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Medicinal plants of Seijosa circle, Pakke-Kessang district, Arunachal Pradesh, India

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During plant exploration and survey of Seijosa Circle (forest area), in Pakke Kessang district of Arunachal Pradesh (2018-2019) the authors collected *ca.* 3000 plant samples from different localities. Of these, 219 species belonging to 184 genera and 84 families are used as medicinal plants. The information about the medicinal uses of these plants has been gathered during field trips of Seijosa from local inhabitants. The plants are arranged alphabetically family-wise, followed by their scientific name, regional name, habit, plant parts used, medicinal uses and accession number. These plant species are utilized by local people for various ailments in the Seijosa forest area.

Keywords: Arunachal Pradesh, Medicinal uses, Pakke-Kessang district, Plant exploration, Seijosa circle.

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Introduction

Arunachal Pradesh, a north-eastern state located in the Eastern Himalayan region of India, represents a tropical forest type. The total population of the Arunachal Pradesh spreading over 25 districts is about 13,83,727(ref 1). The largest of the seven sister states of Northeast India, it is home to about 28 major tribes and 110 sub-tribes[2]. *Material for the Flora of Arunachal Pradesh* by Chowdhery *et al*[3-5] provides the baseline data on the Angiosperm flora of the state. However, Ambrish[6] reported 1059 species under 510 genera and 146 families of Angiosperm from the Upper Subansiri district of Arunachal Pradesh. Dash and Singh[7] reported 1321 species under 586 genera and 146 families of Angiosperms from the Kurung Kumey district of Arunachal Pradesh. Recently carved Seijosa circle (forest area) in Pakke-Kessang district of Arunachal Pradesh lies between the foothills of Seijosa at an elevation of 300-550 m near Pakke Wildlife Sanctuary of East Kameng District. Various studies have been conducted in the adjoining Pakke Wildlife Sanctuary but the Seijosa forest area is untouched and unexplored floristically. The major ethnic group found here is the *Nyishi* tribe with a population of over 10,000(ref 8). Tag and Das[9] conducted an ethnobotanical study of the *Hill Miri* Tribe of Arunachal Pradesh. Jeri *et al.*[10] conducted a detailed ethnobotanical investigation of 62 wild edible and medicinal plants belonging to 48 genera and 32 families used by the *Nyishi* community in Pakke Wildlife Sanctuary. Tangjang *et al.*[11] reported the traditional use of 74 medicinal plants species belonging to 41 taxonomic plant families used for curing of 25 different diseases/ailments by inhabitants of the Tirap, the Dibang Valley and the Papum Pare. Shankar and Rawat[12] conducted a detailed study on medicinal plants of Arunachal Pradesh. Tag *et al.*[13] reported 215 species of higher plants belonging to 165 genera and 70 families in Pakke Wildlife Sanctuary and Tiger Reserve. Perme[2] *et al.* reported the traditional use of 101 medicinal plants species belonging to 50 families used for curing 156 different diseases/ailments in Arunachal Pradesh. Murtem and Chaudhry[14] reported 140 medicinal plants used by the *Tagin, Hill Miri* (now *Nyshi*) and *Galo* tribes of the Upper Subansiri district of Arunachal Pradesh. Jeyaprakash *et al*[15] reported 73 medicinal plants belonging to 66 genera and 44 families used by the *Adi* community in and around the area of D' Ering Wildlife Sanctuary, Arunachal Pradesh.

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Danggen *et al.*[16] reported 28 ethnomedicinal plants belonging to 20 families among *Adi* Tribe of Yingkiong and Mariyang Valley, Upper Siang District, Arunachal Pradesh, India. Balkrishna *et al.*[17] reported 38 medicinal ferns and fern-allies from the Seijosa forest area of Arunachal Pradesh. The current survey recorded 219 medicinal plants belonging to 184 genera and 84 families through the systematic collection in the years 2018-2019. The present study highlights important medicinal phanerogams from the Seijosa forest area of Arunachal Pradesh.

Materials and Methods

The present study was conducted in Seijosa circle (forest area) located in Pakke-Kessang district of Arunachal Pradesh during 2018-2019 (Fig. 1). It is a transition zone of Assam and Eastern Himalaya at an elevation of 300-550 m a.s.l. and lies between the latitude 26^0-$27^0$20' N and longitude 93^0-$93^0$12' E. The temperature recorded at the foothills of Seijosa varies from 14-25 ^oC in the month of January to 25-36 ^oC in June. Based on Champion and Seth[18] classification, the forest type observed was Tropical Evergreen Forest ($1B/C_1$, $1B/C_2$). Heavy rainfall occurs between April-October and November-January is the dormant period for plants. The average rainfall is 3742 mm and relative humidity varies from 32 to 93%. Interactions were made with the elderly people and medicine men of various villages of the locality with help of the Forest Department to know the various plant parts used as medicine with their local names and also verified with published literature. Collection of plant samples and their herbarium preparation was done as per the method described by Jain and Rao[19]. Identification of the plants was done as per available literature on regional floras. The identified herbarium sheets were deposited at Patanjali Research Foundation Herbarium (PRFH) Haridwar (Uttarakhand) for future reference.

Results

Seijosa circle is rich in plant diversity and well connected with rest of cities of district with a small traditional market (Fig. 2) and during this study, total of 219 species belonging to 184 genera and 84 families were recorded. Among all the species, 63 trees, 41 shrubs, 12 under shrubs, 63 herbs, 39 climbers and 01 epiphyte were recorded (Table 1). Medicinally, the most important family was Asteraceae and Fabaceae with 13 species followed by Lamiaceae and Malvaceae (11 each), Poaceae (10), Cucurbitaceae (7), Euphorbiaceae (7), Solanaceae (6), Amaranthaceae, Moraceae, Piperaceae, Rutaceae and Apocynaceae (5 each) and Acanthaceae, Rosaceae

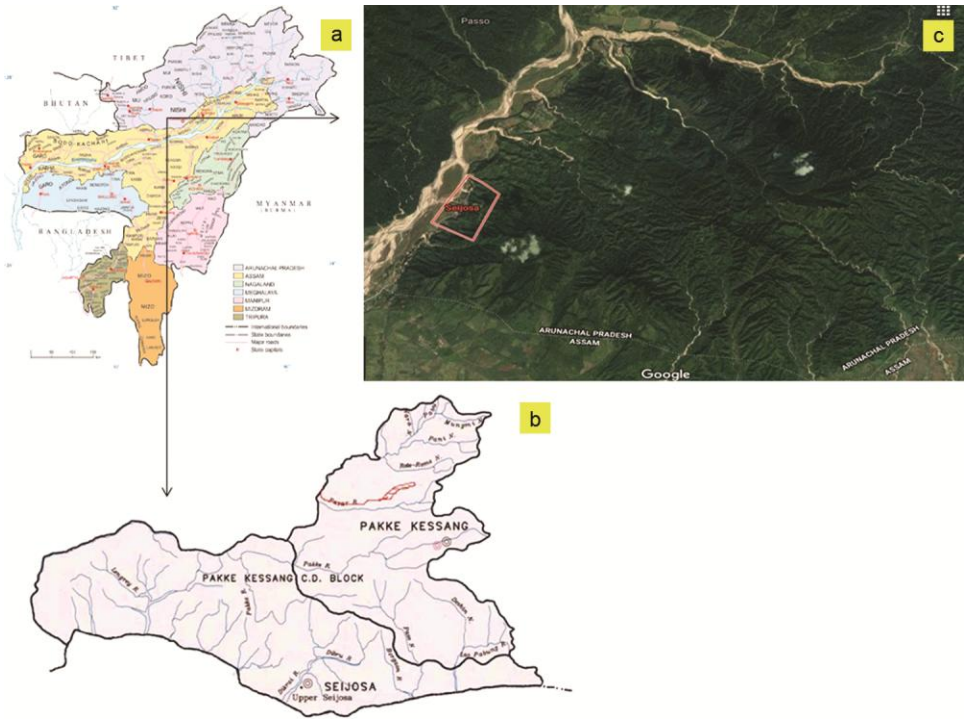

Fig. 1 — a, b) Map of the study area in Arunachal Pradesh and Pakke Kesang District and c) Satelite view of Seijosa circle of Pakke Kessang District, Arunachal Pradesh.

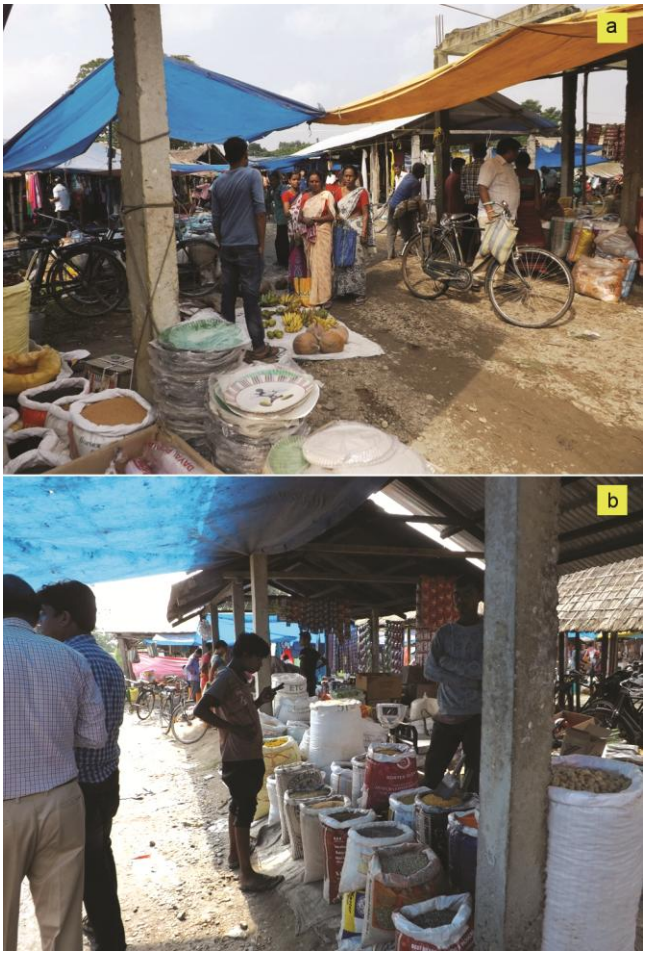

Fig. 2 (a- b) — Traditional market of Seijosa in Pakke-Kessang district of Arunachal Pradesh.

Table 1 — Habit pattern of plant species found in the study area

S. No.	Habit	No. of Plant Species	% of Habit pattern
1	Climbers	39	17.80
2	Herbs	63	28.76
3	Shrubs	41	18.72
4	Trees	63	28.76
5	Undershrubs	12	5.47
6	Epiphytes	1	0.01

and Phyllanthaceae (4 each). Various rare plants like *Alsophila gigantea* Wall. ex Hook., *Alsophila khasyana* T. Moore ex Kuhn, *Gnetum gnemon* L., *Gnetum montanum* Markgr., *Magnolia hodgsonii* (Hook. f. and Thomson) H. Keng, *Magnolia pterocarpa* Roxb., *Aphanamixis polystachya* (Wall.) R. Parker, *Phoenix rupicola* T. Anderson, *Plectocomia himalayana* Griff., *Wallichia oblongifolia* Griff., etc. were observed in the present study. *Cinnamomum tamala* (Buch.-Ham.) T. Nees and Eberm., *Cymbopogon nardus* (L.) Rendle, *Garcinia pedunculata* Roxb. ex Buch.-Ham., *Lagerstroemia speciosa* (L.) Pers., *Leucas aspera* (Willd.) Link, *Macaranga denticulata* (Blume) Müll.Arg., *Macaranga peltata* (Roxb.) Müll.Arg., *Mikania micrantha* Kunth, *Mussaenda roxburghii* Hook. f., *Pandanus furcatus* Roxb., *Piper attenuatum* Buch.-Ham. ex Miq., *Schima wallichii* (DC.) Korth., *Solanum indicum* L., *Stereospermum chelonoides* (L.f.) DC., *Urena lobata* L., etc., are highly important medicinal plants. A list of plant species along with their family names, regional names, plant part used, medicinal uses and accession numbers are given in Table 2. Various plants parts like root, tuber, stem, bark, latex, resin, oil, gum, leaves, flower, fruit, seed, young shoot and whole plant in the form of decoction, powder, pills, *asava* (fermented liquid), ash, paste, inhaler, etc., were used for the treatment of various ailments. These plant parts are effective against various ailments such as arthritis, asthma, blood disorder, constipation, cough, cuts and wounds, diabetes, diarrhoea and dysentery, fever, gonorrhoea, gout, indigestion, jaundice, leprosy, leucorrhoea, malaria, piles, rheumatism, scorpion sting, skin disease, snake bite, toothache, ulcer and uterine diseases, etc. Out of the total medicinal plant species collected, about 75% of the species are found in wild, 15% are cultivated whereas 10% are both cultivated and from the wild. It has also been observed that various medicinal plants like *Aegle marmelos* (L.) Corrêa, *Anacardium occidentale* L., *Areca catechu* L., *Brassica nigra* (L.) K. Koch, *Carica papaya* L., *Cleome viscosa* L., *Colocasia esculenta* (L.) Schott, *Coriandrum sativum* L., *Cucumis sativus* L., *Dioscorea deltoidea* Wall. ex Griseb., *Mangifera indica* L., *Ocimum tenuiflorum* L., *Piper nigrum* L., *Sesamum indicum* L., etc. are grown in home gardens according to their needs. Leaves are the significant plant parts widely utilized which contributed 60% of the recorded plant species followed by the other parts like roots, stem and whole plants.

Discussion

North East India harbours nearly 50% of the flowering plants recorded from India and exhibits the richest diversity. The region is home to many wild relatives of cultivated plants such as orchids, *Musa*, bamboos, citrus, gingers, palms, etc. More than 250 tribes of different ethnic groups that speak more than 200 dialects with distinct cultural entities inhabit the region[20]. The present study showed a high diversity of plant use by the local people of Seijosa, Pakke-

Table 2 — Medicinally important plants of Seijosa forest area of Arunachal Pradesh

S. No.	Family	Name of Plant	Regional Name	Habit	Plant Parts Used	Medicinal Use	Accession Number
1.	Acanthaceae	*Acanthus leucostachyus* Wall. ex Nees	-	Herb	Wp	Oral contraceptive	3725
2.	Acanthaceae	*Phlogacanthus thyrsiformis* (Roxb. ex Hardw.) Mabb.	Ran-hing	Shrub	Lf	Cough and cold, fever and rheumatism	4474
3.	Acanthaceae	*Phlogacanthus curviflorus* (Wall.) Nees	Thamran-hingse	Shrub	St, Lf	Cough and fever	2837
4.	Acanthaceae	*Thunbergia grandiflora* Roxb.	Zawngafian Vako.	Climber	Lf	Abdominal disorders and boils	3008
5.	Achariaceae	*Gynocardia odorata* R. Br.	Sai-thei	Tree	Sd	Leprosy, toothache and skin diseases	3287
6.	Amaranthaceae	*Alternanthera sessilis* (L.) R.Br. ex DC.	-	Herb	Ys, St, Lf	Snake bite	3922
7.	Amaranthaceae	*Amaranthus spinosus* L.	Tai	Herb	Wp	Blood disorders, cough, leucorrhoea, constipation, urinary tract infection, leprosy, skin infection, piles and dysentery	3505
8.	Amaranthaceae	*Amaranthus viridis* L.	Zamzo	Herb	St, Lf	Snake bite, constipation and scorpion sting	3335
9.	Amaranthaceae	*Celosia argentea* L.	-	Undershrub	Fl, Sd	Menstrual problem, diarrhoea, cough and dysentery.	6978
10.	Amaranthaceae	*Chenopodium album* L.	Taye	Herb	Lf	Worm infestation and piles	5152
11.	Amaryllidaceae	*Crinum asiaticum* L.	-	Herb	Tub	Snake bite, vomiting, urinary discharges and tumours	3994
12.	Anacardiaceae	*Anacardium occidentale* L.	-	Tree	Bk, Lf, Fr, O	Toothache, sore gums, tumour, fever, ulcer, leucoderma, skin diseases, dysentery, piles and loss of appetite	3976
13.	Anacardiaceae	*Mangifera indica* L.	Theihai	Tree	Bk, Fr, Sd	Diphtheria, rheumatism and asthma	5200
14.	Anacardiaceae	*Rhus succedanea* L.	-	Tree	Lf, Fr	Blister	3101
15.	Annonaceae	*Annona reticulata* L.	-	Tree	Fr	Blood disorders, cough and cold	6983
16.	Apiaceae	*Centella asiatica* (L.) Urb.	Hanhbial, Lambak	Herb	Wp	Numbness and bodyache	3988
17.	Apiaceae	*Coriandrum sativum* L.	-	Herb	Lf, Sd	Ophthalmalgia, jaundice, toothache, bleeding of the gums, scabies and tuberculosis	2752
18.	Apocynaceae	*Allamanda cathartica* L.	-	Shrub	Rt	Snake bite	4347
19.	Apocynaceae	*Alstonia scholaris* (L.) R. Br.	Thuamriat	Tree	Rt, Lf, Bk, Lt	Fever, diarrhoea, dysentery, snake bite, malaria and ulcer	3972
20.	Apocynaceae	*Catharanthus roseus* (L.) G. Don	Kumtluang	Herb	Wp, Lf, Fl	Diabetes and cancer	3853
21.	Apocynaceae	*Tabernaemontana divaricata* (L.) R. Br. ex Roem. and Schult.	Pararsi	Tree	Rt, Lt	Toothache and eye trouble	3785

(*Contd*.)

Table 2 — Medicinally important plants of Seijosa forest area of Arunachal Pradesh (*Contd*.)

S. No.	Family	Name of Plant	Regional Name	Habit	Plant Parts Used	Medicinal Use	Accession Number
22.	Apocynaceae	*Wrightia arborea* (Dennst.) Mabb.	-	Tree	Bk	Menstrual and renal complaints	3327
23.	Araceae	*Colocasia esculenta* (L.) Schott	Bal, Dawl	Herb	Rhz, Lf	Indigestion, lack of appetite, constipation and cough	3039
24.	Araceae	*Pothos scandens* L.	Louchit	Epiphyte	St	Snake bite, small pox and asthma	4475
25.	Araliaceae	*Hydrocotyle javanica* Thunb.	Hlovaidawr, Darbengbur	Herb	Lf	Nervousness, dysentery and indigestion	3639
26.	Araliaceae	*Trevesia palmata* (Roxb. ex Lindl.) Vis.	Kawhte-bel, Tagomeyo	Shrub	Lf, Fl	High blood pressure, asthma, indigestion, liver disorder and stomachach	4063
27.	Arecaceae	*Areca catechu* L.	Kuvathing	Tree	Nut	Diabetes.	3981
28.	Arecaceae	*Caryota urens* L.	Meihle, Tum	Tree	Nut	Migraine and pain	6979
29.	Aristolochiaceae	*Aristolochia indica* L.	-	Climber	Rt	Fever	6982
30.	Asteraceae	*Acmella calva* (DC.) R.K.Jansen	-	Herb	Lf, Fr	Stomatitis	4231
31.	Asteraceae	*Acmella oleracea* (L.) R.K. Jansen	-	Herb	Wp	Urinary disorders, inflammation of lungs and bowels	3499
32.	Asteraceae	*Acmella paniculata* (Wall. ex DC.) R.K. Jansen	Pajong Nam	Herb	Fl	Toothache and bodyache	2727
33.	Asteraceae	*Ageratum conyzoides* L.	Vailenhlo	Herb	St, Lf	Cuts, wound, Cuts & wound and scabies	3848
34.	Asteraceae	*Ageratum houstonianum* Mill.	-	Herb	Lf	Cuts and wound	3502
35.	Asteraceae	*Chromolaena odorata* (L.) R.M.King and H.Rob.	Telimbabo	Herb	Lf	Fish poison and wound	3526
36.	Asteraceae	*Crassocephalum crepidioides* (Benth.) S.Moore	-	Herb	Lf	Cuts, pain, wound bleeding and headache	3534
37.	Asteraceae	*Cyanthillium cinereum* (L.) H. Rob.	-	Herb	Wp, Lf, Sd	Worm infestation, cough, leucoderma and skin-diseases	3409
38.	Asteraceae	*Eclipta prostrata* (L.) L.	-	Herb	Wp	Headache, fever and jaundice	4269
39.	Asteraceae	*Emilia sonchifolia* (L.) DC. ex DC.	-	Herb	Rt, Lf	Diarrhoea, inflammation of eyes and night blindness	5459
40.	Asteraceae	*Laphangium luteoalbum* (L.) Tzvelev	-	Herb	Lf	Fever	3612
41.	Asteraceae	*Mikania micrantha* Kunth	Japan-hlo	Climber	Lf	Malaria, diarrhoea and wound	3626
42.	Asteraceae	*Tagetes erecta* L.	Derhken	Herb	Lf	Boils, eye problem and piles	3907
43.	Bignoniaceae	*Oroxylum indicum* (L.) Kurz	Archangkawm	Tree	Fr, Bk	Leucoderma, diarrhoea and dysentery	6973
44.	Bignoniaceae	*Stereospermum chelonoides* (L.f.) DC.	Zinghal	Tree	Rt, Bk	Cough and renal disorders	4337
45.	Brassicaceae	*Brassica nigra* (L.) K.Koch	-	Herb	Lf, Sd	Fever, skin disease and itching on skin	3852
46.	Bromeliaceae	*Ananas comosus* (L.) Merr.	-	Shrub	Lf	Worm infection and typhoid fever	5362

(*Contd*.)

Table 2 — Medicinally important plants of Seijosa forest area of Arunachal Pradesh (*Contd*.)

S. No.	Family	Name of Plant	Regional Name	Habit	Plant Parts Used	Medicinal Use	Accession Number
47.	Calophyllaceae	*Mesua ferrea* L.	Hershe	Tree	Bk, Lf, Fl, Fr, Sd	Snake bite, scorpion sting, dysentery and scabies	4021
48.	Campanulaceae	*Lobelia nicotianifolia* Roth ex Schult.	-	Herb	Lf	Blood diseases, uterine disorder, vaginal disorder and burning sensation	3446
49.	Cannabaceae	*Cannabis sativa* L.	Bang	Shrub	Wp	Fever and pain	3986
50.	Cannabaceae	*Trema orientalis* (L.) Blume	Belphuar	Shrub	Wp	Used to treat epilepsy	5154
51.	Capparaceae	*Crateva magna* (Lour.) DC.	-	Tree	Bk	Urinary troubles, arthritis and constipation	Photo
52.	Caprifoliaceae	*Lonicera macrantha* (D. Don) Spreng.	Leihruisen	Climber	Lf	Dysentery	3881
53.	Caricaceae	*Carica papaya* L.	Thingfanghna	Tree	Fr, Sd	Skin disease, worm infection, constipation and indigestion	6980
54.	Caryophyllaceae	*Drymaria cordata* (L.) Willd. ex Schult.	-	Herb	Lf	Jaundice, cold and malaria	3570
55.	Celastraceae	*Celastrus paniculatus* Willd.	-	Climber	Bk, Sd,	Leprosy, fever and rheumatism.	3154
56.	Chloranthaceae	*Chloranthus elatior* Link	-	Herb	Rt, Lf	Fever	3524
57.	Cleomaceae	*Cleome viscosa* L.	-	Herb	Rt, Lf, Sd	Rheumatism, fever, headache, diarrhoea fever, skin diseases and malarial fever	3855
58.	Clusiaceae	*Garcinia pedunculata* Roxb. ex Buch.-Ham.	Bua	Tree	Fr	Diarrhoea and dysentery	Photo
59.	Combretaceae	*Terminalia catappa* L.	Vaiumkhal	Tree	Bk, Lf	Skin infection and leprosy	3207
60.	Commelinaceae	*Commelina benghalensis* L.	-	Herb	Lf	Leprosy	3250
61.	Commelinaceae	*Murdannia nudiflora* (L.) Brenan	-	Herb	Wp	Burns	3638
62.	Convolvulaceae	*Argyreia argentea* (Roxb.) Sweet	-	Climber	Rt, Lf, Fr	Rheumatoid arthritis and cold	3022
63.	Convolvulaceae	*Camonea umbellata* (L.) A.R.Simões and Staples	-	Climber	Wp, Sd	Fistula and skin disease	2785
64.	Costaceae	*Hellenia speciosa* (J.Koenig) S.R.Dutta	-	Herb	Lf	Worm infestation and snake bite	3749
65.	Crassulaceae	*Kalanchoe pinnata* (Lam.) Pers.	-	Undershrub	Wp	Diarrhoea, vomiting, inflammations, snake-bite and scorpion-sting	3877
66.	Cucurbitaceae	*Coccinia grandis* (L.) Voigt	-	Climber	Rt, Lf	Diabetes	3993
67.	Cucurbitaceae	*Cucumis sativus* L.	Fanghma	Climber	Fr	Thirst, constipation and cardiac disorders	3997
68.	Cucurbitaceae	*Cucurbita maxima* Duchesne	Mai	Climber	Fr	Ringworm and constipation	3996
69.	Cucurbitaceae	*Hodgsonia macrocarpa* (Blume) Cogn.	Khaum	Climber	Lf, Sd, O	Dysentery and gynecological disorders	3433
70.	Cucurbitaceae	*Lagenaria siceraria* (Molina) Standl.	-	Climber	Fr	Constipation	6975
71.	Cucurbitaceae	*Momordica charantia* L.	Changkha	Climber	Lf, Fr, Sd	High blood pressure, diabetes, rheumatism, night blindness and dysmenorrhea	4472

(*Contd*.)

Table 2 — Medicinally important plants of Seijosa forest area of Arunachal Pradesh (*Contd*.)

S. No.	Family	Name of Plant	Regional Name	Habit	Plant Parts Used	Medicinal Use	Accession Number
72.	Cucurbitaceae	*Solena heterophylla* Lour.	-	Climber	Rt	Spermatorrhoea	2876
73.	Dilleniaceae	*Dillenia indica* L.	Kawrthindeng	Tree	Fr, Lf	Abdominal pain, cough, fever, cancer, diarrhoea, indigestion, stomachache wound healing and bone fracture	6977
74.	Dioscoreaceae	*Dioscorea pentaphylla* L.	-	Climber	Tub	Swelling	4405
75.	Dioscoreaceae	*Dioscorea alata* L.	Bachin, Egin nginek	Climber	Tub	Leprosy, piles, constipation, asthma and gonorrhoea	3273
76.	Dioscoreaceae	*Dioscorea deltoidea* Wall. ex Griseb.	Egin nginte	Climber	Tub, Lf, St	Constipation, indigestion and rheumatism	5461
77.	Euphorbiaceae	*Baliospermum calycinum* var. *micranthum* (Müll.Arg.) Chakrab. and N.P.Balakr.	Gilagal	Shrub	Wp	Gout, rheumatism, toothache, snake bite, asthma, jaundice and gastric problem	3223
78.	Euphorbiaceae	*Euphorbia hirta* L.	-	Herb	Wp	Worm infection, stomach problem, cough, asthma and wart	4276
79.	Euphorbiaceae	*Jatropha curcas* L.	Kangdamdawi	Shrub	St, Fr	Constipation, eczema and ring worm	3354
80.	Euphorbiaceae	*Macaranga denticulata* (Blume) Müll.Arg.	Yaduk	Tree	Wp	Fungal infection and abdominal pain	4016
81.	Euphorbiaceae	*Macaranga peltata* (Roxb.) Müll.Arg.	-	Tree	G	Used to treat skin disorders	3616
82.	Euphorbiaceae	*Manihot esculenta* Crantz	Pangbal, Sin Eegin	Shrub	Tub, Lf	Headache, constipation, indigestion, skin disease and ringworm infection	4420
83.	Euphorbiaceae	*Ricinus communis* L.	Mutih	Shrub	Rt, Lf	Inflammation, pain, fever, asthma, bronchitis, leprosy and headache	4055
84.	Fabaceae	*Acacia concinna* (Willd.) DC.	-	Climber	Fr	Dandruff and hair fall.	3216
85.	Fabaceae	*Acacia pennata* (L.) Willd.	Khanghu	Climber	Bk	Blood disorder and asthma	3921
86.	Fabaceae	*Archidendron clypearia* (Jack) I.C.Nielsen	-	Tree	Lf, Sd	Diabetes and toothache	3021
87.	Fabaceae	*Bauhinia variegata* L.	Vaufawang, vaube	Tree	Wp	Dyspepsia, skin diseases, ulcer, scrofula, diarrhoea, dysentery, piles and snake bite	3462
88.	Fabaceae	*Crotalaria retusa* L.	-	Undershrub	Lf	Fever and scabies	Photo
89.	Fabaceae	*Dalbergia lanceolaria* L.f.	-	Tree	Bk	Dyspepsia and rheumatism	Photo
90.	Fabaceae	*Dalbergia pinnata* (Lour.) Prain	Hruitengtera	Climber	Lf	Worm infestation, cuts and wound	3629
91.	Fabaceae	*Entada rheedei* Spreng.	Kawi	Climber	Bk, Sd	Dysentery and ulcer	3422
92.	Fabaceae	*Mimosa pudica* L.	Hlonuar	Shrub	Wp	Renal disorders, piles, fistula and scorpion sting	2820
93.	Fabaceae	*Pleurolobus gangeticus* (L.) J.St.-Hil. ex H.Ohashi and K.Ohashi	-	Undershrub	Lf, Rt	Cough and cold, fever, vomiting, asthma, snake bite and scorpion sting	3938

(*Contd*.)

Table 2 — Medicinally important plants of Seijosa forest area of Arunachal Pradesh (*Contd*.)

S. No.	Family	Name of Plant	Regional Name	Habit	Plant Parts Used	Medicinal Use	Accession Number
94.	Fabaceae	*Pueraria montana* var. *lobata* (Willd.) Sanjappa and Pradeep	-	Climber	Tub	Fever and stomachache	4360
95.	Fabaceae	*Senna occidentalis* (L.) Link	-	Undershrub	Lf	Rheumatism and fever	6969
96.	Fabaceae	*Senna tora* (L.) Roxb.	-	Shrub	Lf, Sd	Low blood pressure, skin disorder, eczema and ringworm	3685
97.	Fagaceae	*Quercus semiserrata* Roxb.	-	Tree	Bk, G	Wound	3373
98.	Gnetaceae	*Gnetum m*ontanum Markgr.	-	Climber	Wp	Fish poison	3591
99.	Juglandaceae	*Engelhardia spicata* Lechen ex Blume	Hnum	Tree	Rt	Fish poison	Photo
100.	Lamiaceae	*Achyrospermum densiflorum* Blume	-	Shrub	Lf	Skin disorders	3218
101.	Lamiaceae	*Callicarpa arborea* Roxb.	Hnahkiah	Shrub	Lf, Bk	Skin disease, stomachache and toothache	3517
102.	Lamiaceae	*Clerodendrum colebrookeanum* Walp.	Phuihnam	Shrub	Lf	Diabetes, insomnia, dysentery, diarrhoea and high blood pressure	4382
103.	Lamiaceae	*Clerodendrum infortunatum* L.	-	Shrub	Rt, Lf	Tumour and skin diseases	3514
104.	Lamiaceae	*Gmelina arborea* Roxb. ex. Sm.	Thlanvawng	Tree	Wp	Gonorrhoea, cough and cold, leprosy, anaemia, snake bite, scorpion sting and ulcer	4285
105.	Lamiaceae	*Hyptis suaveolens* (L.) Poit.	-	Undershrub	Lf	Wound and skin diseases	2803
106.	Lamiaceae	*Leucas aspera* (Willd.) Link	-	Herb	Lf	Chronic rheumatism, psoriasis, skin eruptions and snake bite	3061
107.	Lamiaceae	*Ocimum tenuiflorum* L.	-	Undershrub	Wp	Cough and cold	4303
108.	Lamiaceae	*Pogostemon auricularius* (L.) Hassk.	-	Herb	St, Wp	Rheumatism	4194
109.	Lamiaceae	*Rotheca serrata* (L.) Steane and Mabb.	-	Shrub	Wp	Malarial fever, snake bite, high blood pressure, jaundice and fever	3670
110.	Lamiaceae	*Tectona grandis* L. f.	Teak	Tree	Bk	Inflammation and dyspepsia	6968
111.	Lauraceae	*Cinnamomum bejolghota* (Buch.-Ham.) Sweet	Thakthingsuak	Tree	Bk	Dyspepsia and liver disorders	2749
112.	Lauraceae	*Cinnamomum tamala* (Buch.-Ham.) T. Nees and Eberm.	Tezpata	Tree	Rt, Bk	Indigestion, rheumatism, diarrhoea, scorpion bite, cough, diabetes and gonorrhea	3990
113.	Lauraceae	*Litsea cubeba* (Lour.) Pers.	Sernam	Tree	Fr	Headache, hysteria, paralysis, bone fracture and loss of memory	2763
114.	Linderniaceae	*Bonnaya ruellioides* (Colsm.) Spreng.	-	Herb	Lf	Wound, bruise, boil, jaundice, snakebite, dysentery and urinary troubles	3807
115.	Lythraceae	*Lagerstroemia speciosa* (L.) Pers.	Thlado	Tree	Rt, Bk, Lf	Dysentery, jaundice, fever and constipation	3607

(*Contd*.)

Table 2 — Medicinally important plants of Seijosa forest area of Arunachal Pradesh (*Contd*.)

S. No.	Family	Name of Plant	Regional Name	Habit	Plant Parts Used	Medicinal Use	Accession Number
116.	Malpighiaceae	*Hiptage benghalensis* (L.) Kurz	-	Shrub	Lf, Bk	Skin disease and leprosy	4009
117.	Malvaceae	*Abroma augusta* (L.) L.f.	Yadukh	Tree	Rt, Bk	Uterine diseases, jaundice and gonorrhoea	3134
118.	Malvaceae	*Bombax ceiba* L.	Phunchawng	Tree	Rt, Bk, Lf, G	Diarrhoea and snake bite	3929
119.	Malvaceae	*Hibiscus rosa-sinensis* L.	Chinnpang-par.	Shrub	Lf, Fl	Constipation	4410
120.	Malvaceae	*Kydia calycina* Roxb.	-	Tree	Lf	Body pain	4078
121.	Malvaceae	*Malvastrum coromandelianum* (L.) Garcke	-	Herb	Lf	Wound	4295
122.	Malvaceae	*Pterospermum acerifolium* (L.) Willd.	-	Tree	Bk	Small pox, ulcer, tumour and leprosy	3664
123.	Malvaceae	*Sida acuta* Burm.f.	-	Undershrub	Rt	Urinary diseases and blood disorders	4319
124.	Malvaceae	*Sida rhombifolia* L.	-	Undershrub	Rt	Urinary diseases and blood disorders	4321
125.	Malvaceae	*Sterculia villosa* Roxb.	Khaupui	Tree	Bk	Dysentery, diarrhoea and throat pain	3713
126.	Malvaceae	*Triumfetta rhomboidea* Jacq.	-	Undershrub	Rt, Lf, Fl, Fr	Gonorrhoea	4458
127.	Malvaceae	*Urena lobata* L.	Leitha	Undershrub	Rt	Rheumatism	2909
128.	Melastomataceae	*Melastoma malabathricum* L.	Builukham	Shrub	Rt, Lf	Toothache	4177
129.	Melastomataceae	*Osbeckia stellata* Buch.-Ham. ex D.Don	Builukham	Shrub	Lf	Toothache	Photo
130.	Meliaceae	*Aphanamixis polystachya* (Wall.) R.Parker	-	Tree	Bk, Sd	Liver disorders, rheumatoid arthritis, leucorrhoea, ulcer and muscular pain	3145
131.	Meliaceae	*Melia azedarach* L.	Tapa Tale	Tree	Bk	Worm infestation and skin disorders	4019
132.	Menispermaceae	*Anamirta cocculus* (L.) Wight and Arn.	-	Climber	Bk, Lf	Snake bite	3144
133.	Menispermaceae	*Cissampelos pareira* L.	-	Climber	Rt, St, Lf	Snake bite, cough, urinary troubles, stomach pain, dropsy, diarrhoea, dyspepsia and malaria	3244
134.	Molluginaceae	*Trigastrotheca pentaphylla* (L.) Thulin	-	Herb	Wp	Wound, scabies and skin diseases	3126
135.	Moraceae	*Artocarpus heterophyllus* Lam.	Lamkhuang	Tree	Rt, Fr, Sd	Diarrhoea, skin diseases, snake bite and inflammation.	3983
136.	Moraceae	*Ficus hispida* L. f.	-	Tree	Bk, Fr, Sd	Constipation	4005
137.	Moraceae	*Ficus religiosa* L.	-	Tree	Bk	Ulcer and skin diseases	6976
138.	Moraceae	*Ficus semicordata* Buch.-Ham. ex Sm.	Theipui, Tokuk	Tree	Bk, Fr	Jaundice, indigestion, constipation, asthma and hepatitis	3051
139.	Moraceae	*Morus macroura* Miq.	Thingtheihmu	Tree	In	Constipation, fever and throat problems	4031
140.	Myrtaceae	*Psidium guajava* L.	-	Tree	Lf, fr	Diarrhoea, vomiting and ulcer	4443

(*Contd*.)

Table 2 — Medicinally important plants of Seijosa forest area of Arunachal Pradesh (*Contd*.)

S. No.	Family	Name of Plant	Regional Name	Habit	Plant Parts Used	Medicinal Use	Accession Number
141.	Myrtaceae	*Syzygium cumini* (L.) Skeels	Jamun	Tree	Bk, Fr, Sd	Dyspepsia and diabetes.	4061
142.	Nyctaginaceae	*Mirabilis jalapa* L.	Aratukkhuan	Undershrub	Rt, Lf	Diabetes, boils and inflammation	4028
143.	Oleaceae	*Jasminum nervosum* Lour.	Hruikha	Climber	Lf	Stomachache and diarrhoea	3598
144.	Oleaceae	*Nyctanthes arbor-tristis* L.	-	Tree	Bk, Lf	Fever and bronchitis	3303
145.	Onagraceae	*Ludwigia octovalvis* (Jacq.) P.H. Raven	-	Herb	Wp	Skin disease, eczema and wound	3614
146.	Oxalidaceae	*Averrhoa carambola* L.	Theiher-awt.	Tree	Fr	Jaundice, gum bleeding and fever	6981
147.	Oxalidaceae	*Oxalis corniculata* L.	Sialthur	Herb	Wp, Lf	Scurvy, fever and urinary tract infection	3366
148.	Oxalidaceae	*Oxalis debilis* Kunth	Pak Hukku	Herb	Wp	Dysentery and scurvy	3883
149.	Pandanaceae	*Pandanus furcatus* Roxb.	-	Tree	Fr	Rheumatic arthritis	3078
150.	Passifloraceae	*Adenia trilobata* (Roxb.) Engl.	-	Climber	Lf	Snake bite	4344
151.	Pedaliaceae	*Sesamum indicum* L.	-	Herb	Sd	Diarrhoea, joints pain, eye diseases, ulcer and piles	4316
152.	Phyllanthaceae	*Bridelia retusa* (L.) A.Juss.	-	Tree	Rt, Bk	Rheumatism	4369
153.	Phyllanthaceae	*Phyllanthus emblica* L.	Sinhlu	Tree	Fr	Diarrhoea, dysentery, anaemia, jaundice, dyspepsia, haemorrhage, cough and cold	4041
154.	Phyllanthaceae	*Phyllanthus reticulatus* Poir.	-	Shrub	Bk, St, Lf	Indigestion	3951
155.	Phyllanthaceae	*Phyllanthus urinaria* L.	-	Herb	Wp	Bronchitis, leprosy and asthma	3088
156.	Pinaceae	*Pinus roxburghii* Sarg.	-	Tree	Rs	Rheumatism, fever and inflammation	6972
157.	Piperaceae	*Piper attenuatum* Buch.-Ham. ex Miq.	-	Climber	St, Lf	Liver diseases and urinary troubles	3090
158.	Piperaceae	*Piper longum* L.	Saturikki	Herb	Rt, Fr	Cough, fever and arthritis	4310
159.	Piperaceae	*Piper nigrum* L.	-	Climber	Sd	Toothache, piles, skin diseases, fever, vertigo and dyspepsia	4309
160.	Piperaceae	*Piper pedicellatum* C. DC.	Riir	Climber	St, Lf, Fr	Insomnia, bodyache, cough and lack of appetite	3308
161.	Piperaceae	*Piper sylvaticum* Roxb.	-	Climber	Fr	Flatulence	3311
162.	Plantaginaceae	*Scoparia dulcis* L.	Mithipatti	Herb	Lf	Stomachache	3683
163.	Poaceae	*Cymbopogon nardus* (L.) Rendle	-	Herb	Wp	Indigestion	5364
164.	Poaceae	*Cynodon dactylon* (L.) Pers.	Phaitualhnim	Herb	Wp	Bleeding piles, cuts and wound	4255
165.	Poaceae	*Dendrocalamus giganteus* M unro		Herb	Ys	Chest pain, indigestion, constipation and low blood pressure	3346
166.	Poaceae	*Dendrocalamus hamiltonii* N ees and Arn. ex Munro	Phulrua	Herb	Lf, Fr	Low blood pressure	3260
167.	Poaceae	*Desmostachya bipinnata* (L.) Stapf	-	Herb	Wp	Asthma and jaundice	3562

(*Contd*.)

Table 2 — Medicinally important plants of Seijosa forest area of Arunachal Pradesh (*Contd*.)

S. No.	Family	Name of Plant	Regional Name	Habit	Plant Parts Used	Medicinal Use	Accession Number
168.	Poaceae	*Eleusine indica* (L.) Gaertn.	-	Herb	Wp	Liver problem	3870
169.	Poaceae	*Paspalum scrobiculatum* L.	-	Herb	Wp	Constipation and ulcer	3645
170.	Poaceae	*Saccharum officinarum* L.	Fu	Herb	St	Used to treat jaundice	6970
171.	Poaceae	*Saccharum spontaneum* L.	-	Herb	Rt	Urinary disorders, bleeding piles and gynecological disorder	5183
172.	Poaceae	*Sacciolepis indica* (L.) Chase	-	Herb	Wp	Throat problems	3672
173.	Polygonaceae	*Persicaria barbata* (L.) H. Hara	Anbawng	Herb	Rt, Sd	Colic	3887
174.	Polygonaceae	*Persicaria chinensis* (L.) H. Gross	Taham	Herb	Wp	Scurvy	2973
175.	Pontederiaceae	*Monochoria vaginalis* (Burm. f.) C.Presl	-	Herb	Rt, St	Toothache and asthma	4429
176.	Primulaceae	*Embelia ribes* Burm.f.	-	Shrub	Rt, Fr	Fever and skin disease	5161
177.	Ranunculaceae	*Clematis gouriana* Roxb. ex DC.	-	Climber	Lf	Skin disorders	3246
178.	Ranunculaceae	*Naravelia zeylanica* (L.) DC.	-	Climber	St	Toothache	2788
179.	Rhamnaceae	*Ziziphus jujuba* Mill.	-	Tree	Rt, Bk	Rheumatism, gout and diarrhoea	4075
180.	Rhamnaceae	*Ziziphus oenopolia* (L.) Mill.	-	Tree	Bk	Stomach disorders	3329
181.	Rosaceae	*Eriobotrya japonica* (Thunb.) Lindl.	-	Tree	Lf	Diarrhoea	3999
182.	Rosaceae	*Prunus persica* (L.) Batsch	Sikom	Tree	Fr	Constipation and cough	4047
183.	Rosaceae	*Rosa indica* L.	-	Shrub	Lf, Fr	Wound and ulcer	6971
184.	Rosaceae	*Rubus moluccanus* L.	Tasin	Shrub	Lf, Fr	Nocturnal enuresis	3111
185.	Rubiaceae	*Dimetia scandens* (Roxb.) R.J.Wang	-	Climber	Rt	Sprain and pain	3045
186.	Rubiaceae	*Morinda angustifolia* Roxb.	Lum	Tree	Lf	Cracks in the feet	3634
187.	Rubiaceae	*Mussaenda roxburghii* Hook. f.	Tangmeng	Shrub	Wp	Blemishes on tongue and acute gastroenteritis	3760
188.	Rubiaceae	*Mycetia longifolia* (Wall.) Kuntze	Tangnge	Shrub	Lf	Pain, ulcer, wound and inflammation	4355
189.	Rubiaceae	*Pavetta indica* L.	-	Shrub	Rt	Skin disorders	4037
190.	Rutaceae	*Aegle marmelos* (L.) Corrêa	Bel-thei	Tree	Fr	Diarrhoea and gastric disorders	3969
191.	Rutaceae	*Citrus medica* L.	Jipin	Tree	Fr	Dysentery, heatstroke and scurvy	3737
192.	Rutaceae	*Citrus sinensis* (L.) Osbeck	Serthlum	Tree	Fr	Heatstroke and scurvy	4465
193.	Rutaceae	*Murraya koenigii* (L.) Spreng.	Arpatil	Shrub	Lf	Indigestion and dysentery	4431
194.	Rutaceae	*Toddalia asiatica* (L.) Lam.	Koche taa	Climber	Bk, Lf, Fr	Fever, constipation and indigestion	3011
195.	Sapindaceae	*Aesculus assamica* Griff.	Ozonsak	Tree	Rt, Fl, Sd	Skin infection, backache and haemorrhoids	3795
196.	Saururaceae	*Houttuynia cordata* Thunb.	Vaithinthang, Hiya	Herb	Ts, Lf, St	Dysentery, measles, gonorrhoea, diarrhoea, skin troubles, pneumonia, bronchitis and stomach ulcer	3874
197.	Scrophulariaceae	*Buddleja asiatica* Lour.	Sialrial, Serial	Shrub	Lf	Inflammation	3393

(*Contd*.)

Table 2 — Medicinally important plants of Seijosa forest area of Arunachal Pradesh (*Contd*.)

S. No.	Family	Name of Plant	Regional Name	Habit	Plant Parts Used	Medicinal Use	Accession Number
198.	Smilacaceae	*Smilax ovalifolia* Roxb. ex D. Don	Kaihapui	Climber	Rt	Jaundice, rheumatic pain and gonorrhoea	3960
199.	Smilacaceae	*Smilax perfoliata* Lour.	-	Climber	Rt	Blood dysentery	3697
200.	Solanaceae	*Physalis angulata* L.	-	Herb	St, Lf, Fr	Indigestion	3654
201.	Solanaceae	*Solanum nigrum* L.	Byako, Hoor	Shrub	Lf, Fr	Fever, diabetes, stomach pain, diarrhoea and hepatomegaly	4325
202.	Solanaceae	*Solanum viarum* Dunal	Athlo, Sibin biik	Shrub	Fr, Sd	Dental caries, liver disorder, chest pain, fever, cough, stomachache and toothache	4327
203.	Solanaceae	*Solanum indicum* L.	Bayon	Shrub	Wp	Toothache, fever, worm infestation, colic, cough and catarrhal affections	4059
204.	Solanaceae	*Solanum myriacanthum* Dunal	-	Shrub	Wp	Dental disorders	3701
205.	Solanaceae	*Solanum torvum* Sw.	Titla, Sot biik	Shrub	Fr	Spleen disorder, liver disorder, chest pain, fever, cough, toothache and skin diseases	3482
206.	Styracaceae	*Styrax serrulatus* Roxb.	-	Tree	Rs	Wound	3903
207.	Theaceae	*Schima wallichii* (DC.) Korth.	Khiang	Tree	Bk, Sd	Stomach trouble	3893
208.	Thymelaeaceae	*Aquilaria malaccensis* Lam.	Thing-rai	Tree	St	Diarrhoea, constipation, vomiting and snake bite	4237
209.	Urticaceae	*Debregeasia longifolia* (Burm.f.) Wedd.	-	Shrub	Fr, Lf	Rheumatism and scabies	3412
210.	Urticaceae	*Girardinia diversifolia* (Link) Friis	Kangthai	Shrub	Lf	Headache, joint pain and fever	3282
211.	Urticaceae	*Pouzolzia bennettiana* Wight	Huik	Herb	Lf	Constipation	4307
212.	Verbenaceae	*Lantana indica* Roxb.	-	Shrub	Lf	Tetanus, rheumatism and malaria	3823
213.	Verbenaceae	*Lantana camara* L.	Hlingpang-par	Shrub	Lf	Cuts, ulcer and swelling	6974
214.	Vitaceae	*Causonis trifolia* (L.) Mabb. and J.Wen	-	Climber	St, Fr	Ulcer and fever	2740
215.	Vitaceae	*Cissus repens* Lam.	-	Climber	Wp	Boil and abscess	4252
216.	Vitaceae	*Leea indica* (Burm. f.) Merr.	-	Shrub	Rt	Diarrhoea and dysentery	2808
217.	Zingiberaceae	*Alpinia malaccensis* (Burm. f.) Roscoe	-	Herb	Rhz, Fl	Throat sore, cough and fever	3798
218.	Zingiberaceae	*Alpinia nigra* (Gaertn.) Burtt	Tora	Herb	Rhz, Lf, Fr	Fever, inflammation, cough, fungal infection, jaundice and gastric ulcer	2925
219.	Zingiberaceae	*Amomum maximum* Roxb.	-	Herb	Rt, Fl	Blood pressure	3387

Abbreviation: Wp: Whole plant, Rt: Root, Rhz: Rhizome, Ts: Tender shoot, St: Stem, G: Gall, Rs: Resin, G: Gum, O: Oil, Lt: Latex, Bk: Bark, Lf: Leaf, In: Inflorescence, Fl: Flower, Fr: Fruit, Sd: Seed, Tub: Tuber

Kessang district of Arunachal Pradesh for treating different types of ailments which could be an indication of the significant role of phytotherapy based traditional medicine in meeting the basic healthcare needs of the people. The use of herbaceous species and trees (63 plants) was maximum among the local people that could be a result of their relative abundance as compared to climbers, undershrubs[11]. Plants of family Asteraceae and Fabaceae are dominant in present investigation as similar to the

previous studies[14]. Some of the medicinal plants used by the tribes of the Seijosa area are also used by the tribal population of other districts of Arunachal Pradesh and other states of India. Leaves of *Ageratum conyzoides* L. for blood clotting is used by *Mishing, Jaintia* tribes of Assam[14,21-25] and by *Nyshi, Galo, Tagin, Tangsas* and *Singphos* tribes of Arunachal Pradesh[14,23]. Leaves and root decoction of *Clerodendrum colebrookeanum* Walp. are reported to be used by various tribes of Arunachal Pradesh and Assam in malarial and bronchitis treatment[14,23,26,27]. Powdered bark of *Oroxylum indicum* (L) Vent. is used by *Mongpa* tribe of Arunachal Pradesh[23,27] and *Mishing* community of Assam[22] in Malarial treatment and liver disorder. Similarly, bark powder is used in skin itching, swelling, liver and stomach problem by *Nyshi, Tagin* and *Galo* Tribes of Upper Subansiri District, Arunachal Pradesh[14]. Crushed root and bark of *Gmelina arborea* Roxb. ex. Sm. is used by *Padam* (*Adis*) tribe of Arunachal Pradesh to purify the blood and in stomach trouble[14,23]. Fruits of *Piper nigrum* L. is used in cough, bronchitis, and tonsillitis[23]. In the present study, 11 plant species were used in the treatment of piles, which is very similar to local communities of Betbari area in Sivasagar district of Assam who used 12 plants[26]. *Chromolaena odorata* (L.) R.M.King & H. Rob. is the most dominant weed in the study area having much medicinal value as leaves paste is directly applied on cut and wounds and also used as fish poison as recorded earlier[28]. In the present study, *Acmella oleracea* (L.) R. K. Jansen is used in urinary disorders, inflammation of lungs, and bowels but the fresh flower is used in the treatment of toothache and the leaves are edible as a vegetable by *Tagin* and *Galo* Tribe of Arunachal Pradesh[28]. Similarly leaf paste of *Mussaenda roxburghii* Hook. f. is applied to the freshly cut wound to enable blood clotting and it is also edible as a vegetable by *Tagin* and *Galo* Tribe[28]. Jaundice is a complex ailment caused by the malfunctioning of the liver. *Averrhoa carambola* L., *Drymaria cordata* (L.) Willd. ex Schult., *Phyllanthus emblica* L., etc. are used in liver malfunctioning and similar plants are used by Tea Tribes of Morigaon District, Assam[29]. *Amaranthus spinosus* L., *Citrus medica* L., *Cymbopogon nardus* (L.) Rendle, *Dillenia indica* L., *Hibiscus rosa-sinensis* L., *Nyctanthes arbor-tristis* L., *Phyllanthus emblica* L., *Ricinus communis* L., etc. are known for their use to cure multiple skin diseases[30,31]. *Aegle marmelos* (L.) Correa[29,32], *Ageratum conyzoides* L.[2,15,16,22,23,33,34], *Alpinia malaccensis* (Burm. f.) Roscoe[35], *Alpinia nigra* (Gaertn.) Burtt[2,33], *Alstonia scholaris* (L.) R. Br.[15,22,23,29,30,33], *Amaranthus spinosus* L.[2,6,16,30], *Bauhiniavariegata* L.[33], *Callicarpa arborea* Roxb.[2,15,23], *Chenopodium album* L.[33], *Chromolaena odorata* (L.) R. M.King and H. Rob.[2], *Cissampelos pareira* L.[35], *Clerodendrum colebrookeanum* Walp.[23,32], *Cyanthillium cinereum* (L.) H. Rob.[36], *Cymbopogon nardus* (L.) Rendle[30], *Dillenia indica* L.[32], *Euphorbia hirta* L.[15,23,36], *Ficus semicordata* Buch.-Ham. ex Sm.[36], *Hellenia speciosa* (J. Koenig) S. R. Dutta[2,6,23,29,33], *Hiptage benghalensis* (L.) Kurz[36], *Houttuynia cordata* Thunb.[6,15,22,29,32], *Mikania micrantha* Kunth[2,23], *Murraya koenigii* (L.) Spreng.[22,32], *Mycetia longifolia* (Wall.) Kuntze[2], *Oroxylum indicum* (L.) Kurz[2,15,23], *Oxalis corniculata* L.[2,23,29], *Piper nigrum* L.[2,6,23,30], *Sida acuta* Burm.f.[22,30,35,37], *Trevesia palmata* (Roxb. ex Lindl.) Vis.[6], *Wrightia arborea* (Dennst.) Mabb.[36], etc. are found abundantly in this area and already known for their similar ethnomedicinal uses with slight differences in their formulation, method of preparation and mode of administration. The knowledge given in the paper is from a limited area and there is always a scope to initiate further study among the communities living in the remote areas. Different methods of preparation and the use of traditional medicine along with their claimed success reported in the present study need to be extended for future scientific analysis in the area of core pharmacology and phytochemistry in the hope of unearthing new drug formulations.

Conclusion

Based on the present study, it is concluded that the Seijosa circle (forest area) has a diverse treasure of medicinally important plants useful for mankind. Treating various ailments also reveals the existence of traditional knowledge among the tribal community. Authors observed that there is a decline in medicinal plant knowledge among local people due to the increasing inclination towards modern medicine as well as a lack of written text to record this age old knowledge. In the present study, it was found that the *Nyishi* community of fringe village in Seijosa circle cultivated and collected wild crop species which are used medicinally and sell these medicinal plants in the local market. Furthermore, the over-exploitation of non timber forest products (NTFP) may lead to decline of these species from the area. In this

context, *ex-situ* and *in-situ* conservation strategies and cultivation of these plants species are needed which will help to maintain the ecological balance, traditional knowledge as well as livelihood support to the local inhabitants. Thus, the authors hope that this study will be beneficial for ethno-botanists, phytochemists, and pharmacologists for further critical investigation of medicinal plants.

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Conflict of interest

There are no conflicts of interest associated with this publication and we confirm that the manuscript has been read and approved by all named authors.

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