

Such great temperature differences produce a corresponding dissimilarity in the fauna (see pp. 13 and 661). We have trawled in the cold Norwegian Sea deep basin and captured more or less familiar arctic forms, and then only a few hours steam farther south we have trawled again on the southern slope of the Wyville Thomson Ridge, and taken forms, fishes as well as invertebrates, which one would expect to find in quite southern areas.

Archibenthal  
fauna of the  
North  
Atlantic.

Among the deep-water forms of the Atlantic that are present in large quantities on the southern slopes of the ridges and plateaus we have first some species of sea-urchins belonging to the remarkable family of the Echinothuridæ (see Fig. 377).<sup>1</sup> They differ from all other sea-urchins in the structure of their shells, for, instead of having continuous plates of lime, their plates

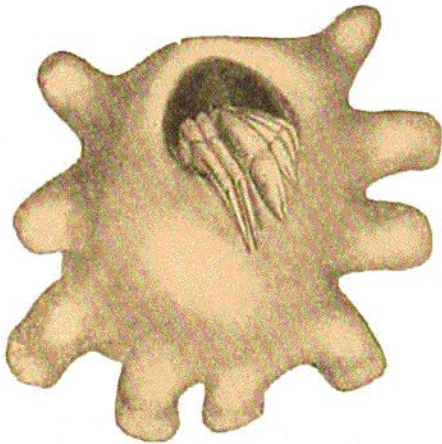


FIG. 380.

*Epizoanthus paguriphilus*, in symbiosis with *Parapagurus pilosimanus*. Reduced. "Michael Sars," 1902, 750 metres.

are connected by non-calcareous attachments of skin, so that their shells are flexible and more or less like leather. One species of holothurian, *Lætmogone violacea*, is very abundant. It belongs to the same division as the forms *Elpidia* and *Kolga*, which are so plentiful in the Norwegian Sea. The "Michael Sars" also found large numbers of the starfish *Zoroaster fulgens* (see Fig. 378).

The following are a few other forms met with on the southern slopes of the ridges:—

Regular sea-urchins: *Echinus alexandri* and *E. affinis*, *Porocidaris purpurata*. Irregular sea-urchins: *Urechinus naresianus*, *Pourtalesia wandeli*, *Echinosigra phiale*, *Hemiaster expergitus*. Starfishes: *Bathybiaster robustus* (a species which outwardly resembles *B. vexillifer* of the Norwegian Sea, though the structure of its skeleton is different),<sup>2</sup> *Plutonaster bifrons*, *Benthopecten spinosus* (see Fig. 379), *Pentagonaster perrieri*, *Solaster abyssicola*. Ophiurids: *Ophiopleura aurantiaca*, *Ophiomusium lymani*, *Amphiura denticulata*. Cœlenterates: *Epizoanthus paguriphilus* (in symbiosis with *Parapagurus pilosimanus*, see Fig. 380), the pennatulids *Anthoptilum murrayi* and *Umbellula lindahli*, the true corals *Stephanotrochus diadema* (see Fig. 381) and *Flabellum* sp. (see Fig. 382), the horn-corals *Acanthogorgia armata* and *Strophogorgia challengerii*. Decapod crustaceans: *Lispognathus thomsoni*, *Scyramathia carpenteri*, *Geryon affinis*, *Cymonomus normani*, *Necolithodes grimaldi*, *Parapagurus pilosimanus*, *Munida microphthalmia*, *Munidopsis curvirostra*, *Uroptychus rubro-vittatus*, *Polycheles sculptus* and

<sup>1</sup> The species occurring here include *Phormosoma placenta*, *Calveria* (*Asthenosoma*) *hystrix*, and *Sperosoma grimaldii*.

<sup>2</sup> According to J. A. Grieg, Conservator of the Bergen Museum.