

verticillate (*Dasygorgia*, *Chrysogorgia*). The branching takes place on the principle of the uniparous helicoid cyme; i.e., the branch gives off twigs on one side which again bear lateral twigs in the same manner. These may again bear lateral twigs of from the second to the fifth order. At the point where each twig comes off the branch or twig is bent at an angle in the opposite direction. The same occurs in the stem at the points where the branches are given off. If there are only a few branches in a spiral and the nodes are many, then the stem appears to be bent in a zigzag manner.

The cœnenchyma is usually thin, and in the younger branches allows the colour of the axis to show through. The polyps are large, and either stand at right angles to the stem or branches or are directed obliquely towards the apex of the branches. On the stem and branches they are placed far from one another, on the branches that subdivide into twigs there is only one on each node. The tentacles are not capable of being withdrawn into the body; in repose they simply fold themselves together over the opening of the calyx.

In addition to the tentacle-bearing polyps there are in many species (*Iridogorgia*, *Dasygorgia*) wart-like zooids. They have a laterally placed oral opening and a terminal cushion of ectoderm, which is filled with thread-cells. From their body cavities canals are given off, which open into the longitudinal canal system.

The axis is horny and arises direct from the purely calcareous basis. It contains, besides the chitinous lamellæ, especially in the stem and the thicker branches, a calcareous deposit, which often imparts to it a brittle consistency. In the finer twigs the horny substance predominates and so gives rise to flexible, elastic rods. The surface of the axis appears shining and exhibits iridescent colours which give it a metallic, or mother-of-pearl-like lustre.

A microscopical examination of the surface of the axis shows the presence of fine calcareous granules on the outermost chitinous layer, arranged in a peculiar order.

The spicules in the cœnenchyma and in the polyps are transparent, glass-like spindles or scales, which form a superficial and a deeper layer. They are sometimes smooth, sometimes provided with fine spines and warts, and lie close together, frequently overlapping one another at the edges. In the polyps they are placed either transversely or longitudinally, and in *Dasygorgia* and *Chrysogorgia* are continued into the tentacles, but the pinnules, which are folded towards the inside in repose, are free of spicules.

This subfamily equals the family Chrysogorgiidae established by Verrill<sup>1</sup> to include the genus *Chrysogorgia* of Duchassaing and Michelotti, and two new genera, *Iridogorgia* and *Dasygorgia*. Verrill gives the following diagnosis of the family:—"Coral variously branched, the branches most commonly taking a spiral arrangement. Axis partially calcareous, generally with a brilliant iridescence and metallic lustre. Base in most of the species calcareous and divided into irregular, divergent, root-like processes, but usually the

<sup>1</sup> *Loc. cit.*