

contents of a tow-net attached at the weights in front of the trawl, and was mounted on a glass slide as a microscopic preparation. As the specimen shows a structural feature

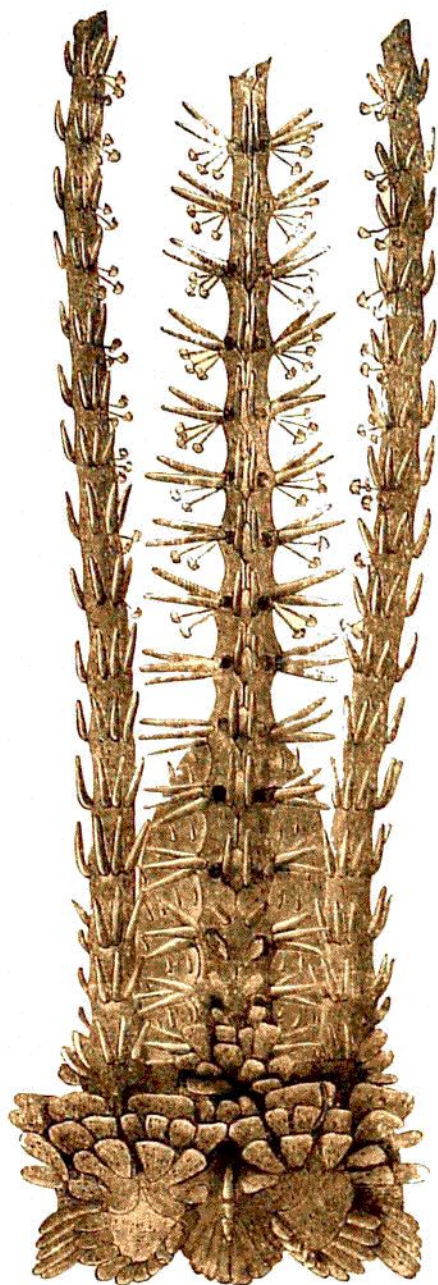


FIG. 73.—*Ophiotholia* *supplicans*, Lym. The entire animal, ten times the natural size, seen in profile, with its arms and disk stretched upward, and its mouth angles turned downward and outward, and armed with their mouth papillæ like those of *Ophiomyces*. On the outer arm joints are the small parasol spines. Station 296, November 9, 1875, southwest of Juan Fernandez, lat. 38° 6' S., long. 88° 2' W.; 1825 fathoms.

unknown till that time among Echinodermata, the following details from Mr. Lyman's paper¹ will be interesting:—
 “Long after the main collection of the Challenger Expedition had arrived, there were sent me several glass slides containing additional specimens of Ophiuridæ. One of these, hastily examined with a weak lens, I labelled *Ophiomyces*, and set aside for further study. In the very last cast made by Mr. Alexander Agassiz, during the “Blake” Expedition of 1878–79, near the Barbados, and in 82 fathoms, there came up a small soft Ophiuran, which seemed, under the microscope, to have little tufts resembling bunches of simple hydroids on the sides of the arms. More careful search, with a higher power, showed that these were bunches of minute spines, each enclosed in a thick skin-bag, and that they had a most extraordinary form, resembling long-stemmed agarics, or parasols with small shades. On going back to the Challenger *Ophiomyces*, this too exhibited the same spines, and a third species, also brought back by the Challenger, was found with similar appendages. Their form, however, was not the most curious thing. It was by their arrangement in two, or even three, parallel vertical rows, that they wholly differed from all Ophiuridæ hitherto known. For, with all the variety exhibited by the hundreds of living species, there is not one that departs from the unvarying single row of articulated spines. Not even the double rows of hook-bearing grains among the Astrophytidæ would be homologous, because these grains are not attached to the side arm-plates. In one species, these parasol-spines stood side by side with the normal arm-spines (*Ophiotholia*), while in the two others (*Ophiohelus*), they took the place of the normal spines. Among known Echinodermata I have been able to find only a single

instance of a somewhat similar spine, or pedicellaria. This is in *Aceste bellidifera*, Wyv. Thoms.² The question whether these novel shapes are spines or pedicellariæ is not a

¹ A Structural Feature, hitherto unknown among Echinodermata, found in Deep-sea Ophiurans, *Boston Soc. Nat. Hist.* (Anniversary Memoirs), 1880.

² Agassiz, Zool. Chall. Exp., part ix., pl. xl. fig. 66, 1881.