Ipomoea

More than 600, see list

Ipomoea (/■■p■■mi■.■, -o■-/)[3][4] is the largest genus in the plant family Convolvulaceae, with over 600 species. It is a large and diverse group, with common names including morning glory, water convolvulus or water spinach, sweet potato, bindweed, moonflower, etc.[5] The genus occurs throughout the tropical and subtropical regions of the world, and comprises annual and perennial herbaceous plants, lianas, shrubs, and small trees; most of the species are twining climbing plants.

Their most widespread common name is morning glory, but some species in related genera bear that same common name and some Ipomoea species are known by different common names. Those formerly separated in Calonyction[6] (Greek καλ■ς kalós "good" and ν■ξ, νυκτ■ς núx, nuktós, "night") are called moonflowers.[5] The name Ipomoea is derived from the Greek ■ψ, ■π■ς (íps, ipós), meaning "woodworm", and ■μοιος (hómoios), meaning "resembling". It refers to their twining habit.[7]

Human uses of Ipomoea include:

Humans use Ipomoea spp. for their content of medical and psychoactive compounds, mainly alkaloids. Some species are renowned for their properties in folk medicine and herbalism; for example, Vera Cruz jalap (I. jalapa) and Tampico jalap (I. simulans) are used to produce jalap, a cathartic preparation accelerating the passage of stool. Kiribadu ala (giant potato, I. mauritiana) is one of the many ingredients of chyawanprash, the ancient Ayurvedic tonic called "the elixir of life" for its wide-ranging properties.

The leaves of I. batatas are eaten as a vegetable, and have been shown to slow oxygenation of LDLs, with some similar potential health benefits to green tea and grape polyphenols.[11]

Other species were and still are used as potent entheogens. Seeds of Mexican morning glory (tlitliltzin, I. tricolor) were thus used by Aztecs and Zapotecs in shamanistic and priestly divination rituals, and at least by the former also as a poison, to give the victim a "horror trip" (see also Aztec entheogenic complex). Beach moonflower (I. violacea) was also used thusly, and the cultivars called 'Heavenly Blue', touted today for their psychoactive properties, seem to represent an indeterminable assembly of hybrids of these two species.

Ergoline derivatives (lysergamides) are probably responsible for the entheogenic activity. Ergine (LSA), isoergine, D-lysergic acid N-(α-hydroxyethyl)amide and lysergol have been isolated from I. tricolor, I. violacea and/or purple morning glory (I. purpurea); although these are often assumed to be the cause of the plants' effects, this is not supported by scientific studies, which show although they are psychoactive, they are not notably hallucinogenic.[citation needed] Alexander Shulgin in TiHKAL suggests ergonovine is responsible, instead. It has verified psychoactive properties, though as yet other undiscovered lysergamides possibly are present in the seeds.

Though most often noted as "recreational" drugs, the lysergamides are also of medical importance. Ergonovine enhances the action of oxytocin, used to still post partum bleeding. Ergine induces drowsiness and a relaxed state, so might be useful in treating anxiety

disorder. Whether Ipomoea species are useful sources of these compounds remains to be determined. In any case, in some jurisdictions, certain Ipomoea are regulated, e.g. by the Louisiana State Act 159, which bans cultivation of I. violacea except for ornamental purposes.

Many herbivores avoid morning glories such as Ipomoea, as the high alkaloid content makes these plants unpalatable, if not toxic. Nonetheless, Ipomoea species are used as food plants by the caterpillars of certain Lepidoptera (butterflies and moths). For a selection of diseases of the sweet potato (I. batatas), many of which also infect other members of this genus, see List of sweet potato diseases.

The species of Ipomoea interfere with each other's pollination. Pollen from different species compete in each other's reproductive processes, imposing a fitness cost.[12]

Whitestar potato (I. lacunosa)

Ipomoea carnea in Brazil

I. barbatisepala

Ipomoea cairica

Ipomoea cordatotriloba

Ipomoea indica

Ipomoea macrantha

Ipomoea marginata

Ipomoea mauritiana

Purple cultivar of Ipomoea indica

Ipomoea obscura

Ipomoea pandurata

Ipomoea pes-caprae in China

Ipomoea purpurea

Ipomoea sagittata in Florida

Ipomoea purpurea, Eastern Siberia

Ipomoea campanulata, India.