

shapeless genital scale soldered for most of its length, and only leaving a small genital opening near the mouth shield. Sometimes the genital scale is soldered with its neighbouring scale in one, and sometimes it nearly or quite disappears, leaving the interbrachial space almost wholly filled by the two genital plates. The outer face of the arm bone (fig. 5) makes a near approach to that of *Astrophyton*, having the articulating shoulder (4) nearly of the transverse hour-glass form: the great muscle fields and large tentacle sockets (*r*) are, however, distinctly Ophiuran. The inner face also (fig. 6) has a similar mixed character, with its large umbo (1) prolonged downwards, and forming a vertical hour-glass. The mouth frames (fig. 4, *f*) are massive and plain, without grooves or ridges, and the peristomial plate (*v*) is small, single, rounded and intimately connected with the surrounding parts. The resemblance of the arm bone joints to those of the *Astrophytidæ* is striking; but is not carried to other parts of the structure, which is truly Ophiuran, although the loading of the tissues with so much lime gives it a character of its own.

See Plate XLIII. figs. 4-6.

#### Species of *Sigsbeia* not herein described.

*Sigsbeia murrhina*, Lym. (Pl. XLIII. figs. 4-6).

*Sigsbeia murrhina*, Lym., Bull. Mus. Comp. Zool., vol. v., part 9, p. 234, pl. iii. figs. 55-58, 1878.

West Indies; 88 to 422 fathoms.

#### ASTROPHYTIDÆ.

*Astrophytidæ* are a family in the order of starfishes characterised by a more or less sharply defined central disk containing a digestive cavity, simple or much pleated, which has no anal opening, and does not pass into the arms. These, sometimes simple and sometimes ramified, have a central axis composed of jointed, vertebra-like sections (arm bones), each made up of two ambulacral pieces soldered side by side. Their joints consist of a horizontal and a vertical hour-glass-like projection fitted one on the other. The axis is covered by a thick skin, under which are plates, generally of an irregular and elementary character; and there are no spines on the sides of the arms. Each arm bone is pierced by a water tube, destitute of a bulb, and supplying the imperforate tentacle, which is imbedded in the bone itself. The halves of the first two arm bones are swung laterally into the interbrachial space and soldered together to form the mouth angle; and in them are set the mouth tentacle which are watered by a forking tube from the mouth ring. On either side of the base of each arm, above and below, run two stout pieces, the radial shield and genital plate, which are joined at the margin of the disk, and are connected by an adductor muscle. In the lower interbrachial space, close to and parallel with each