(*b*) *Pores arranged in more or less definite Pore-areas.*

We may consider this part of our subject under three heads, according to whether the pores are (1) localised in areas owing to the arrangement of the dermal skeleton, (2) localised in areas owing to the arrangement of the subdermal cavities, the dermal skeleton being either absent or so feebly developed as not to interfere with their arrangement; or (3) localised in areas owing directly to the habit of the sponge.

(1) *Pores localised in areas owing to the arrangement of the dermal skeleton.*—The simplest cases of this kind (if such they can be called) are those in which the dermal skeleton is well developed and regularly reticulate, and the surface is broken up by the fibres of the reticulation into a number of polygonal areas, in which the pores are scattered. Such a condition we find in *Pachychalina lobata* (Pl. XLVI. fig. 4), but, as a glance at the figure will show, these cases might be classed almost as well under the heading of "Pores scattered."

We have, however, to consider certain very remarkable cases in which, owing to the arrangement of the dermal skeleton, the pores are collected into perfectly definite, confined areas, strongly contrasted with the remainder of the surface of the sponge. We shall describe this condition as it occurs in four distinct species belonging to four very different families, viz., *Halichondria latrunculioides*, *Esperella murrayi*, *Latrunculia apicalis*, and *Tentorium semisuberites*.

In *Halichondria latrunculioides* (Pl. I. fig. 5) the dermal skeleton is composed of a dense, continuous layer of large oxeote spicules, placed in such a manner (Pl. XLVI. fig. 5) as to leave no interstices, or very few, through which it would be possible for water to obtain entrance to the sponge. The consequence is that the pores are collected together into perfectly definite, round or oval, raised pore-areas (Pl. I. fig. 5, *p.a.*), from which the dermal skeleton is absent and in which they are so abundant as to reduce the dermal membrane to a mere sieve (Pl. I. fig. 5*a*). In the genus *Halichondria* the dermal skeleton is usually reticulate and the pores irregularly scattered or placed in the meshes of the reticulation. Our sponge agrees with the other species of the genus in all essentials, and we are obliged to consider the peculiar arrangement of the pores as a case of special adaptation, consequent upon the unusual density of the dermal skeleton over the general surface. This view of the case is supported by the fact that, where there do happen to be odd gaps in the almost continuous skeleton, we sometimes find pores in them, although they are nearly all confined to the special raised areas. This case of adaptation has an unusual interest owing to the curious resemblance which the species in question bears to another sponge coming from the same locality (Station 320), viz., *Latrunculia apicalis*, and careful investigation has shown us that the similar external form of these two species is due to the same cause in both, as will be seen later on.