



The Journal of Threatened Taxa (JoTT) is dedicated to building evidence for conservation globally by publishing peer-reviewed articles online every month at a reasonably rapid rate at www.threatenedtaxa.org. All articles published in JoTT are registered under [Creative Commons Attribution 4.0 International License](#) unless otherwise mentioned. JoTT allows unrestricted use, reproduction, and distribution of articles in any medium by providing adequate credit to the author(s) and the source of publication.

Journal of Threatened Taxa

Building evidence for conservation globally

www.threatenedtaxa.org

ISSN 0974-7907 (Online) | ISSN 0974-7893 (Print)

COMMUNICATION

AN INVENTORY OF THE NATIVE FLOWERING PLANTS IN EAST SIANG DISTRICT OF ARUNACHAL PRADESH, INDIA

Momang Taram, Dipankar Borah, Hui Tag & Ritesh Kumar Choudhary

26 December 2020 | Vol. 12 | No. 17 | Pages: 17299–17322

DOI: 10.11609/jott.6241.12.17.17299-17322



For Focus, Scope, Aims, Policies, and Guidelines visit <https://threatenedtaxa.org/index.php/JoTT/about/editorialPolicies#custom-0>

For Article Submission Guidelines, visit <https://threatenedtaxa.org/index.php/JoTT/about/submissions#onlineSubmissions>

For Policies against Scientific Misconduct, visit <https://threatenedtaxa.org/index.php/JoTT/about/editorialPolicies#custom-2>

For reprints, contact <ravi@threatenedtaxa.org>

The opinions expressed by the authors do not reflect the views of the Journal of Threatened Taxa, Wildlife Information Liaison Development Society, Zoo Outreach Organization, or any of the partners. The journal, the publisher, the host, and the partners are not responsible for the accuracy of the political boundaries shown in the maps by the authors.

Member



Publisher & Host





An inventory of the native flowering plants in East Siang District of Arunachal Pradesh, India

Momang Taram¹ , Dipankar Borah² , Hui Tag³ & Ritesh Kumar Choudhary⁴

^{1,3}Department of Botany, Rajiv Gandhi University, Rono Hills, Itanagar, Arunachal Pradesh 791112, India.

²Department of Botany, Goalpara College, PO & District Goalpara, Assam 783101, India.

⁴Biodiversity & Palaeobiology (Plants & Diatoms) Group, Agharkar Research Institute, G.G. Agarkar Road, Pune, Maharashtra 411004, India.

¹momangtaram9@rgu.ac.in, ²dipankar.borah@rgu.ac.in, ³huitag2008rgu@gmail.com,

⁴rkchoudhary@aripune.org (corresponding author)

Abstract: The present study is an outcome of floristic surveys of East Siang District of Arunachal Pradesh, carried out during 2016–2019, and also a compilation of earlier published reports. Vegetation analysis of this area along with a checklist of 508 taxa is presented. A total of 503 species, one subspecies and four varieties of native flowering plants belonging to 348 genera and 102 families are reported. Among these, 11 taxa are endemic to India, two Critically Endangered, one Vulnerable, one Near Threatened, two Data Deficient, and others either Least Concern or Not Evaluated as per IUCN criteria. The study also documents two new distributional records for the flora of Arunachal Pradesh, and range extension of six lesser-known endemic species. The most dominant families were found to be Poaceae (27 species), followed by Lamiaceae (23 species), Gesneriaceae (22 species), and Rubiaceae (20 species). The number of new taxa described from the region, endemism, and the Red Listed plants strongly reflect the floristic importance of the region, which is in dire need of conservation.

Keywords: Checklist, conservation, endemism, Himalayan flora, northeastern India, taxonomy.

Abstract (in Adi language): Ager Sim East Siang District Arunachal Pradesh lo 2016 – 2019 Ditag delo Ito. East Siang lo deddine nesi - neyang em pado, ajokon ee Tani gidangso India petom lo Kapanekom kado delokke akon akon ee Arunachal Pradesh lok East Siang Goralok nyomrang kider petom lo panekom kado. Ditag anyi aum solo East Siang lok Nesi-Neyang Researchers kider ee deddine ani-ani neyang em report delokke new species discoveries em itung. Deddine angu angu kangki kangki manam nesi- neyang em padoaai idola ajo kon nesi neyang kider si nyoknam lo adung aipe kajun tatjun la bulum ijun mamil apena ditag kider lo bulu tani among holok nyoknam lo kadung. Nesi Neyang si Tani ngolum delokke Simon-sili, Takom-taruk lope ager abido. Donam tiinam lokke ila dungkeng - dakkeng, kusureng dadi lope ager amangko kamango. Bulu mai ngoluk turkeng ngakeng em bilenne ila bulum ngolukom ayang pe ido delokke atel kokom tani among sok nyokmo mape aido. Ngolu east siang monam lo magola ditag aum 508 Nesi- Neyang ko kalen malen la atlendung. Akokom nyomrang kider em gairupe mamil deddine malen penam ee kadungaai.

Editor: K. Haridasan, Pallavur, Palakkad, Kerala, India.

Date of publication: 26 December 2020 (online & print)

Citation: Taram, M., D. Borah, H. Tag & R.K. Choudhary (2020). An inventory of the native flowering plants in East Siang District of Arunachal Pradesh, India. *Journal of Threatened Taxa* 12(17): 17299–17322. <https://doi.org/10.11609/jott.6241.12.17.17299-17322>

Copyright: © Taram et al. 2020. Creative Commons Attribution 4.0 International License. JoTT allows unrestricted use, reproduction, and distribution of this article in any medium by providing adequate credit to the author(s) and the source of publication.

Funding: Self-financed, freelance work.

Competing interests: The authors declare no competing interests.

Author details: MOMANG TARAM, a PhD scholar, has authored more than 20 research articles and has described 10 taxa new to science. She is involved in two major projects 'Biocultural studies of the Adi tribe in Arunachal Pradesh' and 'Revision of the family Gesneriaceae in Arunachal Pradesh'. DIPANKAR BORAH has authored several research articles and has described 11 taxa new to science. He is interested in native and endemic vascular flora of northeastern India as well as ethnobotany of the region. His current research project is 'Enumeration of the biodiversity of Behali Reserve Forest, Biswanath, Assam.' HUI TAG has been involved in biocultural studies of the ethnic communities of Arunachal Pradesh. He is also working in the field of nutraceutical and drug discovery targeting some medicinal plants. RITESH KUMAR CHOUDHARY has worked on the flora of all four biodiversity hotspots of India, and also in Vietnam and Korea. He has described 12 new plant species, authored three books and more than 70 research papers. He is actively engaged in resolving the taxonomy and phylogeny of plants using molecular data. He has been recently nominated for Prof. V.V. Sivarajan Gold Medal by Indian Association of Plant Taxonomy for his contribution to the field of plant taxonomy.

Author contribution: MT, DB, HT, and RKC conceptualized the research. MT and DB carried out the field work. All authors contributed in data compilation, analysis and writing of the manuscript.

Acknowledgements: We are thankful to: Mr. Ojar Taku, for his help during field visits; Prof. Abhaya Prasad Das for his valuable insights in identification, and taxonomic inputs; and the authorities of Rajiv Gandhi University to carry out this work. RKC thanks the Director, Agharkar Research Institute for facilities. Comments received from the anonymous reviewers are also acknowledged.



INTRODUCTION

Northeastern India is situated in the transition zone between the Himalayan and Indo-Burma global biodiversity hotspots (Olson & Dinerstein 1998). The region has a long international boundary of about 2,000km with China and Bhutan in the north, Myanmar in the east, Nepal in the west, and Bangladesh in the south-west; it harbours more than one-third of the country's total biodiversity and 50% of the floral wealth (Takhtajan 1969). Arunachal Pradesh is the largest among the seven administrative states of northeastern India, covering an area of about 83,700km², of which 82% is under forest cover. It hosts a rich floral and faunal diversity due to its physiographic variation of elevations ranging 150–6,500 m and unique climatic conditions (Chakravarty et al. 2012; Taram et al. 2018). The vegetation ranges from tropical mixed and broadleaf evergreen forest to alpine meadow and scrubs (Singh & Singh 1991), and comprises many hill ranges such as Mishmee Hills, Abor Hills, Patkai Hills, Dafla Hills, and Aka Hills. The study area of East Siang is an important administrative district of Arunachal Pradesh and part of the erstwhile Siang frontier division. It also falls under the Abor Hills of the eastern Himalaya. In 1980, Siang frontier division was bifurcated into two districts namely West Siang and East Siang, headquartered at Along and Pasighat, respectively. In 1994, East Siang District was further divided into Upper Siang and East Siang, and in 2015 and 2017 Siang and Lower Siang districts were separated from East Siang. East Siang District is a mountainous area with river plains as well as rocky slopes and has a total area of 3,603km², lying approximately between 27.71 and 28.85 North latitudes and 94.70 and 95.58 East longitudes (Figure 1).

Griffith (1836), carried out the first floristic work in the Abor and Mishmi Hills, and published the 'Flora of Mishmi Hills'. With the advent of the 20th Century, many more plant explorations were carried out resulting in significant publications such as 'On the botany of Abor Expedition' by Burkill (1925); 'Botanical exploration in the Mishmi Hill' by Ward (1929), 'Observation of the Flora of Siang Frontier Division' by Rao & Joseph (1965), 'Floristic diversity assessment and vegetation analysis of Upper Siang District of Eastern Himalaya' by Choudhary (2008a,b), and Choudhary et al. (2012). Moreover, several studies on the taxonomy and ethnobotany of the plants of the region were also published (Tag et al. 2008; Singh et al. 2011; Yumnam et al. 2011; Yumnam & Tripathi 2013; Baruah et al. 2013; Boko & Narsimhan 2014; Mibang & Das 2017) which documented more

than 300 ethnobotanically useful plant species present in the Siang belt. Considering its floristic richness, a large chunk of this district was demarcated as the erstwhile Lali Reserve Forest, which was notified as Lali Wildlife Sanctuary in 1978 and subsequently renamed Daying Ering (D'Ering) Memorial Wildlife Sanctuary in 1986.

Although the general floristic account of the region was documented in several scattered publications, a comprehensive checklist for this important area highlighting the endemic and native species was not available. The recent discovery and documentation of several new species and new records (Jeyaprakash et al. 2014; Gogoi & Borah 2015; Tatum & Das 2016; Nangkar et al. 2017; Borah & Das 2018; Borah et al. 2018, 2020a,b; Taram & Borah 2020; Taram et al. 2020a,b,c,d,e) from the East Siang District and other districts of Arunachal Pradesh and its neighbouring regions, highlights the rich biodiversity of the area and warrants more exploration and research. The present study is, therefore, aimed to provide an updated checklist of the native flowering plants of East Siang District. It also provides information on the endemic and Red list plant species (IUCN 2020) distributed in the area, based on the field surveys and scrutiny of herbarium collections and published literature.

METHODS

Several field surveys of different localities of East Siang District were carried out from April 2016 to December 2019, covering most vegetation types and different elevations. The plant specimens collected were photographed in the field, press dried and mounted on herbarium sheets following standard methods (Jain & Rao 1977). Nomenclature was followed using online databases (POWO 2019; Tropicos 2020; WFO 2020) and classified as per Angiosperm Phylogeny Group system, APG IV (Chase et al. 2016). Identification was done using relevant literature (Hooker 1872; Kanjilal et al. 1934; Hajra et al. 1996; Chauhan et al. 1996; Giri et al. 2008; Chowdhery et al. 2009; Ambrish 2013) and scrutiny of the herbarium specimens housed in ASSAM, ARUN, HAU, North East Institute of Folk Medicine (NEIFM), Pasighat and several virtual herbaria like K, E, PE, etc. Information on the conservation status was noted following the International Union for Conservation of Nature (IUCN 2020) Red List. The voucher specimens were deposited in HAU (Herbarium of Rajiv Gandhi University, Arunachal Pradesh). The field number of the specimens scrutinized at the herbarium of North East Institute of Folk Medicine

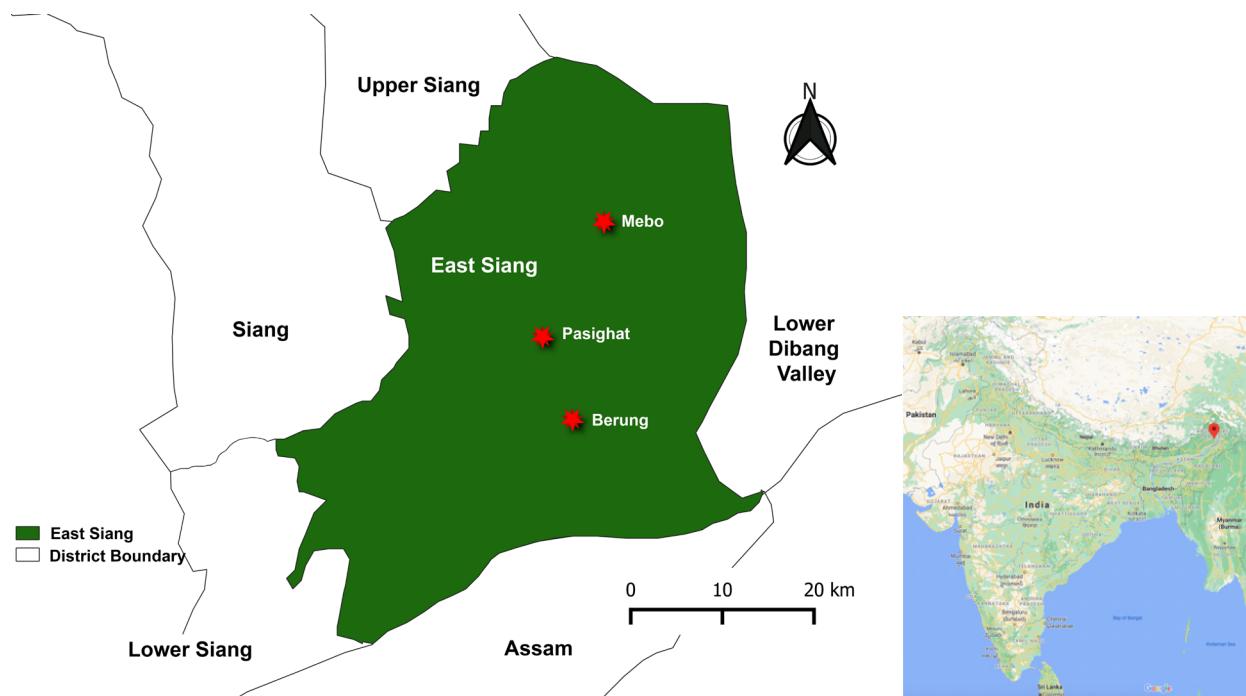


Figure 1. East Siang District.

(NEIFM), Pasighat, Arunachal Pradesh, are prefixed with NEIFM in the Appendix 1.

RESULTS AND DISCUSSION

The structure and composition characteristics of the flora of East Siang District can be classified into two major climatic zones and five vegetation zones following the earlier classification pattern proposed by Champion & Seth (1968) and Kaul & Haridasan (1987) (Image 1; Table 1). These are discussed below:

Tropical forest

This type of vegetation can be mainly seen in the area of lower elevation such as Pasighat, Ruksin, Balek, Ledum, Magnang, Sille, Rani, Bilat, Mebo, Ngopok, Kiyit up to an altitude of 900m. This forest is characterized by tall trees with close canopy and receives heavy rainfall during monsoon season. The lower elevation areas of the district are occupied by tree species like *Gynocardia odorata*, *Liquidambar excelsa*, *Trevesia palmata*, *Garcinia pedunculata*, *Terminalia myriocarpa*, *Dillenia indica*, *Actinodaphne obovata*, *Cinnamomum bejolghota*, *Litsea glutinosa*, *Litsea monopetala*, *Duabanga grandifolia*, *Magnolia hodgsonii* etc. A large chunk of this forest is being invaded by exotic weeds like *Ageratum houstonianum*, *Chromolaena odorata*, *Cuscuta cassyoides*, *Mikania micrantha*, and *Paederia foetida* (not included in the present checklist). Many common species of bamboos and orchids can also be found throughout these forests. The tropical forest of the district can be further divided into three subtypes:

A. Grasslands: The grasslands are found in the alluvial soils of the Siang River basin. Daying Ering Memorial Wildlife Sanctuary of this district occupies mostly this vegetation. Several scattered trees are also found in the areas, though the diversity is very less. *Carex baccans*, *Oplismenus burmanni*, *Erioscirpus comosus*, *Themeda villosa*, *Saccharum spontaneum*, *Saccharum arundinaceum*, *Phragmites karka*, and *Thysanolaena latifolia* are the most commonly found grasses and sedges as well as a few grassland orchids such as *Pachystoma pubescens* are also found.

B. Tropical semi-evergreen forest: This type of forest can be encountered in Sirki, Bodak, Ponging, and adjacent areas, which are dominated by trees like *Cordia dichotoma*, *Duabanga grandiflora*, *Ficus auriculata*, *F. crassiramea*, and *Toxicodendron hookerii*. In the next storey, *Maesa indica*, *Abroma augustum*, *Leea indica*, *Mussaenda glabra*, *Buddleja asiatica*, *Coffea bengalensis*, *Saurauia sinohirsuta*, *Sabicea lanceolata*, and several species of wild *Citrus* can be commonly found. The ground storey is composed of herbs like *Viola betonicifolia*, *Lobelia nummularia*, *Persicaria capitata*, and *P. hydropiper*.

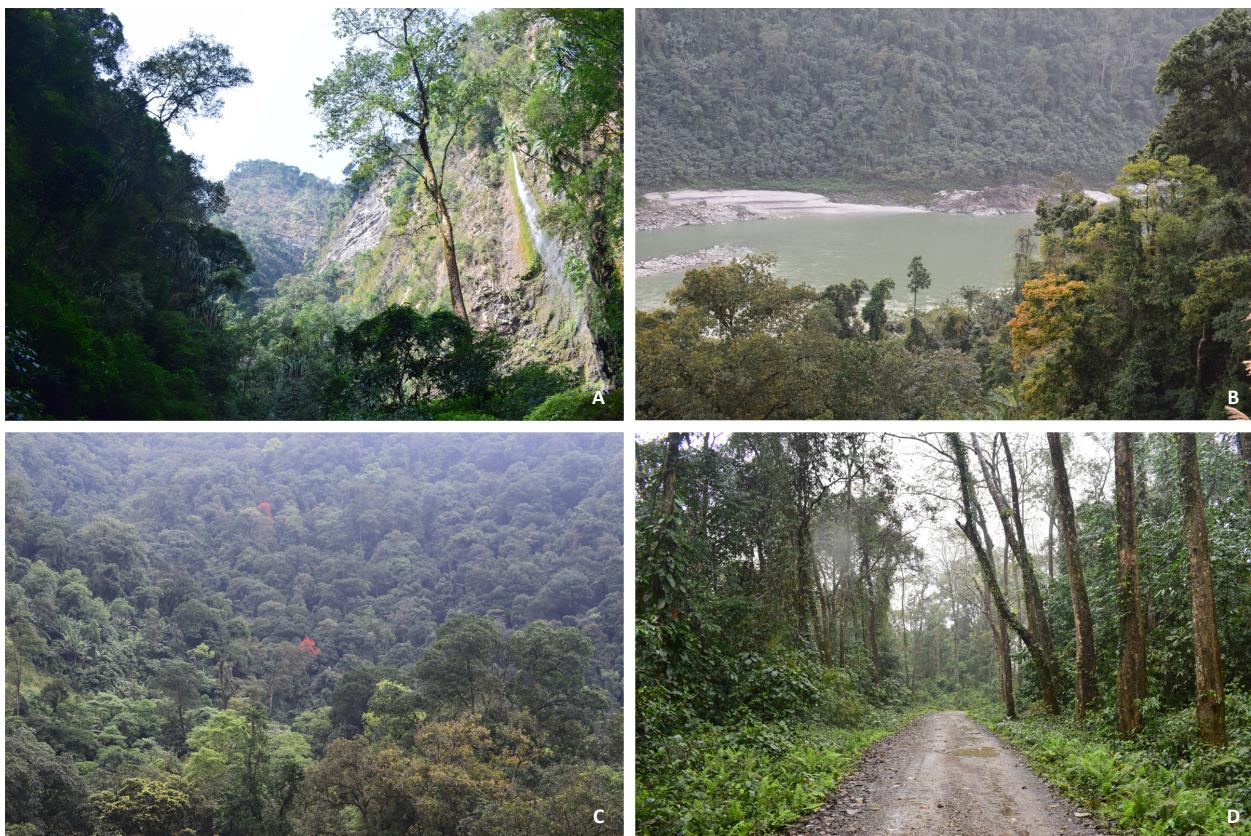


Image 1. Different habitat types of East Siang District: A—perennial waterfall at Sirki | B—evergreen forest along the Siang river basin | C—dense tropical forests at Pasighat | D—open tropical forests at Ruksin. © Dipankar Borah

Table 1. Major climatic and vegetation zones of East Siang District.

Climatic zone	Vegetation zone	Champion & Seth (1968)	Altitudinal range (in m)
1. Tropical	Grasslands	Unclassified	alluvial plains
	Tropical semi-evergreen	2/B/C1/la, 2/B/C1b/ISI	near alluvial plains
	Tropical evergreen	1/B/C1, 1/B/C2	up to 600
	Tropical wet evergreen	8/B/C1	up to 900
2. Subtropical	Subtropical evergreen	3C3/Bb, 3C/IS2	900–1500

C. Tropical evergreen forest: This type of forest can be seen in most of the areas of the district such as Renging, Ledum, Mikong, and Pasighat. Due to heavy rainfall in the area, luxuriant growth of the tropical flora can be seen. The common tree species of this forest are *Actinodaphne obovata*, *Alstonia scholaris*, *Artocarpus lacucha*, *Callicarpa arborea*, *Canarium strictum*, *Litsea monopetala*, *Wallichia oblongifolia*, *Trevesia palmata*, *Rhus chinensis*, *Liquidambar excelsa*, *Morus macroura*, *Ficus semicordata*, *F. tinctoria*, *F. variegata*, and *F. virens*. The second storey, however, comprises of *Saurauia punduana* and *Litsea cubeba*. Epiphytic plants like *Aeschynanthus micranthus*, *A. acuminatus*, *A. superbus*,

Thunbergia coccinea, and *Dischidia bengalensis* are also common. The ground storey comprises of *Brachystemma calycinum*, *Hellenia speciosa*, *Phrynum pubinerve*, *Alpinia nigra*, *Curculigo capitulata*, and several others.

D. Tropical wet evergreen forest: These forests receive comparatively high rainfall (ca. 2,000mm or more) and the temperature ranges from 10–30 °C. These forests harbour the most diverse flora in the district comprising of three storeys. Ruksin, Rani, Sile, and Magnang host such forests where the elevation is very low compared to the other areas of the district. Being mostly plains, the regions are most prone to deforestation for agriculture, and hence large chunks of

such forests are under threat. A lot of tall tree species with close canopy can be seen growing luxuriantly in these areas. The commonest tree species of this storey are *Castanopsis indica*, *Chisocheton cumingianus*, *Toona hexandra*, *Aesculus assamica*, *Garcinia pedunculata*, *Balakata baccata*, *Gmelina arborea*, and *Bauhinia variegata*. Whereas the second storey comprises of small trees, lianas, and shrubs like *Saurauia napaulensis*, *S. armata*, *Fissistigma polyanthum*, *F. bicolor*, *Entada phaseoloides*, *Dalhousiea bracteata*, *Phlogacanthus curviflorus*, *Aralia armata*, *Caryota urens*, and *Calamus erectus*. The rich epiphytic flora can be seen holding the branches of the tree species in the area. Some of the common orchids of this forests are *Cymbidium aloifolium*, *Dendrobium aphyllum*, *D. nobile*, and *D. lasiopetalum*. The herbaceous flora of this area includes *Bonnaya antipoda*, *Lobelia zeylanica*, *Cynoglossum wallichii*, and several Begoniaceae, Balsaminaceae, & Zingiberaceae members.

Subtropical forest

This type of forest can be occasionally seen in the northern and eastern parts of the district, on high hilltops. Most of these forests lie at elevations of 900m and above. The elevational gradient plays a significant role in vegetation composition of the forest and a subtle change in the floristic composition can be observed in the areas. The ground storey is composed of various species of Urticaceae (e.g., *Elatostema*, *Pilea*, and *Boehmeria*), *Paris polyphylla*, *Wallichia triandra*, *Argostemma verticillatum*, *Phlogacanthus vitellinus*, *Zeuxine flava*, *Cheirostylis parvifolia*, even *Ficus hederacea*, and *Hencckelia mishmiensis* are seen growing luxuriantly on the rocky walls. The top storey comprises of sporadic distribution of *Phoenix rupicola*, *Pandanus furcatus*, and *Pterospermum lanceifolium*.

The present study documents a wide range of flowering plant diversity of East Siang District and altogether reports 503 species, one subspecies and four varieties, representing 348 genera belonging to 102 families (Appendix 1). The most species-rich families are Poaceae (27 species), Lamiaceae (23 species), Gesneriaceae (22 species), Rubiaceae (20 species), Fabaceae, Acanthaceae, Orchidaceae (19 species each), and Moraceae (18 species) (Appendix 1).

New records for the flora of Arunachal Pradesh

The present study documents two interesting species which were never recorded from Arunachal Pradesh. A brief taxonomic description of these species is given below to facilitate their easy identification:

Table 2. Ten dominant families of East Siang District.

	Family	No. of genera	No. of species
1	Poaceae	21	27
2	Lamiaceae	15	23
3	Gesneriaceae	08	22
4	Rubiaceae	17	20
5	Fabaceae	18	19
6	Orchidaceae	17	19
7	Acanthaceae	10	19
8	Moraceae	05	18
9	Urticaceae	09	15
10	Malvaceae	10	13

Mycetia mukerjiana Deb & Ratna Dutta (Image 2A–D)

Mycetia mukerjiana can be distinguished from its closely allied species *M. fangii* K.J.Yan & Z.Q.Song by its eglandulose calyx (vs. glandulose calyx), calyx lobes sub-equal to the corolla (vs. calyx lobes much shorter than the corolla), and longer bracts and bracteoles (Yan et al. 2016). *M. mukerjiana* was known so far from Assam, Mizoram, and Nagaland states of India and Bangladesh (Das & Rahman 2010; Chaturvedi et al. 2011; Barbhuiya et al. 2014), but never from Arunachal Pradesh. It was collected from Sirki area of East Siang District of Arunachal Pradesh during our floristic survey.

Specimens examined: (MT2075) (HAU), 06.vii.2018, 28.103N & 95.267E; 500m, India, Arunachal Pradesh, East Siang, Pasighat, Sirki.

Citrus indica Yu. Tanaka (Image 2E–I)

Citrus indica can be recognized from other *Citrus* species growing in the region by its unifoliate leaves, 5–7 pairs of prominent secondary veins, globose to ovoid fruits, depressed-obtuse at apex, deep orange to scarlet red when ripe, thin pericarp, as well as soft and thin mesocarp, 8–11 endocarp segments, polygonal pulps, sticky and yellow as well as 5–7 flattened, ovoid seeds per fruit. It was so far known from Assam, Manipur, Meghalaya and Nagaland (Borah et al. 2018b) but never from Arunachal Pradesh. During the present study, it was collected from Pasighat area of East Siang District.

Specimens examined: (MT2074) (HAU), 28.063N & E 95.324E; 180m, 24.iv.2019, India, Arunachal Pradesh, East Siang, Pasighat.

Endemism and range extension

Within the investigated regions, 11 species endemic to India were recorded. Out of which, five species are narrowly endemic to East Siang District of Arunachal



Image 2. New records for the flora of Arunachal Pradesh. (A–D)—*Mycetia mukerjiana* Deb & Ratna Dutta: A—leaf | B—inflorescence | C—flower-top view | D—open flower showing stamens. (E–I)—*Citrus indica* Yu. Tanaka: E—leaf | F & G—flower | H—fruit | I—seed. © Dipankar Borah

Pradesh, and six endemic to the eastern Himalaya (Appendix 1). Among these, new distribution localities were recorded for two endemic species. Their details are as follows:

(1) *Hornstedtia arunachalensis* S. Tripathi & V. Prakash (Zingiberaceae) described from Papum Pare District of Arunachal Pradesh (Tripathi & Prakash 1999) was recorded during the present investigation from Sirki, East Siang District, extending its known range by 200km (Image 3E).

(2) *Henckelia mishmiensis* (Debb. ex Biswas) D.J. Middleton & Mich. Möller, earlier known only from Mishmi Hills of Arunachal Pradesh (Sinha & Dutta 2016), was recorded during the present investigation from Pasighat and Bodak of East Siang District, extending its known range by 100km (Image 3D).

Moreover, four species reported from only one or

two locations in Arunachal Pradesh from India and few other neighbouring countries were also recorded in the present study, extending their present known range to some extent. These are:

(1) *Lysionotus gamosepalus* W.T.Wang: Earlier reported only from Lohit and Upper Siang districts of Arunachal Pradesh from India (Akhil et al. 2019; Taram et al. 2020a), is also reported here from Pasighat of East Siang District (Image 3A). It is also distributed in China (POWO 2019).

(2) *Rhynchotechum parviflorum* Blume: So far known from Upper Siang District of Arunachal Pradesh (Taram et al. 2020d) and Andaman & Nicobar Islands in India (POWO 2019) is reported here from Sirki of East Siang District. Its distribution extends to New Guinea (POWO 2019).

(3) *Wallichia triandra* (J. Joseph) S.K.Basu: Earlier

Table 3. Rare and threatened plants recorded from the study area.

	Species name	Family	IUCN status
1	<i>Sauraia punduana</i> Wall.	Actinidiaceae	CR
2	<i>Larsenianthus arunachalensis</i> M. Sabu, Sanoj & Rajesh Kumar	Zingiberaceae	CR
3	<i>Piper pedicellatum</i> C.DC	Piperaceae	VU
4	<i>Phoenix rupicola</i> T.Anderson	Arecaceae	NT
5	<i>Zingiber zerumbet</i> (L.) Roscoe ex Sm.	Zingiberaceae	DD
6	<i>Amomum subulatum</i> Roxb.	Zingiberaceae	DD

reported only from Anjaw and Lohit District of Arunachal Pradesh (Henderson 2007) is reported here from Sirki of East Siang District. It is also distributed in China (POWO 2019).

(4) *Sauraia sinohirsuta* J.Q. Li & Soejarto: So far known from Upper Siang District of Arunachal Pradesh in India (Taram & Borah 2020) is reported here from Sirki of East Siang District. It is also distributed in China (POWO 2019).

Conservation

Out of the 508 taxa reported during this study, 108 species are designated under ‘Least Concern’, whereas most of them belong to ‘Not Evaluated’ category following IUCN 2020. Some rare and threatened plants recorded from the study area are listed in Table 3 along with their IUCN status.

Plants of medicinal and economic importance

During the present study it was found that 20 species (3.9%) are used to formulate different forms of traditional medicine, 126 species (24.8%) are edible, and 362 (71.3%) plants have no known uses (Appendix 1). Most of recorded usage show similarity to the earlier reports (Tag et al. 2008; Singh et al. 2011; Yumnam et al. 2011; Baruah et al. 2013; Yumnam & Tripathi 2013; Boko & Narsimhan 2014), except *Hornstedtia arunachalensis* S. Tripathi & V.Pakash, *Helixanthera parasitica* Lour., *Curculigo prainiana* (Deb) Bennet & Raizada, *Rhynchotechum obovatum* (Griff.) B.L.Burtt, *Rhynchotechum parviflorum* Blume, *Brachystemma calycinum* D.Don and *Balanophora dioica* R. Br. ex Royle, which are new ethnobotanical records for the region.

Excluded taxa

Several studies conducted by Jeyaprakash K. (<https://orcid.org/0000-0001-8780-3487>) during 2015-2017 on the floristic diversity of East Siang District are not cited here complying with the journal’s policy of curbing

publications in the predatory journals. These studies also included exotic, introduced and cultivated taxa to their list. We, however, have excluded them from the present checklist as our main aim was to document the native flora of the district. Moreover, *Champereia manillana* (Blume) Merr. reported by the same author as a new distributional record to Arunachal Pradesh was found to be an incorrect identification of *Lepionurus sylvestris* Blume, and hence, excluded from the present checklist.

CONCLUSION

There is still a gap in the research conducted so far to determine the approximate floral wealth of East Siang District. So far only one protected area, i.e., Daying Ering Memorial Wildlife Sanctuary has been designated in the district and much of the biodiversity finds its place in the private lands. We believe that our checklist will help in conservation planning of this sanctuary. The outburst of the human population, however, has created a need for new settlements as well as agricultural lands which pose serious threats to the present biodiversity in the area. Geographically, East Siang District is about 4% of Arunachal Pradesh, yet it represents around one-fourth of the state’s flora. The tropical climate, along with its location in the eastern Himalaya biodiversity hotspot is the probable explanation for the high diversity. The present study should be considered a preliminary account of this floristically rich region, and more survey and research should be conducted to document its accurate floral wealth. Besides, the rich medicinal wealth of the district should also be conserved following several exercises such as Conservation Assessment and Management Prioritization (Ved et al. 2005), in association with the leading Indian institutions such as BSI, CIMAP, FRI, FRLHT, etc.

REFERENCES

- Akhil, M.K., S. Nampy & P. Javad (2019). *Lysionotus gamosepalus* var. *gamosepalus* (Gesneriaceae): A new record for India. *Rheeda* 29(3): 232–235. <https://doi.org/10.22244/rheeda.2019.29.3.08>
- Ambrish, K. (2013). Floristic Diversity of Arunachal Pradesh: Upper Subansiri District. Bishen Singh Mahendra Pal Singh, Dehra Dun, 534pp.
- Barbhuiya, H.A., B.K. Dutta, A.K. Das & A.K. Baishya (2014). The family Rubiaceae in southern Assam with special reference to endemic and rediscovered plant taxa. *Journal of Threatened Taxa* 6(4): 5649–5659. <https://doi.org/10.11609/JOTT.o3117.5649-59>
- Baruah, S., S.K. Borthakur, P. Gogoi & M. Ahmed (2013). Ethnomedicinal plants used by Adi-Minyong tribe of Arunachal

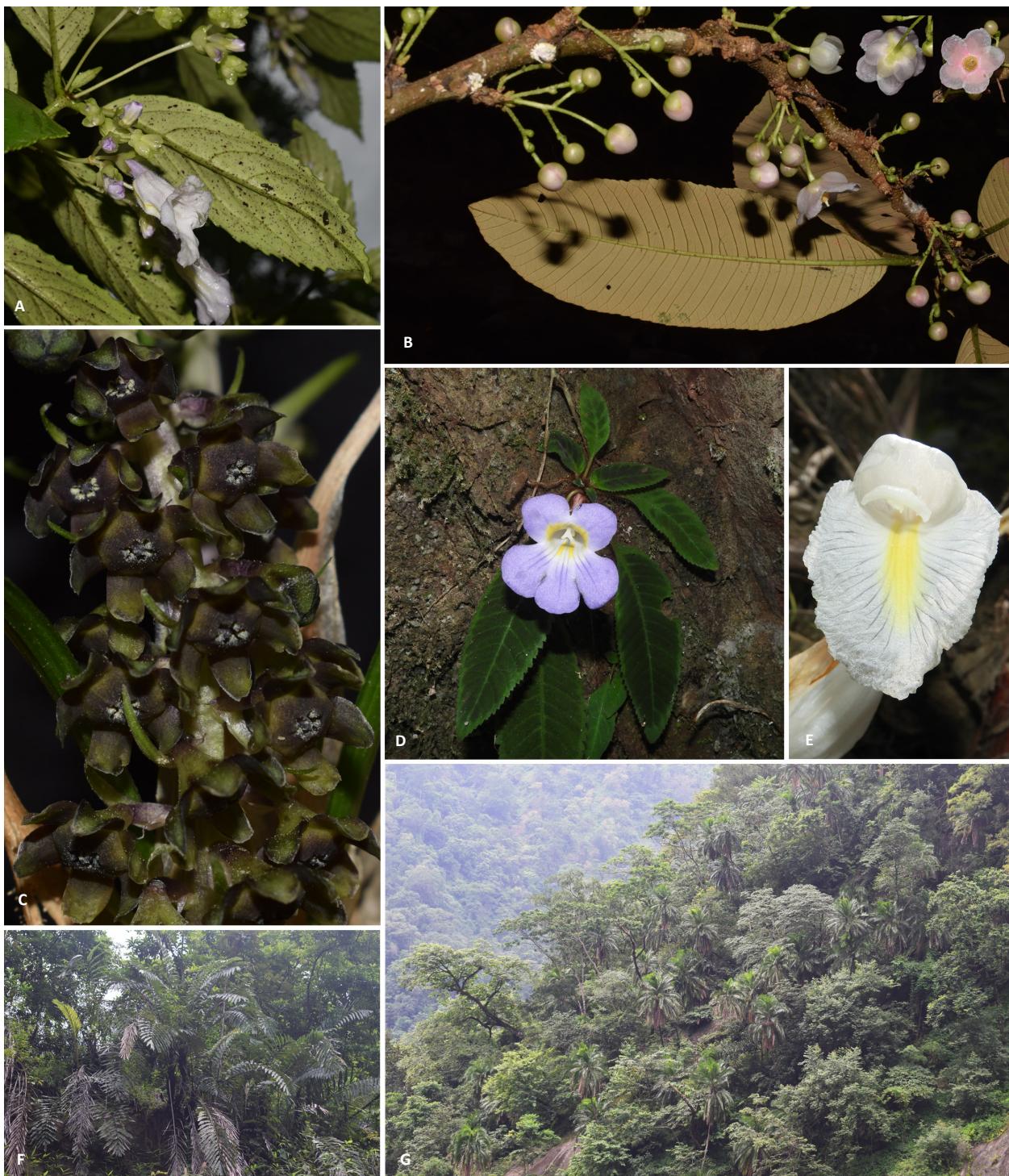


Image 3. Some endemic and endangered species found in East Siang: A—*Lysionotus gamosepalus* W.T. Wang | B—*Saurauia punduana* Wall. | C—*Peliosanthes ligniradicis* N. Tanaka, Taram & D. Borah | D—*Henckelia mishmiensis* (Debb. ex Biswas) D.J. Middleton & Mich. Möller | E—*Hornstedtia arunachalensis* S. Tripathi & V. Prakash | F—*Wallitchia oblongifolia* Griff. | G—*Phoenix rupicola* T. Anderson. © A-C, F-G: Dipankar Borah; D-E: Momang Taram

Pradesh, Eastern Himalaya. *Indian Journal of Natural Products and Resources* 4(3): 278–282.

Boko, N. & D. Narsimhan (2014). Rapid survey of plants used by Adi tribe of Bosing Banggo, East Siang District, Arunachal Pradesh, India. *Pleione* 8(2): 271–282.

Borah, D. & A.P. Das (2018). Rediscovery of *Sterculia striatiflora* Mast. (Malvaceae) and its new record for the flora of India. *Pleione* 12(1): 105–109. <https://doi.org/10.26679/Pleione.30.6.2018.105-109>

Borah, D., N. Tanaka, L.V. Averyanov, M. Taram & D.K. Roy (2020a). Rediscovery of *Tupistra stoliczkanii* (Asparagaceae) in northeastern

- India and the identity of *T. ashiroi*. *Phytotaxa* 443(2): 207–210. <https://doi.org/10.11646/phytotaxa.443.2.8>
- Borah, D., P. Kafley, S. Tangjang & A.P. Das (2018).** Population structure and conservation of endangered *Citrus indica* Yu.Tanaka (Rutaceae) in Behali Reserve Forest of Assam, India. *Pleione* 12(2): 181–186. <https://doi:10.26679/Pleione.12.2.2018.181-186>
- Borah, D., M. Taram, S. Tangjang, A. Upadhyaya & N. Tanaka (2020b).** *Peliosanthes macrophylla* var. *assamensis* (Asparagaceae), a new variety from Behali Reserve Forest in Assam, Northeast India. *Blumea* 65: 121–125. <https://doi.org/10.3767/blumea.2020.65.02.05>
- Burkhill, I.H. (1925).** *The Botany of the Abor Expedition*. 10 (1–2). Superintendent Government Printing, India.
- Chakravarty, S., C.P. Suresh, A. Puri & G. Shukla (2012).** North-East India, the Geographical Gateway of India's Phytodiversity. *Indian Forester* 138 (8): 702–709.
- Champion, H.G. & S.K. Seth (1968).** A revised classification of forest types of India. Manager Publications, New Delhi, 397pp.
- Chase, M.W., M.J.M. Christenhusz, M.F. Fay, J.W. Byng, W.S. Judd, D.E. Soltis, D.J. Mabberley, A.N. Sennikov, P.S. Soltis & P.F. Stevens (2016).** An update of the Angiosperm Phylogeny Group classification for the orders and families of flowering plants: APG IV. *Botanical Journal of the Linnean Society* 181(1): 1–20. <https://doi.org/10.1111/boj.12385>
- Chaturvedi, S.K., B.K. Sinha & S. Dey (2011).** *Mycetia mukerjiana* Deb & Dutta (Rubiaceae): new distributional record for Nagaland, India. *Pleione* 5(2): 345–347.
- Chauhan, A.S., K.P. Singh & D.K. Singh (1996).** *A Contribution to the Flora of Namdapha, Arunachal Pradesh*. Botanical Survey of India, Calcutta, 422pp.
- Choudhary, R.K. (2008a).** *Floristic diversity of Upper Siang District, Arunachal Pradesh*. PhD Thesis. Department of Botany, Rajiv Gandhi University, Arunachal Pradesh, India, 795pp.
- Choudhary, R.K. (2008b).** A preliminary report on floristic diversity of Dihang Dibang Biosphere Reserve of Arunachal Pradesh. *Bulletin of Arunachal Forest Research* 24: 29–34.
- Choudhary, R.K., R.C. Srivastava, A.K. Das & J. Lee (2012).** Floristic diversity assessment and vegetation analysis of Upper Siang District of Eastern Himalaya in North East India. *Korean Journal of Plant Taxonomy* 42(3): 222–246.
- Chowdhery, H.J., G.S. Giri & A. Pramanik (2009).** *Materials for the Flora of Arunachal Pradesh* (Vol. 3). Botanical Survey of India, Kolkata, 357pp.
- Das, S.C. & A.R. Rahman (2010).** Notes on the Rubiaceae. 3. Five new records for Bangladesh. *Bangladesh Journal of Botany* 39(2): 215–222.
- Giri, G.S., A. Pramanik & H.J. Chowdhery (2008).** Materials for the flora of Arunachal Pradesh (Vol. 2). Botanical Survey of India, Kolkata, 498pp.
- Gogoi, R. & S. Borah (2015).** *Impatiens siangensis* (Balsaminaceae), a new species from Arunachal Pradesh, India. *Phytotaxa* 192(2): 117–120. <https://doi.org/10.11646/phytotaxa.192.2.5>
- Hajra, P.K., D.M. Verma & G.S. Giri (1996).** *Materials for the Flora of Arunachal Pradesh* (Vol. 1). Botanical Survey of India, Kolkata, 693pp.
- Henderson, A. (2007).** A revision of *Wallichia* (Palmae). *Taiwania* 52(1): 1–11. [https://doi.org/10.6165%2ftai.2007.52\(1\).1](https://doi.org/10.6165%2ftai.2007.52(1).1)
- Hooker, J.D. (1872–1897).** *Flora of British India* (Vol. 1–7). L. Reeve & Co., London.
- IUCN (2020).** The IUCN Red List of Threatened Species. Version 2020-1. <https://www.iucnredlist.org> (Accessed 11 April 2020).
- Jain, S.K. & R.R. Rao (1977).** *A Handbook of Field and Herbarium Methods*. Today & tomorrow's Printers and Publishers, New Delhi, 107pp.
- Jeyaprakash, K., N. Balachandran, K. Karthigeyan, S. Rathinavel & O. Dai (2014).** *Ampelocissus hoabinhensis* C.L. Li [Vitaceae]: a new record for Indian flora from Arunachal Pradesh. *Pleione* 8(1): 163–166.
- Kanjilal, U.N., P.C. Kanjilal & A. Das (1934–1946).** *Flora of Assam*, Vol. 1–5, Published by Government of Assam.
- Kaul, R.N & K. Haridasan (1987).** Forest types of Arunachal Pradesh, a preliminary study. *Journal of Economic and Taxonomic Botany* 9: 383–389.
- Mibang, T. & A.K. Das (2017).** Taxonomic investigation on genus *Larsenianthus* (Zingiberaceae) of Siang Valley, Arunachal Pradesh. *Bulletin of Arunachal Forest Research* 32(1&2): 41–48.
- Nangkar, A., A.P. Das & H. Tag (2017).** *Arisaema arunachalensis* A. Nangkar; A.P. Das & H. Tag, sp. nov. (Araceae) from Arunachal Region of Indian Himalayan Region. *Pleione* 11(2): 480–484. <https://doi:10.26679/Pleione.11.2.2017.480-484>
- Olson, D.M. & E. Dinerstein (1998).** The global 200: a representation approach to conserving the Earth's most biologically valuable Eco regions. *Conservation Biology* 12: 502–515. <https://doi.org/10.1046/j.1523-1739.1998.012003502.x>
- POWO (2019).** “Plants of the World Online. Facilitated by the Royal Botanic Gardens, Kew. Published on the Internet; <http://www.plantsoftheworldonline.org/> (Retrieved 09 April 2020).
- Rao, R.S. & J. Joseph (1965).** Observation of the Flora of Siang Frontier Division NEFA. *Bulletin of Botanical Survey of India* 7: 138–161.
- Singh, L. & J.S. Singh (1991).** Species structure, dry matter dynamics and carbon flux of a dry tropical forest in India. *Annals of Botany* 68: 263–273. <https://doi.org/10.1093/oxfordjournals.aob.a088252>
- Singh, R.K., R.C. Srivastava, A. Community & T.K. Mukerjee (2009).** Culturally important Dekang (*Gymnocladus burmanicus* C. E. Parkinson) - An addition to the flora of India from Arunachal Pradesh. *Indian journal of traditional knowledge* 8(4): 482–484.
- Singh, R.K., S.N. Bhowmik & C.B. Pandey (2011).** Biocultural Diversity, Climate change and livelihood security of the Adi community: Grassroot conservation of Eastern Himalaya Arunachal Pradesh. *Indian Journal of Traditional Knowledge* 10(1): 39–56.
- Sinha, B.K. & S. Datta (2016).** Taxonomic account of the family Gesneriaceae in northeast India. *Nelumbo* 58: 1–43. <https://doi.org/10.20324/nelumbo%2Fv58%2F2016%2F105932>
- Tag, H., G. Murtem, A.K. Das & R.K. Singh (2008).** Diversity distribution of ethnobotanical plants used by Adi tribe of East Siang District of Arunachal Pradesh, India. *Pleione* 2(1): 123–136.
- Takhtajan, A. (1969).** *Flowering Plants: Origin and Dispersal*. Oliver Byod, Edinburgh, U.K., 310pp.
- Taram, M. & D. Borah (2020).** A new record of *Saurauia sinohirsuta* (Actinidiaceae) for India. *Journal of Japanese Botany* 95(4): 249–251.
- Taram, M., D. Borah & A. Joe (2020a).** *Lysionotus gamosepalus* var. *gamosepalus* (Gesneriaceae) - A New Record for the Flora of India. *Journal of Japanese Botany* 95(1): 47–50.
- Taram, M., D. Borah & N. Tanaka (2020c).** *Peliosanthes ligniradicis*, a new species (Asparagaceae) from Arunachal Pradesh, NE India. *Phytotaxa* 438(1): 43–48. <https://doi.org/10.11646/phytotaxa.438.1.5>
- Taram, M., D. Borah & S. Nampy (2020b).** *Boeica multinervia* K.Y. Pan (Gesneriaceae): a new record for India. *Check List* 16 (1): 89–92. <https://doi.org/10.15560/16.1.89>
- Taram, M., D. Borah, O. Taku & H. Tag (2020e).** *Henckelia siangensis* (Gesneriaceae): a remarkable new species from Northeast India. *PhytoKeys* 160: 1–6. <https://doi.org/10.3897/phytokeys.160.54459>
- Taram, M., D. Borah, R. Rubu & H. Tag (2018).** Wild food plant resources of Komkar Adi tribe of Upper Siang district in Arunachal Pradesh, India. *Bulletin of Arunachal Forest Research* 33(2): 27–35.
- Taram, M., P. Mipun, D. Borah (2020d).** *Rhynchotechum parviflorum* Blume (Gesneriaceae): a new record to mainland India. *Journal of Threatened Taxa* 12(1): 15208–15211. <https://doi.org/10.11609/jott.5306.12.1.15208-15211>
- Tatum, M. & A.K. Das (2016).** *Zingiber sianginensis* (Zingiberaceae): a new species from Arunachal Pradesh, India. *Pleione* 10(1): 169–173.
- Tripathi, S. & V. Prakash (1999).** A new species of *Hornstedtia* (Zingiberaceae) from Arunachal Pradesh, N.E. India. *Nordic Journal of Botany* 19(3): 329–332. <https://doi.org/10.1111/j.1756-1051.1999.tb01120.x>
- Tropicos (2020).** <http://www.tropicos.org> Missouri Botanical Garden. Accessed 09 Apr 2020.

Appendix 1. Plant diversity of East Siang District.

Family	Taxon	Field no.	IUCN Status
Acanthaceae			
	<i>Codonacanthus pauciflorus</i> (Nees) Nees	MT2001	NE
	<i>Dicliptera babui</i> Karthik. & Moorthy	MT2500	NE
	<i>Justicia adhatoda</i> L.	MT2002	NE
	<i>Mackaya neesiana</i> (Wall.) Das	MT1742	NE
	<i>Phlogacanthus curviflorus</i> (Nees) Nees	MT2502	NE
	<i>Phlogacanthus gracilis</i> P.Anderson ex Burkill	NEIFM-306	E
	<i>Phlogacanthus thyrsiformis</i> (Roxb. ex Hardw.) Mabb.	MT2127	NE
	<i>Phlogacanthus vitellinus</i> (Roxb.) T.Anderson	MT2003	NE
	<i>Pseuderanthemum leptanthus</i> (C.B.Clarke) Lindau	MT2004	NE
	<i>Rhinacanthus calcaratus</i> (Wall.) Nees	MT2005	NE
	<i>Rungia pectinata</i> (L.) Nees	MT2501	NE
	<i>Strobilanthes hamiltoniana</i> (Steud.) Bosser & Heine	MT2128	NE
	<i>Strobilanthes mastersii</i> T.Anderson	MT2129	E
	<i>Strobilanthes oxyacalycina</i> J.R.I. Wood	MT2007	E
	<i>Strobilanthes pauciflora</i> (Merr.) Y.F. Deng	MT2006, MT2101	NE
	<i>Strobilanthes secunda</i> T.Anderson	MT2008	NE
	<i>Strobilanthes tubiflos</i> (C.B.Clarke) J.R.I.Wood	MT2009	E
	<i>Thunbergia coccinea</i> Wall. ex D.Don	MT2010	NE
	<i>Thunbergia grandiflora</i> (Roxb. ex Rottler) Roxb.	MT2011	NE
Achariaceae			
	<i>Gynocardia odorata</i> R.Br.	MT1731	NE
Acoraceae			
	<i>Acorus calamus</i> L.	MT2533	LC
Actinidiaceae			
	<i>Saurauia armata</i> Kurz #	MT1619	NE
	<i>Saurauia sinohirsuta</i> J.Q.Li & Soejarto	MT1829	NE
	<i>Saurauia napaulensis</i> DC. #	MT1590	LC
	<i>Saurauia punduana</i> Wall. #	MT1589	CR
Altingiaceae			
	<i>Liquidambar excelsa</i> (Noronha) Oken	MT1692	LC
Amaranthaceae			
	<i>Achyranthes aspera</i> L.	MT2134	NE
	<i>Achyranthes bidentata</i> Blume	MT2503	NE
	<i>Alternanthera sessilis</i> (L.) R.Br. ex DC.	MT2135	LC
	<i>Amaranthus viridis</i> L.	MT1564	NE
	<i>Chenopodium album</i> L. #	MT1700	NE
	<i>Chenopodium giganteum</i> D.Don. #	MT1617	NE
	<i>Cyathula prostrata</i> (L.) Blume	MT1235	NE
	<i>Deeringia amaranthoides</i> (Lam.) Merr. #	MT1747	NE

Family	Taxon	Field no.	IUCN Status
Amaryllidaceae			
	<i>Allium hookeri</i> Thwaites	MT1634	NE
Anacardiaceae			
	<i>Mangifera sylvatica</i> Roxb. #	MT1686	LC
	<i>Rhus chinensis</i> Mill. *	MT1580	LC
	<i>Spondias pinnata</i> (L.f) Kurz.	MT1530	NE
	<i>Choerospondias axillaris</i> (Roxb.) B.L.Burtt & A.W.Hill #	MT2534	NE
	<i>Toxicodendron hookeri</i> (Sahni & Bahadur) C.Y.Wu & T.L.Ming	MT1626	NE
Annonaceae			
	<i>Fissistigma bicolor</i> (Roxb.) Merr.	MT1816	NE
	<i>Fissistigma polyanthum</i> (Hook.f and Thomson) Merr. #	MT1772	NE
	<i>Miliusa dioeca</i> (Roxb.) Chaowasku & Kessler	MT200	NE
	<i>Polyalthia suberosa</i> (Roxb.) Thwaites	NEIFM-394	NE
	<i>Trivalvaria costata</i> (Hook.f. & Thomson) I.M.Turner	NEIFM-513	NE
Apiaceae			
	<i>Centella asiatica</i> (L.) Urb *	MT1711	LC
	<i>Oenanthe javanica</i> (Blume) DC.	MT1821	LC
Apocynaceae			
	<i>Aganosma cymosa</i> (Roxb.) G.Don	NEIFM-483	NE
	<i>Alstonia scholaris</i> (L.) R.Br.	MT2133	LC
	<i>Beaumontia grandiflora</i> Wall.	MT1636	NE
	<i>Dischidia bengalensis</i> Colebr.	MT2134	NE
	<i>Hemidesmus indicus</i> (L.) R.Br.	MT2135	NE
	<i>Hoya arnottiana</i> Wight	NEIFM-215	NE
	<i>Hoya verticillata</i> (Vahl) G.Don	MT2012	NE
	<i>Rauvolfia verticillata</i> (Lour.) Baill.	NEIFM-353, NEIFM-486	NE
	<i>Tabernaemontana divaricata</i> (L.) R.Br. ex Roem. & Schult.	MT2136	NE
	<i>Wrightia coccinea</i> (Roxb. ex Hornem.) Sims	NEIFM-247	NE
Araceae			
	<i>Alocasia fornicata</i> (Kunth) Schott	MT2014	LC
	<i>Amorphophallus bulbifer</i> (Roxb.) Blume	NEIFM-560	NE
	<i>Amorphophallus napalensis</i> (Wall.) Bogner & Mayo	NEIFM-551	NE
	<i>Arisaema arunachalensis</i> A.Nangkar, A.P. Das & H.Tag	cf. Nangkar et al. 2017	E
	<i>Colocasia fallax</i> Schott	MT2013	LC
	<i>Homalomena aromatic</i> (Spreng.) Schott	MT2535	NE
	<i>Pothos scandens</i> L. *	MT1722	NE
	<i>Pothos chinensis</i> (Raf.) Merr.	NEIFM-213	NE
	<i>Rhaphidophora decursiva</i> (Roxb.) Schott	MT1571	NE
	<i>Rhaphidophora glauca</i> (Wall.) Schott	MT2130	NE
	<i>Rhaphidophora hookeri</i> Schott	MT1572	NE
	<i>Steudnera assamica</i> Hook.f.	MT2131	E

Family	Taxon	Field no.	IUCN Status
Araliaceae			
	<i>Aralia armata</i> (Wall ex. Don) Seem. #	MT1552	LC
	<i>Brassaiopsis glomerulata</i> (Blume) Regel	MT1579	LC
	<i>Eleutherococcus trifoliatus</i> (L.) S.Y.Hu	NEIFM-307	NE
	<i>Heteropanax fragrans</i> (Roxb.) Seem.	MT1656	NE
	<i>Hydrocotyle himalaica</i> P.K.Mukh.	MT1830	NE
	<i>Hydrocotyle sibthorpioides</i> Lam.	MT2504	LC
	<i>Hydrocotyle javanica</i> Thunb.	MT1712	NE
	<i>Schefflera bengalensis</i> Gamble	NEIFM-207	NE
	<i>Trevesia palmata</i> (Roxb. ex Lindl.) Vis. #	MT1679	LC
Arecaceae			
	<i>Calamus erectus</i> Roxb. #	MT1562	NE
	<i>Calamus flagellum</i> Griff. Ex Walp #	MT1541	NE
	<i>Caryota urens</i> L.	MT1570	LC
	<i>Phoenix rupicola</i> T.Anderson	DB2015	E, NT
	<i>Pinanga gracilis</i> Blume	MT2016	NE
	<i>Wallichia oblongifolia</i> Griff.	MT1538	NE
	<i>Wallichia triandra</i> (J.Joseph) S.K.Basu	MT1537	LC
Aristolochiaceae			
	<i>Aristolochia platanifolia</i> (Klotzsch) Duch	DB2152	NE
Asparagaceae			
	<i>Dracaena angustifolia</i> (Medik.) Roxb.	MT2407	NE
	<i>Dracaena petiolata</i> Hook.f.	MT2409	E
	<i>Peliosanthes ligniradicis</i> N.Tanaka, Taram & D. Borah	MT&DB 651	E
	<i>Peliosanthes macrophylla</i> Wall. ex Baker	MT2411	NE
	<i>Tupistra stoliczana</i> Kurz	MT2412	NE
Asteraceae			
	<i>Artemisia indica</i> Willd *	MT1646	NE
	<i>Blumea balsamifera</i> (L.) DC. *	MT1655	NE
	<i>Gnaphalium polycaulon</i> Pers. #	MT1758	NE
	<i>Grangea maderaspatana</i> (L.) Poir.	NEIFM-91	NE
	<i>Gynura cusimba</i> (D.Don) S.Moore #	MT1743	LC
	<i>Laggera crispa</i> (Vahl) Hepper & J.R.I.Wood	MT2407	NE
	<i>Pseudognaphalium affine</i> (D.Don) Anderb. #	MT1757	NE
	<i>Younghia japonica</i> (L.) DC. #	MT1536	NE
Balanophoraceae			
	<i>Balanophora dioica</i> R. Br. ex Royle #	MT1558	NE
Balsaminaceae			
	<i>Impatiens arguta</i> Hook f. & Thomson	MT2019	NE
	<i>Impatiens latiflora</i> Hook.f. & Thomson	MT2018	NE
	<i>Impatiens porrecta</i> Wall. ex Hook.f. & Thomson	MT2017	NE
	<i>Impatiens siangensis</i> Gogoi	MT2417	E

Family	Taxon	Field no.	IUCN Status
Begoniaceae			
	<i>Begonia aborensis</i> Dunn #	MT1595	NE
	<i>Begonia acetosella</i> Craib. #	MT1638	NE
	<i>Begonia annulata</i> K.Koch	MT2019	NE
	<i>Begonia biserrata</i> Lindl. #	MT1639	NE
	<i>Begonia burkillii</i> Dunn	MT2020	NE
	<i>Begonia josephi</i> A.DC	MT2021	NE
	<i>Begonia roxburghii</i> (Miq.) A.DC #	MT1594	NE
	<i>Begonia silletensis</i> (A.DC.) C.B. Clarke #	MT2022	NE
	<i>Begonia xanthina</i> Hook.	MT2024	NE
Bignoniaceae			
	<i>Oroxylum indicum</i> (L.) Kurz	MT2406	NE
	<i>Radermachera gigantea</i> (Blume) Miq.	NEIFM-535	LC
	<i>Stereospermum chelonoides</i> (L.f.) DC	MT2025	NE
Boraginaceae			
	<i>Bothriospermum zeylanicum</i> (J.Jacq.) Druce	NEIFM-254	NE
	<i>Cordia dichotoma</i> G.Forst	MT1514	LC
	<i>Cynoglossum wallichii</i> G.Don	MT2405	NE
	<i>Ehretia acuminata</i> R.Br.	NEIFM-109, NEIFM-185	LC
	<i>Ehretia wallichiana</i> Hook.f. & Thomson ex C.B.Clarke	DB2023	NE
	<i>Rotula aquatica</i> Lour.	NEIFM-413	NE
Brassicaceae			
	<i>Cardamine hirsuta</i> L. #	MT1751	NE
	<i>Rorippa dubia</i> (Pers.) H.Hara #	MT1753	NE
Burseraceae			
	<i>Canarium strictum</i> Roxb. #	MT1687	NE
Campanulaceae			
	<i>Lobelia nummularia</i> Lam.	MT2403	NE
	<i>Lobelia zeylanica</i> L.	MT2404	LC
Capparaceae			
	<i>Capparis acutifolia</i> Sweet subsp. <i>sabiifolia</i> (J. D. Hooker & Thomson) Jacobs	MT2026	NE
	<i>Capparis assamica</i> Hook.f. & Thomson	MT2027	E
	<i>Capparis multiflora</i> Hook.f. & Thomson	MT1776	NE
	<i>Crateva magna</i> (Lour.) DC.	NEIFM-543	NE
	<i>Stixis suaveolens</i> (Roxb.) Baill. #	MT1613	NE
Caryophyllaceae			
	<i>Brachystemma calycinum</i> D.Don *	MT1746	NE
	<i>Stellaria media</i> (L.)Vill #	MT1694	LC
Celastraceae			
	<i>Microtropis discolor</i> (Wall.) Wall. ex Meisn.	MT2412	NE
	<i>Loeseneriella pauciflora</i> (DC.) A.C.Sm.	NEIFM-357	NE

Family	Taxon	Field no.	IUCN Status
Chloranthaceae			
	<i>Chloranthus elatior</i> Link	NEIFM-322	NE
Clusiaceae			
	<i>Garcinia anomala</i> Planch. & Triana #	MT2411	NE
	<i>Garcinia lanceifolia</i> Roxb. #	MT1560	NE
	<i>Garcinia pedunculata</i> Roxb. ex Buch.- Ham *	MT1586	NE
	<i>Garcinia xanthochymus</i> Hook.f. ex T.Anderson	NEIFM-487	NE
Colchicaceae			
	<i>Disporum longistylum</i> (H.Lév. & Vaniot) H.Hara	NEIFM-484	NE
Combretaceae			
	<i>Terminalia chebula</i> Retz. #	MT3003	NE
	<i>Terminalia myriocarpa</i> Van Heurck & Mull.Arg	MT3004	NE
Commelinaceae			
	<i>Amischotolype hookeri</i> (Hassk.) H.Hara	MT2505	NE
	<i>Commelina benghalensis</i> L	MT2401	LC
	<i>Floscopa scandens</i> Lour.	MT2402	LC
	<i>Murdannia nudiflora</i> (L.) Brenan	MT1693	NE
	<i>Rhopalephora scaberrima</i> (Blume) Faden	MT2400	NE
Convolvulaceae			
	<i>Argyreia argentea</i> (Roxb.) Sweet	NEIFM-407	NE
	<i>Argyreia nervosa</i> (Burm.f.) Bojer	MT2029	NE
Cornaceae			
	<i>Alangium chinense</i> (Lour.) Harms	MT2507	NE
Costaceae			
	<i>Hellenia speciosa</i> (J.Koenig) S.R.Dutta	MT2028	NE
Cucurbitaceae			
	<i>Cucumis maderaspatanus</i> L.	NEIFM-365	NE
	<i>Hodgsonia macrocarpa</i> (Blume) Cong. #	MT1552	NE
	<i>Solena heterophylla</i> Lour. *	MT2538	NE
	<i>Thladiantha cordifolia</i> (Blume) Cong. #	MT1738	NE
	<i>Trichosanthes nervifolia</i> L.	MT2299	NE
Cyperaceae			
	<i>Carex baccans</i> Nees	MT1677	LC
	<i>Cyperus digitatus</i> Roxb.	MT2536	LC
	<i>Cyperus rotundus</i> L.	MT2537	LC
	<i>Cyperus distans</i> L.f.	NEIFM-552	LC
	<i>Cyperus mindorensis</i> (Steud.) Huygh	NEIFM-129	NE
	<i>Cyperus pilosus</i> Vahl	NEIFM-555	NE
	<i>Eleocharis geniculata</i> (L.) Roem. & Schult.	MT2298	LC
	<i>Erioscirpus comosus</i> (Wall.) Palla	MT2291	NE
	<i>Fimbristylis bisumbellata</i> (Forssk.) Bubani	MT2288	LC
	<i>Fimbristylis dichotoma</i> (L.) Vahl	NEIFM-073, NEIFM-297	

Family	Taxon	Field no.	IUCN Status
Dilleniaceae			
	<i>Dillenia indica</i> L. #	MT1593	NE
Dioscoreaceae			
	<i>Dioscorea alata</i> L. #	MT1778	NE
	<i>Dioscorea bulbifera</i> L. #	MT1652	NE
	<i>Dioscorea esculenta</i> (Lour.) Burkll #	MT1832	NE
	<i>Dioscorea pentaphylla</i> L. #	MT1544	NE
	<i>Tacca integrifolia</i> Ker Gawl.	MT2030	NE
Ericaceae			
	<i>Agapetes bhutanica</i> N.P.Balakr. & Sud.Chowdhury	NEIFM-528	NE
	<i>Agapetes macrantha</i> var. <i>grandiflora</i> (Hook.f.) D.Banik and Sanjappa *	MT1502	NE
	<i>Agapetes serpens</i> (Wight) Sleumer	MT2031	NE
Euphorbiaceae			
	<i>Balakata baccata</i> (Roxb.) Esser	MT22188	LC
	<i>Bridelia montana</i> (Roxb.) Willd.	NEIFM-232	NE
	<i>Croton caudatus</i> Geiseler	MT2508	NE
	<i>Homonoia riparia</i> Lour.	NEIFM-100	LC
	<i>Mallotus paniculatus</i> (Lam.) Müll.Arg.	MT22187	LC
	<i>Mallotus tetracoccus</i> (Roxb.) Kurz	MT2509	NE
	<i>Ostodes paniculata</i> Blume	MT1556	LC
Fabaceae			
	<i>Albizia odoratissima</i> (L.f.) Benth	MT1550	LC
	<i>Archidendron chevalieri</i> (Kosterm.) I.C. Nielsen	NEIFM-478	NE
	<i>Bauhinia purpurea</i> L.#	MT2178	LC
	<i>Bauhinia variegata</i> L.#	MT1745	LC
	<i>Crotalaria spectabilis</i> Roth	MT2177	NE
	<i>Dalbergia rimosa</i> Roxb.	NEIFM-355	LC
	<i>Dalbergia sissoo</i> Roxb. ex DC.	MT2176	NE
	<i>Dalhousiea bracteata</i> (Roxb.) Graham ex Benth	MT2175	NE
	<i>Entada phaseoloides</i> (L.) Merr.	MT1773	NE
	<i>Erythrina variegata</i> L.	MT2173	LC
	<i>Gymnocladus burmanicus</i> C.E.Parkinson	cf. Singh et al. 2009	NE
	<i>Leptodesmia microphylla</i> (Thunb.) H.Ohashi & K.Ohashi	NEIFM-265, NEIFM-177	NE
	<i>Mastersia assamica</i> Benth.	MT2177	NE
	<i>Mucuna macrocarpa</i> Wall.	MT2510	NE
	<i>Ohwia caudata</i> (Thunb.) H.Ohashi	NEIFM-411	NE
	<i>Ototropis multiflora</i> (DC.) H.Ohashi & K.Ohashi	MT2178	NE
	<i>Pueraria montana</i> (Lour.) Merr. *	MT1775	NE
	<i>Senegalia catechu</i> (L.f.) P.J.H.Hurter & Mabb.	NEIFM-080, NEIFM-252	NE
	<i>Senegalia rugata</i> (Lam.) Britton & Rose	MT1501	NE
	<i>Tephrosia candida</i> DC	MT2171	NE

Family	Taxon	Field no.	IUCN Status
Fagaceae			
	<i>Castanopsis indica</i> (Roxb. Ex Lindl.) A.DC.#	MT1602	LC
	<i>Castanopsis purpurella</i> (Miq.) N.P.Balakr. #	MT1618	NE
Gesneriaceae			
	<i>Aeschynanthus acuminatus</i> Wall. ex A.DC	MT2042	NE
	<i>Aeschynanthus gracilis</i> C.S.P.Paris ex C.B Clarke	MT1505	NE
	<i>Aeschynanthus micranthus</i> C.B. Clarke	MT1504	NE
	<i>Aeschynanthus monetarius</i> Dunn	MT1811	NE
	<i>Aeschynanthus parasiticus</i> C.B. Clarke	MT1503	NE
	<i>Aeschynanthus superbus</i> C.B.Clarke	MT2041	NE
	<i>Boeica filiformis</i> C.B.Clarke	MT2040	NE
	<i>Boeica fulva</i> C.B. Clarke #	MT1704	NE
	<i>Epithema carnosum</i> Benth	MT2039	NE
	<i>Henckelia siangensis</i> Taram, D.Borah & Tag	MT2300	E
	<i>Henckelia grandifolia</i> A.Dietr.	MT2038	NE
	<i>Henckelia mishmiensis</i> (Debb. ex Biswas) D.J.Middleton & Mich.Möller	MT2037, MT2172	NE
	<i>Henckelia oblongifolia</i> (Roxb.) D.J.Middleton & Mich. Möller	MT2170	NE
	<i>Henckelia pumila</i> (D.Don) A.Dietr	MT2036	NE
	<i>Lysionotus gamosepalus</i> W.T.Wang var. <i>gamosepalous</i>	MT2035	NE
	<i>Lysionotus serratus</i> D.Don	MT2034	NE
	<i>Rhynchotechum ellipticum</i> (Wall. ex D.Dietr.) A.DC. #	MT1705	NE
	<i>Rhynchotechum obovatum</i> (Griff.) B.L.Burtt #	MT22167	NE
	<i>Rhynchotechum parviflorum</i> Blume #	MT1814, MT22168	NE
	<i>Rhynchotechum vestitum</i> Wall. ex C. B. Clarke #	MT1706, MT22169	NE
	<i>Stauranthera grandifolia</i> Benth.	MT2033	NE
	<i>Tetraphylloides bengalensis</i> (C.B.Clarke) Doweld	MT2032	NE
Gentianaceae			
	<i>Exacum teres</i> Wall.	MT2166	NE
Hydrangeaceae			
	<i>Hydrangea febrifuga</i> (Lour.) Y. De Smet & Granados	MT2043	NE
Hydroleaceae			
	<i>Hydrolea zeylanica</i> (L.) Vahl	MT2165	LC
Hypoxidaceae			
	<i>Curculigo capitulata</i> (Lour.) Kuntze *	MT1815	NE
	<i>Curculigo prainiana</i> (Deb) Bennet & Raizada (SE, Ethnomedicine)	MT2133	NE
Lamiaceae			
	<i>Achyrosperrnum densiflorum</i> Blume	NEIFM-401	NE
	<i>Anisomeles indica</i> (L.) Kuntze	MT1894	NE
	<i>Callicarpa arborea</i> Roxb. #	MT2164	LC
	<i>Callicarpa macrophylla</i> Vahl	MT1517	LC
	<i>Clerodendrum chinense</i> (Osbeck) Mabb.	MT2512	LC
	<i>Clerodendrum colebrookeanum</i> Walp. #	MT2163	NE

Family	Taxon	Field no.	IUCN Status
	<i>Clerodendrum indicum</i> (L.) Kuntze	NEIFM-471	NE
	<i>Clerodendrum japonicum</i> (Thunb.) Sweet	MT2162	LC
	<i>Clerodendrum laevifolium</i> Blume	MT2044	NE
	<i>Elsholtzia ciliata</i> (Thunb.) Hyl.	NEIFM-359	NE
	<i>Gmelina arborea</i> Roxb. ex Sm	MT1545	LC
	<i>Isodon coetsa</i> (Buch.-Ham. ex D.Don) Kudô	NEIFM-240	NE
	<i>Leonurus japonicus</i> Houtt.	NEIFM-452	NE
	<i>Leucas chinensis</i> (Retz.) Sm.	NEIFM-065	NE
	<i>Leucas zeylanica</i> (L.) W.T.Aiton	NEIFM-296	NE
	<i>Leucosceptrum canum</i> Sm.	MT1733	NE
	<i>Perilla frutescens</i> (L.) Britt. #	MT2161	NE
	<i>Pogostemon brachystachyus</i> Benth.	NEIFM-312	NE
	<i>Pogostemon elsholtzoides</i> Benth.	NEIFM-148	NE
	<i>Pogostemon plectranthoides</i> Desf.	NEIFM-382	NE
	<i>Rothea serrata</i> (L.) Steane & Mabb.	MT 2511	NE
	<i>Tectona grandis</i> L.f	MT2160	NE
	<i>Teucrium viscidum</i> Blume	NEIFM-319, NEIFM-490	NE
Lauraceae			
	<i>Actinodaphne obovata</i> (Nees) Blume	MT1690	NE
	<i>Beilschmiedia assamica</i> Meisn.	NEIFM-541	NE
	<i>Cinnamomum bejolghota</i> (Bucc-Ham) Sweet #	MT1777	LC
	<i>Lindera communis</i> Hemsl.	NEIFM-443	NE
	<i>Litsea cubeba</i> (Lours.) Pers. #	MT2159	NE
	<i>Litsea glutinosa</i> (Lour.) C.B.Rob.	MT2540	LC
	<i>Litsea monopetala</i> (Roxb.) Pers.	MT1563	LC
	<i>Phoebe cooperiana</i> P.C.Kanjilal and Das #	MT2158	E
Linderniaceae			
	<i>Bonnaya antipoda</i> (L.) Druce	MT2157	NE
	<i>Bonnaya ciliata</i> (Colsm.) Spreng.	MT2156	NE
	<i>Torenia bicolor</i> Dalzell	MT2154	LC
	<i>Torenia crustacea</i> (L.) Cham. & Schultdt	MT2153	LC
	<i>Torenia fournieri</i> Linden ex E.Fourn.	MT2541	NE
Loranthaceae			
	<i>Helixanthera parasitica</i> Lour. #	MT2046	NE
Lythraceae			
	<i>Duabanga grandiflora</i> (Roxb. Ex DC) Walp.	MT2045	LC
	<i>Rotala rotundifolia</i> (Buch.-Ham. ex Roxb.) Koehne	MT20542	NE
Magnoliaceae			
	<i>Magnolia hodgsonii</i> (Hook.f. & Thomson) H.Keng	MT2047	LC
Malvaceae			
	<i>Abroma augustum</i> (L.) L.f.	MT1699	NE
	<i>Ayenia grandifolia</i> (DC.) Christenh. & Byng	NEIFM-216, NEIFM-463	NE
	<i>Bombax ceiba</i> L.	MT2050	NE

Family	Taxon	Field no.	IUCN Status
	<i>Grewia asiatica</i> L.	NEIFM-351	LC
	<i>Kydia calycina</i> Roxb.	MT1691	LC
	<i>Melochia corchorifolia</i> L.	NEIFM-270, NEIFM-325	NE
	<i>Pterospermum acerifolium</i> (L.) Willd	MT2049	LC
	<i>Pterospermum lanceifolium</i> Roxb. ex DC.	MT2048	NE
	<i>Sida acuta</i> Burm.f.	MT2054	NE
	<i>Sterculia lanceolata</i> var. <i>coccinea</i> (Jack) Phengklai #	MT1786	LC
	<i>Sterculia striatiflora</i> Mast. #	MT&DB 0206	NE
	<i>Sterculia villosa</i> Roxb. ex Sm	MT2052	NE
	<i>Urena lobata</i> L.	MT2051	NE
Marantaceae			
	<i>Phrynum pubinerve</i> Blume #	MT2050	NE
Mazaceae			
	<i>Mazus pumilus</i> (Burm.f.) Steenis	MT2150	NE
	<i>Mazus surculosus</i> D.Don	MT2513	NE
Melanthiaceae			
	<i>Paris polyphylla</i> Sm. *	MT2051	NE
Melastomataceae			
	<i>Melastoma malabathricum</i> L #	MT2149	NE
	<i>Osbeckia nepalensis</i> Hook.	MT2148	NE
	<i>Osbeckia nutans</i> Wall.	MT2147	NE
	<i>Oxyspora paniculata</i> DC.	MT2054	NE
	<i>Pseudodissochaeta assamica</i> (C.B.Clarke) Nayar	MT2052	NE
	<i>Sarcopyramis napalensis</i> Wall.	DB2053	NE
Meliaceae			
	<i>Chisocheton cumingianus</i> (C.DC.) Harms	DB2055	LC
	<i>Dysoxylum alliaceum</i> (Blume) Blume	NEIFM-488	LC
	<i>Melia azedarach</i> L.	MT2126	LC
	<i>Toona hexandra</i> (Wall.) M.Roem	MT2056	NE
Menispermaceae			
	<i>Stephania japonica</i> (Thunb.) Miers	MT2057	NE
	<i>Stephania rotunda</i> Lour.	MT2058	NE
	<i>Tinospora cordifolia</i> (Willd.) Hook.f. & Thomson	MT2514	NE
Molluginaceae			
	<i>Trigastrotheca pentaphylla</i> (L.) Thulin	NEIFM-345	NE
Moraceae			
	<i>Artocarpus heterophyllus</i> Lam. #	MT1779	NE
	<i>Artocarpus lacucha</i> Buch.Ham. #	MT1756	NE
	<i>Broussonetia papyrifera</i> (L.) L'Hér. ex Vent.	NEIFM-228	LC
	<i>Ficus auriculata</i> Lour. #	MT1601	LC
	<i>Ficus crassiramea</i> (Miq.) Miq.	MT1641	NE
	<i>Ficus drupacea</i> Thunb.	NEIFM-545	LC

Family	Taxon	Field no.	IUCN Status
	<i>Ficus hederacea</i> Roxb.	MT1790	NE
	<i>Ficus heteropleura</i> Blume	MT1764	NE
	<i>Ficus hispida</i> L.f.#	MT2124	LC
	<i>Ficus oligodon</i> Miq. #	MT1600	LC
	<i>Ficus religiosa</i> L.	MT1574	NE
	<i>Ficus semicordata</i> Buch-Ham ex Sm.#	MT1575	LC
	<i>Ficus simplicissima</i> Lour.	MT1599	NE
	<i>Ficus tinctoria</i> G.Forst.	MT1588	LC
	<i>Ficus variegata</i> Blume	MT1833	LC
	<i>Ficus virens</i> Aiton #	MT1808	LC
	<i>Maclura cochinchinensis</i> (Lour.) Corner #	MT1647	NE
	<i>Morus macroura</i> Miq.	MT2123	NE
Musaceae			
	<i>Musa aurantiaca</i> G.Mann ex Baker #	MT1726	LC
	<i>Musa balbisiana</i> Colla #	MT1760	LC
	<i>Musa sanguinea</i> Hook.f. *	MT2069	LC
Myricaceae			
	<i>Myrica esculenta</i> Buch.Ham Ex D.Don #	MT2121	NE
Myrtaceae			
	<i>Syzygium formosum</i> (Wall.) Mason #	MT1826	NE
	<i>Syzygium fruticosum</i> DC. #	MT1828	NE
	<i>Syzygium aqueum</i> (Burm.f.) Alston #	MT2068	NE
	<i>Syzygium cumini</i> (L.) Skeels #	MT2120	LC
Nyctaginaceae			
	<i>Boerhavia diffusa</i> L.	NEIFM-537	NE
Olaceace			
	<i>Erythropalum scandens</i> Blume	MT2517	LC
Oleaceae			
	<i>Jasminum pentaneurum</i> Hand.-Mazz.	NEIFM-445	NE
	<i>Jasminum laurifolium</i> Roxb. ex Hornem. var. <i>laurifolium</i>	MT2067	NE
Orchidaceae			
	<i>Arundina graminifolia</i> (D.Don) Hochr	DB2137	NE
	<i>Bulbophyllum odoratissimum</i> (Sm.) Lindl. ex Wall.	MT2066	NE
	<i>Cheirostylis parvifolia</i> Lindl.	DB2138	NE
	<i>Coelogyné fimbriata</i> Lindl. var. <i>fimbriata</i>	MT2065	NE
	<i>Corymborkis veratrifolia</i> (Reinw.) Blum	DB2139	NE
	<i>Cymbidium aloifolium</i> (L.) Sw.	MT2064	NE
	<i>Dendrobium aphyllum</i> (Roxb.) C.E.C.Fisch.	MT2140	LC
	<i>Dendrobium chrysanthum</i> Wall. ex Lindl.	MT2141	NE
	<i>Dendrobium nobile</i> Lindl.	MT2142	NE
	<i>Dendrolirium lasiocarpalum</i> (Willd.) S.C.Chen & J.J.Wood	MT2144	NE
	<i>Eulophia dabia</i> (D.Don) Hochr.	NEIFM-102, NEIFM-234	NE

Family	Taxon	Field no.	IUCN Status
	<i>Geodorum densiflorum</i> (Lam.) Schltr.	NEIFM-191	NE
	<i>Goodyera procera</i> (Ker Gawl.) Hook.	MT2063	NE
	<i>Nervilia macroglossa</i> (Hook.f.) Schltr.	NEIFM-214	NE
	<i>Pachystoma pubescens</i> Blume	DB2143	NE
	<i>Pholidota pallida</i> Lindl	MT2062	NE
	<i>Rhynchostylis retusa</i> (L.) Blume	MT2061	NE
	<i>Vanda bicolor</i> Griff.	MT2060	NE
	<i>Zeuxine flava</i> (Wall. ex Lindl.) Trimen	DB2059	NE
Orobanchaceae			
	<i>Lindenbergia hookeri</i> C.B.Clarke ex Hook.f. #	MT2119	NE
	<i>Aeginetia indica</i> L.	NEIFM-493	NE
Pandanaceae			
	<i>Pandanus furcatus</i> Roxb. #	MT1788	NE
Phyllanthaceae			
	<i>Actephila excelsa</i> (Dalzell) Mull.Arg	MT1508	NE
	<i>Baccaurea ramiflora</i> Lour. #	MT1629	NE
	<i>Bischofia javanica</i> Blume	NEIFM-495	LC
	<i>Breynia androgyna</i> (L.) Chakrab. & N.P.Balakr.#	MT2118	NE
	<i>Leptopus clarkei</i> (Hook.f.) Pojark.	NEIFM-387	NE
	<i>Phyllanthus assamicus</i> Müll.Arg.	NEIFM-121	LC
	<i>Phyllanthus fraternus</i> G.L.Webster	NEIFM-389, NEIFM-431	NE
	<i>Phyllanthus lanceolarius</i> (Roxb.) Müll.Arg.	NEIFM-298	NE
	<i>Phyllanthus reticulatus</i> Poir.	MT2070	NE
Piperaceae			
	<i>Piper attenuatum</i> Buch.-Ham. ex Miq.	NEIFM-174, NEIFM-362	NE
	<i>Piper griffithii</i> C.DC.	NEIFM-334	NE
	<i>Piper mullesua</i> Buch.-Ham. ex D.Don	MT1609	NE
	<i>Piper pedicellatum</i> C.DC #	MT2071	E,VU
	<i>Piper sylvaticum</i> Roxb.	NEIFM-435, NEIFM-386	NE
Plantaginaceae			
	<i>Plantago asiatica</i> L. #	MT1631	NE
Poaceae			
	<i>Arundinella nepalensis</i> Trin.	NEIFM-361	NE
	<i>Bambusa tulda</i> Roxb. *	MT2117	NE
	<i>Chrysopogon aciculatus</i> (Retz.) Trin	MT2555	NE
	<i>Cynodon dactylon</i> (L.) Pers.	MT1653	NE
	<i>Dendrocalamus giganteus</i> Munro *	MT1643	LC
	<i>Dendrocalamus hamiltonii</i> Nees and Arn.ex Munro *	MT1581	NE
	<i>Digitaria abludens</i> (Roem. & Schult.) Veldkamp	NEIFM-130, NEIFM-131	NE
	<i>Digitaria ciliaris</i> (Retz.) Koeler	NEIFM-133	NE
	<i>Dinochloa macclellandii</i> (Munro) Kurz	MT2072	NE
	<i>Echinochloa colonum</i> (L.) Link	MT2553	LC

Family	Taxon	Field no.	IUCN Status
	<i>Echinochloa crus-galli</i> (L.) P. Beauv.	NEIFM-098	LC
	<i>Eragrostis unioloides</i> (Retz.) Nees ex Steud.	NEIFM-344	LC
	<i>Eulalia hirtifolia</i> (Hack.) Kuntze	NEIFM-410	NE
	<i>Hemarthria compressa</i> (L.f.) R.Br.	NEIFM-291	LC
	<i>Oplismenus burmanni</i> (Retz.) P. Beauv.	MT2550	NE
	<i>Oplismenus compositus</i> (L.) P. Beauv.	MT 2551	NE
	<i>Phragmites karka</i> (Retz.) Trin. ex Steud.	MT1585	LC
	<i>Phyllostachys manii</i> Gamble	MT1566	NE
	<i>Pseudoraphis minuta</i> (Mez) Pilg.	NEIFM-290	NE
	<i>Saccharum arundinaceum</i> Retz. #	MT1782	NE
	<i>Saccharum spontaneum</i> L. #	MT1584	LC
	<i>Sacciolepis indica</i> (L.) Chase	NEIFM-161	NE
	<i>Setaria palmifolia</i> (J.Koenig) Stapf	MT2554	NE
	<i>Setaria pumila</i> (Poir.) Roem. & Schult.	MT2552	NE
	<i>Stapletonia seshagiriana</i> (R.B. Majumdar) H.B. Naithani	MT1820	NE
	<i>Themeda villosa</i> (Lam.) A. Camas	MT1708	NE
	<i>Thysanolaena latifolia</i> (Roxb. ex Hornem.) Honda	MT2116	NE
Polygonaceae			
	<i>Koenigia mollis</i> (D.Don) T.M. Schust. & Reveal #	MT1710	NE
	<i>Persicaria barbata</i> (L.) H. Hara	MT1632	LC
	<i>Persicaria capitata</i> (Buch - Ham Ex D.Don) H. Gross	MT1624	NE
	<i>Persicaria chinensis</i> (L.)H.Gross #	MT1787	NE
	<i>Persicaria hydropiper</i> (L.) Delarbre	MT1633	LC
	<i>Persicaria nepalensis</i> (Meisn.) H. Gross	MT1623	NE
	<i>Persicaria orientalis</i> (L.) Spach	NEIFM-89	NE
	<i>Persicaria strigosa</i> (R.Br.) H. Gross	NEIFM-540	NE
Primulaceae			
	<i>Ardisia solanacea</i> Roxb. #	MT1680	NE
	<i>Lysimachia debilis</i> Wall.	NEIFM-531	NE
	<i>Maesa indica</i> (Roxb.) Sweet #	MT1654	LC
Ranunculaceae			
	<i>Ranunculus cantoniensis</i> DC.	NEIFM-105	NE
Rafflesiaceae			
	<i>Sapria himalayana</i> Griff.	MT3010	NE
Rosaceae			
	<i>Potentilla indica</i> (Andrews) Th. Wolf #	MT1648	NE
	<i>Rubus ellipticus</i> Sm. #	MT1759	NE
	<i>Rubus moluccanus</i> L. #	MT1567	NE
	<i>Rubus niveus</i> Thumb #	MT1542	NE
	<i>Rubus paniculatus</i> Sm. #	MT1569	NE
	<i>Rubus rosifolius</i> Sm. #	MT1831	NE
	<i>Rubus sumatranus</i> Miq. #	MT1713	NE

Family	Taxon	Field no.	IUCN Status
Rubiaceae			
	<i>Argostemma sarmentosum</i> Wall.	MT2081	NE
	<i>Argostemma verticillatum</i> Wall.	MT2080	NE
	<i>Catunaregam spinosa</i> (Thunb.) Tirveng.	NEIFM-466	NE
	<i>Chassalia curviflora</i> var. <i>ophioxylloides</i> (Wall) Deb & B.Krishna	DB2079	NE
	<i>Coffea benghalensis</i> B.Heyne ex Schult.	MT1697	LC
	<i>Dentella repens</i> (L.) J.R.Forst. & G.Forst.	NEIFM-95	LC
	<i>Dimetia scandens</i> (Roxb.) R.J.Wang	DB1111	NE
	<i>Exallage auricularia</i> (L.) Bremek.	NEIFM-125	NE
	<i>Gomphostemma lucidum</i> Wallich ex Bentham	MT3006	NE
	<i>Ixora polyantha</i> Wight	MT2078	NE
	<i>Mussaenda glabra</i> Vahl #	MT2077	NE
	<i>Mussaenda roxburghii</i> Hook.f. #	MT2076	NE
	<i>Mycetia mukerjiana</i> Deb & Ratna Dutta	MT2075	E
	<i>Oldenlandia umbellata</i> L.	MT2519	NE
	<i>Paederia foetida</i> L. *	MT2115	NE
	<i>Psychotria monticola</i> Kurz	NEIFM-425	NE
	<i>Psychotria silhetensis</i> Hook.f.	NEIFM-426	NE
	<i>Scleromitrion diffusum</i> (Willd.) R.J.Wang	NEIFM-158	NE
	<i>Uncaria macrophylla</i> Wall.	MT3005	NE
	<i>Wendlandia budleoides</i> Wall. ex Wight & Arn.	MT2114	NE
Rutaceae			
	<i>Citrus indica</i> Yu. Tanaka #	MT2074	E
	<i>Citrus latipes</i> (Swingle) Yu.Tanaka #	MT1688	NE
	<i>Citrus medica</i> L. #	MT2073	NE
	<i>Glycosmis pentaphylla</i> (Retz.) DC.	NEIFM-424	LC
	<i>Murraya koenigii</i> (L.) Spreng. #	MT2113	NE
	<i>Murraya paniculata</i> (L.) Jack	MT1675	NE
	<i>Murraya tetramera</i> C.C.Huang	NEIFM-429	NE
	<i>Toddalia asiatica</i> (L.) Lam.	MT1535	NE
	<i>Zanthoxylum armatum</i> D.C #	MT1534	LC
	<i>Zanthoxylum oxyphyllum</i> Edgew. #	MT1533	NE
	<i>Zanthoxylum rhetsa</i> (Roxb.) DC. #	MT2112	LC
Sabiaceae			
	<i>Sabia lanceolata</i> Colebr.	MT2111	NE
Salicaceae			
	<i>Casearia vareca</i> Roxb.	MT1597, MT2110	NE
Sapindaceae			
	<i>Aesculus assamica</i> Griff.	MT2109	NE
	<i>Nephelium lappaceum</i> L. #	MT2100	LC
Saurauaceae			
	<i>Houttuynia cordata</i> Thunb. *	MT2108	NE

Family	Taxon	Field no.	IUCN Status
Schrophulariaceae			
	<i>Buddleja asiatica</i> Lour	DB2107	LC
Simaroubaceae			
	<i>Brucea mollis</i> Wall. ex Kurz	NEIFM-243	NE
	<i>Ailanthus integrifolia</i> Lam.	MT2106	LC
Smilaceae			
	<i>Smilax ovalifolia</i> Roxb. ex D.Don	MT2105	NE
	<i>Smilax zeylanica</i> L	MT2104	NE
Solanaceae			
	<i>Solanum spirale</i> Roxb. #	MT1524	NE
	<i>Solanum villosum</i> Mill. #	MT2103	NE
	<i>Solanum violaceum</i> Ortega #	MT1583	NE
	<i>Lycianthes biflora</i> (Lour.) Bitter	NEIFM-402	NE
Stemonaceae			
	<i>Stemona tuberosa</i> Lour	MT2099	NE
Styracaceae			
	<i>Styrax serrulatus</i> Roxb.	MT2098	NE
Tamaricaceae			
	<i>Tamarix dioica</i> Roxb. ex Roth	MT2520	NE
Theaceae			
	<i>Pyrenaria barringtoniifolia</i> (Griff.) Seem.	NEIFM-180	NE
	<i>Schima wallichii</i> (DC.) Korth.	MT2089	LC
Typhaceae			
	<i>Typha angustifolia</i> L.	MT1740	LC
Urticaceae			
	<i>Boehmeria penduliflora</i> Wedd. ex D.G.Long	MT1739	NE
	<i>Boehmeria pilosiuscula</i> (Blume) Hassk.	MT1741	LC
	<i>Debregeisia longifolia</i> (Burm.f.) Wedd.	MT1762	NE
	<i>Dendrocnide sinuata</i> (Blume) Chew	MT1825	NE
	<i>Elatostema dissectum</i> Wedd. #	MT2088	NE
	<i>Elatostema sessile</i> J.R.Forst. & G.Forst.	MT1755	NE
	<i>Gonostegia hirta</i> (Hassk.) Miq. #	MT1568	NE
	<i>Gonostegia pentandra</i> (Roxb.) Miq.	NEIFM-173, NEIFM-264	NE
	<i>Pilea insolens</i> Wedd. #	MT1749	NE
	<i>Pilea umbrosa</i> Wedd. ex Blume #	MT1744	NE
	<i>Poikilospermum suaveolens</i> (Blume) Merr. #	MT1701	NE
	<i>Pouzolzia calophylla</i> W.T.Wang & C.J.Chen	NEIFM-412	NE
	<i>Pouzolzia zeylanica</i> (L.) Benn.	MT1750	NE
	<i>Urtica ardens</i> Link. *	MT1729	NE
	<i>Urtica dioica</i> L. #	MT2097	LC
Viburnaceae			
	<i>Sambucus adnata</i> Wall. ex DC.	MT2096	NE

Family	Taxon	Field no.	IUCN Status
Violaceae			
	<i>Viola betonicifolia</i> Sm.#	MT1540	NE
	<i>Viola pilosa</i> Blume #	MT1539	NE
	<i>Viola thomsonii</i> Oudem.	NEIFM-249	NE
Vitaceae			
	<i>Ampelocissus hoabinhensis</i> C.L.Li	NEIFM-514	NE
	<i>Causonis trifolia</i> (L.) Mabb. & J.Wen	NEIFM-455	NE
	<i>Cissus assamica</i> (M.A.Lawson) Craib	NEIFM-256	NE
	<i>Leea indica</i> (Burm.f.) Merr.	MT2093	LC
	<i>Parthenocissus semicordata</i> (Wall.) Planch.	NEIFM-198, NEIFM-454	NE
	<i>Tetrastigma leucostaphyllum</i> (Dennst.) Alston	MT2087 ; MT2095	NE
Zingiberaceae			
	<i>Alpinia nigra</i> (Gaertn.) Burtt #	MT1683	LC
	<i>Alpinia roxburghii</i> Sweet #	MT1591	NE
	<i>Amomum maximum</i> Roxb. #	MT1578	LC
	<i>Amomum pterocarpum</i> Thwaites #	MT1592	LC
	<i>Amomum subulatum</i> Roxb. #	MT2086	DD
	<i>Globba multiflora</i> Wall. ex Baker	MT2085	NE
	<i>Hedychium coccineum</i> Buch.-Ham. ex Sm	MT2084	NE
	<i>Hedychium stenopetalum</i> G.Lodd.	MT1627	NE
	<i>Hornstedtia arunachalensis</i> S. Triphathi & V. Prakash #	MT2083	E
	<i>Larsenianthus arunachalensis</i> M. Sabu, Sanoj & Rajesh Kumar	cf. Mibang & Das 2017	E, CR
	<i>Larsenianthus assamensis</i> S. Dey, Mood & S. Choudhury	cf. Mibang & Das 2017	E
	<i>Larsenianthus careyanus</i> (Benth. & Hook.f.) W.J. Kress & Mood	DB2082	NE
	<i>Zingiber sianginensis</i> Tatum & A.K. Das *	MT2083	E
	<i>Zingiber zerumbet</i> (L.) Roscoe ex Sm.	MT2084	DD

*—Ethnomedicine | #—Edible

CR—Critically Endangered | LC—Least Concern | NT—Near Threatened | E—Endemic | VU—Vulnerable | DD—Data Deficient.

Ved, D.K., G.A. Kinhal, K. Ravikumar, R.V. Sankar & K. Haridasan (2005). Conservation Assessment and Management Prioritisation (CAMP) for wild medicinal plants of North-East India. *Medicinal Plant Conservation* 11: 40–44.

Ward, F.K. (1929). Botanical Exploration in the Mishmi Hills. *The Himalayan Journal* 1: 51–59.

WFO (2020). World Flora Online. Published on the Internet; <http://www.worldfloraonline.org>. Accessed 09 April 2020

Yan, K.J., D.X. Xu & Z.Q. Song (2016). *Mycetia fangii* (Rubiaceae), a New Species from South China, with notes on *M.*

cauliflora. *Systematic Botany* 41(1): 229–237. <https://doi.org/10.1600/036364416X690624>

Yumnam, J.Y. & O.P. Tripathi (2013). Ethnobotany: plant used in fishing and hunting by adi tribe of Arunachal Pradesh. *Indian Journal of Traditional Knowledge* 12(1): 157–161.

Yumnam, J.Y., S.I. Bhuyan, O.P. Tripathi & M.L. Khan (2011). Study on the ethnomedicinal plants used by Adi tribe of East Siang District, Arunachal Pradesh. *Journal of Economic and Taxonomic Botany* 35(2): 369–377.





www.threatenedtaxa.org

PLATINUM
OPEN ACCESS

The Journal of Threatened Taxa (JoTT) is dedicated to building evidence for conservation globally by publishing peer-reviewed articles online every month at a reasonably rapid rate at www.threatenedtaxa.org. All articles published in JoTT are registered under Creative Commons Attribution 4.0 International License unless otherwise mentioned. JoTT allows unrestricted use, reproduction, and distribution of articles in any medium by providing adequate credit to the author(s) and the source of publication.

ISSN 0974-7907 (Online) | ISSN 0974-7893 (Print)

December 2020 | Vol. 12 | No. 17 | Pages: 17263–17386

Date of Publication: 26 December 2020 (Online & Print)

DOI: 10.11609/jott.2020.12.17.17263-17386

Article

Genetic and reproductive characterization of distylous *Primula reinii* in the Hakone volcano, Japan: implications for conservation of the rare and endangered plant

– Masaya Yamamoto, Honami Sugawara, Kazuhiro Fukushima, Hiroaki Setoguchi & Kaoru Kurata, Pp. 17263–17275

Review

A review about fish walking on land

– Arumugam Kumaraguru, Rosette Celsiya Mary & Vijayaraghavalu Saisarawathi, Pp. 17276–17286

Communications

Diversity, distribution and conservation status of the Adder's-tongue ferns in Goa, India

– Sachin M. Patil & Kishore Rajput, Pp. 17287–17298

An inventory of the native flowering plants in East Siang District of Arunachal Pradesh, India

– Momang Taram, Dipankar Borah, Hui Tag & Ritesh Kumar Choudhary, Pp. 17299–17322

Crepuscular hunting of swiftlets (Family: Apodidae) by Besra (Family: Accipitridae) in the urban areas of the Andaman Islands, India

– Amruta Dhamorikar, Dhanusha Kawalkar, Prathamesh Gurjarpadhye & Shirish Manchi, Pp. 17323–17329

A study on diversity of mammalian species using camera traps and associated vegetation in Mizoram University Campus, Aizawl, Mizoram

– J.H. Zothanpuii, Sushanto Gouda, Abinash Parida & G.S. Solanki, Pp. 17330–17339

Short Communications

Distribution of *Syzygium travancoricum* Gamble (Myrtaceae), a Critically Endangered tree species from Kerala part of Western Ghats, India

– V.B. Sreekumar, K.A. Sreejith, M.S. Sanil, M.K. Harinarayanan, M.P. Prejith & R.V. Varma, Pp. 17340–17346

Butterflies (Lepidoptera: Rhopalocera) of the undivided Midnapore District, West Bengal, India: a preliminary report

– Anirban Mahata, Niladri Prasad Mishra & Sharat Kumar Palita, Pp. 17347–17360

Occurrence of *Corica soborna* Hamilton, 1822 (Clupeiformes: Clupeidae) in the Godavari basin, India

– Kante Krishna Prasad, Mohammad Younus & Chelmala Srinivasulu, Pp. 17361–17365

Notes

Strobilanthes affinis (Acanthaceae): a new addition to the flora of Manipur, India

– Sanjeet Kumar & Rajkumari Supriya Devi, Pp. 17366–17369

A new species of the genus *Opius* Wesmael, 1835 (Hymenoptera: Braconidae: Opiinae) from Kashmir Himalaya, India

– Zaheer Ahmed, Ahmad Samiuddin, Altaf Hussain Mir & Mohammad Shamim, Pp. 17370–17373

Larvae of the blow fly *Caiusa testacea* (Diptera: Calliphoridae) as egg predators of *Polypedates cruciger* Blyth, 1852 (Amphibia: Anura: Rhacophoridae)

– W.G.D. Chathuranga, K. Kariyawasam, Anslem de Silva & W.A. Priyanka P. de Silva, Pp. 17374–17379

Blank Swift *Caltoris kumara moorei* (Evans, 1926) (Lepidoptera: Hesperiidae) in Dehradun Valley, Uttarakhand, India: a new record for the western Himalaya

– Arun Pratap Singh, Pp. 17380–17382

First photographic record of the Asiatic Brush-tailed Porcupine *Atherurus macrourus* (Linnaeus, 1758) (Mammalia: Rodentia: Hystricidae) from the Barak Valley region of Assam, India

– Rejoice Gassah & Vijay Anand Ismavel, Pp. 17383–17384

Book Review

A look over on Red Sanders

– S. Suresh Ramanan, Pp. 17385–17386

Publisher & Host



Member

