

la cellule fécondatrice vient porter par des éléments distincts, sur la partie fondamentale de l'œuf, le cytoplasme et sur son organe le plus important, le noyau. On ne saurait admettre que les phénomènes nucléaires qui se produisent au moment de la fécondation, constituent l'essence de ce phénomène, et on ne saurait voir dans le noyau ou dans une portion de la substance nucléaire, la chromatine, le substratum unique des caractères essentiels de l'individu.

## 2. Note on the structure and systematic position of *Lebrunia neglecta*, Duch. and Mich.

By Professor J. Playfair Mc. Murrich.

eingeg. 10. November 1888.

I have recently been enabled, through the kindness of my friend Dr. C. S. Dolley, to study a specimen of the singular *Lebrunia neglecta*, which was originally described in 1860 by MM. Duchassaing and Michelotti<sup>1</sup>, and since that time has not apparently come under the observation of any student of the Actiniaria. It is a somewhat low form, measuring about 2,9 cm in height, and about the same in diameter, though the determination of this latter measurement in the living animal is rather difficult owing to the column being continually hidden by the tentacles which hang down over it so that their tips rest on the rock to which the animal is attached. Its most important peculiarity consists in the possession of six — not five as Duchassaing and Michelotti describe — dichotomously branched processes, arising from the column wall immediately below the margin. These pseudo-tentacles, to adopt a term proposed by R. Hertwig, are hollow outgrowths of the column wall, and each consist of a somewhat elongated cylindrical basal portion, measuring 3,8 cm in length by 0,8 cm in diameter. This divides into two equal branches, which again dichotomize several times, producing a dendritic structure. Transverse sections through the basal portion show a histological similarity to the column wall, but the longitudinal endodermal muscles are peculiar in being arranged in bands, the intervals between these being entirely destitute of muscle cells. In the terminal branches the ectoderm becomes loaded with nematocysts which are absent in sections lower down. The tentacles are apparently 192 in number, and are arranged in six cycles; they are marginal in position. The mesenteries are quite numerous, there being probably a pair corresponding to

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<sup>1</sup> P. Duchassaing et J. Michelotti, Mémoire sur les Coralliaires des Antilles. Mem. Reale Accad. di Torino. Sér. 2<sup>de</sup>. T. XIX. 1860.

each tentacle. Half of the pairs are decidedly larger than the others; the large and small pairs alternate, the former alone being perfect. Longitudinal and parieto-basilar muscles, as well as reproductive organs occur on all the mesenteries. There is no circular muscle in the column wall.

Especial interest attaches to this form on account of the discovery among the deep sea actinians obtained by the »Challenger« of two species, named by R. Hertwig who described them<sup>2</sup> *Ophiodiscus annulatus* and *O. sulcatus*, which are probably related to *Lebrunia*. Enclosed in the same piece of cloth as *O. annulatus* was a peculiar dendritic structure, evidently coelenterate in its nature, which Hertwig believes with reason to be a pseudo-tentacle belonging to one of the specimens. All the specimens show evidence of rough treatment, the tentacles being all frayed and torn and the column wall, being rent here and there between the insertions of the mesenteries, and it is very probable that the pseudo-tentacle and its fellows were torn away during the bringing to the surface of the specimens which came from great depths. In shape the pseudo-tentacle differs greatly from that of *Lebrunia*, and other differences likewise occur. Thus there were only 48 pairs of mesenteries, of which 24 were destitute of reproductive organs and provided with muscles, while the other 24, constituting the fourth cycle, were very much reduced in size, forming small folds in the angle between the column wall and the base, and possessing neither muscle or mesenterial filaments, but being gonophoric. A circular muscle imbedded in the mesoglœa of the column wall is present. The tentacles resemble those of *Lebrunia* in being inserted on the margin and hanging down over the column.

Owing to the uncertainty regarding the nature of the pseudo-tentacle of *Ophiodiscus* Hertwig did not consider it advisable to create a new family for the reception of the genus, but, relying on the nature of the circular muscle, placed it in his family Paractidae. He recognized the possible similarity to *Lebrunia* as indicated by the pseudo-tentacle and the situation and general characters of the tentacles, but could not decide whether they belonged to the same genus or not, though from the difference in the shape of the pseudo-tentacles it was evident that they were to be considered distinct species. My study of *Lebrunia* has shown that *Ophiodiscus* cannot be associated in the same genus with it, the absence in the West Indian form of a circular muscle and of specialized gonophoric mesenteries being sufficient to separate

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<sup>2</sup> R. Hertwig, Report on the Actiniaria. Challenger Reports. Zoology. Vol. VI. 1882.

the two forms not only in different genera, but probably in distinct families.

*Lebrunia* belongs to Hertwig's tribe Hexactiniae. It seems me that the division of this tribe into sub-tribes is advisable, and to these sub-tribes the terms Actininae, Stichodactylinae and Thalassianthinae, employed by Andres<sup>3</sup> might be applied. Inasmuch as these groups are characterized by the nature and arrangement of the tentacles, I would add to them a fourth, that of the *Dendromelinae*<sup>4</sup>, which would include *Lebrunia* and probably *Ophiodiscus*, and would be characterized by the presence of marginal tentacles arranged in cycles, and by the possession of pseudo-tentacles arising from the column wall. The relationships of this sub-tribe are with the Actininae, the arrangement of the tentacles in cycles being common to both. The marginal situation of the tentacles, however, is not found in the Actininae, though it is of frequent occurrence in the Stichodactylinae, and perhaps the pseudo-tentacles are to be compared to the peculiar evaginations of the disk which characterize the Thalassianthinae, though their origin from the column wall precludes anything more than a general comparison.

Further details as to the structure of *Lebrunia* will be given in a paper on the Actiniaria of the Bahamas now in course of preparation and nearly completed.

Haverford College, Pa. U. S., October 25<sup>th</sup> 1888.

### 3. Osteologische Notizen über Reptilien.

(Fortsetzung VI.)

Von Dr. G. Baur.

eingeg. 14. November 1888.

Testudinata.

Das Epipterygoid der »*Pinnatus*«.

Schon in einer früheren Notiz (Zool. Anz. No. 240, 1886) habe ich allgemeine Bemerkungen über das Epipterygoid der Schildkröten gemacht.

Spix<sup>1</sup> hat dieses Element, so viel mir bekannt, zum ersten Mal beobachtet und abgebildet.

<sup>3</sup> A. Andres, Fauna und Flora des Golfes von Neapel. Monographie IX. Le Attnie. 1883.

<sup>4</sup> δένδρον = a tree and μέλος = a limb or member.

<sup>1</sup> J. B. Spix, Cephalogenesis. Tab. IV Fig. XII, XV. 20. Monachii 1815. Der betreffende Schädel, der von Spix als »*Testudo caretta*« bezeichnet wird, ist *Testudo marginata* (nach Cuvier, Gray).

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