Int.J.Curr.Microbiol.App.Sci (2016) *5*(6): 973-989

International Journal of Current Microbiology and Applied Sciences
ISSN: 2319-7706 **Volume 5 Number 6 (2016) pp. 973-989**
Journal homepage: http://www.ijcmas.com

Original Research Article http://dx.doi.org/10.20546/ijcmas.2016.506.104

Phytodiversity of Ganpur forest, Birbhum District, West Bengal, India with reference to their Medicinal properties

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Keywords

Phytodiversity, conservation, biodiversity, Birbhum district, Gonpur forest

Article Info

Accepted:
28 May 2016
Available Online:
10 June 2016

A B S T R A C T

The present study deals with the observation on phytodiversity including its uses, distribution and occurrence to achieve the current strategic plan for biodiversity conservation. The plants are enumerated according to the alphabetical order of the plant names along with local names and their uses. During this investigation 229 plant species were collected from the forest under 81 families and 184 genera, among them 193 species belong to dicots with 70 families and 154 genera, and the 11 families 30 genera and 36 species of monocots. Local healers and healers from neighboring state like Jharkhand identified Gonpur forest as one of the major threats to vegetation and flora of the forest.

Introduction

The Birbhum district is one of the lateritic belt district of West Bengal. It is situated between 23°32′30″ to 24°35′′00″ North latitude and 87°5′25″ to 88°2′ East longitude, total area of the district is about 4550.94 sq.km (5.10% of the state area). The climate of Birbhum district may be said as "dry sub-humid mega thermal" (Thornthwaite, 1948). Maximum temperature rise up to 44°c-46°c during April-May and goes down to 6°-7°c during December-January. Rainfall is moderate, maximum of 350 mm during July. The present study area Ganpur forest range situated between 24°04'37.0"-24°04'37.5"latitude and 087°40'59.1" to 087°41'004" longitude.

It is one of the most species rich forests in this district that is still unexplored. Few scattered works on the flora of Birbhum district have been published by Basak, 1968 & 75; Guha, 1968; Basak and Guha Bakshi, 1977; Chowdhury and Mandal, 1999. Few works on ethno-medicinal plants and phytosociological study of plant species has been done from this district (Rahman and Mandal,1999; Bhattacharyaa et al.,2003; Rahaman et al, 2008 & 2015).The medicinal uses of plant species reported by the tribes were compared and thoroughly screened with important works such as Kirtikar and Basu (1933), Chopra *et al.* (1969,1956), The wealth of India(1948-1976) and Jain(1991).

It has been found that different tribal communities like Santhal, Konra, etc. live in the village named Choubata, Kanta Pahari, Oal Pahari, Kolai Pahari, Ghanga etc. attached to the forest. Various valuable medicinal plants are found here and tribal people of the surrounding area are very much familiar with those plants as they use those plants to produce their herbal medicines for treatment of various diseases. Not only that, healers from Jharkhand and the local healers come to the forest during Monsoon for harvesting huge amount of medicinally important plant specimen and sell them in the market. The plant bank reports to know the health of the forest and the uses of the plant from this forest for medicinal purposes and other purposes which are important for the benefit of humankind. This work will also document the different plant species of the from the conservation point of view.

Materials and Methods

Extensive surveys for a period of three years (April 2012 to March 2015) in the forest have been made at regular intervals. The plant specimens were collected and identified by using standard monographs and flora (Prain 1903, Hooker 1897) and consultation from the Visva-Bharati Herbarium (VBH), Santiniketan as well as from Central National Herbarium (CAL), Sibpur, Howrah. The collected plant specimens are properly processed and herbarium sheets have been made and preserved as herbarium specimen following the standard method (Jain and Rao, 1977). Various information regarding the uses of the plant parts have been collected on the basis of frequent interviews with the tribal guru to know the practicing indigenous knowledge of medicine and documented in the field note book and confirmed repeated interviews at other places (Table-2). Vegetation pattern survey was carried out during April 2012 to March 2015 by laying 10m x 10m quadrates at 50 spots and was sampled through quadrates placed randomly; number of each species has been noted.

Results and Discusion

229 plant species of 81 families represented by 184 genera have been enumerated and documented in alphabetical order of the plant names (Table-1). The medicinally important plants as per information given by the Tribal Gurus are also enumerated (Table-2). Collected plant specimens are statistically classified and found 193 Dicotyledonous species under 70 families and 36 Monocotyledonous species under 11 families (Table-5). Collected species are properly processed for herbarium and labelled them properly with collection Number, Field No. etc. arranged according to the classification system of Bentham and Hooker (1887-97) and deposited in the Visva Bharati Herbarium(VBH) of Botany Department, Visva-Bharati, Santiniketan, West-Bengal, India.

Ganpur forest is dominated by *Shorea robusta* Gaertn.f. (Dipterocarpaceae), *Madhuca indica* J.F. Gmel.(Sapotaceae), *Terminalia bellirica* Roxb.(Combretaceae), *Acacia auriculiformis* (Mimosaceae) etc. Eleven most dominant families in the Gonpur forest are Fabaceae (18.75%) with 15 taxa in the first under 11 genus, followed by Acanthaceae (17.5%) with 14 taxa under 9 genus, Poaceae (20.0%)with 16 taxa under13 genus, Euphorbiaceae (14.8%) with 12 taxa under 8 genus ,Asteraceae (13.6%) with 11 taxa under 11 genus, Rubiaceae (13.6%) with 11 taxa under 11 genus, Scrophulariaceae (11.1%) with 9 taxa under 6 genus, Caesalpiniaceae (7.4%) with 6 taxa under 3 genus, Lamiaceae (7.4%) with 6 taxa under 5 genus,

Apocynaceae (6.1%) with 5 taxa under 5 genus, Amaranthaceae (6.1%) with 5 taxa under 4 genus, Verbenaceae (6.1%)with 5 taxa under 5 genus and Convovulaceae (6.1%) also recorded 5 taxa under 4 genus (Table-3);(Fig-1). Analysis of the life form composition shows that herbaceous taxa of 116 occupied 50.66 % of the flora, 55 taxa of trees (24.02%), 42 taxa of shrubs (18.34 %) and 16 taxa of climbers (6.99 %) (Table- 4) (Fig-2).

Table.1 Plant species enumeration of Ganpur forest, Birbhum District

Sl. No.	Scientific name of the plants	Habits	Family	Local name	Availability	Flowering& Fruiting time
1.	*Abrus precatorius* L.	S	Fabaceae	Kunch	Less common	Aug.-Sep.
2.	*Abutilon indicum* (L.) Sweet	S	Malvaceae	Bon kapas	Common	May-Aug.
3.	*Acacia auriculiformis* A.Cunn.ex Benth.	T	Mimosaceae	Sonajhuri/ Akashmoni	Common	Sep.-Nov.
4.	*Acacia nilotica* Dellile.	T	Mimosaceae	Babla	Common	Aug.-Mar.
5.	*Achyranthes aspera* L.	H	Amaranthaceae	Apang	Common	Aug-Feb.
6.	*Adina cordifolia* (Roxb.) Brandis.	T	Rubiaceae	Chakalta	Not common	May.-Aug.
7.	*Aegle marmelos* (L.) Correa.	T	Rutaceae	Bel	rare	Apr.-Jul.
8.	*Aerva lanata* (L.) Juss.ex Schult.	H	Amaranthaceae	Jaya phul/ daya phul	Common	Jul.-Apr.
9.	*Agave americana* L.	S	Agavaceae	Konga	Less common	Dec.-Jan.
10.	*Ageratum conyzoides* Sieber ex Steud.	H	Asteraceae	Not known	Common	Jun.-Jan.
11.	*Alangium salviifolium* (L.f.) Wangerin	T	Alangiaceae	Ankor	Common	Mar.-May
12.	*Albizia lebbeck* (L.) Benth.	T	Mimosaceae	Sirish	Common	Apr.-Mar.
13.	*Alstonia scholaris* (L.) R.Br.	T	Apocynaceae	Chhatim	Less common	Dec.-Apr.
14.	*Alysicarpus monilifer* (L.) DC.	H	Fabaceae	Not known	Less common	Aug.-Apr.
15.	*Amaranthus spinosus*.L.	H	Amaranthaceae	Kantanotey	common	Whole year
16.	*Amaranthus viridis* Pollich ex Moq.	H	Amaranthaceae	Notey	Common	Whole year
17.	*Anacardium occidentale* L.	T	Anacardiaceae	Kaju badam	Less common	Feb.-Apr.
18.	*Andrographis paniculata* Nees.	H	Acanthaceae	kalmegh	Common	Sep.-Dec..
19.	*Anisomeles ovata* R.Br.	S	Lamiaceae	Apang	Less common	Sep.-Dec.
20.	*Annona reticulata* Vell.	T	Annonaceae	Nona-Ata	Less common	May-Jul.
21.	*Antigonon leptopus* Hook.&Arn.	CL	Polygonaceae	Anantalata	Common	Jul.-Nov.
22.	*Argyreia nervosa* (Burm.f.)Bojer	CL	Convolvulaceae	Gogul	Not common	Sep.-Jan.
23.	*Aristida setaceae* Retz.	H	Poaceae	Not known	Common	Sep.-Jan.
24.	*Aristolochia indica* L.	H	Aristolochiaceae	Iswarmul	Less common	Jun.-Oct.
25.	*Asparagus racemosus* Willd.	CL	Liliaceae	Satamuli	Common	Sep.-Oct.
26.	*Azadirachta indica* A.Juss.	T	Meliaceae	Neem	Common	Mar.-May.
27.	*Barleria cristata* Lam.	S	Acanthaceae	Janti	Not common	Sep.-Jan.
28.	*Barleria prionitis* L.	S	Acanthaceae	Kantanotey	Not common	Sep.-Apr.
29.	*Bixa orellana* L.	T	Bixaceae	Latkan	Less common	Jul.-Oct.
30.	*Blumea oxyodonta* DC.	H	Asteraceae	Not known	Common	Dec.-Mar.
31.	*Boerhavia diffusa* Engehm.& A.Gray	H	Nyctaginaceae	Punornova	Common	Oct.-Apr.
32.	*Borassus flabellifer* L.	T	Arecaceae	Tal	Common	Feb-Apr..

33.	*Borreria articularis* F.N.Williams.	T	Rubiacea	Not known	Common	Jul.-Jan.
34.	*Bridelia retusa* Spreng.	T	Euphorbiaceae	Bhalas/ Geio	Common	Aug.-Nov.
35.	*Bryophyllum calycinum* Salisb.	T	Crassulaceae	patharkuchi	Not common	Mar.-Apr.
36.	*Buchanania lanzan* Spreng.	T	Anacardiaceae	Piyal	Less common	Jan.-Feb.
37.	*Butea monosperma* (Lam.) Taub.	T	Fabaceae	Lal palash	Common	Feb-Jun.
38.	*Butea superba* Roxb.ex.Wild.	H	Fabaceae	Latano-palash	Rare	Feb.-July
39.	*Canscora diffusa* R.Br.	H	Gentianaceae	Not known	Common	Oct.-Jan.
40.	*Cardiospermum halicacabum* L.	H	Sapindaceae	Sibghul	Common	Whole year
41.	*Carissa spinarum* Lodd.ex.A.DC.	S	Apocynaceae	Buno karamcha	Common	Mar.-May.
42.	*Cassia fistula* L.	T	Caesalpiniaceae	Bandarlathi/A maltas	Common	Apr.-May
43.	*Centella asiatica* Urb.	H	Apiaceae	Thankuni	Common	Apr.-Jul.
44.	*Chenopodium album* Bosc.ex Moq.	H	Chenopdiaceae	Bethosak	Common	Nov.-Mar.
45.	*Chrysopogon aciculatus* Trin.	H	Poaceae	Chorkanta	Common	Aug.-Oct.
46.	*Chrysopogon lancearius* Haines.	H	Poaceae	Not known	Common	Sep.-Oct.
47.	*Cissus quadrangularis* L.	CL	Vitaceae	Harjora	Common	Feb.-Oct.
48.	*Cleome viscosa* L.	H	Capparidaceae	Harhura	Common	Jul.-Sep.
49.	*Clerodendrum petasites* S.Moore	S	Verbenaceae	Not known	common	Jan.-Mar.
50.	*Coccinia grandis* (L.) Voigt	CL	Cucurbitaceae	Telakucha	Common	Aug.-Oct.
51.	*Coix lacryma-jobi* L.	H	Poaceae	Garagra	Rare	Sept.-Oct.
52.	*Colocasia esculenta* (L.)Schott	H	Araceae	Kachu	Common	July.-Nov.
53.	*Commelina benghalensis* L.	H	Commelinaceae	Kanshira	Very common	Jul.-Nov.
54.	*Corchorus aestuans* Herb.Madr.ex Wall.	H	Tiliaceae	Tita-pat	Less common	Jul.-Aug.
55.	*Corchorus fascicularis* Lam.	H	Tiliaceae	Jangli-pat	Less common	Jul.-Sep.
56.	*Costus speciosus* (J.Koenig .) Sm.	H	Zingiberaceae	Not known	Not common	Jul.-Sep.
57.	*Crotalaria prostrata* Rottler.	H	Fabaceae	Jhunjhuni	Common	Sep.-Dec.
58.	*Crotalaria retusa* L.	H	Fabaceae	Atasi	Common	Whole year
59.	*Crotalaria verrucosa* L.	S	Fabaceae	Bon-son	Not common	Oct.-Jan.
60.	*Curculigo orchioides* Gaertn.	H	Hypoxideae	Kali Musali	Not common	Aug.-Nov.
61.	*Curcuma aromatica* Salisb.	H	Zingiberaceae	Bon Halud	Rare	May.-Jun.
62.	*Cuscuta reflexa* Roxb.	CL	Cuscutaceae	Swarnalata	Less common	Oct.-Feb.
63.	*Cyanotis tuberosa* (Roxb.) Schult. f.	H	Commelinaceae	Not known	Less common	Jul.-Oct.
64.	*Cymbopogon martini* Staef.	H	Poaceae	Not known	Rare	Oct-Dec.
65.	*Cynodon dactylon* (L.) Pers	H	Poaceae	Durba	Common	Sep.-Feb.
66.	*Cyperus difformis*(L.)	H	Cyperaceae	Not known	Common	Aug.-Dec.
67.	*Cyperus monocephalus* Baker.	H	Cyperaceae	Not known	Common	Jun.-Jan.
68.	*Cyperus rotundus* Kunth.	H	Cyperaceae	Mutha	Common	Jun.-Jan.
69.	*Dactyloctenium aegyptium* (L.)K.Richt.	H	Poaceae	Not known	Common	July.-Dec.
70.	*Dalbergia sissoo.* Roxb.	T	Fabaceae	Sissu	Common	Mar.Aug.
71.	*Dendrophthoe falcata* Blume	H	Loranthaceae	Banda	Common	Nov.-Mar.
72.	*Dentella repens* J.R.Forst & G.Forst.	H	Rubiaceae	Not known	Common	Sep.-Feb.
73.	*Desmodium gangeticum* (L.) DC.	H	Fabaceae	Salpani	Common	May.-Jan.

74.	*Desmodium triflorum* (L.) DC.	H	Fabaceae	Kudali		Sep.-Apr.
75.	*Digitaria ciliaris* (Retz.) Koeler.	H	Poaceae	Makur-jali	Common	Aug.-Oct.
76.	*Dillenia pentagyna* Roxb.	T	Dilleniaceae	Bon chalta	Rare	Mar.-Jun.
77.	*Dioscorea alata* L.	CL	Diascoreaceae	Khamalu	Not common	July - Oct.
78.	*Dioscorea bulbifera* L.	CL	Diascoreaceae	Kukuralu	Less common	Sep.-Oct
79.	*Diospyros melanoxylon* Hiem.	T	Ebenaceae	Kend	Rare	Apr.-Jun
80.	*Dipterocanthus proatratus* (Poir.)	H	Acanthaceae	Not known	Not common	Jun.-Oct.
81.	*Drosera burmanni* DC.	H	Droseraceae	Surjasisir	Rare	Oct.-Jan.
82.	*Echinochloa colona* (L.) Link	H	Poaceae	Not known	Very common	Jul.-Oct.
83.	*Eclipta prostrata* (L.)	H	Asteraceae	Bhringaraj/ keshute	Common	Whole year
84.	*Elephantopus scaber* L.	H	Asteraceae	Hastipod	Rare	Sep.-Dec.
85.	*Eleusine indica* (L.)Gaertn.	H	Poaceae	Sursuri ghas	Common	Aug.-Nov.
86.	*Emilia sonchifolia* (L.) DC.	H	Asteraceae	Sadimodi	Less common	Nov.-Feb.
87.	*Eragrostis coarctata* Stapf	H	Poaceae	Not known	Common	Aug.-Feb.
88.	*Eragrostis tenella* Benth.	H	Poaceae	Sursuri ghas	Common	Jul.-Jan.
89.	*Eriocaulon quinquangulare* L.	H	Eriocaulaceae	Not known	Common	Sept.-Jan.
90.	*Eucalyptus citriodora* Hook.	T	Myrtaceae	Eucalyptus	Common	Sep.-May.
91.	*Eupatorium odoratum* L.	H	Asteraceae	Not known	Common	Nov.Jan.
92.	*Euphorbia antiquorum* E.Mey.	S	Euphorbiaceae	Teshare monsa	Rare	Dec.-Jan.
93.	*Euphorbia hirta* L.	H	Euphorbiaceae	Barokarni	Common	Whole year
94.	*Evolvulus alsinoides* L.	H	Convolvulaceae	Not known	Common	July.-Nov.
95.	*Evolvulus nummularius* (L.) L.	H	Convolvulaceae	Not known	Common	Whole year
96.	*Ficus benghalensis* L.	T	Moraceae	Bot	Common	Apr.Jul.
97.	*Ficus hispida* L.f.	T	Moraceae	Dumur	Common	Feb.-Mar.
98.	*Ficus racemosa* Wall.	T	Moraceae	Jagnya dumur	Not common	Apr.-Jul.
99.	*Ficus religiosa* Decne.ex Miq.	T	Moraceae	Aswathha	Common	Apr.-May & Oct.-Nov.
100.	*Fimbristylis teragona* R.Br.	H	Cyperaceae	Not known	Less common	Sep.-Jan.
101.	*Flacourtia jangomas (Lour.) Raeusch.*	S	Flacourtiaceae	Bainchi	Rare	Mar-.May
102.	*Flacourtia indica* (Burm.f.)Merr.	T	Flacourtiaceae	Bainchi	Common	Jan.-Mar.
103.	*Glinus oppositifolius* (L.) Aug.DC.	H	Aizoaceae	Gima	Common	Jul.Oct.
104.	*Globba bulbifera* Roxb.	H	Zingiberaceae	Not known	Not common	Aug.-Sep.
105.	*Glochidion lanceolarium* Voigt.	T	Euphorbiaceae	Not known	Not common	Feb-Mar.
106.	*Gloriosa superba* L.	CL	Liliaceae	Ulat-chandal	Less common	Jun.-Sep.
107.	*Gnaphalium luteo-album* L.	H	Asteraceae	Not known	Common	Mar.-Jun.
108.	*Gomphrena celosioides* Mart,	H	Amaranthaceae	Not known	Common	Mar.-Sep.
109.	*Grewia hirsute* Roxb.	T	Tiliaceae	Kukurbicha	Less common	Jul.-Sep.
110.	*Gymnema sylvestre* (Retz.) R.Br.ex Sm	CL	Asclepiadaceae	Gurmari	Rare	Aug.-Oct.
111.	*Hedyotis pinifolia* Wall.	H	Rubiaceae	Not known	Not common	Jul.-Feb.
112.	*Heliotropium indicum* L.	H	Boraginaceae	Hatisur	Common	May.-Dec.
113.	*Hemidesmus indicus* (L.) R.Br.	H	Asclepiadaceae	Anantamul	Common	Aug.-Dec.
114.	*Hemigraphis hirta* T.Anderson	H	Acanthaceae	Not known	Rare	Aug.-Sept.
115.	*Holarrhena antidysenterica* (L.) Wall	T	Apocynaceae	Kurchi	Common	May.-Aug.

116.	*Holoptelea integrifolia* (Roxb.)Planch.	T	Ulmaceae	Chhalla	Not common	Feb.-Mar.
117.	*Hybanthus enneaspermus* (L.) F.Muell.	H	Violaceae	Not known	Common	Whole year
118.	*Hygrophila salicifolia* (Vahl)Nees in Wall.	S	Acanthaceae	Not known	Not common	Aug.-Nov.
119.	*Hygrophila auriculata* (Schumch.) Heine	S	Acanthaceae	Kulekhara	Very common	Sept.-Feb.
120.	*Hygrophila difformis* (L.f.) Blume	S	Acanthaceae	Not known	Not common	Sep.-Feb.
121.	*Hygrophila polysperma* T.Anderson	H	Acanthaceae	Not known	Not common	Oct.-Feb.
122.	*Hyptis suaveolens* (L.) Ooit.	S	Lamiaceae	Bilati tulsi	Not common	Nov.-Apr.
123.	*Ichnocarpus frutescens* Naves.	CL	Apocynaceae	Shyamalata	Common	Aug.-Feb.
124.	*Indigofera tinctoria* L.	S	Fabaceae	nil	Rare	Jan.-Mar.
125.	*Ipomoea obscura* Guill.	H	Convolvulaceae	Not known	Common	Sep.-Dec.
126.	*Ixora arborea* Lodd.	H	Rubiaceae	Not known	Common	Feb-Mar.
127.	*Jatropha curcas* L.	T	Euphorbiaceae	Bharenda	Not common	Mar.-May.
128.	*Jatropha gossypifolia* L.	S	Euphorbiaceae	Lal-bharenda	Not common	Jul.-Sep..
129.	*Justicia diffusa* Willd.	H	Acanthaceae	Not known	Common	Jul.-Feb.
130.	*Justicia gendarussa* Burm.f.	S	Acanthaceae	Jagat madan	Not common	Mar.-May.
131.	*Lagerstroemia speciosa* Pers.	T	Lythraceae	Jarul	Common	May.-Sep.
132.	*Lannea coromandelica* (Houtt.)Merr.	T	Anacardiaceae	Jiol	Less common	Dec.-Apr.
133.	*Lantana camara* (L.)	S	Verbenaceae	Not known	Common	Whole year
134.	*Leonotis nepetifolia* Schimp.ex Benth.	S	Lamiaceae	Not known	Not common	Oct.-Feb.
135.	*Leucas cephalotes* Sperng.	H	Lamiaceae	Not known	Common	Sep.-Dec.
136.	*Lindenbergia macrostachya* Benth.	H	Scrophulariaceae	Basanti	Not common	Aug.-Jan.
137.	*Lindernia antipoda* (L.) Alston	H	Scrophulariaceae	Not known	Not common	Aug.-Mar.
138.	*Lindernia ciliata* (Colsm.) Pennell.	H	Scrophulariaceae	Not known	Common	Aug.-Dec.
139.	*Lindernia crustacea* (L.) F.Muell.	H	Scrophulariaceae	Not known	Common	Jun.-Jan.
140.	*Lindernia oppositifolia* (L.) Mukherjee	H	Scrophulariaceae	Not known	Common	Sep.-Oct.
141.	*Lippia geminata* Kunth	H	Verbenaceae	Not known	Not common	Mar.-Dec.
142.	*Ludwigia adscendens* (L.) H.Hara	H	Onagaraceae	Kesardam	Common	Sep.-Jan.
143.	*Madhuca indica* J.F. Gmel.	T	Sapotaceae	Mahua	Common	Mar.-Jun.
144.	*Martynia annua (L.)*	S	Martyniaceae	Bagh nokh	Less Common	Aug.-Oct.
145.	*Mazus pumilus* (Burm.f.)	H	Scrophulariaceae	Not known	Less common	Sept.-Feb.
146.	*Mecardonia procumbens* Small.	H	Scrophulariaceae	Not known	Not common	Feb.-Apr.
147.	*Melochia corchorifolia* Wall..	H	Sterculiaceae	Bon-pat	Common	May-Oct.
148.	*Merremia tridentata* (L.) Hallier f.	H	Convolvulaceae	Not known	Less common	Jul.-Feb.
149.	*Meyna spinosa* Roxb.ex.Link.	S	Rubiaceae	Moinakanta	Common	Mar.-May.
150.	*Micrococca mercurialis* Benth.	H	Euphorbiaceae	Not known	Not common	Dec.-Feb.
151.	*Mikania micrantha* Kunth.	CL	Asteraceae	Not known	Rare	Dec.-Jan.
152.	*Mimosa pudica* Mill.	H	Mimosaceae	Lajjaabati	Common	Aug.-Mar.
153.	*Mitragyna Parvifolia* Korth.	T	Rubiaceae	Keli kadam	Not common	May.-Jul.
154.	*Mitrasacme alsinoides* R.Br.	H	Loganiaceae	Not known	Common	Aug.-Oct.
155.	*Mollugo pentaphylla* L.	H	Aizoaceae	Khet papra	Common	Sep.-Dec.
156.	*Momordica dioica* Wall.	CL	Cucurbitaceae	Bon karala	Common	Aug.-Oct.
157.	*Morinda tomentosa* B.Heyne .	T	Rubiaceae	Haridra	Less common	May.-Jan.

158.	*Nicotiana plumbaginifolia* Willd.	H	Solanaceae	Bon-tamak	Rare	Jun.-Oct.
159.	*Ochna pumila* Buch- Ham.ex D.Don	T	Ochnaceae	Makal	rare	Mar.-Jun.
160.	*Ocimum americanum* Auct,ex Benth.	S	Lamiaceae	Bantulshi	Not common	Aug.-Mar.
161.	*Ocimum sanctum* L.	S	Lamiaceae	Tulshi	Common	Oct.-Feb.
162.	*Oldenlandia corymbosa* Herb.Madr.ex Wight.&Arn.	S	Rubiaceae	Not known	Common	Sep.-Apr.
163.	*Oxalis corniculata* L.	H	Oxalidaceae	Amrul	Very common	Oct-Jun.
164.	*Paederia scandens* (Lour.)Merr.	T	Rubiaceae	Gandalpata	Less common	Sep.-Nov.
165.	*Pandanus fascicularis* Lam.	S	Pandanaceae	Keya	Less common	Aug.-Oct.
166.	*Passiflora foetida* Vell.	H	Passifloraceae	Jhumkolata	Common	Jul.-Dec.
167.	*Pavetta indica* L.	CL	Rubiaceae	Not known	Less common	Apr.-Aug.
168.	*Peltophorum pterocarpum* (DC.) Baker ex K.Heyne.	T	Caesalpiniaceae	Radhachura	Common	Jun.-Apr.
169.	*Peperomia pellucida* Kunth	H	Piperaceae	Not known	Not common	Oct.-Feb.
170.	*Pergularia daemia* (Forssk.) Chiov.	H	Asclepiadaceae	Chagalbati	Common	May.-July.
171.	*Peristrophe bicalyculata* Nees.	H	Acanthaceae	Not known	Not common	Sep.-Mar.
172.	*Phoenix acaulis* Buch-Ham.ex Roxb.	T	Arecaceae	Khejur	Common	Jan-May.
173.	*Phyla nodiflora* Greene	H	Verbenaceae	Not known	Less common	Aug.-Mar.
174.	*Phyllanthus emblica* L.	T	Euphorbiaceae	Amlaki	Not commo	Feb.-Jun.
175.	*Phyllanthus fraternus* G.L.Webster	H	Euphorbiaceae	Bhuin amla	Common	July.-Nov.
176.	*Phyllanthus reticulatus* Lodd.	S	Euphorbiaceae	Panjuli	Not common	Sep.-Oct,
177.	*Physalis minima* L.	H	Solanaceae	Not known	Less common	Aug.-Jan.
178.	*Plumbago zeylanica* L.	H	Plumbaginaceae	Chitrak	Not common	Aug.-Sep.
179.	*Polygala chinensis* L.	H	Polygalaceae	Not known	Common	Oct.-Feb.
180.	*Polygonum hydropiper* L.	H	Polygonaceae	Panimarich	Common	May.-Dec.
181.	*Polygonum plebeium* R.Br.	S	Polygonaceae	Chemti sak	Less common	Jan.-Jun.
182.	*Pongamia pinnata* (L.)Pierre.	T	Fabaceae	Karanj	Less common	May.-Aug.
183.	*Portulaca quadrifida* L.	H	Portulacaceae	Chotanunia	Very common	Whole year
184.	*Pouzolzia zeylanica* (L.)Benn.	H	Urticaceae	Not known	Not common	Aug.-Nov.
185.	*Pterocarpus marsupium* Roxb.	T	Fabeceae	Pia sal	Less common	Mar.-Jun.
186.	*Rauvolfia tetraphylla* L.	S	Apocynaceae	Sarpagandha	Rare	Apr.-Oct.
187.	*Ruellia tuberosa* L.	H	Acanthaceae	Chatpati	Common	Jul.-Dec.
188.	*Rungia pectinata* Nees.	H	Acanthaceae	Not known	Common	Aug.-Mar.
189.	*Saccharum spontaneum* L.	H	Poaceae	Kash	Common	Sept.-Dec
190.	*Salmalia malabarica* Schott.& Endl.	T	Bombacaceae	Simul	Common	JAN-Mar.
191.	*Sapindus emarginatus* Hort.Alger.	T	Sapindaceae	Ritha	rare	Sep.-Dec.
192.	*Scoparia dulcis* L.	H	Scrophulariaceae	Bon dhane	Common	Jun.-Nov.
193.	*Senna siamea* (Lam).H.S.Irwin& Bameby	T	Caesalpiniaceae	Minjiri	Common	Sep.-Mar.
194.	*Senna alata* L.	S	Caesalpiniaceae	Dadmardan	Less common	Apr.-Mar.
195.	*Senna occidentalis* (L) Link.	S	Caesalpiniaceae	Kalkasunda	Common	Jul.Apr.
196.	*Senna tora* (L.) Roxb.	S	Caesalpiniaceae	Not known	Common	Sep.Nov.
197.	*Setaria glauca* (L.) P.Beauv.	H	Poaceae	Not known	Less common	Jul.-Nov.
198.	*Setaria verticillata* (L.)P.Beauv.	H	Poaceae	Dora-byara	Less common	Aug.-Nov.
199.	*Shorea robusta* C.F.Gaertn.	T	Dipterocarpaceae	Sal	Common	Feb.-Apr.

200.	*Sida acuta* Burm.f.	S	Malvaceae	kureta	Common	Aug.-Jan.
201.	*Sida cordifolia* L.	S	Malvaceae	Swet-Berela	Common	Aug.-Nov.
202.	*Sida rhombifolia L.*	S	Malvaceae	Berela	Common	Oct.-Dec.
203.	*Smilax macrophylla* Griseb.	CL	Smilacaceae	Ramdaton	Common	Jul.-Oct.
204.	*Solanum sisymbriifolium* Lam.	S	Solanaceae	Sad kantikari	Common	July- Oct
205.	*Solanum surattense* Burm.	S	Solanaceae	kantikari	Less common	Whole year
206.	*Solanum torvum* Buch.-Ham.ex Wall.	S	Solanaceae	Titabegun	Rare	Dec.-Apr.
207.	*Sporobolus diander* P.Beauv.	H	Poaceae	Bena-joni	Common	Jul.-Nov.
208.	*Streblus asper* Lour.	T	Moraceae	Saora	Common	Jan.-May,
209.	*Striga angustifolia* (D.Don) Saldanha	H	Scrophulariaceae	Not known	Rare	Sep.-Dec.
210.	*Suregada multiflora* Baill.	T	Euphorbiaceae	Not known	Not common	Mar.-May
211.	*Tectona grandis* L.f	S	Verbenaceae	Shegun	Common	July.-Oct.
212.	*Terminalia arjuna* (Roxb.ex DC)Wight.& Arn.	T	Combretaceae	Arjun	Common	Apr.-Oct.
213.	*Terminalia bellirica* (Gaertn.) Roxb.	T	Combretaceae	Bahera	Rare	Mar.-Jan.
214.	*Terminalia chebula* Retz.	T	Combretaceae	Haritaki	Rare	Apr.-Dec.
215.	*Tinospora cordifolia* Miers	CL	Menispermaceae	Gulancha-lata	Very common	Aug.-Dec.
216.	*Tragia involucrata* L.	H	Euphorbiaceae	Bichuti	Common	Jan.-Apr.
217.	*Tridax procumbens* L.	H	Asteraceae	Not known	Common	Whole year
218.	*Triumfetta rhomboidea* Lindl.	S	Tiliaceae	Bon okhra	common	Aug.-Nov.
219.	*Turnera ulmifolia* Sesse & Moc.	S	Turneraceae	Not known	Common	Aug-Dec
220.	*Uraria picta* (Jacq.)Desv.	H	Fabaceae	Sibjata	Less common	Jul.-Oct
221.	*Urena lobata* L.	S	Malvaceae	Ban-bhenda	Common	Sep.-Dec.
222.	*Utricularia stellaris* L.f.	H	Lentibulariaceae	Not known	Less common	Oct.-Dec.
223.	*Vernonia cinerea* (L.) Less.	H	Asteraceae	Not known	Common	Whole year
224.	*Wahlenbergia gracilis* (G.Forst.) A.DC.	H	Campanulaceae	Not known	Common	Whole year
225.	*Wedelia chinensis* Merr.	H	Asteraceae	Not known	Not common	Apr.-Oct.
226.	*Zingiber montanum* Link ex A.Dietr.	H	Zingiberaceae	Bon Ada	Not common	Aug.-Sep.
227.	*Ziziphus mauritiana* Lam.	H	Rhamnaceae	Kul	Less common	Aug.-Oct.
228.	*Ziziphus oenoplia* (L.) Mill.	T	Rhamnaceae	Shiakul	Common	Aug.-Nov.
229.	*Zornia gibbosa* Span.	H	Fabaceae	Not known	Common	Aug.-Oct.

Abbreviation used : H=Herb, S= Shrub, Cl=Climber, T=Tree, Jan.= January, Feb.= February, Mar.= March, Apr.= April, Jun.=June, Jul.=July, Aug.=August, Sep.=September, Oct.=October, Nov.=November, Dec.=December.

Table.2 Folk medicinal importance of some plant species of Ganpur forest, Birbhum District

Sl. No.	Scientific name of the plants	Ailments	Parts Used	Mode of use
1.	*Abrus precatorius* L.	Cough, cold, collie pains, anti-tumour	Root, leaf , seed	Root and leaf decoction is act as diuretic, seed extract by boiling is used in nervous disorder and antitumor
2.	*Abutilon indicum* (L.) Sweet	demulcent, laxative, diuretic, sedative, intestinal worm infestation,	Whole plant	Leaf and fruit is taken orally.
3.	*Acacia nilotica* Dellile.	dysentery,	bark, leaves,	Bark-juice & leaf-juice is eaten.
4.	*Achyranthes aspera* L.	Insect poisoning, diarrhoea, diuretic	Leaves paste, root decoction	Leaves paste are applied to the bite place and decoction of root is given to the diarrhoea patient.
5.	*Aegle marmelos* (L.) Correa.	Chronic dysentery, constipation, dyspepsia, diabetes	Fruit, leaf	Ripe fruit is eaten or un-ripe fruit also been boiled and eaten. Tender leaf juice about 10ml mixed with 2-3 drops of honey is eaten in empty stomach to control diabetes.
6.	*Aerva lanata* (L.) Juss.ex Schult.	Asthma	Flower with leaf juice	5ml juice with few drops of honey for one month
7.	*Agave americana* L.	diuretic	root	root-juice is eaten
8.	*Alangium salviifolium* (L.f.) Wangerin	Hydrophobia	Root	50 gm root crushed are administered on the wound made by dog bite
9.	*Albizia lebbeck* (L.) Benth.	Arthritis	Seed	Seed-paste is used on the affected site.
10.	*Alstonia scholaris* (L.) R.Br.	Diarrhea, dysentery, ulcers, sores, rheumatic inflation	Bark, latex	Dried bark is taken for diarrhea, dysentery and latex is used in ulcers, sores and rheumatic inflation.
11.	*Alysicarpus monilifer* (L.) DC.	Inflammation, pain ,jaundice	Leaf, root	Leaf extract is used as pain reliever, root extract is used for jaundice and pain.
12.	*Amaranthus spinosus*.L.	Diuretic, abscess, buboes	Root, whole plant	Root crushed are used as diuretic and juice of the whole plant is used in buboes and abscess
13.	*Anacardium occidentale* L.	Influenza, diarrhoea, Blood pressure	Fruit, bark, seed	Fruit juice is used for influenza, bark decoction is used for controlling diarrhoea, seed is eaten for controlling blood pressure
14.	*Andrographis paniculata* Nees.	Dyspepsia, liver trouble	Whole plants	one dried small pill made from leaves paste taken in empty stomach
15.	*Annona reticulata* Vell.	Anthelmintic Anti-dysenteric, Astringent	Fruit, bark	Unripe fruit are eaten, bark-juice is eaten
16.	*Argyreia nervosa* (Burm.f.)Bojer	Nervous disorder, eczema	Root, leaf	Root is boiled in water and taken a cup of decoction, leaf-paste is applied on eczema.
17.	*Aristolochia indica* L.	Snake bite, food poisoning in cows	Bark, root juice	one cup juice daily till cure
18.	*Asparagus racemosus* Willd.	Anti-diarrhoea, diuretic, anti-dysenteric, nutritive	Root	Juice of fasciculate roots or boiled roots are eaten.
19.	*Azadirachta indica* A.Juss.	Antiseptic, blood purifier, small pox,	Leaf, seed, bark, flower	Leaf-juice 1 tea spoon is eaten or plants are eaten by cooking for blood purifier.oil from seed is used as antiseptic .leaf-paste is used in small pox
20.	*Barleria cristata* Lam.	Cough , swellings	Leaves, roots	Leaf juice 2 tea spoon are taken, Root paste is applied on the swelling site.
21.	*Barleria prionitis* L.	Fever, respiratory disease, tooth ache	Leaves and bark	Leaf juice are taken for fever and respiratory disease, bark is used to for curing tooth ache
22.	*Bixa orellana* L.	Purgative, astringent, jaundice	Fruit, seed	fruit is eaten as purgative and astringent, leave juice is taken to cure jaundice
23.	*Boerhavia diffusa* Engehm.& A.Gray	Laxative, diuretic, expectorant, anaemia, jaundice, skin diseases	Whole plant	Decoction of plant 1-2 tea spoonful is eaten.
24.	*Bridelia retusa* Spreng.	Astringent, causing infertility	Root, bark	Root pest are taken every alternate day.

25.	*Bryophyllum calycinum* Salisb.	Kidney & urinary bladder stone, cuts	Plant Juice. Leaf	Plant-juice is eaten till the stone is cleared; leaf-juice is externally use in cuts.
26.	*Buchanania lanzan* Spreng.	Wound	Root	Root extract is used for wound healing,
27.	*Butea monosperma* (Lam.) Taub.	Anti-fertility, piles, diarrhoea, dysentery, diuretic	Seed, flower, gum, bark	Seeds and flowers are used as ant fertility, gum is used to control diarrhoea, bark is used in piles and tumours.
28.	*Butea superba* Roxb.ex.Wild.	Weakness	Root	Root extract is used for mental and physical weakness
29.	*Cardiospermum halicacabum* L.	Rheumatism, diuretic, nerve diseases	Root	Root-juice is eaten.
30.	*Carissa spinarum* Lodd.ex.A.DC.	Purgative	Root	Root-paste are eaten.
31.	*Cassia fistula* L.	Artritis	Fruit	One table spoon powder of fruit is taken orally for 7 days.
32.	*Centella asiatica* Urb.	Diuretic,blood purifier,leprosy	Leaf,stem	Leaves and stem juice is taken in the empty stomach 5 days at asteach.
33.	*Cissus quadrangularis* L.	Setting fractured bone, anthelmintic, blood purifier, scurvy	Stem, root	Stem and root paste is used in setting fractured bones, stem juice is used as anthelmintic, blood purifier and in scurvy.
34.	*Cleome viscosa* L.	chronic rheumatism, ear ache	Seed paste, leaf juice	seed paste are applied on the joint pain, leaf juice is taken for earache
35.	*Corchorus aestuans* Herb.Madr.ex Wall.	Anaemia, pre delivery trouble of Pregnant women.	Leaf, root.	Leaves' decoction used for treating anaemia; root extract mixed with that of *Sida rhombifolia* root is taken once daily by pregnant women to relieve from pre delivery trouble.
36.	*Corchorus fascicularis* Lam.	Ulcer in mouth, impotence	Whole plant	Whole plant is dried and made powder and taken orally
37.	*Costus speciosus* (J.Koenig .) Sm.	Purgative, anthelmintc.	Rhizome, root	Rhizomes are cooked and eaten as purgative, roots are used as anthelmintic.
38.	*Crotalaria prostrata* Rottler.	Rheumatism,	Seeds	Seeds are eaten within a banana
39.	*Crotalaria verrucosa* L.	Skin allergies, Rheumatism	Leaf	Leaf extract is applied to the affected areas
40.	*Curculigo orchioides* Gaertn.	vitality, vigour and Strength ,anticancer	Root	Root decoction is taken for one month.
41.	*Curcuma aromatica* Salisb.	Sprains	Rhizomes	Rhizomes paste is used in sprain
42.	*Cuscuta reflexa* Roxb.	Loose motion in cows	Stem juice	Fed to the cows thrice daily till cure
43.	*Dendrophthoe falcata* Blume	Wounds, skin diseases, antitumor potential	Arial part, leaf	Paste is applied in the affected site
44.	*Desmodium gangeticum* (L.) DC.	Anti-tumour	Fruit	Fruit paste applied on tumour
45.	*Desmodium triflorum* (L.) DC.	Epilepsy	Root	Root extract is given orally
46.	*Dillenia pentagyna* Roxb.	antitumor	bark	Bark juice is taken with honey.
47.	*Dioscorea alata* L.	Ulcers, piles, dysentery, syphilis	Tubers, leaves	Tubers are taken raw and the leaves pests are used to prevent the disease.
48.	*Dioscorea bulbifera* L.	Ulcer, piles, dysentery	Tuber	Dried tubers are powdered and applied on ulcer, also taken to cure dysentery and piles.
49.	*Drosera burmanni* DC.	Rubefacient action	whole plant	Paste is applied in the affected site
50.	*Eclipta prostrata* (L.)	Hair tonic, tooth-ache, jaundice, purgative, spleen enlargement	Leaf, plant	Leaf-juice is used as black hair- dye , plant-juice is used in spleen disease, purgative .
51.	*Eupatorium odoratum* L.	Wounds, cuts	Leaf	Leaf-paste is used in the affected area.
52.	*Ficus benghalensis* L.	Diarrhoea, dysentery, diabetes, rheumatism	Bark, latex	Infushion of bark is used for Diarrhoea, dysentery, diabetes. latex is used for rheumatism

53.	*Flacourtia jangomas (Lour.) Raeusch.*	Diuretic, digestive, appetizer, jaundice, spleen enlargement, urine problem	Fruit, bark, root	Fruit is eaten as Diuretic, digestive, appetizer; bark is used for spleen enlargement; root juice is used for urine clear.
54.	*Flacourtia indica* (Burm.f.)Merr.	Wasp bite	stem & bark paste	Paste is applied in the wound
55.	*Gloriosa superba* L.	Purgative, anthelmintic , leprosy, piles, gonorrhoea, gout	Root, leaf	Tuber paste is used in leprosy, gonorrhoea purgative, leaf-juice in piles and use to kill lice in hair.
56.	*Grewia hirsute* Roxb.	Dysentery	Leaf	Leaf-decoction is eaten
57.	*Gymnema sylvestre* (Retz.) R.Br.ex Sm	Diabetes, expectorant, increasing urine	Leaf, root	5ml leaf-juice daily for one month
58.	*Heliotropium indicum* L.	Ulcer wound, urticaria, cough , fever	Leaf, root	Leaf-paste are applied locally, leaf-decoction is used in urticaria, root decoction is used in fever and cough.
59.	*Hemidesmus indicus* (L.) R.Br.	Blood purifier, fever, demulcent, diuretic, skin diseases, syphilis etc	Roots	Roots are put into water overnight and the decoction taken 1 cup daily for a month or root paste 1 tea spoon can be taken for a week./rubbed on skin
60.	*Hemigraphis hirta* T.Anderson	Jaundice	Whole Plant	Whole Plant with banana root is made a paste and eaten thrice a day for a month.
61.	*Holarrhena antidysenterica* (L.) Wall	Dysentery	Bark	Bark-juice is eaten.
62.	*Hybanthus enneaspermus* (L.) F.Muell.	Diuretic, demulcent	Leaf, Root	Decoction of leaf and root is used for the puposes.
63.	*Hygrophila auriculata* (Schumch.) Heine	Diuretic, jaundice, dropsy	whole plant	Leaf-juice is eaten or plants are eaten by cooking.
64.	*Hyptis suaveolens* (L.) Ooit.	Itching, cough, cold	Leaf	Leaf-juice is used
65.	*Ichnocarpus frutescens* Naves.	Diuretic, diabetes, bladder stone	Root	Dried root powder is used one tea spoon daily
66.	*Indigofera tinctoria* L.	Epilepsy, hydrophobia	Leaf	Leaf extract is used in epilepsy, leaf juice is used in hydrophobia.
67.	*Jatropha curcas* L.	wounds, cut, toothache etc.	Latex	Latex smeared on the wound, cut, tooth-ache
68.	*Jatropha gossypifolia* L.	Leprosy, gum-ache	Root, shoot	Roots are made paste and externally apply, shoot extract is used in gum
69.	*Lannea coromandelica* (Houtt.)Merr.	Skin disease, ulcer, sprain	Bark, Tender leaf and root	Bark is used for skin disease, Tender leaf and root is used for sprain and ulcer.
70.	*Leonotis nepetifolia* Schimp.ex Benth.	Burns	Seed	Seed is made paste and applied on the burn site.
71.	*Martynia annua (L.)*	Epilepsy	Leaf, fruit	Two spoon of leaf-juice or fruit-juice is eaten for one week.
72.	*Melochia corchorifolia* Wall..	Dysentery	Leaf	Leaf-decoction is taken
73.	*Mimosa pudica* Mill.	Infertility	root juice	1 tea spoon juice with pepper for one month
74.	*Ochna pumila* Buch-Ham.ex D.Don	epilepsy, menstrual complaints, asthma,	Leaf, flower, bark	Flower is dried to make powder and use in epilepsy, leaf and bark paste is used in menstrual problem and asthma.
75.	*Ocimum americanum* Auct,ex Benth.	Cough, dysentery	Leaf	Decoction of leaves is used.
76.	*Ocimum sanctum* L.	Cough, cold and diabetes	Leaf, inflorescence	Leaves 8-10 with 2 inflorescence is boiled with ginger and decoction is mixed with 1tea-spoon of honey and eaten in empty stomach.
77.	*Oxalis corniculata* L.	Appetizer, headache, dyspepsia, piles	Whole plant	Fresh juice of the plant is taken
78.	*Peristrophe bicalyculata* Nees.	Tuberculostatic, antidote to snake poison	Whole plant	Fresh Plant crushed are eaten with rice infusion
79.	*Phyllanthus emblica* L.	Dyspepsia, purgative, scurvy , hair tonic	Fruit	Raw fruits are eaten or dried fruits also eaten.

80.	*Phyllanthus fraternus* G.L.Webster	High bilirubin	plant juice	5ml juice once daily for 10 days in the empty stomach
81.	*Physalis minima* L.	Diuretic, laxative, spleen disorder	Fruit, leaf	Ripe Fruit and leaf-paste is eaten as laxative and diuretic.
82.	*Plumbago zeylanica* L.	Diuretic, bile secretion, diarrhea, piles, dyspepsia	Root-bark	Raw root-bark is pasted and used.
83.	*Polygala chinensis* L.	Anti-inflammatory	Whole plant	Plant paste is taken orally
84.	*Polygonum hydropiper* L.	Stimulant, diuretic, haemostatic	Root, whole plant	Root paste/dried root powder is eaten diuretic; infusion of plant is used as stimulant, diuretic and haemostatic.
85.	*Pongamia pinnata* (L.)Pierre.	Rheumatoid arthritis	Seed	Oil is extracted from the seeds and applied on the affected area.
86.	*Portulaca quadrifida* L.	Hepatic disorders, heart, kidney and bladder diseases	whole plant	Plant is taken as vegetable diet to cure the diseases
87.	*Rauvolfia tetraphylla* L.	Snake bite, diabetes mellitus	Root juice	10 ml juice is given orally and also apply in the wound
88.	*Salmalia malabarica* Schott.& Endl.	Gonorrhea,diuretic, astringent	Root, bark ,gum	Root decoction is used for the purposes.
89.	*Sapindus emarginatus* Hort.Alger.	anti-inflammatory , antipyretic	Seed, fruit	Oil from seed is used as anti-inflammatory, Fruit is used as antipyretic and hair problem.
90.	*Senna alata* L.	Ringworm	Leaf	Leaf-paste is applied on ringworm.
91.	*Senna occidentalis* (L) Link.	Purgative, skin diseases, diuretic	Leaf, root, seed	Leaf and root decoction is taken as purgative and diuretic, seed paste is used for skin disease.
92.	*Senna tora* (L.) Roxb.	Ringworm, eczema , purgative	Leaf, seed	Leaf and seed paste is applied on ringworm and eczema, leaf paste also used as purgative.
93.	*Sida acuta* Burm.f.	Diuretic, nerve disorder, rheumatism	Leaves, Root	Leaves juice is used for diuretic and mixed with boil oil to make a paste and used in rheumatism, root extract are used in nerve disease.
94.	*Sida cordifolia* L.	Blood vomiting	root/leaf crushed	one cup of paste during vomiting
95.	*Sida rhombifolia L.*	Arthritis	Leaf-paste	Leaf-paste is applied on the joints.
96.	*Smilax macrophylla* Griseb.	Blood dysentery, night wetting	Root juice, leaf juice	1/2 cup juice is taken daily till complete cure, water kept in the leaf for overnight is drunk in empty stomach to stop night wetting.
97.	*Solanum sisymbriifolium* Lam.	Gastric trouble	Fruit	Fruit juice is eaten
98.	*Solanum surattense* Burm.	Chronic fever,scabies,skin diseases prolong .mense problem	Leaf, whole plant	Boil leaf in water and eaten ½ cup daily
99.	*Solanum torvum* Buch.-Ham.ex Wall.	Liver enlargement, diuretic, expectorant, sedative ,toothache	Plant body, fruit, seed	Plant juice is used as expectorant, diuretic ,sedative, fruit decoction is used in live enlargement, cough and seed -fumes is inhaled for curing toothache.
100.	*Terminalia arjuna* (Roxb.ex DC)Wight.& Arn.	hypertension ,cirrhosis of liver	bark	dried bark is powdered and is used
101.	*Terminalia bellirica* (Gaertn.) Roxb.	Astringent, diuretic, dropsy, purgative	Fruits, bark	Fruits are mixed with dried myrobalan and taken as an astringent, purgative, bark juice is used for diuretic
102.	*Terminalia chebula* Retz.	Cough, Laxative,ulcer,wounds,diuretic,cardio-tonic	Fruit	Dried fruits are crushed and taken. Fruits are put into 200 ml water overnight and decoction is taken
103.	*Tinospora cordifolia* Miers	Fever, jaundice	leaves, stem	stem juice is given to high fever and jaundice
104.	*Tragia involucrata* L.	Spleen enlargement, guinea worms	Fruit, root	2-3Fruit paste is eaten for spleen enlargement, root paste is eaten one tea spoon for guinea worm
105.	*Triumfetta rhomboidea* Lindl.	Diabetes	Whole plant	Dried plants are taken orally.
106.	*Uraria picta* (Jacq.)Desv.	Hysteria	Leaf	Leaf paste is applied on whole body

107.	*Urena lobata* L.	Diuretic	root	Roots dried and crushed and used
108.	*Vernonia cinerea* (L.) Less.	Indigestion	Leaf	Leaf-juice is used
109.	*Zingiber montanum* Link ex A.Dietr.	Diarrhoea, stimulant	Rhizomes	Rhizomes paste is used in diarrhoea and as stimulant
110.	*Ziziphus mauritiana* Lam.	Flatulence	leaf paste	paste rubbed on abdomen
111.	*Ziziphus oenoplia* (L.) Mill.	Dysentery, uterus infection	Stem bark	Decoction of bark is used for dysentery and uterus infection
112.	*Zornia gibbosa* Span.	Dysentry,	Seed	Seed decoction is used forpreventing Dysentry

Table.3 Eleven dominant families of flowering plants of Ganpur forest:

Sl.No.	Family	Genera	Species
1	Poaceae	15	16
2	Fabaceae	11	15
3	Acanthaceae	9	14
4	Euphorbiaceae	8	12
5	Asteraceae	11	11
6	Rubiaceae	11	11
7	Scrophulariaceae	6	9
8	Caesalpiniaceae	3	7
9	Lamiaceae	5	6
10	Apocynaceae	5	5
11	Verbenaceae	5	5
TOTAL		89	111

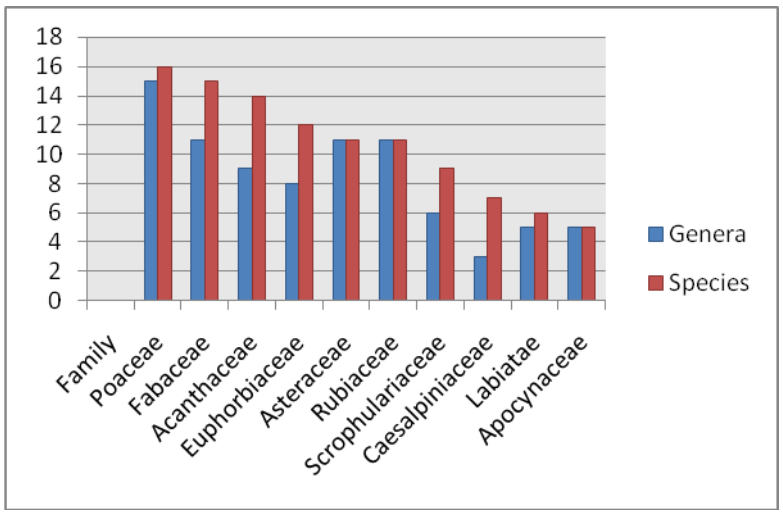

Figure.1 Ten dominant families of flowering plants

Photographs of plants and forest

Smilax macrophylla (Smilacaceae)

Coix lacryma-jobi (Poaceae)

Buchanania lanzen (Anacardiaceae)

At Gonpur Forest

Table.4 Life form composition of Ganpur forest

Sl.No.	Lifeform	Total Number of Taxa	%
1	Herbs	116	50.66
2	Shrubs	43	18.34
3	Trees	54	24.02
4	Climbers	16	6.99
Total		229	

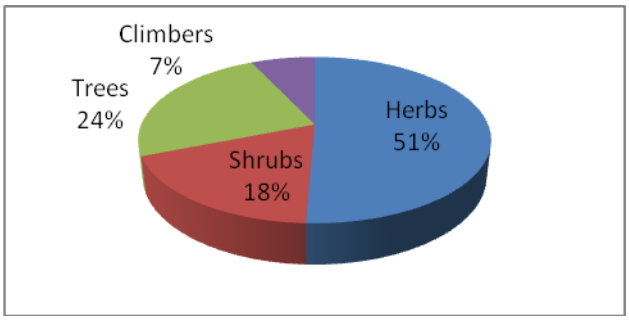

Figure.2 Life form composition of Ganpur Forest

Table.5 Statistics of the floristic composition of Ganpur forest

Group	Families		Genera		Species	
	No.	%	No.	%	No.	%
Dicotyledons	70	86	154	84	193	84
Monocotyledons	11	14	30	16	36	16

Among these the following plant species are gradually became rare due to rapid deforestation caused by over harvesting and exploitative trade of medicinal plants in the forest, like *Gloriosa superba*L. (Liliaceae), *Gymnema sylvestre* R.Br. (Asclepiadaceae), *Curculigo orchidioides* Gaertn. (Hypoxideae), *Aegle marmelos* (L.) Corr. (Rutaceae), *Buchanania lanzan* Spreng. (Anacardiaceae), *Dioscorea bulbifera*L. (Dioscoreaceae), *Phyllanthus emblica* L. (Euphorbiaceae), *Plambago zeylanica* L.(Plumbaginaceae), etc.

The present investigation has recommended to conclude that among the 229 plant species most dominating species belong to Poaceae family and dominating trees in the Ganpur forest are *Shorea robusta* Gaertn.f. (Dipterocarpaceae), *Madhuca indica* J.F.Gmel. (Sapotaceae), *Terminalia bellerica* Roxb. (Combretaceae), and *Acacia auriculiformis* (Mimosaceae). Among the collected species 112 species are recognized as medicinally important to the villagers and those species gradually became threatened.

The study also concludes that the persistency of the ethnomedicine practices in the surrounding villages of the forest is still dependent on indigenous knowledge for their health care that are providing a

cheaper and accessible alternative to the high cost pharmaceutical remedies. Ethno-medicinal knowledge of the tribal people of the surrounding areas of the forest are very rich but it has also been noticed that only the aged people are able to describe the mode of use of the traditional plant medicine. Therefore, it can be concluded that the young generations are not interested to cultivate the indigenous knowledge of preparing medicine from different plants. So, it is a great threat for nature to maintain the balance of biodiversity and as well as for conservation of the different plant species. The tribes who depend on forest wealth are the real custodians that safeguard the medicinal plants till now. Rapid deforestation caused by over harvesting and exploitative trade of medicinal plants has significantly reduced the availability of the medicinal plants in the forest. Local healers and healers from neighbouring state Jharkhand is identified as one of the major threats to vegetation and flora of the forest.

The main purposes of the study was to document and to prepare a database for the use of the plant species in the forest as well as the diversity of the forest. Now it is very much necessary that the Government should take an important role to nurture the traditional knowledge of preparation ethno-medicine from plants for different diseases, and then only it will be possible to save lots of plant species for future benefit of the nation.

Acknowledgements:

The authors are thankful to the tribal guru Jatha Soren,Sibu Mardi and others, the villagers, the Bit Officer Mr.Pradip Kumar Kundu of Ganpur Forest Range,Birbhum,West Bengal, and the Department of Botany,Visva-Bharati, who co-operated to carry out the present investigation of works. Thanks are also to the Head, Department of Botany for necessary laboratory facilities.

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How to cite this article:

Nisith Ranjan Sarkar, Subrata Mondal and Sudhendu Mandal. 2016. Phytodiversity of Ganpur forest, Birbhum district, West Bengal, India with reference to their medicinal properties. *Int.J.Curr.Microbiol.App.Sci.* 5(6): 973-989.
doi: http://dx.doi.org/10.20546/ijcmas.2016.506.104