

radiate from the tips of the spinelets and pass to those standing in close proximity around, the bands crossing at various angles, overlying and underlying one another, and forming an interlacing tissue rather than a truly reticulated structure. The spiracula, which are moderately large, are irregularly placed and not numerous. The paxillæ seldom have more than three spinelets, which are usually aggregated close together and especially so along the median line of the ray and at the extremity, forming a crown of small expansion. Towards the disk the spinelets are more widely spaced; and the paxillæ, which form the pseudo-sides of the ray, are disposed in a perfectly straight line, no stragglers encroaching on the web or interradial area.

The oscular aperture is large and conspicuous; the valves are regular and formed of comparatively few spinelets, seldom more than a dozen in each. The outer margin of the oscular ring is very strikingly marked out by short, prominently protruding, pointed spinelets, excentrically directed, very regularly disposed, and from the tips of which the membrane hangs in graceful folds.

The ambulacral furrows are moderately broad, sublanceolate in outline, fairly uniform in width except near the mouth where they are constricted; and along the outer fifth where they taper rapidly up to the extremity. The armature of the adambulacral plates consists of two short, acicular, pointed spinelets, covered with membrane which forms a moderately developed terminal sacculus. In some specimens this appears to be much more developed in the adoral spine of the pair than in the aboral, which seems frequently to be smaller than the other. The aboral spine is also placed higher in the furrow than the adoral. The aperture-papillæ are large, and with their investment, broadly lanceolate or acumino-spatulate in form.

The mouth-plates are short and rather broad, the aboral prominence being blunt and well rounded. Each plate bears two very short, robust, stumpy secondary or superficial spines, the adoral one (which is placed forward on the plate) being shorter even than the mouth-spines proper, but much more robust. The mouth-spines proper, which are four or five in number on each plate, are rather long, fine, and nearly equal in length.

The actino-lateral spines are robust and well-spaced, the fourteenth or fifteenth from the mouth being longest. None meet in the interradial median line, not even the longest, the space being filled in with fleshy membrane.

Colour in alcohol, dirty white in large specimens, greenish grey in those of smaller size.

*Locality*.—Station 235. Off Japan, south of Omae saki. June 4, 1875. Lat.  $34^{\circ} 7' 0''$  N., long.  $138^{\circ} 0' 0''$  E. Depth 565 fathoms. Green mud. Bottom temperature  $38^{\circ} \cdot 1$  Fahr.; surface temperature  $73^{\circ} 0$  Fahr.

*Remarks*.—*Hymenaster glaucus* may be readily distinguished by the conspicuously defined radial areas raised in relief above the rest of the abactinal surface, by the paxillæ with three spinelets, and by the character of the supradorsal membrane.