

Of course the non-existence of a hardly distinguishable structure cannot be considered proved merely because the structure has not been observed, even in numerous specimens of the same species. But, on the other hand, if the structure is very easily seen in some specimens, we are at liberty to conclude that it is absent in those cases where it was not observed. Moreover, it is hardly possible that in those cases where the pores are only observed on the two hindmost legs, they should be present also on the foremost, and from some unknown circumstance should continually escape observation.<sup>1</sup>

In regard to the microscopical structure of the testis I have not much to say. On a transverse section numerous extremely minute cells are observed (see Pl. XXI. fig. 12), while that part of the testis which adjoins the longitudinal canal has lost its cellular structure, and shows a rather granular condition. Whether these granules are the spermatozoa, or whether the numerous globular bodies each furnished with a filamentary appendage on one side which I once observed, when pulling to pieces with needles a part of the testis, are the spermatozoa, cannot, of course, be ascertained from animals in alcohol, even when preserved so well as the Challenger specimens are. Only in mature animals do the male organs attain the development figured for *Colossendeis proboscidea*. This, most probably, is only the case during a short period of the year, considering moreover that the males in most species seem to be less numerous than the females (ten female *Colossendeis proboscidea* and only one male, twelve female *Colossendeis leptorhynchus*, and only one male, &c.), it cannot be wondered at that the number of species in which I could investigate these organs was limited. Except in *Colossendeis proboscidea*, and in three species of *Nymphon*, I observed the testis also in the leg of *Ascorhynchus glaber* (Pl. XVI. fig. 9, n), but here only in the fourth joint of the leg.

In the other specimens which I consider as males, the only means I had to make out the sex consisted in looking for external sexual characteristics, such as are afforded by the dimensions of the genital pores and the condition of the thighs. Large genital pores and swollen thighs are characteristic of the females; slender thighs and small pores, very often not present in the first or in the first two pairs of legs, are characteristic of the males. Moreover, a transverse section of the thigh of one of the legs is easily made, and does no injury worth mentioning to the specimen. When in such a section no ovary is observed, so far as my experience goes, it is almost certain that the

<sup>1</sup> The genital pores of *Nymphon robustum*, Bell, ♂, are tolerably large, and are easily observed with the aid of a magnifying glass. Yet I have examined large specimens of this species (dredged in the Barents Sea), where these pores were not observed, even when investigating the joints with the microscope. As I was convinced of the exactness of this observation, I felt greatly puzzled with it at first; afterwards on reading a paper of Schöbl in the *Archiv f. Mikroskop. Anatomie*, Bd. xvii., 1880 (Ueber die Fortpflanzung isopoder Crustaceen) I found that this author admits that in the females of these Crustaceans, the genital pores are only present at a certain period, and are totally wanting during the rest of the year. Perhaps there are male Pycnogonids which have the same peculiarity.