

## A CRITICAL REVIEW OF *MUNDI* (*SPHAERANTHUS INDICUS* LINN)

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### ABSTRACT

*Mundi* is one of the most important among the commonly used herbs in traditional system of medicine. It is a versatile herb having multidimensional use. Ayurvedic *nighantus* are clearly mentioned *Mundi* in detail with specific synonyms and therapeutic indications. In this study we try to assemble all the information about *mundi* mentioned in Ayurvedic *nighantus*.

**Keywords:** *Mundi*, *Nighantu*

### INTRODUCTION

*Mundi*<sup>[1]</sup> is a very much important herb in Ayurvedic system of medicine belonging to family *compositae*. Two different species of *mundi* mentioned in Ayurveda. The different medicinal preparations of *mundi* are used in various somatic, psychosomatic and life-style disorder of human being since times immemorial. Systematic and proper use of *mundi* can cure various lives threatening disorder. It has definite role as a *rasayana* and immune booster. Few Selective herbs are mentioned in ayurveda having pharmacological action on *tridosha* – *mundi* is one of them. It has *Tikta*, *Katu Rasa*; *laghu-rukhya guna*; *usna virya* and *katu vipaka*. Ayurvedic *Nighantus* broadly described about *mundi* like honeycomb with origin to therapeutic indications.

**Synonyms of *Sphaeranthus indicus* Linn (*Mundi*) in different *Nighantus*:**

***Bhavprakash Nighantu*<sup>[2]</sup>:** *Bhiksu*, *Mundatikta*, *Savrni*, *Tapodhan*, *Shrvanhava*, *Mundi*, *Sroban sirshika*.

***Dhanwantar Nighantu*<sup>[3]</sup>:**

*Mundi*, *Vikshu*, *Srobansirshika*, *Srabani*, *Srobonagja*, *Probrojita*, *Paribrazi*, *Lobhaniya*, *Topodhona*, *Kadamba puspika*, *Chinnagranthinika*.

***Kaidev Nighantu*<sup>[4]</sup>:** *Alambusa*, *Kulahala*, *Srimati*, *Chanchula*, *Vara*, *Mahamundi*, *Mundinika*, *China*, *Gandhanika*, *Aruna*, *Kadambapuspi*, *Godhag*, *Bodhvriksha*, *Tapodhan*, *Nichay kadambo*, *Botostho*, *Sthobir*, *Srabani*

**Madanpal Nighantu**<sup>[5]</sup>: Mundi, vikshu, parivraji, pavrani, srobansirshika, srimati, srabani, pabani, tikta,

**Saligram Nighantu**<sup>[6]</sup>: Mundi, mahamundi, mahasrabani, vukadambo.

**RajNighantu**<sup>[7]</sup>: Mahasravanika, mahamundi, Lovhani, kadambapuspi, Vikacha, korchura,

palankasa, Nadikadamba, Munda, maha mundatika, china, granthinika, mata, sthvira, lomani, bhukadamba, alambhusa,

**Priya Nighantu**<sup>[8]</sup>: Mundi,

**sankar nighantu**<sup>[9]</sup>: Botostho, gorakgh mundi.

**Nighantu adarsha**<sup>[10]</sup>: Mundi, alambusa, srabani, mundatikta, mahasrabani, vukadamo.

**Table 1:** National and international name of *Mundi* (*Sphaendnthus indicus*):

National Name <sup>[14]</sup>	International Name <sup>[13]</sup> :
<b>Assam:</b> Kamadarus	<b>Pers:</b> Zakhimi-i-hyat
<b>Bengali:</b> Surmuriya	<b>Arab:</b> Kamazariyus
<b>Gujrathi:</b> Gorakhmundi	<b>Canada:</b> Karandagida
<b>Hindi:</b> Mundi	
<b>Kanada:</b> Karande	
<b>Malayalam:</b> Manni	
<b>Marathi:</b> Mundi	
<b>Oriya:</b> Buikadam	
<b>Punjabi :</b> Gorakh munda	
<b>Tamil:</b> Karandai	
<b>Telegu:</b> Bodasarumu	
<b>Urdu:</b> Mundi	

**Distribution**<sup>[12]</sup>: It is found abundantly in damp situations in the plains all over India, ascending to an altitude of 1500 m in the hills, especially as a weed in the rice – fields.

**Botanical Description**<sup>[11]</sup>:

Mundi is a brain tonic, locally known as mudmudiya, karaguee, bad, tarapu. Mundi grows in rice fields after the crop is harvested. The shrub grows 15 – 30 cm high and is scented.

**Leaves:** Round and composite without stalk and hairy like velvet, 3 – 6 cm long, oblong shaped.

**Flower:** Stalk 12 – 18 cm long, bears round inflorescence of violet colour. Flowering occurs in winter followed by fruiting. One of the varieties called mahashravani or mahamundi.

**Description**<sup>[14]</sup>:

**Macroscopic:**

**Root:** Pieces 5 to 15 cm long and 0.3 to 0.5 cm thick, a few branching, smooth, slender, somewhat laterally flattened, grayish-brown, fracture, short, odour, not characteristic, taste, slightly bitter.

**Stem :** Pieces 10 to 30 cm long, 0.2 to 0.4 cm thick, branched, cylindrical or somewhat flattened with toothed wings, rough due to longitudinal wrinkles, externally brownish – black to brownish – green, internally creamish-grey, fracture, fibrous, odour nil, taste bitter.

**Leaf:** Sessile, recurrent, 2 to 7 cm long, 1 – 1.5 cm wide, obviate-oblong, narrowed at the base, dentate or serrate, hairy, greenish-brown, odorless, taste, bitter.

**Flower:** Globosely, head about 1.5 cm long and about one cm in diameter, purplish-brown with linear involucre bracts which are shorter than the head

and ciliate at apex, peduncle with toothed rings, outer female flowers 12 – 16, inner bisexual 2 or 3, corolla female 2-toothed, ovary, inferior, carpel's 2, style arms connate.

**Fruit:** Achene, smooth, stalked.

**Microscopic:**

**Root:** Epidermis single layered, rectangular, secondary cortex composed of oval to tangentially elongated, thin-walled, parenchymatous cells having aerenchyma polygonal cells, a large number of groups of lignified phloem fibers found scattered in this zone, central portion occupied by lignified secondary xylem having usual elements, vessels simple pelted, starch grains simple, round to oval with concentric striations and distinct hilum, measuring 13 to 27  $\mu$  in diameter, present in secondary cortex.

**Stem:** Epidermis single layered covered with thick cuticle, cortex consisting of 4 to 6 layers of oval to polygonal, thin-walled, parenchymatous cells, endodermis single layers of barrel-shaped cells, pericyclic fibres, lignified arranged in discontinuous ring, secondary phloem narrow, having usual elements, groups of cellulosic fiber scattered in this zone. Secondary xylem composed of usual elements. Vessels with spiral thickening or simple pitted, pith very wide composed of oval to polygonal, thin-walled, parenchymatous cells.

**Leaf:** Epidermis single layered, followed by 4 – 6 layered collenchymas and 3 or 4 layered parenchyma cells present on both surfaces, trichomes both non-glandular and glandular, present on both surfaces, glandular trichomes 2 to 3 cells high, uni or biseriate stalk, having a multicellular head, non glandular trichomes uniseriate with 2 to 5 cells, vascular bundle 3 or 4, situated centrally having usual elements.

**Lamina:** Epidermis single layered having numerous non-glandular and glandular trichomes similar to those present in midrib. Mesophyll composed of oval to polygonal thin walled parenchymatous cells and not differentiated into palisade and spongy parenchyma cells, anisocytic stomata present on both surfaces, stomatal index 32 to 38 on lower surfaces, 20 to 29 on upper surfaces, stomatal number 47 to

54 per sq. mm on lower surface, 15 to 22 per sq. mm on upper surfaces, vein islet number 20 to 26.

**Powder:** Grayish yellow, shows fragments of thin-walled, oval to polygonal aerenchyma cells, thin-walled, sinuous, elongated epidermal cells, small pieces of glandular trichomes, a few anisocytic stomata, vessels with spiral and pitted thickening fibers short, thick walled, lignified with lumen and blunt tips having simple pits, oval to round, elliptic, simple starch grains with centric hilum and striations, measuring 13 to 27  $\mu$  in diameter.

**Dosage** <sup>[12]</sup>: Fresh Juice: 5-10 ml, Powder: 1-2 gm, Syrup: 2-4 ml.

**Parts of use** <sup>[5]</sup>: *Panchanga*

**Properties** <sup>[14]</sup>:

*Rasa:* *Katu, Tikta,*

*Guna:* *Laghu, Rukhya*

*Virya:* *Uşna*

*Vipaka:* *Katu*

*Karma:* *Vatahara, medhya, kaphapittanut, rucya, swarya, hrđya, rasayana, visaghna.*

**Properties of Mundi according to different Ayurvedic Text:**

**Bhavprakash Nighantu** <sup>[2]</sup>: *Rasa- madhura, guna-laghu, virya-usna, vipaka- katu.*

**Dhanwantar Nighantu** <sup>[3]</sup>: *Rasa- katu, tikta.*

**Kaidev Nighantu** <sup>[4]</sup>: *Rasa- Madhura, kasaya, tikta, katu. Guna - laghu, virya-usna, vipaka- katu*

**Madanpal Nighantu** <sup>[5]</sup>: *rasa- tikta, guna-laghu, virya-madhur, vipaka- katu.*

**Shaligram Nighantu** <sup>[6]</sup>: *rasa- katu, madhura, virya-usna, vipaka- katu.*

**Raj Nighantu** <sup>[7]</sup>: *rasa- kasaya, virya-usna, vipaka- katu.*

**Priya Nighantu** <sup>[8]</sup>: *rasa- tikta, virya-usna.*

**Shankar Nighantu** <sup>[9]</sup>: *rasa- madhura, guna-tikshna*

**Nighantu Adarsha** <sup>[10]</sup>: *Rasa- madhura, katu, tikta, kasaya, virya-usna, vipaka- katu.*

**Chemical Constituents** <sup>[5]</sup>: Sphaerene, Sphaeranthol, Sphaer-anthine etc.

**Identity, Purity and Strength** <sup>[14]</sup>:

Foreign Matter: Not more than 2%

Total ash: Not more than 23%  
 Acid-insoluble ash: Not more than 9%  
 Alcohol-soluble extractive: Not less than 2%  
 Water-soluble extractive: Not less than 6%  
**Trade and Commerce**<sup>[12]</sup>:

Retail market price: Whole Plant – Rs. 16/- per kg. (2001)

**Drug interaction**<sup>[17]</sup>: The herb is employed as a fish-poison. An aqueous extract of the whole plant was slightly toxic to American cockroaches.

**Table-2:** Therapeutic uses of *Mundi* in different Nighantus:

Disease	BPN	DN	KN	MPN	SGN	RN	PN	SN	NA
<i>Vrana</i>		-	-	-	-	-	+	-	-
<i>Ganda</i>	+	+	+	+	+	-	+	+	+
<i>Vidradhi</i>		-		-	-	-	+	-	-
<i>Sleepada</i>	+	+	+	-	-	-	+	+	+
<i>Apachi</i>	-	-	+	+	+	-	+	+	+
<i>Amatar</i>	-	-	-	-	-	+	-	+	-
<i>Viśa</i>	-	-	-	-	-	+	-	+	-
<i>Vaman</i>	-	-	-	-	-	+	-	-	-
<i>Mutrakriccha</i>	+	-	+	+	+	-	-	+	-
<i>Kasa</i>	-	-	-	-	-	-	-	+	-
<i>Yoniroga</i>	+	-	+	-	-	-	-	+	+
<i>Pandu</i>	+	-	+	+	+	-	-	+	-
<i>Apaśmar</i>	-	+	+	-	+	-	-	-	-
<i>Pleeha</i>	+	-	+	-	+	-	-	+	-
<i>Rakta Dosa</i>	-	+	-	-	-	-	-	-	
<i>Amadosa</i>	-	+	-	-	-	-	-	-	-
<i>Krimi</i>	+	-	-	+	+	-	-	+	-
<i>Aruchi</i>	+	-	-	-	+	-	-	+	-
<i>Unmad</i>	-	-	-	-	-	-	-	+	-
<i>Medhya</i>	-	-	-	-	+	-	-	-	-
<i>Sleepada</i>	-	-	-	-	+	-	-	-	-
<i>Ama Vata</i>	-	-	-	+	-	-	-	-	+
<i>Suryavarta</i>	-	-	-	-	-	-	-	-	+
<i>Vata rakta</i>	-	-	-	-	-	-	-	-	+

BP: Bhavprakash N: Nighantu. D: Dhanwantar, K:Kaidev, MP: Madanapala, SG: Saligram, R: Raj, P: Priya, S: Sankar, A: Adarsha.

**Table-3:** Position of *Mundi* in different Ayurvedic Text:

Nighantus	Varga
<i>Bhavprakash Nighantu</i> <sup>[2]</sup>	<i>Guruchyadi Varga</i>

<i>Nighantus</i>	<i>Varga</i>
<i>Dhanwantar Nighantu</i> <sup>[3]</sup>	<i>Guruchyadi Varga</i>
<i>Kaidev Nighantu</i> <sup>[4]</sup>	<i>Ausadhi Varga</i>
<i>Madanpal Nighantu</i> <sup>[5]</sup>	<i>Abhayādi Varga</i>
<i>Saligram Nighantu</i> <sup>[6]</sup>	<i>Guruchyadi Varga</i>
<i>Raj Nighantu</i> <sup>[7]</sup>	<i>Parpatadi Varga</i>
<i>Priya Nighantu</i> <sup>[8]</sup>	<i>Satapuśpadi Varga</i>
<i>Sankar Nighantu</i> <sup>[9]</sup>	<i>Dwitiya Vag</i>
<i>Nighantu Adarsha</i> <sup>[10]</sup>	<i>Sahadevyadi Varga</i>

**Ethical preparation:** *Amritadi churna, Mundi ark.Mundi panchanga swaras, Mundi kwath etc*

## CONCLUSION

*Mundi* is widely distributed throughout India. *Ayurvedic nighantus* have broadly mentioned *mundi* in the treatment of different ailments of human being. It is a miracle herb has a definite strength to destroy *ama, visha*. The therapeutic indications of *mundi* which is mentioned in different ayurvedic text make it extraordinary among the other herbs. Disease may be related to different *roga marga* it may be *sakha, kosto, marma, asthi* and *sandhi* but *mundi* may be indicated in various form like *swaras, kwath churna* etc. It has near about seventeen synonyms and more than twenty four therapeutic indications mentioned in *nighantus*. It has definite role as an immunomodulator, analgesic antibacterial. Due to *vata* and *kaphanashak* property *mundi* use as a broad-spectrum.

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