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A Study on Medicinal Climbers of Nallamalais, Andhra Pradesh

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Abstract
The survey of Medicinal climbers from Nallamalais recorded a total of 92 species under 74 genera and belongs to 27 families. Maximum number of medicinal climbers recorded for Asclepiadaceae with 16 species, followed by Cucurbitaceae 13species and Fabaceae 10species. Climbers were both wild and ornamental, they play a vital role in medicine and agriculture. Most primitive tribes Chenchus and Sugalis live in Nallamalais. These tribes have a rich traditional botanical knowledge of medicinal plants including climbers for curing various human ailments.

Keywords: Medicinal climbers; Nallamalais; Curing; Chenchus and Sugalis; Ailments

1. Introduction
Plants are fundamental to almost all life on earth, providing protection and sustenance to other organisms. They provide food, shelter, clothing and medicine to mankind. Plants curing ailments are known to mankind since time immemorial. Plants are used to cure many human diseases or ailments since the Vedic period Samanth and Pant (2006).Over 90% of the medicinal plant resources are being collected from wild sources (Rawat,2003) at alarming proportions and consequently prone to severe threat. Crude drugs prepared from plants extracts can be traced back to Pre-Rig Vedic times (4500-1600 BC). Nearly hundred plants species were said to be used by Vedic Aryans. The Atharva Veda documented the details on medicinal herbs and their utilization. The monumental contributions of Indian traditional medicine are 'Charaka Samhitha' (1000-800 BC) (Sharma & Das, 1976) and'Sushruta Samhita' (800-700 BC) and Vagbhatta's 'Astanga Hridaya' (Atrideva & Gupta, 1970).
Climbers are one of the most interesting group of plants but much neglected group of plants. But these neglected climbers contribute largely to the charm of our landscape by the manner in which they climb over trees, rocks. Climbers show great diversity in their climbing mechanism depending on which they are classified as root climbers, hook climbers, tendrils climbers, leaf or stem climbers. Climbers play a vital role in medicine and agriculture only a few studies are carried out on climbers. Pandey et al. (2005), studied medicinal climbers in flora of Gujarat while 81 climbers were recorded by Jangid and Sharma (2011) in Taluka Moasa, District Sabarkantha of Gujarat. Ghosh and Mukherjee (2006), recorded 149 herbaceous climbers and 79 lianas from North Andaman covering 55 families while Mahajan (2006), reported 31 taxa used by tribal people of Nimar region in Madhya Pradesh to cure various human ailments. According to M. Ajaib et al. (2012), the local people of Kotli district, Azad Jammu & Kashmir using 36 climbers for medicine, vegetables and fodder. In Uttar Pradesh, the work on medicinal climbers was conducted by Siddiqui & Husain (1993), Khanna (2002), Maliya (2004), Jagdish Narayan et al. (2008), Dwivedi et al. (2009), Singh et al. (2008), Jyotsna Sharma et al. (2010), and Singh et al. (2010). Earlier studies on plants resources of Nallamalais include Ellis (1987), Kumar (1995), Goud (1997), Thulsi Rao et al. (2007), Shali saheb (2008) studied the medicinal plants of Nallamalais and reported 501 taxa. No comprehensive work is available for climbers in the study area, therefore, the objective of the present paper is to document the medicinal climbers of Nallamalais, Andhra Pradesh and their uses by the local people of the area.

2. Study Area
Nallamalais, one of the Centres of Plant Diversity (CPD) (WWF &IUCN, 1995) is located in the Central Eastern Ghats between latitudes $15^0 20'$- $16^0 30'$ N and longitude $78^0 30'$-$80^0 10'$ E in Andhra Pradesh, extended to an area of 7640 sq km. Nallamalais cover five districts, viz. Kurnool, Mahaboobnagar, Prakasam, Guntur and Nalgonda of Andhra Pradesh, after the

division of Andhra Pradesh state Nalgonda and Mahaboobnagar districts are in Telangana state. The hills cluster near Gundlabrahmeswarm, which is the nucleus of the Nallamalais appearing as plateau. The vegetation of the Nallamalais is broadly categorized into 3 types; moist deciduous, dry deciduous and scrub type. Most primitive tribes, chenchus and sugalis live in Nallamalais. From times immemorial the forests of Nallamalais have been inhabited by chenchus an aboriginal and oldest tribe of south India.

An ecological meaning is attributed to the word "chenchu"by interpreting that a person who lives under chettu (tree) is a chenchu. They are experts in collection of honey, wild fruits and plant crude drugs. The sugalis are in fact, the single largest tribal group. Sugalis also known as lambadis and Banjara are largely found in the Nallamalais forest. They speak Lambadi language which has no script. Lambadas live in exclusive settlements of their own called Tandas, usually away from the main village, maintaining their cultural and ethnic identity. These tribes in the study area have rich traditional botanical knowledge and still dependent on wild medicinal plant resources for curing their ailments.

2. Methodology

The periodical field trips were undertaken to the different parts of the study area. The author met the tribal people and collected information regarding the medicinal uses of climber plants that are available in the area. The specimen species also collected and identified with the help of floras. The identified climbers were further studied for their medicinal values as per suggestions of Chopra et al. (1956), Jain (1991), Kirtikar and Basu (1975). Pullaiah et al. (1997).

3. Results and Discussion

The present study reveals that medicinal climbers of the area represented by 92 species of 74 genera belonging to 27 families. The largest family of medicinal climbers, both in number of genera and species in Nallamalais is Asclepiadaceae with 16 species represented by 14 genera followed by Cucurbitaceae with 13 species; Fabaceae with 10 species. Climbers found in the study area are listed in **Table-1** along with their botanical name, local name, family and their medicinal values and also part used. Local tribal people have unique traditional botanical knowledge to cure different human diseases and disorders by using these climbers. A total of 36 diseases were known to be cured/treated/prevented with the usage of 92 climbers. A maximum plant species are used for curing anti- diabetic, asthma, bronchitis, skin diseases, rheumatism. Approximately 25% of the material used in different diseases obtained from root followed by leaves and tubers. These are administered in the form of medicinal recipes such as extract, powder, juice, paste etc. Sometimes, other substances like milk, jaggery, ghee, turmaric powder are also employed for preparing medicinal recipes.

Over exploitation of some climber species particularly collection of roots (eg: *Asparagus*, *Tinospora* etc) causes damage to the plants. Because of overharvesting of medicinal climbers for commercial purpose without knowing the importance of plants, many plants are on the verge of extinction. There is an urgent demand all over the world not only to save natural reserves but also combat the effect of Global Warming through massive afforestation programmes. Mobilizing local people through interaction and discussion in the conserve areas of high biodiversity will improve the natural resources. The conservation of these plant species, and a search for natural alternatives to these would pave way for to find the hidden medicinal wealth.

Table 1: List of Medicinal Climbers of Nallamalais

S.No.	Botanical Name	Family	Local name	Medicinal values/ and parts used
1.	*Naravelia zeylanica (*L.) DC.	Rananculaceae	Kondamudusu teega	Rheumatic pains, skin diseases(S)
2.	*Cissampelos pareira* L.var.*hirsuta* (Buch-Ham ex DC.) Forman.	Menispermaceae	Adavi banka teega	Diuretic(R)snakebite(F)
3.	*Cocculus hirsutus (*L.*)* W.Theob.	Menispermaceae	Dusarapu teega	Asthma, bone fractures(R), anti-diabetic(S)
4.	*Tiliacora racemosa* Colebr. Miers.	Menispermaceae	Kappa teega	Snakebite(R)
5.	*Tinospora cordifolia (*Wild.*)* Miers.	Menispermaceae	Tippa teega	Anti-diabetic, jaundice (SB)
6.	*Capparis sepiaria* L.,Syst.Nat.	Capparaceae	Nallauppi	Wounds(RB)
7.	*Capparis zeylanica* L.,Sp. Pl.	Capparaceae	Aaredhonda	Rheumatism, aphrodisiac, tuberculosis(RB)
8.	*Maerua oblongifolia(*Forsk.) A.Rich.	Capparaceae	Bhuchragadda	Aphrodisiac(R)
9.	*Aspidoperys cordata* (Heyne ex Wall.) A.Juss.	Malpighiaceae	Penujuttu	Cough(R)
10.	*Hiptage benghalensis* (L.)Kurz.	Malpighiaceae	Bandiguriginja	Scabies(L)
11.	*Todalia asiatica* (L.) Lam.	Rutaceae	Konda mirapa	Snakebite,diarrhoea(RB) cough, asthma(L)
12.	*Olax scandens* Roxb.	Olacaceae	Teeganakkera	Diarrhoea(L)
13.	*Ximenia Americana* L.	Olacaceae	Nakkera	Skin diseases(L), galactogogue(S)
14.	*Celastrus paniculata* Willd.	Celastraceae	Chinna danti	Paralysis,leucoderma, cardiac debility (SB)
15.	*Ventilago denticulata* Willd.	Rhamnaceae	Yerra teega	Menorrhagia, diarrhoea(SB)
16.	*Ventilago maderaspatana* Gaertn.	Rhamnaceae	Errasugandhi	Scabies(RB),skin diseases(L)

17,	*Ampelocissus latifolia* (Roxb.) Planch.	Vitaceae	Adavi draksha	Bone fractures(S)
18.	*Ampelocissus tomentosa* (Heyne ex Roth)Planch.	Vitaceae	Nelagummadi teega	General debility(RB)
19.	*Cayratia auriculata* (Roxb.)Gamble.	Vitaceae	Kutamu	Cardiac disorders, blood purification (WP)
20.	*Cayratia trifolia* (L.)Domin.	Vitaceae	Kamputeega	Cardiac disorders, ulcers(WP)
21.	*Cissus quadrangularis* L.	Vitaceae	Nalleru	Bone fractures, bronchitis(tender stem)
22.	*Cissus vitiginea* L.	Vitaceae	Nelagummudu	Wounds(L)
23.	*Cardiospermun halicacabum* L.	Sapindaceae	Budda teega	Arthritis, leucorrhoea(R)
24.	*Abrus precatorius* L.	Fabaceae	Gurivinda	Bronchitis(R),abortifacient, leucoderma(S)
25.	*Atylosia scarabaeoides (*L.) Benth.	Fabaceae	Adavi kandi	Gynecological problems, skin diseases(WP)
26.	*Canavalia gladiata* (Jacq.) DC.	Fabaceae	Thamba	Ulcers(F),anti-fertility(S)
27.	*Clitoria ternatea* L.	Fabaceae	Shanku pulu	Leucoderma, liver diseases(R)
28.	*Millettia racemosa* (Roxb.) Benth.	Fabaceae	Nela tangedu	Fever(SB)
29.	*Mucuna pruriens* (L.) DC.	Fabaceae	Dulagondi	Kidney problems(R), anthelmintic(L), aphrodisiac(S)
30.	*Pseudarthria viscida* (L.) Wight & Arn.	Fabaceae	Adavi chikkudu	Tuberculosis, diabetes(R)
31.	*Pueraria tuberosa* (Willd.) DC.	Fabaceae	Bhoochkragadda	Aphrodisaic, diabetes, galactogogue(T)
32.	*Rhynchosia minima* (L.) DC.	Fabaceae	Gaddi chikkudu	Abortifacient(L)
33.	*Rhynchosia viscosa* (Roth)DC.	Fabaceae	Adavi chikkudu	Rheumatism(S)
34.	*Caesalpinia bonduc* (L.) Roxb.	Caesalpiniaceae	Gachakaya	Hydrocele, arthritis(L), leucoderma, anthelmintic(S)
35.	*Pterolobium hexapetalum* (Roth) Sant. & Wagh.	Caesalpiniaceae	Korindakampa	Whooping cough(SB)
36.	*Acacia caesia* (L.) Willd.	Mimosaceae	Korintha	Licekiller(SB)
37.	*Acacia torta* (Roxb.) Craib.	Mimosaceae	Nallasandra	Bronchitis(SB), rheumatism(L)
38.	*Entada rheedii* Spreng.	Mimosaceae	Adavi chinta	Rheumatism, paralysis(S)
39.	*Combretum albidum* G.Don.	Combretaceae	Yadateega	Dysentery, skin diseases(tender leaves)
40.	*Passiflora foetida* L.	Passifloraceae	Tella jumiki	Skin disorders(L)
41.	*Citrullus colocynthis*(L.) Schrader.	Cucurbitaceae	Verripucha	Jaundice(root),asthma, leucoderma(F)
42.	*Coccinia grandis* (L.) Voigt.	Cucurbitaceae	Adavidonda	Antidiabetic(R),jaundice(F)
43.	*Corallocarpus epigaeus* (Rottl.& Willd.) Clarke.	Cucurbitaceae	Akasagarudi	Snake bite(T)
44.	*Ctenoilepis garcini* (L.)C.B.Clarke.	Cucurbitaceae	Gudimuralu	Wounds(S)
45.	*Diplocyclos palmatus* (L.) C.Jeffrey.	Cucurbitaceae	Linga dhonda	Cough, skin diseases(F)
46	*Luffa acutangula (*L.*)* Roxb.	Cucurbitaceae	Chedubeera	Piles,Leprosy(L)
47.	*Momordica charantia* L.	Cucurbitaceae	Adavikakara	Pepticulcer(R)
48.	*Momordica cymbalaria* Hook.f.	Cucurbitaceae	Kakara	Anti-diabetic(F)
49.	*Momordica dioica* Roxb. ex Willd.	Cucurbitaceae	Adavikakara	Rheumatism(T), antidiabetic(L)
50.	*Mukia maderaspatana* (L.) M.Roemer.	Cucurbitaceae	Potti budama	Cough(L)
51.	*Solena amplexicaulis* (Lam.) Gandhi.	Cucurbitaceae	Tiyya donda	Snake bite, cardiac disorders(TR)
52.	*Trichosanthes cucumeriana* L.	Cucurbitaceae	Chedupotla	Abortifacient, jaundice(WP)
53.	*Trichosanthes tricuspidata* Lour.	Cucurbitaceae	Avaguda	Asthma, epilepsy(F)
54.	*Aganosma cymosa* (Roxb.) G.Don.	Apocynaceae	---	Snake bite(root), anti-diabetic(L)
55.	*Aganosma heynei (*Spreng.*)*Ined.	Apocynaceae	Nallateega	Sprains(L)
56	*Ichnocarpus frutescens* (L.)	Apocynaceae	Palateega	Antidiabetic, aphrodisiac(R)
57.	*Ceropegia candelabrum* L.	Asclepiadaceae	Bachalagadda	Promote fertility(R)
58	*Cryptolepis dubia* (Burm.f.) M.R.Almeida.	Asclepiadaceae	Adavipalateega	Emmenagogue(R)
59	*Decalepis hamiltonii* Wight& Arn.	Asclepiadaceae	Sugandhipala	Blood purifier, increase eye vision(R)
60	*Dregea volubilis* (L.f.) Benth	Asclepiadaceae	Palateega	Antidote snakebite(R)

	ex Hook.f.			
61	*Gymnema sylvestre* (Retz.) R.Br.	Asclepiadaceae	Podapatri	Jaundice, anti-diabetic(L)
62.	*Hemidesmus indicus* (L.) R.Br. ex Schult.	Asclepiadaceae	Sugandhipala	Aphrodisiac, emmenagogue, blood purifier(R)
63.	*Hemidesmus indicus(*L.*)* R.Br. var. *pubescens* Hook.f.	Asclepiadaceae	Sugandhigadda	Snake bite(R)
64.	*Holostemma ada-kodien* Schult.	Asclepiadaceae	Palagurudu	Aphrodisiac, diabetes(R)
65.	*Leptadenia reticulata* (Retz.) Wight & Arn.	Asclepiadaceae	Mukkuthummuduteega	Skin diseases(L)
66.	*Marsdenia tenacissima* (Roxb.)Moon.	Asclepiadaceae	Penujuttu	Bronchitis, snakebite(R)
67.	*Oxtstelma esculentum* (L.f.) R.Br. ex Schult.	Asclepiadaceae	Dudipalateega	Rheumatism(La),jaundice(R)
68.	*Pergularia daemia* (Forssk.) Chiov.	Asclepiadaceae	Dushtaputeega	Emmenagogue, bone fractures(WP)
69.	*Sarcostemma acidum* (Roxb.) J.Voight.	Asclepiadaceae	Aku jemudu	Asthma, skin diseases(La)
70.	*Telosma pallida (*Roxb.*)*W.G. Craib.	Asclepiadaceae	Putta patra	Galactogogue(R)
71.	*Tylophora fasciculata* Ham.exWight.	Asclepiadaceae	Mukkupalateega	Wounds, ulcers(L)
72.	*Tylophora indica* (Burm.f.)Merr.	Asclepiadaceae	Mekameyani aku	Asthma(R), malarial fever (L)
73.	*Argyreria nervosa* (Burm.f.)Bojer.	Convolvulaceae	Chandrapala teega	Cardiac debility, nervous debility(R),antidiabetic(L)
74.	*Evolvulus alsinoides* (L.) L.	Convolvulaceae	Vishnukrantham	Bronchitis, epilepsy, diarrhoea(WP)
75.	*Operculina turpethum* (L.) Silva Manso.	Convolvulaceae	Tell tegada	Anti diabetic (R)
76.	*Rivea hypocrateriformis* (Desr.) Choisy.	Convolvulaceae	Boddi teega	Jaundice, arthritis(WP)
77.	*Cuscuta reflexa* Roxb.	Cuscutaceae	Passiteega	Jaundice, bronchitis(WP)
78.	*Solanum seaforthianum* Andrews.	Solanaceae	Peddakamanchi	Bronchitis, asthma(L)
79.	*Solanum trilobatum* L.	Solanaceae	Mullavusti	Bronchitis(WP)
80.	*Aristolochia littoralis* Parodi.	Aristolochiaceae	Tellaeswari	Anti diabetic, blood pressure(R,S)
81.	*Aristolochia indica* L.	Aristolochiaceae	Nallaeswari	Leucoderma(R),emmonogogue(L)
82.	*Piper hymenophyllum(* Miq.) Wight.	Piparaceae	Pippallu	Antidiabetic, asthma(R,F)
83.	*Tragia involucrata* L.	Euphorbiaceae	Dulagondi	Anti diabetic (R)
84.	*Dioscorea bulbifera* L.	Dioscoreaceae	Nallagadda	Cordiacdebility, aphrosidiac(T)
85.	*Dioscorea hispida* Dennst.	Dioscoreaceae	Magasirigadda	Aphrodisiac,snakebite(T)
86.	*Dioscorea oppositifolia* L.	Dioscoreaceae	Palleru gadda	Anti diabetic (T)
87.	*Dioscorea pentaphylla* L.	Dioscoreaceae	Tellavayamu teega	Gonorrhoea(T)
88.	*Dioscorea tomentosa* J.Koenig ex Spreng.	Dioscoreaceae	Nelagadda	General debility(T)
89.	*Dioscorea wallichi* Hook.f.	Dioscoreaceae	-------	Deapetizer(T)
90.	*Asparagus racemosus* Willd.	Liliaceae	Satavari	Aphrodisiac, nervous debility, bronchitis(T)
91.	*Gloriosa superba* L.	Liliaceae	Adavi nabhi	Antidote snakebite, abortifacient(T)
92.	*Smilax zeylanica* L.	Smilacaceae	Kanta sarateega	Paralysis, syphilis(T)

Note: R-Root, RB-Root bark, S-Stem, SB-stem bark, L-Leaves, F-Fruit, S-Seeds, WP-Whole plant, La-Latex, T-Tuber

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