# A REVISION OF THE AUSTRALIAN *TURRIDÆ*.

BY

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(Plates xlii.-lvi.)

The marine gasteropods embraced in the family *Turridæ* (formerly *Pleurotomidæ*) are considered by those who meddle with them to be more perplexing than any other molluscan family. This is because that family embraces a bewildering wealth of recent and fossil species, frequently small in size, variable or indistinct in feature, and from depths difficult of access. For the most part the species are expressed by a poverty of individuals. This small proportion of individuals to a species is the general rule with carnivora, which by ecological harmony must be less numerous in individuals than the phytophaga. But the consequent scarcity of specimens hinders that exchange and comparison of material between students, so necessary for the correction of error and advance of knowledge. The range of Turrid species in space appears to be rather narrow.

Our knowledge of the Australian *Turridæ* is still very incomplete. The fauna of eastern Australia from Hobart to Torres Strait is best represented in this paper; that of the north and west is scarcely known at all; that of the south coast has been elaborated in excellent papers by Sir Joseph Verco.

Re-arrangement of species and genera to conform with modern taxonomy has rejected such old friends as *Pleurotoma*, *Drillia*, *Mangelia*, *Glyphostoma*, *Clathurella*, *Cythara*, and *Bela*, so that *Daphnella* alone survives of the generic names used in this group for our fauna by the last generation of conchologists.

About three hundred and seventy recent species discussed in the following pages are divided into four sub-families. First are the *Turrinæ*, distinguished by a narrow unguiculate operculum with an apical nucleus. As this feature is not always available for study, it is useful to note that the nuclear whorl is comparatively large and almost as broad as the rest of the protoconch, and that the interior of the shell is often fluted.

An operculum with a medio-lateral nucleus is held to be the distinguishing feature of the sub-family *Clavatulinæ*.

Those genera are assigned to the sub-family *Mangiliinæ*, in which the protoconch is helicoid, with a very small initial, and rapidly increasing subsequent whorls. Here the texture of the adult shell is frequently "gritty," from a sculpture of minute grains; the varix is usually well developed, and the fasciole evanescent. A series of pustules on the columella is an ordinary feature. The operculum is said to be missing.

An elaborately sculptured protoconch contrasts with the smooth protoconch of previous groups, and gives ready recognition to the fourth family—the *Daphnellinæ*.