

hispidation may result, the hispidating spicules may or may not differ from those which are confined to the interior of the sponge, the latter will be spoken of as "somal" spicules when they are common to the whole sponge body, the former may be distinguished as hispidating spicules, a term commonly employed by Carter.

Over special areas the hispidation may become more pronounced, and to these areas it may be restricted; thus arise rooting spicules and fibres, basal fringes, fringes of the oscular margin, of the vestibules, and so forth.

*Radical Spicules.*—The sponge may be seated immediately on the surface of the sea-floor, and the rooting (radical) spicules descend directly into the underlying ooze, either separately or as continuations of the somal spicular fibres; they terminate either freely and separately (Fig. XIII., *a*), or in a densely tangled and matted accumulation, which serves as a basis of support and in size rivals the sponge itself (Fig. XIII., *b*).

On the other hand the sponge may be supported some distance above the ooze by the radical fibres which form slender pillars supporting the sponge above, and below

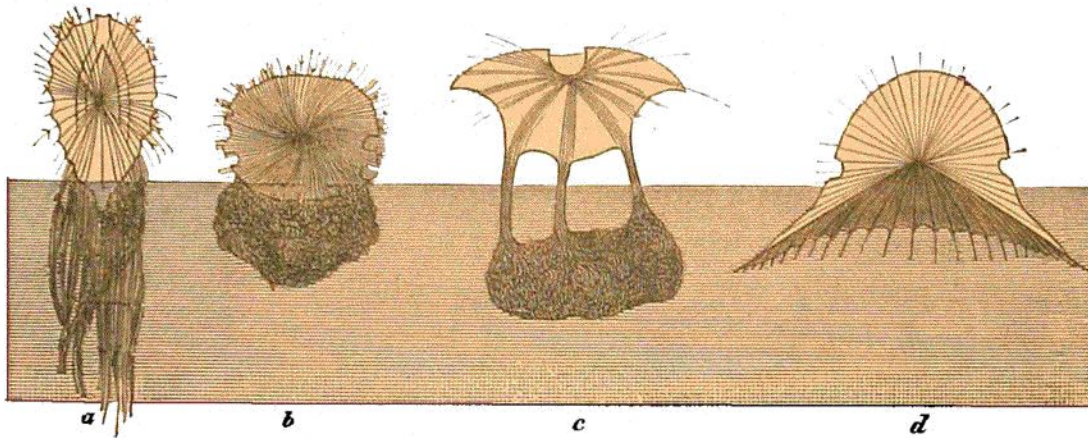


FIG. XIII.—Modes of attachment of Sponges to the sea-bottom. *a*, *Tetilla euplocamus*, rooted by a mesh of spicules in the ooze; *b*, *Cinachyra barbata*, seated on a basal mass of tangled spicules; *c*, *Thenaea wyvillii*, supported by stems of radical spicules terminating in a basal mass like that of *b*; *d*, *Tetilla casula*, supported by a parachute-like arrangement of radical spicules.

terminating as in the last-mentioned instance by splaying out and matting together into an almost solid tangle (Fig. XIII., *c*) (*Thenaea wyvillii*, p. 74).

In one instance (*Tetilla casula*, Carter) the margin of the flat base of a hemispherical sponge is produced into a dense rigid fringe of radical spicules which extend outwards and downwards, giving a parachute-like form and support to the sponge (Fig. XIII., *d*).

*Cloacal Spicules.*—The oscular margin is frequently produced into a thin tube, the walls of which are traversed longitudinally by spicules arranged palisade fashion in a spicule fringe or tube (*Tetilla*, *Cinachyra*, *Thenaea*). In two species among the Stellettidæ the oscular margin is produced into a remarkable cloacal tube provided with a special skeleton, an account of which will be found under the description of *Tribrachium schmidtii* (p. 154), and *Disyringa dissimilis* (p. 161). In some of the Stellettidæ (*Pilochrota*), minute oxeas occur fringing the oscular margin in the same