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## I. Wissenschaftliche Mittheilungen.

### 1. Notes on the Clitellum of the Earthworm.

A few words in Reply.

By Frank J. Cole, Edinburgh.

eingeg. 25. Mai 1894.

1) I regret having overlooked Cerfontaine's paper, but with regard to Vejdovsky, I did not quote him because he worked with a widely differing species. Similarly I did not quote Dr. Benham himself, and indeed he also omits any reference to Vejdovsky in his first study on Earthworms — presumably for the same reason (*Q. J. M. S.*, 26, p. 272).

2) Dr. Benham states: — »For although it is perfectly easy, by means of any ordinary elementary method (such as hardening in alcohol and staining in Borax Carmine) to demonstrate the structure of the clitellum and the truth of Cerfontaine's statements, yet Mr. Cole has seen no nuclei in the long club-shaped cells! (to which by the way, he gives the cumbrous name of 'calceo-cutaneous' glands).«

On p. 8 of the (unaltered) reprint of my paper in the *Zool. Anz.*, I figure the nuclei I am supposed not to have seen and on p. 7 I state that they are 5  $\mu$  wide. (It is possible that Dr. Benham may have mixed up my terms, and is referring to the calceo-cuticular glands. If so, I admit not having seen such nuclei as he figures in the *Quart. Journ. M. S.*, 26, pl. 16.)

3) I do not know what Dr. Benham means when he says that I was unable to recognize the unicellular gland cells in the ordinary hypodermis.

4) Dr. Benham is surprised that I should congratulate Claparède for having worked out the vascular supply of the clitellum.

I did so because Horst and other writers had doubted the accuracy of Claparède's account.

5) Dr. Benham states: — »Mr. Cole [gives] a theory of his own as to the passage of the spermatozoa from one worm to another: a theory founded on no firm basis of fact but on »probabilities«.

I really do not know what this means. I have no theory on this subject. My remarks were merely a criticism of **other** theories. May I suggest that Dr. Benham be good enough to read my paper? (If Dr. Benham has got mixed up again, and is speaking of the formation of the cocoon, my actual words are: — »I can add nothing to the little already known«; »my idea is«; »what we must expect to find«.)

6) Dr. Benham refers to my »explanation« of the tubercula pubertatis.

My actual words are: — »Both these conjectures [i. e. conjectures respecting the function of the tubercula] are improbable, and the tubercula pubertatis must for the present remain a puzzle.«

I think these quotations show that what Dr. Benham was careful enough to label »A criticism« might very fitly have been included among the »Personal-Notizen«.

Edinburgh, May 22nd 1894.

## 2. Preliminary Note on the Eye of the Leech.

By Harriet Bell Merrill, Instructor in Biology, Milwaukee High School.  
eingeg. 30. Mai 1894.

In a recent paper (Beiträge zur Kenntnis des Hirudineen-Auges, in: Zool. Jahrbücher, Bd. 5. Abth. f. Morph. p. 552. 1892), Dr. B. L. Maier, a pupil of Prof. Bütschli, calls attention to an interesting feature in the innervation of the Hirudinian eye. He finds that the nerve going to the eye divides at the base of that organ into two branches, the larger perforating the pigment cup and passing as an axial cylinder through the center of the eye, giving off branches to the visual cells as it passes. The other smaller branch passes outside the pigment cup on the incomplete side, and innervates the clear cells lying above and crowding beyond the pigment layer.

Prof. Whitman, in a paper published in the Journal of Morphology in 1889, states that in the eye of *Clepsine* there are two kinds of cells, the clear cells and what he calls the »tactile cells«, which he considers homologous with the tactile cells of the serial sense organs. These two kinds of cells are innervated by two branches of the

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