

have seen these elements so strikingly minute. This peculiarity renders the sections of them readily distinguishable under the microscope from those of any other Porifera, and my first idea when examining the preparations of *Psammopemma porosum* was that this form might represent an offspring of the family above mentioned. Yet an attentive examination showed that the species has even more right to be referred to the Keratosa than *Psammopemma densum*; for while in this latter form the horny substance enveloping the foreign enclosures has been found in the form of an extremely thin layer, so that its presence beyond doubt could only be proved in most instances after treatment with hydro-fluoric acid, here in *Psammopemma porosum* it proved to be far more fully developed, and occasionally with very conspicuous outgrowths.

On p. 17 I have shown that on the whole, as the canal-system reaches a higher degree of development, the size of the flagellated chambers gradually diminishes. Of course the flagellated chambers of *Psammoclema vosmaeri* are not larger than those, for instance, of *Euspongia officinalis*, and yet they are devoid of special cameral canaliculi, but every rule has its exceptions. *On the whole*, the above dependence is still to be observed, and it is not without interest that as flagellated chambers become smaller and smaller the flagellated cells in their turn grow gradually more and more minute. The flagellated cells of *Aplysilla sulphurea* are larger than those of *Spongelia elegans*, which again are larger than the flagellated cells of *Cacospongia scalaris* or *Aplysina aërophoba*. But, as in the preceding case, exceptions are not wanting here also; *Ianthella flabelliformis* does not deviate in the structure of its soft parts from the type characterising *Aplysilla sulphurea*, and yet possesses flagellated cells of far smaller dimensions than those of the form just mentioned. Again in *Euplectella aspergillum*, in spite of its large, radial tube-like flagellated chambers, these cells are very minute. *Psammopemma porosum* presents, in this respect, the most interesting exception. As stated before, its flagellated cells are very small; while for instance in *Cacospongia scalaris* the diameter of their transverse section is 0.0025 mm., on an average in *Psammopemma porosum* it does not exceed 0.001 mm.; and yet its flagellated chambers, although smaller than those of *Psammopemma densum*, are rather larger than those of *Cacospongia scalaris* or *Euspongia officinalis*. The explanation of this curious deviation must be of course left to later investigations, but there can be scarcely any doubt that, if not even of a subgeneric importance, at any rate it necessitates the establishment of a new species, although on the whole the internal organisation of *Psammopemma porosum* agrees closely with that of *Psammopemma densum*. As a probably accidental peculiarity I can notify the presence in the parenchyma of numerous round bodies, with an average diameter of 0.012 mm., which at first sight recall vividly the spermospores of *Calcarea* or *Aplysinidæ* (p. 72). Under high microscopic power these bodies proved however to be devoid of any covering cell, and though their contents are apparently cellular elements and their size approximately the same as that of the spermospores of