

*Lytocarpus racemiferus*, n. sp. (Pl. XIII.).

*Trophosome*.—Colony attaining the height of about twelve inches; stem fascicled, much and irregularly branched, main branches all directed towards one side of the stem; hydrocladia alternate, scarcely exceeding one-tenth of an inch in length. Hydrothecæ rather deep, margin serrated, teeth blunt; intrathecal ridge well marked, situated near the fundus of the hydrotheca; mesial nematophore adnate to the walls of the hydrotheca for nearly their entire height, and then continued as a short, blunt beak, which scarcely overtops the hydrotheca and has both a terminal and a lateral orifice; lateral nematophores slightly overtopping the hydrotheca.

*Gonosome*.—Phylactocarps in the form of long racemes, laden with gonangia, springing from certain branches of the trophosome at points near the origin of the branches from the stem, and there taking the places of the proximal four or six hydrocladia, consisting of a series of internodes having every internode provided with one median and two lateral spines, each of the proximal five to eight internodes carrying also an ovate pedunculated gonangium.

*Lytocarpus racemiferus* is an exceedingly beautiful species. The direction of the principal branches from one side only of the main stem give it a habit not usual among the *Plumularidæ*. The phylactocarps, with their pedunculated gonangia, form elegant racemes, grouped near the proximal ends of the branches, where they replace the hydrocladia of this part of the branch. Towards its distal end the branch carries the ordinary unmodified hydrocladia, which are continued to its extremity.

The phylactocarps are, in the present species, of much morphological significance, and must be viewed as hydrocladia modified by the suppression of the hydrothecæ, whose places are taken towards the proximal end of the phylactocarp by the gonangia, and whose mesial and lateral nematophores have undergone but little change, and are represented by the three spines carried by each internode. These spines retain their essential character as nematophores, and are each provided with a terminal oblique orifice. Several of the more distal internodes are destitute of gonangia and carry only the spines.

The gonangia are supported on rather long peduncles, which spring from between the bases of the two lateral spines, and are subtended by the mesial spine. The gonophore occupies the centre of the gonangium, from whose walls it is separated by a clear space, across which may be seen a wreath of highly refringent spherules, by which the summit of the gonophore is encircled. The sex could not be determined with certainty.

Dredged off Bahia. Depth 10–20 fathoms.