

deal of spongin; fibre about 0·07 mm. thick, polyspiculous, spicules not confined to the centre of the fibre.

Spicules.—Slightly curved oxea, fairly sharply and gradually pointed; size about 0·1 mm. by 0·0065 mm.

Locality.—Station 162, April 2, 1874; lat. 39° 10' 30" S., long. 146° 37' 0" E.; Bass Strait; depth, 38 fathoms; bottom, sand and shells. One specimen.

Pachychalina (?) *punctata*, Ridley and Dendy (Pl. VI. figs. 2, 2*a*, 2*b*, 2*c*; Pl. XLVI. figs. 1, 2).

1886. *Pachychalina* (?) *punctata*, Ridley and Dendy, Ann. and Mag. Nat. Hist., ser. 5, vol. xviii. p. 329.

Sponge (Pl. VI. fig. 2) erect, flattened, lobose. The single specimen in the collection consists of a large flattened lobe, bearing near the summit two smaller ones. The large lobe may itself have been formed by the coalescence of smaller ones, as there are two large holes right through it. Height of sponge 143 mm.; breadth 87 mm.; thickness about 6 mm. *Colour* in spirit rather dark greyish-yellow. *Texture* very tough and leathery, compressible and elastic. *Surface* very uneven but glabrous. *Oscula* (Pl. VI. figs. 2, 2*b*, *o*), small round openings, scattered at about equal distances from one another on one side only of the sponge; diameter about 1 mm. *Pores* (?) (Pl. VI. figs. 2, 2*a*, 2*b*, *p*, 2*c*, *p*, and Pl. XLVI. fig. 1) unusually large; visible to the naked eye as minute openings scattered singly but very abundantly on both sides of the sponge (Pl. VI. figs. 2, 2*a*); diameter up to about 0·35 mm., but varying, and usually smaller. They appear to be lined by spongin (?), which projects into their cavities in large bosses, frequently arranged so that the cavity has the form of a cross, the four angles between the arms being filled up by four projections of spongin (?) (Pl. XLVI. fig. 1). Possibly this arrangement is to guard against the ingress of noxious parasites, &c.¹

Skeleton.—(*a*) *Dermal*; a very well-developed, close-meshed reticulation of spiculo-fibre (Pl. XLVI. fig. 1), with plenty of spongin, and echinated abundantly by projecting spicules. Meshes only about 0·07 mm. wide. (*b*) *Main*; also very well developed, with strong primary fibres, about 0·07 mm. thick, radiating to the surface, and crossed by secondary fibres in a lattice-like manner (Pl. XLVI. fig. 2). Fibres polyspiculous, but with a thick sheath of spongin. Also numerous scattered spicules between the fibres.

Spicules.—Slightly curved, sharply and rather gradually pointed oxea; size about 0·09 by 0·0055 mm.

The species is very well characterised, the most characteristic and interesting point being the special means adopted for guarding the inhalent apertures (if such they be). The amount of spongin present in the sponge is very large, whence its tough and leathery

¹ Probably pores also occur as small openings through the thin dermal membrane, but we are not certain about this point.