Scientific Study of *Soma* and Its Use in Rituals of *Somayagna*: A Review

B R Divya¹, H R Nagendra²

¹Research Scholar, Division of Yoga - Spirituality, Bengaluru, Karnataka, India, ²Chancellor, SVYASA Yoga University, Bengaluru, Karnataka, India

A performance of sacrificial rituals is harmonious to all living beings of the cosmos. There is a negative impact on man, society and atmosphere due to the ecological imbalance; global warming is creating a more heat and pressure on the earth. *Somayaga* is performed for rain formation and to balance the six seasons. The ingredient and rituals of the *yaga* appear to be a promising, scientific, cost-effective, eco-friendly method to counter the ever-increasing deadly pollution of the environment, and purify and enrich the environment. A review of various sections of *Vedic* literature was performed with regard to *Somayaga*. The scientific interpretation and researches on the sacrificial rituals can build a more faith and deeper understanding of such customs. The rituals of *yaga* have been observed in influencing the collective consciousness fields of the people participating in the *yaga* as measured by REG. Hence, for the survival of the *Vedic* culture, welfare of the creation and mankind *Somayaga* must be performed. The present paper is aimed to briefly compile and bring out the studies, information, and researches on *Soma* as a plant, drink and its use in the rituals of *Somayaga*.

**Key words:** Rain formation, Sacrificial rituals, *Soma*, *Yaga*

**CHARACTERISTICS OF SOMA AS A PLANT**

- A watery plant, growing near water (RVVIII.91.1). It yields purer milky juice which is mild and acidic in nature gained by crushing the plant.
- It is a creeping plant, almost destitute of leaves and has small white fragrant flowers collected around the extremities of the branch.
- It is representative of mind altering powerful plants having nervine qualities.
- The 15 leaves Interestingly, keeps the pace with the *Tithis* (lunar days) of bright fortnight (*Shukla Paksha*) and becoming well-furnished with 15 leaves on full-moon day (*Poornami*), and they also lose their leaves one by one almost in the same order of the *Tithies* of dark fortnights (*Krishna Paksha*) and finally on No-moon day (*Amaavaasya*) remained in the form of a leafless stump xerophytic. (*Susrutha Samhita* SS. IXXX. 20, 21 and 22).

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**INTRODUCTION**

*Soma* derived from the root *su* means *to press*, also called as *sumnah* meaning *pleasure*. It called as *osadhi* (RV10.85.2), *bhurudha* (RV1.91.22), *udbhid* (RV8.79.3), *raisin* (RV9.97.14), and *Parnin* (RV9.82.21).¹ According to *Vedic* hymns from *Rigveda* *Soma* has been called as the “Elixir of immortality,” “Drink of the Gods,” and hence the *Soma* drink has been called as the Procreator of thoughts. *Soma* is said to grow in the Himalayas and is connected with a plant *Kushta* (*Saussurea lappa*) and *Ashvatha* fig tree.²

In the Ninth, *Mandala* of *Rigveda* and in a few more hymns from the other *Mandala* the *Soma* plant description can be traced out. The Scholars find difficulty in ascertaining its exact botanical identity due to difficulty in interpretation of Sanskrit literature and non-specifications of the morphological features of the plant.³ *Soma* plant described as a creeper is dark in color, sour, leafless, milky, and fleshy on the surface.⁴

It is identified with Ephedra, a gymnosperm; leafless bush of 1-6 ft high, prostrate or erect with pine like the aroma, containing the juice with strong astringent taste. The tender twigs are enriched with an alkaloid ephedrine (1-phenyl, 1-hydroxy, 2-methyile amino propane) which is soluble in water, colorless, odorless, and gets decomposed even when exposed to air.⁵,⁶

The present paper is aimed to compile briefly and bring out the studies, information, and researches on *Soma* as a plant, drink and its use in the rituals of *Somayaga*. **DOI: 10.17354/cr/2016/184**

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**Corresponding Author:**
B R Divya, Research Scholar, Division of Yoga Spirituality, Bengaluru, Karnataka, India. E-mail: divyakeshav33@gmail.com
Soma is a part of the ancient, yogic and shamanic usage of sacred plants and mind-altering plants of various types as well special preparations of them.

Soma is considered as a science of plant preparations and not one plant in particular and hence it would mislead if only one Soma plant is looked for, In Atharva Vedā (AV XI.6.15), Soma plant was considered the best and is mentioned with plants like Asvatthā and Darbha (Athravvedā Samhita ed. S. D. Satavelakar). Soma was prepared in three forms as cooked with grain or barley (yava), milk (go), or curds (dadhi) and used with ghee (ghrita) and honey (madhu).

DIFFERENT SOMA PLANTS

Soma was identified with Somalata and Somavalli. Somalata, used as a substitute in south India, is Sarcostemma brevistigma, which has a very bitter taste, and so could not have been the Soma plant of the Rig Vedic era whose juice was so enthusiastically imbibed three times a day. Today most scholars agree that the plant as described in both Rigveda and Avesta is ephedra. There are other several plants that are considered to be Soma as discussed in the literature.

Soma as Deity

In Hinduism, the God Soma is depicted to be a lunar deity. Due to the intervening the curse of Daksha to Soma to wither and die, the Moon is symbolized with phases of waxing and waning. In the Vedic thought Soma represents a great deity, related to Indra in the atmospheric region concerned with water release function, spiritual discipline, and a cosmic power Indra and Agni are portrayed as consuming Soma in copious quantities.

Soma in Ayurveda is related to the secretion in the brain is due to the spiritual practices of Yoga, Pranayama and meditation and a Yogi who drinks the moon juice with his standing tongue succeeds in conquering death within half a fortnight and is not affected from the bite of a poisonous snake. Just as fire sticks to the wood, and light does not abandon the oil fed wick, so the soul does not abandon the body that is full of Soma.

Soma Rasa

The drink is prepared by priests pounding the plants with stones. The juice so gathered is filtered through lamb’s wool, and mixed with other ingredients (including cow milk) before it is drunk.

The Soma Rasa is a divine drink offered to Gods. The aphrodisiac property of Soma creates a euphoria feeling that ephedrine may produce. Soma Rasa when orally in taken with its medicinal efficacy makes the consumer awakened and alert, stimulates the nervous system, increases the oxygen intake and acts as a restorative and mild anesthetic agent. It dilates the pupil and contracts the uterus. Excessive intake of ephedrine causes nervousness, insomnia, headache, vertigo, swelling, nausea, and vomiting. Hence, Soma Rasa is an aphrodisiac, restorative or elevator of mental stature, but never an intoxicating or a hallucinogenic product. The methodology of the use of Soma and its effects on the user, is dealt widely in the epic (Chapter - IXX) and is presented and explained systematically in intense care unit of the Soma drinker.

Soma for Rain Formation

The Siva Shakti Principle is displayed by the Agni and Soma where Soma is absorbed by the rays of the sun to ascend into the atmospheric region where it copulates with Agni (YN.2.16) resulting in the formation of water-embryo (apamgarbha) which makes nucleus developing into the womb of clouds leading to the delivery of water in the form of rains. According to the Solar Zodiac, both Soma and Agni prepare themselves in Mesa (Aries) and Vrṣa (Taurus) and copulate in Mithuna (Gemini) which is the beginning of rainy season. Being the master of Mirgasira Nakshatra and representative of pitta and kapha, Soma and Agni along with Vayu make the tridosha of Ayurveda, and hence control the fertilization, reproduction of all the biological phenomena.

Yagna in Hinduism

Yagña/Yaga, the sacrifice is the symbol of the life - process governed by the proper combination of Agni and Soma, has being the heart of Vedā and is derived from a Sanskrit verb yaj, which has three fold meaning - worship of deities (devapujana), unity (sangaikaran), charity (Dana). (Ref- Agrawala, Vasudeva Sharara).

The Vedas prescribe a variety of Vedic rituals having different standards and goals. These rituals are classified as - Sroutha Karmas and Smartha Karmas. Rituals like marriage, Upanayana, Grihapravesam, Janapath Homan and such others are Smartha Karmas. Agnihotra, Ishti, Somyagana, etc. are Sroutha Karmas.

These Sroitha Karmas are of 21 types classified as Pakayagnas, Haviryagnas, and Somayagana each consisting of seven varieties of yagnas. Out of these 21 nityakarmas, only the Agnihotra and the Aupasana are to be performed twice daily, at dawn and dusk. The remaining ones have certain allotted frequencies over the course of the year. The more complicated the yagna, the less frequently it is performed. The most complex ones need to be performed only once in a lifetime. The Yagna that involves the extraction, utility and consumption of Soma (in the general sense nectar, but an extract of a particular tree) is called a Soma Yagna. Others are usually referred to as haviryagnas.
Paakayagnas are stated in Grihya sutras. Hence, they are known as Grihya karnas. The seven Paakayagnas are ataka, sthalipaka, parvana, sravani, agrahamani, caitri and asiyyuyi.

The seven Haviragnas are agniyadhana, agnihotra, darśa-pürnamāsa, āgrayana, cāturmāsa, niruddha pāshu bandha, sautramani.

The seven Somayagnas are agnistoma (for the atmosphere), atyagnistoma (for water), ukta (for food), shodasi (for health), vajapeya (for peace of mind), atiratra (longevity of life), and aptoryama (for well-being, prosperity of the whole society).

**Somayaga**

Soma sacrifice was the result of a complicated mythological interpretation of the absorption of water by Indra which consisted of an elaborate ritual of purchasing the Soma herb, bringing it in a cart, washing, pressing, straining, storing it in containers. Somayaga the most complex of Yagnas described in the Shruti is performed to engender universal prosperity through the potant vibrations emitted during the recitation of the Vedic mantras. Somayaga is the offering of Soma Elixir to appease the six Ritu Devatas (energies), to redress the balance of the six seasons which seems to be in chaotic disarray. In Somayaga, Soma juice oblation is given to Lord Indra, who showers good rains on earth, and rains are the source of life on earth. Somayaga is believed to strengthen the five elements or Pancha Mahabhubas - Pruthvi (earth), Ap (water), Agni (fire), Vasu (wind), and Akash (sky) - to bestow prosperity and restore natural equilibrium. The yajña has its own nomenclature. The person who oversees the Proceedings is called the Yajamanan. Assisted by 15 functionaries known as Ritualik, who help to execute the ritual and recite or chant the Vedic mantras. He spiritually prepares himself with severe austerities undergoes severe austerities for the final rite - the offering of the Soma juice and during the days when the ritual is in progress, and is not allowed to eat or wash himself. All the 3 fires are used in these yajnas. The main feature of these yagnas is the offering of the Soma juice 3 times a day. A person who performs regularly without fail the Agnihotra, the Havir and the Somayajnas are specially called Ahitaagnis. The Soma rituals are never performed near cremation grounds, in temples, or on temple grounds.²

Somayaga is categorized as Ekaha (1 day), Ahina (12 day), Satra (>12 days), and Gavaman Satra (361 days) with four main priests involved for each four Vedas Hotr (responsible for chanting the Rigveda to calls the gods to the sacrifice), Adhvaryu (offers the oblations reciting the Yajuses and also the overall coordination of sacrifice), Udgdatra (responsible for the saman singing in a sacrifice) and Brahman (Atharvaa Veda- responsible for the overall welfare of the sacrifice-performance of Prayashchita wherever and whenever needed if a defect in performance arises). Each main priest had 3 assistants hotra - maitravarna, acchasa, gravastrut. Adhvarya - pratiprashatta, nesa, unnetra. Udgdar - pratot, pratiharta, subrahmanya, Brahman - brahmanacchasi, agnihira, pota.

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<th>Seven Soma yagas²³</th>
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<td><strong>Agnistoma</strong></td>
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| **Atyagnistoma**  | Agnistoma (1st-12th stutis)+Shodashi (16th shstras)  
**Uktya**          | Soma in Uktiya vessel divided into 3 parts. Includes Agnistoma (12 shstras)+Uktya (13th, 14th and 15th shstras). After 13th stulti offered to Indra Varuna, 14th to Indra Brihaspathi 15th to Indra Vishnu |
| **Shodadi**       | Has a combination of Agnistoma+Uktya+Shodashi totaling 16 stotra shstras. An offering to Indra Shodashi, Sun is half set, black horse is tied to the entrance of Havirdhana. Gold, blades of grass carried to Sadas from Havirdhana on horseback amidst hymns |
| **Vajapeya**      | Performed by 17 shstras (shodhashi+1) for one desiring for unlimited dominion, this yaga has many special features. The number 17 is all important in this rite. For instance: 17 animals are sacrificed, 17 objects are distributed as fees, and it lasts for 17 days. A chariot race in which the yajamana also takes part and is always helped to ‘win’ is another interesting feature of this sacrifice |
| **Atiratra**      | Shodhashi+13 shstras+29 shstras the 29th called Ashwins. It is an optional form of Jyotistoma and is performed in 1 day. The Ashwins are offered purodaṣa. An ewe or a ram is sacrificed unto the goddess Sarasvati. As 29 shstras cannot be chanted in 24 h this continues in night hence the name atiratra |
| **Aptoryama**     | A combination of Atiratra+4 shstras. It is a modification of the Agnistoma and is performed to fulfill any desire. The sacrificer is expected to gift away 10,000 cows or even more. A chariot is also to be given to the hota priest |

The Vedis and Yajmayudhas are the part of the yaga where ‘Vedi’ means an altar, ‘Yajmayudhas’ are the various implements used in sacrifices. The vedi is either an elevated or an excavated plot of ground strewn with the Darbha grass, where sacrificial utensils and implements are placed. It is shaped within a rectangular area. The northern and the southern sides are concave. Measurements and shape of a vedi vary according to the type of the rite to be performed, as described in the concerned texts. The height of the sacrificer is the unit used to determine the various measurements. Associated with the vedi is canaya or agnicayana, the rite of piling the bricks for the fire-altar, in Somayaga. The altar is built with five layers of bricks. It may have several shapes such as suparna (eagle), syena (hawk), and drona (tough). The bricks used also may be of various shapes- triangular, oblong or square. The below listed is the vessels used in the Somayaga.¹³
**Scientific Aspects Concerning the Yagna Ingredients, Soma herb and Somayaga**

The basic energy systems of a Yagna create a potential and positive effects in its surrounding atmosphere, the desired sonic signals is increased from the mantras chanted. For the reduction of CO₂ and liberation of oxygen, Yagna should be performed in the presence of strong sunlight. Dr. Hafkine has mentioned that - mixing ghee and sugar and burning them creates smoke which kills the germs of certain diseases and secretion takes place from some glands.
relation to the wind-pipe, which fill our heart and mind with pleasure. Sugars present in Havishya have great power to purify the atmosphere. It kills the germs of T.B., measles, smallpox and cow-pox - remarks Prof. Tilward. According to Dr. Shirowich, a Russian scientist has remarked that Cow’s milk contains great power of protection from atomic radiation, Houses having cow-dung covered floors enjoy complete protection from atomic radiation, If cow’s ghee is put into Yagna fire, its fumes lessen the effect of atomic radiation to a great extent. The medicinal fumes emanating from Agnihotra have been observed by researchers in the field of microbiology to be clearly bacterio lethal in nature. The CO₂ cycle is strengthened by the Samidhas and Havishya burnt in Yagna poses no threat to the environment. The use of Soma establishes a link between consciousness and the processes of creation and its ceremonies with specific herbal mixtures acts medicinally on the body and psycho actively on the mind directly effecting the ontological status of a person and a measurable decrease in fungus, bacteria and other pathogens in the immediate vicinity of the Yagashala.

The Soma Plant with its high medicinal properties has extensively contributed in the Rasayana chikithsa, for the rejuvenation of the body. The drug is used in heart diseases and psychosomatic disorders. It is a treatment of reversal of complete metabolic activities of body and helps in complete detoxification of the body. Helps to retain, regain or enhance one’s youth, strength, stamina and health, virility. Performing these rituals ensure timely and adequate rainfall which in turn ensures availability of food and thriving of animal and plant life leading to human prosperity.

The Eco sensor has recorded high vibrations during the periods of Pravargya, the mantras of Pravarg and Agnisoma, Pratsavanam + madhayadinsavam + Tritojya ysvahanam and Pravarg.

The Soma was described in terms of intensive and dynamic changes and transformation of life energy. Some distinct phases of this ceremony were described, with their processes of production, uptake, release and transformation of life energy. Materials used for the ceremony (Soma - ephedra stalks, a trunk of ficusracemosa, leaves of poa cynosuroides, milk and many others) have extraordinary energetic properties.

Influence of Soma on physiochemical and bacteriological parameters of Narmada River water kept inside the Soma yagashala shows a drastic reduction in the hardness of the water tested, from 188 to 124 mg/ml. The control water has more than 300 coliforms/100 ml whereas the tested water shows only 7.6 coliforms/100 ml. The performance of Soma proves to have a positive effect and improves the quality of the water.

Synchronous directed attention influencing REG was observed in Vedic chanting, Agni Prasthapana, Soma kriya, Pravargya, Subramanya ahvana, Garuda chayana, in the Performance of Apthoryama Somayaga. Attitudinal survey in the same yaga showed that people came to yaga for spiritual reason and their life is affected from the spiritual activity. Increase in the Air borne bacteria counts and the result of the ash filtrate was negative for bacterial growth and also for antibacterial activity after 6 months. The spiritual significance of Yajña is to raise the general level of human consciousness. Procedures include chanting of Mantras, offerings into the fire, etc. People attended Yajñas for spiritual reasons, and felt that their lives were very of much improved.

Yagna, thus, appears to be a promising scientific, cost-effective, eco-friendly method to counter the ever-increasing deadly pollution the environment and purify and enrich the environment with healthy ingredients.

**CONCLUSION**

History has witnessed the birth and death of many civilizations with many wars, conflicts even now also existing, human life has seen many changes, inventions and discoveries, as many religions with many languages came and went. The modern world is caught in interlocking meshes for modernity and materialism, the Indian psyche is coasting towards insecurity and dissatisfaction. The ecological balance has been disturbed by the human quest for Material value leading to Global warming with much heat and temperatures across the globe being increased. In Vedic culture, use of Soma herb and performance of Somayagas have shown to have an influence directly and indirectly on the people, space and environment positively helps in propagating universal peace and harmony. Studies have proved rains showered in the places where different types of Somayaga was conducted and this helps to reduce the heat in the atmosphere, cools down the earth and helps in sustainenance of life in humans, plants and animal. Hence, there is a need for the survival of the Vedic culture; welfare of the creation and mankind Somayaga must be performed.

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