

Figs. 5, 6. *Leptopenus hypocælus*. Off Valparaiso. Lat. 33° 31' S., long. 74° 43' W. 2160 fathoms.

5. The corallum viewed directly from the upper surface.
6. The same viewed from the side.

#### PLATE XV.

Figs. 1-7, 1a-7a. *Flabellum Patagonichum*, showing the adult corallum, and a series of stages in its growth. Off Penguin Island, Patagonia. 120 fathoms.

Fig. 8. *Thecopsammia gemma*. *a* Calicle of the same enlarged six diameters. *b* Portion of the wall of the same much enlarged, to show the epitheca. Basilan Strait, Philippine Islands. 102 fathoms.

Fig. 9. *Balanophyllia parvula*, of the natural size. *a* The same viewed directly into the mouth of the calicle, enlarged five diameters. Off the Ki Islands. 129 fathoms.

Fig. 10. *Balanophyllia rediviva*, of the natural size. *a* Calicle of the same enlarged three diameters. *b* Part of the wall of the same much enlarged.

Fig. 11. Dead worn specimen of the same of the natural size.

Fig. 12. Dead worn specimen of the same of very different form, also of the natural size. All the above off the Ki Islands. 129 fathoms.

#### PLATE XVI.

Fig. 1. *Leptopenus discus*. Diagrammatic representation of the under surface, enlarged to show the mutual arrangements of the branching costæ and septa. The costæ are represented as white, the septa seen beneath them as black. *a, b* to *e* denote the septa of successive orders, *a* denoting the primary. Of the perforations of the wall only those lying near the centre of the corallum are indicated.

Fig. 2. The same. A similar scheme of the upper surface, to show the arrangement of the septa, and of the paliform spines which they bear. The spines situate near the centre of the corallum, being viewed directly from above, appear as small circular dots only, *a, a* primary septa, *b, c, d* septa of successive order.

Fig. 3. The same. To show the relation of the septa to the tentacles of the living coral. The septa are shaded black, and their successive orders indicated as before, by letters.

Fig. 4. The same. A diagrammatic section through the living coral to show the form of the soft parts, and the arrangement of the tentacles of the three kinds.

Fig. 5. The same. Portion of the under surface of the corallum much enlarged, to show the nature of the perforations and the relations of the costæ and septa to them. On either hand is seen one of the costæ. The two costæ are connected