Reviews

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CAULINE OR CARPELLARY PLACENTATION AMONG DICOTYLEDONS

(Axis-borne versus Leaf-borne ovules)

The Cauline ovules of Centrosperms I—II

Van Gorcum & Comp. N. V., Assen 1970, I: 292 p., II: 92 p. (plates)

This ambitious study consists of three parts: (1) a comprehensive historical review of respective problems is briefly sketched out; (2) the author's own results concerning the *Centrospermae* are presented in terms of histology, anatomy and comparative morphology; (3) some present opinions of morphological and phylogenetical research (mainly the telome theory, the New Morphology) are discussed and criticized.

The author investigated (1) the histogeny and ontogeny of several caryophyllaceous ovaries (using the standard paraffin-sections technique), i.e. in *Silene alba* (MILL.) KRAUSE, *S. vulgaris* (MOENCH) GARCKE, *Lychnis flos-cuculi* L., *L. viscaria* L., *Myosoton aquaticum* (L.) MOENCH, *Stellaria holostea* L., *S. graminea* L., *S. media* (L.) VILL.; (2) the vascular supply of these ovaries (a preliminary report is only given); the results obtained were used (3) for comparative studies on the ovary of the other centrospermous families (*Primulaceae*, *Portulacaceae*, *Polygonaceae*, *Basellaceae*, *Amaranthaceae*, *Phytolaccaceae*, *Nyctaginaceae*, *Aizoaceae*, *Mesembryanthemaceae*, *Cactaceae*, *Didiereaceae*).

The following author's results can be mentioned as the most interesting. The gynoeceum of the *Caryophyllaceae* is considered to be compounded of an abaxial sterile part (incl. the septum) and of an axial fertile central column (= secondary free placenta) with placentae inferiores and superiores. Both these parts fuse secondarily by the growth of the septa; the placentation is quasi-parietal in the *Caryophyllaceae*. The features observed in the other families of the *Centrospermae* were found to be not at variance to those of the *Caryophyllaceae* (with the exception of the *Primulaceae*). For that reason the quasi-parietal (and not parietal) placentation is considered to be common in the *Centrospermae*: the ovules of this order are cauline (not carpellary) in origin. — In this connection the ČELAKOVSKÝ's concept of the carpel is criticized.

It was certainly difficult to interpret a large amount of results, facts, references and opinions which are summarized in this book. But the arrangement of the text is excellent and very logical; some slightly surprising author's opinions are interpreted adequately. The drawings (76 plates) are given in a separate volume; some of them seem to be too schematic.

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