crowded pedicellariæ. The length of the longest is about 2 mm., and their delicacy is so great that when denuded of the membranous sheath, they are almost invisible to the naked eye. The actinal spines do not perhaps generally stand perpendicularly, but are directed laterally at a small angle to the horizontal, the plane of the direction of these spines almost coinciding with that of the lateral spines, with which at first sight they might almost be ranked. No inner spinelet of any kind is present on the furrow-margin of the plate.

The actinostome occupies nearly the whole of the actinal surface of the disk, its diameter being 4·5 mm., that of the disk being 6 mm. The buccal membrane is of great delicacy, and perfectly transparent, the folds of the digestive cavity being clearly visible through it. The mouth-plates are small and rather elongate, extending from the margin of the actinostome to the interbrachial arc, the united pair having a subhexagonal outline. The actinostomial margin of the plates is comparatively broad and straight, with the faintest prominence at the median line of juncture. Each plate bears one or sometimes two small short mouth-spines, 0·36 mm. in length, on the adoral margin away from the median line, directed horizontally over the actinostome, but at an angle to the median interradial line; when two mouth-spines are present the outer one is at angle of about 45°, and the inner one less than this. These mouth-spines can also be directed perpendicularly. Both are covered with thin opaque membrane, but bear no pedicellariæ. On the actinal surface of each plate, midway between the extremities, is a comparatively large secondary or superficial mouth-spine, 1·7 mm. in length, encased in a delicate semitransparent membranous sheath crowded with pedicellariæ. The sheath appears to terminate abruptly at a little distance from the tip of the spine; moreover, the pedicellariæ seem to be most numerous on the trumpet-shaped edge of the roll, and none are present on the basal part of the sheath; indeed, I am inclined to think that this disposition of the pedicellariæ upon the sheaths obtained throughout the ray. The secondary mouth-spines are twice as thick and robust as any of the other spinelets on the ray.

The plate which I regard as the madreporiform body has a very peculiar appearance, it is placed quite at the margin of the abactinal surface of the disk, is subtubercular, and with somewhat of a conchoidal form, having a single suture or "striation" furrow, resembling the lip of certain volute shells, passing across it. The naked portion of the plate bears three or four short spinelets and a few pedicellariæ, the same as the other dermal structures of the disk, above noted. The whole structure (if this indeed be the madreporiform body) looks more like two displaced impinging plates than anything else. A distinct anal aperture is present and its position is slightly excentric.

Colour in alcohol, greyish white, with a faint pinkish shade over the ovarial regions.

Locality.—Station 289. In the Mid-South Pacific, near the meridian of 130° W. October 23, 1875. Lat. 39° 41′ 0″ S., long. 131° 23′ 0″ W. Depth 2550 fathoms. Red clay. Bottom temperature 34°·8 Fahr.; surface temperature 54°·5 Fahr.

Remarks.—*Freyella benthophila* is characterised by the presence of six rays, a number