

flagellated chambers, each possessing its own narrow inhalent and exhalent canaliculi, and while the ground-mass surrounding these flagellated chambers is always opaque owing to the presence of small granules, the forms like *Spongelia* and *Aplysilla* possess no special cameral canaliculi, their large pouch-shaped flagellated chambers receiving the water from the subdermal cavities directly by means of the pores in their walls, and expelling it also immediately, without the help of any intermediate narrow canals, into large exhalent cavities, the diameter of these latter being usually far larger than that of the exhalent opening of the corresponding flagellated chambers; and that in these latter instances the parenchyma in the zone of the flagellated chambers is devoid of any granules, being lucid and transparent.

It remains to be decided what position the modern systematist should take with respect to the antagonism in question. F. E. Schulze himself gives in his papers no answer to it. He assigns¹ to *Aplysilla* the place of a new genus in his family Aplysinidæ, while he is inclined to regard the genus *Spongelia*, an analogue of *Aplysilla* in the Keratosa with homogeneous skeletal fibres, as the representative of an independent family.² Again, his distinguished pupil Dr. Vosmaer, stands also perfectly neutral, dividing, in his interesting paper on *Velinea gracilis*,³ all the Keratosa directly into families, according to the properties both of the soft parts and of the skeleton. But though neutral as far as his actions are concerned, Dr. Vosmaer expresses very clearly his opinion on the matter. He does not ascribe any special importance to the difference between the fibres, whether homogeneous or heterogeneous. On the contrary, another pupil of Prof. Schulze, Dr. v. Lendenfeld, seems inclined to accept the opinions of Hyatt and Carter. At least, in his memoir on the Aplysinidæ of the South Sea, he characterises⁴ the family of Aplysinidæ by their heterogeneous skeletal fibres, splitting it into two subfamilies, that of Aplysininæ and Aplysillinæ, according to the type of the canal system. And, indeed, such a proceeding appears at first sight very logical and natural. Of course, on the whole, the canal system is of greater significance for the sponge organism than the skeleton. No sponge can be imagined without canal system, be it represented as in Asconidæ by the undifferentiated central cavity without any trace of separate flagellated chambers, or, as in *Aplysina* or *Corticium*, by a very complicated system of subdermal cavities, inhalent cameral canaliculi, flagellated chambers, exhalent canaliculi, &c., while there are sponges, like *Halisarca*, *Oscarella*, or *Chondrosia* without any supporting apparatus. It should not, however, be overlooked that whatever importance may be ascribed to the canal system, this importance is of a pronounced physiological character. On the contrary, so far as the properties of the skeleton are concerned,—all this holds true within the group Keratosa, and the last-mentioned point with regard to its internal

¹ *Zeitschr. f. wiss. Zool.*, Bd. xxx. p. 404.

² *Mittheilungen a. d. zool. Station zu Neapel*, 1883, p. 444.

³ *Zeitschr. f. wiss. Zool.*, Bd. xxxii. p. 117.

⁴ *Zeitschr. f. wiss. Zool.*, Bd. xxxviii. p. 309.