

mentioned. Anchoring spicules of two kinds, viz., smooth and spiniferous, the latter terminating at its free extremity in a recurved double hook, termination of the former unknown." On the other hand, *Labaria hemisphærica*, though closely allied, is so peculiar as to constitute a section by itself, with the following characteristics:—"Species possessing the birotulate flesh spicule, in which the termination of both kinds of anchoring spicules are known. Free termination of spiniferous anchoring spicules much the same as in the above mentioned; termination on the smooth anchoring spicule consisting of a double hook or arm, opposite, compressed, slightly recurved, and twice the size of the head of the spiniferous form." Carter placed Oscar Schmidt's *Holtenia pourtalesii* at a great distance from both of these groups, between *Crateromorpha* and *Rossella*, and characterised it in the following terms:—"Rosette many-rayed; rays multitudinous, of unequal length, straight and capitate, pappiform."

As the result of a thorough investigation which Higgin¹ was able to carry out on a well-preserved specimen of the *Labaria hemisphærica*, Gray, from Cebu, some errors in Carter's earlier description were corrected—errors which were mainly attributable to the fact that the specimen which Carter had studied was mixed up with foreign spicules belonging to another sponge. This was confirmed² by Carter himself, for he remarks, "that the anchoring spicules with spined shaft are abnormal." Carter also observes, that "while the shafts of the anchoring spicules of *Labaria hemisphærica* and of the genus *Rossella* are all smooth, those of *Hyalonema*, &c., are *all spined*; and that the latter only appear to be sometimes smooth from the spines being continued upwards from the free end for a less distance in some than in others."

In his notes on the affinities of the Hexactinellida, Marshall observes,³ that "*Labaria* and *Pheronema* are clearly very closely related to one another, and perhaps scarcely separable generically;" and further, that "*Holtenia saccus*, O. Schmidt, is also related to *Pheronema*, though it does not belong to this genus."

Among the sponges which were collected by the French Expedition of the "Travailleur" in the Bay of Biscay, Norman also records *Holtenia carpenteri*.⁴ According to the report of Oscar Schmidt,⁵ a typical specimen of *Pheronema annæ* was found in the neighbourhood of Santa Cruz, at a depth of 180 and 248 fathoms. A special genus *Leiobolidium* has been established by Oscar Schmidt for a spherical sponge measuring 15 mm. in diameter, soft and smooth to the touch, resembling in general habit and softness a delicate *Reniera*, and exhibiting the same microscopic component elements as *Pheronema*. "At the one pole there is an osculum surrounded by a rim, over against this there is a small irregular depression from which a root-tuft seemed to have been torn."

¹ *Ann. and Mag. Nat. Hist.*, ser. 4, vol. xv. p. 385.

² *Loc. cit.*, p. 389.

³ *Zeitschr. f. wiss. Zool.*, 1876, vol. xxvii. pp. 113–136; *vide* p. 130.

⁴ *Ann. and Mag. Nat. Hist.*, ser. 5, vol. vi. p. 436.

⁵ *Die Spongien des Meerbusens von Mexico*, 1880, pp. 64, 65.