

in his later work¹ the independence of the genus is recognised, and two new species dredged during the "Talisman" Expedition have been referred by him to *Hymenaster* and "named," but their descriptions have not yet been published.

The dredgings of the Challenger Expedition have now shown that *Hymenaster* possesses a world-wide distribution in deep waters, and that the genus exhibits a remarkable amount of morphological plasticity, no less than twenty-four species being now known.

The bathymetrical range of the genus is also remarkable, as, with the exception of the type form (*Hymenaster pellucidus*), which ranges from 70 to 1539 fathoms (*vide* Danielssen and Koren), all the species are confined to the Abyssal zone. One, *Hymenaster infernalis*, extends to 2900 fathoms, the greatest depth at which starfishes have hitherto been found; and four other species occur in depths greater than 2000 fathoms.

The character of the adambulacral armature, which does not form transverse combs of webbed spines, and the structure of the actinal skeleton, composed of greatly developed actino-lateral spines, overlaid with a membranous tissue, forming the whole actinal floor of the test, constitute differences which, in my opinion, emphatically separate *Hymenaster* generically from *Pteraster*; and its divergence from the other members of the family Pterasteridæ is equally well marked.

The general facies of the type appears to be one of great antiquity. This, however, is not the place to discuss, as I should desire, the archaic relationships of existing Asterids; and I would therefore now only briefly direct attention to the remarkable resemblance and, in many respects, apparent similarity of general character, which exist between *Hymenaster* and the recently described *Loriolaster* of Stürtz² from the Lower Devonian slates of Bundenbach.

Chorology of the Genus Hymenaster.

a. *Geographical distribution* :—

ATLANTIC: Seven species between the parallels of 81° N. and 40° S.

Hymenaster pellucidus, from the Faerøe Channel, off the coast of Norway, and the islands of Jan Mayen and Spitzbergen. **Hymenaster membranaceus*, south-west of Cape Finisterre. *Hymenaster rex* and *Hymenaster giboryi*, dredged by the "Talisman" Expedition. **Hymenaster anomalus*, north of the Island of Tristan da Cunha. *Hymenaster modestus*, off the coast of the United States of North America. **Hymenaster pergamentaceus*, off the coast of South America, east of Buenos Ayres.

¹ *Ann. Sci. Nat. (Zool.)*, 1885, 6e Série, vol. xix. Art. No. 8, p. 69.

² *Palmontographica*, 1886, Bd. xxxii. p. 94. Taf. xii., xiii.