

Identity and Understanding of Soma Plant In Perspective of Indian Bioculture And Medicine

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Article Info

Volume 9, Issue 2

Page Number : 327-337

Publication Issue

March-April-2022

Article History

Accepted : 10 April 2022

Published : 21 April 2022

ABSTRACT

The Soma plant conceived to be the most sacred in Rigveda. Its juice (Soma Rasa) was offered to deities and regarded as a sacrificial drink. Its identity has remained a subject of great curiosity, investigations and debates. Its all-pervasive examination is still awaited as the earlier investigators always thought it in isolation and attempted to equate to some plant species in their neighbourhood. The present communication is an endeavour to collate all evidences and thoughts to arrive at home in the state of present circumstances. A literary survey was conducted of the ancient Indian Sanskrit scripts and the modern researches on Soma plant till date. The opinions and understanding of various exponents on the subject matter are introspected to arrive at the present state of knowledge. The various plant species claimed or suspected as 'Soma Plant' are enumerated in the Tables I, II and III. Total 26 plant species have been claimed clearly representing Soma plant, including a fungal and a gymnospermic species. Total 14 species are brought to light as substitutes for proper Soma plant. Common or Sanskrit names have been coined after the epithet 'Soma' for another 13 species. Soma plant has been a subject of many discussions and object of investigations since the Vedic period. Various authors although endeavoured to decipher its identity based on observations and their wisdom, no one could arrive at satisfactory explanation of Soma plant. However, they emerged triumphant in searching out psychoactive plant species and even their active principles. Vedic Soma plant still remains a botanical enigma.

Keywords: Vedic Soma Plant, Indian Bioculture, Ethnomedicine, Psychoactive.

I. INTRODUCTION

The earliest mention of the 'Soma' plant is found in the Rigveda, an ancient Veda (1400 BCE-900BCE) period. Its juice is/was known as 'Somarasa'. It formed an offering to gods as a sacrificial drink. It is considered a drink of immortality and longevity. A ritual use of 'Soma' in Rigveda is as 'the first drink of a newly born child' (Madhi Hasan, 1983). The 'Soma Rasa' (juice), as described in Vedic sources, was characteristically sharp in taste, either consumed in pure form or was mixed with milk, curd, and honey (MacDonell and Keith, 1912). The sweet smelling 'Soma Rasa' was neither intoxicating nor hallucinogenic. It was a stimulant that rendered the consumer alert and awake. It is also claimed that it provoked the thoughts and helped the consumer to compose humans (Kocchar, 1996). Thus, it was thought a divine drink and praised very much nearly by 114 hymns in Rigveda. The magic and most sacred role described in Rigveda is the juice (Soma Rasa) which was administered as 'medicine' to alleviate the mental status of the Aryans. This fact has been often misinterpreted and understood as an intoxicating drink (Padhy *et al.*, 2001). The name 'Soma' is also attributed to the Moon God [Chandra-the god of medicines; authority of Amrita (necter) astrologically controls the mind of a person]. It is also explained in Rigveda as light, dawn, bird, child, support of sky and king (Padhy *et al.*, 2001). The identity and virtues of 'Soma' has been shrouded in mystery and ambiguity over the ancient past. Its genesis is traced to various verses of the Rigveda. The subject matter has been also laminated in the Charaka and Susruta Samhitas. Even in modern period, attempts to decipher its identity and utility are being made. The present account is also an endeavour to shed more light on the ancient subject matter after all-pervasive examination of ancient and recent literary sources.

Ancient Indian Sanskrit Vedic and Post-Vedic sources, apart from modern literature, have been

consulted intertwined with the Soma plant or Soma Rasa. Information borrowed from them is collected and evaluated comparatively. The plant species are assigned to their respective families (Table I, II, III) along with their common or Sanskrit names, if any, in the original literary sources. Their all-pervasive scrutiny is completed to arrive at some conclusion based on the present state of knowledge.

(I) Plant Taxa Claimed Or Suspected: Literature pertaining since ancient to present times associated with Soma plant has been consulted. This survey revealed many species, some of which have been not yet focussed well in the past literature. Some authors claimed certain plants to represent original Soma plant (Table-I). There are totally 26 plant species, of which fungal and gynospermic species are presented each by a single species, genus and family. The rest others (23 species) belong to angiosperms. Interestingly majority of species (14) belong to a single laticiferous family, the Asclepiadaceae. Some plant species have been brought to light by different investigators as substitutes for Soma plant (Table II). These all belong to angiosperms. They are represented by 14 plant species belonging to seven families. Maximum species (04) belong to a single latiferous genus *Ficus*. Over the long plant, after the well established concept of Soma plant, Soma plant species were coined for their common or Sanskrit names after the epithet 'Soma'. Such species are totally 13 belonging to 12 genera of different 12 families of angiosperms.

(II) Ancient Vedic Sources: (i) Rigveda (1400 BCE-900 BCE): Rigveda is regarded the first medical utterance especially reflected in the 'Aushadi Sukta' of the 10th Mandala. It describes about 107 applications. It is the most ancient source in which Soma finds place in different 114 hymns (Slokas) in Sanskrit. It is a prime and key source for identification of the plant. It entells in different verses habit, habitat and phytography of Soma plant as: (a) Habit: a creeping, twisting semi-herb with brown, ruddy or tawny in

colouration. (b) Habitat: inhabits mountains and hence called 'Parvataavdh' (mountain grown). Such mountains were known as 'Somaprasha' (Carrying Soma on back). (c) Its stem-axis is described as: hanging down, pendent, branches bright, finger-shaped, jointed, probably angular edges of stem hard; fistular, bearing acidulour milky juice (Padhy *et al.*, 2001). (ii) Atharveda (900 BCE): A relation of a plant 'Kustha' with 'Soma Plant' is also reflected in Atharveda. It also grows in mountains and thought to be a friend of Soma. It is equated with (i) *Costus speciosus* (Koenig) J.E.Sm. (Zingiberaceae) and (ii) *Saussurea auriculata* (DC.) Sch.Bip. (Asteraceae) (Padny *et al.*, 2001).

(III) Manusmriti: It is thought composed in Vedic age. It has not described Soma plant, but mentioned about some juice with performance of Soma Yajnyam (Soma sacrifice) achieving fulfilment of some wish. This was a common practice in ancient India. It is also stated in Manusmriti that a seller of Soma was not to be entertained in an annual ritual of departed soul called 'Sraaddha'. It was considered that if the food is given to a seller of Soma, it become ordure. Brahman and Kshatriya were expected not sell Soma (Dash and Padhy, 1998). Mushrooms (called Kabaka) are prohibited for human consumption in Manusmriti. Soma being a divine drink, can not be equated with *Amanita muscaria*, a fungus springing from impure habitat and substance (Dash and Padhy, 1997).

(IV) Ayurvedic Samhitas: In some Samhitas, of particular interest *viz.*, Charak and Susruta Samhitas, Soma is presented in diverse forms of plant species. In the former, it is included amongst the divine drugs. However, in the latter, as many as 24 varieties are mentioned based on habitat, name, shape and particular potency. Their method of use is said to be identical with one another. In Susruta Samhita, Soma plant is described as: 15-leaved, bulbous, creeper-like in appearance, secreting milky juice and possessing different kinds of leaves. It is also stated that the 15 leaves develop one leaf daily keeping pace with lunar

days of full moon fortnight. It bears total 15 leaves on full moon day, called Poornima. Subsequently, they abscise one by one on no-moon day (Amavasya) and ultimately it is a leafless creeper. This sort of description and behaviour Soma plant is, however, not reflected in the Rigveda. Phytogeographic distribution on different Indian mountains is but mentioned in Susruta Samhita. Presence of milky juice and its consumption for restorative treatments are as those in Rigveda. In Ayurvedic texts, some plant species with Soma as an epithet have been reflected (Table III).

(V) Modern Literary Sources: Information adduced from Vedic and Post-Vedic texts is not merely of historical importance. In quest for better health and immortality, continuous human triumph are on record since the beginning of civilization throughout the world. Many investigators became interested in this scientific pursuit for the welfare of mankind. It is, therefore, scientific community extended their attempts to trace the identity and utility of Soma plant. The subject matter has also made a re-entry through the subject of Ethnobotany, apart from classic science of plant world. To search out the original plant species of Soma, researches have been carried out from time to time. Some species, in pursuance of it, are documented and claimed to be probably as Soma species as enumerated in the Table-I. As many as 26 species including of a fungus, some gymnosperms particularly species of the genus *Ephedra* (Ephedraceae) and a majority of angiosperms are brought to light. Scientists all over the world became interested in Soma research and divulged some plant species as substitute or probable candidates of more or less similar nature and virtues as enlisted in the Table-II. Even, some plant species have gained in the Table-II. Even, some plant species have gained common names associated with the epithet 'Soma' (Table III) as stated earlier. In the course of time, botanists endeavoured to correlate this sacred plant species with different species found

particularly in the Indian subcontinents (Table-I, II, III).

This trail still continued to have a correct identity and to give a scientific explanation for the validity of Soma plant. A literary resume indicated some arguments in favour or against some claims made in the past. For example, (i) the phytography of the Vedic Soma plant as elaborated earlier is in favour of *Amanita muscaria* (a fungal species). Moreover, Vedic Soma Rosa is/was not thought intoxicating or hallucinogenic as this fungal species. Author of Manusmriti viz., Sedge Manu regarded it as a prohibited food and hence cannot be considered as Soma plant being an offering for gods. Some species of the genus *Ephedra* have been projected by the investigators outside India as the putative source of Soma (Bowman, 1970; Stein, 1993; Madhi Hassan, 1978, 1982; Kellen, 1995; Dannaway, 2011). *Peganam hamala* is also thought a candidate for Soma (Flatery and Schwart, 1989). It is also the case of species pertaining to the genus *Rheum* (Hummel, 1959). Archaeological evidence is also put forth to show Soma, in its Iranian form 'haoma' as a composite psychoactive substance consisting of *Ephedra* and *Cannabis*, and also as *Ephedra* and Opium (*Papavaer somniferum* Linn.) (Parpola, 1994; Rudgley, 1998; McGovern, 2008). Some support is also lent by Miller (2003) in their being candidates for Soma. Few attempts have been also discussed on the active principle ephedrine of *Ephedra* for chemical explanation (Merlin, 2013).

II. CONCLUSION

(i) The glory of 'Soma Rasa' is elaborated as: (a) Soma Rasa was poured into the fire as an offering to the deities. It was a drink for the priests. The drink inspired and encouraged to compose hymns. (b) It bestows longevity of life and immortality. The king of gods, Indra also gained strength through Soma Rasa. (c) The drink help remove sins from the heart and takes

away human sufferings or diseases from the weak person being a medicine of the infirm. It also gives protection against human wickedness and bad omens. It destroys untruth and condemns false dignity. (d) It bestows the rain of heaven, the wealth of the earth, besides fame and reputation. (e) Its drinking help acquire the power to kill others with their glances, etc. (Hillebrandt, 1891).

- (ii) A sample of 'Soma' was obtained by plant Watt (1889-1896) from Bombay which was identical to *Periploca aphylla* (Asclepiadaceae). He also got another sample used by Parsis of Bombay, called a 'Homa' (Soma) which turned out to be *Ephedra pachyclada* Boiss. (Ephedraceae). Watt (1890) also opined that *Periploca* species was have a stronger claim than *Ephedra*. He further stated that *Ephedra* is not the plant Watt (1889-1896).
- (iii) Roxburgh (1820) described some plant as *Sarcostemma brevistigma* W. & A. and commented that it has so much milky juice of a mild nature and the native people suck the tender shoots to quench their thirsts.
- (iv) Clayton (1913) translated hymns from Rigveda on Soma. He recorded that the 'Soma Plant' having been brought to the earth by falcon on a mountain. It is said to have been brought by the daughter of Surya (Gandharvs) or by the offsprings of Parjanya (the rain god).
- (v) Madhi Hassan (1963) remarked that the Aryans were not succeeded in finding the original plant as Soma. People used *Ephedra gerardiana* Wall. ex Stapf as a substitute to prepare the sacred Soma beverage. He further suggested that this plant is likely not the original Soma of the Vedas.
- (vi) Wassan (1968) contended the fly-agaric mushroom viz., *Amanita muscaria* (L.) Lam. as the Soma plant. However, Dash and Padhy (1997) refuted it to be so as stated earlier.

- (vii) Gunnar (1971) explained *Cannabis* (Marihauna, Bhang) as an important medicine, as analgesic, useful for pain and rheumatism, as an anodyne, etc. and opposed to place it in the same class as Opium.
- (viii) Karnick (1969) while presenting an historical account of ancient Indian medicinal drugs pointed out medicinal qualities of some plants which are claimed to Soma plant or hallucinogens.

In a nutshell, ancient ethnic communities around the world learnt to exploit herbal wealth in their vicinity for curative as well as offensive purposes. Soma was claimed to be a divine drink and praised considerably in Rigveda. During the course of time, subsequent researchers and authors focussed it as spirituous liquor and some others even a psychoactive by putting forth other substitutes for Soma plant. These substitutes were used in Indian and Iranian societies and have been equated or earmarked as 'Soma Plant' or 'Soma Rasa', many of which are psychoactive. The original concept and description of 'Soma' appeared not attained carefully and the subject matter have been exaggerated. If a man blind by birth is asked about an elephant, his supposition will obviously imaginary. This has also happened in case of 'Soma' and still it is enigmatic today. The plants species claimed or suspected to be Soma plant (enlisted in Table I, II, III) are of many medicinal importance. These should not be considered only as mind-altering plants. Its search aroused curiosity world over about the plant world for a long time which however mostly culminated in discovery of psychoactive properties of many herbs. However, the debate for scientific pursuit should continue. It can be concluded in the words of Acharya Charaka, author of Charak Samhita, that 'Shastram jyoti prakashartham darshanam buddhi atmanah' (meant: 'science is the light and our acumen is the perception').

III. CONFLICT OF INTEREST

The author has no conflict of interest.

IV. ACKNOWLEDGEMENTS

I am thankful to the authority of S.S.V.P.Sanstha, Dhule, for library facilities.

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Cite this article as :

Ahirrao Y. A., Patil D. A., "Identity And Understanding of Soma Plant In Perspective of Indian Bioculture And Medicine", International Journal of Scientific Research in Science and Technology (IJSRST), Online ISSN : 2395-602X, Print ISSN : 2395-6011, Volume 9 Issue 2, pp. 327-337, March-April 2022. Available at doi : <https://doi.org/10.32628/IJSRST229250> Journal URL : <https://ijsrst.com/IJSRST229250>

Table-I: Plant Species Claimed To Be Vedic Soma

Sr. No. 1	Plant Species 2	Classification 3	Common (C)/ Sanskrit (S) Name (Provided in Sources) 4	Literary Source 5
1	<i>Amanita muscaria</i> (L.) Lam.	Amanitaceae Basidiomycetes (Fungi)		Dash and Padhy, 1978; Rao and Hajra, 1987
2	<i>Asclepias acida</i> Roxb.	Asclepiadaceae Angiosperms		Hillebrandt, 1891
3	<i>Basella alba</i> L. (Syn. <i>B. alba</i> var. <i>cordifolia</i> (Lam.) M.R. Almeida)	Basellaceae (Chenopodiaceae) Angiosperms		Hillebrandt, 1891
4	<i>Cannabis sativa</i> Linn.	Cannabinaceae Angiosperms		Hillebrandt, 1891
5	<i>Ceropegia bulbosa</i> Roxb.	Asclepiadaceae Angiosperms		Karnick, 1969
6	<i>Ceropegia decaisneana</i> Wight	Asclepiadaceae Angiosperms		Hillebrandt, 1891
7	<i>Ceropegia elegans</i> Wall.	Asclepiadaceae Angiosperms		Hillebrandt, 1891
8	<i>Ceropegia lawii</i> Hook. f.	Asclepiadaceae Angiosperms		Karnick, 1969

Sr. No. 1	Plant Species 2	Classification 3	Common (C)/ Sanskrit (S) Name (Provided in Sources) 4	Literary Source 5
9	<i>Ceropegia panchganiensis</i> Blatt. et McG.	Asclepiadaceae Angiosperms		Karnick, 1969
10	<i>Ceropegia rollae</i> Hem.	Asclepiadaceae Angiosperms		Karnick, 1969
11	<i>Ceropegia tuberosa</i> Roxb.	Asclepiadaceae Angiosperms		Karnick, 1969
12	<i>Dioscorea bulbifera</i> Linn.	Dioscoreaceae		Karnick, 1969
13	<i>Dioscorea esculenta</i> Linn.	Dioscoreaceae		Karnick, 1969
14	<i>Eleusine coracanna</i> Gaertn.	Poaceae Angiosperms		Hillebrandt, 1891
15	<i>Ephedra intermedia</i> Schr. & Meyer	Ephedraceae Gymnosperms		Chopra, 1982
16	<i>Ephedra gerardiana</i> Wall. ex Stapf	Ephedraceae Gymnosperms		Madhi Hassan, 1963, 1990
17	<i>Ichnocarpus frutescens</i> (L.) R.Br.	Asclepiadaceae Angiosperms		Tripathy, 1926
18	<i>Periploca aphylla</i> Dcne.	Asclepiadaceae Angiosperms		Hillebrant, 1819; Watt, 1889-1996; Karnick, 1969
19	<i>Periploca graeca</i> L.	Asclepiadaceae Angiosperms		Karnick, 1969
20	<i>Ruta graveolens</i> L.	Rutaceae Angiosperms		Roxburgh, 1820
21	<i>Sarcostemma acidum</i> (Roxb.) Voight (Syn. <i>S. brevistigma</i> W. & A.)	Asclepiadaceae Angiosperms	Somlata (S)	Hillebrandt, 1819; Roxburgh, 1820; Karnick, 1969
22	<i>Sarcostemma brunonianum</i> Wight & Arn.	Asclepiadaceae Angiosperms		Hillebrandt, 1819; Karnick, 1969

Sr. No. 1	Plant Species 2	Classification 3	Common (C)/ Sanskrit (S) Name (Provided in Sources) 4	Literary Source 5
23	<i>Sarcostemma intermedium</i> Dcne.	Asclepiadaceae Angiosperms		Hillebrandt, 1819; Karnick, 1969
24	<i>Sarcostemma stocksii</i> Hook. f.	Asclepiadaceae Angiosperms		Hillebrandt, 1819
25	<i>Sarcostemma viminale</i> (L.) R.Br.	Asclepiadaceae Angiosperms		Hillebrandt, 1819
26	<i>Vitis vinifera</i> Linn.	Vitaceae Angiosperms		Hillebrandt, 1819

Table-II: Plant Species supposed To Be Substitutes In Vedic Tradition

Sr. No. 1	Plant Species 2	Classification 3	Common (C) or Sanskrit (S) name 4	Literary Source 5
1	<i>Butea monosperma</i> (Lamk.) Taub.	Papilionaceae Angiosperms	Palesa (S)	Clark, 2019
2	<i>Desmodium gangeticum</i> (L.) DC.	Papilionaceae Angiosperms	Salaparni (S)	Leonti and Casu, 2014
3	<i>Desmostachya bipinnata</i> Stapf	Poaceae Angiosperms	Kusa (S)	Leonti and Casu, 2014
4	<i>Ficus benghalensis</i> L.	Moraceae Angiosperms	Nyagrodha (S) Vata (C,C)	Clark, 2019; Leonti and Casu, 2014
5	<i>Ficus racemosa</i> L.	Moraceae Angiosperms	Udumbar (S)	Clark, 2019; Leonti and Casu, 2014
6	<i>Ficus religiosa</i> L.	Moraceae Angiosperms	Peepal (C) Bodhics (C) Asvatha (S)	Clark, 2019; Leonti and Casu, 2014
7	<i>Ficus virens</i> Dryand (Syn. <i>F. infectoria</i> Roxb.)	Moraceae Angiosperms	Plaksa (S)	Clark, 2019; Leonti and Casu, 2014

Sr. No. 1	Plant Species 2	Classification 3	Common (C) or Sanskrit (S) name 4	Literary Source 5
8	<i>Mucuna pruriens</i> (L.) DC.	Papilionaceae Angiosperms	Kappicacchu (S) Atmagupta (S)	Leonti and Casu, 2014
9	<i>Nelumbo nucifera</i> Gaertn.	Nymphaeaceae Angiosperms		Leonti and Casu, 2014
10	<i>Sida cordifolia</i> L.	Malvaceae Angiosperms		Leonti and Casu, 2014
11	<i>Sida rhombifolia</i> L.	Malvaceae Angiosperms		Leonti and Casu, 2014
12	<i>Sida spinosa</i> L.	Malvaceae Angiosperms		Leonti and Casu, 2014
13	<i>Tabernaemontana divaricata</i> (L.) R.Br.	Apocynaceae Angiosperms		Leonti and Casu, 2014
14	<i>Tinospora cordifolia</i> (Willd.) Miers.	Menispermaceae Angiosperms		Leonti and Casu, 2014

Table-III: Plant Species Coined Using Epithet 'Soma'

Sr. No. 1	Plant Species 2	Classification 3	Common (C) or Sanskrit (S) name 4	Literary Source 5
1	<i>Acacia catechu</i> (L.f.) Willd.	Mimosaceae Angiosperms	Soma Valka	Praharaj, 1937
2	<i>Acacia nilotica</i> (Linn.) Willd. ssp. Indica (Benth.)	Mimosaceae Angiosperms	Soma Valka	Praharaj, 1937
3	<i>Bacopa monnieri</i> (Linn.) Penn.	Scrophulariaceae Angiosperms	Soma Lata	Mishra, 1998; Nayak, 1942
4	<i>Benincasa hispida</i> (Thunb.) Cogn.	Cucurbitaceae Angiosperms	Soma Grusthtika	Nayak, 1942
5	<i>Centella asiatica</i> (Linn.) Urb.	Apiaceae Angiosperms	Somarja	Nayak, 1942
6	<i>Cullen corylifolia</i> (L.) Medik. (Syn. <i>Psoralea corylifolia</i> Linn.)	Papilionaceae Angiosperms	Soma Raja	Praharaj, 1937; Nayak, 1942; Mishra, 1998
7	<i>Ichnocarpus frutescens</i> (Linn.) R.Br.	Apocynaceae Angiosperms	Soma Lata	Mishra, 1942; Nayak, 1942
8	<i>Milletia pinnata</i> (L.) Panigrahi	Papilionaceae Angiosperms	Soma Valk	Praharaj, 1937; Mishra, 1942
9	<i>Paedera scandens</i> (Lour.) Merr.	Rubiaceae Angiosperms	Soma Rajee	Roxburgh, 1820
10	<i>Santalum album</i> Linn.	Santalaceae Angiosperms	Soma Yani	Nayak, 1942
11	<i>Sapindus laurifolius</i> Vahl. (Syn. <i>S. trifoliatum</i> Linn.)	Sapindaceae	Soma Valka	Mishra, 1998
12	<i>Soyimida febrifuga</i> A. Juss.	Meliaceae Angiosperms	Soma Vruksha	Mishra, 1998
13	<i>Tinospora cordifolia</i> (Willd.) Mier.	Menispermaceae Angiosperms	Soma Valli	Mishra, 1998; Nayak, 1942; Tripathy, 1926
14	<i>Vernonia anthelmintica</i> Willd.	Asteraceae Angiosperms	Somraj	Roxburgh, 1820