

is no separable dermal membrane, the pores must usually be sought for in sections taken at right angles to the surface. Whether the arrangement of the pores is primarily dependent upon the arrangement of the subdermal cavities or *vice versa*, or whether both are dependent upon the arrangement of the dermal skeleton, is a very difficult question to decide. Probably the arrangement of the dermal skeleton, which is of great importance for the protection of the sponge, to a large extent determines the arrangement both of the pores and of the subdermal cavities; we shall, later on, give strong reasons for believing this to be the case. In the meantime it is sufficient to remark that all three are most intimately correlated with one another. In the first place, it is obvious that the pores, in order to fulfil their function of admitting water into the sponge, must always be placed over the subdermal cavities, from which the inhalent canals take their origin. This, together with the arrangement of the dermal skeleton, usually results in a more or less regular grouping of the pores in "pore-areas." Sometimes, however, it is impossible to detect any regular grouping of the pores whatever; they are simply scattered over the surface, here and there. We have thus two principal types of pore-arrangement to distinguish—the pores may be scattered, or they may be collected in more or less definite "pore-areas." We shall consider these two cases separately.

(a) *Pores scattered, not collected in definite Pore-areas.*

It is not very often that we get the pores quite irregularly scattered, for usually they are constrained to group themselves more or less regularly, either by the exigencies of the subdermal cavities or of the dermal skeleton. Still, in cases where there is no dermal skeleton present, or where this is of such a nature as not to interfere with their arrangement, we sometimes find this condition occurring; as for example, in *Petrosia hispida* (no dermal reticulation), *Reniera subglobosa* (dermal skeleton unispicular), *Vomerula esperioides* (dermal skeleton reticulate, but meshes very wide), *Esperella mammiformis* (dermal skeleton loosely reticulate), *Esperella lapidiformis* (dermal skeleton absent), *Esperella simonis* (dermal skeleton irregularly reticulate), *Desmacidon* (*Homæodictya*) *kerquelenensis* (skeleton irregular, very loose), *Myxilla rosacea*, var. *japonica* (dermal skeleton radiate), *Myxilla frondosa* (dermal skeleton loose and irregular), and most Suberitidæ (dermal skeleton radiate). But here, as in so many other cases, we can draw no hard and fast line, and in many cases it is impossible to decide whether the pores should be classed as irregularly scattered or collected in areas. Perhaps the best cases of irregularly scattered pores are to be found in the Suberitidæ, e.g., *Stylocordyla stipitata*, var. *globosa*, where the dermal skeleton is radiately arranged and therefore does not interfere with the arrangement of the pores (Pl. L. fig. 1, p.).