finally, in F only two rounded spots of medulla are left (*co'*), which give off the commissures between this and the second thoracic ganglion.

About the histological structure of the ganglia I wish to be very short. In fig. 12 on Plate XVIII. a longitudinal section is given of the first thoracic ganglion of *Nymphon brachyrhynchus*. A comparatively thick sheet of connective tissue (neurilemma sheath) surrounds the ganglion, and is in continuation with the sheath of the commissure which unites this ganglion with the second thoracic ganglion. Small ganglion cells, each with a distinct nucleus, fill that part of the ganglion which is not occupied by the nerve fibres. These ganglion cells are situated in meshes of connective tissue, they are small and furnished with but little protoplasm; their nuclei are distinct, and show a small and glittering nucleolus.

In a section through the first thoracic ganglion of *Colossendeis leptorhynchus*, it is easily observed, that the ganglion cells are of two different sizes: there are very large ones rich in protoplasm, and furnished with comparatively large nuclei; there are also very small ones, which show only a small quantity of protoplasm. Fibres and sheets of connective tissue are everywhere observed between the ganglion cells; the neurilemma sheath of the ganglion itself is very thick, whether it is to be considered as really double (an outer and an inner neurilemma sheath, the latter of which should be in connection with the connective tissue meshwork of the interior of the ganglion), I have not been able to ascertain.[1]

3. *Eyes.*—Of the organs of sense I paid special attention to the eyes. Besides the tactile organs spread over the whole surface of the body, the curiously shaped hairs of the palpi of *Ascorhynchus*, and perhaps of other genera, which probably are also organs of a special sense (olfactory?), the eyes are the only certainly known organs of sense in Pycnogonids.[2] In the first place, I tried to ascertain in how far the eyes can really be said to disappear in those animals which inhabit great depths. I therefore drew up the following list, in which the species from the "Challenger" and "Knight Errant" expeditions are placed according to the depths they inhabit.

[1] Hitherto I have studied only such sections of the ganglia as are made by cutting the whole body. These are sufficient for researches on the general anatomy, but totally insufficient with regard to histology. The numerous sheets and strips of connective tissue prevent the substance used for enclosing the body (paraffine or Calberla's substance) from penetrating the whole interior of the body. Thus some parts always remain disunited, and the cutting of thin sections is extremely difficult, if not impossible.

[2] The curious organ which Dohrn observed between the two eyes on each side of the oculiferous tubercle I have not observed. Perhaps it does not occur in *Nymphon*, the only genus in which I investigated the eyes.