

cells, as the matrix is clear and structureless, and the vessels are not sufficiently abundant to make any difference.

The muscle bands in the mantle are chiefly longitudinal, but transverse and oblique bands are also present in abundance. The sphincters are well developed, and large numbers of fine longitudinal muscle bands radiate from the bases of the two siphons.

The branchial sac differs from that of *Goodsiria placenta* in having no folds. It also has the stigmata on the whole rather larger and more regular (see Pl. XLIV. fig. 2, *sg.*). They are rounder than and not so long as those of *Goodsiria coccinea*, so that in the condition of the branchial sac the present species occupies a position between those of *Goodsiria placenta* and *Goodsiria coccinea*. The horizontal membranes on the transverse vessels are slight (Pl. XLIV. fig. 2, *tr.*).

The tentacles are rather short and stout, and, unlike those of *Goodsiria placenta*, they are all of the same size.

The œsophagus is long and narrow. It runs posteriorly and ventrally. The globular stomach has well-marked longitudinal folds. A transverse section shows (Pl. XLIV. fig. 3) that there is one very thick fold (*ty.*) and twelve slighter ones (*fd.*). They all project in for a considerable distance so as to greatly reduce the lumen. They are covered with ciliated columnar epithelium (*ep.*) The outer part of the stomach wall at the bases of the folds contains a large number of blood-vessels (Pl. XLIV. fig. 3, *b.v.*). The intestine runs anteriorly from the stomach, and then turns dorsally in a wide loop, and then anteriorly again to form the short rectum. The whole of the intestinal tract is very narrow.

The reproductive organs are in the form of polycarps imbedded in the mantle and projecting into the peribranchial cavity. These are unisexual, as in the case of *Synstyela incrustans*, and only female ones were found. Endocarps are also present attached to the mantle.

Goodsiria coccinea, Cunningham (Pl. XLV. figs. 1-19).

Goodsiria coccinea, Cunningham, Trans. Linn. Soc. Lond., vol. xxvii. p. 489.

The Colony is massive, and may be of rounded form, or elongated. It is attached by the lower end, is not pedunculated, and has the upper end wide and rounded. The surface is generally rather uneven, but smooth. The colour (after preservation in alcohol) is a pale bluish-grey.¹

The length is 5 cm., the breadth is 2 cm., the thickness is 1 cm..

The Ascidiozooids are fairly large and numerous. They are distributed evenly over the surface of the colony, and are distinctly visible externally. The anterior end forms an elliptical area, generally 2 or 3 mm. in length, and bearing the conspicuous

¹ When living, according to Prof. R. O. Cunningham, it is scarlet.