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Class : Deg. II (Hons.)

Paper : III (Group - 'B')

Topic : Family : Poaceae (Contd.)

Lecture No. 94

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• Family : Poaceae (Continued) :

• Diagnostic features of the family :

• Plants of the family Poaceae are usually herbs; root adventitious; stem hollow, cylindrical; leaves linear, lanceolate, ligulate, parallel venation; flowers zygomorphic, hypogynous, bisexual, protected by lemma and palea; perianth absent or represented by two lodicules; stamens 3; carpel one, stigma feathery; ovary unilocular with one basal ovule; fruit Caryopsis.

• Affinity of the family Poaceae :

The family closely resembles with Cyperaceae and the two families have been placed in a same order Glumiflorae by Engler and Prantle and in Glumaceae by Bentham and Hooker.

In fact, the plants of these two families have been considered by most botanists to consist of a natural assemblage.



The members of these two families are generally considered to be most advanced where the simple inflorescence and floral structures represent extreme reduction from some unknown ancestral types. It is also thought they have evolved from some primitive herbaceous ancestral stocks of unknown identities.

• Primitive characters:

- (i) A few plants are arborescent in habit.
- (ii) All florets in a spikelet are fertile.
- (iii) Glumes are persistent.
- (iv) Lemmas are herbaceous and leamy.
- (v) Stigmas are three.
- (vi) Leaves are simple and alternate.
- (vii) Flowers are hypogynous and hermaphrodite.
- (viii) Seeds are endospermic.

• Advanced characters:

- (i) Plants are mostly herbaceous, annual and perennials.
- (ii) Leaves are exstipulate.
- (iii) Flowers are arranged in distinct inflorescence.
- (iv) Flowers are small, inconspicuous and zygomorphic.
- (v) Perianth is represented by lodicules.
- (vi) Stamens are reduced to 3.
- (vii) Gynoecium is monocarpellary and unilocular.
- (viii) Basal placentation.
- (ix) Fruit is caryopsis.
- (x) Seeds are small sized.

(Complete)