INTRODUCTION

In Rig Veda (R.V.), ‘Soma’ is projected as an ambiguous entity, being attributed to multifarious forms such as: Soma as light; Soma as dawn; Soma causes the sun to shine; Soma as a constellation and luminous species; Soma as bird; Soma as child; Soma as support of the sky and Soma as the King, which ultimately characterised as if a mythological form. Above all, the Vedic literature supports that Soma was a sacred plant, the juice (Soma-Rasa) was considered as the divine drink offered to Gods, contemplated with medicinal efficacy, used as natural restorative for health that makes the consumer awakened and alert.

More additions to the glory of Soma Rasa, that, it was poured into the fire as an offering to the Gods and was drunk by the priest that inspired and stimulated to compose hymns and maxims. It bestowed long life and responsible for removal of sins from the heart and takes away the diseases from the weak and is the medicines of the infirm; it gives protection against human wickedness and bad omens; encourages truth and destroy untruth and condemns false dignity (Hillebrandt, 1891). In Law Books, Soma is regarded as a purified drink and is characterised to an extent that a Brahmmana (yogic elite) by drinking Soma, was supposed to acquire the powers, which could kill others merely throwing a glance. Moreover, the alternative name of the Moon God ‘Chandra’ is Soma, who is the controller to generate medicinal properties in plants and the authority of Amruta (i.e. Nectar), the so-called elixir of immortality, for which the man wonders.

During the last more than one century, there have been substantial research to identify the specific plant species of Soma, used by the Vedic people to make a fruitful utilisation of it for the present day humanity. We have dealt extensively on the Soma plant in our recent review (Padhy et al., 2001) and have presented it for an open discussion (Padhy and Dash, 2001, 2002). The present paper is aimed to bring out the ethnobotanical facts relevant to the regime of Soma drink from vedic age to modern day.

THE SOMA PLANT AT A GLANCE

The description of the Soma plant can be traced out in Rig Veda, especially in the ninth Mandala and few more hymns in other Mandalas. However, the difficulty in interpretation of Sanskrit literature and clear-cut non-specifications of the morphological features of the plant has created problems for the scholars for ascertaining its exact botanical identity. The details of the Vedic description on it, is being depicted in our recent review (Padhy et al., 2001). However, for the benefit of readers, the description of Soma plant given by Haug, 1875 (c.f. Hillebrandt, 1891), is mentioned here to give a brief idea on it. The Soma plant is not mere a plant; but a creeping, somewhat twisting, semi-shrub with a series of leafless shoots, which contain an acidulous milky juice. On the other hand, there are evidences for the search of alternatives to Soma plant in the Vedic age itself, which indicate the scarce availability or extinction of the plant proper, in course of time.

Aayurveda, known as the fifth Veda in which, two Samhitaaas (Charaka and Susruta) are highly significant. The amount of research carried out on Soma drinking in Aayurveda tops the list among all the efforts made by Aryans to explore the benefits of the plant. Susruta Samhitaa (S.S.) has mentioned 24 varieties of Soma based on the differences in their habitat, name, shape and specific potencies. As a general characteristic, all the Soma varieties were furnished with 15 leaves, the character contradicting to the Vedic description that the plant was leafless. However, all the varieties had possessed a bulb, a creeper like morphology and secreted milky juice. Interestingly, the emergence of 15 leaves in all these 24 varieties, one by one daily keeping pace with the Tithis (lunar days) of bright fortnight (Ssukla Paksha) and becoming well furnished with 15 leaves on full-moon day (Poornami). Subsequently, they lose the leaves one by one in the same order of Tithies of dark fortnights (Krushna Paksha) and finally on no-moon day (Amaavaasyaa) remained in the form of a leafless stump (SS. IXXX. 20, 21 and 22). But, the existence of such plant is
yet to be established from botanical stand point.

Further, the Chapter XXX of Susruta Samhitaa, has focussed on 18 more plants with their brief morphological descriptions, their availability and allied therapeutic action like Soma. All these plants, have a lot of morphological and ecological variations with a common feature of possessing a latex containing bulb. However, the multifarious brief descriptions of all these 24 + 18 = 42 plants could not ascertain, so far, to pinpoint on the Soma plant. The non-availability of the detailed phytography of these plants, is due to the general practice in the ancient days to learn the identification of the plants from the Guru and mostly, the phytographic know-how of identifying characters were limited only to the expert (i.e. the Guru concerned). The same practice of non-revealing the drugs is still continuing with the quacks and tribal physicians with the claim (a falsehood) that the therapeutic potency of the plant be lost if revealed out. On the contrary, the non-declaration of the drug bears a positive implication of long-term sustainability of it ecologically; while it suffered negatively, by dwindling / deterioration / extinction of the knowledge.

As per the habitat perspectives of the plants, Vedic description has mentioned that it used to grow in mountains, which indicates the plant as xerophytic. On the contrary, Susruta Samhitaa has mentioned that some varieties of Soma used to grow in the hillocks and mountains of ancient India, like Himalayas, Arbuda, Sahya, Mahendra, Malya, Sree Parvata, Devagiri, Devasa, Paariyastra and Vindhya, while few other varieties are reported to grow in aquatic habitats restricted to Devasanda lake, Sindhu river and the little Maanas lake in Kashmir. All these above narrations create impediments to concentrate on the ecological niche of the plant either as xerophytic or hydrophytic.

Present day research has focussed on 20 different plants as Soma, alphabetically mentioned as: Amanita muscaria, Asclepias acida, Basella cordifolia, Cannabis sativa, Cereopgia decaisneana, Cereopgia elegans, Eleusine coracana, Ephedra sp., Ichinocarpus frutescens, Periploca aphylla, Ruta graveolens, Saccharum sp., Sarcostemma acidum, Sarcostemma brevistigma, Sarcostemma brunonianum, Sarcostemma intermedium, Sarcostemma viminal, Sorghum sp., Vitis vinifera (Afgan grape/vine) and Humulus lupulus (Hops). The above list is the outcome of the perception from different schools of thoughts based on the interpretation of Vedic view, from their own angle and still fails to pin point on a plant as Soma. Sarcostemma – a succulent angiosperm, supported much by the old school of thought (Fig. 1); while Ephedra – a gymnosperm, enriched with the active drug principle ephedrin, is not a natural habitat of India, where the Soma culture existed. The mushroom Amanita muscaria, the latest identified plant as Soma, has gained much consensus for its intoxicating and hallucinogenic properties. But, it suffers from objections as the prime vedic age human ethical compendium Manusmruti claims that, mushrooms are prohibited food for human beings; then how can they be offered to Gods?; and be a divine plant of Vedic age?! (Dash and Padhy, 1997).

This legendary plant which occupied a significant place in Aryan cult for thousands of years; yet remains without any established identification of its integrated original characteristics; ecological niche and still continued to be a botanical enigma.

THE REGIME OF SOMA DRINK

Vedic Procedure

The Vedic treatise for extracting Soma Rasa

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Fig. 1. Sarcostemma brevistigma, W&A. (Adopted from: Indian Medicinal Plants, by Kritikar and Basu, 1918).
involves collection of plant twigs enriched with acidulous milky juice, crushed between stones in mortar and the juice collected in a cowhide or plate. For better yielding, the twigs previously steeped in water and the extracts purified by passing through sieves.

The juice (Soma-Rasa), as described was with characteristic sharp taste and intaken in pure or mixed form along with milk, curd, grain or honey (Macdonell and Keith, 1912). Hardly, there was any time left between the extraction and administration which rules out any possibility of fermentation. The drink recipe so prepared, was sweet smelling and neither hallucinogenic nor intoxicating; rather acting stimulant that kept the drinker awake and alert all through. Its effective stimulus at intellectual level provoked complementory thoughts to compose maxims and hymns (Kochhar, 1996). The drinking of Soma Rasa was ritual oriented, offered to Gods and entitled not for a common man. The Soma drink praised with different adjectives in different hymns of Rig Veda, such as: 1) Sruk RV. IV. 27.5 (gives contentment); 2) Ssubhra RV. IX. 62.5 (beautiful); 3) Madhu RV. I. 13.4 (sweet), 4) Madya RV. VIII. 92.1 (priority for consumption), 5) Gorjika RV. VII. 21.1 (free from excreta), 6) Vivakshaswa RV. VIII. 1.25 (to be praised aesthetically), 7) Maneeshinah RV. II. 19.1 (enrich cheerfulness), 8) Ssudaksha RV. VIII. 92.4 (cream of the food) etc. (Acharya, 1992). Moreover, in Indian scenario, the Soma culture has influenced our day-to-day life such that, one never meets failure in life and moves every where with a divine spirit. He gives pleasure to the minds of all living beings (Shastri, 1953).

The methodology of the use of Soma, after care and day to day progress of the user, is dealt widely in the epic (Chapter-IXXX) is presented systematically as follows:

1. A person desirous of using Soma (any one of the 24 species described earlier), should get a house constructed with three chambers, one inside another at a commendable site (i.e. a central chamber with 2 successive outer protected chamber / corridor (Fig. 2) being provided with all kinds of routine paraphernalia and attendants. We have named this house as the Intense Care Unit of the Soma Drinker (ICUSD).

2. The particular plant should be collected according to the rites enjoyed for a sacrifice with chanting of Mantras and offered to the sacred fire in the innermost chamber of the ICUSD.

3. The Soma drinker should prick the bulb of the plant with a golden needle and collect a hand-full (Anjali) measure of milky exudate in a golden or silver vessel. This juice should be gulped in one sip without testing it and after that should throw away the remnants into water. Such instructions probably indicate the non-palatable taste of the drink. He should then discipline himself by applying the principles of Yama (controlling of senses) and Niyama (routine life). The day to day progress of the Soma drinker are recorded as follows:

1st Day: After drinking the Somarasa, with
concentrated mind and holy spirit, he should be confined to the innermost chamber of the ICUSD, observe silence, should sit, stand or walk; but should never sleep being attended by friends (outside). The person after his evening meal, followed by a spiritual discourse, should lie down on a bed of Kussa grass (Desmostachya bipinnata) covered with black-buck (Krushna-saara Mruga – Antilope cervicapra) skin. He may take a little cold water if thirsty or if he wants can take little milk too.

2nd Day: In the next day morning he should perform the routine and auspicious rites; should sit down as before. When the Soma juice gets digested, it causes vomiting of blood and worms. In the evening, he should take boiled cooled milk and rests as usual.

3rd Day: He would get a loose motion with worms which would make him free from impurities accumulated due to errors of his previous diet and conduct; thus making his body well cleansed. He should take milk after a bath in the evening and rests as before.

4th to 6th Day: Swelling appearance of the body and the worms come out from all parts of his body are the characteristics of the day. His bed should be on strewn over with sand covered by a silken cloth and his diet is milk as before; but enhanced to twice daily.

7th Day: The person becomes completely fatigued due to excess wastage of muscles and reduced to a skeletal appearance. However, he continues to respire due to impact of Soma as claimed. Along with milk diet his body should be sprinkled over with warm milk followed by anointing with a paste of Sesamum indicum – Rasi /Til, Madhuka indica – Mahua flower and Santalum album – Sandalwood.

8th Day: Activities are same as the 7th day like milk bath and application of pastes. He should leave the bed of sand by changing to a bed covered with silk cloth.

Later his muscles resume strength, his skin gets desquamated and his teeth, hairs and nails began to shed off.

9th to 18th Day: His body should be massaged with a herbal oil (Anutaila) and a bath with decoction of Soma Valka (may be any one of the following plants: Myrica sp., Millettia pinnata, Acacia nilotica and Sapindus trifoliatus - refer Padhy et al., 2001). Thence onwards his skin becomes firm with appearance of shining and enduring new teeth towards 17th / 18th Day.

19th to 29th Day: There will be a change in his diet as he should take gruel with milk and old Shali rice. During this time shining nails and glossy fine hairs will regenerate and the skin becomes lustrous.

30th to 50th Day: A hair cut (Mundana) in made on 30th day followed by application of paste made from sesame seeds (Sesamum indicum), Sandalwood (Santalum album) and Usira (Vetiveria zizanoides) on the head and bathed with milk. With in seven days stable, glossy and curly black hairs come up. On the 40th day he should come out of the central room to the next, remain for a moment and re-entered into the inner chamber. Afterwards some herbal rheumatic oil for massage, paste of Barley (Hordeum vulgare) and decoction of Ajakarana (Pterocarpus marsupium) for rubbing and warm milk for sprinkling over the body, followed by bath in well water soaked with Usira (Vetiveria zizanoides) roots. He should drink varieties of pulse and other soups mixed with juice of Amlaki (Emblica officinalis). Also be given black sesame seeds boiled with milk and Mahua in the curry. This will continue for the next 10 days.

51st to 60th Day: For next 10 days he should live in the middle chamber.

61st to 70th Day: These 10 days he should remain...
in the outermost chamber and stabilize himself getting exposed to sun and wind a little and again entered to the central chamber (for rest). During this period he should not look at himself in the mirror or water. All these days he should control his senses, thoughts, avoid anger and remain with constructive spirit. This state will continue till he is released out of the chamber.

Final Exit: On the 4th months in a full moon day after performing the auspicious rites and worshipping the Brahma manas he should come out of the chamber.

Truthfully, the difficulties and risk of taking the Soma, its after care and the day to day progress after administration of the juice, as well the process of metamorphosis as depicted, is beyond the expectations of any therapy and a modern man can not have trust and patience to undergo such rigorous treatment. But, it must be admitted that the whole process described above is no less than the quarantine treatment of modern medical science.

Modern Concept

The old school of research on Soma Rasa has focussed on different species of Sarcostemma of family Asclepiadaceae, an apparently leafless plant of several feet high, with smooth cylindrical jointed stalks and pendent lateral branches and small white flowers coming out on terminal umbels. Mostly, the tender shoots are with full of juice, which are often sucked by travellers to allay their thirst. The eminent taxonomist, William Roxburgh, who identified the Soma plant as Asclepia acida (Sarcostemma sp.) has claimed that the abundant quantity of milky juice, enriched in it, was not being witnessed by him in any other plant ever before. In this context, Max Muller has drawn attention to a Sanskrit passage, which he had claimed to be of Aayurvedic presentation, reads as follows:

Soyaamalaa malaa cha nispatraa ksheerinee tvasmaamsutaa,
Sslesmalaa vaminee vallee somaakshye chhaaga bhoojanam.

Meaning: The creeper called Soma, is dark in colour, sour, leafless, milky and fleshy on the surface. It causes phlegm and vomiting and eaten by goats.

Eminent botanist I.G. Baker, expressed that the medical text cited by Max Muller clearly refers to Sarcostemma as Soma as for as his perception is concerned (c.f. Hillbrandt, 1891).

Another old school has co-ordinated Soma with Afghan grapes, vine, sugarcane or some species of Sorghum, the juice of which used as ingredient for the preparation of a kind of beer (like hops in Europe) and Soma is not a beverage by itself. This claim holds little as Soma Rasa is not a fermented product. Even there is a rejected view of identification of Soma with Cannabis sativa (Bhanga). A full length of discussion of such above facts is available in Hillbrandt’s Vedic Mythology, 1891.

In course of time researcher tried to identify Soma plant with Ephedra, a gymnosperm; leafless bush of 1-6 ft. high, prostrate or erect with pine like aroma, containing the juice with strong astringent taste. The tender twigs are enriched with an alkaloid Ephedrine (1-phenyl, 1-hydroxy, 2-methyle amino propane) which is soluble in water, colourless, odourless and gets decomposed even when exposed to air. When taken orally it stimulates the nervous system, increases the oxygen intake and acts as a restorative and mild anaesthetic agent. It dilates the pupil and contracts the uterus. Excessive intake of ephedrine causes nervousness, insomnia, headache, vertigo, swelling, nausea and vomiting (Kokate et al., 1990; Tayler et al., 1936). Probably the aphrodisiac property of Soma coincides with the general feeling of euphoria that ephedrine may produce (Kochhar, 1996). But, this view gathers poor support from the geographical distribution of the plant, as India is not its natural habitat and the only species E. foliata grows in the plains of South Punjab and Rajashthan, is not a rich source of alkaloid containing juice. Moreover, Ephedra is not explored in Aayurvedic system.

Researches on psychoactive drugs correlated with the Soma plant with a poisonous mushroom Amanita muscaria (Wasson, 1972), which is enriched with active principles like muscarine, ebetonic acid, muscimol and oxazole derivative of muscarine (Tayler et al., 1936). It has been argued on behalf of this mushroom as Vedic Soma, the divine intoxicants consumed by the Aryans, known as the oldest hallucinogen for humanity. In fact, the tribals of Siberia and North America use Amanita as a narcotic drug. They have a curious custom of self-urine drinking to enjoy the narcotic effect several times following the first ingestion as the chemicals excreted through the renal system (Wasson, 1967, 1972;
Wasson and Wasson, 1957). Corroborating the structure with Soma plant, Amanita has characteristics like fleshiness, lack of root description, bulbous base and a doom shaped red cap mottled with white warts, and a white stipe as well, on the interpretation of a specific Vedic passage on the urine drinking, Soma was ascribed as Amanita muscaria (Wasson, 1967). But, however, relating the Soma plant with a mushroom, the latter being a prohibited food for human, from Manusmruti point at view, the position of Aminata as Soma is not free from objections (Dash and Padhy, 1997).

**NARRATION OF AN EXPERIENCE**

Amongst all puzzles in Soma drinking, we came across a literature which claims the lively status of Soma drinking as experienced and described by an Indian saint (Swami Ram, 1978) in his autobiographical book “Living with the Himalayan Masters”. For the benefit of the readers few excerpts from Swamiji’s book is depicted in a box (Fig. 3).

Recently, we had an interaction with an eminent taxonomist and an ethnobotanist as well (Manilal, 2002), who has expressed his interest for Soma plant and Soma Yagnya. He has witnessed an Athiratha Soma Yaga at Trichur and collected information on the plant used for the ritual as Sarcostemma acidium, which they have officially claimed as Soma plant. Prof. Manilal rectified one of our defects in our previous paper that Sarcostema acidium is the latest valid name of S. bravistigma which we have mentioned as two species (Padhy et al., 2001). Moreover, we have learned from him that the performance of Soma ritual (in Kerala state) extending to 12 days involving many Ritwiks, needs an expenditure of 80 Lakhs. This re-ascertains the costly affair of Soma Yaga described in Manusmruti earlier.

**DISCUSSION**

The Soma plant was not only associated with the Rig Vedic people; but was also known as ‘Haoma’ by Avastan people. The divine power of Haoma is much praised in Avasta (the sacred book of the Zoroastrians), that it bestowed its worshippers with the best of the world i.e. the celestial world. Its medicinal property confers health and longevity, victory over the enemies and elevates the heart of everyone irrespective of

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**Excerpts from:**

**LIVING WITH THE HIMALAYAN MASTERS**

(Swami Rama, 1978).

… It (Soma) is a creeper which grows above 11,000 feet. There are only two or three places where it grows at that altitude.

There are several varieties of mushrooms which have similar effects (like Soma). However, the Soma creeper was definitely not from the mushroom family; but that it was from the succulent family.

One morning he prepared the juice of Astha Varga (a mixer of 8 herbs) and mixed Soma creeper juice in it. We both drank this mixture. Its taste was a little bit bitter and sour. After a while, he started chanting and swinging and ultimately threw off all his clothes and started dancing….

It was a chaotic experience, as he danced, began shouting that he was Shiva, the Lord of the Universe and cried, “Where is my Parvati? I want to make love to her”…

He was tried to be restrained but he became so strong that five people could not hold him down, though he was a slightly built man, he threw them off one after another.

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**Fig. 3. Soma at its lively status**

the economic status. The twig known as ‘Ansu’ in Rig Veda is designated as ‘Asu’ in Avasta. The name Soma still restored in the regions of Baluchi and Pashto as ‘Hum’ and in Gilgit, Chitral, Nuristan as ‘Sum’, which reminds the ethnobotanical aspects of Aryan culture pertaining to this plant.

The simple and sacred description of the Soma plant in Vedic literature; dicta in Manusmruti in favour of Somarasa and against Surasa; expanded research in Aayurveda to project 24 varieties of plants as Soma and 18 more plants as alternatives to Soma with rigorous treatise of Soma drinking demarcates the way that the plant being ethnobotanically associated with human life since the time immemorial. Moreover, the identification
of about 20 different plants as Soma with different
old and new schools of thought on morphological,
biological, narcotic and hallucinogenic basis
and from phyto-geographic and socio-cultural
point of view, has opened a new vista of
independent research.

Other than Soma, Indian Aayurvedic research,
through centuries has identified a good number
of drugs for restorative treatments. The Ginseng
in China is famous for its rejuvenating property
and elsewhere, such drug on regional basis as
Indian Ginseng (Trichopus zeylanicusssp.
Travancoricus
Burkill and Narayan) is
established (Pushpangadan et al., 1995). Moreover, the modern man wonders with ‘Vigra’
to enjoy his youthfulness irrespective of age and
time. In this context, the effect of Soma Rasa was
said to be multidimensional; may be aphrodisiac,
restorative or elevator of mental stature; but it
was never intoxicating or a hallucinogenic
product.

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KEYWORDS Vedic Soma Plant, Soma Rasa. Regime of
Soma Drink. ICUSD.

ABSTRACT The juice of the plant Soma, was an uncommon
drink, consumed by the Vedic people known as Soma Rasa. It
was offered to Gods, considered as divine and contemplated
with medicinal efficacy for restorative treatments; being
neither hallucinogenic nor intoxicating. The paper presents
a brief account of the Soma plant as described in Rig Veda
and more research on it in Ayurveda along with search for
the proper plant by modern man since the last two
centuries. The regime of Soma drink was simple in Vedic
description, while as per the Ayurvedic text, it required an
intense care unit (ICUSD) for the Soma drinker to take care of
the rejuvenating process.

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Authors’ Addresses: Sachidananda Padhy, Faculty of Botany, Govt. College (Lead), Chatrapur
761 020, Orissa, India
Santosh Kumar Dash, College of Pharmaceutical Sciences (Mohuda),
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