

Characteristic features of Ranunculaceae:

A. Diagnostic Characters:

Herbs, leaves exstipulate, incised blades, sheathing bases, flowers hypogynous, spiral or spirocyclic; sepals often deciduous, usually petaloid; calyx and corolla free; stamens indefinite, free; carpels polycarpellary, apocarpous; fruit aggregate.

B. Vegetative Characters:

Habit:

The plants are annual or perennial herbs or a climbing shrubs (Clematis, Naravelia), rarely trees. They perennate by means of tuberous roots (Aconitum) or rhizomes.

Root:

Tap root, adventitious or tuberous (Ranunculus spp. and Aconitum). The tap root system is in the initial stage but sooner or later replaced by the adventitious roots.

Stem:

Herbaceous, in some climbing (Clematis) or underground rhizome or erect, branched.

Leaves:

Generally simple, alternate, or opposite (Clematis) exstipulate rarely stipulate (Thalictrum), sheathing leaf base, petiolate rarely sessile (Delphinium). In some aquatic species leaves may show dimorphy (Ranunculus aquatilis); unicostate or multicostate reticulate venation.

C. Floral Characters:

Inflorescence:

Solitary terminal (Anemone), axillary (Clematis), raceme (Aconitum, Delphinium) and cymose (Ranunculus spp.).

Flower:

Pedicellate, ebracteate rarely bracteate, hermaphrodite, (unisexual in Thalictrum). Mostly actinomorphic (Ranunculus) rarely zygomorphic (Delphinium and Aconitum) hypogynous, complete, pentamerous.

Calyx:

There is no distinction of calyx and corolla in most of the flowers. Sepals 5, caducous, polysepalous, petaloid, imbricate or valvate aestivation.

Corolla:

Petals 5, polypetalous, variously coloured, caducous or wanting; nectaries present at the base of petals. Petals are united to form spur (Delphinium).

Androecium:

Stamens indefinite, polyandrous, spirally arranged on the thalamus, inferior; anthers ditheous, extrorse and adnate.

Gynoecium:

Polycarpellary (one carpel in Delphinium and 3 to 5 in Aconitum), apocarpous rarely syncarpous (Nigella), ovary superior, marginal placentation (axile in Nigella).

Fruit:

Aggregate, etario of achenes (Ranunculus), etario of follicle (Aconitum), follicle (Delphinium), septicidal capsule (Nigella) or berry (Actaea), etario of drupes (Adonis), etario of berries (Hydrastis) and simple pod (Xanthorhiza).

Seed:**Pollination:**

Generally entomophilous (Delphinium, Aconitum, Aquilegia) and anemophilous in Thalictum.

Floral formula:

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