

Note on some little-known Siphonophora from the Atlantic Ocean. By A. KNYVETT TOTTON.

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1. *Abyla haeckeli*, Lens & Van Riemsdijk, 1908.

Bigelow (1911) foretold that the Diphyid *Abyla haeckeli* would be found one day in the tropical Atlantic. Up till April of this year, it had been recorded only from the east tropical Pacific, whence the 'Albatross' brought six superior nectophores; from the Malaysian region, whence H. M. Siboga brought four superior nectophores; and from Torres Straits, where Huxley in H.M.S. 'Rattlesnake' took a

fairly complete specimen in 1849, that, for fear of running "the risk of making a species too many," he identified, not without "some little hesitation," with *Abyla trigona*, Q. & G. The Eudoxids are unknown, if we except two doubtful bracts found in the Malay area. Dr. Moser (1925) now has added the record of seven superior nectophores taken by the 'Gauss' in the tropical Atlantic. During a recent overhaul of the Siphonophora in the British Museum, I have brought to light a single anterior nectophore of this species from the north subtropical Atlantic. It was found in a bottle containing two somewhat incomplete specimens of *Abyla trigona*, Q. & G., six separate superior nectophores of the same species, and three inferior nectophores, whose determination I have not checked. They were taken at the surface by H.M.S. 'Challenger' in 1873, between Teneriffe and St. Thomas, and form the types of Haeckel's species, *A. carina*, which has been sunk since into synonymy by Bigelow. The constant, if minor, characteristic which distinguishes a superior nectophore of *A. haeckeli*, L. & Van R., from one of *A. trigona*, Q. & G., is the presence of a ridge dividing the ventral unpaired facet (CI in Lens & Van Riemsdijk's terminology) into two parts, a pentagonal facet (CI) corresponding with the inferior part of the facet (CI) in *Abyla trigona*, Q. & G., and a quadrangular facet (CII) corresponding with the superior part of the facet (CI) in that species. I have used this criterion in making my determination.

It should be mentioned that the bottle containing all these specimens bore two labels, on which appear conflicting statements. One is in Haeckel's handwriting—" *Abyla carina*. Station 348 "; and the other is written on an original Expedition label—" Surface, 1873. Between Teneriffe and St. Thomas." There is no inside label, nor Station number. Furthermore, in his Report, p. 156, Haeckel repeats the Station number 348, and adds the date April 9, 1876. The position of the ship at noon on this day was Lat. 30° 10' N.; Long. 14° 51' W. The statement on the original label has been accepted in preference to Haeckel's.

2. *Ceratocymba sagittata* (Quoy & Gaimard).

The second specimen (B.M. Register, No. 90.4.11.21) to receive notice is a fine complete Eudoxid of this species about 2 cm. in length, one of the largest Eudoxids. It was taken by H.M.S. 'Challenger' in the South Atlantic in

Lat. $35^{\circ} 36'$ S., Long. $21^{\circ} 12'$ W., a locality somewhat further south than those previously recorded by the 'Gauss.' This specimen was not seen by Haeckel. It was separated from the Expedition's Hexactinellid material, but never determined.

It is a matter of some little difficulty to distinguish between the preserved Eudoxids of this species and of *Abyla leuckartii*, Huxley. The peculiar boat-shaped bracts of the two, with their characteristic somatocysts, appear to be identical. The characters on which to rely for determination are those of the teeth at the mouths of the gonophores and the presence or absence of a row of teeth in the hydroecial cavities of these bells.

The specimen under review has a prolonged left dorsal tooth like a sharp dagger at the mouth of each gonophore. The unpaired ventral tooth is short and broad, and projects outwards like a strong three-edged thorn. An oblique toothed ridge, with one specially large central tooth, runs on the walls of the hydroecial cavities of the gonophores from the mouth in the region of the right dorsal tooth, upwards till it meets the left dorsal ridge (Moser's terminology). The male gonophore is a reduced mirror image of the female. My determination is based on these data.

3. ? *Abyla leuckartii*, Huxley.

In addition to the last specimen, I have brought to light the detached bract of an Eudoxid, to determine which, in the absence of gonophores, it is impossible. It belongs to either this species or *Ceratocymba sagittata* (Q. & G.). It has been lying in the Museum since 1864, labelled *Diphyes nacella*, var., and came from the Atlantic Ocean.

The polygastric stages of these two species are but very little known from the Atlantic. That of *Abyla leuckartii* has been recorded by Bigelow (1911), and reported by Mayor from the West Indies; and some few incomplete specimens were taken by the 'Gauss.' It is recorded from widely-distributed localities in the Indo-Pacific Ocean. Of *Ceratocymba sagittata* only five incomplete specimens were taken by the 'Gauss' in the Atlantic, one by the 'Albatross' in the Pacific, and one—the first to be seen, called *Diphyabya hubrechii*—by the 'Siboga' in the Malay area. The free Eudoxids of both these rare forms have been taken more frequently in all seas, but on relatively few occasions. Moser (1925) has shown that *Ceratocymba asymmetrica*,

Lens & Riemsdijk, is a synonym of *C. sagittata* (Q. & G.) ; and that this Eudoxid is not, as Bigelow supposed, the monogastric state of *Abyla leuckartii*, Huxley.

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