ are commonly combined with three pairs of lateral slits in the heart.

1878. FOREL, F. A.

Faunistische Studien in den Süßwasserseen der Schweiz. Zeitschrift für wissenschaftliche Zoologie. Dreissigster Band. Supplément. Leipzig, 1878. pp. 383-391.

In respect to the general conditions of life in a fresh-water lake he distinguishes three regions, "die *littorale*, die *pelagische* und die *tiefe* Region." The deep fauna is tolerably rich in