Kraatz, G., Über *Procrusticus Payafu* White. in: Deutsch. Entomol. Zeitschr. 31. Jahrg. (1887.) 1. Hft. p. 145.
(v. etiam *Sphodristus*, L. Ganglbauer.)

Schaufuß, L. W., Beschreibung neuer *Pselaphiden* aus der Sammlung des Museum Ludwig Salvator. Ein Beitrag zur Fauna Brasiliens, der Kgl. Niederländischen Besitzungen in Indien und Neuhollands. in: Tijdschr. v. Entom. Nederl. Entom. Vereen. 29. D. 4. Afl. p. 241—296.
(49 n. sp.; n. g. *Abascantus, Harmophorus, Upoluna, Zosimus.*)

—— —— (Fortsetz.) Mit 3 Taf. ibid. 30. D. 2./3. Afl. p. 91—165.
(67 n. sp.; n. g. *Cylindrarctus, Cylindrembolus, Hamotulus, Bythinomorpha, Bythinogaster, Neodeuterus, Phthartomicrus, Mechanicus.*)

II. Wissenschaftliche Mittheilungen.

1. Mr. Cunningham on „the cardiac body".

By R. Horst of Leyden.

eingeg. 11. Februar 1888.

In the Quart. Journ. of Microsc. Science of November 1887 Mr. Cunningham published a valuable paper »On some points in the anatomy of *Polychaeta*«. In this paper one chapter deals with the curious body, found in the heart of several Annelids, which was called by Mr. Salensky »Corps cardiaque«. The author prefaces his own observations with an account of my views in regard to the same structure in the family of Chloraemidae, based upon an investigation of the anatomy of the genus *Brada*[1].

Though I am very glad to see that Mr. Cunningham finds »my statements for the most part correct«, I cannot fail to protest against some critical remarks, contained in his paper, which show a deplorable want of appreciation of the researches of other investigators.

After having said: »Dr. Horst found that in *Brada*, as in Serpulidae and Ammocharidae, there is a blood sinus round the intestine, and the heart is continuous with this sinus etc.«. Mr. Cunningham makes the following observation: »It is to be remarked that this is a confirmation of the account given by Quatrefages in Hist. des Annelés, I, 1865, p. 54«. Undoubtedly every Zoologist reading this will make the conclusion, that Quatrefages studied the anatomy of *Brada* twenty years before me, and that I only confirmed the results of his investigations. However this is by no means the case. The place of Quatrefages' work, quoted by Mr. Cunningham, relates to the vascular system of a somewhat problematical Annelid, *Chloraema Dujardinii*; without summing up all the points of difference between the

[1] Zool. Anz. VIII. Jahrg. 1885. p. 12.

vascular system of this species and of the *Brada*-specimens, it only may be mentioned, that, according to Quatrefages, in his *Chloraema*-species the heart results from the union of two large vessels (his troncs dorsaux), situated along the sides of the stomach, from which they receive numerous small branches. It is obvious that Quatrefages found here nothing resembling a blood-sinus in the walls of the intestine, »une circulation lacunaire« as he calls it afterwards (p. 60). Further Mr. Cunningham puts the question whether the vessel, mentioned above, really represents the typical dorsal vessel. Examining namely a *Trophonia plumosa* he found »a thin vessel running in the dorsal median line on the inner surface of the body wall, unaffected by the convolutions of the intestine, receiving metamerically arranged transverse vessels from the walls of the latter, and opening into the dorsal side of the heart at a point a third of its length from the hinder end«. He believes this vessel to be the real dorsal vessel, and presumes that only the anterior portion of the heart of the Chloraemidae belongs to the dorsal vessel of other Annelida, whereas its posterior portion represents a vessel, through which the blood is conducted from the walls of the intestine to the dorsal vessel.

I must begin to say, that the existence of this vessel was not unknown to me; not only I observed it in the *Brada*-species[2], but Rathke already described this vessel in 1842 in *Trophonia plumosa*[3]. Mr. Cunningham appears to have overlooked the researches of this eminent investigator, notwithstanding I fixed the attention on them in my Note. Mr. Maurice Jaquet[4] also recognised in *Siphonostoma diplochaitos* the presence of two contractile vessels running in the dorsal median line of the body and opening into the heart quite near to each other. He also puts the question whether these latter vessels or the so-called heart must be considered to be the homologue of the dorsal vessel of other Annelids, without arriving at a definitive conclusion.

It is probable enough that Mr. Cunningham's interpretation is right, and that the thin dorsal vessel of the Chloraemidae may represent

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[2] Press of other work hitherto prevented me from publishing a more detailed account of my investigations on this matter.

[3] Beiträge z. vergl. Anat. u. Physiol. IV. *Siphonostoma plumosum*. p. 88.

[4] Recherches sur le système vasculaire des Annélides. Mittheil. aus der Zoolog. Station zu Neapel. VI. Bd. This author makes no reference at all to my views on the vascular system of the Chloraemidae. Mr. Bourne already pointed out his careless manner of treating the previous literature on the vascular system of the *Hirudinea* (Zool. Anz. No. 269). Mr. Jaquet did the same in relation to the literature on the anatomy of *Lumbricus*; had he been acquainted with the researches of his predecessors, his chapter on the vascular system of the Earthworm had better been unwritten, for however skilfull his injections may be, our knowledge of this matter is little augmented by them.

a vessel nearly totally separated from the intestinal blood sinus[5]; however it only can be proved by studying the development of these Annelids, whether we have to do with a secondary vessel or with the homologue of the typical dorsal vessel.

My interpretation of the morphological value of the heart of Chloraemidae was based upon facts, furnished by the comparative Anatomy as well as by the Embryology of the Annelida. I argued that the worms, belonging to the family of Enchytraeidae, have a free dorsal vessel only in the anterior segments, in connection with a blood-sinus around the intestine in the posterior segments of the body, whereas in the allied families there exists a free dorsal vessel over the total length of the body. Moreover it results from Mr. Salensky's researches on the development of Terebellidae — which, according to Mr. Edwards'[6] investigations, should have in the adult state a free dorsal and a ventral vessel — that the vascular system in the larval state is only represented by an intestinal sinus between the entoderm and the splanchnic layer. The vessels at the dorsal and the ventral side of the intestine, as stated by Salensky[7], derive from the splanchnic layer, being first a gutter-shaped canal, and afterwards becoming a completely closed vessel. I thought it was permitted to conclude from these facts, that the vascular system of the Enchytraeidae and of *Brada* has maintained an embryonic arrangement. About this view Mr. Cunningham says: »Horst's remark, that the presence of a free dorsal vessel in the anterior somites only, is merely embryonic in Terebellidae, is far from correct; in Terebellidae, Ampharetidae and Amphictenidae namely an anterior heart similar to that of the Chloraemidae is present, and its posterior end is connected with a blood-sinus in the walls of the intestine, which is the only representative of the typical dorsal vessel.«

Of course there exists in these families an intestinal sinus not only in the larval state (as stated by me), but also in the adult condition. I believe Mr. Cunningham's attack of my views is not very fair. In the beginning of the year 1885, when I published my Note in the Zool. Anz., our knowledge of the vascular system of the Terebellidae was based especially upon the researches of Mr. Edwards; their exactness had been confirmed by Claparède, whose authority in matter of anatomy of Annelida, in my opinion, counts for much. In his beautiful work: »Les Annélides Chétopodes du Golfe de Naples«

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[5] Mr. Wirén in his »Beiträge zur Anatomie und Histologie der limivoren Anneliden« p. 43, kindly forwarded to me just now, appears to have the same opinion.

[6] Recherches pour servir à l'histoire de la circulation du sang chez les Annélides. Ann. Sc. Nat. 2e Sér. T. X. p. 193.

[7] Arch. de Biol. T. IV. p. 252.

on p. 130, he says: »Le système vasculaire est semblable à celui des Terebelles, si bien connu, grâce aux beaux travaux de Mr. M. Edwards«, and further on p. 139, speaking of *Ter. multisetosa*, »des vaisseaux, dont la distribution est entièrement conforme aux descriptions de M. Edwards«. I think that Mr. Salensky, like myself, merely followed in Claparède's footsteps, when he wrote »depuis les belles recherches de Milne Edwards sur la circulation du sang chez les Annélides, etc.«.

A short time after the publication of my Note, I received by the kindness of Mr. Wirén his splendid paper »Om circulations- och digestions-organen hos Ampharetidae, Terebellidae och Amphictenidae[8]«; in this paper, a model of thorough examination as well as of great appreciation of the researches of older naturalists, he demonstrates, that our views about the vascular system of the Terebellidae etc. are not quite correct. He recognized that the dorsal vessel (petit vaisseau median), discovered by M. Edwards, does not exist, but that this author probably has been misled by the presence of the musculus parieto-intestinalis superior, that the intestinal vascular system of these Annelids merely consists of a system of lacunae, without proper walls, between the layers of the intestinal wall, and that the so-called dorsal and ventral vessels are nothing else but dilatations of these lacunae, which in some species take the shape of an incompletely closed canal. Whether Mr. Cunningham discovered this arrangement of the vascular system of the Terebellidae, independently from Mr. Wirén, perhaps even before him, is not evident, because Wirén's paper is not quoted by him; but he is not in the right in reproaching me, because I quoted facts, the inexactitude of which was not demonstrated on the date of publication of my Note.

Leyden Museum, am 9. Februar 1888.

2. Entwicklung des Amnion, Wolff'schen Ganges und der Allantois bei den Reptilien.

(Auszug aus dem Ungarischen. M. tud. akademiai »Ertesitö« 1888.)

Von Prof. Dr. Josef v. Perényi in Kecskemét (Ungarn).

eingeg. 18. Februar 1888.

Die Untersuchungen wurden an *Lacerta viridis*, *muralis* und *agilis* vollzogen.

Zur Härtung diente die von mir empfohlene Flüssigkeit und zwar nach mehrjähriger Probe in folgender Modification:

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[8] Kongl. Svenska Vetenskaps-Akademiens Handlingar. 21. Bd. 1885. No. 7.