

# *Andrographis paniculata* (Burn.f) Wall ex.Nees.

**Synonyms** : *Justicia paniculata* Burm.f.

**Family** : Acanthaceae

**Group** : Antidiabetic, Hepatoprotective, Antipyretic

**Parts Used** : Whole plant

## **Vernacular Names**

English : Green chiretta

Malayalam : Kiriyaathu, Nilaveppu

Hindi : Kalamegh

Sanskrit : Bhunimbah



**Distribution and habitat:** Throughout the tropics. In the plains of India from Uttar Pradesh to Assam, Madhya Pradesh, Andhra Pradesh, Tamil Nadu and Kerala.

**Botany:** An erect branched annual herb, 0.3 m- 0.9 m in height with quadrangular branches.

• **Leaf:** 1.2-2.5 cm, simple lanceolate, acute at both ends, glabrous, main nerves 4-6 pairs; petioles 0-6 mm long.

• **Flower:** Small, pale but blotched and spotted with brown and purple distant in lax spreading axillary and terminal racemes or panicles, the whole forming a large pyramidal paniculate inflorescence; Pedicels 0.8- 4 mm long, glandular-pubescent. Calyx- 3 mm long, lobes glandular pubescent, sepals equal, linear lanceolate, glandular pubescent; corolla rose coloured, 1 cm long, hairy out side, tube 5 mm long, filaments flattened in the upper part, ovary glabrous, anthers bearded at the base.

• **Fruit:** Linear capsules, 20-30mmx3 mm, linear oblong, acute at both ends.

• **Seed:** Numerous, yellowish brown, .2 mm in Diameter, sub- quadrate.

## **Chemical constituents:**

• Leaves contain two bitter lactone substances andrographolide, kalmeghin, homoandrographolide, andrographosterol and andrographone.

• Kalmeghin is the active principle that contains 0.6% alkaloid of the crude plant.

• The plant contains diterpenoids, andrographolide, 14-deoxy-11-oxo-andrographolide, 14-deoxy-11,12-dihydroandrographolide, 14-deoxy andrographolide and neoandrographolide.

• The roots give flavones-apigenin-7,4-dio-O-methyl ether, 5-hydroxy-7,8,2',3'-tetramethoxyflavone, andrographin and panicolin and a-sitosterol.

**Uses:** Hyperdipsia, burning sensation, wounds, ulcers, chronic fever, malarial and intermittent fevers, inflammations, cough, bronchitis, skin diseases, leprosy, pruritis, intestinal worms, dyspepsia, flatulence, colic, diarrhoea, haemorrhoids and vitiated conditions of *pitta*. It is used to overcome *sannipata* type of fever, difficulty in breathing, hemopathy due to the morbidity of *kapha* and *pitta*, burning sensation, cough, oedema, thirst, skin diseases, fever, ulcer and worms. It is also useful in acidity and liver complaints.

**Formulations:** Leaves contain homoandrographolide, andrographosterol and andrographone. *Tiktakagheta*, *Gorocandi gulika*, *Candanasava*, *Panchatiktam kasaya* etc. A preparation called "Alui" is prepared by mixing powdered cumin and large cardamom in the juice of this plant and administered for the treatment of malaria. It is also a rich source of minerals.

## **Agrotechnology**

**Propagation:** Seeds and cuttings

**Cultivation:** The best season of planting is May-June. Seeds are to be soaked in water for 6 hours before sowing. Sowing is to be done at a spacing of 20 cm. Seeds may germinate within 15-20 days.

**Harvest:** Flowering commences from third month onwards. At this stage, plant are to be collected, tied into small bundles and sun-dried for 4-5 days. Whole plant is the economic part and the yield is about 1.25t dried plants/ha.

