

Polylophus philippinensis (Pl. LIV. fig. 2), and also the dermal diaets of *Bathydorus baculifer* (Pl. LIX. fig. 11). A ray projecting towards the exterior is found in the pentact dermal pinuli of all Hyalonematidæ and many Asconematidæ, while a ray extending inwards occurs in the dermal pentacts of *Rossella antarctica* (Pl. LV. figs. 2, 3) and other Rossellidæ. Autodermalia with rays projecting both inwards and outwards from the dermal membrane occur in *Balanites* (Pl. XXIII. figs. 13, 14), *Aulascus* (Pl. XXII. figs. 2, 3), and as amphidiscs in all Hyalonematidæ.

As hypodermalia I would note, in the first place, those sword-like hexacts in the Euplectellidæ, which, with their short distal rays, raise the dermal membrane into small peaks, and are usually surmounted by an attached floricome. Hypodermalia are well illustrated, too, by those strong pentacts which, in many Hexactinellida, lie with their four tangential rays closely under the dermal membrane, and bear a greatly prolonged proximal, penetrating like a strong peg at right angles to the surface, more or less deeply into the subjacent parenchyma. The tendency of these hypodermal pentacts to grow inwards may be recognised where the axis cross occurs in the dermal membrane, from the fact that the tangential rays frequently extend obliquely inwards from their points of intersection, and always lie beneath any other dermalia which may be present (Pl. XXXVI. fig. 1).

To the dermal skeleton I refer finally those spicules which I have noted as clavulæ and scopulæ. These forms are disposed at right angles to the outer surface, have the greater part of their elongated uniaxial body embedded in the parenchyma, usually, however, reaching the skin or even extending beyond it with their broadened terminal portion, which contains the axial cross of the central canal. Here, too, we include those fine raphides which sometimes occur in bundles close to the radial rays of other dermalia (Pl. XCII. fig. 2; Pl. XCIII. fig. 2).

Where the skin is raised above the rest of the parenchyma as an independent plate, the spicules of the dermal skeleton are either confined to this plate without being continued on the outer side of the subjacent parenchyma, e.g., in *Semperella schultzei* (Pl. LII. fig. 3), and in *Hexactinella lata* (Pl. XCV. figs. 1, 2), or they occur not only on the independent skin plate, but also on the outer surface of the parenchyma, which then exhibits a special layer of skin, as in *Euryplegma auriculare* (Pl. CII. fig. 3), and *Myliusia zittelii*.

Gastralia.

Relations similar to the above are exhibited by the gastral skeleton which supports the gastral surface and inner side of many efferent canals, and which, in some cases, appears at the oscular border as a direct, and but slightly altered continuation of the dermal (Pl. XXIII. fig. 14; Pl. LXVIII. fig. 1). The difference between gastralia and dermalia is, however, usually distinct enough (Pl. XXV. fig. 3), and the boundary