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REPORTS ON THE SCIENTIFIC RESULTS OF THE EXPEDITION TO THE TROPICAL PACIFIC, IN CHARGE OF ALEXANDER AGASSIZ, BY THE U. S. FISH COMMISSION STEAMER "ALBATROSS," FROM AUGUST, 1899, TO MARCH, 1900, COMMANDER JEFFERSON F. MOSER, U. S. N., COMMANDING.

XVI.

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XXVII.

**THE SCHIZOPODA.**

By H. J. HANSEN.

WITH TWELVE PLATES.

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Prof. H. NOUVEL



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## INTRODUCTORY REMARKS.

THE collection dealt with in the present paper is extremely large, both as to the number of species, sixty-three, and especially as to the numbers of the specimens of the major part of the forms. A small portion of the material was captured by the late Alexander Agassiz near the Fiji Islands in 1897, a still smaller lot was secured during the trip of the "Albatross" in 1899-1900, but the vast majority has been collected by Dr. Agassiz in 1904-1905 in the Eastern Pacific. When we wish to get a closer insight into the whole topic it is, however, necessary to consider separately the two orders still not infrequently united under the name Schizopoda, viz. Mysidacea and Euphausiacea. And a comparison with the results of the exploration of the Dutch "Siboga" Expedition in the Indian Archipelago is interesting.

Of the order Mysidacea only twenty-three species are at hand, fifteen of which were secured in 1904-1905, while the remaining eight forms were exclusively gathered during the earlier trips just mentioned. Fifteen species in all from the Expedition in 1904-1905 is in reality a small number as compared with the number of species already known of this order. But the explanation of this fact is given below, and when we consider the order Euphausiacea the aspect is quite different. Of the last-named order the collection contains forty species, all with a single exception taken in 1904-1905 (some among them besides in 1899-1900 or off the Fiji Islands), but as only seventy-three species of this order are known from all seas, it will be seen that Dr. Agassiz during that single Expedition captured more than half of the world's fauna. The "Siboga" gathered only twenty-five species of Euphausiacea but no less than forty-seven species of Mysidacea. The explanation of this startling difference between the results of the Agassiz Expedition of 1904-1905 and the "Siboga" Cruise is that the Euphausiacea are nearly all true oceanic forms, while the majority of the Mysidacea either inhabit shallow water, or live pelagically, or not far from the bottom to a few hundred fathoms and within no very great distance from land. And while the "Siboga" in the main explored the straits and comparatively

smaller seas between the innumerable islands in the Indian Archipelago, the Agassiz Expedition of 1904-1905 had the great majority of its Stations in the open ocean and far from any coast.

On the Mysidacea at hand some remarks may be added. The eight species not captured in 1904-1905 are small, pelagic forms taken near, or at most only some miles from the coast; four among them are new, and one of these differs so much from earlier known forms that it was necessary to establish a new genus for its reception. Of the fifteen species taken in 1904-1905 four are new; three of these belong to well-known genera, while a new genus is established for the fourth. But by far the most important gain was the capture of *Chalaraspis alata* (Will.-Suhm, MS.) G. O. Sars. This genus as defined by Sars with its single species has been described by him from a couple of sketches drawn by Willemoës-Suhm during the "Challenger" Expedition, as the single specimen had been lost. The genus belongs to the interesting suborder Lophogastrida, comprising in all only six genera; the Agassiz Expedition secured some specimens of *Chalaraspis*, and among them an adult male, thus rendering it possible to give a detailed account of this hitherto rather enigmatic type.

The material of Euphausiacea is, as already stated, very rich, and besides it is important in various respects. Among its forty species six could not be referred to earlier established forms, but in a paper published in May, 1911,<sup>1</sup> I have given preliminary descriptions of these, and other, new species. Perhaps one might expect that the number of undescribed species had been considerably higher, but in the years 1905-1910 I had established a comparatively large number of species of this order on animals from the Atlantic or the Indian Archipelago; the major part of the species of the order have a very large or frequently even vast distribution, and consequently more than three fourths of the Euphausiacea from the East Pacific were known before from the Indian Archipelago ("Siboga") or from the Atlantic, or from both Oceans. But the collection made it possible to extend our knowledge of the distribution of the major part of the species very much; furthermore, as the material, of nearly all the new species, and besides of several earlier established but hitherto imperfectly known species, is rich and generally well preserved, it was possible to give a full account of these forms. And without entering into other points elucidated by the collection, for instance, the distribution of many of the species within the area explored, geographical variation of some forms, etc., another

<sup>1</sup> H. J. Hansen: The Genera and Species of the Order Euphausiacea, with Account of remarkable Variation. Bull. Mus. Océan. Monaco, No. 210.

