

such forms as those of *Hemiaster gibbosus* here figured and those of the ordinary *Desmosticha* consisting of a simple tube with a terminal sucker (See Revis. Echini., pl. xxxi. figs. 4-9).

Station 191. September 23, 1874. Lat.  $5^{\circ} 41' S.$ , long.  $134^{\circ} 4' E.$ ; 800 fathoms; bottom temperature,  $3.9^{\circ} C.$ ; mud.

Station 232. May 12, 1875. Lat.  $35^{\circ} 11' N.$ , long.  $139^{\circ} 28' E.$ ; 345 fathoms; bottom temperature,  $5.0^{\circ} C.$ ; sandy mud.

\**Hemiaster zonatus* (Pl. XX. figs. 1-4).

*Hemiaster zonatus*, A. Agassiz, 1879, Proc. Am. Acad., vol. xiv. p. 212.

Lovén has figured in his *Études sur les Echinoïdées*, pl. xi. figs. 93, 94, a young *Hemiaster* (*H. expergitus*) collected by the "Eugenia" near the Azores at a depth of 600 fathoms. The Challenger also dredged near the same locality specimens of a *Hemiaster* which I cannot refer to Lovén's species at present, although the differences between them are such that they may only be due to age.

This species differs from *Hemiaster gibbosus* in having a deeper anal groove, a broader and more elliptical peripetalous fasciole, and coarser spines more evenly distributed over the whole of the abactinal surface.

The outline of this species is also more globular, and it evidently has its nearest ally in the characteristic Cretaceous *Hemiaster prunella*.

Station 126. September 12, 1873. Lat.  $10^{\circ} 46' S.$ , long.  $36^{\circ} 8' W.$ ; 750 fathoms; mud.

Station 8. February 12, 1873. Off Gomera, Canaries; 620 fathoms; sandy mud and shells.

### *Rhinobrissus* (*Hemiaster*).

*Rhinobrissus*, A. Agassiz, 1872, Bull. Mus. Comp. Zool., vol. iii.

\**Rhinobrissus hemiasteroides* (Pl. XXXV.<sup>b</sup> figs. 12-15).

*Rhinobrissus hemiasteroides*, A. Agassiz, 1879, Proc. Am. Acad., vol. xiv. p. 211.

We find in this species a combination of some of the features of *Rhinobrissus* with characters of *Metalia*, *Brissopsis*, *Hemiaster*, and *Brissus*. It has the peripetalous fasciole of the former, and the anal fasciole of the latter genera, the deeply sunken petals of *Hemiaster* combined with the flush odd anterior ambulacrum and the remarkably broad actinal ambulacral areas round the actinostome of *Rhinobrissus*.

At first glance when covered with spines, this species would readily be taken for a young specimen of *Metalia sternalis*, but it has, unlike this species, no anterior ambulacral groove. The anterior ambulacrum is flush with the test, which forms a slight keel in the median anterior ambulacral area (Pl. XXXV., figs. 12, 13). The peripetalous fasciole is