

Norway (Schmidt); Arctic Ocean, off Norway (Vosmaer); Baltic Sea (Fristedt); ? Gulf of St. Lawrence (Whiteaves); Florida, Gulf of Mexico and Barbados (Schmidt); off Brazil and north-east of Falkland Islands (Challenger).

The species is typically an inhabitant of deep water, being common in depths over 100 fathoms, seldom occurring in shallower water, and going down to 1035 fathoms, as shown by the Challenger dredgings.

*Phakellia flabellata*, Ridley and Dendy (Pl. XXXIV. figs. 2, 3, 3a; Pl. XL. figs. 6, 6a).

1886. *Phakellia flabellata*, Ridley and Dendy, Ann. and Mag. Nat. Hist., ser. 5, vol. xviii. p. 478.

Sponge (Pl. XXXIV. figs. 2, 3) erect, stipitate; stem rather short, stoutish, cylindrical, ending below in a widish, flattened base of attachment, and expanding rather suddenly above into a broad, flattened, vertical lamella with undulating margin. One side of the lamella is thrown into more or less pronounced, rather irregular, longitudinal furrows and ridges, while the other is comparatively smooth and bears numerous stellately disposed oscula (Pl. XXXIV. fig. 3a). The finest specimen in the collection is 125 mm. in total height and the same in breadth; the stem is 25 mm. long and 8.5 mm. in greatest diameter (being not quite round). The lamelliform portion is only about 3 mm. thick (except along the prominent ridges). *Colour* in spirit greyish-yellow. *Texture* rather soft and brittle. *Dermal membrane* thin and transparent. *Pores* very abundant on the surface which bears no oscula, in small groups over the ends of narrow inhalent canals, where they reduce the dermal membrane to a mere network; the pores themselves are round or oval openings about 0.07 to 0.1 mm. in diameter; on the opposite side of the sponge they are scarce or absent. *Oscula* (Pl. XXXIV. fig. 3a) numerous, on one side only of the sponge, in round, stellate groups of eight or ten; the oscula themselves are minute, round and about 0.5 mm. in diameter; the groups are fairly regularly placed at about equal distances, and are about 4 mm. (or a little less) in diameter.

*Skeleton*.—From the point where the stem enters the sponge stout, branching bands of spiculo-fibre, containing a very large proportion of dark-coloured, horny cementing material, radiate upwards through the soft tissues. In addition to this fibrous skeleton there is a rather irregular, somewhat Halichondrioid reticulation of stout stylote spicules, terminating at the surface in divergent brushes of much smaller, slender styli. Each brush surrounds the apex of one of the larger styli, and the apices of its own spicules project for a short distance beyond the surface of the sponge.

*Spicules*.—*Megasclera*; (1) stout, smooth, slightly curved, sharply and rather abruptly pointed styli (Pl. XL. fig. 6); measuring about 0.5 by 0.03 mm.; forming the main skeleton, occurring both in the fibre and in the reticulation outside of it. (2) Much smaller, straight, smooth, slender styli (or subtylostyli) (Pl. XL. fig. 6a), sharply and