

spheroidal base ; surface of the wall rough and bark-like ; tentacles tolerably long, placed in three rows decreasing in size from within outwards.

*Habitat*.—(a) Station 157. March 3, 1874. Lat.  $53^{\circ} 55'$  S., long.  $108^{\circ} 35'$  E. Depth, 1950 fathoms. One specimen. (b) Station 237. June 17, 1875. Lat.  $34^{\circ} 37'$  N., long.  $140^{\circ} 32'$  E. Depth, 1875 fathoms. Four specimens.

*Dimensions*.—Diameter of the pedal disk, 5 cm. ; height, 7 cm.

*Colour*.—(Determined from the spirit specimen) a dirty violet.

The new species, which I have named *Cereus spinosus*, was found at two different places. The first time there were several specimens, which were unfortunately preserved in chromic acid, and thus rendered of no practical use. The second time there was only a single specimen, which was very well preserved in spirit, and from which the following description is exclusively taken.

The colour of the body was a dirty violet in all parts to which the spirit had easy access, whilst in other parts it had become discoloured into a greyish-yellow. For example, the outer tentacles were violet, and so were the points of the inner tentacles, whilst the bases of the latter were yellowish. This was caused from the animal being in a semi-contracted condition, in which portions of the tentacles project freely.

It was plain that the pedal disk had been attached to a very narrow underlying substance, and had consequently acquired a very irregular shape. Part of the disk surrounded the stalk of a *Hyalonema*, which was consequently enclosed in a canal, so that the edges of the disk are not only placed firmly one against the other, but have actually become fused. The pedal disk is otherwise opaque, tough, and knobbed, and thus presents a bark-like appearance.

The surface of the wall is likewise very rough. Its lower third is covered with circular furrows, which are placed at a little distance from one another, and run parallel to the margin of the pedal disk. At the upper end the furrows lie further apart and become irregular, whilst at the same time they are crossed here and there by longitudinal furrows. The numerous knobs with their pointed ends, on account of which I have named the species *Cereus spinosus*, deserve special attention ; they show a tendency to arrangement in transverse and longitudinal lines, but are wanting in some places, whilst they are thickly compacted in others. In the upper third of the wall they are of considerable size, begin with a broad hemispheroidal base and end in a thorn-like point, marked off by its dark brown colour from its surroundings. Lower down the knobs become smaller, and are finally merely minute pointed knobs, which are very firm, and coloured an intense brown.

The bark-like appearance of the pedal disk and wall is owing to a cuticular deposit (the "epidermis" of former authors), in which we can distinguish two layers (Pl. VIII. fig. 6). The surface of the epithelium is covered first of all by a yellowish, irregularly fibrous border, which is torn in some places, and raised here and there in tube-shaped processes, of which one is shown in fig. 6, b. Outside the fibrous border comes a granular