

Cannaceae family

Characters of Cannaceae:

Stem, rhizomatous, absence of ligule, Flowers asymmetrical, Zygomorphic, petaloid staminodium, half fertile stamen and warty ovary.

Scientific classification 	
Kingdom:	Plantae
Clade:	Tracheophytes
Clade:	Angiosperms
Clade:	Monocots
Clade:	Commelinids
Order:	Zingiberales
Family:	Cannaceae Juss. ^[1]
Genus:	<i>Canna</i> L.

A. Vegetative characters:

Habit: Perennial herbs, large, course.

Root: Adventitious.

Stem: Rhizome or rarely tuberous, and subterranean and underground.

Leaf: Large, cauline, foliaceous, alternate, mostly oblong to broadly elliptic; distinctly differentiated into sheath, petiole and blade, pinnately veined with prominent midrib; leaves with pulvinus like swelling.

B. Floral characters:

Inflorescence: A raceme or panicle.

Flower: Large, showy, hermaphrodite bracteate, short pedicellate, zygomorphic, epigynous.

Perianth: Six in two whorls of 3 each differentiated into calyx and corolla. Sepals three, polysepalous, persistent imbricate; petals 3, larger, connate at the base, petaloid, imbricate.

Androecium: Highly modified and comprising the showy part of flower, Stamens 6 but sometimes reduced to 4; in two whorls; only one anther lobe of one stamen (the posterior one of the inner whorl) fertile, the other anther-lobe long with the filament becoming petaloid, the other two stamens of the inner-whorl are connate to form a curved petaloid staminode-the labellum in the outer whorl, stamen (anterior) is suppressed while the two lateral ones are modified into the petaloid staminodes.

Gynoecium: Tricarpellary syncarpous, inferior, trilocular warty, multiovulate, axile placentation in each ovarian chamber in 2 series; style flattened and petaloid; stigma one and represented by a stigmatic line on the apical margin, the two lateral weak, wings sometimes interpreted as sterile stigmatic lobes.

Fruit: Loculicidal warty capsule crowned by persistent calyx.

Seed: Subglobose small with copious mealy perisperm and scanty endosperm.

Pollination: Entomophilous, insects are attracted by petaloid staminodes which act as flag apparatus; and honey secreted by the sepal glands and accumulated at the base of the petals.

Morphology of flower:

The flower is asymmetrical, the sepals and petals are unequal, the latter is coloured. The labellum is rolled at the apex and is made up of connation of two lateral stamens of the inner whorl, the fertile stamen bearing half anther at its tip represents the medium posterior third member. According to Eichler all the stamens of the outer whorl are suppressed; the staminodes and the fertile stamen belong to the inner whorl. According to the interpretation of other authors 6 stamens are disposed in two whorls, 2-3 stamens of the outer whorl are modified as petaloid staminodes known as wings, the labellum and the fertile stamen bearing 1/2 anther belong to inner whorl; the labellum is developed as a result of fusion of two stamens.

Floral formula: $\frac{o | o \ \text{♂} \ K_3 \ C_3 \ A_{1/2}}{G_{(3)}}$



Fig. 105.1. *Canna indica* L. A. Upper portion of the plant bearing flowers. B. Flower; s, sepal; p, petal; ov, ovary; sg, style and stigma (style is petaloid); pst, petaloid staminode of the outer whorl; stm, fertile stamen with petaloid filament and its half anther 'an' (Note the labellium—the curved petaloid staminode of the inner whorl between 'sg' & 'p'). C. Fruit. D. Floral diagram; s, sepal; p, petal; fs, fertile stamen with 1/2 anther; pst, one of the petaloid staminodes of the outer whorl; lb, labellum—the curved petaloid staminode of the inner whorl; g, trilocular gynoecium. (Original).

Distribution of Cannaceae:

Cannaceae or canna family is a monotypic family containing single genus *Canna* with about 60 species, the original home of *Canna* is tropical and subtropical America. One species *Carina bidentata* is tropical African. *Canna indica* is a favourite garden plant, cultivated in almost all parts of the world.

Economic Importance of Cannaceae:

1. Food: The rhizome of *Canna edulis* is used as foodstuff for starch, it contains.
2. Ornamental: *Canna indica* is a favourite garden plant, cultivated in almost all parts of the world.

Common plants of the family:

1. *Canna indica* (syn. *C. orientalis*) – Verna: Kali-Indian shot cultivated for showy flower.
2. *Canna edulis* – Queensland arrowroot.