

value of the cortex for purposes of classification is very trifling, in the same family some sponges may possess it and others not. The spherasters seem at first sight more suggestive of a Tetractinellid origin, but very slight inquiry is necessary to show that these spicules are not specially characteristic of the Tetractinellida, indeed on the whole they would appear to be more widely distributed among the Monaxonids. The only Tetractinellid sponge in which they appear with the same characters as in *Tethya* is *Aurora*, with its two species, *Aurora globostellata* and *Aurora reticulata*; in the Monaxonids, on the other hand, similar forms of aster are not confined to *Tethya*, e.g., they occur in the new species *Doripleres dendyri*, a sponge which possesses neither a cortex nor a radiate arrangement of the megascleres, and in the widely different species *Dictyocylindrus stuposus*, Bowerbank, one of the Axinellidæ. Again, the transition from an aster without a distinct centrum to one in which the centrum is well developed is so easy, and the transition is so frequently met with, that the spheraster, as distinct from asters with small centrams, is not of much value in classification, it is scarcely of generic value even. Contrary to the opinion of some spongologists, asters are so commonly present among the Monaxonids that the material out of which the spheraster might arise may readily be found within that group. Take the Axinellidæ for example; here we have as aster-bearing sponges:—*Raspailia stelligera*, O. Schmidt¹; *Dictyocylindrus fascicularis*, Bowerbank²; *Dictyocylindrus stuposus*, Bowerbank³; *Hymedesmia stellivarians*, Carter⁴; *Hymeniacidon moorei*, Carter,⁵ both these last two species with oxyasters; *Hymeniacidon spinatostellifera*, Carter⁶; *Hymeniacidon capitostellifera*, Carter,⁷ characterised by a remarkable form of spheraster; *Hymeniacidon trigonostellata*, Carter,⁸ in which the aster is a curious microcalthrops with terminally spined actines, reminding one of a tetralophous microcalthrops; *Axos flabelliformis*, Carter⁹; *Axos cliftoni* (Gray)¹⁰; *Hymedesmia stellata*, Bowerbank,¹¹ with a chiaster. In Monaxonids other than Axinellids we have *Sclerochalina asterigena*, O. Schmidt,¹² though it is possible that the asters which Schmidt figures in connection with this may not be proper to the sponge; *Chondrilla sacciformis*, Carter¹³; *Suberites*

¹ Spong. Atlant. Gebiet., p. 60, pl. v. fig. 14.

² Mon. Brit. Spong., vol. ii. p. 110; vol. iii. p. 45, pl. xviii.

³ *Op. cit.*, vol. ii. p. 116; vol. iii. p. 47, pl. xix. figs. 1-7.

⁴ *Ann. and Mag. Nat. Hist.*, ser. 5, vol. vi. p. 50, pl. iv. figs. 10a-c.

⁵ *Loc. cit.*, p. 50, pl. iv. figs. 11a-c.

⁶ *Loc. cit.*, p. 51, pl. iv. figs. 13a-d.

⁷ *Loc. cit.*, p. 51, pl. iv. figs. 12a-c.

⁸ *Loc. cit.*, p. 52, pl. iv. figs. 14a-d.

⁹ *Op. cit.*, ser. 5, vol. iii. p. 285, pl. xxvi. figs. 1-4, 1879.

¹⁰ Bowerbank, Mon. Brit. Spong., vol. i. pl. x. fig. 197; Gray, *Proc. Zool. Soc. Lond.*, p. 546, 1867; and Bowerbank, *Proc. Zool. Soc. Lond.*, p. 321, pl. xxix., 1873; Carter, *Ann. and Mag. Nat. Hist.*, ser. 5, vol. iii. p. 285, pl. xxvi. figs. 5, 6, 6a-c.

¹¹ Mon. Brit. Spong., vol. ii. p. 146; vol. iii. p. 71, pl. xxviii. figs. 5-8.

¹² Spong. Küste von Algier, p. 8, pl. ii. fig. 5.

¹³ *Ann. and Mag. Nat. Hist.*, ser. 5, vol. iii. p. 299, pl. xxvi. figs. 9, 11, 12.