

comprises quite a number of shallow-water forms that are otherwise foreign to northern regions—Mediterranean immigrants which make occasional visits or have effected a permanent lodgment in comparatively limited tracts. Some of them I shall refer to later on, when dealing with the shallower portions of the North Sea. Their presence may be ascribed to hydrographical conditions, and in no way depends upon the topography of the bottom. To some extent the English Channel acts as a boundary between two littoral faunal areas, a fairly large number of Mediterranean forms living in the Channel but not venturing into the North Sea; while on the other hand several northern forms do not enter the Channel, these last being especially forms of Arctic origin. Many or probably most of the species are common to both areas, since the majority of the boreal species of the North Sea were originally immigrants from southern waters.

The sub-littoral zone.

So far as the coasts of the boreal region are concerned the sublittoral zone does not vary much, though certain species from the continental deep-sea zone, which ascend to the sublittoral zone along the North Sea and Atlantic coasts of Scandinavia, are absent from large portions of the Skagerrack and Kattegat as well as from other coasts of the North Sea. They would seem to be forms whose distribution follows the Gulf Stream, and are therefore found mainly along the eastern coasts of the North Sea and Atlantic. They include the holothurian *Psolus squamatus*, the asterid *Pentagonaster granularis*, the gephyrean *Bonellia viridis*, the brachiopod *Waldheimia cranium*, and some mussels. *Munida rugosa*, which is one of the most characteristic decapods belonging to the sublittoral and deep-sea zones is, according to Théel, seldom met with on the Bohuslän coast of Sweden; the true corals and gorgonids of the deep-sea fauna, which elsewhere patronise the sublittoral zone, are much restricted in their distribution throughout the Skagerrack and wide tracts of the North Sea, and seem to be absent from the fjords of the Bohuslän coast. Certain forms, which along the coasts are chiefly sublittoral in their distribution, occur sometimes quite commonly in one area, whereas in another area they may be scarce or even entirely absent. For instance, on the Swedish and Norwegian coasts of the Skagerrack the spatangid *Brissopsis lyrifera* is generally met with in the sublittoral zone, but on the west or North Sea coast of Norway it is comparatively rare. The converse is the case with the