

the older ones—after having produced ova in their younger stage—function as males only. Two ova were found far forwards alongside the rectum in the Ascidiozoid figured (Pl. XXXIV. fig. 2, o.). No larvæ were discovered in the colony.

*Didemnum aurantiacum*, n. sp. (Pl. XXXIII. figs. 1–8).

*The Colony* is a large irregularly convex mass incrusting various foreign bodies. Its upper end is rounded and roughly hemispherical. The lower part is irregular. The surface is even but slightly rough. The colour is an orange-brown.

The length is 4 cm., the greatest breadth is 5 cm., and the thickness is 2.5 cm.

*The Ascidiozooids* are numerous but very small, and they are placed with great regularity over the surface. They are of rounded form, and the body is not distinctly divided into regions.

*The Test* is thick and solid. It is firm and opaque. The outer part is of a dull orange colour, while inside it is light grey and semi-transparent. The matrix is apparently structureless. The test cells are abundant and of large size. The spicules are colourless, and are numerous on the surface, but much fewer in number deeper down. They are usually of stellate form, with moderately long rays, but occasionally spherical ones, with very short blunt rays, are met with.

*The Mantle* is strongly muscular.

*The Branchial Sac* is small and of rounded form. The stigmata are minute and inconspicuous.

*The Endostyle* is large and of considerable width. Its course is straight.

*Locality*.—Station 162, April 2, 1874; lat. 39° 10' 30" S., long. 146° 37' 0" E.; depth, 38 fathoms; bottom, sand and shells.

A single specimen of this species was dredged in Bass' Strait, south of Australia, from a depth of 38 fathoms. It is a handsome colony, roughly of hemispherical form (Pl. XXXIII. fig. 1), and having a dull orange-brown colour, darker in some places and lighter in others.

The Ascidiozooids are placed with great regularity over the surface, where their anterior ends form minute projections from 0.5 mm. to 1 mm. apart (see Pl. XXXIII. fig. 1). There is apparently no arrangement in systems, and no common cloacal apertures are visible in the specimen. The branchial apertures, when viewed from the outer surface (Pl. XXXIII. fig. 3), are usually of an irregularly hexagonal form.

The surface layer of test is stiff and opaque, and contains abundance of spicules (see Pl. XXXIII. fig. 2). These spicules are quite colourless, and although they may aid in producing the opacity of the test, its dull yellow colour is certainly not due to their presence, but is caused by a homogeneous yellow tint in the matrix. The coloured