



<https://www.biodiversitylibrary.org/>

Grevillea

London, Williams and Norgate, 1872-1894

<https://www.biodiversitylibrary.org/bibliography/6898>

3-4, 1874-1876: <https://www.biodiversitylibrary.org/item/30047>

Page(s): Page 38, Page 39, Page 40

Holding Institution: New York Botanical Garden, LuEsther T. Mertz
Library

Sponsored by: The LuEsther T Mertz Library, the New York Botanical
Garden

Generated 5 February 2024 4:24 PM

<https://www.biodiversitylibrary.org/pdf4/1666868i00030047.pdf>

This page intentionally left blank.

CRITICAL NOTES ON SOME SPECIES OF
DIATOMACEÆ.

Amphiprora (?) complexa, Gregory, Clyde Diatoms.—This very singular form was doubtfully placed in the genus *Amphiprora*, by Dr. Gregory, who remarks that the remarkable structure of this species may render necessary the establishment of a new genus.

It is somewhat surprising that so acute an observer as the late Dr. Gregory should have placed this form in the genus *Amphiprora*, to which it bears no structural affinity. He was also in error in describing it as complex. His specific character is as follows: "frustule, composed of two arcuate and constricted segments, which are broad and thick at the outer margin, thin at the inner margin, and placed opposite each other with a narrow interval between them. Over the middle of these two lateral segments a complex mass, formed of five or six segments, converging inwards and on the ends, like the segments of an orange or melon."

FIG. 1.

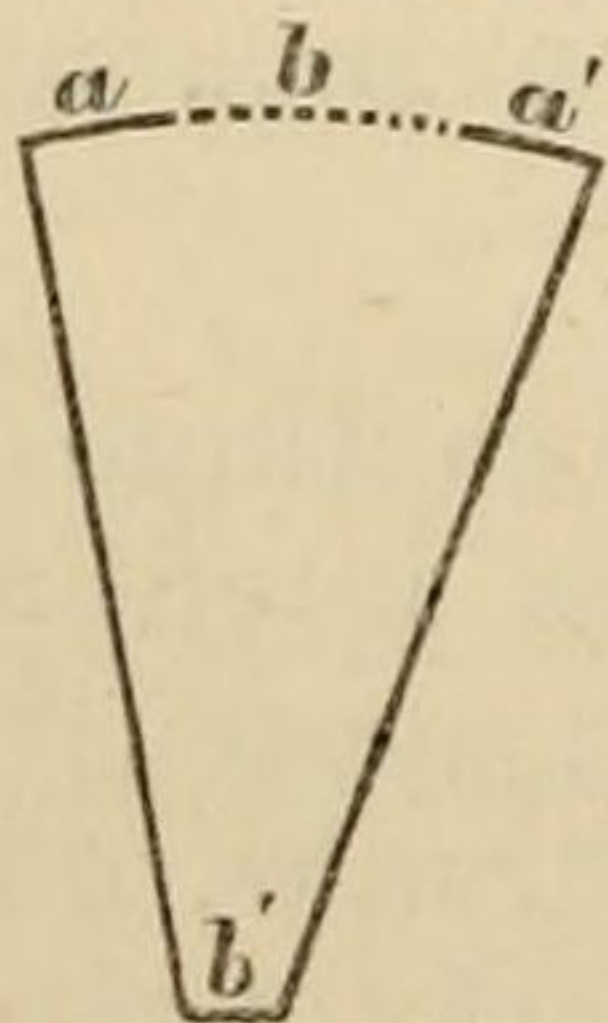


FIG. 2.

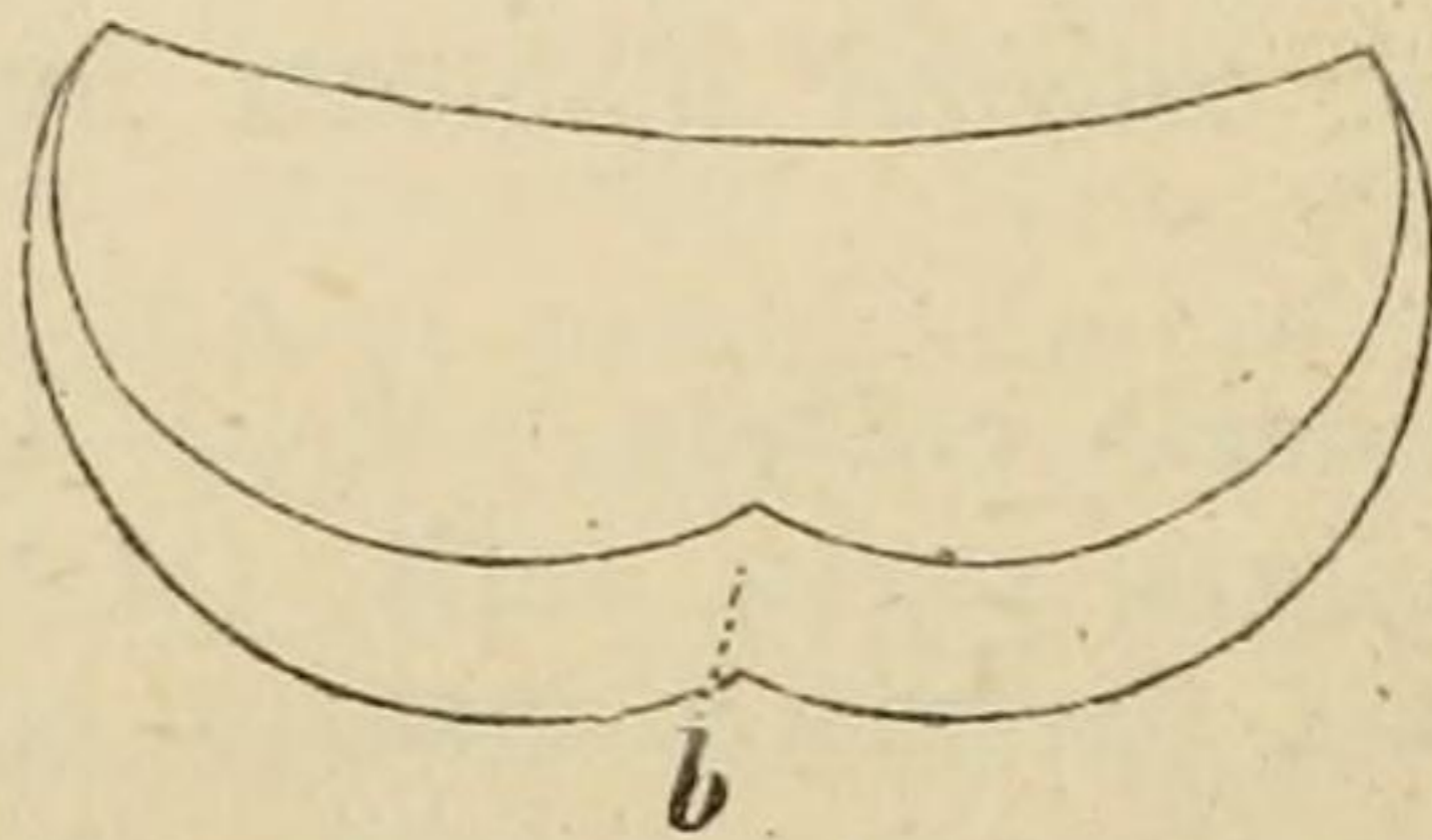
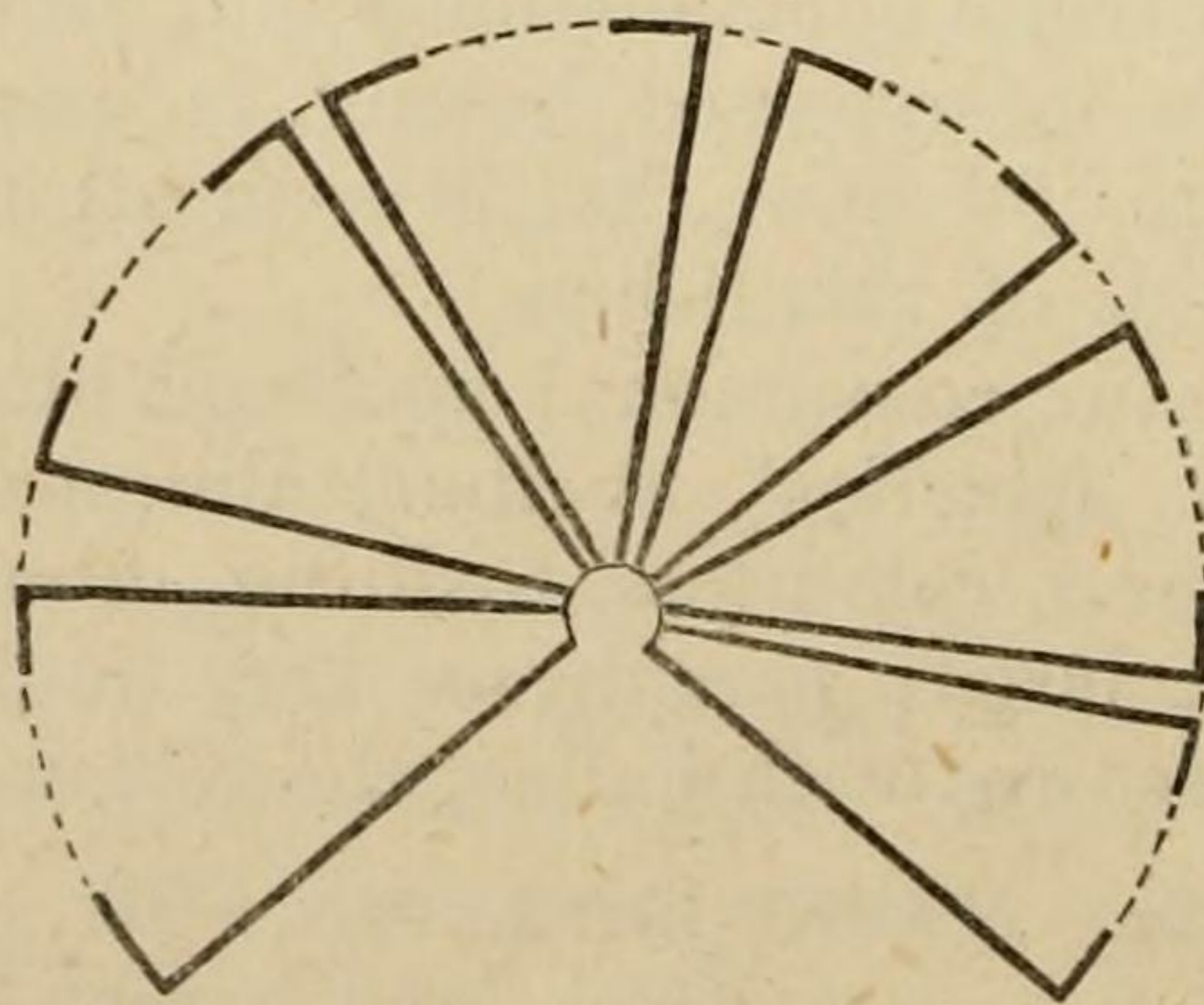


FIG. 3.



This description of the frustule is correct to a certain extent; the valve is not thicker at the convex than at the concave margin. An ideal transverse section of a single frustule (fig. 1) will explain the apparent thickness of the convex margin, *a a'* valves, the dotted lines *b b'*, the cingulum or connecting zone, as the greatest development of the cingulum takes place at *b* (fig. 2), the frustule gradually assumes a spherical form; in the meantime new valves are being formed within the frustule, the margins of which produce the complex appearance previously alluded to. Fig. 3 represents

a transverse section of a series of frustules, the thick lines indicating the valves and the dots the cingulum.

In the unequal development of the cingulum, this species resembles genus *Amphora*, but it possesses neither a median line or central nodule. Its proper place is doubtless in the genus *Palmeria* (Greville in the "Ann. and Mag. of Nat. History," 1865), in which genus I propose to place it with the following specific characters :—

Palmeria vulgare (Kitton) = *Amphiprora complexa*, Gregory. Frustule cuneate in f. v., frequently cohering after self-division. Valve broadly lunate, convex margin, generally constricted at the centre, striæ radiant and slightly curved towards the rounded apices.

Marine or brackish water. The Clyde and Loch Fenn. Dr. Gregory. Sharks Bay, Australia, M. J. Norman. Harwich and Felixstowe, F. Kitton. Dundee, Mr. Rattray. Peruvian guano, and fossil in the Baldjik deposit.

It will be seen from the above list of habitats that this form is widely distributed, but with the exception of the Dundee gathering (for which I am indebted to Mr. Rattray) I have never found it in abundance.

Grammatophora islandica, Ehr.—I have lately detected this species in a gathering made off the coast of Scotland, mixed with *G. mauna* and *G. serpentina*. I do not feel sure that it is specifically distinct from the latter form ; it is probably only a variety with more distant striæ.

Nitzschia curvula, Smith.—Some confusion seems to exist amongst foreign observers as to the form described in the Synopsis. The species so named in the "Typen Plate" list is not Smith's *N. curvula*, but his *N. sigma*. In a paper on the structure of Diatoms, by G. W. Morehouse, U.S.A. ("Monthly Mic. Journal," vol. xii., p. 23), he alludes to the extreme difficulty of resolving the longitudinal, as compared with the transverse striæ of *N. curvula*, Sm. I suspect that he is also unacquainted with the true form.

This form is, however, not a *Nitzschia*, but a *Surirella* (*Surirella intermedia* of Dr. Lewis) ; the surface is striate, but the striæ are not difficult to resolve. The striæ on *N. sigma*, like those on *Grammatophora*, are more easily resolved when mounted in balsam than when mounted dry.

Cymbella Ehrenbergii, Agaridh.—Professor Smith, in his Synopsis, remarks that "It is difficult to discriminate between the *Cocconemeta* and *Cymbellæ* when the specimens are prepared. In a living state the presence of a stipes at once removes the difficulty."

Recent observations prove, however, that their presence or absence are of no generic or specific value. In a gathering from Aberdeen I found *Cocconema lanceolatum* living, and in a vigorous state, without the vestige of a stipes.

The markings on *Cymbella*, however, differ from those on the *Cocconemeta* sufficiently, perhaps, to warrant their separation; those on the latter are distinctly moniliform, whilst those on the former are apparently costate. I say apparently costate; they are really not so; when examined with a high power and oblique light they will be found to be composed of a series of compressed beads.

C. Ehrenbergii, when thus illuminated, is an object of considerable beauty.

Synedra robusta (Ralfs.)—The conspicuous striæ on this species, when examined with the oblique light, will be found to be composed of a series of beads very much compressed. F. KITTON.

NOTE OF THE OCCURRENCE IN IRELAND
OF THE MINUTE ALGA, *CYLINDROCAPSA INVOLUTA*.

By W. ARCHER.

The occurrence in this country of *Cylindrocapsa involuta*, Reinsch. ("Die Algenflora des mittleren Theiles von Funken," p. 66, t. vi., f. 1), will possibly interest the algological readers of this journal, although the plant itself is not one of any striking appearance.

Admitting the identity, of which I myself do not doubt, though not previously having seen examples, that author's description of this minute alga does not appear quite complete, as he omits to mention that the cylindrical hyaline envelope of the cells, combining them into a frond, is closed at both extremities, rounded off at the upper, and somewhat produced, tapered and thin, slightly dilated into a scutate organ of attachment (to foreign objects) at the lower extremity. Thus the extremities appear to be differentiated into a basal and apical. The Irish plant agreed with Reinsch's in the dimensions of the cells, their oval figure (truncate after division, whilst closely apposed, and until full size is again attained), their longer diameter posed in the direction of the length of the cylindrical filament and in their being involved by a number of concentric hyaline investments standing off from the cells at the poles, closely applied at the sides; not, however (as Reinsch shows) uniformly *four*, but two, three, or four, and standing off from the cells, not equidistantly, but at different distances. It is, however, quite possible that where the fewer number only of laminæ of the envelopes were apparent, others may have been present, but so closely applied to the cells (and to each other) as to appear as if absent. Just as depicted by Reinsch (though his figure be rather stiff). I saw some of the cells undergoing self-division, the fission always taking place through the shorter diameter, the new cells, at first flattened at the ends, then growing as long as the older, and becoming rounded off, and thus the longitudinal direction of the cells is maintained. Thus this form is unlike *Cylindrocapsa nuda* (Reinsch), in which the oval cells are placed transversely, and