

the first thoracic ganglion are very long, and through the wide canal formed by these not only the intestine passes but also two large muscles (Pl. XVIII. fig. 7), which serve for the movement of the proboscis, and run from the posterior margin of the proboscis to the hinder part of the dorsal surface of the cephalic part of the cephalothorax. These muscles are anteriorly narrow, and grow considerably broader towards their extremity, so that their shape is rather triangular. The nerves which arise from the supra-oesophageal ganglion are the same in *Nymphon*, *Phoxichilidium*, and *Colossendeis*. To the front three comparatively strong nerves are always present.¹ Of these, that nerve which is placed in the middle takes its origin in the ventral surface of the ganglion, a little behind the front margin. This middle nerve is the azygous proboscideal nerve. It runs close to the dorsal surface of the proboscis, and gives off at rather irregular distances extremely small nerves, which innervate the integument. At a distance of about one-fourth of the total length of the proboscis in *Nymphon*, and of about one-eighth of the same length in *Colossendeis*, it enters the ganglion (Pl. XVIII. fig. 8), which, no doubt, has already been observed by Dohrn. The two mandibular (antennary) nerves arise from the front margin of the supra-oesophageal ganglion; they are nearly (in *Nymphon* and in *Phoxichilidium*) of the same strength as the azygous proboscideal nerve. First they are slightly divergent, then they approach each other again so as almost to touch the azygous proboscideal nerve, then they separate again and direct themselves forwards and a little upwards, running in the mandibles very close to that part of the dorsal surface which is nearest to the mandible of the other side (Pl. XVII. fig. 4, *n.m.*). In regard to the farther course of the mandibular nerve I could only observe that it divides into two branches. These nerves are not totally wanting in the genus *Colossendeis*, and considering the case of *Colossendeis gracilis* with its distinct mandibles, we need not wonder at this. Yet the nerves are very short and represented only by rudimentary branches (Pl. XVIII. fig. 4, *m*). (Those of the interesting specimen of *Colossendeis gracilis* I was unable to observe without dissecting the specimen.)

With regard to the innervation of the eyes, I observed distinct nerves arising from the supra-oesophageal ganglion. These I have described already in my paper on Pycnogonids, published in 1877, and their presence is confirmed by Dohrn's observations. Dohrn (*loc. cit.*, p. 37) says that they arise from the sides of the ganglion, and that they are widely separated from one another. Moreover, Dohrn tells us that there are two of them, and that they divide and innervate the eye in a peculiar way. I studied the innervation of the eyes in *Nymphon brachyrhynchus*, *N. strömii*, *N. robustum*, and in *Colossendeis proboscidea*. The latter species is a blind one; its eyes are represented only by a small

¹ In the figure I give of the nerves arising from the supra-oesophageal ganglion of *N. robustum* (Pl. XVII. fig. 4), besides these three nerves two thinner ones are figured. These, however, are not present, as I ascertained after the plate was printed off. Although I have given myself much trouble in trying to determine what it was I had mistaken for nerves, I have not succeeded. The thin threads have the appearance of narrow ducts; they extend backwards to behind the supra-oesophageal ganglion and pass between this ganglion and the upper surface of the oesophagus.