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Die nicht zu bedeutenden Besonderheiten und Abweichungen in der *Phrynocephalus*-Entwicklung von der der *Lacerta*-Arten werden in meiner russischen Abhandlung dargelegt.

Kasan, August 1888.

4. Psorospermium Lucernariae.

By Rupert Vallentin, Falmouth.

eingeg. 2. October 1888.

I have read with much interest the remarks on *Psorospermium Haeckelii* in Zool. Anz. No. 270 by Dr. Otto Zacharias, and in No. 278 by Dr. A. Wierzejski.

It is my intention briefly to describe a specimen of sporozoon which I first met with during August 1887 in the tissues of *Lucernaria auricula*. My remarks are I regret to say incomplete, but still I venture to hope will not be devoid of interest, as, so far as I am aware, it has never been described before; and to which I have given the above name provisionally.

When beginning the examination of this Hydrozoon—with the view to study its development, — I noticed in several, — and in some cases many — small, white, spherical masses, irregularly scattered along the margin of the inner wall of the umbrella; and varying in size from $^1/_{20}$ —$^1/_{80}$ of an inch in diameter.

In a few specimens of *L. cyathiformis* — which is rare — I have counted as many as thirty distinct psorosperm masses in a single individual. In these specimens the psorosperm masses are not confined to the inner wall of the umbrella, but are irregularly scattered throughout the »structureless layer«, but never present in the pedicle. I am inclined to imagine that in these, the fact of the psorosperm masses being so abundant, coupled with the invariable presence of the free amoeboid bodies in the tentacles, the well being of the host is considerably affected; for, on examination of fresh specimens the margin of the umbrella bearing the tentacles is thrown further back. I found also that a stimulus — in the shape of a needle point — applied to the margin of the umbrella the »latent period« was decidedly longer than in a specimen of *L. auricula*. For want of proper appliances I am unable to give the exact difference.

On examining the contents of a psorosperm mass one finds the spores therein in various stages of development. There is no definite membrane separating the spores from the »structureless layer« of its host. The youngest stages consist of a spherical mass of protoplasm,

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— which, when treated with reagents stains deeply — closely packed together form the walls. Irregularly scattered on the interior, are other cells larger in size and enclosed by a hyaline envelope of varying size and possessing one or two nuclei. The centre is occupied by several, and at times by numerous, chitin like capsules, the debris of those that have parted with their protoplasmic contents. Surrounding these are others some partially, others completely developed; those in the former condition allowing the knife — in sections — to pass through the entire body and display the contents uninjured; while in the latter, the chitinous envelope being fully formed has splintered under the treatment, and shews its striated structure — under high powers — the protoplasmic contents being indistinguishable owing to the preserving reagents having failed to penetrate the hard protecting envelope.

A fully matured psorosperm taken from a freshly ruptured psorosperm mass may be described as follows; externally: a fine, hyaline, envelope, possessing one or two nuclei: this envelopes a thick chitinous capsule, almost spherical, in shape and measures 0,75 mm in diameter. This encloses a spherical mass of protoplasm, which is easily liberated by careful use of the compressorium.

I have repeatedly tried the iodine and sulphuric acid test but regret I have been unable to obtain the same results as Dr. Wierzejski.

The free bodies in the tentacles are visable in section and teazing. Thus are spherical, naked, and measure as near as possible 0,75 mm in diameter. So far I have been unable to find them on their way thicker but I am still in hopes of doing so.

I have tried almost every reagent possible; my most successful preparations being those treated with osmic acid and stained with picrocarmine.

5. Rectification.

Par Paul Garnault,
Docteur ès-sciences et en Médecine,
Chef des travaux de Zoologie à la Faculté des sciences de Bordeaux.

eingeg. 20. October 1888.

Dans mon travail sur le *Cyclostoma elegans*[1], j'ai dit que l'artère aorte antérieure passait au dessus du connectif qui relie le ganglion sus-intestinal au ganglion génito-cardiaque. Si ce fait était exact, les relations qui existeraient entre le système nerveux redressé et l'artère aorte antérieure seraient les mêmes que chez les Pulmonés. Il n'en

[1] P. Garnault, Recherches anatomiques et histologiques sur le *Cyclostoma elegans*. p. 29. Paris, Masson. Bordeaux, Feret, 1888.

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