

Last updated: 20th September 2002

COMMON SNAPDRAGON

Family: *Scrophulariaceae*

Genus: *Antirrhinum*

Species: *majus*



Source: (<http://www.mpiz-koeln.mpg.de/~stueber/snapdragon/snapdragon-general.html>)

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General Background

Synonyms: Snapdragon, lion's mouth, rabbits mouth, toad's mouth, dragon's mouth. Danish = løvemule, Dutch = leeuwenbekken, German = Löwenmäulchen, French = gueule de lion, Italian = bocca di leone, Spanish = boca de dragon, Swedish = lejonmuler.

A perennial herb 30 - 80 cm, often becoming woody at the base but usually not for long. The plant is branched at the base and of bushy habit. The shoot is naked at the base and carries gland hairs further up. Leaves pairwise opposite, are 3 - 5cm, lanceolate or linear lanceolate and entire, their form is elongated, pointed, smooth rimmed with a short stem and nude. Flowers sit on a very short stem and are in a terminal raceme, in the axils of short sessile ovoid bracts. The calyx lobes are ovate. The corolla is 3 - 4 cm and several times as long as the calyx. The capsule is longer than the calyx. Flowers are reddish-purple in the wild, continental plant, and more rarely yellowish-white. Flowers are pollinated by bumble bees and are homogamous.

The natural distribution of the snapdragon is Southern Europe, the Mediterranean region, Syria and Northern Africa. The Snapdragon has been introduced into the UK and it is naturalized in central Europe. It is commonly cultivated in gardens in many colour and habit varieties.

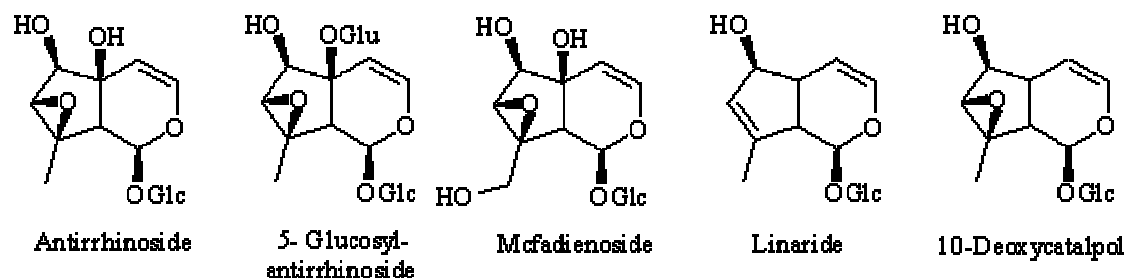
Details of Quality Characteristics

Joint research between the Royal Danish School of Pharmacy, Danish Technical University and Danish Institute of Agricultural Sciences is looking at *Antirrhinum majus* for its antirrhinoside content.

Antirrhinoside is one of the main constituents in *Antirrhinum majus*. It is an iridoid glucoside which is of terpenoid origin and it can be isolated in up to 1.5% of wet weight in some varieties of snapdragons. Iridoids are usually found in Sympetalous

plant families, but antirrhinose is only rarely found outside Scrophulariaceae /Antirrhinae.

The structure of antirrhinoside and other iridoids from the genus *Antirrhinum* are:



Antirrhinoside has been studied in terms of structural features and compared to a selection of known biologically active compounds. The study has shown that antirrhinoside can easily be converted into analogues of these compounds using simple chemistry. The general advantage of using an iridoid as synthon is that products can be obtained in enantiomeric form without the use of any expensive chiral agents.

Isolation procedures have been identified and the possibility of converting iridoids to chiral building blocks for new pharmaceutical drugs, e.g. anti-HIV drugs such as carbovir and BCA, is being investigated.

The following is a list of flavonoid substances detected in *Antirrhinum majus*, (snapdragons) (as published in Harborne J.B. 1963):

Anthocyanidins

Flavonols

Flavones

Aurones

Flavanones

Cinnamic acids

Source <http://www.mpiz-koeln.mpg.de/~stueber/snapdragon/biochemistry/flavonoids.html>

Current Production and Yields

Antirrhinum majus is not produced commercially.

Constraints upon Production

Common snapdragon will only grow in sunny, relatively dry areas. It requires well drained, light soils although it can grow on heavy clays and in nutritionally poor soils with reduced productivity.

Markets and Market Potential

Commercial markets for *Antirrhinum majus* are not yet developed.

Medical uses include as a diuretic, a treatment for scurvy, liver disorders, tumors and as a detergent and astringent.

Other Information

The crop should be sown indoors in spring and then be planted out in summer, alternatively in the warmer areas the crop can be sown in situ in July-August. The crop will then be ready for harvest from September. Fertility requirements of the crop are relatively low however weed control is important in the early season, particularly when the crop is sown directly in situ. Due to the bright red nature of the flowers the plants appear very attractive to bees and insects, they are also good for a wide range of wildlife, particularly small birds.

Research

Useful Websites

<http://www.mpiz-koeln.mpg.de/~stueber/snapdragon/snapdragon-general.html>

BioMat Net

[John Innes Centre](#)

Contacts

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References

Clapham, W.R., Tutin, T.G., Warburg, E.F. (1962). Flora of the British Isles. Cambridge University Press.

Harborne, J. B., 1963. Plant polyphenols X Flavone and Aurone glycosides of *Antirrhinum*. *Phytochemistry* 2, 327-334.

