

ON TWO OPISTHOBRANCHIATE MOLLUSCS, *PLACOBANCHUS*
OCELLATUS HASSELT AND *DISCODORIS BOHOLIENSIS* BERGH,
FROM INDIAN WATERS NOT HITHERTO BEEN RECORDED

Placobranchus ocellatus Hasselt 1824.—In the month of July 1960 a small sea slug from among the sea weeds found on dead coral in the shallow water region of the Palk Bay in front of the fish farm was collected by Dr. S. Jones. Subsequently in October 1960 two more numbers of this form were obtained by him from the same locality. These were later identified as *Placobranchus ocellatus* van Hasselt under Family Elysiidae and Order Sacoglossa (Thiele 1931a).

The largest of the forms measured 3.8 cm. in length. The body is leaf-like and the lateral extensions of the mantle in the usual creeping position are folded upon the back, the edges of the opposite sides meeting along the mid-dorso-median line with the result that the morphological dorsal surface of the body is not exposed but completely hidden from view. The head is flat, broad and almost squarish in appearance with a pair of rhinophores which are thin and folded lengthwise upon themselves. The eyes are situated very close to each other in association with the nerve ganglia and are visible through the semi-transparent skin covering the head. When the lateral expansions are lifted up the dorsal surface of the body reveals a number of branchial ridges running lengthwise. Just behind the region of the head is a small bulging which marks the position of the crop lying within. The foot is long and broad and not distinctly demarcated from the lateral mantle folds. The mouth is terminal, anterior and median in position in the region of the head (Text Fig. 1 a and b).



FIG. 1(a) *Placobranchus ocellatus* Hasselt, dorsal view x 2 ; (b) *P. ocellatus*, ventral view x 2.

The ventral surface of the head and of the foot bears dark spots. The dorsal region of the head and the exposed surface of the mantle folds also present numerous

close set dark, small and large markings most of which when magnified, appear as distinct rings. The entire foot region and the head are grayish white. On the surface of the mantle on either side are 4 to 5 areas where the colouration is light yellow. The spots on the foot and the mantle are black. The ring-like markings also are generally black but the larger ones, particularly those at sides, are tinged with violet. The inside of the folded rhinophores is of a pinkish or of a violet hue.

The radula presents the same general structure as in other members of the Sacoglossa. In *P. ocellatus* examined by me there were about 8 teeth in the ascending series, the same number in the descending series and nearly 40 worn out ones in the sac or ascus. The anterior half of each tooth had 10 denticles on either side (Text Fig. 2 *e* and *f*). In the specimen described by Eliot (1903) the marginal denticles on the teeth were about 12. *P. argus* Bergh from the Philippine region appears to be synonymous with *P. ocellatus* (Eliot 1903). *P. priapinus* Bergh (1872 and 1905a) seems to be distinct from *P. ocellatus* particularly in regard to its characteristic green colouration.

The species is now known to occur in the East African, Indian, Philippine and Australian waters.

Discodoris boholiensis Bergh, 1877.—Two specimens of this species belonging to Nudibranchiate Gastropoda under the family Dorididae and sub-family Discodoridinae (Thiele 1931*b*) were obtained in the month of January 1961. One of these was of a medium size, measuring 4 cm. by 3 cm. from the Marine Bay, Port Blair, Andaman Islands and the other fairly large being 7.5 cm. by 5 cm. from the Gulf of Mannar near the Central Marine Fisheries Research Institute, Mandapam Camp.

In general the species has a widely spread out mantle which is roughly oval in outline in the living animal when it remains undisturbed. In the preserved specimens the borders of the mantle and the foot present usually an undulated appearance. The mid-dorsal region between the rhinophores and branchiae is closely mottled brown and prominently elevated lengthwise. The rhinophores are dark brown and are retractile into sheaths, the margins of which are wavy and of the same colouration. The branchiae arise from a pocket-like space the opening of which appears as a transverse slit (Text Fig. 2 *a*, *b* and *c*).

The dorsal edge of the mantle in the larger form is dark brown as described by Eliot (1903) and that of the smaller one has a row of deep brownish spots as shown in Fig. 9, Tafel I given by Bergh (1905*b*). The branchiae are six in number of which the posterior two are bifid. They are deep dark brown or almost black. The foot is oval in appearance and is much narrower than the mantle. Its margin all round is lined deep dark brown like the edge of the mantle. In regions other than those mentioned above, the general colour of the mantle, the sides of the body and the foot is pale yellow. The dorsal surface bears small papillae, some of which are pale yellow and others dark brown.

The labial cuticle has two plates formed of numerous small rod-like bodies. The radular structure with hamate teeth (Text Fig. 2 *d*) is the same as in the earlier accounts given by Bergh (1905*b*) and Eliot (1903).

Bergh reported the species from the Philippine region, northern and southern regions of Celebes and the nearby islands. Eliot's account deals with a form obtained from Zanzibar on the east coast of Africa. With the present new record of its occur-

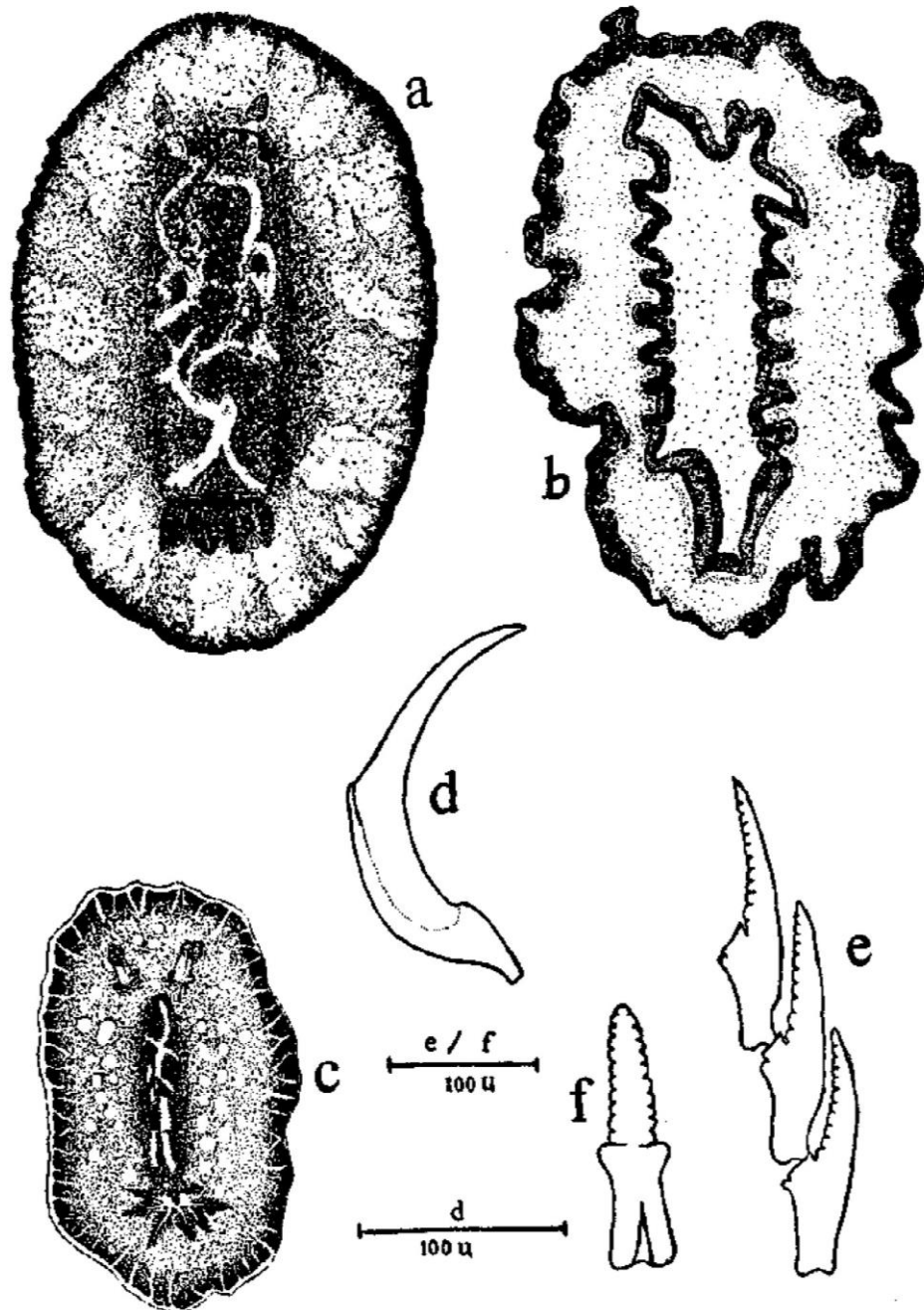


FIG. 2(a) *Discodoris boholiensis* Bergh, adult specimen from the Gulf of Mannar, dorsal view $\times 1$; (b) *D. boholiensis*, same as above when preserved, ventral view $\times 1$; (c) *D. boholiensis*, smaller individual from Andamans (Fig. after Bergh, *Siboga Expedite*, 1905) $\times 1$; (d) *D. boholiensis*, single tooth of the radula from the Andaman specimen; (e) *Placobranchius ocellatus*, three teeth of the radula as in lateral view; (f) *P. ocellatus*, view of a single tooth showing denticles on either side.

rence in the Gulf of Mannar and the Andaman Islands, it may be concluded that the species is distributed throughout the Indo-Pacific region.

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EXTERNAL MORPHOLOGY AND EARLY DEVELOPMENT OF *PLEUROBRANCHUS (OSCANIUS) SP. FROM GULF OF MANNAR*

In a dredge collection from the Gulf of Mannar at one and a half fathoms depth near the Central Marine Fisheries Research Institute at Mandapam Camp four numbers of a species of sea-slug under the genus *Pleurobranchus* Cuvier and subgenus *Oscanius* (Leach) (*vide* Thiele 1931) along with their egg ribbons were obtained on 25th December, 1960. To the best of our knowledge the form obtained has not so far been described, although Bergh (1905) in his Report on Opisthobranchiata of Siboga Expedition in Tafel II, Fig. 2, gives an almost identical form as *Oscanius* sp. Unfortunately the original specimen of the Siboga Expedition as also the notes thereof were lost as stated under the legend to the figure referred to above.

The largest specimen in the collection measured 12 cm. long, 8 cm. wide and 3.5 cm. high. It has an ample mantle extending as a thin fold on either side and also on the posterior region of the body (Plate I, Fig. A, B & C). Anteriorly the extension of the mantle is comparatively narrower and also notched in the middle above the head wherefrom a pair of moderately long soft tentacles arises. The foot, like the