a distinct swelling (a kind of receptaculum) near the beginning.[1] About the structure of the gland-itself in this species I have no observations to communicate.

2. *Nervous System.*—Of the different systems of the Pycnogonida the one most eagerly studied is, without doubt, the nervous system, and this is quite natural, because it has been rightly considered, that if any system could be expected to shed light on the affinities of the Pycnogonids with the other Arthropoda, it would be the nervous system.

Among the more important papers on the subject, those of Zenker, Semper, Dohrn, and myself may be mentioned. The way in which Zenker (*loc. cit.*) treats of the nervous system of *Nymphon* is not a very happy one, as he describes and figures it as consisting of a supra-œsophageal ganglion and four thoracic ganglia. The account given by Semper[2] of the nervous system of this genus is much more accurate. He tells us that in *Nymphon* the supra-œsophageal ganglion innervates the mandibles and the eyes, and that the first of the five thoracic ganglia furnishes nerves to the proboscis, to the palpi, and to the ovigerous legs, while the four following ganglia give off nerves to the four legs. The number of thoracic ganglia is, according to Semper, also five in *Pallene* and in *Achelia*, on the contrary only four were observed by him in three species of *Phoxichilidium*. In my paper the optic nerves of *Pycnogonum* are described, and the number of ganglia in *Nymphon* is given as five, in *Pycnogonum* as four.[3] We find in Dohrn's latest paper (*loc. cit.*, p. 37) a much more detailed description of the structure of this system. The supra-œsophageal ganglion innervates the mandibles, and, moreover, gives off an azygous nerve, which dorsally innervates the proboscis, and forms a ganglion at about one-third from the extremity of the proboscis. The first thoracic ganglion gives off three pairs of nerves; the first pair arising from the ganglion a little outside and below the insertion of the circum-œsophageal commissures, innervates the lateral parts of the proboscis. Like the azygous proboscideal nerve, they form ganglia at about one-third from the extremity of the proboscis, and these three ganglia are connected by commissures, which thus form a secondary œsophageal ring. The second pair innervates the so-called palpi; the third arises from the ganglion laterally towards the posterior part, it innervates the ovigerous legs. Moreover, Dohrn observed that this first thoracic ganglion not only in the genera furnished with palpi and ovigerous legs, but also in those forms which have lost their palpi and even in the females, which have lost also their ovigerous legs, consists of three nuclei of "fibrillären Punktmasse," each of which gives off the fibres for the nerves respectively of the proboscis, palpi and ovigerous legs. In a young stage of the embryological development, Dohrn made the observation that the first ganglion really consisted of two

[1] Such a long appendage, at the tip of which the gland opens, occurs also in *Ammothea* (Dohrn, *loc. cit.*, p. 36).

[2] Semper (C.), Über Pycnogoniden und ihre in Hydroiden schmarotzenden Larvenformen (Arbeiten a. d. Zool.-Zoot. Institut in Würzburg, i., 1874, p. 278).

[3] *Loc. cit.*, p. 249.