

commences by coiling six or seven times around it (Pl. XXXVI. fig. 8, *t.v.*). Figure 7 on Plate XXXVI. shows a section through the testis (*t.v.*) with some of the coils of the vas deferens (*v.d.*) on its surface. No ova and no embryos nor larvæ were found in any of the Ascidiozooids examined.

*Leptoclinum speciosum* var. *asperum*, nov. (Pl. XXXIV. figs. 8–13, and Pl. XXXVI. fig. 9).

*The Colony* is a thin incrusting layer of irregular shape, attached by its whole extent. The upper surface is somewhat uneven, and it is rough all over. The colour is white.

The length is about 5 cm., the breadth about 3 cm., and the thickness from 1 to 2 mm.

*The Ascidiozooids* are numerous and fairly large. They are closely placed all over the surface of the colony. Some cloacal apertures are present here and there, but no definite systems are visible. The Ascidiozooids are elongated antero-posteriorly, and are placed vertically in the colony. The thorax and abdomen are distinctly separated.

*The Test* is hard and brittle. It is opaque white throughout. The matrix contains small test cells, numerous calcareous spicules, and, in the superficial layer, a few bladder cells. The spicules are stellate, of regular form, and of considerable size. Ectodermal prolongations from the Ascidiozooids are also met with in the test.

*The Mantle* is moderately thick and muscular, the branchial sphincter is powerful, and retractor muscles are present.

*The Branchial Sac* is small. There are four rows of short stigmata, and the transverse vessels between them are wide.

*The Endostyle* is wide and conspicuous. It undulates greatly from side to side in its course.

*The Dorsal Lamina* is represented by a series of long narrow languets.

*The Tentacles* are large. They are sixteen in number, and are of two sizes, placed alternately.

*The Alimentary Canal* is large. It forms a long narrow loop behind the branchial sac.

*Localities.*—(a.) Bahia, Brazil, September 1873; depth, 7 to 20 fathoms. (b.) Station 142, December 18, 1873; lat. 35° 4' S., long. 18° 37' E.; depth, 150 fathoms; bottom, green sand; bottom temperature 47° F.

Several colonies obtained in shallow water off Bahia, on the east coast of South America, form a very distinct variety. In external appearance they differ markedly from the typical forms of the species, found in the same locality, in having the surface finely roughened all over in place of being smooth. As the internal structure also differs somewhat in the two forms, it is doubtful whether it might not be better to