

deep water was taken off Sombrero, one of the eastern group of West Indian Islands, at a depth of 450 fathoms, which, from its general resemblance to the fossil genus *Eryon*, excited peculiar attention, and subsequently the Challenger obtained from even greater depths and in very distant localities many specimens that very closely resembled one another in general appearance. Since then species have been taken by Professor Agassiz in the West Indian Seas, and in the Mediterranean by Professor A. Milne-Edwards.

Detailed examination of the specimens from the several localities demonstrated that however closely they may resemble one another in external form, they yet exhibit important variations showing that they are not so intimately allied as appearances might suggest.

In some the external arrangement of the numerous teeth and spines varies without any modification of the structural form, whereas in others the external characters appear to be fixed and the internal structure undergoes a considerable amount of important variation.

The chief anatomical feature, and one from which all the other peculiarities of form arise, is its flattened and dorsally depressed character, particularly at the anterior extremity, where the frontal margin is so closely compressed upon the antennæ that they are flattened at the base, and implanted almost in the same horizontal line, while the ophthalmopoda are forced between the second antennæ and the external lateral angle of the carapace, so that the utility of the organ of vision is reduced to a minimum. In the genus *Willemæsia* the ophthalmopoda appear to be obsolete, and in *Eryoneicus* to be entirely absent. The antero-lateral angle of the carapace in this group of Crustacea is represented by what Stimpson has called the "spina antennalis" in the more cylindrical and common forms. This angle, which is not appreciable in *Astacus* and *Homarus*, and only represented by a short tooth in *Palinurus*, is produced to a marked degree in *Arctus* and *Ibaccus*, where, in the latter especially, it is carried to a very considerable extent outwards. But in *Polycheles* and in *Arctus*, instead of being directed laterally outwards, it is produced in the same manner, forwards and outwards. The orbit being in a similar position, and formed in a similar way, in the Scyllaridæ and Eryonidæ, the consequence is the degradation of the organs of vision and the reduction of size and alteration of form of the orbit, which in some species of the Eryonidæ results in the almost total suppression of the ophthalmopoda.

Ranging from the anterior or antennal tooth, the line of anatomical depression produces a lateral crest that longitudinally defines the dorsal from the ventral surfaces of the carapace; it resembles the lateral margin of the carapace in the Brachyura, but is not homologous with it. In the Brachyura the marginal angle corresponds with the external angle of the orbit, or, according to Stimpson's nomenclature, the "angulus orbitæ externus;" the antennal angle, or "spina antennalis," being carried under, forms the inferior margin of the orbit, whereas in *Polycheles* the inferior surface of the orbit is imperfect, the eye appearing dorsally in a cleft between the frontal and the anterior