

## *Cryptolepis buchanani* — A less-known medicinal plant used in bone fracture

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The paper presents the use of *Cryptolepis buchanani* for the treatment of bone fracture by tribal people in East Siang district of Arunachal Pradesh. The information is provided on the basis of personal interview with a local herbal practitioner known as 'Bhejuyai'. Botanical description of the plant with local names, detection and nature of fracture and mode of administration by the herbal practitioner are described in detail.

**Keywords:** *Cryptolepis buchanani*, Bone fracture, Traditional medicine, Arunachal Pradesh.

In recent years there is a revival of interest in the traditional system of medicine. Medicinal plants are a major source of biodynamic compounds of therapeutic values<sup>1</sup>. The ethno-medico-botanical study can bring out many efficient drugs for the treatment of many common human diseases.

The East Siang district in Arunachal Pradesh is situated between 27°73" to 28°88" North latitudes and 94°72" to 95°56" East longitudes on the bank of the river Siang. The topography of the district is both plain and hilly. The climatic condition of this region favours luxurious growth of diverse plant species. The district is dominated by tribe Adi, which constitutes about 80% of population, along with some other tribes like Mishing, Galong, Milang, Padang and other

sub-tribes. The tribe Mishing is mainly confined to the plain areas.

### Ethnobotanical Exploration

An ethnobotanical exploration was conducted in East Siang district particularly Leku-Pobha Reserve Forest situated in Assam-Arunachal border area during September 2001. During this tour, the authors got an opportunity to collect the plant species *Cryptolepis buchanani*, a medicinal plant growing in moist and swampy areas as a climber on some trees up to an altitude of 200 m. The plant is locally known as 'Ganglong' (in Mishing) and is used traditionally for the treatment of bone fracture. The ethnomedicinal information was collected by personal interview with a herbal practitioner, locally known as 'Bhejuyai' (in Mishing). He lives in the village Leku and has attained a high degree of perfec-

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tion in treating many diseases. The literature survey was also done to collect information on the species and its other traditional uses<sup>2-6</sup>. The collected plant species was confirmed as *C. buchanani* by consultation of Herbarium, Regional Research Laboratory, Jorhat, Assam, and the specimen was deposited there.

### Plant description

*Cryptolepis buchanani* Roem. & Schult. (Asclepiadaceae) is a large ever-green twiner. The plant is shade-loving and found as a climber on some selected plant species such as 'Soti' (*Alstonia scholaris*). Sometimes, it is also found as a creeper on ground. The plant may attain a height as much as the tree on which it grows for support. The mature plant has a stem of about 30 cm in diameter. The bark of the plant is smooth, copper-coloured, peeling off in papery rolls in old stem. Branches lenticellate. Leaves 10.5 × 4.5 cm, oblong-elliptic, acute, apiculate, coriaceous, smooth and glossy above, glaucous beneath, base acute, petiole 1.5-2.0 cm long. Flowers pale yellow in a lax dichotomous cyme. FollICLES 4 × 7 cm, stout, divericate, tapering and pointed at apex. Seeds compressed, oblong-ovate. Flowering time — May to July and fruiting time — September to November.

The plant is distributed in Assam, Meghalaya, Arunachal Pradesh and Nagaland in Northeast, Kashmir in Northern and Travancore in Southern India besides Myanmar (Burma), Sri Lanka and China<sup>2,3</sup>. The local names of the plant are: Assamese — *Harjora lata*, *Krishna anantamul*; Hindi — *Karanta*; Bengali — *Kalasariba*; Sanskrit — *Jamba sariba*;

*alasariba*; Sanskrit — *Jamba sariba*; Khasi-Kombat-ugiang; and Garo — *Darikhal*<sup>5,6</sup>.

### Folk use of the plant

Traditionally the plant, mainly its roots, stems and leaves are used for the treatment of bone fracture by tribal people inhabiting the Leku-Pobha Reserve Forest areas of East Siang district.

### Detection and nature of fracture

The local herbal practitioner detects the nature of the fracture by placing his hand on the injured portion. The technique is learnt and developed by experience over long years of practice. The treatment is done depending upon the nature of the fracture. He also identifies the fractures as external i.e. broken bone, joints and legs etc. and as internal i.e. injuries inside the body or organs. According to the nature of the fracture, he uses different parts of the plant and mode of administration for effective treatment.

### Mode of administration

Collected plants are washed thoroughly with clean water for three times. Sometimes, the plant parts collected from the aged plants are soaked in clean water overnight. These are then cut in to small pieces and kept for about two hours for shade drying. Then small pieces are crushed with a grinder locally called 'Kendunang' (in Mishing) and finally made into a paste. Small amount (5 ml) of mustard oil is mixed to the paste just before its use. The colour of the paste is normally reddish. For external fractures (the term coined by the herbal practitio-



Plate 1—Herbal practitioner administering the plant paste on the injured portion of the patient

ner), the paste is first spread out on the apical portion of a banana leaf (40 × 30 cm) which was previously washed with water and dried in the sun for about half an hour. It is then wrapped on the fractured area (Plate 1) and banded properly with the help of rope made from fibre of the plant locally known as 'Taling' (*Corchorus capsularis*) and kept for one week. After one week, the herbal practitioner removes the paste from the injured area and examines the efficacy of the treatment. If needed, he again administers another dosage. For the internal fractures (the term coined by the herbal practitioner), the paste is made as above and in-

stead of mustard oil, about 200 ml of crude milk is added to 100 g of the paste. After proper mixing, it is given orally three times daily for five days.

### Discussion

According to the herbal practitioner, it was observed that the efficacy of the treatment is almost cent per cent. He got good response from all the tribal people belonging to this district. It was also observed that instead of modern orthopedic treatment, people from in and around this area use such type of traditional practice for the treatment of bone fracture. It was noticed that the herbal practitioner con-

served the plant species in his homestead garden for timely use. The traditional herbal practitioner does not take any fee from the patient for his service. He only takes a pair of betel nut and one or two rupee coins in the name of God, locally called 'Araai' (in Mishing).

Thus, the traditional use of this plant by tribal people for treatment of bone fracture indicates effective medicinal properties of the plant. Therefore, the plant needs thorough screening of its bio-active chemical properties and clinical testing for the reported efficacy.

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