

lung ist das Resultat einer Reise nach den Azoren und Portugal, die durch die Munificenz der Königlich Preußischen Academie der Wissenschaften zu Berlin ermöglicht wurde; viele Herren in den bereisten Landstrichen, viele im Inlande, in Österreich und Italien unterstützten mich bereitwilligst mit Material, das Berliner und das Senckenberg'sche Museum öffneten mir ihre Schätze. Es drängt mich, auch an dieser Stelle öffentlich meinen vorläufigen Dank auszusprechen.

2. Preliminary Note on the „Mucous gland“ of *Urochaeta*.

By F. E. Beddard, London.

eingeg. 31. December 1887.

This gland was first described by Perrier¹, who has termed it »glande à mucosité«. It is stated by him to occupy the first five or six segments, and is described and figured as consisting of a tuft of long glandular tubules terminating coecally, and uniting to form a long muscular duct which opens on to the first segment. The glandular tubules have the same structure as the nephridia; the absence of nephridia in those segments which contain the paired »glandes à mucosité« led Perrier to infer their probable homology with nephridia.

Similar glands occur in *Diachaeta*², and in *Acanthodrilus multiporus*³, where however they open into the buccal cavity and not on to the exterior.

I have recently examined some well preserved specimens of *Urochaeta* for which I am indebted to Mr. W. L. Selater now of the Calcutta Museum.

I can quite confirm Perrier's statements as to the resemblance between the glandular tubules of the mucous glands and nephridial tubules; they consist of rows of perforated cells imbedded in a peritoneal sheath. The tubules of the gland differ from those of the nephridia in their small calibre; in this point they agree with the nephridia of *Perichaeta*, which are also very minute. There is another fact of some importance in the structure of these glands which has escaped the attention of Perrier: that is the presence of coelomic apertures which have as in all other Annelids the form of large funnel shaped ciliated discs, composed of the usual columnar cells. The presence of these funnels naturally completes the resemblance of the organs in question to nephridia. Further more continuous series of sections showed that the funnels do not correspond

¹ Arch. de Zool. Exp. t. III.

² Benham, Quart. Journ. Microsc. Soc. 1886.

³ Beddard, Proc. Zool. Soc. 1885.

in number to the external orifices i. e. a single funnel to each gland. In two instances I counted four or five funnels among the coils of the tubules and there may be more; the »mucous gland« of *Urochaeta* therefore consists of a tube opening on to the exterior by a single orifice, and branching distally into a number of tubules each of which opens into the coelom by a ciliated funnel. I particularly endeavoured to ascertain if the ciliated funnels were arranged in any regular — metameric — fashion; in the region of the body occupied by the gland the septa are delicate and in places hardly distinguishable; the limits of the segments can however be partially made out by the help of the ventral nerve cord. But even with this assistance I cannot find evidence of any regularity in the disposition of the ciliated funnels, they are principally, if not entirely, confined to the ventral region of the gland and are usually placed on the periphery of the glandular mass; but in some cases there are ciliated funnels in the midst of the glandular mass entirely, surrounded by tubules. The ciliated funnels seem to be confined to the posterior region of the gland; it is I think fairly certain that the ciliated funnels are disposed irregularly and not metamericly.

At present I am unable to say whether there is, or is not, any connection between the »mucous glands« and the nephridia of the few following segments, which have a rather different appearance from the nephridia of the body generally. There is however a certain resemblance between the »mucous gland« of *Urochaeta* and the »head kidney« of the larval *Polygordius*, as described by Hatschek, and of certain Polychaet larvae⁴, which will be obvious from the foregoing description. The only difference, in fact, of importance is the presence of ciliated funnels in *Urochaeta*; in the larval Annelids the tubes open by »flame cells« or else end blindly. The bearing of these facts upon the morphology of the excretory system in Annelids will be more fully discussed in an illustrated account of the anatomy of *Urochaeta* which I hope shortly to publish.

London, Dec. 28th 1887.

3. Preliminary Notes on the Anatomy of Perichaeta.

By F. E. Beddard, London.

eingeg. 31. December 1887.

(1) Salivary glands. Perrier was the first to describe these organs in *P. Houletti*¹. Besides nephridial tufts, which Perrier af-

⁴ Ed. Meyer, Quoted by Lang, Die Polycladen. Naples Monographs.

¹ Nouv. Arch. d. Mus. t. VIII. (1872. p. 100. pl. II. figs. 38h, 44.)

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