

Sea; it represents the cephalic neural mass with the oculus or the unpaired eye, with one crystalline sphere in the median line; but this I have failed to observe in the newly-hatched specimen as shown in fig. 1 on the same plate, which was obtained direct from the ovum.

It appears, therefore, that when present, as it is frequently in the *Macrura* until the animal is well advanced in development, it only exists as the remains of a worn-out organ that belonged to an earlier condition of life, and which only attains its true characters in those animals that produce the brepalos in the Nauplius stage. This unpaired organ appears therefore to be, as Dr. Hartog says, analogous to those existing in the lower forms of life, such as the *Planaria*, and perhaps also may be compared with those found in the mantle of *Pecten* and in the tissues of Annelids.

They are not in any way homologous with those eyes that in the Crustacea

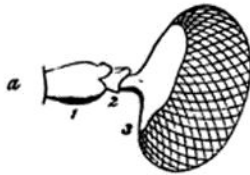


FIG. V.—Ophthalmopod of *Plesionika uniproducta*.

are projected on each side of the first somite of the cephalon, and in the *Macrura* are placed at the extremity of a two- or three-jointed appendage as may be seen in Fig. V. and also in Pl. XIV. fig. 2, in *Eretmocarid longicaulis* and other species on the same plate, in which the organ of vision is projected on an appendage of two or three articulations, so that in *Eretmocarid* it considerably resembles the appearance of an antenna that has

the extremity modified for the purposes of vision, just as the antennæ on the homotypes of other limbs are modified for the purpose of touch, hearing, and smell.

In *Eretmocarid* the ophthalmopoda, as well as the first, and perhaps the second antennæ, are attached to, and appear to originate in, a lobe that is anterior to and distinct from the carapace, and which also supports the central oculus.

*The First Antennæ.*—The first antennæ form the second pair of appendages, and belong to the second theoretical somite; but this somite is seldom recognisable as a distinct part, except in the Squilliform Crustacea, and to a less extent, as well as in an aberrant condition, in the Palinuridæ.

The late Professor Milne-Edwards, as a convenient means of defining the first from the second pair of antennæ, gave to the anterior the name of antennules, which many authors have adopted, but which I have not employed in this Report, because the numerical system appears to be both more consistent and of greater value, and the term is suggestive also of diminutiveness or inferiority. Generally the first antennæ is proportionally smaller than the second, but usually it is a highly organised structure, and increases in functional power as it diminishes in length.

The peduncle consists of three joints which terminally support two long and slender flagella; the outer of which must be regarded as of more importance than the inner, for it carries certain organs that are apparently essential to the welfare of the