

RESEARCH ARTICLE

Traditional food and medicinal flora used by the Apatani and Nyishi tribes of Lower Subansiri district of Arunachal Pradesh, India

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Abstract

An ethnobotanical field survey was conducted in the 16 villages of the Apatani and Nyishi tribes of Lower Subansiri district of Arunachal Pradesh India during year 2016 – 2022. Ethnobotanical information was gathered through participants observations, focused group discussion, transect walk with informants and structured questionnaire format. The study revealed a total of 177 ethnobotanical species belonging to 58 plant families distributed under 125 genera used as food and medicinal agent by the Apatani and Nyishi tribes. Herbs were represented by highest number of species (103 spp.) which is followed by trees (34 spp.), shrubs (19 spp.), climbers (10 spp.), creepers (5 spp.) and under-shrub (1 sp.). The leaves were found to be the most frequently harvested plant parts with 60 spp. (33.8%) followed by fruits 56 spp. (31.60 %), whole plant 17 spp. (9.6 %), seeds 14 spp. (7.9%), roots 10 spp. (5.6 %), inflorescence, stem and young shoots 6 spp. (3.6%), petiole and tuber 5 spp. (2.8 %), bulb and rhizome 3 spp. (1.1 %), Pods, bark, resin and grass 1 sp. (0.5%). It was observed that the Apatani and Nyishi communities possess rich traditional knowledge related to identification, harvesting and sustainable utilization of the ethnobotanical resources.

Keywords: Ethnobotany; Food and Medicinal; Traditional Knowledge; Apatani and Nyishi; Conservation

1. Introduction

The state Arunachal Pradesh is a part of North East India and is located within Himalayan Biodiversity Hotspot (Myers et al., 2000). The state is blessed with rich biodiversity and tribal traditional knowledge. Lower Subansiri district of Arunachal Pradesh is inhabited by Apatani and the Nyishi tribes endowed with rich traditional biocultural knowledge system (Rubu et al., 2021). They share a common ancestry derived from the mythical father Abo Tani, and also reported to have similar mythology and folklore, customary laws and oral literatures which is primarily found in the central districts of Arunachal Pradesh with slight variation in dialect and cultural practices (Tag and Das, 2004; Showren 2009; Naka et al., 2013; Palaniappan, 2019). However, perusal of literature revealed that the focused ethnobotanical study is required to document the ethnobotanical species traditionally used as food and medicinal agents by the Apatani and Nyishi tribes (Kala, 2005). The ethnobotanical and associated traditional knowledge used for bioresource conservation and sustenance of the rural livelihood need proper documentation and preservation for posterity and promotion of the rich cultural heritage of the Tani tribes of Eastern Himalaya (Rubu et al., 2021; Yanka et al., 2022). Therefore, this study documents the ethnobotanical species exclusively used as food and medicinal agents by the Apatani and Nyishi tribes of Lower Subansiri district of Arunachal Pradesh.

2. Materials and methods

2.1. Study site

Lower Subansiri district of Arunachal Pradesh has a total land area of 3875 sq.km which lies between 26° 55' and 28° 40' N latitude and longitude 92° 40' and 94° 2' E. The district is bounded by Kurung-Kumey and Upper Subansiri districts on the North, Papum Pare district of Arunachal Pradesh and Assam on the South (Figure 1 and 2). The Lower Subansiri district is endowed with rich natural vegetation which comprises of tropical rain forest (100 - 1000 m), Subtropical Forest (1000 – 2000 m) and temperate forests (2000 m – 3000 m) (Figure 2A-C) and receives heavy rainfall during the month of March to July and remain dry during winter months (Yanka et al., 2019; Rubu et al., 2021).

2.2. Field survey

Ethnobotanical survey was conducted during 2016 - 2022 in 16 villages and semi-urban area of Lower Subansiri district of Arunachal Pradesh, namely, Ziro, Hapoli, Hari, Hong, Mudang Tage, Bamin Michi, Dutta, Lempia and Tajang in Apatani biocultural landscape (Figure 2A) and the Yachuli, Yazali, Takam Pasa, Possa, Peni, Pitapool and Potin in Nyishi biocultural landscape (Figure 2B and C) following the standard field interview method suggested by Martin (1995). Prior Informed Consent (PIC) were obtained from the informants of the study site. The ethnobotanical information of food and medicinal plants were collected from professional farmers and healers using participants observation, semi structured and structured questionnaires format, focused group discussion and transect walk with local informants in the community forest area. The voucher specimens of the ethnobotanical species were collected and prepared using standard method (Jain and Rao, 1977) and the taxonomic identity were confirmed using standard local flora such as *Flora of Lower Subansiri District, Arunachal Pradesh (India)*, Vol. 1 & 2. (Pal, 2013) and *Flora of Kurung Kumey District, Arunachal Pradesh (Dash and Paramjit, 2017)*. Accepted names were verified in the POWO (<https://powo.science.kew.org/>) hosted by the Royal Botanic Garden Kew, UK. The voucher specimens were submitted in the Herbarium of Arunachal University (HAU), Department of Botany, Rajiv Gandhi University, Rono Hills, Doimukh, Arunachal Pradesh, India for future references.

3. Results

3.1. Taxonomic diversity of ethnobotanical species

The present study revealed a total of 177 species of food and medicinal flora representing 125 genera from 58 plant families used by the Apatani and Nyishi tribes of Lower Subansiri district of Arunachal Pradesh (Table 1, Figure 3A). Rosaceae with 19 spp. (10.73 %) has been reported to be the most dominant family which is followed by Asteraceae 15 (8.47%) and Solanaceae 13 (7.34 %) (Figure 3B).

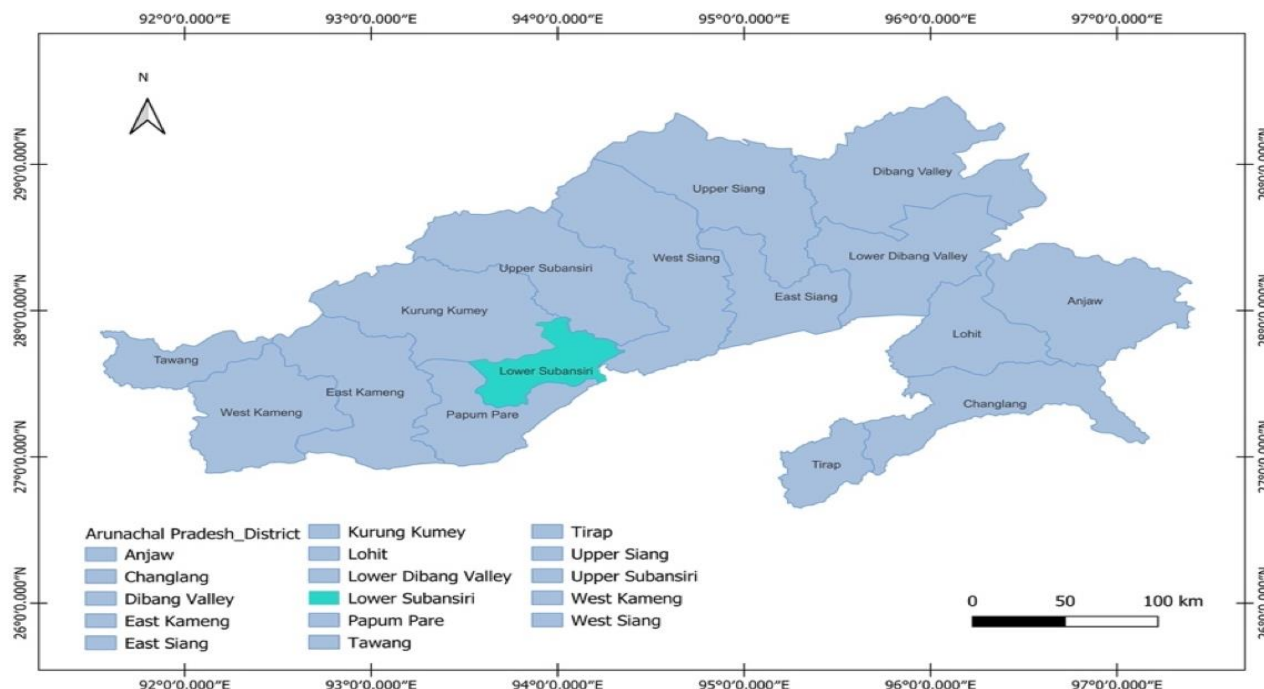


Figure 1. Map of Arunachal Pradesh (Blue region) showing the study site in the Lower Subansiri District of Arunachal Pradesh, India.

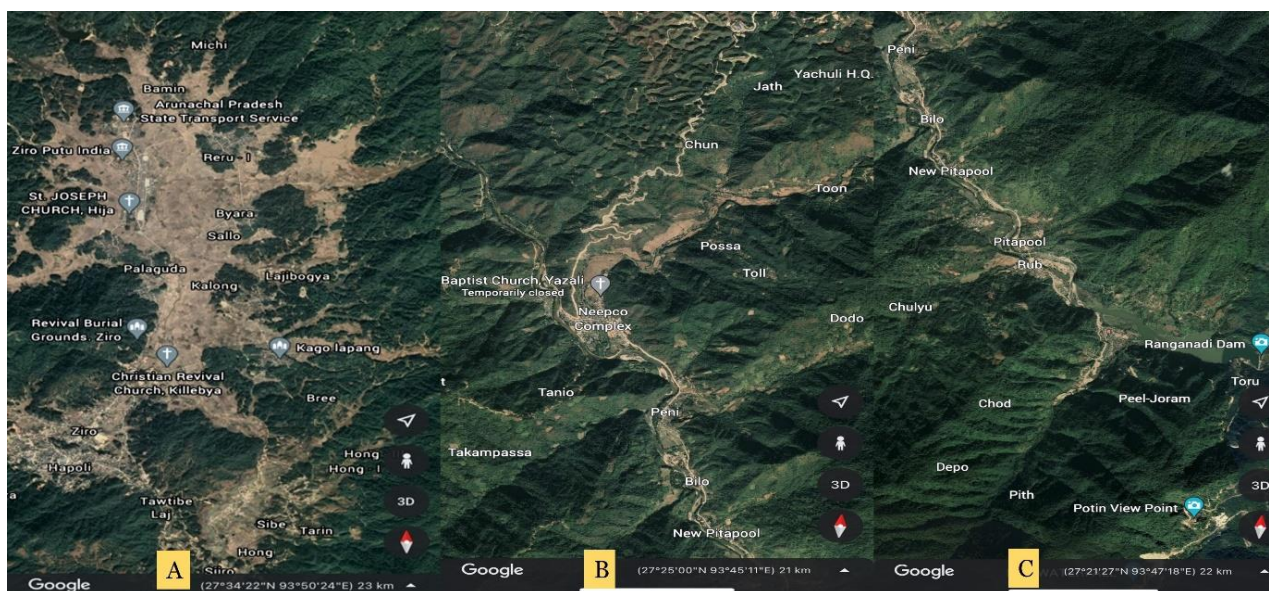


Figure 2. Google Earth image of Lower Subansiri District showing the study site; A. Ziro valley; B. Yachuli, Yazali, Takam Pasa, Possa; C. Peni, Pitapool and Potin

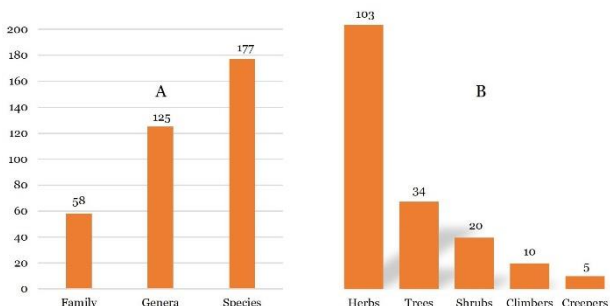


Figure 3A. Taxonomic diversity of ethnobotanical species (n=177); B. Growth form and habits of ethnobotanical species (N=177).

Of the total 177 species reported, herbaceous species are represented by 103 spp. (58.1%) which is followed by trees with 34 spp. (19.2%), shrubs 19 spp. (9.6%), climbers 10 spp. (5.4%) and creepers 5 spp. (2.8%) and under-shrub 1 sp. (0.5 %) (Figure 4). Further, 124 spp. are found useful as food, 44 spp. as medicine, 8 spp. as spice and condiments, 21 spp. as both food and medicine, 4

spp. as food and beverage, 2 spp. as poisoning agent and 1 sp. as spice and condiments and food (Figure 5).

3.2. Utilisation of plant parts

Among the different plant parts harvested, leaves were found to be the most frequently plant part harvested (60 spp.) which accounts for 33.8% which is followed by fruits with 56 spp. (31.60 %), whole plant 17 spp. (9.6 %), seeds 14 spp. (7.9%), roots 10 spp. (5.6 %), inflorescence, stem and young shoots 6 spp. (3.6%), petiole and tuber 5 spp. (2.8 %), bulb and rhizome 3 spp. (1.1 %), Pods, bark, resin and grass 1 sp. (0.5%) (Figure 6)

Further, of the total 177 species reported, 153 spp. (82%) of food and medicinal plants reported are orally consumed, while 29 spp. (15%) were applied topically and 5 spp (3%) were used both by orally consumption and topical application (Figure 7).

3.3. Marketing potential of the ethnobotanical species

Out of the total 177 species, *Acmella oleracea*, *Allium chinense*, *Allium hookeri*, *Capsicum chinense*, *Castanopsis indica*, *Chenopodium album*, *Citrus × aurantium*, *Clerodendrum glandulosum*, *Colocasia esculenta*, *Cucurbita maxima*, *Dioscorea*

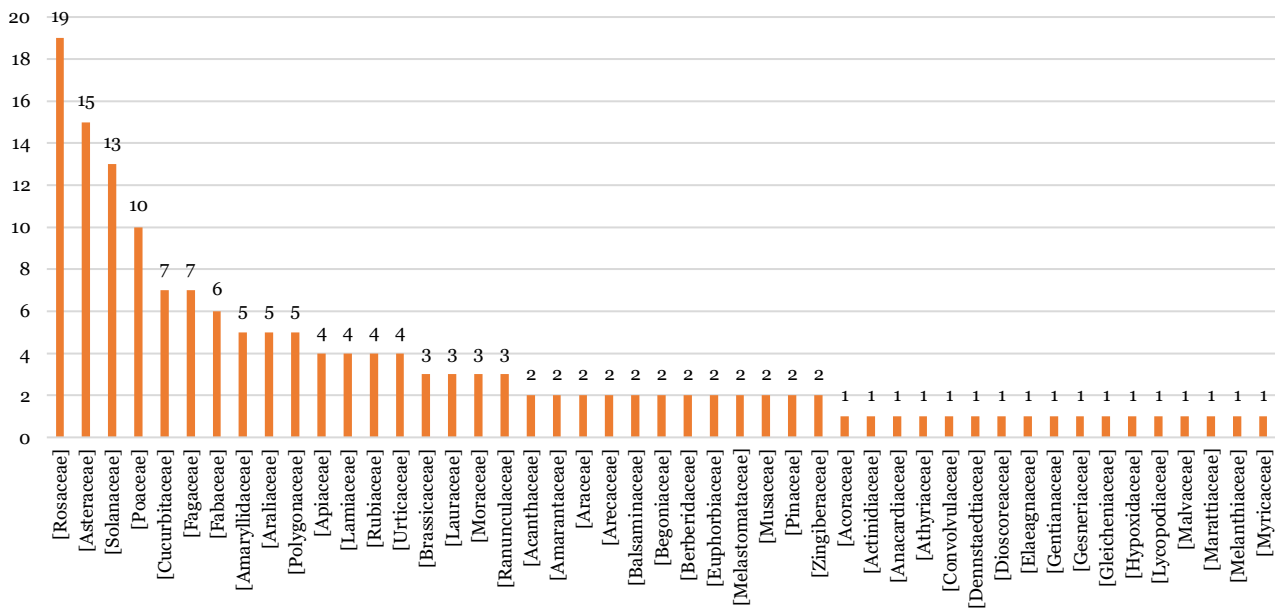


Figure 4. Graph showing the species representation under different plant families

floribunda, *Diplazium esculentum*, *Fagopyrum esculentum*, *Houttuynia cordata*, *Ipomoea batatas*, *Litsea cubeba*, *Manihot esculenta*, *Oenanthe javanica*, *Perilla frutescens*, *Phyllostachys mannii*, *Phytolacca acinosa*, *Pinus wallichiana*, *Piper pedicellatum*, *Rhynchosycheum ellipticum*, *Rubus ellipticus*, *Solanum aethiopicum*, *Solanum nigrum*, *Sonchus arvensis*, *Trichosanthes tricuspidata*, *Zanthoxylum armatum*, *Zanthoxylum rhetsa* and *Zingiber officinale* (Table 1) were reported as frequently harvested ethnobotanical species which were found to be popularly sold in the local ethnobotanical markets of Potin, Yachuli, Yazali, Ziro and Hapoli township market area for their traditional food and medicinal values. These ethnobotanical species fetch lucrative income for the marginal farmers which mainly comprises of women folk and has the higher commercial potential to sustain rural livelihood security in both Apatani and Nyishi area.

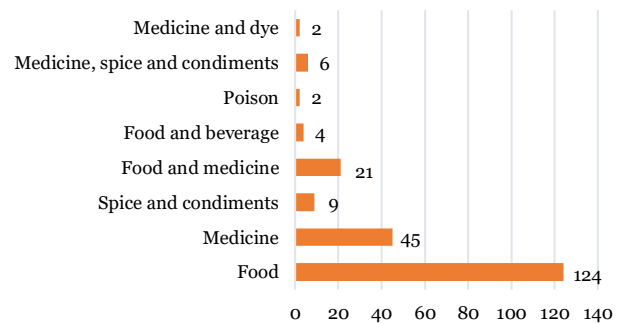


Figure 5. Bar diagram showing the use category of ethnobotanical species recorded from Apatani and Nyishi biocultural landscape of Lower Subansiri district of Arunachal Pradesh, India.

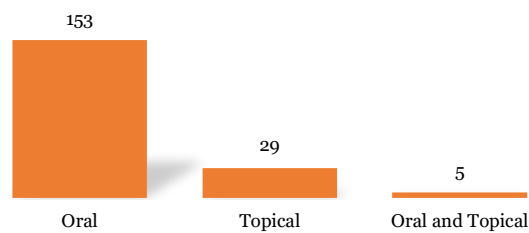


Figure 7. Pie Chart showing the mode of application of food and medicinal plants (n=177 species) used by the Apatani and Nyishi tribes of Lower Subansiri district of Arunachal Pradesh.

4. Discussion

Present ethnobotanical investigation has revealed that most of the marginal farmers mainly comprises of women folk among the Apatani and the Nyishi community of Lower Subansiri district of Arunachal Pradesh primarily relies on cultivated and wild edible plants for meeting their food and medicinal requirements which helps in sustenance of the rural livelihood. The wild edible species such as *Dioscorea floribunda*, *Diplazium esculentum*, *Fagopyrum esculentum*, *Houttuynia cordata*, *Litsea cubeba*, *Oenanthe javanica*, *Phytolacca acinosa*, *Piper pedicellatum*, *Rhynchosycheum ellipticum*, and *Zanthoxylum armatum* were frequently found sold in the local markets due to high demand in traditional food system and has the potential to sustain local economy, food and medicinal security in the rural localities. Some of these reports were found to be in agreement with earlier ethnobotanical reports on Apatani and Nyishi communities (Kala et al., 2005; Rubu et al., 2021; Yanka et al., 2022). Our observation

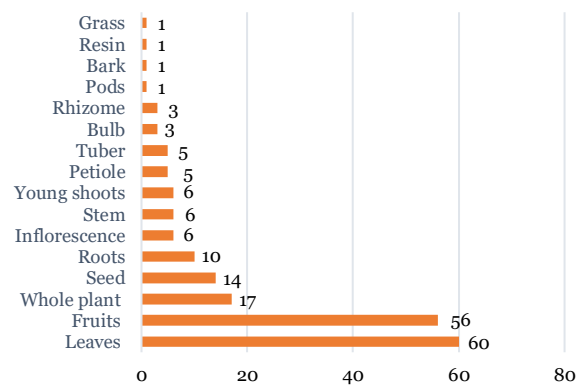


Figure 6. Plant parts harvested and used by the Apatani and Nyishi community of Lower Subansiri district of Arunachal Pradesh, India.

further revealed that medicinal flora reported are mostly harvested from the wild sources available in the tropical, subtropical and temperate forest of both Nyishi and Apatani biocultural landscape. The community traditional knowledge plays a vital role in cultivation and conservation of the commercially viable species; however, younger generation are slowly losing traditional ethnobotanical knowledge (Yanka et al., 2019).

Table 1. Checklist and traditional uses of the ethnobotanical species used by the Apatani and Nyishi ethnic communities in Lower Subansiri District of Arunachal Pradesh, India. [Abbreviations used: L = Leaf; F= Fruit; WP= Whole Plant; Rh = Rhizome; S = Seed; Bu= Bulb; FL = Flower; R=Root; Inf= Inflorescence; Pe= Petiole; Po= Pods; Tu= Tuber; H= Hypanthodium]

SL	Botanical Names	Use category	Vernacular name	Ethnic group	Part used	Habit	Traditional uses
1	<i>Aemelia oleracea</i> (L.) R.K.Jansen [Asteraceae] HY/HT/HAU/1604/2018	Medicine; Spices and condiments	Yorkhung Hamang/Budh Oh/Marsha	Apatani; Nyishi	L; Inf	Herb	Tender shoots are edible, Inflorescence used for curing tooth ache
2	<i>Aemelia paniculata</i> (Wallich ex DC.) R.K. Jansen; [Asteraceae] HY/HT/HAU/1608/2018	Medicine; Spices and condiments	Yorkhung Hamang/Teri honum	Apatani; Nyishi	WP	Herb	Tender shoots are edible, Inflorescence used for curing tooth ache
3	<i>Aconitum ferrox</i> Wall. ex Ser. [Ranunculaceae] HY/HT/HAU/1635/2019	Poison	Iimyo/Omle, Omyu	Apatani; Nyishi	L	Herb	Leaves made into paste and used as a poison
4	<i>Aconitum heterophyllum</i> Wall. ex Royle [Ranunculaceae] HY/HT/HAU/1669/2019	Poison	Iimyo/Omle, Omyu	Apatani; Nyishi	L	Herb	Leaves made into paste and used as a poison
5	<i>Acorus calamus</i> L. [Acoraceae] HY/HT/HAU/1606/2018	Medicine	Kile tolyo/ Gongee/Buch	Apatani; Nyishi	Rh	Herb	Rhizome paste is applied on cuts, wounds and bone fracture; Extracts of rhizome along with Zingiber officinalis rhizome is used for curing Gastric
6	<i>Actinidia callosa</i> Lindl. [Actinidiaceae] HY/HT/HAU/1676/2020	Food; Beverage	Antii tare	Apatani	F	Tree	Fruits edible
7	<i>Ageratum conyzoides</i> (L.) L. [Asteraceae] HY/HT/HAU/1619/2018	Medicine	Hwkwrt, Paspaya	Apatani; Nyishi	L	Herb	Leaf paste is applied on cuts for blood clotting
8	<i>Ageratum hoistontanum</i> Mill.; [Asteraceae] HY/HT/HAU/1601/2018	Medicine	Borbha tami/Hwkwrt, Paspaya	Apatani; Nyishi	L	Herb	Leaf paste is applied on cuts for blood clotting
9	<i>Allium cepa</i> L. [Amaryllidaceae] HY/HT/HAU/1501/2016	Food	Piyaji/Peyaj	Apatani; Nyishi	Bu	Herb	Consume the bulb roasted, raw or cooked
10	<i>Allium chinense</i> G. Don; [Amaryllidaceae] HY/HT/HAU/1502/2016	Food; Medicine	Tale/Talap Lobu	Apatani; Nyishi	L	Herb	Consumed raw as a vegetable to cure cough and cold
11	<i>Allium hookerii</i> Thwaites [Amaryllidaceae] HY/HT/HAU/1603/2018	Food; Medicine	Tale/Talap	Apatani; Nyishi	L	Herb	Consumed raw as a vegetable to cure cough and cold
12	<i>Allium tuberosum</i> Kottler ex Spreng. [Amaryllidaceae] HY/HT/HAU/1504/2016	Food; Medicine	Tale/Talap Labta	Apatani; Nyishi	L	Herb	Consumed raw as a vegetable to cure cough and cold
13	<i>Amaranthus viridis</i> L. [Amaranthaceae] HY/HT/HAU/1548/2017	Food	Tai Hamang/Yorko puchu kinyu	Apatani; Nyishi	L, S	Herb	Consumed as vegetable
14	<i>Annonum subulatum</i> Roxb. (cultivated large) [Zingiberaceae] HY/HT/HAU/1679/2021	Spices and condiments	Elaitchi	Nyishi	S	Herb	Used as condiments
15	<i>Amorphophallus kachinensis</i> Engl. & Gehrm. [Araceae] HY/HT/HAU/1650/2019	Medicine	Tabu sanii	Apatani	L	Herb	Leaves paste used to cure snake bite, cuts and wounds
16	<i>Angiopteris evecta</i> (G. Forst.) Hoffm. [Marattiaceae] HY/HT/HAU/1606/2018	Food	Tari	Apatani	S, L, R	Shrub	Stem and leaves are burnt into ash called piyu which is further used in preparation of alkaline solution called Pike (used as a chief ingredient in preparation of Pike)
17	<i>Anisometes indica</i> (L.) Kuntze. [Lamiaceae] HY/HT/HAU/1561/2017	Medicine	Narutami	Apatani	WP	Herb	Paste applied on cuts and wounds
18	<i>Artemisia indica</i> Willd. [Asteraceae] HY/HT/HAU/1609/2018	Food; Medicine	Kuklyu/Tipin Tarin	Apatani; Nyishi	L	Shrub	Vegetable, Leaves are kept in poultry baskets to repel pests and insects; Inhaling strong smell of leaf relieves nose blockage and headache, Bathing with water diluted with its leaves relieves from itching & skin allergy
19	<i>Artemisia nilagirica</i> (C.B. Clarke) Pamp. [Asteraceae] HY/HT/HAU/1610/2018	Food; Medicine	Kuklyu	Apatani; Nyishi	L	Shrub	Leaves used in stomach-ache and body pain; Young aromatic leaves used as disinfectant
20	<i>Bauhinia variegata</i> L. [Fabaceae] HY/HT/HAU/1567/2017	Food	Gayi sanii	Nyishi	Inf.	Tree	Inflorescences are edible
21	<i>Begonia aborensis</i> Dunn [Begoniaceae] HY/HT/HAU/1570/2017	Food	Lukhu	Apatani; Nyishi	Pe	Herb	Petioles are edible (Sour)Jo
22	<i>Begonia roxburghii</i> A.DC [Begoniaceae] HY/HT/HAU/1612/2018	Food	Byukhu/ Baba rai	Apatani; Nyishi	Pe	Herb	Tender shoots are edible
23	<i>Berberis napaulensis</i> (DC.) Spreng. [Berberidaceae] HY/HT/HAU/1715/2021	Food; Beverage	Taaming	Apatani	F, Inf.	Shrub	Fruits and Inflorescence edible

		Medicine	Tipe Tarey	Apatani	R	Shrub	Used to lower teeth Pain
24	<i>Berberis wallichiana</i> DC. [Berberidaceae] HY/HT/HAU/1611/2018			Apatani		Shrub	
25	<i>Brassica juncea</i> (L.) Czern.[Brassicaceae] HY/HT/HAU/1615/2018	Food	Giyang Hamang/ Guyi O	Apatani; Nyishi	L, S	Herb	Consume as boiled vegetable
26	<i>Brassica rapa</i> L. [Brassicaceae] HY/HT/HAU/1682/2021	Food	Gyan Hamang/ Gui O	Apatani; Nyishi	WP	Herb	Consumed as a vegetable
27	<i>Cajanus cajan</i> (L.) Millsp [Fabaceae] HY/HT/HAU/1699/2021	Food	Perung/ Peren	Apatani; Nyishi	Po	Herb	Pods Consumed as a vegetable
28	<i>Capsicum annuum</i> L. [Solanaceae] HY/HT/HAU/1618/2018	Food; Medicine	Yobbu Terro/Tir	Apatani; Nyishi	F	Herb	Important part of traditional food habit; it is taken raw, boil, as chutney and condiment; taken to cure fever, cold and cough
29	<i>Capsicum chinense</i> Jacq. [Solanaceae] HY/HT/HAU/1622/2018	Food; Medicine	Tagin Terro/Teyir	Apatani; Nyishi	F	Herb	Important part of traditional food habit; it is taken raw, boil, as chutney and condiment; taken to cure fever, cold and cough
30	<i>Capsicum frutescens</i> L. [Solanaceae] HY/HT/HAU/1617/2018	Food; Medicine	Terro/ Teyir	Apatani; Nyishi	F	Herb	Important part of traditional food habit; it is taken raw, boil, as chutney and condiment; taken to cure fever, cold and cough
31	<i>Cardamine hirsuta</i> L. [Brassicaceae] HY/HT/HAU/1549/2017	Food	Padii Hamang/ Sorum pwwd	Apatani; Nyishi	WP	Herb	Consumed raw as a vegetable to cure cough and cold
32	<i>Castanopsis hystrix</i> Hook. f. & Thomson ex A. DC. [Fagaceae] HY/HT/HAU/1514/2016	Food	Kiira ai	Apatani	F	Tree	Nuts edible
33	<i>Castanopsis indica</i> (Roxb. Ex Lindl.) A.DC. [Fagaceae] HY/HT/HAU/1519/2016	Food	Rahu Kiira ai	Apatani; Nyishi	F	Tree	Nuts edible
34	<i>Castanopsis purpurella</i> (Miq.) N.P.Balakr. [Fagaceae] HY/HT/HAU/1523/2016	Food	Kiira ai	Apatani	F	Tree	Nuts edible
35	<i>Castanopsis tribuloides</i> (Sm.) A.DC. [Fagaceae] HY/HT/HAU/1525/2016	Food	Korbing kiira	Apatani	F	Tree	Nuts edible
36	<i>Centella asiatica</i> (L.) Urb [Apiaceae] HY/HT/HAU/1544/2017	Food; Medicine	Ngilyang Khiko Hamang/Barang/ Ngulyi hiik Tai Hamang	Apatani; Nyishi	WP	Herb	Eaten raw as salad and cooked as vegetable, Cures for gastritis, blood purification and also increases appetite.
37	<i>Chenopodium album</i> L. [Amarantaceae] HY/HT/HAU/1552/2017	Food	Tai Hamang	Apatani; Nyishi	L	Herb	Consumed as a vegetable
38	<i>Chimonobambusa callosa</i> (Munro) Nakai [Poaceae] HY/HT/HAU/1525/2016	Food	Rijiang	Apatani	YS	Herb	Young shoots eaten as vegetable
39	<i>Cinnamomum verum</i> J.Presl [Lauraceae] HY/HT/HAU/1518/2016	Food	Khe Alyo	Apatani; Nyishi	R	Tree	Root Bark is taken as a spice
40	<i>Cirsium lipskyi</i> Petr. [Asteraceae] HY/HT/HAU/1540/2016	Spices and condiments	Tareh	Apatani	WP	Herb	The plant is burnt into ashes and the filter is used as a traditional liquid called Pila which is an important ingredient for preparing Pikey; an Apatani cuisine
41	<i>Citrus × aurantium</i> L. [Rutaceae] HY/HT/HAU/1527/2016	Food	Komla Tinga	Apatani; Nyishi	F	Tree	Fruits are edible
42	<i>Citrus medica</i> L. [Rutaceae] HY/HT/HAU/1528/2016	Food	Nimu tinga	Apatani; Nyishi	F	Tree	Fruit edible
43	<i>Clerodendrum glandulosum</i> Lindl.[Lamiaceae] HY/HT/HAU/1623/2018	Food; Medicine	Pato Hamang	Apatani; Nyishi	L	Shrub	Decoction of leaves is used for lowering high Blood pressure, Consumed as vegetable
44	<i>Colocasia esculenta</i> (L.) Schott [Araceae] HY/HT/HAU/1554/2017	Food	Inghe	Apatani; Nyishi	Bu	Herb	Bulb eaten boiled or roasted
45	<i>Coriandrum sativum</i> L. [Apiaceae] HY/HT/HAU/1530/2016	Spices and condiments	Dhunia pata	Apatani; Nyishi	WP	Herb	It is consumed either raw or cooked with other vegetables
46	<i>Cotula hemisphaerica</i> (Roxb.) Wall. ex C.B.Clarke [Asteraceae] HY/HT/HAU/1683/2021	Food	Pesu langu Hamang	Apatani	WP	Herb	Consumed as a vegetable
47	<i>Crassocephalum crepidioides</i> (Benth.) S.Moore [Asteraceae] HY/HT/HAU/1625/2018	Food	Genda Hamang/ Genta Pai lamu	Apatani; Nyishi	L	Herb	It is consumed raw
48	<i>Croton persimilis</i> Müll.Arg. [Euphorbiaceae] HY/HT/HAU/1557/2017	Medicine	Taku/ Mukku	Apatani	L	Shrub	Used against stomach disorder
49	<i>Cucumis sativus</i> L. [Cucurbitaceae] HY/HT/HAU/1622/2018	Food		Apatani; Nyishi	F, L, S	Creeper	Consumed as a vegetable

	Cucurbita maxima Duchesne [Cucurbitaceae]																					
	HY/HT/HAU/1621/2018	Curcuma longa L. [Zingiberaceae]																				
	HY/HT/HAU/1559/2017	Cyathium cinereum (L.) H. Rob. [Asteraceae]																				
	HY/HT/HAU/1536/2016	Cymbopogon citratus (DC.) Stapf [Poaceae]																				
	HY/HT/HAU/1648/2019	Dendrocalamus hamiltonii Nees and Arn. ex Munro [Poaceae]																				
	HY/HT/HAU/1546/2017																					
		Dicranopteris linearis (Burm.f.) Underw. [Gleicheniaceae]																				
	HY/HT/HAU/1628/2019	Dioscorea floribunda M. Martens & Galeotti [Dioscoreaceae]																				
	HY/HT/HAU/1685/2021	Diplazium esculentum (Retz) [Athyriaceae]																				
	HY/HT/HAU/1630/2019	Docynia indica (Wall.) Decne. [Rosaceae]																				
	HY/HT/HAU/1686/2021	Elaeagnus latifolia L. [Elaeagnaceae]																				
	HY/HT/HAU/1558/2017	Elatostema platyphyllum Wedd. [Urticaceae]																				
	HY/HT/HAU/1687/2021	Eleusine coracana (L.) Gaertn. [Poaceae]																				
	HY/HT/HAU/1745/2021	Elsholtzia blanda (Benth.) Benth. [Lamiaceae]																				
	HY/HT/HAU/1772/2021	Eremocaulon capitatum (Trin.) Londoño [Poaceae]																				
	HY/HT/HAU/1781/2021	Eryngium foetidum L. [Apiaceae]																				
	HY/HT/HAU/1632/2019																					
		Eucalyptus globulus Labill. [Myrtaceae]																				
	HY/HT/HAU/1531/2016	Fagopyrum esculentum Moench [Polygonaceae]																				
	HY/HT/HAU/1781/2022	Ficus auriculata Lour. [Moraceae]																				
	HY/HT/HAU/1713/2021	Ficus hookeriana Corner [Moraceae]																				
	HY/HT/HAU/1727/2021	Fragaria nubicola (Jindl ex Hook.f.) Lacaita [Rosaceae]																				
	HY/HT/HAU/1734/2021	Glycine max (L.) Merr. [Fabaceae]																				
	HY/HT/HAU/1779/2021	Gonostegia triandra (Blume) Miq. [Urticaceae]																				
	HY/HT/HAU/1564/2017	Gynura cusimbua (D. Don) S. Moore [Asteraceae]																				
	HY/HT/HAU/1613/2018	Houttuynia cordata Thunb. [Saurauaceae]																				
	HY/HT/HAU/1634/2019	Hydrocotyle javanica Thunb. [Araliaceae]																				
	HY/HT/HAU/1670/2020	Impatiens racemosa DC. [Balsaminaceae]																				
	HY/HT/HAU/1659/2019	Impatiens bracteolata hook.f. [Balsaminaceae]																				
	HY/HT/HAU/1753/2021																					
50		Food	Medicine; Spices and condiments	Tape	Apatani; Nyishi	L, Pe, F	Climber	Paste of rhizome is applied on incision during vasectomy and tubectomy of Piglets														
51		Food	Spices and condiments	Haldi/ Haldi	Apatani; Nyishi	Tu	Herb	Tuber is used as a condiment and its paste is applied to skin for curing skin problems														
52		Food	Spices and condiments	Tami	Apatani	WP	Herb	Burnt to make traditional Apatani salt called Tapyo														
53		Food	Medicine	Poh	Apatani	WP	Herb	The plant is put in between the hair to reduce fever and headache														
54		Food	Spices and condiments; food	Yai byapu	Apatani	Ys	Grass	Young shoots are used as vegetable, Shoots fermented are used to prepare ikhu/Hikhu/Hiyup. Stem is also used in marriage ceremony and customary Rituals														
55		Food	Medicine	Tari	Apatani	L	Herb	Leaves paste is used for curing cuts and wounds.														
56		Food	Food	Ranyi engin	Apatani; Nyishi	Tu	Climber	Consumed roasted or boiled														
57		Food	Food	Hika Hamang/ Hoka Padma	Apatani; Nyishi	WP	Herb	Consumed as a vegetable														
58		Food	Food; Beverage	Pecha	Apatani	F	Tree	Fruits are edible														
59		Food	Food	Harri ahi	Apatani	F	Shrub	Fruits are edible														
60		Food	Food	Hipe hamang/ Huj O	Apatani; Nyishi	L, S	Herb	Consumed as a vegetable														
61		Food	Food	Sarse/ Terri	Apatani; Nyishi	S, St	Herb	The ripen seeds are used to in preparation of local beverage. It is also used														
62		Food	Food	Aki Tayi	Apatani	L, Infl	Herb	Infusion of leaves used for sore throat; Leaves eaten for lowering the Blood pressure														
63		Food	Food	Yabiing	Apatani	YS	Herb	Young shoots as vegetable														
64		Food	Spices and condiments	Dhunia pata	Apatani; Nyishi	L	Herb	Small amount of leaves are mixed with vegetables or salad to enhance its taste; it is also crushed and applied to the insect stings to be cured														
65		Food	Medicine	Naru sanii	Apatani	L	Tree	Paste of Leaves used for healing cuts and wounds														
66		Food	Food	Hohu O	Nyishi	L, St	Herb	Sour in taste; consumed raw														
67		Food	Food	Taro ahi/Tao	Apatani; Nyishi	H	Tree	Ripe hypanthodium are consumed														
68		Food	Food	Saro ahi	Apatani; Nyishi	L, S	Tree	Consumed as a vegetable														
69		Food	Food	Aki Jilyung	Apatani	F	Herb	Fruits Eaten raw														
70		Food	Food	Amm perung	Apatani	S	Herb	Seeds consumed by cooking														
71		Food	Food; Medicine	Hipe Hamang/ Hogia	Apatani; Nyishi	YS	Herb	Young Leaves consumed as vegetable; leaves also used for blood clotting														
72		Food	Food; Medicine	Subu Giyyan	Apatani	L	Herb	Raw juice is consumed as a deworming agent														
73		Food	Food; Medicine	Sia Hamang/ Heya Oh	Apatani; Nyishi	WP	Herb	Tender shoots are edible														
74		Food	Food; Medicine	Hibyo hamang	Apatani	L, R	Herb	Leaves and tubers are edible Used as Vegetable and also to cure indigestion														
75		Food	Food	Aki tai Hamang/ Choyrum	Apatani; Nyishi	L	Herb	Leaves consumed as vegetable														
76		Food	Food	Aki tai Hamang	Apatani	L	Herb	Leaves consumed as vegetable														

77	<i>Ipomoea batatas</i> (L.) Lam. [Convolvulaceae] HY/HT/HAU/1728/2021		Food	Mita Aalu/Gulya/ Balo Gulya	Apatani; Nyishi	Rh	Creeper	Rhizome consumed boiled or burnt in fire							
78	<i>Ixeridium gracile</i> var. <i>gracile</i> [Asteraceae] HY/HT/HAU/1543/2016		Medicine	Kochi Hamang	Apatani	L	Herb	Consumed raw to cure stomach disorder							
79	<i>Juglans regia</i> L. [Juglandaceae] HY/HT/HAU/1765/2021		Food	Hokhw ahi	Nyishi	F	Tree	Fruit edible							
80	<i>Lagenaria siceraria</i> (Molina) Standl. [Cucurbitaceae] HY/HT/HAU/1714/2021		Food; House hold material	Yaju/ Uju	Apatani; Nyishi	F	Climber	Young fruits consumed as vegetable and older fruit is used as a jug							
81	<i>Lithocarpus</i> sp. [Fagaceae] HY/HT/HAU/1722/2021		Food	Sankhe	Apatani	F	Tree	Dried fruit is eaten raw							
82	<i>Litsea cubeba</i> (Lour.) Pers. [Lauraceae] HY/HT/HAU/1547/2017		Food; Medicine	Santu tero/ Siin teer	Apatani; Nyishi	F	Tree	Fruits consumed as condiments; also used to induce good sleep							
83	<i>Lycopodium clavatum</i> L. [Lycopodiaceae] HY/HT/HAU/1537/2016		Medicine	Sibi Lahin	Apatani	WP	creeper	Whole plant is crushed and applied to wounds and cuts for healing. Extract of the plant used to cure snake bite.							
84	<i>Malva verticillata</i> L. [Malvaceae] HY/HT/HAU/1761/2021		Food	Niyiye Hamang/ Lapha	Apatani; Nyishi	L, P	Shrub	Consumed as a vegetable							
85	<i>Manihot esculenta</i> Crantz. [Euphorbiaceae] HY/HT/HAU/1749/2021		Food	Sanii Enghe/ sangne	Apatani; Nyishi	Tu	Shrub	Tuber consumed as food							
86	<i>Melastoma malabathricum</i> L. [Melastomataceae] HY/HT/HAU/1736/2021		Food	Paku- khandu/ Aki Sanyj/ Dai dasa	Apatani; Nyishi	F	Shrub	Ripen fruit consumed raw							
87	<i>Mikania micrantha</i> Kunth [Asteraceae] HY/HT/HAU/1644/2019		Medicine	Mamii Tami/ Japan Ter/China ter	Apatani; Nyishi	L	Climber	Leaves are made into paste and applied in cuts and wounds							
88	<i>Molinieria capitata</i> (Lour). [Hypoxidaceae] HY/HT/HAU/1520/2016		Medicine	Kubu Yami/ Doye sangre	Apatani; Nyishi	Pt, Tu	Herb	Tuber paste is used for blood clotting; Paste of petiole is used for the treatment of snake bite							
89	<i>Morus nigra</i> L. [Moraceae] HY/HT/HAU/1746/2021		Food	Gende	Apatani	F	Tree	Fruit edible							
90	<i>Musa × paradisiaca</i> L. [Musaceae] HY/HT/HAU/1763/2021		Food	Kol	Apatani; Nyishi	F, In	Herb	Fruit eaten raw and inflorescence consumed as vegetable							
91	<i>Musa aurantiaca</i> G.Mann ex Baker [Musaceae] HY/HT/HAU/1773/2021		Food	Kol	Apatani; Nyishi	F, In	Herb	Fruits and Young inflorescences are edible							
92	<i>Mussaenda roxburghii</i> Hook.f. [Rubiaceae] HY/HT/HAU/1733/2021		Food	Tachar	Nyishi	L	Herb	Consume as boiled vegetable							
93	<i>Myrica esculenta</i> Buch.Ham Ex D.Don [Myricaceae] HY/HT/HAU/1721/2021		Food	Baching	Apatani	F	Tree	Fruits are edible							
94	<i>Oenanthe javanica</i> (Blume) DC. [Apiaceae] HY/HT/HAU/1575/2017		Food; Medicine	Hugu hamang	Apatani; Nyishi	L	Herb	Leaves eaten raw as vegetable and also to get relief from indigestion							
95	<i>Oryza sativa</i> L. [Poaceae] HY/HT/HAU/1789/2022		Food; Beverage	Emo/Embing/ Amm	Apatani; Nyishi	Gr	Herb	Grain consumed as staple food							
96	<i>Osbeckia chinensis</i> L. [Melastomataceae] HY/HT/HAU/1555/2017		Food; Medicine	Paku Yading	Apatani	WP	Shrub	Antitussive, antipyretic							
97	<i>Oxalis corniculata</i> L. [Oxalidaceae] HY/HT/HAU/1541/2016		Medicine	O Khui Hamang/ Powa yub/haas	Apatani; Nyishi	L, F	Herb	Leaves and fruits consumed raw to cure stomach ach							
98	<i>Paederia foetida</i> L. [Rubiaceae] HY/HT/HAU/1668/2019		Medicine	Opuaapa Pidi Taru/Yepe tere	Apatani; Nyishi	L	Herb	Leaves are made into paste to cure wounds and cuts							
99	<i>Panax arunachalensis</i> M.Taram, A.P. Das & H.Tag [Araliaceae] MT/HT/1505/2018		Medicine	Zansang	Apatani	R	Herb	Powdered rhizomes are used for treatment of chest inflammation, lung inflammation, fatigue, boil and sores, mouth ulcer and apply in cut wound.							
100	<i>Panax bipinnatifidus</i> Seemann [Araliaceae] HT/SK/HAU/1542/2017		Medicine	Zansang	Apatani	R	Herb	Rhizome are used as herbal drink as health tonic.							
101	<i>Panax bipinnatifidus</i> var. <i>angustifolius</i> (Burkill) J.Wen [Araliaceae] HT/SK/HAU/1597/2018		Medicine		Apatani	R	Herb	Ripen fruits eaten raw. Powder of slice cut rhizome are used as herbal tea to boost stamina.							
102	<i>Paris polyphylla</i> Sm. [Melanthiaceae] HT/HAU/1557/2017		Medicine	Paris/Nyoro enyi	Apatani; Nyishi	Tu	Herb	Pinch of powder are used for treatment of chest inflammation, boil and sores, mouth ulcer. Tubers are dried and consumed to cure boil and sores, skin and chest inflammation.							

		Food	Passion ahi	Apatani	F	Climber	Fruits edible
103	<i>Passiflora edulis</i> Sims [Passifloraceae] HY/HT/HAU/1791/2022	Food		Apatani		Climber	Fruits edible
104	<i>Perilla frutescens</i> (L.) Britt. [Lamiaceae] HY/HT/HAU/1762/2021	Food	Nendu/Namdu	Apatani; Nyishi	S	Herb	Ripe fruits are mixed with boiled rice and made into rice balls for children, it is also used in mixing with chilli flakes Consumed as a vegetable
105	<i>Persicaria chinensis</i> (L.) H.Gross [Polygonaceae] HY/HT/HAU/1782/2022	Food	Tohu embin	Apatani; Nyishi	L, S	Herb	Consumed as a vegetable
106	<i>Persicaria hydropiper</i> (L.) Delarbre [Polygonaceae] HY/HT/HAU/1743/2021	Poison	Pakam loram	Apatani; Nyishi	L	Herb	Used for fish Poisoning
107	<i>Persicaria nepalensis</i> (Meisn.) H.Gross [Polygonaceae] HY/HT/HAU/1744/2021	Food	Luli Hamang	Apatani	L, S	Herb	Eaten raw as a vegetable
108	<i>Phlogacanthus thuyisiformis</i> (Roxb. ex Hardw.) Mabb. [Acanthaceae] HY/HT/HAU/1674/2021	Medicine	Borta pipi	Nyishi	L	Herb	Paste of leaves used for healing snake bite and bee sting
109	<i>Phoebe cooperiana</i> P.C.Kanjilal and Das [Lauraceae] HY/HT/HAU/1642/2019	Food; Medicine	Samper	Apatani; Nyishi	F	Tree	Fruit eaten raw as a Chutney; Fruit also boiled as food and to improve liver function, relieve insomnia and high blood pressure; Consumed as chutney and used as one of the ingredients in pikey (Apatani cuisine) YS eaten either roasted or boiled
110	<i>Phyllanthus amarus</i> Roxb. [Poaceae] HY/HT/HAU/1770/2021	Food	Bije/Byapu	Apatani	YS	Grass	YS eaten either roasted or boiled
111	<i>Phyllanthus reticulata</i> (Rupr.) K.Koch [Poaceae] HY/HT/HAU/1771/2021	Food	Bije/Byapu	Apatani	YS	Grass	YS eaten either roasted or boiled
112	<i>Physalis angulata</i> L. [Solanaceae] HY/HT/HAU/1780/2022	Food	Jisu Bengna	Apatani	F	Herb	Ripen fruit consumed raw
113	<i>Phytolacca acinosa</i> Roxb. [Phytolaccaceae] HY/HT/HAU/1766/2021	Food	Uyi Tanvi hamang/ Nyet Kopa	Apatani; Nyishi	L	Herb	Consume as boiled vegetable
114	<i>Pilea insolens</i> Wedd. [Urticaceae] HY/HT/HAU/1720/2021	Food	Piiri hamang	Apatani; Nyishi	L	Herb	Leaves are cooked as vegetable
115	<i>Pinus wallichiana</i> A.B.Jack. [Pinaceae] HY/HT/HAU/1723/2021	Medicine	Pisa sanii	Apatani	Re	Tree	Resins (Sati) of the tree are used to cure heels crack
116	<i>Piper pedicellatum</i> C.DC [Pinaceae] HY/HT/HAU/1646/2019	Food	Rare/Raru Hamang/Yer O	Apatani; Nyishi	L	Herb	Leaves are edible; It is also consumed to relieve high blood pressure.
117	<i>Pisum sativum</i> L. [Fabaceae] HY/HT/HAU/1732/2021	Food	Motor/ Motor	Apatani; Nyishi	P	Herb	Pods eaten as vegetable
118	<i>Plantago asiatica</i> L. [Plantaginaceae] HY/HT/HAU/1759/2021	Food	Mepi hamang/ Mip Yoru	Apatani; Nyishi	L	Herb	Consumed as a vegetable
119	<i>Portulacca oleracea</i> L. [Portulacaceae] HY/HT/HAU/1719/2021	Food	Lai hamang	Apatani	WP	Herb	Consumed as a vegetable
120	<i>Potentilla indica</i> (Andrews) Th. Wolf [Rosaceae] HY/HT/HAU/1777/2021	Food	Subu Tute jilyung	Apatani	F	Herb	Fruit edible
121	<i>Pouzolzia hirta</i> (Blum) Blum Ex Hassak. [Urticaceae] HY/HT/HAU/1712/2021	Food	Oik Hamang	Apatani	L	Herb	Leaves consumed as vegetable
122	<i>Prunus cerasoides</i> Buch.-Ham. ex D.Don [Rosaceae] HY/HT/HAU/1729/2021	Food	Semo	Apatani	F	Tree	Fruit edible
123	<i>Prunus napaulensis</i> (Ser.) Steud. [Rosaceae] HY/HT/HAU/1711/2021	Food	Drasankha	Apatani	F	Tree	Fruit edible
124	<i>Prunus persica</i> (L.) Batsch [Rosaceae] HY/HT/HAU/1728/2021	Food	Takung/Makum	Apatani; Nyishi	F	Tree	Fruit edible
125	<i>Pseudognaphalium affine</i> (D.Don) [Asteraceae] HY/HT/HAU/1737/2021	Food	Ayo gubu tami/Miyan Hamang/Tipi yam	Apatani; Nyishi	WP	Herb	Consumed as a vegetable
126	<i>Pteridium revolutum</i> (Blume) Nakai [Dennstaedtiaceae] HY/HT/HAU/1574/2017	Medicine	Taree	Apatani	L	Herb	Leaves Juice of young or tender leaves is used to stop bleeding in minor cuts
127	<i>Pyrus communis</i> L. [Rosaceae] HY/HT/HAU/1709/2021	Food	Pinchi Naspati/ Naspati	Apatani; Nyishi	F	Tree	Fruit edible
128	<i>Pyrus pashia</i> Buch.-Ham. ex D.Don [Rosaceae] HY/HT/HAU/1755/2021	Food	Pitta ahi	Apatani	F	Tree	Fruit edible

	Quercus griffithii Hook.f. & Thomson ex Miq. [Fagaceae]	Food	Sankhe	Apatani	F	Tree	Fruits are cooked and eaten
129	<i>Quercus griffithii</i> Hook.f. & Thomson ex Miq. [Fagaceae] HY/HT/HAU/1742/2021	Food	Saii	Apatani	F	Tree	Fruits are cooked and eaten
130	<i>Quercus semecarpifolia</i> Sm. [Fagaceae] HY/HT/HAU/1707/2021	Food		Apatani	F	Tree	Fruits are cooked and eaten
131	<i>Ranunculus diffusus</i> DC. [Ranunculaceae]	Medicine	Yapung gelung	Apatani	R	Herb	Root paste applied in cuts and wound
132	HY/HT/HAU/1666/2019 <i>Rhus chinensis</i> Mill. [Anacardiaceae]	Food	Tamo	Apatani	F	Tree	Fruits are edible; Leaves are used to ferment soya bean
133	HY/HT/HAU/1698/2021 <i>Rhynchosyris elliptica</i> (Wall. Ex D. Dietr.) A.DC. [Gesneriaceae]	Food	Jok	Nyishi	L	Undershrub	Consumed as a vegetable
134	HY/HT/HAU/1706/2021 <i>Rosa multiflora</i> Thunb. [Rosaceae]	Medicine	Tarii apu	Apatani	R	Climber	Used for treating sore throat
135	HY/HT/HAU/1551/2017 <i>Rubia cordifolia</i> L. [Rubiaceae]	Medicine & Dye	Tamen	Apatani	R, L, S	Herb	Antiseptic & dyeing purpose
136	HY/HT/HAU/1577/2017 <i>Rubia manjith</i> Roxb. [Rubiaceae]	Medicine & Dye	Tiiming	Apatani	R, S	Climber	Decoction of root powder is used against cold, cough and dysentery, Stem is used as a dye for cloths
137	HY/HT/HAU/1569/2017 <i>Rubus alceifolius</i> Poir. [Rosaceae]	Food	Jilying	Apatani	F	Shrub	Ripe fruits are edible
138	HY/HT/HAU/1719/2021 <i>Rubus calycinus</i> Wall. ex D. Don [Rosaceae]	Food	Jilying	Apatani	F	Herb	Fruit edible
139	HY/HT/HAU/1730/2021 <i>Rubus ellipticus</i> Sm. [Rosaceae]	Food	Nyinkhe Jiling ayi / Jilyun	Apatani	F	Shrub	Ripe fruits are edible (Sweet)
140	HY/HT/HAU/1647/2019 <i>Rubus foliolosus</i> D. Don [Rosaceae]	Food	Jilyung	Apatani	F	Herb	Fruit edible
141	HY/HT/HAU/1718/2021 <i>Rubus lineatus</i> Reinw. ex Blume [Rosaceae]	Food	Jilyung	Apatani	F	Herb	Fruit edible
142	HY/HT/HAU/1700/2021 <i>Rubus lucens</i> Focke [Rosaceae]	Food	Jilyung	Apatani	F	Herb	Fruit edible
143	HY/HT/HAU/1710/2021 <i>Rubus mollicanus</i> L. [Rosaceae]	Food	Jilyung	Apatani	F	Shrub	Ripe fruits are edible (Sweet)
144	HY/HT/HAU/1726/2021 <i>Rubus niveus</i> Thunb [Rosaceae]	Food	Mitido jelo/ Jikho jilyung/ Chib rupum	Apatani	F	Shrub	Ripe fruits are edible (Sweet)
145	HY/HT/HAU/1708/2021 <i>Rubus paniculatus</i> Sm. [Rosaceae]	Food	Jilyung	Apatani	F	Shrub	Fruit edible
146	HY/HT/HAU/1725/2021 <i>Rubus rosifolius</i> Sm. [Rosaceae]	Food	Hitungbulung	Apatani	F	Shrub	Fruit edible
147	HY/HT/HAU/1705/2021 <i>Rumex crispus</i> L. [Polygonaceae]	Food; Medicine	Tajang Lyiho	Apatani	L	Herb	Leaf past is applied on burnt skin; Leaves cooked as vegetable
148	HY/HT/HAU/1655/2019 <i>Saccharum officinarum</i> L. [Poaceae]	Food	Tabey Akho/ Tabh	Apatani; Nyishi	St	Grass	The stem is chewed to enjoy its sweetness
149	HY/HT/HAU/1696/2021 <i>Sageretia filiformis</i> (Roth) G. Don [Rhamnaceae]	Medicine	Miji	Apatani	S	Tree	Fumes of stem is used to cure corn
150	HY/HT/HAU/1583/2017 <i>Schefflera</i> sps. [Araliaceae]	Food	Sankoo	Apatani	F	Tree	it is cooked as a pike an Apatani delicacy
151	HY/HT/HAU/1695/2021 <i>Senna alata</i> (L.) Roxb. [Fabaceae]	Medicine	kra pat	Apatani	L	Tree	Juice of leaves use for relieve from itching
152	HY/HT/HAU/1565/2017 <i>Solanum aethiopicum</i> L. [Solanaceae]	Food; Medicine	Byako/ Byak	Apatani; Nyishi	F	Herb	Fruits are boiled and consumed as Chutney or vegetable
153	HY/HT/HAU/1653/2019 <i>Solanum aculeastrum</i> Dunal [Solanaceae]	Medicine	Siiti Byako	Apatani; Nyishi	F	Herb	Fruit is chewed between the
154	HY/HT/HAU/1663/2019 <i>Solanum lycopersicum</i> L. [Solanaceae]	Food	Tomator	Apatani; Nyishi	F	Herb	Consumed as a vegetable
155	HY/HT/HAU/1696/2021 <i>Solanum melongena</i> L. [Solanaceae]	Food	Byayun/ Bayom	Apatani; Nyishi	F	Herb	Consumed as a vegetable
156	HY/HT/HAU/1695/2021 <i>Solanum nigrum</i> L. [Solanaceae]	Food; Medicine	Hiro Hamang/ Hor O	Apatani; Nyishi	L	Herb	Leaves are edible; Leaves are also taken orally for dysentery and also warmed leaves are applied on bruises

	Solanum torvum Sw. [Solanaceae] HY/HT/HAU/1694/2021	Food	Pata Byak	Apatani; Nyishi	F	Herb	Tender shoots are edible
157							
158	<i>Solanum tuberosum</i> L. [Solanaceae] HY/HT/HAU/1652/2019	Food	Aalu	Apatani; Nyishi	Tu	Herb	Tubers are either roasted, boiled or fried and taken as food
159	<i>Solanum vitarum</i> Dunal [Solanaceae] HY/HT/HAU/1693/2021	Medicine	Tare	Apatani	F	Herb	Young fruits are chewed between the tooth to relieve toothache
160	<i>Solena heterophylla</i> Lour. [Cucurbitaceae] HY/HT/HAU/1508/2016	Food	Jojuru	Apatani	F	Creeper	Ripen fruit consumed raw
161	<i>Sonchus arvensis</i> L. [Solanaceae] HY/HT/HAU/1674/2020	Medicine	Kochi Hamang	Apatani; Nyishi	L	Herb	Consumed raw against stomach pain
162	<i>Sonchus brachyotus</i> DC. [Asteraceae] HY/HT/HAU/1673/2020	Medicine	Kochi/ Pakuharbu hamang	Apatani; Nyishi	L	Herb	Consumed raw to cure stomach disorder
163	<i>Sonchus oleraceus</i> L. [Asteraceae] HY/HT/HAU/1602/2018	Medicine	Kochi hamang	Apatani; Nyishi	L	Herb	Consumed raw to cure stomach disorder
164	<i>Strobilanthes helicta</i> T. Anderson [Acanthaceae] HY/HT/HAU/1692/2021	Food	Tagging Hamang	Apatani	YL	Herb	Cooked to consume as a vegetable
165	<i>Suaertia chirajita</i> (Roxb.) H. Karst. [Gentianaceae] HY/HT/HAU/1566/2017	Medicine	Chirata	Apatani	WP	Herb	Whole plant Decoction of the dried plant is taken in malarial fever and cold. It is also used as anthelmintic.
166	<i>Taxus wallichiana</i> Zucc. [Taxaceae] HY/HT/HAU/1512/2016	Medicine	Talley Noori	Apatani	B	Tree	Bark oil is used to cure cancer
167	<i>Thladiantha cordifolia</i> (Blume) Cong. [Cucurbitaceae] HY/HT/HAU/1633/2019	Medicine	Riiko/ Riik	Apatani; Nyishi	St	Climber	Treatment of various ailments viz., fever, stomach problem and debility
168	<i>Thladiantha ziroensis</i> Yanka H. & Arup K. Das [Cucurbitaceae] HY/AKD/HAU/008/2017	Medicine	Riiko/ Riik	Apatani; Nyishi	St	Climber	Treatment of various ailments viz., fever, stomach problem and debility
169	<i>Trichosanthes tricuspidata</i> Lour. [Cucurbitaceae] HY/HT/HAU/1631/2019	Medicine	Bullungkoa	Apatani	F	Climber	Used for curing boils and sore
170	<i>Viburnum foetidum</i> Wall. [Viburnaceae] HY/HT/HAU/1724/2021	Food	Yoyu	Apatani	F	Shrub	Fruits eaten raw
171	<i>Vigna unguiculata</i> (L.) Walp. [Fabaceae] HY/HT/HAU/1690/2021	Food	Obyo perung	Apatani	F	Herb	Fruits are edible either boil or fry
172	<i>Zanthoxylum acanthopodium</i> DC. [Rutaceae] HY/HT/HAU/1664/2019	Medicine; Spices and condiments	Yorkhung/ Honam	Apatani; Nyishi	F	Tree	Used to cure cough, fever; it is also used as spice and condiment
173	<i>Zanthoxylum armatum</i> D.C [Rutaceae] HY/HT/HAU/1665/2019	Medicine; Spices and condiments	Yorkhung/ Honam	Apatani; Nyishi	F	Tree	Used to cure cough, fever; it is also used as spice and condiment
174	<i>Zanthoxylum rhesa</i> (Roxb.) DC. [Rutaceae] HY/HT/HAU/1688/2021	Spices and condiments	Tare Hamang/ Honyor	Apatani; Nyishi	L	Tree	Used as a traditional spice and condiment
175	<i>Zanthoxylum rhesa</i> (Roxb.) DC. [Rutaceae] HY/HT/HAU/1661/2019	Spices and condiments	Tare Hamang/ Honyor	Apatani; Nyishi	L	Creeper	Used as a traditional spice and condiment
176	<i>Zea mays</i> L. [Poaceae] HY/HT/HAU/1560/2017	Food	Tanyi/ Top	Apatani; Nyishi	C, St	Herb	Corn is boiled or roasted in the fire to consume
177	<i>Zingiber officinale</i> Roscoe; [Zingiberaceae] HY/HT/HAU/1533/2018	Medicine; Spices and condiments	Taki/ Takeh/ Takeng	Apatani; Nyishi	Rh	Herb	Used for curing cough and sore throat; it is also used as a spice and condiments

5. Conclusion

Present study reported ethnobotanical uses of 177 species of both cultivated and wild edible food and medicinal flora from Apatani and Nyishi biocultural landscape of Lower Subansiri district of Arunachal Pradesh. These ethnobotanical species were found as a main source of food and medicinal security among the marginal farmers mainly comprises of womenfolk living in the rural and semi-urban localities. The ethnobotanical species frequently harvested and sold in the markets have been reported to have high demand in traditional food and medicinal preparation of the Nyishi and Apatani tribe. Conservation of community forest and spreading awareness on traditional utilization knowledge will help in conservation and sustainable utilization of the wild ethnobotanical species of high commercial significance.

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Authors' contribution

The first author (HY) conducted the field survey, developed draft manuscript. Second and third authors (PKH and HT) designed the methodology and finalized the manuscript.

Conflict of interest

Authors have no conflict of interests.

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