

membrane, not well defined, and of a granular texture (fig. 8) under a high power indicating perhaps egg-cells. Of fully formed eggs, however, there were none, and the lining membrane was not thrown into lobes or convolutions. If, however, the ovaries were distended, and the pouches of the digestive cavity filled with matter, the general appearance would approach that of *Gorgonocephalus*, except that the pouches would be simpler; and the ovaries would be much more restricted in area, unless, indeed, the lining membrane of the body cavity to which the wall of the digestive cavity adheres has the power to develop egg clusters, and thus form lobes, and push the digestive cavity inward towards the mouth.

It will be noticed that the genital openings are greatly distended, which shows that the animal can contract or expand them, since, in other specimens, they were tightly shut and reduced to a small slit. The attachments of the digestive cavity to the inner open angle of the mouth frames are not so thick and muscular as in *Gorgonocephalus*, so that the perihæmal canal is flattened, instead of more or less erect and rounded. Nevertheless there are the same ten radiating attachments respectively along the tops of the arms and the middle of the interbrachial spaces, dividing the body cavity into ten compartments, which freely communicate at their inner ends by the perihæmal canal. In the lining membrane of these compartments were found numerous fragments of microscopic lime network (fig. 9) similar to that which exists in the walls of the bursa of *Ophiura lævis* and *Ophiocoma scolopendrina*.¹ It is these that, by their further growth, make the thin scales which clothe the wall of the bursa in *Ophiothamnus vicarius*.

A section of a species from an allied genus, *Astrophyton costosum*, showed a general structure very like that of *Gorgonocephalus*.

Euryale aspera, Lmk. (Pl. XXXV. figs. 1-16; Pl. XLV. figs. 6-9).

Euryale aspera (asperum), Lmk., Hist. Anim. sans Vert., vol. ii. p. 538, 1816.

Astrophyton scutatatum (pars), Linck, De Stell. Mar., pl. xx. fig. 32, 1733.

Capitis medusæ altera species minor supina, Seba, Thes., vol. iii., pl. ix., 1761.

Astrophyton asperum, Agas., Mém. Soc. Scien. Nat. Neuchatel, vol. ii. p. 12, 1839; Müll. & Tr., Syst. Ast., p. 124; Lym., Proc. Bost. Soc. Nat. Hist., vol. xix., pl. vi.

Astrophyton lævipelle, Grube, Jahres-Berichte d. Sch. Gesell., p. 44, 1869.

Station 186.—September 8, 1874; lat. 10° 30' S., long. 142° 18' E.; 8 fathoms; coral sand. Station 203.—October 3, 1874; lat. 11° 7' N., long. 123° 7' E.; 12 to 20 fathoms; mud.

Trichaster.

Trichaster, Agas., Mém. Soc. Scien. Nat. Neuchatel, vol. i., 1835.

A nearly smooth skin covers both disk and arms, whereof the latter fork a few times,

¹ Hubert Ludwig, Beiträge zur Anatomie der Ophiuren, Zeitschr. für Wissenschaft, Zoologie, Bd. xxxi., figs. 27, 28, 1878.