

When comparing the number of these cavities in the fourth joint of the leg with that of the same organs in a transverse section of the body,—for example, between two lateral processes, where the circumference of the body is in some species nearly the same as that of the fourth joint of the leg,—I observed almost the same number of cavities. This was the case at least in *Nymphon hamatum* and in *N. brachyrhynchus*; whereas in the other species more or less considerable differences were observed, the number of these cavities in some species being greater in the legs; in others, on the contrary, round the body.

With regard to the hairs and spines on the surface of the body, I have already pointed out above that, as a rule, species occurring at great depths are rather smooth, whereas those from shallow water are furnished with numerous hairs and spines. Thus *Nymphon longicoxa* and *N. hamatum* have the surface almost quite destitute of spines; *Nymphon brevicaudatum* and *N. hirtipes* occurring at moderate depths, the former not exceeding 120 fathoms, the latter never reaching 300 fathoms, and generally found in considerably shallower water are the most hairy species of the genus. On the contrary, *Nymphon brachyrhynchus*, occurring at depths not exceeding 120 fathoms, is almost as smooth as *Nymphon hamatum*.

The species of *Colossendeis*, and especially the three more accurately studied by me, show almost a perfectly smooth surface. The sensory setæ are wanting also in these species; and the few spines which are present are very short and conical (Pl. XVI. fig. 13). Of these three species, two are true deep-sea inhabitants; but the third (*Colossendeis proboscidea*, Sab. (sp.)), as a rule, is found at a depth not exceeding 200 fathoms. Of the species of *Ascorhynchus*, the smooth *A. glaber* is found at a depth of 1375 fathoms; but the surface of *Ascorhynchus orthorhynchus* is also not very hairy, yet this species occurs at a depth of only 130 fathoms.

The shallow water genera *Achelia* and *Ammothea* are extremely hairy, whereas in the genus *Phoxichilidium* some of the deep-sea species (*P. pilosum* and *P. mollissimum*) show a particularly hairy surface. Both the spines and the setæ are in these species of a very remarkable length. Finally, *Pallene australiensis*, occurring at a depth of 38 to 120 fathoms, shows again the smooth surface of a true deep-sea species.

The form of these spines is also very different, but I think it is not necessary to describe them. In some species the spines are not smooth, but serrated; as, e.g., in the case of *Nymphon brevicaudatum*, Miers, and *Pallene australiensis*, Hoek (Pl. XI. figs. 6, 7); and as spines having a very curious shape I have pointed out already those of the sixth joint of the ovigerous leg of *Nymphon longicoxa*. No doubt, these must be of great use to the animal in holding the egg-masses, and perhaps also in furnishing a good point for the young ones to cling to. Particularly interesting are also the so-called denticulate spines in the four last joints of the ovigerous legs of most species. I may refer to the descriptive part of this report for an account of their extremely different forms, their numbers, and their arrangement.