

## A BIRD'S EYE ON MEDICINAL PLANTS OF ANUPA DESHA W.S.R TO MARSHY AREA

Ashalatha M<sup>1</sup>, Subhashini N S<sup>2</sup><sup>1</sup> Professor and HOD, Department of Dravyaguna, <sup>2</sup> P G Scholar, Department of Dravyaguna, Government Ayurveda Medical College, Bengaluru, Karnataka, India

## ABSTRACT

*Desha* plays an important role in *Ayurveda* pertaining to multi-dimensional considerations. *Desha* forms one among the *pareekshya bhavas* (factors to be examined) including *bhumi desha* (geographical land) and *atura desha* (human body), it is also applicable for *swasthya rakshana* (preservation of health) and *rogaprashamana* (allievation of disease). *Desha* also plays a role in *dravya sangrahana* (collection of medicinal herbs) wherein our *Acharyas* have emphasized the fact of collecting *aoushadha dravyas* (medicinal plants) from suitable *desha*. Here is an attempt to review the literature pertaining to *anupa desha* w.s.r to marshy land, medicinal plants inhabitant of marshy area, synonyms indicative of their occurrence in marshy land and their similarities if any.

**Keywords:** *Anupa desha*, marshy land, medicinal plants.

## INTRODUCTION

*Ayurveda*, the holistic science which encompasses complete healthcare is the mother of all healing systems and a life science par excellence. *Desha* is given considerable importance right from where the person is born and brought up to examination of *desha*. *Desha* among factors to be examined comprises of land and body. Ascertainment of place of birth and growth of a diseased person provides a clear cut idea about the prognosis of the disease and thereby it helps in treatment protocol, in turn in a healthy individual it helps in excavating the susceptible *nidanas* and thereby susceptibility of diseases.<sup>1</sup> Also the concept of *desha* in context of *dravya sangrahana* emphasizes the importance of collection of herbs by enforcing certain regulations in order to ensure maximum therapeutic values. This also includes collection of herbs from their

natural habitat. *Anupa desha* or a marsh is a type of wetland that is dominated by herbaceous rather than woody plant species.<sup>8</sup> Marshes can often be found at the edges of lakes and streams, where they form a transition between the aquatic and terrestrial ecosystems. They are often dominated by grasses, rushes or reeds.<sup>9</sup> If woody plants are present they tend to be low-growing shrubs. This form of vegetation is what differentiates marshes from other types of wetland such as swamps, which are dominated by trees, and mires, which are wetlands that have accumulated deposits of acidic peat.<sup>10</sup> This article is thus an attempt to review the concept of *desha*, classical descriptions of *anupa desha* (marshy area), the medicinal plants of *anoopa desha*, commonness in their properties and action.

**REVIEW ON DESHA: NUPA DSHA**

The *Desha* is divided as *Bhumi Desha* and *Deha Desha*.<sup>2</sup>

In *Astanga hrudaya* and *Ashtanga Sangraha*, *bhumi desha* (geographical

**Table 1: Showing geographical land classified along with the dominancy of *Doshas* and *Rasas***

<i>Desha</i>	<i>Ashtanga hrudaya</i>	<i>Ashtanga Sangraha</i>	
	<i>Dosha</i> dominancy	<i>Dosha</i> dominancy	<i>Rasa</i> dominancy
<i>Jangala</i> (Arid land)	<i>Vata</i> and <i>Pitta</i> <i>Doshas</i>	<i>Vata</i> <i>Pitta</i>	<i>Katu</i>
<i>Anupa</i> (Wetland)	<i>Vata</i> and <i>Kapha</i> <i>Dosha</i>	<i>Kapha</i> <i>Pitta</i>	<i>Madhura</i>
<i>Sadharana</i> (Ordinary land)	Equal proportion of <i>Dosha</i>	-	-
<i>Jangala Sadharana</i>	-	<i>Kapha</i>	<i>Lavana</i> <i>Amla</i>
<i>Anupa sadharana</i>	-	<i>Vata</i>	<i>Tikta</i> <i>Kashaya</i>

#### ANUPA DESHA

In *Charaka Samhita kalpasthana*, while describing the types of *desha*, the flora and fauna of *anupa desha* are described as follows;<sup>5</sup>

It is a comparatively low place near the sea level with full of trees, coconut gardens etc. and the place is surrounded by lakes and rivers with frequent cold winds. The atmosphere is very moist and herbs and bushes show a very good seasonal flowering tendency. Birds such as flamingo, ruddy goose, cranes, woodpeckers, cuckoos etc. richly inhabit the place. Here the land is green grassy and has clusters of reedy plants (*Nala*), *Nelumbo* species (*Kumuda*) etc. Strong storm like wind laden with heavy moisture keep blowing. Rows of *Hintala* (*Phoenix paludosa*), *Tamala* (*Garcenia morella*), *Kadali* (*Musa* species) and *Narikela* (*Cocos nucifera*) bordering the river side presents a scenic way to the land. The forest land appears beautiful with assemblage of various types of trees and shrubs with blossoming young branches. Due to the moist nature of soil and influence of *Prithvi* and *Ap bhuthas*, the

land) has been classified along with the dominancy of *Doshas* and *Rasas* are as follows.

herbs, creepers and annuals flourishing in that area generally bear sap that tastes sweet or sour. The place tends to produce the predominance of *Kapha Dosha* and it is reflected in the inhabitants.<sup>1</sup>

In *Sushrutha Samhita*<sup>6</sup>, *anupa desha* is described as follows;

*Anupa desha* is the land with plenty of water sources and heavy rainfall embraced with soft, cool breeze, endowed with abundant, huge mountains and trees, the inhabitants of this land are *mrudu* (slushy), *sukumara* (delicate) and *upachita shareera* (bulky) and mainly get affected with *kaphavatarogas*. In *Ashtanga Sangraha*<sup>4</sup>, *anupa desha* is said to be *madhura rasayoni*. The land is said to have cool breeze, mountain ranges and thick forests, water sources like rivers, lakes and wells. The land is inhabited by *kamala*, *kumuda* and *kuvalaya*, is always *atiramyā* (beautiful) and *snigdha* (unctuous), surrounded with greenery comprising of *lata* (climbers), *navapallava* (tender leaves), *vrukshas* (trees). Many creatures like *sarisrupas* (reptiles), *pakshi* (birds) dwell in *anupa desha*. *Anupa desha* is

predominant of *kaphapitta* and the *aoushadha* and *jala* are said to be *guru*. Diseases like *shleepada* (filariasis), *galaroga* (diseases of throat), *apachi* (lymphadenopathy), *jwara* (fever) etc. are prevalent in *anupa desha*. In *Rajanighantu*<sup>7</sup>, the marshy land can be correlated to the *nadimatruka*, *devamatruka* and *dwaimatruka bhumi*. *Nadimatruka bhumi* is the land comprising of rivers, aquatic flowers like lotus and abundant edible monocots and dicots. *Devamatruka bhumi* is the land endowed with rainfall and aquatic flowers like lotus. *Dwaimatruka bhumi* is the land having features of *nadimatruka* and *devamatruka bhumi*.

## REVIEW ON MARSH/MARSHY LAND

### Properties of plants belonging to marshy land

- ◆ Marshes provide habitat for many types of plants and animals that have adapted to living in flooded conditions.<sup>8</sup>
- ◆ The plants must be able to survive in wet mud with low oxygen levels. Many of these plants therefore have aerenchyma, channels within the stem

that allow air to move from the leaves into the rooting zone.<sup>9</sup>

- ◆ Marsh plants also tend to have rhizomes for underground storage and reproduction. Familiar examples include cattails, sedges, papyrus and sawgrass.<sup>10</sup>
- ◆ Marshes also improve water quality by acting as a sink to filter pollutants and sediment from the water that flows through them. Marshes (and other wetlands) are able to absorb water during periods of heavy rainfall and slowly release it into waterways and therefore reduce the magnitude of flooding. The pH in marshes tends to be neutral to alkaline, as opposed to bogs, where peat accumulates under more acid conditions.<sup>11</sup>

### Types of marshes<sup>10</sup>

Marshes differ depending mainly on their location and salinity. Both of these factors greatly influence the range and scope of animal and plant life that can survive and reproduce in these environments. The three main types of marsh are salt marshes, freshwater tidal marshes, and freshwater marshes.

**Table 2: MEDICINAL PLANTS THAT ARE FOUND IN MARSHY LAND<sup>12</sup>**

Drugs	Botanica l correlation	Part of the plant	Rasa panchaka	Doshakarma	Actions & Indications
<b>Pundarika</b>	<i>Nelumbo nucifera</i>	<i>Samvartika</i> (tender leaf)	<i>Tikta kashaya Sheeta</i>	<i>kaphapitt ahara</i>	<i>Daha</i> (burning sensation) <i>trushna</i> (excessive thirst), <i>mutrakrichra</i> (difficulty in micturition) <i>gudavyadhi</i> (rectal disorders), <i>raktapitta</i> (bleeding disorders)
		<i>Karnika</i> (seed coat)	<i>Tikta Kashaya madhura Sheeta,</i>	<i>kaphapitt ahara</i>	<i>Mukhavaishadhyakara</i> (cleansing mouth/mouth freshner), <i>trushna</i> (excessive thirst)

			<i>laghu</i>		<i>Raktapitta</i> (bleeding disorders)
		<i>Keshara</i> (stamens)	<i>Kashaya Sheetala</i>	<i>Kaphapitahara</i>	<i>Graahi</i> (bowel binder), <i>trushna</i> (excessive thirst), <i>daha</i> (burning sensation), <i>raktarshas</i> (bleeding haemorrhoids) <i>visha</i> (poisoning) <i>shotha</i> (inflammation)
		<i>Mrunala</i> (stem) and <i>shaaluka</i> (tuber)	<i>Madhura Ruksha, sheetala, Guru madhurapaka</i>	<i>Pittahara Anilakaprapada</i>	<i>Vrushya</i> (aphrodisiac), <i>durjara</i> (difficult for digestion), <i>stanya</i> (improve lactation), <i>sangraahi</i> (binding agent),
<b>Kumuda</b>	<i>Nymphaea alba</i>	<i>Panchanga</i> (whole plant)	<i>Katu tikta Kashaya Anushna</i>	<i>Kaphavatahara</i>	<i>Mutrakrichra</i> (difficulty in micturition), <i>ashmari</i> (calculi), relieves <i>shoola</i> (pain), <i>shwasa</i> (asthma), <i>kasa</i> (cough) and <i>visha</i> (poison)
<b>Variparni (jalakumbhi)</b>	<i>Pistia stratiotes &amp; Eichhnoriacrassipes</i>	<i>Panchanga</i> (whole plant)	<i>Tikta madhura katu, ruksha Laghu hima</i>	<i>Tridosahara</i>	<i>Raktapitta</i> (bleeding disorders), <i>jwara</i> (fever), <i>shosha</i> (emaciation)
<b>Shaivala</b>	<i>Ceratophyllum demersum</i> and <i>Vallisneria spiralis</i>	<i>Panchanga</i> (whole plant)	<i>Kashaya tikta madhura Laghu sheetala snigdha</i>	<i>pittahara</i>	<i>Daha</i> (burning sensation), <i>trushna</i> (excessive thirst), <i>raktapitta</i> (bleeding disorders), <i>jwara</i> (fever)
<b>Kokilaksha</b>	<i>Asteracantha longifolia</i>	<i>Panchanga</i> (whole plant)	<i>Madhuramlatika Sheetala picchila</i>	<i>Vatahara</i>	<i>Amahara</i> (digests complex factors), <i>shotha</i> (inflammation), <i>ashmari</i> (calculi), <i>trushna</i> (excessive thirst), <i>drushtiroga</i> (eye diseases), <i>raktapitta</i> (bleeding disorders)
<b>Vacha</b>	<i>Acorus calamus</i>	<i>Kanda</i> (tuber)	<i>Katu tikta ushna</i>	<i>kaphavatahara</i>	<i>Vaantikrit</i> (emetic), <i>vahnikrit</i> (appetizer), relieves <i>vibandha</i> (constipation), <i>adhmana</i> (distension), <i>shoola</i> (pain), <i>apasmara</i> (epilepsy), <i>unmada</i> (schizophrenia), <i>jantu</i> (worms), <i>mutravishodhini</i> (cleanses urinary system),

<b>Tamala</b>	<i>Garcinia morella</i>	Niryasa (exudate)	Kashaya	kaphahara	Daha (burning sensation) visphota (blisters), vrana (wound), bradhna (hernia), vidradhi (abscess), badhirya (deafness), yoni-karna roga (diseases of reproductive system and ear)
<b>Narikelala</b>	<i>Cocos nucifera</i>	Phala (tender fruit)	Sheeta	Vatapittahara	Bastishodhana (cleanses the urinary bladder), brumhana (nourishing), balya (strength promoter), raktapitta (bleeding disorders) daha (burning sensation) jwara (fever)
		Jeernaphala (mature fruit)	Guru	Pittakara	Vidahi (causing burning sensation), vishtambhi (hard for digestion resulting in abdominal bloating)
		Jala (coconut water)	Madhura, Sheetala Laghu	Pittahara	Hrudya (cardio tonic), deepana (appetizers), shukrala (spermatogenic), bastishuddhikara (cleanses the urinary bladder), pipasa (relieves thirst),
<b>Kadali</b>	<i>Musa sapientum</i>	Apakwaphala (unripe fruit)	Madhura sheeta guru snigdha	Kaphakara, vatapittahara	Vishtambhi (hard for digestion resulting in abdominal bloating), raktapitta (bleeding disorders) daha (burning sensation), kshatakshaya (debility due to injury)
		Pakwaphala (ripe fruit)	Madhura sheeta madhuravipaka		Vrushya (aphrodisiac), brumhana (nourishing), kshutrut-netra gadahrut (alleviates hunger thirst and eye diseases), ruchikara (taste promoter), mamsakara (improves muscle tissue)
<b>Musta</b>	<i>Cyperus rotundus</i>	Kanda (tuber)	Katutikta Kashaya Hima	Kaphapittahara	Graahi (bowel binder), deepana (appetizer), pachana (digestive), useful in raktapitta (bleeding disorders), jwara (fever), aruchi (anorexia), krimi (worms).
<b>Lajjalu</b>	<i>Mimosa pudica</i>	Moola (root)	Tikta, Kashaya Sheetala	Kaphapittahara	Raktapitta (bleeding disorders), atisara (diarrhoea), yoniroga (gynaec disorders)

<b>Brahmi</b>	<i>Bacopa monneiri</i>	<i>Panchanga</i> (whole plant)	<i>Tikta Kashaya madhuraHima Laghu Madhura vipaka</i>		<i>Medhya</i> (brain tonic), <i>rasayana</i> (rejuvenator) <i>swarya</i> (voice promoter) <i>smruthiprada</i> (memory enhancer), <i>ayushya</i> (promotes longevity), useful in diseases like <i>kushta</i> (skin diseases) <i>paandu</i> (anaemia) <i>meha</i> (metabolic disorders like diabetes) <i>raktapitta</i> (bleeding disorders) <i>kasa</i> (cough) <i>visha</i> (poison) <i>shotha</i> (inflammation) <i>jwara</i> (fever)
<b>Jalavetsa</b>	<i>Salix tetrasperma</i>	<i>Twak</i> (bark)	<i>sheeta</i>	<i>Vatakara</i>	<i>Kushtahara</i> (alleviates skin diseases)
<b>Kemukha</b>	<i>Costus speciosus</i>	<i>Kanda</i> (tuber)	<i>Tikta katu hima laghu katuvipaka</i>	<i>Kapha pittahara vatala</i>	<i>Grahi</i> (bowel binder), <i>deepana</i> (appetizer), <i>pachana</i> (digestive), <i>hrudya</i> (cardio tonic), <i>kushta</i> (skin diseases) <i>kasa</i> (cough), <i>prameha</i> (metabolic disorders like diabetes), <i>raktapittahara</i> (bleeding disorders)
<b>Shyonaka</b>	<i>Oroxylum indicum</i>	<i>Baalaphala</i> (immature fruit)	<i>Kashaya madhura laghu ruksha</i>	<i>Vata kaphahara</i>	<i>Hrudya</i> (cardio tonic) , <i>rochana</i> (taste promoter), <i>deepana</i> (appetizer), <i>gulma</i> (tumour), <i>arsha</i> (haemorrhoids), <i>krimi</i> (worm)
		<i>Proudhalahala</i> (mature fruit)	<i>Guru</i>	<i>Vataprakopana</i>	-
<b>Pashanabhedha</b>	<i>Rotula aquatica</i>	<i>Moola</i> (root)	<i>Tikta Kashaya hima</i>	<i>Tridosahara</i>	<i>Bastishodhana</i> (cleanses the urinary bladder), <i>bhedana</i> (purgative), <i>arsha</i> (haemorrhoids), <i>gulma</i> (tumour), <i>mutrakrichra</i> (difficulty in micturition), <i>ashmari</i> (calculi), <i>yoniroga</i> (gynaec disorders) , <i>prameha</i> (metabolic disorders like diabetes), <i>pleeha</i> (splenic disorder), <i>shoola</i> (pain), <i>vrana</i> (wound)

**Table 3: SYNONYMS OF SOME PLANTS INDICATING THEIR PREVALENCE IN MARSHY AREA;**<sup>13</sup>

<b>Kadali</b>	<b>Kadali-That which grows near watery area. Rambha-water source, that which grows in place predominant of water.</b>
<b>Kamala</b>	<i>Kamala-</i> That which occurs in and adorns (beautifies) the water. <i>Ambhoruham</i> -That which flowers in water. <i>Kusheshayam</i> -That which prevails in water <i>Pankeruham</i> -That which blossoms or occurs in water
<b>Karanja</b>	<i>Karanja-</i> That which imparts bluish tinge of colour to water. <i>Udakeerya-</i> Flowers are scattered therein water source.
<b>Kokilaksha</b>	<i>Talamakhaannam-</i> Plant growing in watery ditches.
<b>Lajjalu</b>	<i>Jalakarnika-</i> That which grows in damp area
<b>Musta</b>	<i>Mustakam-</i> That which grows gregariously in aquatic and sub aquatic regions. In <i>Bhavaprakasha Nighantu</i> , the <i>musta</i> which is grown in <i>anupa desha</i> is said to be best. <i>Kacchoththa</i> -That which grows in water predominant area. <i>Gaangeyi-</i> That which grows in the banks of <i>Ganga</i> river.

## DISCUSSION

*Anupa desha* which is predominant of *Prithwi* and *Ap mahabhutas* and *kapha dosha* bestows the dwellers with *mrudu*, *sukumara* and *upachita shareera* and *bala*.

- \* Most of the plants have *kanda* which indicate the storage specificity of the plants belonging to this area.
- \* The plants in the marshy area purify underground water.
- \* Their absorption capacity is proficient enough to reduce flood magnitude.
- \* The majority of plants possess *madhura*, *tikta*, *kashaya rasa* and *sheeta veerya*. Thus they can be rich medicinal resources for *pitta prakruthi purushas* as well as *pittaja vikaras*.
- \* Also they prove to be good contenders for nutritional quest as these plants have the nature of storing metabolites in their underground appendages.

## CONCLUSION

The plants belonging to marshy land are *prithwi* and *ap mahabhuta pradhana*. Majority of them possess sweet, bitter,

astrigent taste and cold potency. Most of them have *kaphapittahara* property. Many of them are indicated in burning sensation, excessive thirst bleeding disorders and poison.

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**CORRESPONDING AUTHOR**

**Dr. Subhashini**

**Email:** subhashiniputtur@gmail.com

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