

## DIVERSITY OF MEDICINAL PLANTS IN GAUTALA SANCTUARY OF KANNAD, DISTRICT AURANGABAD (MS) India

Anil A. Kshirsagar, Sanjay M. Pawar, Nirmala P. Patil, and Vasant P. Mali<sup>1</sup>

UG & PG Department of Botany, Shivaji Arts, Commerce and Science College Kannad District Aurangabad (MS) 431103

<sup>1</sup>Departments of Botany, Anandrao Dhonde College, Kada District Beed. (MS)  
anilkshirsagar123@gmail.com

### ABSTRACT

There are 32 plant belonging to 22 different families were undertaken for study. The studies on assessment and conservation of medicinal plants have gained momentum after revival of interest throughout the Maharashtra in use of Ayurvedic system of medicine. Efforts are being made to prepare a database on medicinal plants in floristically rich regions. Gautala, though very small sanctuary with sparse vegetation covers and has more than 150 species of flowering plants of medicinal importance. Out of these some are established as valuable medicinal plants and may prove to be a potential revenue earner source for the kannad. The conservation is need of such medicinal plant. The importance of medicinal species is discussed in this communications.

**KEYWORDS:** Medicinal plants, Conservation, Gautala Sanctuary Kannad.

### INTRODUCTION

The use of plants as medicines antedates history as the ancient man was dependent on plants of fulfill his basic requirement including health. The present day knowledge about medicine considered to be a gift of ancient men to the mankind. The herbal medicines are in great demand in both developed and developing countries in primary health care because of their great efficacy and little or no side effects (Narula *et al.*, 2000) The various Indian systems of medicines have identified many more plants. Most of the plant species are used in preparation of drugs (Nautiyal *et al.*, 2002). The two most important woves in Indian system of medicine are charaksamhita and susurtasamhita. The charaksamhita provides description of the materiamedica in which 484 medicinal plants are mentioned whereas susurhitasamhita has an account of 573 plants of medicinal importance (Kumar and Srivastava, 2002)

The preliminary survey of the tribal villages of Pitalkhora and Gautala sanctuary was undertaken. The tribal population of this region is dominated by Thakar, Bhill and some Banjara community. The Gautala sanctuary is situated 8km away from Kannad taluka. The forest is very much

famous for well-known flora of medicinal plants, some of the woody, herbs and shrubs etc. are grown in natural conditions. The sanctuary has spread upon sahyadri hill ranges of western ghats. The forest acquires about 260sq.km. area on boundary of Marathwada and Khandesh. The sanctuary are considered to the Ajanta, satmala ranges in Kannad and Sillodtaluka. Geographically it is situated 74-55 and 75-15 east longitude and 20-30 north latitude (Naik V.N. 1998) The annual rainfall is near about 550-600mm. The goes high up to 45 c in summer and falls down to 8 c in winter season.

Keeping above objectives in mind, it is of utmost importance to assess the actual herbal wealth of Gautala sanctuary.

### MATERIALS AND METHODS

The frequent visits to Gautala sanctuary and tribal villages of Kannad taluka namely Thakarwadi, Hiwarkheda, Rampurwadi, Puranwadi, Ambatanda, Pitalkhora, and Satkund etc. The traditional local healers sell herbal medicines. Data was collected on the sources and uses were recorded. Some of the plants are conserved in gardens.

Sr. No.	Family	Genus and species Vernacular name	Parts used	Distribution	Medicinal uses
1]	ANNONACEAE	<i>Anona squamosa</i> L Sitaphal	Leaf,root,fruits and seeds.	Found everywhere in Gautala,Pitalkhora, Daulatabad etc.	Suppurative,antispasmodic,antihelminthic,carthartic,Sedative toheartantibilions,antiemetic,pectorant,antiphthistic,abortifacient
2)	MENISPERMIACEAE	<i>Tinospora cordifolia</i> (Willd.O.Miens.ex.Hk .F.&Thoms.) Giloe/Gulvel.	Stem,root, and fruits	Common among hedges,Gautala sanctuary,Hiwarkheda etc.	Antigonorrhoeic in general debility,skindiseases,dyspesia,urinarydisorder,antidiabetic,vaginal and urethral discharges, piles,anaemiain visceral obstruction, antidiarrhoeal, Juandice etc
3)	PAPAVERACEAE	<i>Papaver somniferum</i> L. Afim,Aafu.	Latex from capsule,seed,seed oil, & leaf.	Common weed in cultivated fields and waste places pitalkhoraAmbatanda, Thakarwadi etc.	Analgesic,astringent,narcotic,sedative,antispasmodic,demulcent, purgative etc.
4)	BRASSICACEAE	<i>Cleome viscosa</i> L. Higul/Burga.	Seed,Leaf and Bark.	Commonly occure	Carminative, antihelmintic,antiseptic,externally as rubefacient, etc.
5)	CAPPARIDACEAE	<i>Cadaba fruticosa</i> (L) Druce. Dabi.	Leaf and root	Common scrub and walls of ruined places.	Stimulent,aperient,antihelminthic in source, used in uterine trouble etc.
6)	MALVACEAE	<i>Abitulon indicum</i> (L) Sweet. Kanghi.	Seed and root.	Common along road sides and scrub jungles, Gautala, Pitalkhora, Thakarwadi, Ambatanda,andKalimath etc.	Aphrodisiac,antipyretic,nervine etc.
	MALVACEAE	<i>Hibiscus ficuluens</i> L. Dula.	Fruits.	Scattered in forest and waste places,Gautala sanctuary etc.	Fruits rich in vitamin C etc.
7)	BOMBACACEAE	<i>Bombax ceiba</i> L. Saimal.	Root ,bark, leaf, flower,seed and gum etc.	Common in deciduous forest, Gautala etc.	Emetic, antigonorrhoeic in haemorrhoids,antidote for snake bite in small pox and chickenpox,laxative,aphrodisiac, tonic,antidiarrhoeal etc.
8)	TILIACEAE	<i>Triumfetta arhomboides</i> Jacq. Chikti.	Root ,bark, leaf, flower,and Leaf etc.	Occasional on road sides and canals etc.	Tonic,styptic,lactogenic,diuretic in infameseyelids, hotinfusion, child birth astringent, antidiarrhoeal etc.
9)	ZYGOPHYLLACEAE	<i>Tribulus terrestris</i> L. Gokharu.	Root,Fruits, and Leaf etc.	Common in sandy places ,pitalkhora,Kalimath and Gautala.	Diuretic in painful micturition,aphrodisiac,antighnorrhoeicantiasmetic,in skin and heart disease, haemastasis, stomachic etc.
10)	OXALIDACEAE	<i>Oxalis corniculata</i> L. Ambuti /Omlika..	Leaves and Roots etc.	Common in moist and shady habitats ,in cultivated fields.	In scurvy,Dysentery,diarrhoea,in remove warts etc.
11)	RUTACEAE	a) <i>Aegle marmelos</i> (L) Correa.	Fruit pulp, root bark,stem,leaf,a	Occasional in moist deciduous,in	Astringent, febrifuge,

		Bel	nd flower etc.	subtropical regions, Gautala sanctuary.	stomachic,inpiles,antigonorrhoeic,cardiotonic Laxative, tuberculosis,hepatitisantidysentric,emetic,antiinflammatory,expectorant in opti-Helminthic,jundice,urinary troubles etc.
	RUTACEAE	b) <i>Citrus medica</i> L. Nimbu, Limbu	Fruit juice,root bud,and flower etc.	Cultivated for edible fruits, Gautala sanctuary and Hiwarkheda.	Antihelminthic,purgative,antiemetic in urinary calculus, astringent, stimu-lent. etc.
12)	BURSERACEAE	<i>Boswellia serrate</i> Roxb Salai/salar.	Gum oil etc.	On dry hills and slopes ,in dry deciduous forest,Gautala sanctuary.	Diaphoretic,stimulent,antirheumatic in pulmonary nervous and skin diseases, urinary disorders ringworm diseases of bones,in chronic ulcer etc.
13)	MELIACEAE	<i>Azadirachta indica</i> A.Juss. Neem	Fruits,seedoil,gum, bark, stem and flower etc.	Commonly occur everywhere.	Antiperiodic,astringent,in skin trouble,anticeptic, ulcer,stmatic,antihelminthic purgative stimulant etc.
14)	CELASTRACEAE	<i>Celastrus paniculata</i> Willd. Malkangoni	Bark and seed oil etc.	Found in Gautala sanctuary.	Abortifacient, laxative,emetic, stimulent,aphrodisiac, antiparalytic in beriber-ri etc.
15)	VITACEAE	<i>Vitis vinifera</i> L. Draksh/Angoor	Dry Fruit etc.	Cultivated for edible berried.	Laxative,demulcent,expectorant, nutritions,blood purifier, used in dyspensia,diarrhoea and dropsical affections etc.
16)	FABACEAE	<i>Abrus precatorious</i> L. Gunj/Ratti	:Leaf,seed,root etc.	Scattered in dry forest of Gautala sanctuary.	Antiphlogistic,nerve depressant, analgesic, antihelminthic,antisposmatic Uterine, stimulent,abortifacient, toxic in leucoderma,emetic etc.
17)	CAESALPINIACEAE	a) <i>Bahunia purpuria</i> L. LalKachnar/Khariwal	Bark, Flower,root etc.	Scattered in forest of Gautala sanctuary, cultivated in gardens	Carminative tonic,astringent,antidiarrhoeal, laxative in ulcer,goitre etc.
	CAESALPINIACEAE	b) <i>Bahunia racemosa</i> Lam. Kanchan/Gurial	:Leaf,seed and Stem bark etc.	Scattered in forest of Gautala sanctuary, cultivated in gardens	Antimalerial, astringent,antidiarrhoeal, anticancer and antibacterial etc.
	CAESALPINIACEAE	c) <i>Cassia fistula</i> L. Bahava	Root bark, pulp, seed, leaf and stem etc.	Generally planted as an avenue tree in gardens, wild in forest.	Purgative,tonic,febrifuge,anticancer,antiviral and hypoglycaemic etc.
	CAESALPINIACEAE	d) <i>Tamarindus indica</i> L. Chinch/Imali.	Bark,Leaf,Ash, flowers, fruits and seed etc.	Commonly occur everywhere.	Antiparalytic,astringent,ulcers in ring worm, smallpox, bleedingpiles, axative ,antiinflammatory, liver complaints, cough, useful in vaginal discharge etc.
18)	MIMOSACEAE	a) <i>Accacia pinnata</i> (L)Willd. Babhul	Bark,Leaf etc.	Commonly occur everywhere.	Antidote for snake poision,in bronchitis, scalding of urine etc.

	MIMOSACEAE	b) <i>Prosopis julifera</i> (Swartz)DC. Vilayatikikar	Ripen pods. etc.	Commonly occur in Gautala Sanctuary.	Highly nutritive ,a fair source of digestible proteins. Etc
19)	COMBRETACEAE	a) <i>Quisqualis indica</i> L. Rangun	Leaf and flower etc	Commonly occur in Gautala Sanctuary.	Antihelminthic, febrifuge,antidiarrhoeal, carminative etc
	COMBRETACEAE	b) <i>Terminalia arjuna</i> (Roxb.ex.DC.)wight& Arn. Arjunsadhada	Bark and fruit etc.	Commonly occur in Gautala Sanctuary.	Antidysentric, astringent, febrifuge, cardiotoxic, diureticulcer, urinary
20)	LYTHRACEAE	a) <i>Woodfordia fruticosa</i> (L)Kurz. Dhayati/Dhau	Bark and Flower etc.	Common in forest, on hill slopes and in waste planes.	Astringent,tonic in disorders of mucous membrane, safestimulent in pregnancy, in haemorrhages,urine ,sedative etc.
	LYTHRACEAE	b) <i>Lagerstroemia indica</i> L. Saoni.	Bark,Leaves,Flower etc.	Cultivated for its beautiful flowers,ornamental purpose in gardens.	Considered by hydrogogne, purgative, febrifuge, stimulent etc.
21)	SOLANACEAE	a) <i>Solanum nigrum</i> L. Bhuringani/Makoi.	Berry, young root,leaf etc.	Common weed of cultivated fields.along road sides and moist places.	Febrifuge,antidiarrhoealin eye disease,hydrophobia,in liver disorders in piles in psoriasis, diuretic, laxative etc.
	SOLANACEAE	b) <i>Withania somnifera</i> (L).Dunal. Ashwagandha/Asgad.	Leaf,root,seed and fruit etc.	Common in dry places.	Narcotic,abortifacient, antiinflammatory, tonic, inconsumption, female dis-Orders,ulcer, scabies, lesions, painfulswellings, soreeyes, hypotonic, diuretic, etc.
22)	ACANTHACEAE	<i>Adhatoda zeylanica</i> Medic. Adhulsa	Leaf and root etc.	Common in waste places, through out the Gautala.	Uterotonic, abortifacient, antiseptic, in chronic bronchitis, expectorant, Antidiarrhoeal, etc.



**Annona squamosa**



**Tinospora cordifolia**



**Cleome viscosa**



*Cadaba fruticosa*



*Abutilon indicum*



*Bombax ceiba*



*Triemfetta rhomboidea*



*Tribulus terrestris*



*Hibiscus ficuluens*



*Oxalis corniculata*



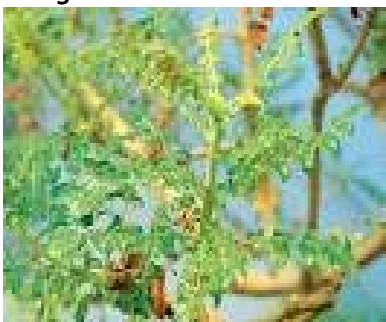
*Aegle marmalos*



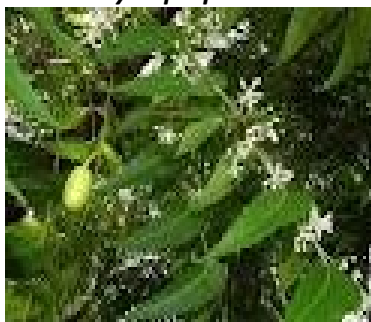
*Murrya paqniculata*



*Citrus medica*



*Boswellia serrata*



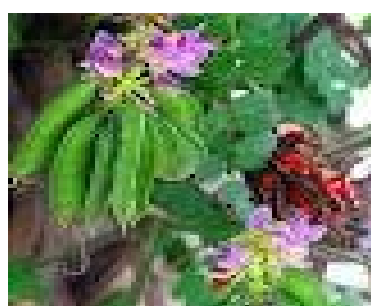
*Azadirachta indica*



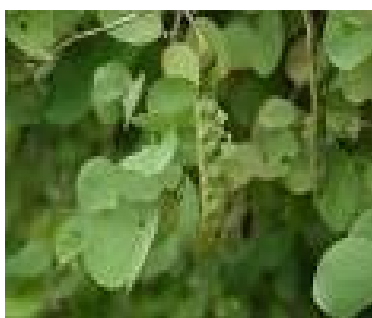
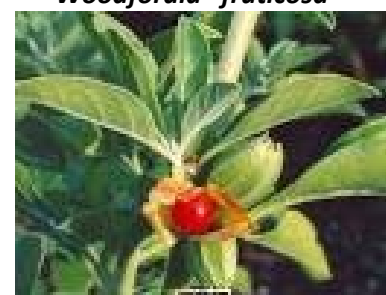
*Celastrus paniculatus*



*Vitis vinifera*



*Abrus precatorius*

***Bahunia purpuria******Bahunia racemosa******Tamarindus indica******Prosopis julifera******Quisqualis indica******Terminalia arjuna******Woodfordia fruticosa******Lagerstroemia indica******Papaver somniferum******Withania somnifera******Adhatoda zeylanica******Accacia pinnata***

The medicinal plants in Gautala sanctuary constituted near about 50-100 plant species. It is highly probable that the medicinal properties of the remaining plant species have not been yet discovered or documented. The analysis of the medicinal plant data also suggested a propensity for family dominance for instance families like Fabaceae, Asteraceae, seemed to be more prominent sources of potential medicinal plants than others. The present study showed that, the family fabaceae and Asteraceae contributed most species of the medicinal plant diversity in Gautala

sanctuary of Kannadataluka. The families like Asteraceae, Fabaceae, Solanaceae, Brassicaceae, Acanthaceae, contributed nearly about 30% of the medicinal plant species presented in Gautala sanctuary. The medicinal plant diversity in family fabaceae has been observed in other studies globally (Kakudidi *et al.*, 2000); (Bukonya-Ziraba and Kamoga, 2007) and richness of medicinal plants in mountain (Brown, 2005). The traditional healers believed that, medicines prepared by combining two/more plants were more potent than those prepared with single plants.



This has been attributed to the combined effects of the plants. (Okello and Ssegawa, 2007) Most of the medicines prepared by boiling the medicinal plants and administered by drinking as recorded by Addo-Fordjour *et al.*, 2008) It was also noted that the medicinal species that have been overexploited due to their relatively higher medicinal importance and the same affected plant species were listed in endangered plant species. (Ghazaufar *et al.*, 2010)

It is recommended that the botanical collection and documentation of ethno-botanical knowledge be carried out before such rich habitats are lost due to various anthropogenic and other natural causes. Further studies should be conducted on these medicinal plants to determine their functionalities and their parts responsible for curing the ailments listed by the herbatists. Even in the case of medicinal plants, standard approaches of conservation. The traditional medicine with a mission to collect record and analyze the traditional medicine knowledge from traditional practitioners (Correa, 2002) but the conservation requires to the involvement and support of those communities who ultimately depends on those plant resources. The medicinal status of plant by

analyzing their diversity and conservation status against the knowledge management practices of traditional medicines (Sabithasakkir *et al.*, 2012). The transmission of knowledge to the trainees also remained informal and undocumented as with any traditional practices, as (Yineger *et al.*, 2008)<sup>13</sup> observed only few herbatist kept record of the ailments treated and their cure.

There is clear need for Government and non government institutions to empower the communities about the importance and sustainable use of medicinal plants. Analyses on conservation thus suggest a new thinking, that the traditional knowledge of medicinal plants and their practitioners could be externally useful in the medicinal plants conservation.

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