

When articulated the internodes are connected either by short straight tubes, or with the intervention of a convoluted knot of slender tubules.

The recent species of this genus, as above defined, with which I am acquainted, are about fifteen to seventeen in number, and they admit of being conveniently and more or less naturally grouped as under:—

*a. simplices.*—In which the zoarium is simple, or composed, as it may be said, of a single segment, from which, however, loosely connected offsets sometimes spring irregularly, attached to the parent stock either by ordinary clasping filaments, or sometimes by a single, rather long tube arising from the front of a zoecium, when the young offset or branch may be regarded as homologous with the chitinous tubes resembling radical fibres presented in several species, which spring in a similar manner from the front or other part of a cell in other species of *Salicornaria*, as, notably, *Salicornaria pilosa*, Kirch., and *Salicornaria bicornis*, Bk., as well also as in many other species belonging to several genera. The only species in which this condition is very distinctly shown is *Salicornaria clavata*, n. sp.; there is, however, a small form from the Adriatic, termed by M. Costa *Salicornaria gracilis*, but which seems to me to be distinct, in which the same habit would appear to be present.

*β. articulatae.*—In which the internodes are connected by elastic or flexible joints, and always arise in pairs, so as to constitute a dichotomous growth. These forms may again be subdivided into—(*a*), those in which the bond of union between the segments consists of more or less numerous, short, thick-walled, chitinous tubes which are continuous at either end with the delicate endocyst of the terminal cells in the superior and inferior internodes; and (*b*), those in which the connection is effected with the intervention of what Prof. Smitt terms a “knot of intricated radical tubes.” The precise mode of connection between this “knot” and the three internodes between which it forms the bond of union, I have not been able satisfactorily to determine, but so far as I can perceive one or two tubes arise from the summit of the inferior internode, and form an intricate plexus, which is lodged between the two superior segments, and gives off a single tubule to each. The junction, consequently, so far as the chitinous element is concerned, appears to be slight, though highly elastic. In most of the species thus furnished it should, moreover, be remarked that the calcareous walls of the contiguous internodes above and below are very closely applied to each other, so as to appear continuous, but I have not met with any case in which they are really so. The species belonging to this category are much more numerous than those in the other, and for the most part apparently confined to the southern hemisphere, the only apparent exception to this being *Salicornaria johnsoni*, which occurs also in the northern.

It is worthy of remark that this difference in the manner of articulation appears to be connected with other characters distinctive of the respective groups.