

The *Dorsal Lamina* is represented by a series of closely placed, stout, tapering, languets.

The *Tentacles* are branched; they are twenty in number, ten large and ten small, placed alternately.

The *Dorsal Tubercle* is rather large; it is elliptical in outline, and is placed with its transverse axis directed anteriorly and posteriorly, the opening being at the right side; both horns are turned in and form moderately large spirals.

This is a very striking species, and although an ordinary *Cynthia* in its structure, is quite unlike any other species in external appearance (Pl. XV. fig. 5). The anterior end is large and rounded and bears the two apertures, while the posterior is prolonged backwards into a short stalk by which the body is fixed. The entire surface is raised into convolutions which, taken along with the yellowish white colour, suggested the specific name *cerebriformis*. The apertures lie upon the right side, which is concave, while the left is strongly convex. It looks as if the anterior end, bearing both apertures, had been forcibly bent over, so as to form the front of the right side. The openings are very distinct (Pl. XV. fig. 5), and each is surrounded by four prominent lobes.

The branchial sac (Pl. XV. fig. 6) is that of a typical *Cynthia*. The folds are large, and have each a number of internal longitudinal bars, which are closely crowded at the crest of the fold. The transverse vessels are all of one size and are rather strong. The meshes are slightly elongated transversely, and are usually not divided; they contain from five to seven stigmata each.

The dorsal tubercle is large, and lies in rather a shallow peritubercular area (Pl. XV. fig. 7). The opening between the spirals is directed to the right side; each spiral is composed of about two turns, but the anterior is considerably the larger one.

The œsophageal aperture lies very far forwards in the branchial sac, and there is no distinct stomach. The digestive tube runs first posteriorly and then ventrally in irregular curves, so as to reach the ventral edge of the body, where it turns sharply round posteriorly, and then sweeps round the lower end of the body and turns anteriorly at the dorsal edge so as to reach the neighbourhood of the atrial aperture. The general course is similar to that found in the genus *Corella* amongst the Ascidiidæ.

One specimen of this curious species was obtained at Port Jackson, Australia, June 3, 1874; depth, 30 to 35 fathoms; bottom, rock.

*Cynthia fissa*, Herdman (Pl. XV. figs. 8–11).

*Cynthia fissa*, Herdman, Prelim. Rep., Proc. Roy. Soc. Edin., 1880–81, p. 58.

*External Appearance*.—The shape is ovate, with a deep cleft at the anterior end of the dorsal edge extending nearly half way through the body; it is slightly flattened laterally, and is attached by the posterior end and nearly the posterior half of the left side. The