Review Article

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GRAHANIBEELU (*LEUCAS BIFLORA* [VAHL] R. BR) AN EXTRA PHARMACOPEIAL DRUG OF AYURVEDA: AN OVERVIEW

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ABSTRACT

Nature is nurture. Since time immemorial, Folk medicines have been the traditional beliefs of our ancestors to protect their health with the help of herbal and other remedies; like Ayurveda, folk medicines serve both preventive and curative purposes. One such medicine is *Grahanibeelu* (*Leucas biflora* [Vahl] R. Br), an ethnomedicinal plant, a flora of Udupi, known for its nutritional and curative value among localities extensively used in the treatment of underweight children which has a role on *Grahani* (malabsorption syndrome), *Karshya* (underweight), *Aruchi* (tastelessness), *Agnimandya* (weak digestive power), *Jwara* (fever), etc. is reviewed from various books, thesis and articles. This article collectively enlightens on the usefulness and study of the drug *Grahanibeelu.*

Keywords: *Grahanibeelu* (*Leucas biflora* [Vahl] R.Br), *Grahani*, *Karshya*.

INTRODUCTION

Ayurveda stressed to utilize the knowledge and experience in drug identification by herders of goat-sheep cows, hermits, forest dwellers, etc[1]. Folklore medicine includes herbal and other remedies used for various disorders. Among these traditional medicines of Udupi, *Grahanibeelu* (*Leucas biflora* [Vahl] R. Br) serves both preventive and curative purposes. As the name implies, *Grahanibeelu is indicated* in *Grahani vikara* (Malabsorption syndrome) and its nature of growth pattern profile (branches from the base and spreads on the ground)[2].

As classical Ayurvedic references are not available, but traditionally it is identified as *Grahanibeelu* (Kannada), *Jodibhurambhi* (Marathi), *Khomosa* (Kokborok- native language of Tripura), Lotdron (Bengali) in different places of India and is used in various disorders like conjunctivitis, fever, leucorrhea, underweight etc. It is used in the form of *Tambuli* (culinary dishes) by localities and plays a vital role in nutritional disorders, especially among underweight children. Research like plant survey studies and analytical, experimental and clinical study has been done on *Grahanibeelu* herbal drug.

Overview of *Grahanibeelu*

The conceptual study on *Grahanibeelu* (*Leucas biflora* [Vahl] R. Br) and its properties are reviewed with the help of articles, thesis, and various books.

Source /Availability of plant: Growing in patches in moist shady forests, humid regions, hilly areas, the Deccan peninsula and the Western Ghats of India, Sri Lanka and Bangladesh.

Phenology: Throughout the year, abundantly in the rainy season.

Morphology: Slender procumbent herb [Figure 1 and 2], branches long, pubescent. Leaves up to 4×2 cm, ovate or elliptic, rounded or cuneate at base, obtuse or acute at apex, crenate, pubescent on both sides; petioles short. Verticils lax, usually 2-4 flowered. Calyx is 6-8mm long tubular- campanulate; mouth straight, 10 toothed; teeth subulate. Corolla up to 16 mm long, tube 7-8 mm long. [3]

Figure 1

Figure 2

Taxonomical study
Kingdom- Plantae
Division- Spermatophyta
Subdivision- Angiospermae
Class- Dicotyledonae
Order- Lamiales
Family- Lamiaceae
Genus- *Leucas*
Species- *biflora*

Botanical name: *Leucas biflora* [Vahl] R. Br.
Family: Lamiaceae

Vernacular name
Grahanibeelu (Kannada)
Jodibhurambhi (Marathi)[2]
Khomosa (Kokborok- native language of Tripura)[4]
Lotdron (Bengali)[4]

Rasapanchaka: The information is documented from the MD thesis. [2]

Rasa (*Nipata* method): *Pradhana rasa- Tikta, Katu*
Anurasa- Madhura
Guna (based on *Rasa and Panchabhautika* configuration): *Laghu, Ruksha and Teekshna*
Veerya (by Rasanendriya [Gustatory organ] and animal study): *Ushna*
Vipaka (Animal experiment- *Vipaka* method and clinical trial in patients of *Grahani*): Based on increased food intake (*Agnivruddhi*) & decreased faecal output- Katu vipaka
Doshaghnata: Kapha-Vata Shamaka.
Therapeutic indications: *Karshya, Aruchi, Agnimandya, Grahani, Jwara.*
Parts used: the whole plant.

Physicochemical Analysis

Macroscopic: Colour- green
Odour- odourless
Taste- slightly bitter
Texture- rough hairy
Shape- ovate, apex: sub- acuminate and margin: serrate. [5]

Aqueous extract: dry, dark brown, pH- 6, yield- 7.2%
Total Ash- 13.75%,
Acid insoluble Ash- 3.87%
Water soluble Ash- 4.50%
Moisture content: 2.00%
Phytochemical screening (Aqueous extract): Presence of carbohydrates, glycosides, saponins, flavonoids and tannins.

Ethno-medicinal usage

Skin diseases: *L.biflora* whole plant paste with coconut oil[6].

North-East India
1) Conjunctivitis: leaf decoction as eye drop twice daily.
2) Epistaxis (bleeding from the nose): *Swarasa* extracted from leaves of *Grahanibeelu* and *Brahmi* into nostrils during bleeding.
3) Leucorrhea: chew 4-5 leaves of *Grahanibeelu* with beetle leaf. [4]

In Southern India (Udupi)
1) *Ajeerna*(indigestion) and for weight gain - whole plant *Kalka* or *Swarasa* with buttermilk or warm water.
2) *Agnimandya* (weak digestive power) and for weight gain *Avaleha*.
3) *Grahani- Churna*/ *Swarasa* / culinary dish with buttermilk or warm water.
4) *Purana Jwara*- paste 4-5 flowers of *Grahanibeelu* with milk until the fever subsides. [2]

Kalpana: *Leha* preparation is documented in the PhD thesis
The fresh plant is washed and boiled in cow's milk. Ground well and fried in cow's ghee. Sugar candy, Jaggery, and raisins are added and then gently heated until it attains the expected *Leha* form. Mix honey after completely cooled. It increases digestion and liver function and strengthens the muscles. [7]

As food: 1) Fresh plant processed in ghee with sesame and black gram. 2) Fresh plant paste with buttermilk. [2]

Dosage
Churna: 250 mg in children up to 2 years of the child,
1-2 gm twice in adults.
Swarasa: 0.5 ml once a day for 3-6 months,
2-3 ml twice in adults. [2]
Avaleha: 2-5 gm till one year.
5-10 gm after one year,
10-15 gm in adults. [7]

***Anupana*:** Fresh raw milk/ boiled milk/ buttermilk/ cow's urine/ black pepper and cumin seeds are always used along with the drug.

Research updates: Synthesis of silver nanoparticles by extract of *Leucas biflora* [Vahl] are studied on breast cancer cells[8].

DISCUSSION

Grahanibeelu is a folklore medicine used for *Grahani*, *Karshya, Aruchi, Agnimandya,* etc. In *Grahani,* due to *dooshita agni* (impaired digestive power), it cannot digest even light food due to *ajeernadi* etiological factors[9]. *Karsya* is one of the *apatarpanajanyavyadhi* (catabolism); due to *vataprakopa, upashoshana* of *rasadhatu* occurs at *pachakagni* and *dhatwagni* level and leads to gradual emaciation. Suppose it is left untreated results in *Pleeha roga* (splenic diseases)*, Kasa* (cough)*, Kshaya* (wasting)*, Shwasa* (dyspnoea)*, Gulma* (abdominal tumour), etc[10]. *Grahanibeelu* possess *tikta, katu rasa, madhura* as *anurasa, laghu, ruksha guna* and *katu vipaka* it does *Kapha Vata shamana. Tikta rasa* has *deepana* and *pachana,* which rectifies *agni* and maintains compactness of *dhatus,* as it contains *anurasa* as *madhura,* which does *brahmana*. In the presence of normal functioning of *agni*, it nourishes *dhatu* and promotes *ojas*, *bala, kanti,* etc[11]. Hence *dhatuposhana* (nourishment of tissues) helps to gain weight as it is devoid of any unpleasant taste and odour, more palatable and suits children as food and medicine. Further

to exploring its action on eye disorders, nutritional value and gynaecological disorders like leucorrhea will be addressed.

CONCLUSION

Folklore medicines play a significant contribution to various common diseases. Ethno-medicinal plant *Grahanibeelu* plays a vital role in the digestive system, from correcting digestive fire to malabsorption. Thus, based on its properties and actions, it serves as preventive and curative aspects. On review of *Grahanibeelu* (*Leucas biflora* [Vahl] R. Br) from various articles, thesis and books able to compile its taxonomical classification, *rasapanchaka,* indications, preparations, dosage and mode of action. This will be helpful for further clinical applications.

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