Corethron,[1] n. gen.

The new forms upon which this genus is established are exclusively Antarctic. They have a more or less cylindrical form, and are terminated by hemispherical surfaces, the base being surrounded by a corona of awns, which are more or less thick and long, and are smooth or thorny. Although from the rarity of these interesting organisms it was not possible to determine their siliceous or non-siliceous character by means of acids, this determination was made by the application of strong heat for a protracted period. This produced no visible change on their form, so that their diatomaceous nature could not be doubted.

Although the presence of long awns radiating round the valves might affiliate the present organisms to the genus *Bacteriastrum*, the two groups of forms differ very notably in other respects. Thus in the former there is as yet no proof that the frustules are arranged in series, while their general form is cylindrical or cylindroidal—one axis being much longer than the other—and the awns are never tortuous or dichotomous. But these characteristics are not wanting in the genus *Bacteriastrum*, hence the new series of forms, which unquestionably have certain affinities to *Chætoceros*, must be regarded as forming a transition to the tubulate *Rhizosoleniæ*.

The name that has been proposed for the genus has reference to the "broom"-like appearance of the frustules, and the following generic definition may be given:—Frustula cylindrica, libera (?); valvis convexis, setarum radiantium corona cinctis.

According to the character of the connecting zone and awns this genus may be divided into two sections, embracing—

A. Forms with simple smooth connecting zones and smooth awns.

B. Forms with complex annulate connecting zones and echinated awns.

Section A. *Connecting zones simple and smooth; awns smooth.*

Corethron criophilum, n. sp. (Plate XXI. fig. 14.)

Forma longe cylindrica, valvis producto-convexis, setis tenuissimis. In Antarctico ad glacies impervios.

This long and perfect little cylinder has a longitudinal axis, which bears to its diameter the ratio of 14 to 1. The awns are long and very delicate, smooth and radiating in the same direction at the two extremities. The two valves are extremely convex. This type occurs not unfrequently at the Antarctic ice barrier, and on floating fields of ice.

Corethron criophilum, n. sp., var. nov. (Plate XXI. figs. 12 and 15.)

Probably the frustules here shown only represent two varieties of the preceding species. Both differ, however, from the latter (1.) in having the longitudinal axis shorter and

[1] κόρηθρον, broom.