



Mini-review article

Sanjeevani booti - A majestic and elusive all curing divine herb in epic Ramayana

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ABSTRACT

It is the well-known fact that most of the plants species exist in nature possess medicinal properties. *Sanjeevani booti* is one among such plants species, which is known for its majestic effects from ancient time. *Sanjeevani* (a group of herbs) is the most elusive in Indian mythology whose existence and identity are still controversial. According to Hindu mythology, *Sanjeevani booti* has potential of reviving a person and returning him to consciousness. In *Valmiki Ramayana*, it is mentioned in *Yudhakandprakaran* that when Lakshman got injured and fell unconscious, the Royal physician Susena asked Hanuman to step Dronagiri hills and bring four plants i.e. *Mritasanjeevani*, for reviving a life, *Vishalyakarani*, for removing arrows, *Sandhanakarani*, for restoring damaged skin and *Suvarnyakarani* for restoring skin colour. Just after smelling the revitalizing medicinal herb, Lakshmana gained consciousness. This is a majestic herb which has capability of resurrecting life. Recent research claims *Saussurea gossypiphora* and *Pleurospermum candollei* as *Mritasanjeevani*. Several plants those have been considered as affirmable candidates for the *sanjeevani* plants are including *Selaginella bryopteris*, *Dendrobium plicatile*, *Cressa cretica* and *Rhodiola rosea*. Since ages, people have been talking about the magical effects of these plants. Truly, *Sanjeevani* are the herbs of great importance to the society as a whole, and these should be studied thoroughly.

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INTRODUCTION

Sanjeevani means that offers life. *Sanjeevani booti* is a group magical herbs those have the power of revival and cure any malady. According to Hindu mythology, it is believed that medicines prepared from these herbs could revive a dead person (Balasubramanian, 2016). Lakhmana regained consciousness just after smelling the herbs as mentioned in the Valmiki Ramayana. The occurrence of *Sanjeevani booti* is mentioned at Dronagiri hills of Himalayas (Murthy, 2003). The search for *Sanjeevani* herb should focus on the Dronagiri range of the Himalayas, where the magical herbs are supposed to grow. The herb is believed in Ayurveda to have medicinal properties and it has been searched for unsuccessfully for centuries up to modern times. *Sanjeevani* are the mythical herbs, their identity and existence is still controversial. Several plants like *Selaginella bryopteris*, *Dendrobium plicatile*, *Cressa cretica*, *Rhodiola rosea*, etc. are considered as the viable nominee for *Sanjeevani booti*. A search of ancient

texts at CSIR laboratories did not reveal any plant that can be definitively confirmed as *Sanjeevani*. In certain texts, it is written that *Sanjeevani* glows in the dark (Ganeshiaiah et al., 2009).

HISTORY

In the violent pitched battle that happened between Ram and Ravan's army under their keen supervision. The orientation of the battle has been completely changed just by a fatal arrow when Lakshman got injured and lost consciousness (Thakur, 2015). The incident affected Rama and shade in despair. In that desperate hour, Hanuman approached the Lankan Royal Physician, Sushena for guidance. Sushena asked Hanuman to step Dronagiri hills and bring four divine herbs i.e. *Mritasanjeevani*, for reviving a life, *Vishalyakarani*, for removing arrows, *Sandhanakarani*, for restoring damaged skin and *Suvarnyakarani* for restoring skin colour. On reaching Dronagiri, Hanuman was confused because of the infinite herbs available on that mountain. Not able to pick the four from the

multitude, he brought back the entire hill (Fig. 1). It is believed that these herbs lose their effectiveness in a dry state, that may be the reason for Hanuman to bring back the entire hill. Lakshman was revived by smelling these herbs which shows that *Sanjeevani* is for resurrecting life. Dronagiri (height 7,066 m from sea level) is one of the highest peaks of the Himalayas at Uttarakhand.



Fig. 1. A scene from the epic Ramayana showing *Sanjeevani booti* at the hill holding by Hanuman

HERBS OF SANJEEVANI GROUP AT DRONAGIRI

According to Uniyal and Tyagi (2013), there are many herbs found at Dronagiri hills those may have *Sanjeevani* like activities (Table 1).

Table 1. Possible herbs of *Sanjeevani* group.

Name of the herb	Family
<i>Ajania tibetica</i> (Hook.f. & Thomson) Tzvelev Syn. <i>Tanacetum tibeticum</i> Hook.f. & Thompson	Compositae
<i>Athanasia linifolia</i> Syn. <i>Tanacetum longifolium</i> Wall. Ex DC.	Compositae
<i>Caragana cuneata</i> (Benth.) Baker Syn. <i>Chesneya cuneata</i> (Benth.) Ali	Leguminosae
<i>Morina longifolia</i> Wall. ex DC.	Caprifoliaceae
<i>Pleurospermum apiolens</i> C.B. Clarke	Apiaceae

<i>Pleurospermum hookeri</i> C.B. Clarke	Apiaceae
<i>Rhododendron anthopogon</i> D. Don	Ericaceae
<i>Saussurea candolleana</i> Wall. ex C.B. Clarke	Compositae
<i>Saussurea gossypiphora</i> D. Don	Compositae
<i>Saussurea obvallata</i> (DC.) Edgew.	Compositae
<i>Saussurea simpsoniana</i> (Fielding & Gardner) Lipsch. Syn. <i>Saussurea sacra</i> Edgew.	Compositae
<i>Tanacetum gracile</i> Hook.f. & Thompson	Compositae

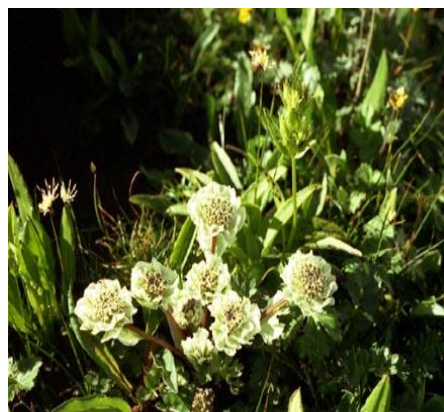
Since ancient time, *Sanjeevani booti* is renowned for its medicinal properties. *Sanjeevani* is a group of magical herbs which has the power to cure any kind of problems even restoring the life in a dead person. After consulting ancient researches, the identity of *Sanjeevani* is not confirmed. The search of ancient texts has so far not revealed any plant that can be definitively confirmed as *Sanjeevani* (Thakur, 2015). The botanical names of the medicinal plants which were recognized as *Mritasanjeevani* are *Saussurea gossypiphora* vern. Kasturi Kamal, and *Pleurospermum candollei*. Besides, *Selaginella bryopteris* is also recognised as *Sanjeevani* by many traditional healers (Fig. 2).

Saussurea gossypiphora commonly known as snowball plant is a perennial herbaceous plant up to 15 cm tall. It looks like a woolly snow-ball. It is densely white or grey woolly more or less globular high altitude plant. Flower heads are in the form of brown spots at the top. The wool of the herb is applied to fresh cut, where it sticks easily, seals the wound, check bleeding and enhance healing (Sharma, 2003). It offered for worship in shrines and used medicinally by the local people (Prajapati and Kumar, 2005).

Both the above-mentioned herbs were used to cure unconsciousness, cerebral disorders, respiratory problems, body pains and other problems. These plants were used by local people to treat many diseases, but they don't give all information regarding their therapeutic benefits to avoid exploitation of herbs. These herbs have maximum aroma in growing phase as compared to dry state as they lost aroma after drying.



Saussurea gossypiphora



Pleurospermum candollei



Selaginella bryopteris

Fig. 2. Selected possible members of *Sanjeevani booti*.

RECENT LITERATURE ON SANJEEVANI BOOTI

Some references in scientific literature list several plants proposed to be *Sanjeevani booti*, for example, *Selaginella bryopteris*, *Dendrobium plicatile*, *Cressa cretica* and *Rhodiola rosea*.

Selaginella bryopteris

It is a lithophytic fern of 12-15 cm tall. This is a member of oldest vascular plants and native to India. It is used medicinally in India and is one of the plants that is considered as a candidate to be the mythical *Sanjeevani*. CSIR-National Botanical Research Institute rigorously has been working to achieve success in search of *Sanjeevani booti* and claimed that *Selaginella bryopteris* is a member of *Sanjeevani* group. *Sanjeevani* glows in the night and grows on the hills of tropical areas, particularly at Arawali terrains from East to West in India.

Traditional uses include relief from heat stroke, dysuria, irregular menstruation, and jaundice, but the effectiveness has not been scientifically validated. It is also useful for coma patient by way of inhalation (Sah et al., 2005). Recently, various studies conducted on this plant revealed a special feature of resistance to drought in this plant. This feature makes *Sanjeevani* capable of standing drought conditions for many years. Agricultural scientists are planning to insert this gene from the plant to various other crops. As a result, the crops would become resistant to drought conditions. Such transgenic plants would help in preventing loss of crops even when sufficient water is not present. National Botanical Research Institute has embarked on a five-year programme to actually identify the gene responsible for the plant's drought tolerance property. The popular name *Sanjeevani* translates as one that infuses life and derives from a plant that appears in the Ramayana. The botanical identity of the plant described in the Ramayana is unclear, although *Selaginella bryopteris* has been suggested as a *Sanjeevani* candidate (Ganeshaiyah et al., 2009).

Dendrobium plicatile

It is an orchid species of Asia which has the hepatoprotective properties, the ability to prevent damage to the liver. The rhizome is creeping, annulate, giving off pendulous smooth polished stems 60-90 cm long, bearing at irregular intervals narrowly fusiform somewhat compressed shining pseudo bulbs 5-6 cm long; internodes long; leaf terminal from the top of the pseudo bulb, solitary, linear-oblong, obtuse, with parallel slender veins; flowers remaining open for a few hours only, 1-3 from near the base of a leaf, bracts beneath the flower small, ovate, acute, sheathing; sepals oblong lanceolate, subacute, spreading. The plant is sweet with a flavour; cooling, alterative, astringent to the bowels, tonic, aphrodisiac, expectorant; useful in

asthma, bronchitis, throat troubles, consumption, fevers, burning sensations, biliousness, diseases of the eye and the blood. The fruit is sweet, aphrodisiac. The plant is stimulant and tonic. It is prescribed by Sushruta in combination with other drugs for the treatment of snake bite and scorpion-sting; but it is not an antidote to either snake-venom or scorpion-venom (Kritikar and Basu, 1999). The stems contain phenanthrenes, plicatol A-C (Honda and Yamaki, 2000). The plant also contains norditerpenoids named flickinflimilins A and B, and steroids (Chen et al., 2014).

Cressa cretica

It is a species of flowering plant of the morning glory family. It has long been used in traditional medicine and research has demonstrated that it has some therapeutic effects. The plant is a densely branching subshrub growing to a height of about 38 cm (Varier et al., 1994). The stem is slender, much branched, very hairy; leaves numerous, subsessile, 3-6 by 1-3 mm, ovate, acute, densely silky-hairy; flowers white or pink, usually in small clusters in the axils of the upper leaves; pedicels very short; bract 2, linear, hairy, 2.5 mm long, appressed to the calyx; sepals 3 mm long, elliptic, obtuse concave, ciliate; corolla 5 mm long, divided half way down; lobes oblong, subobtuse, reflexed, hairy on the back near the tip; capsules 4-5 mm long, ovoid pointed and pubescent at the apex; seeds in fully ripe capsules usually solitary. In Ayurvedic literature, the plant is described as bitter, pungent, anthelmintic, stomachic, tonic, aphrodisiac; enriches the blood; useful in consumption, leprosy, asthma, biliousness, urinary discharges. According to the Unani system of medicine, the plant has a sour bad taste; the leaves are tonic, aphrodisiac, improve the appetite (Kritikar and Basu, 2005).

This plant is reputed to be an anthelmintic, an expectorant, an aid to digestion, an aphrodisiac and to have tonic properties among other uses (Varier et al., 1994). Research shows that the plant contains a number of chemical constituents and that it has some potential as an antibacterial, an antifungal and an antitussive agent. In combination with *Tridax procumbens* and *Euphorbia thymifolia*, it has been found to be effective as an anticancer treatment. It has also been shown to improve testicular function in rats (Priyashree et al., 2010).

Defence Institute of High Altitude Research concluded *Rhodiola rosea* as *Sanjeevani*, which is occurred at a height of 6000 m. It has immunomodulatory, adaptogenic and radio-protecting abilities. It protects neurons during the lack of oxygen and improves cognitive disorder.

CONCLUSION

Although, to date, there are no such herbs found which possess *Sanjeevani* like property, i.e.

revival of a dead person. Many researchers claimed to found *Sanjeevani* and made extensive researches to prove it. However, these claims were found controversial at latter stage. As per epic Ramayana, a *Sanjeevani* herb should either extinct or extant has a rejuvenating property which has the capability to revive from any malady. On the other hand, this mythology can be interpreted that the herbs can be considered as *Sanjeevani* if they possess wound healing, antioxidant, immunomodulatory, and adaptogenic properties in addition to a protective effect against harmful radiation and heat/cold stroke. It is difficult to search exactly the same herbs as mentioned in Ramayana because these are the celestial plants, and one should have divine eyes to find them. Researchers should focus to search the four types of herbs as mentioned in Valmiki Ramayana i.e. *Mritasanjeevani* (for life), *Vishalyakarani* (for arrows), *Sandhanakarani* (for skin) and *Suvarnyakarani* (for skin colour). All these four herbs have different actions and their combination exactly have the capability of resurrecting life.

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CONFLICTS OF INTEREST

The authors declare that they have no conflicts of interest.

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