

3, 4, 5, are all from *Eugorgia aurantiaca* V., the peculiar kind shown in figure 3 occurring with the other more common form, in species of this genus. In species of *Plexaurella* many of the spicules are beautiful crosses of various fancy shapes. In *Eunicellæ* the cortex is covered with an outside layer, in which the spicules are club-shaped, though ornately so, and have the smaller end pointed inward. These spicules afford valuable distinguishing characters also in all *Alcyonoids*.

The spicules are often brilliantly coloured, and sometimes variously so in the same individual. Yellow, crimson, scarlet, and purple are common colours, and they occur both of dark and pale shades. Viewed under a compound microscope by transmitted light, a group of these spicules from some species, part bright yellow and part crimson, or of some other tints, produces an exceedingly beautiful effect. It gives still greater interest to this subject that all *Gorgoniæ* owe the various colours they present to the colours of their spicules.

Spicules are usually wholly internal, or they only come to the surface so as to make the exterior slightly harsh. But in other cases, as in the genus *Muricæa*, they project and give a somewhat bristly look to the coral.

The calcareous spicules are internal secretions, like those of ordinary coral, and the constitution is the same,—mere carbonate of lime. But the secretion of the axis of the branches is *epidermic*, from the inner surface of the cortex, as in the *Antipathus* before described (page 42). In the ordinary *Alcyonoids* that make no horny axis, the stolons, or budding stem or mass, creeps or spreads over the supporting body. But in these *Gorgoniæ*, the budding cluster, which would make a stolon if there were no horny secretions, has the form of a tube about a horny axis; and as this tube elongates and secretes the axis within, it gives out buds externally; thus the branch rises. New branches commence at intervals over the sides of the rising stem or branch through the starting of new budding centres, and so, finally, the *Gorgonia* zoöphyte is completed.