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THE GIRDLE SCALES OF *ISCHNOCHITON*
(*CHARTOPLAX*) *PURA* SYKES.

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Plate XVII.

Family **ISCHNOCHITONIDAE** Dall 1889.

Genus **ISCHNOCHITON** Gray 1847.

Subgenus **CHARTOPLAX** Iredale and Hull 1924.

Ischnochiton (*Chartoplax*) *pura* Sykes.

1896. *Ischnochiton* (*Haploplax*) *pura* Sykes, Proc. Mal. Soc., ii, 1896, 88, pl. vi, fig. 3, 3a.

1924. *Haploplax* (*Chartoplax*) *pura* (Sykes). Iredale and Hull, Aust. Zool., iii, 1924, 295.

Ischnochiton (*Chartoplax*) *pura* is a rare shell. Nine specimens are known to the writer. Of these, three are in the Bracebridge Wilson Collection, National Museum, Melbourne; they include the type and two paratypes. There is one specimen in the collection of Mr. J. H. Gatliff. Mr. C. J. Gabriel had two specimens, one of which he generously gave to the writer. Mr. Edwin Ashby has two examples which he courteously sent to the writer for examination. These eight specimens were dredged from approximately the same locality in 6-10 fathoms near Portsea, Port Phillip, Victoria. Mr. A. F. Basset Hull has one specimen dredged in 12 fathoms at Disaster Bay, N.S.W. He very kindly forwarded it for examination and comparison.

Sykes described the shell in 1896 (supra). The general features were those of genus *Ischnochiton*, but, as the shell was almost lacking in sculpture and the girdle scales appeared to be "very small and smooth," Sykes thought it might be included in the subgenus *Haploplax*.

Iredale and Hull, basing their description on Hull's specimen from Disaster Bay, wrote "Girdle wide, scales small, elongate, smooth, flattened, closely imbricating" (Monograph of the Aust. *Loricates*, p. 40). They left it in genus *Haploplax* on account of its smooth shell and extreme rarity, but suggested the sub-generic name of *Chartoplax*, "the smooth scales being in form quite unlike those of any other member of the genus."

The writer examining the type found that there had been some inaccuracy in the description of the girdle scales. They are very small, the length and breadth being about $36\mu^*$, with extremes varying from 30 to 40μ . They are rounded or slightly elongate, a little uneven in size, and moderately closely set. They are not smooth, but are striated, the striations being fine, even, numerous (20 to 30), and beautifully engraved (Fig. 1). An occasional pointed form is met. Two such occur in that portion of the girdle from which the figure was drawn. Although they imbricate, they do not show that close regular pattern which is found in most members of genus *Ischnochiton*.

The peculiar shape and delicate striation, both so unlike any other *Ischnochiton*, offer some justification for the subgenus *Chartoplax* proposed by Iredale and Hull.

Although it is possible to raise technical objection to the separation of genus *Haploplax* from genus *Ischnochiton*, there can be no question that members of the former genus constitute a well defined sectional group. Six Australian species have been described, *H. smaragdina* Angas, *H. resplendens* Bednall and Matthews, *H. lentiginosa* Sowerby, *H. adelaidensis* Reeve, *H. thomasi* Bednall, and *H. arbutum* Reeve. All may be recognized "at sight" as belonging to *Haploplax*. They are all broadly elliptic in shape, being proportionately wider than *Ischnochiton* generally. They are all of medium size, rarely exceeding 25 mm. in length, and being, as a rule, much smaller. The sculpture is weak, the surface often glossy, and the colouration usually striking and characteristic of the species. The girdle scales are proportionately large and glisten like polished gems. Moreover all the members have a preference for a fairly high station in the littoral zone.

Ischnochiton (Chartoplax) pura has nothing in common with any of these characteristics except lack of sculpture. For the purpose of comparison, specimens of *Ischnochiton crispus* Reeve and *Haploplax smaragdina* Angas equal in length to the specimen of *I. (C.) pura* were examined and portions of the girdle were figured on the same scale as that of *I. (C.) pura* (Figs. 1, 2, 3). It was found that scales of *I. (C.) pura* measured about $36 \times 36\mu$, those of *I. crispus* about $160 \times 60\mu$, and those of *H. smaragdina* about $218 \times 218\mu$. The scales of *I. (C.) pura* were thus less than a quarter the size of *I. crispus* and about one-sixth of *H. smaragdina*.

Its station indicates that *I. (C.) pura* is a deep water *Ischnochiton*. It may be remarked that the insertion plates and

* $\mu=1/1000$ mm.

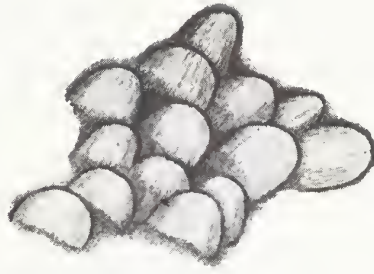
slitting are somewhat weak. On account of the peculiar scales the subgeneric name of *Chartoplax* becomes appropriate.

Figs. 1, 2, and 3 were all drawn to the same scale of magnification from shells 17 mm. in length. In each case a group of scales in the mid zone between valve and girdle margin was selected.

In fairness to Iredale and Hull, the writer notes that the Disaster Bay shell, although small in size, shows evidence of old age. The girdle scales are somewhat rubbed and the fine striation obscured, although it is undoubtedly present.

Plate XVII.

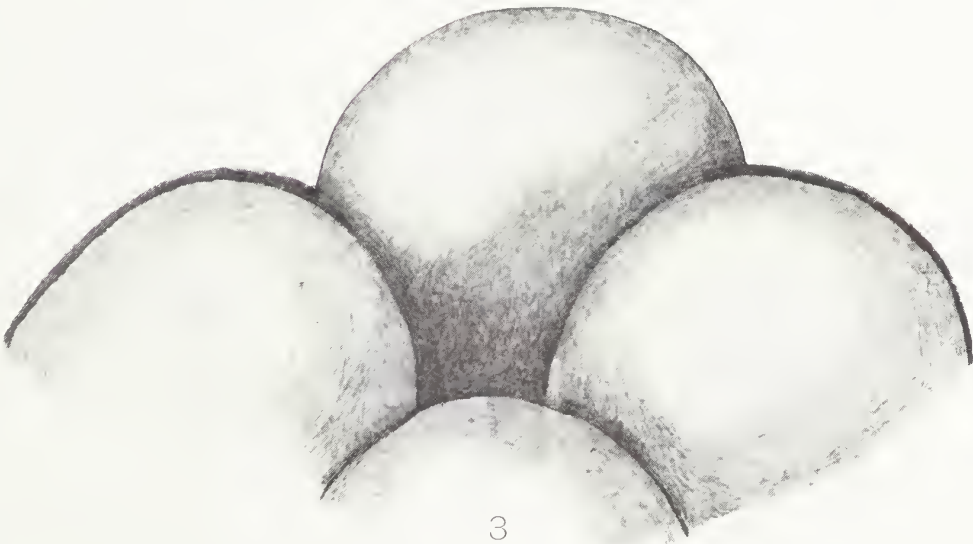
- Fig. 1. *Ischnochiton (Chartoplax) pura* Sykes, topotype, dredged by Gatliff and Gabriel in 6 to 10 fathoms off Portsea, Port Phillip, Victoria. Girdle scales $\times 220$.
- Fig. 2. *Ischnochiton crispus* Reeve, Narooma, N.S.W. Girdle scales $\times 220$.
- Fig. 3. *Haploplax smaragdina* Angas, Narooma, N.S.W. Girdle scales $\times 220$.



1



2



3

Girdle scales of (1) *Ischnochilon (Charloplax) pura* Sykes, (2) *I. crispus* Reeve, and (3) *Haploplax smaragdina* Angas