Topic: Ranunculaceae
B.Sc. Botany Hons. II
Paper: III Group: B

Dr. Sanjeev Kumar Vidyarthi
Department of Botany
Dr. L.K.V.D. College, Tajpur, Samastipur
L.N. Mithila University, Darbhanga

Ranunculaceae

Floral characters

Inflorescence

The various types of inflorescences are found within the family. It may be typical raceme (Delphinium) or solitary axillary (*Clematis*) or terminal (*Anemone*) or cymose (*Ranunculus sp*.).

Flower

The flowers are pedicillate, ebracteate rarely bracteates, regular or irregular (Delphinium, Aconitum), hermaphrodite, hypogynous and pentamerous.

Calyx

In most flowers there is no distinction into calyx and corolla. It is often petaloid and coloured variously. Sepals are usually 5, caduceus or wanting,

aestivation imbricate, rarely valvate.

Corolla

Usually 5 or more, variously coloured, caduceus or wanting; nectaries at the base of petals are present (Ranunculus) or replacing petals and stamens. Aestivation is imbricate.

Androecium

Usually the number of stamens is indefinite. The stamens are free (polyandrous). They are hypogynous and arranged spirally. Mostly the anthers are extrorse, basifixed and dithecous. They dehisce laterally.

Gynoecium

It consists of indefinite carpels (polycarpellary), the carpels are free, i.e.,

apocarpous. In *Delphinium* the number of carpels is reduced to one. In *Aconitum sp*., there are three to five carpels. In *Nigella*, there are 5 to 8 carpels, which are more or less united (i.e., syncarpous).

Ovary

In each ovary the number of ovules ranges from one to many. The ovules are anatropous. The placentation is either marginal (e.g., *Delphinium*), or basal (e.g., *Ranunculus*).

Fruit

The fruit is usually either an etaerio of achenes, e.g., *Ranunculus* or an etaerio of follicles, e.g., Aconitum.

Seeds

The seeds are endospermic. Each seed contains only endosperm with a very small embryo.

Pollination

The pollination takes place either by means of insects (entomophily) or by wind (anemophily). In *Ranunculus* and others the flowers are generally protandrous. The flowers of *Delphinium* and Aconitum are pollinated by long tongued bees.

Floral Formulae:

Ranunculus: ⊕ ♂ K 5, C 5, A ∝, G ∝

Delphinium: ·|· ♂ K 5, C (4), A ∝, G $\underline{1}$

Important Plants of Ranunculaceae

i. *Ranunculus sceleratus (Butter cup)*

ii. *Delphinium ajacis (Larkspur)*

iii. *Nigella sativa (Kalonji)*

iv. *Clematis nepalensis*