

SPONGIIDÆ.—By *H. J. Carter, F.R.S.*

The collection of Sponges from Kerguelen Island is very limited in extent. So far as it goes, it may be said to present a Europæan, and more especially a British facies. Half of the species at the fewest, may be picked up at any time on the beach of South Devon:—viz. *Isodictya rosea*, *Halichondria plumosa*, *H. carnosa*, and *H. sanguinea*. To these we might add a fifth species, *H. panicea*, for the Kerguelen variety differs from the normal British form only in the possession of spicules twice the size of those of the latter. Of the three species remaining *Thalysias* is common to the Mediterranean and the seas between the Americas; the *Ute* occurs on the N.W. coast of Spain and in the Mediterranean; and one only, the *Tethya*, is decidedly antarctic. This last was the only specimen obtained from a considerable depth; all of the others were either collected with the grapple within the Laminarian zone, or were the produce of shore-collecting between tide-marks or amidst the refuse of the beach. Probably more extended research would have brought to light divers of the many peculiar forms which abound in the Cape seas and in those of the southern part of Australia.

In the course of my examination I have met with very few *Foraminifera*, no *Globigerina*, and no *Coccoliths*.

*Halichondria panicea.*

Johnst. Brit. Spong. 1842, p. 114, pl. x. & xi. 5.

Var.—Dry specimen: Irregularly globose, 4 inches in diameter; colour on the surface white, interiorly light sponge yellow. Structure felt-like, fibreless: texture light, delicate, sub-compressible. Spicules of one form only, viz.:—long, smooth, acerate, curved and often slightly bent in the centre; average maximum dimensions  $\frac{100 \times 4}{6000}$  to  $\frac{120 \times 4}{6000}$  inch.

This specimen was picked up dry on the shore, apparently after it had been for a considerable period rolled about in the sea. It afforded accommodation to an extensive menagerie of animals, belonging to *Crustacea*, *Annelida*, and *Spongida*. An amorphous fragment of the same species gathered when fresh was preserved in spirits; it is of a light yellowish sponge-colour.

*Hab.*—(Var.) Royal Sound, Kerguelen Island; (normal form) British coast.

*Isodictya rosea.*

Bowerbank, Monogr. Brit. Spong., vol. ii. 282.

Amorphous, encrusting the malleoloid expansions of a *Melobesia*. Colour pinkish.

Structure isodictyal (vide illustr. in Bowerbk., op. cit. pl. xx., 309). Texture paniceous, friable. Spicules of one form only, viz.:—rather short, smooth, acerate, curved, and often slightly bent in the middle. Average maximum dimensions  $\frac{40 \times 2}{6000}$  inch.

The largest specimen appears to have been picked up on the shore after many years exposure. Among other examples are some amorphous fragments in spirits, gathered when fresh, of a light sponge-colour; also some dry pieces still retaining the characteristic roseate tint presented by this species.

*Hab.*—Royal Sound, Kerguelen Island; also British coast.

#### Thalysias.

*Thalysias*, Duch. de Fonbressin et G. Michelotti, Spongiarès de la Mer Caraïbe, Harlem, 1864, p. 85, pl. xvii., 1, &c. *Schmidtia*, Balsamo-Crivelli, Atti d. Soc. Ital. de Scienza, 1863 (*Schmidtia ficiformis*), vol. v., taf. iv., 2, &c. Gulf of Naples.

#### Thalysias subtriangularis, D. & M.

Mammiferous sessile form. Dry specimen. Mammiform processes rising out of a procumbent mass. Surface even, uniformly and closely pierced with small holes. Colour yellowish brown. Vents large, single, each at the end of a mammiform process. Pores originally in sarcode tympanising the little holes on the surface. Structure compact. Texture close, uniformly firm. Spicules of one form only, viz.:—smooth, acerate, curved, and often slightly bent in the middle: average maximum measurements  $\frac{45 \times 3}{6000}$  inch.

*Hab.*—Royal Sound, Kerguelen Island; also the Mediterranean, and seas of Central America.

#### Halichondria plumosa, Johnston.

*Hab.*—Royal Sound, Kerguelen Island, on *Halichondria panicea*: also British coast.

#### Halichondria carnosus, Johnston.

With spicules of one form only, viz.:—pin-like, smooth, with globular terminal head, slightly fusiform shaft, and fine point: average maximum dimensions  $\frac{100 \times 3}{6000}$  inch.

*Hab.*—The same as that of the preceding species.

#### Halichondria sanguinea, Johnston.

With spicules of one form only, viz.:—smooth arcuate and curved: average maximum dimensions  $\frac{50 \times 2}{6000}$  to  $\frac{60 \times 2}{6000}$  of an inch.

#### Tethya antarctica.

Carter, Ann. et Mag. of Nat. Hist., 4th ser., 1872, ix. 412, pl. xx.

Part of a large specimen; in appearance very like grey hair matted together with sand and mud, [in form similar to a small cocoa-nut prolonged at the base

into a short cylindrical peduncle as thick as one's wrist]. Spicules, long large stout acerates, mixed with apparently an equal quantity of delicate anchor-and-fork-headed long shafts. The acerates are much larger and longer than those of the specimen described by me in the *Annals & Magazine of Natural History* (loc. cit.) averaging in their maximum dimensions  $\frac{7}{24}$  by  $\frac{5}{1800}$  inch.

*Hab.*—Royal Sound, 40 fathoms, brought up by anchor, Eaton; also dredged in lat.  $74^{\circ} 30' S.$ , long. (obliterated), from a depth of 300 fathoms, and in lat.  $77^{\circ} 30' S.$ , long.  $175^{\circ} 2' E.$ , from 206 fathoms, Antarctic Expedition.

#### *Ute capillosa.*

Schmidt, *Spong. Adriat. Meeres*, p. 17, taf. i., 6–6 a–b.

White; long and compressed, sac-like with narrowed aperture; 2 inches long,  $\frac{3}{4}$  inch broad,  $\frac{2}{3}$  inch thick. Spicules tri-radiate of two sizes, mixed with thick, stout, rudely formed, acerates, which project hair-like above the surface. (In spirits; gathered in the fresh state.)

*Hab.*—Royal Sound, Kerguelen Island: also Vigo Bay, dredged by Mr. Saville Kent; and the Mediterranean.

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