

#### 4. On *Caspionema pallasi* Derzhavin, the Medusa recently discovered in the Caspian Sea.

By Charles L. Boulenger, M. A.

Lecturer on Zoology in the University of Birmingham.

eingeg. 10. Mai 1912.

In the current number of this journal (April 23., 1912) Mr. A. Derzhavin publishes an interesting account of a Hydromedusan obtained by him in the Caspian Sea near Astrachan and described as *Caspionema pallasi* gen. et sp. n. The excellent descriptions and figures of both medusa and hydroid stages make it clear that this form is generically and perhaps also specifically identical with the Hydromedusan which Dr. Cunnington and I obtained in Lake Qurun during a collecting expedition to the Fayoum Province of Lower Egypt a few years ago and which was described by me in 1908 under the name of *Morrisia lyonsi*<sup>1</sup>.

Mr. Derzhavin's figure of the medusa agrees in every respect with the multitentacular form of the Egyptian medusa and it seems that all of the 700 individuals collected by him in the Caspian Sea belong to this variety; this is a point of some interest since of the Lake Qurun examples only about 11 per cent possessed secondary as well as primary tentacles the remainder being medusae with perradial tentacles only<sup>2</sup>.

Dr. Hartlaub has recently called attention to a similar type of variation in *Podocoryne carnea*<sup>3</sup>; all the individuals from certain localities bear four tentacles only, although the species is normally a multitentacular one and in the typical form the medusae develop interradial as well as perradial tentacles even before liberation from the parent hydroid.

The Egyptian and Caspian Sea jelly-fishes seem to differ in colour only, Mr. Derzhavin describes his specimens as possessing pink gonads and orange-brown manubria whilst the Lake Qurun medusae are practically colourless although brownish granules occur in the manubrial endoderm and in the tentacle-bulbs of a few examples.

This difference in colour may possibly be sexual, A. G. Mayer in his monograph has described several cases of sexual dichromatism, for example in the female of *Orchistoma pileus* Lesson<sup>4</sup> the gonads are

<sup>1</sup> C. L. Boulenger, »On *Morrisia lyonsi*, a new Hydromedusan from Lake Qurun«, Quart. Journ. Micr. Sci., London, Vol. 52, 1908, p. 357.

<sup>2</sup> C. L. Boulenger, »On Variation in the Medusa of *Morrisia lyonsi*«. Proc. Zool. Soc. London, 1911, p. 1045.

<sup>3</sup> C. Hartlaub, Nordisches Plankton. XII. Craspedoten Medusen. I. Teil. 2. Lief.: Familie III, Margelidae. 1911. p. 218.

<sup>4</sup> A. G. Mayer, »Medusae of the World«, Carnegie Inst. of Washington, Publ. No. 109, 1910, Vol. 1, p. 211.

cinnamon-coloured, the lips sage-green and the tentacles ochre-yellow whilst in the male the gonads, lips and tentacle-bulbs are of a dull blue-gray colour. A somewhat similar phenomenon occurs in the Anthomedusan *Stomotoca dinema* Agassiz<sup>5</sup>.

Mr. Derzhavin does not mention the sex of the medusae collected by him, some information on this point would be of interest since I was able to record the curious fact that all the individuals obtained in Lake Qurun were of the male sex.

The descriptions of the hydroid stages from the two localities do not agree so perfectly as those of the medusae. Mr. Derzhavin describes the polyps as solitary, each springing from a small branched hydrorhiza which is practically destitute of perisarc. The hydrorhiza is similar in *Marisia lyonsi* but bears a variable although usually small number of polyps. The hydranths from the Egyptian locality have the tentacles arranged in a single more or less well-defined whorl around the distal part of the body whilst in the Caspian Sea form additional tentacles are to be found scattered over the whole hydranth. Mr. Derzhavin does not describe any lateral buds such as occur on the proximal parts of the body in the *Marisia lyonsi* hydranths, it would be interesting to know whether this type of asexual reproduction is confined to the Lake Qurun form or whether it occurs in the Caspian hydroid as well.

Mr. Derzhavin discusses the systematic position of this Hydromedusan at some length and, whilst commenting on the difficulty in assigning a place to the medusa among the Anthomedusan families as they are constituted at present, concludes that the genus had best be considered as a somewhat aberrant member of the Codonidae, in which family I placed *Marisia* when I described it in 1908.

The inclusion of this genus in the family Codonidae has not met with universal approval, and *Marisia* certainly differs in some important characters from the other genera which are grouped together in this division of the Anthomedusae. Whilst agreeing with some of my critics I must confess that I am still at a loss to find a suitable resting place for this somewhat enigmatical Hydromedusan.

In the structure of its gonads *Marisia* certainly bears a marked resemblance to certain genera of the Margelidae and, in the light of recent researches<sup>6</sup>, the continuous gonad and the hollow tentacle-bases do not prevent its inclusion in that family. At the same time the structure of the tentacle-bulbs with ocelli on the outer or abaxial sides makes

<sup>5</sup> A. G. Mayer, l. c. p. 111.

<sup>6</sup> C. Hartlaub, l. c. p. 137.

it very difficult to accept *Marrisia* as simply a Margelid devoid of oral tentacles or nematocyst-knobs.

It must be noted however that *Turritopsis pacifica* Maas has been described as possessing abaxial ocelli<sup>7</sup>.

The structure of the hydroid stage of *Marrisia lyonsi* suggests that the medusa may have some connection with the Tiaridae; the genus is however very unlike the more typical members of this family, although in some respects resembling certain aberrant genera which A. G. Mayer has grouped together in the tribe Protiaridi<sup>8</sup>.

The main points of resemblance are the simple mouth, the smooth gonads and the position of the ocelli on the abaxial sides of the tentacle-bulbs. The systematic position of *Protiara* and its allies is however very uncertain, so that the resemblance to these genera does not help us much in finding a home for *Marrisia*.

The Tiaridae and Margelidae have almost certainly arisen from some simpler forms of Anthomedusae such as those grouped together as the Codonidae, and, taking various considerations into account I think it best to consider *Marrisia* as being intermediate between the last two families, its exact systematic position must remain uncertain for the present.

The occurrence of a species of *Marrisia* in the Caspian Sea is of considerable interest. We know that this gigantic lake was once joined to the Black Sea and the faunas of these two pieces of water resemble one another in certain respects, the Caspian basin, moreover, had a communication with the open ocean at some not very remote period.

When describing the medusa from Lake Qurun<sup>9</sup> I suggested that this piece of water represents the remains of the sea which covered this part of Northern Africa during Tertiary times and retreated northwards after this period. The occurrence of species of *Marrisia* in these two somewhat remote localities may therefore be explained by considering them as relicts, left behind by the same sea and both gradually accustomed to live in water of considerably less salinity than that of their original home.

Birmingham, May 7, 1912.

<sup>7</sup> C. Hartlaub, l. c. p. 210.

<sup>8</sup> A. G. Mayer, l. c. p. 103.

<sup>9</sup> C. L. Boulenger, l. c. p. 372.

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Zeitschrift/Journal: [Zoologischer Anzeiger](#)

Jahr/Year: 1912

Band/Volume: [40](#)

Autor(en)/Author(s): Boulenger Charles L.

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