

Gymnema sylvestre

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Gymnema sylvestre **R.Br.** is a herb native to the tropical forests of southern and central India where it has been used as a naturopathic treatment for diabetes for nearly two millennia. Sanskrit Name : Meshasringi, Madhinasini or madhoolika, Hindi: Gurmar, Tamil and Malayalam are Sirukurinchaan(சிறுகுறிஞ்சான்), Amudhapushpam, Chakkarakkolli.

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Description

Large climbers, rooting at nodes, leaves elliptic, acuminate, base acute to acuminate, glabrous above sparsely or densely tomentose beneath; Flowers small, in axillary and lateral umbel like cymes, pedicels long; Calyx-lobes long, ovate, obtuse, pubescent; Corolla pale yellow campanulate, valvate, corona single, with 5 fleshy scales. Scales adnate to throat of corolla tube between lobes; Anther connective produced into a membranous tip, pollinia 2, erect, carpels 2, unilocular; locules many ovuled; Follicle long, fusiform

Chemical composition

The major bioactive constituents of *Gymnema sylvestris* are a group of oleanane type triterpenoid saponins known as gymnemic acids. The latter contain several acylated (tigloyl, methylbutyroyl etc.,) derivatives of deacylgymnemic acid (DAGA) which is 3-O-glucuronide of gymnemagenin (3, 16, 21, 22, 23, 28-hexahydroxy-olean-12-ene)². The individual gymnemic acids (saponins) include gymnemic acids I-VII, gymnemosides A-F, gymnemasaponins

Extra Information -

G. sylvestre leaves contain triterpene saponins belonging to oleanane and dammarene classes. Oleanane saponins are gymnemic acids and gymnemasaponins, while dammarene saponins are gymnemasides. Besides this, other plant constituents are flavones, anthraquinones, henti-acontane, pentatriacontane, α and β -

Gymnema sylvestre



in Rangareddy district of Andhra Pradesh, India.

Scientific classification

Kingdom:	Plantae
(unranked):	Angiosperms
(unranked):	Eudicots
(unranked):	Asterids
Order:	Gentianales
Family:	Asclepiadaceae
Genus:	<i>Gymnema</i>
Species:	<i>G. sylvestre</i>

Binomial name

Gymnema sylvestre
R. Br.

chlorophylls, phytin, resins, d-quercitol, tartaric acid, formic acid, butyric acid, lupeol, β -amyrin related glycosides and stigmasterol. The plant extract also tests positive for alkaloids. Leaves of this species yield acidic glycosides and anthroquinones and their derivatives.

Gymnemic acids have antidiabetic, antisweetener and anti-inflammatory activities. The antidiabetic array of molecules has been identified as a group of closely related gymnemic acids after it was successfully isolated and purified from the leaves of *Gymnema sylvestre*. Later, the phytoconstituents of *Gymnema sylvestre* were isolated, and their chemistry and structures were studied and elucidated.

Use as herbal medicine

While it is still being studied, and the effects of the herb are not entirely known, the herb has been shown to reduce blood sugar levels when used for an extended period of time. Additionally, *Gymnema* reduces the taste of sugar when it is placed in the mouth, thus some use it to fight sugar cravings. From extract of the leaves were isolated glycosides known as Gymnemic acids, which exhibit anti-sweet activity.^[1]

This effect lasts up to about 2 hours. Some postulate that the herb actually reduces cravings for sugar by blocking sugar receptors in the tongue, but no scientific studies have supported this hypothesis. It is currently being used in an all natural medication for diabetes with other ingredients such as cinnamon, chromium, zinc, biotin, banaba plant, huckleberry and bitter melon.

The active ingredient is thought to be gurmenic acid which has structure similar to saccharose. Extracts of *Gymnema* is not only claimed to curb sweet tooth but also for treatment of as varied problems as hyperglycemia, obesity, high cholesterol levels, anemia and digestion. According to the Sushruta of the Ayurveda it helps to treat Madhumeha ie glycosuria.

In 2005, a study made by King's College, London, United Kingdom, showed that a water-soluble extract of *Gymnema Sylvestre*, caused reversible increases in intracellular calcium and insulin secretion in mouse and human β -cells when used at a concentration (0.125 mg/ml) without compromising cell viability. Hence forth these data suggest that extracts derived from *Gymnema Sylvestre* may be useful as therapeutic agents for the stimulation of insulin secretion in individuals with Type 2 Diabetes.^[2]

Alternative names

The plants also goes under many other names such as; Gurmari, Gurmarbooti, Gurmar, periploca of the woods and Meshasringa. The Hindi word Gur-mar (Madhunaashini in Sanskrit, Chakkarakolli in Tamil), literally means sugar destroyer. Meshasringa (Sanskrit) translates as "ram's horn", a name given to the plant from the shape of its fruits. *Gymnema* probably derives from the Latin word meaning naked and *sylvestre* means from the forest.

See also

- *BetaFast*
- *Gymnema lactiferum*
- *Sugarest*

References

- ¹ ^ AD kinghorn and CM Compadre. Less common high-potency sweeteners. In Aternative Sweeteners: Second

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External links

- Monograph By Dr. Ajay Padmawar (<http://www.amrutaherbals.com/specifications/Gudmar/detail.htm>)

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