

nature of the aperture, which in *Operculina* consists of a transverse arched fissure at the inner margin of the terminal segment. In *Heterostegina*, on the other hand, the chamberlets of which each chamber is composed have no direct communication with each other, but each chamberlet has an orifice on the outer septal plane; and the row of pores so formed on the face of the final chamber constitutes the general aperture. The canal system resembles that of *Operculina*.

The genus *Heterostegina* inhabits the tropical portions of the Atlantic, Pacific, and Indian Oceans, whilst in the Red Sea it is found as far north as the Gulf of Suez. Its bathymetrical range extends from the littoral zone to a depth of about 600 fathoms. Fossil representatives of the genus occur in Tertiary deposits of almost every age from the Eocene forwards.

Heterostegina depressa, d'Orbigny (Pl. CXII. figs. 14–20).

- Heterostegina depressa*, d'Orbigny, 1826, Ann. Sci Nat., vol. vii. p. 305, pl. xvii. figs. 5–7;—
Modèle, No. 99.
 „ *antillarum*, Id. 1839, Foram. Cuba, p. 121, pl. vii. figs. 24, 25.
 „ *helvetica*, Kaufmann, 1867, Geol. Beschreib. des Pilatus, p. 153, pl. ix.
 figs. 6–10.

The Challenger collections have furnished a smaller number of specimens of *Heterostegina* than might have been expected, and their study has added but little to our knowledge of the type. Whether the living representatives of the genus are all referrible to a single species is a question which still remains undetermined. The immature shells present themselves under two apparently very distinct forms, in one of which (figs. 17, 18) the test is compressed and explanate, and the chambers subdivided from the earliest stages; whilst the contour of the other (figs. 19, 20) is biconvex, the convolutions are embracing, and the subdivision of the chambers only commences after one or two convolutions have been formed.

The points in which the adult shells exhibit the greatest amount of variability are—the degree of convexity of the two faces of the test; the greater or less rapidity of the widening of the spire; the development and thickening of the marginal cord; and the greater or less regularity, as well as the amount of external limbation, of the primary and secondary septal lines. Specimens, to all appearance fully grown, vary considerably also in dimensions, and occasionally attain a diameter of half an inch (12·6 mm.) or even more.

Heterostegina depressa has been taken amongst the Cape de Verde Islands, in shore-pools, and at a depth of 11 fathoms; amongst the West Indies; in the South Atlantic, off Pernambuco, 350 fathoms; in the Red Sea, 30 fathoms; on the shores of the Seychelle Islands, Madagascar, and Ceylon; at eleven Stations amongst the islands of the South Pacific, 6 fathoms to 620 fathoms; in the Chinese Sea; and on the coral-reefs of the Sandwich Islands, 40 fathoms.