



An Overview of Medicinally Important Lianas from Dry Deciduous Forest of West vidarbha Region (M.S) India

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Abstract

Lianas are one of the most obvious but somewhat neglected life forms in dry deciduous forest. It plays extremely important roles in many aspects of forest ecosystem. Their contribution to the forest diversity, food resources, medicinally importance, and structural complexity. The present study is primarily based on field surveys conducted throughout the west Vidarbha and also documented the information which were collected from local inhabitant as well as tribal's residing in or near the forest areas on different parts of lianas used as a medicine. A total 25 lianas belonging to 21 genera comprises 13 families were identified which is to be used by the ethnic people's to cure various diseases.

INTRODUCTION

Liana is defined as a plant whose structural support does not come entirely from its own tissues, whose original rooting position is in the soil or a surface close to the soil, and whose climbing efforts may take its foliage and reproductive organs into the tree canopies (Burnham, 2009). For that they have to climb-up, twisting and twining on the tree and blanketing canopies of trees, to get the sun light (Shukla, and Chandel 2000). Lianas play an extremely important role in many aspects of forest diversity, regeneration and dynamics (Schnitzer & Bongers, 2002). Nearly 60 % of all dicotyledonous plant orders have at least one representative climber (Heywood, 1993). Lianas typically constitute around 20-25% of the tall woody stem density and species diversity in tropical forests (Gentry & Dodson, 1987; Lott *et al.*, 1987; Burnham *et al.*, 2001; Bongers *et al.*, 2002). Within flowering plants alone, estimated that between 5,000 and 10,000 species of climbers exist today (Caballe.1993).

Lianas are the important resources for the local communities providing medicine, food, artisan work, construction material of traditional house, hunting tools. Lianas may be especially important in remote areas where regular "modern" western medicines and various other products are not easily available and accessible (Abbiw, 1990; Arnold & Ruiz Perez, 2001). Lianas play important role for not only human beings but also for insects, birds and arboreal animals i.e. monkeys as a food plant especially other food sources are scarce in dry season (Emmons & Gentry 1983, Sabatier 1985, Sarvalingham *et al.*, 2011, Sujana *et al.*, 2012) Therefore the reliance on the forest by indigenous peoples is often mentioned as a reason for conservation of forest. Some lianas can be extremely important, particularly for medicinal reason, the Cameroonian liana *Ancistocladus korupensis* which yields alkaloids that show anti HIV activity (Thomas, 1994; Foster & Sork, 1997).

The knowledge of useful plants is disappearing more rapidly than the plants themselves. If no efforts are made to conserve and study both the biological and cultural diversity, then a potential resource of new medicines for human disease, and indigenous management systems will disappear together with the forests.

MATERIALS AND METHODS

Study area

West Vidarbha region comprised by the five districts namely Akola, Amravati, Buldhana, Washim and Yavatmal. In this region forest is dry deciduous types and the soil is mostly classified as black cotton soil, brown soil, and loamy soil. The rain fall ranges between 540- 860 mm. In some parts considerable variation may occur due to topology, geology, climate and rainfall. Many tribal communities are inhabited along the Satpura ranges in Amravati, Akola and Buldhana district namely Koraku, Gawli, Gond, and Ratthya. In Yavatmal and Washim mostly Banjara, and Kolam tribes are present. Survey was carried out in dry deciduous forest of Melghat region in Amravati, Katepurna and Narnala region in Akola, Ambabarva and Dhyanganga region in Buldhaba, Pinganga region in Yavatmal district during July 2009 to May 2012.

The present study was carried out through extensive field visits during July 2009 to May 2014 and collected information on traditional uses of lianas used in preparation of crude herbal by the tribal people living in the West Vidarbha region (77° 01'.288 East and 21° 14'.093). North The data were documented through interview, discussions and field observation with folk practioners. During field survey the plant has been collected in their flowering and fruiting stages as far as possible from the natural habitats. They were identified with standard floras and voucher specimen deposited in

the herbarium of department of botany Shri Shivaji Science College, Akola (Kamble and Pradhan, 1988; Hooker, 1982; Naik, 1998)

RESULTS AND DISCUSSION

Present study resulted in documentation of medicinally important 25 lianas belonging to the 21 genera belonging to the 13 families. The plant are tabled with correct botanical names followed by family, part used and their medicinal uses. Fabaceae and Asclepiadaceae are most dominant families followed by Convolvulaceae.

It is observed from the study that different plant parts of lianas were used as medicines, in which the leaves are most frequently used for the treatment of the various ailments followed by root and stem. The most commonly used medicinal lianas i.e. *Tinospora cordifolia* (Thumb) Miers., *Celastrus paniculatus* Willd, *Pueraria tuberosa* (Roxb. ex. Willd) DC, *Argyreia nervosa* (Burm.f.)Boj. play an important role in primary health care system of tribal to cure diseases related to fever, rheumatism, diabetes and also having demand in markets which is the income source of local inhabitants of the west vidarbha region.

Diversity of the medicinally important lianas is very rich across the West Vidarbha region. This information focused on medicinally important lianas distributed widely in the region, so guidelines should be developed for the management of the medicinal lianas, aimed at sustainable use of valuable resources. Present work gives further insights for the determination of biological activities of lianas used in traditional medicines. This provides an excellent platform towards the novel drug preparations for various ailments and this would indirectly help to improve the economy of tribal communities and informal settlements.

Table No. 1: Medicinally Important Lianas from Dry Deciduous Forest of West vidarbha Region

Sr. No.	Name of Lianas	Family	Parts used	Medicinal importance
1	<i>Acacia torta</i> Craib	Mimosaceae	Stem bark	Decoction is taken for cough and dysentery
2	<i>Bauhinia vahlii</i> Wight & Arn	Caesalpiniaceae	Leaves	Leaf extract is taken orally to cure dysentery
3	<i>Caparis zeylanica</i> L.	Capparaceae	Root	Root paste is applied on boils and swelling
4	<i>Cocculus hirsutus</i> (L.) Deils	Menispermaceae	Root	Root used to cure stomach problem
5	<i>Tinospora cordifolia</i> (Thumb) Miers.	Menispermaceae	Whole plant	Juice is taken orally to treat rheumatism fever, urinary

				disorder
6	<i>Combretum albidum</i> G. Don.	Combretaceae	Bark, leaves, Fruit,	Juice of leaves used in Gastro intestinal ulcers, Decoction of Fruits used in cough, cold dysentery and diarrhoea
7	<i>Ziziphus oenoplia</i> (L.) Mill.	Rhamnaceae	Leaves	Leaf paste used in eye infection
8	<i>Ventilago denticulata</i> Willd	Rhamnaceae	Stem bark	Gynec problem
9	<i>Celastrus paniculatus</i> Willd	Celastraceae	Fruits, seed	Used as brain tonic
10	<i>Cayratia auriculata</i> (Roxb.) Gam	Vitaceae	Whole plant	Paste of plant used in purulent wounds
11	<i>Cissus vitiginea</i> L.	Vitaceae	Stem bark	Paste of bark used in conjunctivitis
12	<i>Cissus rapanda</i> Vahl.	Vitaceae	Root, whole plant	Roots used in bone fracture and cutting wound, whole plant used in jaundice
13	<i>Butea superba</i> L.	Fabaceae	Stem bark, flower	Bark is used in rheumatism
14	<i>Pacalyx scariosa</i> (Roxb.) Al.	Fabaceae	Roots	Root paste apply on piles
15	<i>Meletia pallid</i>	Fabaceae	Leave	Leaves used for fishing
16	<i>Pueraria tuberosa</i> (Roxb. ex. Willd) DC	Fabaceae	Root, tubers	Root past on inflammation, tuber used in increase the milk
17	<i>Jasminum malabaricum</i> Wight Icon	Oleaceae	Leaves	Leaf crush in lime juice apply externally on wound
18	<i>Jasminum roxburghianum</i> Wall ex. DC	Oleaceae	Flower	Flower used in hair oil
19	<i>Wattakaka volubilis</i> (Lf) Staps.	Asclepiadaceae	Leaves	Leaves is used in boils and abscesses
20	<i>Cryptostegia grandiflora</i> R. Br	Asclepiadaceae	Root	Root used as antidote on scorpion sting
21	<i>Cryptolepis buchanani</i> R & S	Asclepiadaceae	Leaf, Root	Leaf and root paste used in bone fracture
22	<i>Argyreia capitiformis</i> (Doir) Almeida	Convolvulaceae	Leaves	Leaf ash used in ear pain
23	<i>Argyreia cymosa</i> (Roxb.)Sweet	Convolvulaceae	Leaves	Leaf paste applies on crack and wounds, also used in Corneal opacity in cattle, Galactation.
24	<i>Argyreia nervosa</i> (Burm.f.)Boj.	Convolvulaceae	Roots, leaves	Root decoction used in Rheumatism, leaf paste used for inflammation
25	<i>Hiptage benghalensis</i> (L.) Kurz	Malpighiaceae	Leaves, Bark	Leaf extract used in skin disease, Bark used in asthma

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