

SOME AUSTRALIAN POLYCLADS

(*Turbellaria*)

By LIBBIE H. HYMAN

American Museum of Natural History, New York
(Figures 1-21)
(Manuscript received 4.7.58)

The material of this article was kindly furnished by Miss Elizabeth Pope, Curator of Worms and Echinoderms, the Australian Museum, Sydney, who was assisted in collecting by Misses P. McDonald, F. Wilson and B. Dew, and by Mr. Ederic Slater, who also took a series of kodachromes, which have been of great aid in establishing the colour in nature. Miss Pope also sent valuable notes and colour sketches.

All the specimens were collected in the intertidal zone at Long Reef, near Collaroy, north of Sydney, New South Wales, during the summers of 1955 and 1956. The material comprised 30 specimens, belonging to 10 species, of which three are identical with species in Haswell's (1907) report; the remainder are considered new.

Extensive definitions of families and genera appear in my 1953 monograph but are repeated here for the benefit of Australian zoologists. Unfortunately, acotylean polyclads cannot be identified except by means of serial sections of the copulatory apparatus. Cotylean polyclads may often be identified by the colour pattern. The eye arrangement can be made out accurately only in dehydrated, cleared specimens. Field identification is generally impossible except in the case of species with striking colour patterns.

Order POLYCLADIDA Suborder ACOTYLEA

Polyclads without a sucker behind the female gonopore; eyes never in a pair of clusters on the anterior margin; tentacles when present of the nuchal type; copulatory complex usually in the posterior body half.

SECTION CRASPEDOMMATA

Acotylea with eyes in a band along the whole or the anterior part of the body margin; eyes usually also present elsewhere; rarely completely devoid of eyes; pharynx ruffled; copulatory apparatus in the posterior body half behind the pharynx, with male apparatus directed backward and uteri extending forward.

Family Discocelidae Laidlaw, 1903

Craspedommata with eyes, apart from the marginal band, limited to definite cerebral and tentacular clusters; tentacles wanting or rudimentary; penis massive, muscular, lobulated, depending vertically from the dorsal wall of the male antrum; penis edged with numerous small prostatic apparatuses, which may also be present in the antral wall; Lang's vesicle present, usually crescentic.

Genus *Discocelis* Ehrenberg, 1832

Discocelidae without prostatic vesicle or without antral pockets occupied by a large prostatoid.

Discocelis australis, sp. nov.

(Figures 1-4)

This is evidently one of the common species of the area as the collection contains five specimens. The form is broadly oval (Fig. 1), anteriorly rounded, tapering somewhat posteriorly to an obtuse end. The largest specimen preserved is 31 mm long by 13 mm across the middle but the fully extended worm is no doubt considerably longer. The colour is given in notes, colour sketches and kodachromes as fawn, dotted with dark brown spots, more concentrated medially. This is a common colour pattern in the genus, hence is not distinctive. Figure 4 is an attempt to represent the form and appearance from a kodachrome.

The eye arrangement is shown in Figure 1 from a cleared specimen. There is a pair of tentacular clusters, evident in life, of about 25 eyes each. The cerebral clusters are elongated groups, beginning thinly behind the level of the tentacular clusters and widening as they extend forward between the latter. The pattern of the cerebral and tentacular clusters is given in Figure 2, drawn with the aid of a camera lucida. The band of marginal eyes extends to about the level of the brain.