

A study of endangered plants of Itchagarh Hill in the Ormanjhi block of Ranchi District in Jharkhand, India

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The altitude of Itchagarh Hill is about 1310m (second highest after Parasnath Hill). The area is very rich in plant diversity. Villagers collect forest produce including various medicinal plants found in this area as per the demand of customers. The present study aims to identify only those plants which are over-exploited for medicinal and other purposes.

Material and Methods

The research was carried out in the villages situated at the foot edge of Itchagarh hill namely Arra, Keke, Pisca, Hesatu, Dauhu, Kerrom and Kukku. Both herbarium and digital herbarium of these plants were prepared by regular visits in these areas from 2004 to 2007. The herbarium specimens were submitted to the Department of Botany, P.P.K. College, Bundu. The ethno-botanical and other information about these plants were obtained through questionnaires and personal interviews of *vaidyas* (Village quacks), *pahans* (Priests practicing with folk-medicine), cowboys and elderly knowledgeable persons. Botanical identification of these plants were done with the help of Haines (1925) and Singh *et al.* (2001). Their medicinal uses were also confirmed with those referred by Jain (1991) and Varghese & Hembrom (2000).

Enumeration

1. *Vitex peduncularis* Wall.
(Verbenaceae) 'Sim jangha / Chirai-gorwa' [SK-209]

The 'Chirai-gorwa' tree is distinguished by three foliate leaves with winged petiole, and a pungent bark. A decoction made from the bark is used to ease body ache and weariness after work. Many villagers of this area have become addicted to this drink. The bark's decoction is also used in cases of malarial fever as febrifuge (one cup twice a day) and also as a blood purifier. Bark's paste when applied locally over the chest, gradually relieves chest pain. The decoction with 'Chitway' (*Plumbago zeylanica*) root and 'Khapra sag' (*Boerhaavia diffusa*) root is used as a cure for Kala-azar. Due to its numerous benefits, the bark of this tree is repeatedly being stripped



Image 1. Stripped tree of *Vitex peduncularis*



Image 2. Roots of *Clerodendrum serratum* collected on demand of traders

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Image 3. Pilled bark of *Litsea glutinosa*



Image 5. *Pueraria tuberosa*



Image 4. *Rubia manjith* root yielding yellow-orange dye



Image 6. *Holostemma ada-kodien*

off (Image 1), leading to the death of the tree. One can hardly find any mature tree in the forest. Mature trees can attain up to 15 meters in height and 1-1.5 meters in girth. Besides, its wood is strong and light. Villagers exploit this wood for making 'Yokes' for their buffaloes. These factors have posed a serious threat to the existence of 'Chirai-gorwa' tree.

2. *Clerodendrum serratum* (L.) Moon (Verbenaceae) 'Saram lutur / Bhaormali'[SK-232]

This plant has a pungent smell. The root is used as a component of 'Ranu' of 'Haria' (Rice beer). The decoction is very effective in checking attacks of bronchitis and it is also used against malarial fever and body ache. Unplanned uprooting of the plant for its roots (Image 2) has caused serious threat to this plant.

3. *Litsea glutinosa* (Lour.) Robnison (Lauraceae)'Medh / Menda' [SK-241]

A medium sized tree attaining about 7-9 m in height. Its wood is used for making agricultural tools and its leaves are used as cattle fodder. The paste of the bark is viscous and sticky and is used as sticking material for Agarbatties (incense sticks) in cottage industries. Powdered bark is applied on wounds and bruises inflicted by blows and it is also a cure for skin diseases. The bark's decoction with 'Semal' (*Bombax ceiba*) thorns, 'Amra' (*Spondias pinnata*) bark and 'Doka' (*Lannea coromandelica*) bark are used orally in case of chicken pox. The bark is also used as plastering material over fractures or sprains in both human and animals. In animals, a good amount of bark is required in each plaster, depending on the fractured part. Repeated stripping of the bark results in the death of the tree (image. 3).

4. *Rubia manjith* Roxb. (Rubiaceae) 'JataSinghi /Birja / Majethi' [SK-319]

Scabrid herbs with four cordate leaves in one whorl at each node of stem (Image 4). Root yields a costly yellow-orange dye called 'Manjith'. The paste of the root is used to cure leucoderma. The decoction of the root is a good liver tonic and it is also used as a tonic for youth and vigor. This plant is now seen only in a few patches on the hills as it grows only at high altitudes.

5. *Pueraria tuberosa* (Roxb.) Benth. (Fabaceae) 'Patal kumhra / Ete kakaru' [SK-218]

A twining shrub with stipellate 3-foliolate leaves and very large tuberous roots (Image 5). The tubers are attached to the base of the stem by stout lateral roots, which again give way to numerous roots. As a result it is not easy to locate the tuber and so the matrix of roots are removed and damaged at many places leading to the death of the plant. Boiled tuber is eaten. It is applied to the body in the form of a paste in case of fever and rheumatism. Besides this, it is used in body ache, diarrhea and for lactation in animals. The tuber is used to kill fishes in streams. In 2006, there was a rumor in the area that one who would bring a red Patal-kumhara would be paid a huge sum of money. This rumor severely damaged many plants in the area.

6. *Holostemma ada-kodien* Schult. (Asclepiadaceae) 'Jeevanti / Apang' [SK-227]

A pretty, extensive, laticiferous, twining shrub, often found having two different coloured venation on the leaves, viz: green and purple. A plant with purple pigmented venation is supposed to be more potent medicinally. Leaves, flowers and fruits are eaten as vegetables. The bark yields a fiber reported to be suitable for cordage. *Holostemma ada-kodien* root is the most accepted source of 'Jeevanti' and reckoned an important (rasayana) drug capable of maintaining youthful vigour and strength. The decoction of the root is used as a propagator tonic for lactation in neonatal mothers. Root paste is used in orchitis. Mundas use the decoction in case of stomach ache. It is also used as a blood purifier, anthelmintic and to cure biliousness and ulcers. In diabetes, a paste of the root is given with cold milk. Root paste ointment is applied to the eyes in case of eye diseases and also in gonorrhoea. The paste of the root also cures seasonal skin diseases like itches, rashes, etc. The root is boiled with milk and taken at night in case of spermatorrhoea (Dhatu rog). Collection of a mature plant is very difficult because before maturity it is used by wood collectors of the area as cord for tying the wood bundles. Again digging of the root for medicine is another reason for depletion of its population.

Results and Discussion

The present study identifies the plants that are becoming endangered in this area due to over exploitation for various purposes. Medicinal use of *Vitex peduncularis* is given by Chopra (1956) but the use of the stem bark as tea was not less known in the area. The natives of Chhattisgarh use a special *laddu* in case of any type of *Bavasir* (Piles). To make this *laddu* root tubers of *Jeevanti* (*Holostemma ada-kodien*), fruit pulp of *Bhelwa* (*Semecarpus anacardium*), *Sonth* (dried

ginger), *Vidhara* seeds (*Argyreia nervosa*) are powdered and mixed in equal proportions and a double amount of *Gud* (*Jaggery*) is added (Oudhia 2003).

Conclusion

In the present study the medicinal and other uses have been discussed to emphasize their commercial value. But at the same time their over exploitation is posing great concern for the environmentalists. Therefore, this study stresses upon their sustainable use for the conservation of the biodiversity and it is high time to educate the people of the area to save these plants through sustainable management.

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