

While the eye of *Colossendeis proboscidea*, Sab., must probably be considered as the most primitive condition, that of *Nymphon robustum* is undoubtedly a degenerated form. In the innervation of the different stages of development of the eye of the Pycnogonids I believe I have pointed out one common feature, viz., that the two nerves arising from the supra-oesophageal ganglion may be only partly considered as optic nerves, and that it is much more in accordance with the facts to call them integumentary nerves, branches of which have assumed the function of optic nerves. For the investigation of the development of the organs of sense and especially of the eyes, I believe the study of the Pycnogonida will yield in future very interesting results.

The number of thoracic ganglia in *Nymphon*, *Colossendeis*, and *Phoxichilidium pilosum* is five. Those of *Colossendeis* (*C. proboscidea*, Sab., sp.) are figured in Plate XVII. fig. 2; those of *Nymphon robustum*, Bell, in fig. 3 on the same plate. In these three species the first ganglion (better called the first ganglionic mass) is separated from the second by two distinct commissures, and in *Nymphon robustum* and *Phoxichilidium pilosum* even the outward form of the ganglion shows its complex nature; on a longitudinal section it is seen to be composed of two distinct ganglia. This anterior ganglionic mass supplies the two ventral parts of the proboscis, the palpi, and the ovigerous legs; three pairs of strong nerves are given off by the ganglion, which, judging from its anatomical structure and from its development (*vide* Dohrn, *loc. cit.*, p. 34, and also in this report *sub* embryology, with Pl. XIX. figs. 11 and 13) is composed of only two pairs of original ganglia.<sup>1</sup> For a long time I was greatly puzzled with this fact, until the study of the nervous system of *Colossendeis* dispelled my doubts.

In fig. 4 of Plate XVIII. I figure the supra-oesophageal and first thoracic ganglia of *Colossendeis megalonyx*. The latter gives off the two nerves for the ovigerous legs (*o*), the nerves for the palpi (*pa*), which in the same way as the nerves for the legs immediately divide into two branches, and in the third place the two nerves for the proboscis (*t''*). Moreover, a fourth nerve (*t'*) is observed, which serves also for the innervation of the proboscis, and the fibres of which arise from the same part of the ganglion as those of the main proboscideal nerve. For a short way these fibres run parallel with the fibres of the commissures, so that this first pair of proboscideal nerves seems to arise from these commissures.<sup>2</sup> These same nerves are also present in

<sup>1</sup> On page 32 of the same paper, Dohrn asserts that in the first thoracic ganglion three nuclei are present of the well-known "fibrillären Punktmasse." This does not agree with what I have seen in the three genera I studied, nor does it agree, I believe, with what Dohrn himself says on page 34.

<sup>2</sup> In fig. 2 on Plate XVII. the ventral part of the nervous system of *Colossendeis proboscidea*, Sab., sp., is figured. From the first thoracic ganglion arise the nerves for the ovigerous legs (*n. o. l.*), and a strong nerve (the palpus nerve) dividing into two branches (*n. pr.* and *n. p.*). The most anterior, and at the same time most dorsal, part of this ganglion, from which arise the two pairs of proboscideal nerves, and the commissures, has not been figured, having been removed during the preparation.