

wide ramifying tubes which open into the fistulæ. *Surface*, very uneven, covered with numerous bladder-like, almost glabrous swellings. The whole much encrusted with foreign organisms, Serpulæ, Polyzoa, Sponges, &c.

Skeleton.—Arranged as in *Rhizochalina fistulosa* into (a) a dermal network of hastately-pointed oxeote spicules, not very closely aggregated, and (b) a rather delicate reticulation of spiculo-fibres, forming subequal polygonal meshes (the bast-layer), the fibres composed of oxeote spicules similar to those of the dermal layer. (c) A fairly close reticulation of stouter fibres filling up the interior of the sphere, and composed of spicules like those of the dermal layer, with, as usual, numerous unattached spicules lying between the fibres.

Spicules.—Hastately pointed oxea (Pl. IX. fig. 1), slightly curved and abruptly, but fairly sharply, pointed, measuring about 0.195 by 0.013 mm.; size and shape very uniform throughout.

The rind, composed of the dermal membrane and the subjacent bast-layer, is much more firmly attached to the underlying tissues in this species than in, for example, *Rhizochalina pedunculata* (below). At the ends of the fistulæ (Pl. IX. fig. 7) the arrangement of the dermal spicules is different to what it is on the body (as shown in the figure).

These large specimens present many features of great interest. The one figured (Pl. VIII. fig. 5) is firmly attached to a slab of rock by one side. There is a very distinct division into upper and lower surfaces, the fistulæ being chiefly confined to the upper surface.

We at first identified this well-marked form with *Alcyonium putridosum*, described by Lamarck (*loc. cit.*) from Australian Seas ("port du roi Georges"). There can be no doubt that Lamarck's *Alcyonium putridosum* is some species of *Rhizochalina*, and that it is nearly allied to *Rhizochalina putridosa*, but as there is not sufficient evidence to make the identification a certainty, we have given the synonym with a query.

Localities.—Station 162, April 2, 1874; lat. 39° 10' 30" S., long. 146° 37' E.; Bass Strait; depth, 38 fathoms; bottom, sand and shells. Three large specimens.

Off Port Jackson, 30 to 35 fathoms. One large specimen.

Off Bahia, 7 to 20 fathoms. Some fragments of fistulæ, which seem to be referable to this species (?).

Habitat.—Australian Seas (Challenger); off Bahia (Challenger).

Rhizochalina singaporensis, Carter, sp.

1883. *Phlæodictyon singaporense*, Carter, Ann. and Mag. Nat. Hist., ser. 5, vol. xii. p. 326, pl. xiii. fig. 17.

1884. *Rhizochalina singaporensis*, Ridley, Zool. Coll. H.M.S. "Alert," Brit. Mus., p. 421, pl. xli. fig. s.

With this species we identify a single fistula, in a bad state of preservation and of doubtful locality. The species is described by Carter (*loc. cit.*), and with only a fragment before us it does not seem advisable to go into further details.