

Africa. The Challenger found five new forms of Pennatulidæ from Australia, New Guinea, the Philippines, and Japan, amongst them four species (*Pennatula moseleyi*, *murrayi*, *naresi*, and *pearceyi*) which are nearer the known European types, and only one species with the soft leaves of the typical Asiatic and west American forms (*P. sulcata*).

The knowledge of the VIRGULARIDÆ has been augmented by the discovery of the habitat of *Scytalium sarsi* (Philippines), and the discovery of a new *Scytalium* from the same locality. The Virgularidæ, as I now define them, are widely distributed in the European seas (three species of *Virgularia*, two of *Dubenia*), the east and west coasts of America (all the species of *Stylatula* and of *Acanthoptilum*), the east coast of Africa (*Pavonaria africana*, Stud.), and the south-east Asiatic seas, as far as Australia (eight species of *Virgularia*, two of *Scytalium*).

The STACHYPTILIDÆ, PROTOCAULIDÆ, and PROTOPTILIDÆ, belonging to the simplest forms of the Pennatulida, have two centres, one in the Pacific Ocean, on the coasts of New Guinea (*Stachyptilum*, *Trichoptilum*), New Zealand (*Protocaulon*, *Leptoptilum*), and Japan (*Scleroptilum*, *Microptilum*), and one in the North Atlantic (*Protoptilum*), and North Sea (*Lygomorpha*, *Cladiscus*).

The ANTHOPTILIDÆ are limited to the east coast of America, but have a wide range from Halifax to Buenos Ayres and Tristan d'Acunha.

With regard to the KOPHOBELEMNONIDÆ, the VERETILLIDÆ, and the RENILLIDÆ, little new has been added to our knowledge through the investigations of the Challenger, with the exception of a new *Kophobelemnion* from Japan. Nevertheless, it is interesting to know that the limited distribution of these families has been confirmed. Professor Studer has lately found a *Veretillum* at the Cape de Verde Islands, and a *Cavernularia* at Madeira.

The distribution of the UMBELLULIDÆ is most remarkable. After having known for more than a century only one locality, the North Polar Sea, near the coast of Greenland, we have now learned that this form is far and widely distributed. *Umbellulæ* have now been obtained from the North Atlantic Ocean (between Portugal and Madeira); from the North Polar Sea, coast of Greenland; from the Atlantic Ocean, under the Equator, between Africa and America, and from the west coast of Africa, north of Sierra Leone (Stud.); from the South African Sea, west of Kerguelen Island; from the South Polar Sea; from the coasts of New Guinea and of Japan; and from the middle of the North Pacific Ocean (Station 246). *Umbellula* has, therefore, of all genera of Pennatulida the widest distribution.

Our knowledge of the *vertical* distribution of the Pennatulida has made great progress through the explorations of the Challenger. When I published my monograph I was justified in saying that the great majority of the Pennatulida were shallow-water