THE NATURE OF THE INFERIOR OVARY IN AMARYLLIDACEAE

THE study of transections of flower buds of *Eucharis amazonica* (family *Amaryllidaceæ*) shows that the pedicel possess as a rule an undulating ring of twelve collateral vascular bundles. Six of these are somewhat bigger in size than the alternating six. Of the first six, three again are larger than the alternating three. At the very base of the inferior ovary, the three largest bundles, which are on the same radii as the outer whorl of perianth leaves, divide to form the midrib bundle of an outer tepal, the trace of the superposed stamen and the midrib bundle of one of the carpels on the same radius. The three alternating large bundles, which are on the same radii as the inner whorl of perianth leaves, divide to give rise to the midrib bundle of one of the perianth leaves and the trace of the superposed stamen. The division of the bundles takes place in the same manner as Arber[1] has described in *Hymenocallis*, *Narcissus*, etc. The six smaller bundles of the pedicel divide to form the marginal traces of the adjacent perianth leaves. Thus a transection of the ovary about the middle shows the vascular supply of all the floral whorls quite distinctly marked off from one another even in the wall of the ovary. And, just as Joshi and Pantulu[2] have shown in *Polianthes tuberosa* belonging to the closely related family, Agavaceæ, it is very clear that in *Eucharis amazonica* also the inferior ovary and epigyny have originated as a result of the adnation of the perianth leaves, stamens and carpels.

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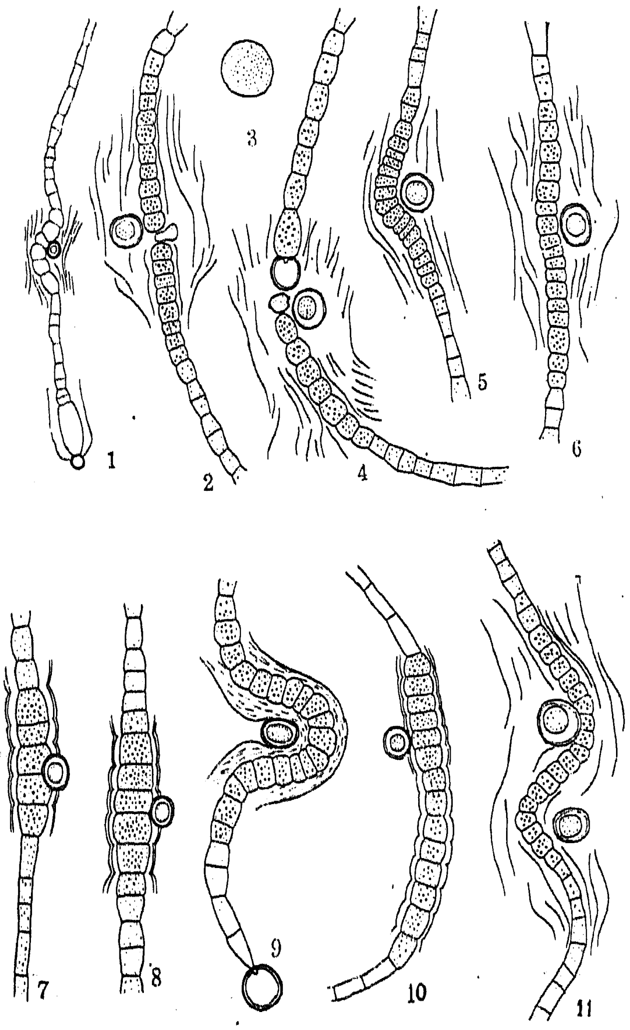
NOTE ON THE REACTIONS OF *GLOEOTRICHIA RACIBORSKII* WOLOSZ., TO A PARASITIC ATTACK

WHILE examining some preserved material of *Glœotrichia Raciborskii* Wolosz., collected from a lake at Chingleput, the writer came across filaments which were bent in various ways in the middle. A tiny, round, unicellular fungal (?) parasite was found attached to the filament laterally on the inner side of the bent portion (Fig. 1). At first sight this tiny parasite looked like a lateral heterocyst on the filament or a heterocyst of the alga lying loose at the side of the filament, since it showed a certain amount of resemblance to the heterocyst of the alga both in shape and size. A careful examination of the cell, however, showed that it was not a part of the alga, but some foreign organism attached to it. Its contents were more or less homogeneous and colourless and its wall was thin, firm and very finely punctate (Fig. 3). This parasite could not be identified as no other stage of its life-history could be seen in the material.

The chief interest lies in the reaction of the algal filament to the fungal attack. At the region of attachment of the parasite, the cells



FIGS. 1–11. *Glœotrichia Raciborskii* Wolosz.

Fig. 1. A filament showing the parasite inside the characteristic bend. Fig. 2. A portion of the filament, the cell attacked by the parasite dead and degenerating. Fig. 3. The parasite showing the punctate wall (cell contents not shown). Fig. 4. A portion of the filament with the adjoining cell above the dead cell converted into a heterocyst. Fig. 5. A portion of the filament bent round the parasite. Fig. 6. A portion of the filament just beginning to bend round the parasite.

Figs. 7 and 8. Portions of filaments showing larger and bigger cells with rich contents. Fig. 9. A portion of the filament showing the characteristic bend with the parasite well enclosed in the bend. Fig. 10. A portion of the filament with a number of cells becoming larger. Fig. 11. A portion of the filament with two parasites and two bends.

(Figs. 1–6, 11 from Chingleput lake material and Figs. 7–10 from Elliot's Beach pool material. Fig. 1 × 190, Figs. 2, 4–11 × 333·3 and Fig. 3 × 500).