

Polygonaceae—The Buckwheat Family
Four o'clock Family
 PREFACE

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The ninth edition of "Angiosperms-Systema" is exhausted in just about two years. This speaks of the popularity and utility of the book and the author feels highly encouraged by this response.

The present edition has been thoroughly revised, and enlarged in the light of suggestions received. The book now deals with more than 100 families and covers the syllabi of not only the Degree but also the Postgraduate Courses of some Indian Universities. Greater stress has been laid on the economic and medicinal importance of indigenous species. A detailed list of the plants of economic importance is given in the Appendix.

Syllabi of a few more Universities—Madras, Poona and Raipur, have been added for ready reference by the students concerned.

The author hopes that the revised edition will serve all those interested in the subject in a still better way.

The author feels greatly beholden to several students and brother teachers* for sending him some valuable suggestions, to his former colleague, Shri B.N. Sood for taking photographs included in the text, and to Shri R.L. Kapur for drawing some new sketches.

Suggestions for further improvement of the book will be greatly appreciated.

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ANGIOSPERMS (250,000 sp)

(FLOWERING PLANTS WITH ENCLOSED SEEDS)

Angiosperms (Gr. *angeion*, vessel or receptacle ; *sperma*, seed) form one of the two most highly evolved sub-class of Spermatophyta* (Seed plants), the other being gymnosperms (Gr. *gymno*, naked ; *sperma*, seed). As the names indicate the seeds in angiosperms are enclosed in the fruit while in gymnosperms they are naked. The spermatophyta have been recently estimated to include about 300 families, 12,500 genera and 300,000 already known species. New species are being added every year by the extended survey of the vegetation of the earth and by a more critical examination of the older materials. Evidently, the angiosperms constitute a rapidly expanding group which dominates the world of plants today.

To this vast assemblage of flowering plants must also be added thousands of new varieties, or strains, etc. which owe their origin also their perpetuation to man and to the care he bestowed upon them on account of their economic or commercial importance. The most successful and important of these plants belong to Gramineae or grass family with 7,500 species, which have colonized great areas of the earth surface in practically all sorts of soil and climatic conditions and constitute the main source of man's food supply.

The factors responsible for the success of angiosperms are :—

- (1) Their adaptability to all kinds of environments.
- (2) The production of flowers, fruits and seeds which show various adaptations for dispersal over large areas.

The conifers (gymnosperms) and other vascular plants (pteridophytes) though widely distributed are, however, not found to flourish in such diverse habitats as do the angiosperms.

Occurrence. Flowering plants exhibit a great variety of form and mode of life. Some like *Wolffia* and *Lemna* are aquatic plants forming minute discs floating in the ponds while others like *Shorea* and *Eucalyptus* are gigantic forest trees, 100 metres or more tall. Some are annuals, their life-span not exceeding a few brief weeks, while others are perennial, known for their longevity, their activities extending over centuries. They are ubiquitous, being seen at the seashore, on the very tops of high

Dicotyledons 165,000 ; Monocotyledons 55,000 ; Gymnosperms 700.