

Spicules.—I. Megascleres. 1. *Strongyle*, 0·8 by 0·016 mm. 2. *Orthotriæne*, rare, 0·48 and over by 0·016 mm., cladi 0·32 mm. long and over.

II. Microscleres. 3. *Sterraster*, spherical, depressed; 0·10 mm. in diameter. 4. *Oxyaster*, with but few slender actines, which are sometimes not more than two in number, and thus indistinguishable from centrotylote microxeas; a single actine of a triradiate form 0·039 mm. in length, a microxea 0·079 mm. in length. 5. *Spherules*, 0·0039 mm. in diameter.

Colour.—Blackish-brown above where exposed to the light, whitish below.

Habitat.—Sebenico, Adriatic; depth, 7 fathoms.

Genus 3. *Pachymatisma*, Bowerbank.

The oscules are the single openings of cloacal chones, which lead each into a large cloacal cavity beneath the chonal sphincter. The incurrent chones are cribriporal. The somal microsclere is a microstrongyle.

Pachymatisma johnstonia, Bowerbank.

Alcyonium primum, Diosc. (?), Donati, Hist. Mer. Adriat., 1758.

Halichondria johnstonia, Bowerbank, Trans. Micr. Soc. Lond., vol. i. p. 63, pl. vi., 1841.

„ „ Johnston, Hist. Brit. Spong., p. 198, 1842.

Pachymatisma johnstonia, Bowerbank, Mon. Brit. Spong., vol. i. pl. xxvii. fig. 353, 1864; vol. ii. pp. 3, 51, 1866; vol. iii. p. 17, pl. viii. figs. 1-7, 1874.

„ „ O. Schmidt, Spong. Adriat. Meeres, Suppl., ii. p. 12, 1866.

„ „ Carter, Ann. and Mag. Nat. Hist., ser. 4, vol. iv. p. 11, 1869.

Caminus osculosus,¹ Grube, Mitth. ii. St. Malo u. Roscoff, p. 132, pl. ii. fig. 3, 1873.

non Pachymatisma johnstonia, Hansen, Spong. Norweg. North Atlant. Exped., p. 17, pl. iv. fig. 15, 1885.

Sponge.—Massive, raised into undulating ridges, sessile, surface smooth; oscules and pores distributed over different areas, the oscules usually occupying the summits of the ridges. Cortex about 1 mm. in thickness, sterrastral layer thin, ectochrote well developed.

Spicules.—I. Megascleres. 1. *Strongyle*, usually cylindrical, straight or curved, sometimes irregularly; 0·63 mm. long (B.), 1·03 by 0·013 mm. (S.), 0·924 by 0·013 mm. (R.). 2. *Orthotriæne*, rhabdome conical, oxeate or strongylate, 0·44 mm. long. (B.), 0·636 by 0·016 mm. (S.), 0·44 by 0·019 (R.); cladi conical or cylindrical, oxeate or strongylate, 0·13 mm. long (S.), 0·238 mm. (R.).

II. Microscleres. 3. *Sterraster*, ellipsoidal, 0·12 mm. long. (B.), 0·097 by 0·0838 mm. (S.), 0·9 by 0·071 mm. (R.). 4. *Oxyaster*, actines not numerous, conical, finely spined,

¹ I add here a reference to the following memoir, which I have been unable to consult:—Koehler, R., Remarques sur le genre *Caminus* et sur une éponge voisine du *Caminus osculosus*, Grube (Paris, G. Masson, 1884).