

diesen mit Augen am reichsten besetzten Theil nicht versorgt. Wenn das nicht die von Rawitz gerügte vermeintliche Ungenauigkeit sein soll, so wird seiner Bemerkung kaum eine Bedeutung beigelegt werden dürfen, denn Rawitz hat die Nerven noch weniger richtig und vollständig angegeben, als sie sogar mein Schema andeutete, welches doch nicht im entferntesten eine erschöpfende Darstellung sein sollte und konnte.

Ob durch die von Rawitz gegebene Beschreibung des Mantelrandes von Arcaceen meine Auffassung der drei Falten widerlegt ist, lasse ich dahingestellt; wie aus meinen Worten hervorgeht, habe ich einer solchen Deutung ein sehr geringes Gewicht beigelegt.

Schließlich sei hier noch bemerkt, daß das von Rawitz beschriebene »sensible« Epithel an der Außenseite der augentragenden Falte ebenso wenig in die Reihe von Sinnesorganen gehört, wie der »Seitenwulst« der Pectiniden und vielleicht noch manches Andere der von Rawitz beschriebenen »Sinnesorgane«. Dieses hohe Epithel besteht aus indifferenten Zellen, zwischen denen die Ausführungsgänge subepithelialer Drüsenzellen gelegen sind. Das ist schon bei mittlerer Vergrößerung leicht wahrzunehmen, trotzdem scheint Rawitz es merkwürdigerweise selbst mit starken Linsen übersehen zu haben. Daß überhaupt durch Rawitz die Drüsen des Mantelrandes von *Arca* ziemlich unvollkommen beschrieben sind, werde ich in einer späteren ausführlichen Arbeit nachzuweisen Gelegenheit haben.

4. Preliminary note on a new Earthworm belonging to the family Eudrilidae.

By Frank E. Beddard, M.A.

eingeg. 25. August 1890.

Our knowledge of this remarkable family of Oligochaeta has been notably increased by a paper published in Vol. VII of the *Jahrbuch der Hamb. Wiss. Anstalten* by Dr. Michaelsen upon the African forms. I have lately received from W. Africa specimens of a new genus, most nearly allied to *Stuhlmannia* but evidently distinct.

It differs from that genus in the following external characters.

The setae are in couples, but the setae of the dorsal couple are closely approximated while those of the ventral couple are far apart. The median aperture of the vasa deferentia is furnished with a protrusible penis, connected by two grooves, diverging at an angle of about 45°, with two prominent papillae situated further forwards upon the same (XVII.) segment. There are no sacs of penial setae.

With regard to internal characters of less importance I may mention there is no gizzard in the anterior segments, but five gizzard like structures one to each segment, beginning with the XVII.; there are a large pair of calciferous glands in segment XIII. as in *Eudrilus* and two unpaired »Chylustaschen« arising from the ventral surface of the oesophagus in the XI. and XII. segments. As in *Stuhlmannia* these organs are richly supplied with bloodvessels; their epithelium is folded, and the folds have become united so as to give the appearance of a series of parallel tubes; the distal extremity of each pouch is remarkable for the fact that the ductules have become intra-cellular and form an anastomosing plexus which presents a striking resemblance to a nephridial network.

The structural characters of more particular interest concern the reproductive organs.

The testes appear to be normal; the sperm sacs are paired and lie in segments XI., XII. attached to the front wall of each of these segments. As in *Teleudrilus* (see Rosa »Lombrichi dello Scioa« Ann. Mus. Civ. Genova, Ser. 2. Vol. VI) the funnels of the four vasa deferentia lie in the interior of the spermsacs; each funnel is connected by a narrow neck with a dilated horse shoe shaped section of the vas deferens, which lies in the segment in front of that which contains the funnel; the vas deferens then again narrows and a second time perforates the intersegmental septum. The two vasa deferentia of each side retain their distinctness, and open into about the middle of a large glandular atrium which is tubular in form and much like that of *Acanthodrilus*; its minute structure is also similar to that of *Acanthodrilus*. Neither the vasa deferentia nor the atria are furnished with the thick muscular coat which is so prominent a feature of these organs in *Eudrilus* (see Beddard »Contributions to the Anatomy of Earthworms«, Proc. Zool. Soc. 1887. pl. XXXIII figs. 8, 9, 10, 13, 16). There is at most a trace of the musculature of the atrium, which however, as in other Earthworms, becomes thickened upon the proximal part of the tube which is connected with the external aperture. The two atria open by a single orifice situated at the apex of a muscular penis which is placed on the border line between segments XVII. —XVIII.

The ovaries are paired and lie in segment XIII.; each is enclosed in a separate coelomic sac, which contains a portion of the nephridium belonging to its segment; the two ovarian sacs communicate with each other by a narrow tube like sac, and also with a large sac, which forms a complete ring encircling the oesophagus and is continued into an extensive sac passing along the dorsal surface

of the intestine into the XV. segment. This sac is lined with a thick glandular looking epithelium and is probably identical with a similar structure described by Michaelsen in *Stuhlmannia*. Had I not ascertained that this sac and the perioesophageal ring communicates with the ovarian sac and not with the orifice of the spermatheca (to be mentioned presently), I should have regarded it from the character of the epithelium only as a spermatheca.

The oviducts open laterally upon the XIV. segment. Each oviduct is a short straight tube with ciliated epithelial lining and muscular walls; the funnel opens partly into the perioesophageal ring and partly into the egg sac of its own side which in its turn seems to be connected with the perioesophageal ring.

On the middle line of the XIII. segment opens the bursa copulatrix; this is a small globular sac from which arises a slender spermatheca with very muscular walls; the spermatheca is entirely enclosed by the left hand portion of the perioesophageal ring and ends blindly in the interior of that coelomic space.

It is therefore quite invisible on a dissection of the worm, which produces the impression that the perioesophageal spaces communicate with the exterior through the bursa copulatrix.

In nearly all the Eudrilidae the ovary is enclosed in a special sac and in *Eudrilus* itself as I have pointed out (»Contributions to the Anatomy of Earthworms« etc. Quart. Journ. Micr. Sc. Vol. XXX. p. 446 etc.) this sac is of small extent and communicates directly with the exterior, thus showing no little resemblance to the *Hirudinea*. In the present genus, for which I propose the name of *Hyperiodrilus*, the ovarian sac is singularly complicated and does not communicate by a special duct with the exterior. I am disposed to think that the very curious genitalia of *Polytoreutus* owe their appearance partly to a similar development of the ovarian sacs.

London, Aug. 21. 1890.

III. Mittheilungen aus Museen, Instituten etc.

1. Linnean Society of New South Wales.

27th August, 1890. — 1) Reptiles from New Guinea. By C. W. De Vis, M.A., Corr. Mem. Fourteen species (Lacertilia 11, Ophidia 3), of which three (*Emoa pallidiceps*, *E. cuneiceps*, and *Homolepida Englishi*) are proposed as new, are herein recorded. The specimens were obtained on the St. Joseph River by Mr. A. C. English, collector to his Honour Sir William Macgregor, Administrator. — 2) On Queensland and other Australian Lepi-

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