

schwachen Füßen steht." Vosmaer, in 1885,¹ gave a better diagnosis:—"Stabnadeln glatt oder gedorn; letztere vorwiegend. Spongin nicht oder kaum vorhanden. Anker drei-, selten zweizählig, beide Enden gleich. Oberfläche am lebenden Objekt schlüpfrig. Canalsystem nach dem dritten Typus." This, however, is still very wide and might be made to include a great variety of forms. The Challenger material has enabled us to give a more definite diagnosis, taking as our starting point the original species, *Myxilla rosacea*, Lbkhn.

Still it may be questioned whether we have not made the genus too comprehensive, in that we have admitted certain species possessed of echinating spicules.² Vosmaer³ has already done this in admitting Bowerbank's *Hymeniacion paupertas* into the genus, but without pointing out the great importance of the step which he has taken. If we once admit forms with a distinct, special, echinating spicule, like that of *Myxilla paupertas*, into the genus *Myxilla*, then we do away with all family distinction between the Desmacidonidæ and Ectyonida. This step appears to us to be very desirable, as the distinction is a very unimportant one, and in the present work we have considered the Ectyoninæ (old Ectyonida) as a subfamily of the Desmacidonidæ.

The genus *Myxilla* as now constituted falls into two fairly natural groups; (1) species without definite echinating spicules, such as *Myxilla rosacea*, Lbkhn., and *Myxilla digitata*, nobis; (2) species with definite echinating spicules, such as *Myxilla paupertas*, Bk., and *Myxilla compressa*, nobis. The detailed comparison of two such forms as *Myxilla rosacea*, var. *japonica*, and *Myxilla compressa* furnishes a sufficient justification for uniting both groups under the same generic name, at any rate for the present. It will thus be readily seen that the genus really occupies an intermediate position between the subfamilies Esperinæ and Ectyoninæ.

The genus *Hastatus* of Vosmaer comprises simply *Myxillæ* of thoroughly normal type, the point on which its author lays especial stress, viz., the hastate ends of the dermal spicules, being well shown in the type species of *Myxilla* (*Myxilla rosacea*); and the type species of *Hastatus* (*Hastatus luridus*) belongs to the same section of the genus as *Myxilla rosacea* by virtue of its spined megasclera and the absence of echinating spicules. The other species (*Hastatus dickiei*) assigned to the genus apparently agrees with *Hastatus luridus* in all essential details.

Our knowledge of the relations of *Myxilla* to other genera does not rest on a very satisfactory basis (see under *Plumohalichondria* and *Clathria*, with which genera, as well as—perhaps more distantly—with *Hymedesmia* and *Hymerrhaphia*, it presents considerable affinities).

¹ Bronn's Klass. u. Ordnung. des Thierreichs, Porifera, p. 349.

² The "internal defensive spicula" of Bowerbank.

³ Notes Leyden Mus., vol. ii. p. 127.