

# Tabernaemontana elegans

## Toad tree



As a medicinal plant it has a variety of uses. **The coagulated milky sap is used as a styptic, and root infusions are drunk as an aphrodisiac as well as a remedy for lung ailments and stomach ache.** In addition, a maceration of the roots is taken twice daily to treat tuberculosis.

Tabernaemontana elegans is a shrub or a tree growing 1.5 - 15 metres tall. The bole can be 5 - 30cm in diameter.

The fruit, which is considered a delicacy in parts of Africa, is gathered from the wild for local use, whilst the plant also has a range of local medicinal uses. Tabernaemontana elegans is an unusual, but attractive garden tree with its sweet-smelling flowers and unusual fruits covered in brown warts, giving it the look of a toad's skin.

### Edible Uses

Fruit - raw. The juicy, orange-coloured pulp tastes somewhat like Citrus fruits. The orange, slimy fruit pulp is relished by some people.

The fruit is used for curdling milk. When put into milk it speeds the curdling process.

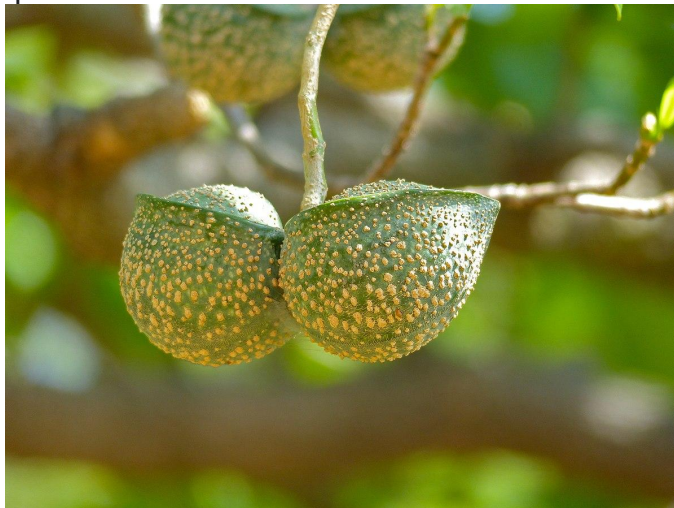
#### Medicinal

The seeds, stem bark and roots are used for treating heart diseases.

The powdered root bark or fruits are used to treat cancer.

The coagulated latex or pulverized root mixed with vaseline is applied as a styptic.

A root decoction is applied as a wash for wounds and is taken as a remedy for pulmonary diseases and chest pains. A maceration of root ash is drunk to treat tuberculosis and stomach-ache. A root maceration acts as a purgative. Burnt root powder mixed with salt and water is used as a vaginal wash to treat menorrhagia, infertility and venereal diseases. In Zimbabwe a root decoction is taken as an aphrodisiac.



The phytochemically important compounds of the root bark are the monomeric indole alkaloids dregamine and tabernaemontanine, and the bisindole alkaloids conoduramine and tabernaelegantines.

The tabernaelegantines are rare in other *Tabernaemontana* species, and are thus reliable chemotaxonomic markers for this species.

The main components of the aerial parts are dregamine, tabernaemontanine and vobasine, followed by apparicine and tabernaelegantine A and B. Minor components are dregaminol, tabernaemontanine, tabernaemontaninol, 3-hydroxyconodurine and tabernaelegantine C and D.

The alkaloids 3-Hydroxyconodurine, 3-hydroxycoronaridine, conoduramine and apparicine show strong inhibitory activity against a range of gram-positive and gram-negative bacteria.

Dregamine shows convulsant and respiration-stimulant activities. It also inhibits muscular fatigue in vitro and in vivo comparable to ibogaine from *Tabernanthe iboga*. It has been used in treatments of muscular and nervous asthenia, respiratory depression and type III poliovirus (HPV-3).

Apparicine has also shown strong activity against type III poliovirus, as well as significant cytotoxicity against P-388 lymphocytic leukaemia cell cultures.

Apparicine has shown opioid activity in opiate receptor studies.

Tabernaemontanine has a vasodilatory effect and can be used in humans in cases of arteriosclerosis, cerebral trauma and circular irregularities. It shows antibacterial activity against several human pathogenic bacterial strains, and is cytotoxic to human nasopharyngeal epidermoid carcinoma cells in vitro.

Vobasine exhibited little activity in general pharmacological screening tests.

#### Other Uses

A latex is tapped from the plant. It is used as a glue for arrow heads and for medicinal purposes.

The wood is white and easy to work. It is used for making spoons, knife and sword handles, bows and arrows, building poles and pegs for animal traps. The wood is used for fuel.

