the hydrocladia, are alternate, a very unusual condition in the bipinnate *Plumularidæ*, in which the primary pinnæ are almost always opposite.

Each primary pinna is supported on a short process of the stem, and its proximal end is separated from the remainder of the pinna by a very oblique joint, and forms an acute wedge-shaped segment, on which the distal portion is, as it were, *spliced* (see woodcut). The joint is occupied by a colourless chitin, and when viewed in profile appears as a broad transparent line, which strongly contrasts with the opaque brown periderm of the rest of the pinna. The curious splice-like joint thus formed is very striking and characteristic.

Among the *Plumularidæ* described and figured by Kirchenpauer,[1] are three—*Aglaophenia philippina*, *Aglaophenia urens*, and one which he believes he can identify with the *Plumularia longicornis* of Busk. The hydrothecæ of all these resemble in many points those of the present species, though the habit of the colonies is entirely different. In two of them, *Aglaophenia philippina* and *Aglaophenia urens*, he has observed the gonosome.

Kirchenpauer refers them all to *Aglaophenia* in the wide sense in which he would understand this genus, and places them in a subordinate section or sub-genus of *Aglaophenia*, to which he gives the name of *Macrorhynchia*. The group *Macrorhynchia*, however, as defined by Kirchenpauer, can scarcely be accepted, for there may be found Statoplean Plumularidæ which agree in having the long two-apertured mesial nematophore on which the group has been founded, and whose gonosomes are yet so different as to render it impossible to associate them in the same genus. Indeed, the form of gonosome which Kirchenpauer assigns to his *Macrorhynchia* may well be referred to the type which characterises his *Lytocarpia*.

The absence of gonosome in the specimens obtained by the Challenger renders it impossible to assign the present species with certainty to a definite genus, but the close resemblance of its hydrothecæ to those of the three species just mentioned, in two of which the gonosome has been observed, will perhaps justify us in giving it a place in the genus *Lytocarpus*,—a position, however, which, until its gonosome has been examined, must have a purely provisional value.

Mr. Busk's specimens of his *Plumularia longicornis* were obtained during the expedition of the "Rattlesnake,"[2] and the species defined in the account given of the Hydroids brought home by that expedition. From a comparison of authentic specimens in Mr. Busk's possession, with the *Lytocarpus longicornis* of the present Report, I have satisfied myself of the specific identity of the two forms.

Dredged at Zamboanga, Philippines, January 30, 1875, from a depth of 10 fathoms.

[1] Kirchenpauer, *loc. cit.*, pp. 45–47.

[2] Busk, Voyage of the "Rattlesnake," vol. i. p. 399.