A Critical Review on Morat
With Special Reference to Ayurveda Classical Texts

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Abstract

Morat is considered as a significant medicinal plant in the indigenous system of medicine [Ayurveda] as it has wide application as single drug. It is very effective in various Urinary disorders. It has been observed that several species of plants which are referred under one common name, making them more controversial. Documentation defects in manuscripts, same synonym but different plants, geographic variations are some of the reasons attributed to it. Due to different languages and morphological similarities between plants generates controversy. In India, there are many plants which use a common name Morat and creates controversy. Under the name of Morat, botanical identity such as Leea macrophylla Roxb., Saccharum officinarum L., Alangium salvifolium (L.f.)Wang. Marsdenia tenacissima Wight. & Arn., Maerua arenaria Hook, Chonemorpha fragrans Moon are considered as they exhibit same medicinal properties. The purpose of this work is to review and differentiate the plants which are known as Morat in Ayurved classical texts.

Key Words: Morat, Controversial plants, Bruhatryee, Nighantu.

Introduction

Over 2500 species of medicinal plants are documented in the classical texts of Ayurved. Beside the usefulness of plants in various disorders, today we are using comparatively very smaller number of plants for various ailments, because many of them have not been identified properly. Moreover, the same synonyms may be given to more than one plant, causing confusion in identifying the genuine plant. This confusion is compounded by the lack of a technically precise description of the complete plant. As per the Ancient Indian Literature, Controversial plant or Sandigdha drayas is a term used for medicinal plants having notorious botanicals as sources. Quantum of information gained from Ayurvedic & other Sanskrit literature revealed various incidences where one common name is used for two or more entirely different plant species in traditional system of Medicines.

Morat is one of the controversial plants useful in Mootakruchchhra (Dysuria), Mootraghata, (Anuria), Ashmari (Urinary calculi), Cephalalgia, Gulma and internal abscesses. Since Samhita period, the plant is in ambiguity & still not clearly identified botanically. To tackle controversy of Morat, here an attempt had been made to review various Ayurved classical texts, Samhita, Commentaries, Nighantu, Chikitsagrath.

Materials and methods

All available Vedic literature including Puran, Samhita [Ayurved classical texts bruhatryee and Laghutrayee], various treatises of samhita period and nighantu [Ayurved Materia Medica] were searched with the key words like Morat or its parayaya (synonyms) names. Textbooks of dravyaguna and various commentaries available were reviewed and analyzed using above mentioned keywords.

Literature about various plant species were compiled from different modern books, flora, journals, web based search engines like Google, Google scholar, PubMed, AYUSH portal etc. The obtained information about drug Morat & its noted synonyms from the classical has been analyzed regarding its controversial aspect and presented in a systemic manner.

Observations

Historical perspective of Morat

Morat is well known in Ayurveda. It is used since time immemorial to till date in various purposes. In vedic period [2500- 300 BC] Morat is not mentioned. But it definitely seems to be known in “Garud Puran” by the name Morata. (1)

It is observed that major Ayurvedic classical texts Samhita Period [300BC-1300AD] describes the Morat in various classification as follow-
Morat name is mentioned by Bruhatryee, Kashyap, Harit & Bhavaprakash Samhita, while Kshirmorat is introduced in Sushrut Samita, Ashtang Hriday & Kashyap Samhita. There is no any reference found in Bhel & Sharangadhar Samhita.

It is observed that different names are used for drug Morat by various commentators [Table 2] as follow-

**Table 2 Opinion of different commentators about Morat**

<table>
<thead>
<tr>
<th>Name</th>
<th>Brihatryee</th>
<th>CK</th>
<th>DA</th>
<th>AR</th>
<th>HE</th>
<th>SH</th>
<th>GA</th>
<th>YO</th>
<th>JY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ankolpushpa</td>
<td>+</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hastiparni</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ikshumul</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kshirmorat</td>
<td>+</td>
<td></td>
<td>+</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kshirmurva</td>
<td>+</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Karnamorat</td>
<td>+</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Murva</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Piluparni</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>


**Compendia**

Morat is mentioned in Virataradi gana & Varunadi gana used in Pittaj Ashamari by Vrund Madhav and Chakradatta (18)(19). Chakradatt also mentioned in Guduchyadi kashay for Masurika.

Vangsen and Bhaishjya Ratnavali used Morat in Bhadravaghhruta for Mutraghat, Kushadyaghruta & virataradigana for Ashmari. As Moratu, mentioned in Masurika and as Kshirmorat in Madhuvarga. (20)(21)(22)(23) Yogaratnakar has prescribed Morat in Rasnaputik tail & Guduchyadi yoga for Vatvyadhi & Masurika respectively. (24)(25)

**Nighantu [Materia medica]**

Nighantu means lexicon or dictionaries dealing with Indian material medica, have their origin in 8-10 A.D collection of words, synonyms and the names of the medicinal substance. It throws light on to the secret meanings of the terms denoting different synonyms of the drugs. The ancient nighnatus were actually like Kosha containing the synonyms of drugs. Later the drugs had given the description of properties, actions and their uses. All most all the nighnatus have also described various synonyms, attributes of drug Morat [Table 3, 4].
Table 3: Different references of Morat in Nighantu

<table>
<thead>
<tr>
<th>Nighantu</th>
<th>Terminology</th>
<th>Synonyms</th>
<th>Class</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Paryayratnamala Nighantu (8th century AD)</td>
<td>Morat</td>
<td>Piluparni</td>
<td></td>
<td>(26)</td>
</tr>
<tr>
<td></td>
<td>Moratum</td>
<td>Ikshumool</td>
<td>As dugdhavikar</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Kshirmorat</td>
<td>Shitatru, Sarala, Salya, Kshiravan</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Ashtang Nighantu (9th century AD)</td>
<td>Murva</td>
<td>Morati, Kshirmorat</td>
<td>Patoladi Gana</td>
<td>(27)</td>
</tr>
<tr>
<td></td>
<td>Morat</td>
<td>-</td>
<td>Varunadi Gana, Veeratarvadi Gana</td>
<td></td>
</tr>
<tr>
<td>Dhanvantari Nighantu (10th-13th century AD)</td>
<td>Morat as Murva-vishesh [type of murva]</td>
<td>Pilupushpa, Madhustrav, Kshiramorat, Tejani &amp; Dirghamoola</td>
<td>Guduchyadi varga, Jwaragha [useful in fever] and Kaphapittahar [pacify Kaphapitta], Useful in Trushna [thirst], Daha [burning sensation], Shwas [dyspnea].</td>
<td>(28)</td>
</tr>
<tr>
<td>Nighantushesh (12th century AD)</td>
<td>Murva</td>
<td>Morata</td>
<td>Aushadhi varga</td>
<td>(29)</td>
</tr>
<tr>
<td>Sodhala Nighantu (12th century AD)</td>
<td>Murva</td>
<td>Morat</td>
<td>Guduchyadi varga</td>
<td>(30)</td>
</tr>
<tr>
<td>Sidhhamantra Nighantu (13th-14th century AD)</td>
<td>--</td>
<td>Kshiramorata</td>
<td>Pittakapaghna varga</td>
<td>(31)</td>
</tr>
<tr>
<td>Hridaydipak Nighantu (13th-14th century AD)</td>
<td>Morat</td>
<td>Kshiramorat</td>
<td>Ekapad varga</td>
<td>(32)</td>
</tr>
<tr>
<td>Mannapal Nighantu (14th century AD)</td>
<td>Murva</td>
<td>Morat</td>
<td>Abhayadi varga</td>
<td>(33)</td>
</tr>
<tr>
<td>Saraswati Nighantu (14th century AD)</td>
<td>Murva</td>
<td>Morata</td>
<td>Paniyavarga as Dugdhavikar</td>
<td></td>
</tr>
<tr>
<td>Raj Nighantu (15th century AD)</td>
<td>Morat</td>
<td>Kirnapushpa, Pilupatra, Madhustrava, Ghanamoo, Dirghamoo, Kshiramorat</td>
<td>Guduchyadi varga, Pacify Pitta, used in Daha, Jwara</td>
<td>(35)</td>
</tr>
<tr>
<td></td>
<td>Moratakam</td>
<td>synonym for Ikshumool</td>
<td>--</td>
<td>(36)</td>
</tr>
<tr>
<td>Kaiyadev Nighantu (15th century AD)</td>
<td>Morat</td>
<td>Ghanamool, Kirnapushpa, Madhustrava, Kshiramorat, Hastiparni, Piluparna</td>
<td>Aushadi varga, madhurarasatmak and having action on Jvara, Trushna, Kapha pitta dosha.</td>
<td>(37)</td>
</tr>
<tr>
<td></td>
<td>Moratum</td>
<td>Ikshumul</td>
<td>--</td>
<td></td>
</tr>
<tr>
<td>Bhavaprakasha Nighantu (16th century AD)</td>
<td>Murva</td>
<td>Morata</td>
<td>--</td>
<td>(38)</td>
</tr>
<tr>
<td></td>
<td>Moratum</td>
<td></td>
<td>Dugdha varga</td>
<td>(39)</td>
</tr>
<tr>
<td>Shiva Kosha (17th Century AD)</td>
<td>Kshiramorat</td>
<td>Murva bhed</td>
<td>--</td>
<td>(40)</td>
</tr>
<tr>
<td>Shaligram Nighantu (19th Century AD)</td>
<td>Murva</td>
<td>Morat</td>
<td>Guduchyadi varga</td>
<td>(41)</td>
</tr>
</tbody>
</table>

Table 4: Morat & its Synonyms in Nighantu

<table>
<thead>
<tr>
<th>Synonyms</th>
<th>S.N.</th>
<th>M.N.</th>
<th>D.N.</th>
<th>H.D.N.</th>
<th>K.N.</th>
<th>R.N.</th>
<th>S.K.</th>
<th>A.M.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ankolpushpa</td>
<td>+</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Badhamulak</td>
<td></td>
<td>+</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dirghamula</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td></td>
<td></td>
<td>+</td>
</tr>
<tr>
<td>Ghanamula</td>
<td>+</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>+</td>
</tr>
</tbody>
</table>
Table showing *Kshirmorat* and *Dirghamula* synonyms are used maximum times. *Morat* is treated as synonym for other plants like *Murva*, *Iskumul*, *Ankolpushpa* & *Piluparni*. *Morata* is used as synonym for *Murva*, at the same time *Dhanvantari Nighantu*, *Raj Nighantu* & *kaiyadev Nighantu*, stated as synonym as well as a separate drug.

**Table 5 Morat as synonym for Murva, Iskhumul, & Piluparni**

<table>
<thead>
<tr>
<th>Attributes</th>
<th>Murva(Morata)</th>
<th>Iskhumul</th>
<th>Piluparni</th>
<th>Ankolphusa</th>
</tr>
</thead>
<tbody>
<tr>
<td>Guna [properties]</td>
<td>✓</td>
<td></td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Rasa [taste]</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Tikta [Bitter]</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kashaya [Astringent]</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vipak [post digestive effect]</td>
<td>Madhur [Sweet]</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Virya [potency]</td>
<td>Sheet [Cold]</td>
<td>✓</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>


A drug performs certain local and general actions by its *Rasa* and *Guna*, and certain specific therapeutic actions its *Vipak*, *Veerya* and *Prabhav*. The Attributes (*Rasapanchak*) of *Morat* in various texts is described in table 6.

**Table 6- Attributes of Morat**

<table>
<thead>
<tr>
<th>Attributes</th>
<th>C.S</th>
<th>S.S</th>
<th>R. N.</th>
<th>K. N.</th>
<th>M.D.N.</th>
<th>A.M.</th>
<th>A.R.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Guna [properties]</td>
<td>Guru [Heavy]</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rasa [taste]</td>
<td>Madhur [Sweet]</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Tikta [Bitter]</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kashaya [Astringent]</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vipak [post digestive effect]</td>
<td>Madhur [Sweet]</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Virya [potency]</td>
<td>Sheet [Cold]</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>


**Plants used as Morat**

Though drug has been listed in the *Samhita* and *Nighantu*, it remains controversial because several plants are used and sold under the name of *‘Morat’* in different parts of country. About six different plant species were to be taken in the name of *Morat* by Ayurveda practitioners in different parts of the country.
1. *Saccharum officinarum* L. Gramineae Root  
A perennial grass/legume with slender culms of varying thickness & colour  
Extensively cultivated in hotter parts throughout India  
Diuretic, demulcent, cooling & useful in urinary disorders  

2. *Alangium salvifolium* (L.f.)Wang. Alangiaceae  
Small tree up to 10 meter high  
The drier parts of India, in plains & foothills of southern India  
Diarrhoea, paralysis, piles, vomiting  

Large herbaceous shrub, 30-90 cm in height with perennial tuberous root  
Throughout the hotter parts of India, Assam, Burma  
Astringent, anodyne, styptic, antiseptic. mucilaginous; applied to wounds and sores; used for ringworm, guineaworm  

Large stout, twining shrub,  
Abundantly found in Bengal, Madhya pradesh, western ghats, Gujarat, eastern & western Himalaya  
Purgative, antispasmodic, mild CNS depressant; used in colic. Bark in lipid disorders, also in polyuria and hemorrhagic diseases.  

5. *Maerua arenaria* Hook Capparidaceae Root  
Large woody climber, with thick rootstock and thick leaves, flowers strongly scented  
Punjab, Sind, Gujarat, Central & southern India  
Bleeding piles, as alterative in fevers; as tonic in muscular debility.  

It giant stout climber with large, sweet scented, white flower  
Dense forest throughout India up to 1500m altitude  
Diarrhoea, fever, polyuria, anemia, boils, leprosy, eye diseases, vomiting, poisoning, intermittent fever, gynaecological disorders  

**Conclusion**  
Due to lack of scientific names in the original texts, different plants are known in different parts of the country under one name which makes the drug controversial. It is more difficult to identify the actual plant among the various varieties of *Morat*. So there is need to conduct the systemic study with the help of literature, pharmacognostical, pharmacological & clinical study for confirmation of species.  
In present paper different plants named as *Morat* in Ayurved classical texts have been reviewed. Many plants are known with the same name in different regions. Literature review suggested that *Morat* is different from *Murva* & useful in Urine disorders. On the basis of synonyms & description mentioned in Ayurved classical text, two plant namely *Marsdenia tenacissima* Wight. & *Chonemorpha fragrans* Moon may be taken as *Morat*. But proper identification and standardization should be done to identify exact species as *Morat* for desired therapeutic effect as well as minimized adulteration and substitutes.

**References**  

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Table 7 The plants considered as *Morat* are [42][43][44][45]

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