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Unter Mitwirkung von

Dr. K. Goebel und Dr. R. Hertwig

Professor der Botanik

Professor der Zoologie

in München,

herausgegeben von

Dr. J. Rosenthal

Prof. der Physiologie in Erlangen.

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The „Autogamy“ of *Bodo lacertae*.

A reply to Dr. v. Prowazek.

By C. C. Dobell.

In a recent number of this journal (XXVIII. Bd., Nr. 17), I brought forward evidence to show that Dr. Prowazek's description of „autogamy“ in *Bodo lacertae* was exceedingly questionable — he having probably taken stages in the development of a yeast for stages in the life-history of *Bodo*. As Dr. Prowazek has since published (this journal, Bd. XXIX, Nr. 1) a reply, perhaps I may be permitted to point out here that he has done little — if anything — to answer my objections.

Dr. Prowazek makes the following statements:

He says he has been able to demonstrate „im Kurs“ the same processes, which he described in the cysts, in the free flagellates. If by this Dr. Prowazek means that he was able to demonstrate beyond question an autogamy in the free living animal, then he has made a discovery of profound importance, and it is to be hoped he will soon give us a complete description of his work. For in this case all my objections are void.

Dr. Prowazek then says that his fig. 67, Pl. III is „nur ein seltener Ausnahmefall“ and repeats that „die sogen. Gametoid-

generation . . . führt meistens zur Zystenbildung.“ He does not answer my objections. For if the „gametoid generation“ forms the „autogamy“ cysts, how is it that they — already possessing a chromidium — form it in the cyst?

Further, he states that he knew of the existence of fungi in the lizard's gut. I knew this, and have already given him credit for it.

Lastly, Dr. Prowazek states that he does not believe my fig. 4 shows the same organisms as fig. 1 and 2. I am prepared to stand by my statement that they are the same, because I have repeatedly watched the whole process in the living organism. To what flagellate does Dr. Prowazek imagine the cysts in fig. 1 belong? I cannot imagine, because I am acquainted with the cysts of all the flagellates which occur in the frog's gut. For a long time I thought these cysts might belong to some protozoon living in the gut, but I have now proved that they belong to a yeast. Certainly there can be no question of their being *Bodo* cysts — for no *Bodo* occurs in frogs¹). That the cysts which I figured all belong to the same organisms can easily be confirmed by anyone. There is certainly no justification for Dr. Prowazek's insinuation that I have discovered a case of heterogenesis — having bred yeasts from Protozoa. His remarks in this respect are irrelevant.

The structures which Dr. Prowazek takes for blepharoplasts in my figures are merely granules in the cytoplasm — one or more often appearing in Heidenhain preparations.

I am glad, however, that Dr. Prowazek agrees with me in regarding chromidia with scepticism, and I heartily agree „dass echte Chromidien nur in wenigen Protozoenzellen . . . und noch seltener in Metazoenzellen auftreten“.

That cysts of *Bodo* do exist, I do not for a moment doubt. If Dr. Prowazek's observations are just — as he believes — I am puzzled to know what he means by saying „Bezüglich der Deutung der Zysten als Autogamiezysten kann man allerdings streiten und sie event. als besondere Regulationszysten auffassen“. We are not concerned with an interpretation. If he has seen an autogamy — which includes not only formation of „chromidia“ but also regular nuclear divisions, fusions etc. — then it is a fact: if he has not, then my objections are fully justified.

Trinity College, Cambridge. February 1909.

1) The forms described as *Bodo* by Ehrenberg are probably other flagellates. Cf. my paper on the Protozoa in frogs, Quart. Journ. Mic. Sci., Feb. 1909.

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