

ON THE *DORIS PLANATA* OF ALDER & HANCOCK.

By Sir C. N. E. ELIOT, K.C.M.G.

Read 10th June, 1904.

## GEITODORIS PLANATA (A. &amp; H.).

*Doris planata*, A. & H.: Brit. Nudibranch. Moll., pl. viii.*Geitodoris complanata*, Bergh: Bull. Mus. Comp. Zool. Harvard, 1894, vol. xxv, p. 163, pl. iv, figs. 13-18; pl. v, figs. 1-5.*Platydorid planata*, Garstang: Journ. Marine Biol. Assoc., vol. i, No. 4 (1890), pp. 445-6.

Alder & Hancock's *Doris planata* has been attributed to the genus *Platydorid*, but, in so doing, authors seem to have attended only to the description given opposite the plate (No. viii), and to have neglected the definition of the characters as given in the synopsis at the end of the work (l.c., pt. vii, p. 42). *D. planata* there comes under the heading—

“ \*\* ORAL TENTACLES LINEAR.

*Lingual spines of two kinds, various: no central spine. Occasionally with a spinous buccal collar.*”

From this it follows that the animal has a radula with differentiated teeth of two kinds, and possibly a labial armature, two characters which do not belong to the genus *Platydorid*.

Through the kindness of Mr. Allen, of the Plymouth Laboratory, I have received five specimens of the animal known there as *Platydorid planata*. They present striking differences in appearance, but agree in structure, and are no doubt correctly referred to the same species. Three are greenish grey, soft in texture, and flat in shape. The mantle edge is ample; the back slightly arched, and covered with soft tubercles of various shapes and sizes. The largest is 16 mm. long, 11.5 broad, and 5.5 high. The two remaining specimens are white, and much bent in shape, but apparently more stoutly built than the others. The skin seems, at first sight, smooth, but is really finely granulate. The measurements of the larger specimen are—length 12.5 mm. (probably representing at least 20, if straightened), breadth 8.5, height 6. Unless the contrary is stated, the following notes apply to both classes of specimens. The foot is deeply grooved and notched in front, fairly broad, and does not project behind the mantle. The tentacles are distinct and conical. The dorsal integuments are full of strong spindle-shaped spicules. The pockets of the rhinophores and branchiæ are slightly raised, tuberculate and crenulate, but not lobed. The rhinophores have about 25 perfoliations. Of the branchiæ Mr. Garstang (l.c.) says that they are six, but that in one specimen the third on each side was deeply bifurcated, and in the



other distinctly trifold.<sup>1</sup> This divisibility of the posterior plume no doubt explains the apparent variations in number. The largest flat grey specimen has seven, of which two might also be considered as a single but divided plume. In the other two specimens eight tips are visible, the plumes being retracted. In the larger white specimen there are six or eight plumes, according as the posterior one on each side is counted as bifid or as two; in the smaller example, there appear to be nine, quite separate. In both white specimens the branchial apparatus is entirely everted, and the anal papilla unusually large. In all specimens the plumes are small and scanty, apparently tripinnate.

The buccal mass is greenish, small, and contains a labial armature of short, closely packed brown rods, arranged in an almost complete ring. The radula is fragile and not large. There are about 18 rows of colourless teeth, and the formula varies from  $9 + 12 - 0 - 12 + 9$  to  $10 + 14 - 0 - 14 + 10$ . I could not find any row which was wider than this, but such may have existed and been broken up. The 12 or 14 teeth nearest the rhachis are of the ordinary hamate type, and strongly built. The 9 or 10 outermost are extremely thin, and closely crowded together. Bergh's plates (l.c.) give a good idea of both kinds of teeth. The other internal organs appear to be as in the genus *Geitodoris*, but in one of the white specimens the seminal duct and glans penis appear to bear minute hexagonal scales.

These forms cannot be referred to *Platydorís*, for not only do they differ decisively in the mouth parts, but they have not the characteristic stiff, leathery consistency and feeling. On the other hand, they have all the essential characters of *Geitodoris*, and Verrill, who discovered *Geitodoris complanata*, thought it might be allied to *D. planata*, A. & H.

I regard the form here examined as being certainly identical with *D. planata*, and as belonging to the genus *Geitodoris*. The only question is whether it should be specifically distinguished from *Geitodoris complanata* found on the north-east coast of America. The colour of the two is similar, and the chief differences seem to be that the specimens from Plymouth are (1) smaller, (2) have a smaller radula, (3) have varying branchiæ, which appear to be typically six, with a tendency to division in the posterior plumes, whereas in *G. complanata* there are definitely ten plumes. All these differences could be explained by the hypothesis of growth, but further examination may prove that there are two species, or well-marked varieties, from the east and west coasts of the Northern Atlantic respectively. The specific name *planata* (A. & H., 1855) has clearly priority, and must be borne by the American form unless it is shown to be distinct.

In view of Garstang's description of the buccal parts of his *Platydorís planata* it is possible that it may be really distinct from the specimens sent me. Both Verrill's *G. complanata* and the form here examined were obtained by dredging, and seem to frequent fairly deep water.

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<sup>1</sup> He also adds that the branchiæ of each side are retractile separately from those of the other side.



Eliot, Charles. 1904. "ON THE DORIS PLANATA OF ALDER & HANCOCK."  
*Proceedings of the Malacological Society of London* 6, 180–181.

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