

attached to the pleopoda. But large squamose plates exist also in *Penæus* and its congeners, which also so far as known never carry ova.

If we turn to *Aapseudes*, that anomalous little genus, which appears in its general character and condition to be rather a Macruran than an Isopod, we find this lateral plate distinctly recognisable as a joint articulating with its somite, and with the basal joint which supports its two branches attached at its extremity.

It appears to me that what is true of a small Crustacean is also true of a large one, and this interpretation is most consistent with the homology of these parts.

If the ecpchysis or exopodite be a branch of the second joint, as it is acknowledged to be, then it is clear that the part generally denominated the peduncle of the pleopod must be the second joint, that is the basis, and not the coxa, or the branches arising from it cannot be the homologues of the basecpchysis; or, finally, the branches springing from the first joint or coxa of the pereiopoda must also be homologically the same as those which spring from the second joint or basis; which is absurd, since it would make the exopodite and the epipodite, or as I have named them, the basecpchysis and mastigobranchia, homologous with each other.

The pleopoda undergo various modifications of form, the three anterior more or less after one type, the three posterior after another; the first pair in the female varies but little from the succeeding which carry the ova, and what change there may be is in the direction of depreciation.

In the Trichobranchiata in the female it is very much reduced in character, and sometimes, as in the Astacidæ, it is almost rudimentary; whereas in the male of the same species it is a large and powerful organ adapted for its special purpose.

In *Astacus* it is developed into an almost cylindrical tube, but in the genera belonging to the family of the Eryonidæ it forms rather a broad spoon; and judging from what we have observed of the habits of the higher forms, as exhibited in *Carcinis mænas*, in which the extremity of the vas deferens is projected into folds of the first pair of pleopoda and inserted into the female, so in these, although in a less perfect manner, the pleopod may be utilised to similarly direct same organ to the entrance of the oviduct.

In *Ibaccus*, and I believe in all the Synaxidea, the first pair of pleopoda is wanting in both male and female, but in the Stenopidæ it is well developed, but only single-branched, and utilised in the female as an egg-carrier.

In the Dendrobranchiata even a greater change takes place in the male, and one that is well worthy of close consideration.

The inner branch is transformed into a very thin membranous plate, which I have called the petasma, and which is capable of very large extension; it generally lies folded longitudinally in a narrow compass, and is frequently studded at the proximate margins with hooks and teeth which vary in form; its minor differences are so numerous and