



Ministry of Environment, Forest
and Climate Change



PLANTS OF INDIAN HIMALAYAN REGION

AN ANNOTATED CHECKLIST & PICTORIAL GUIDE

PART-I



Botanical Survey of India

NMHS

PLANTS OF INDIAN HIMALAYAN REGION

(AN ANNOTATED CHECKLIST & PICTORIAL GUIDE)

(PART - I)

by

**Paramjit Singh
Sudhansu Sekhar Dash
Bipin Kumar Sinha**

With contributions from

**Dinesh Singh Rawat, Sudipta Kumar Das,
Vikash Kumar, Samiran Panday, Subhajit Lahiri,
Deep Shekhar Das & Arnab Banarjee**



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BOTANICAL SURVEY OF INDIA

BOTANICAL SURVEY OF INDIA

(National Mission on Himalayan Studies)

2019

PLANTS OF INDIAN HIMALAYAN REGION

(AN ANNOTATED CHECKLIST & PICTORIAL GUIDE)
(PART - I)

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Front cover : Panoramic view of Alpine landscape of Sikkim Himalaya at Dzongri

Back cover :

| | |
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1. *Rhododendron falconeri* Hook. f.
2. *Cardamine macrophylla* Willd.
3. *Aster tricephalus* C.B. Clarke
4. *Swertia multicaulis* D. Don

Photo credit: Subhajit Lahiri

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प्रकाश जावडेकर
Prakash Javadekar



मंत्री
पर्यावरण, वन एवं जलवायु परिवर्तन मंत्रालय,
सूचना एवं प्रसारण मंत्रालय
भारत सरकार
Minister
Ministry of Environment, Forest & Climate Change,
Ministry of Information and Broadcasting
Government of India



MESSAGE

The Indian Himalayan Region provides a wide range of ecosystem services and also presents a beautiful landscape. It plays an important role in global atmospheric circulation, the hydrological cycle, food security and economic activities of the people of Indian subcontinent. The diverse ecosystems of the Himalaya, evolved over millions of years, support high diversity of flora at the same time threatened. Recognizing all these global significance the entire Himalaya has also been included in the Global biodiversity Hotspots. Hence long term monitoring of the biodiversity; development of protocol for floral assessment of this fragile ecosystem, and its timely management involving all stake holders is need of the hour.

I am happy to know that, Botanical Survey of India, the apex research organizations on plant taxonomy of this ministry, is publishing this book “Plants of Indian Himalayan Region: An annotated checklist and pictorial guide” in two parts. I am also delighted to know that, this book is the outcome of the project “Biodiversity Assessment through Long-term monitoring plots in the Indian Himalayan Landscape” assigned to Botanical Survey of India under the prestigious “National Mission for Himalayan Studies” scheme. The book contains an exhaustive checklist of 11,157 taxa, belonging to 2,359 genera and 241 angiosperm families that are occurring in Indian Himalayan Regions with updated nomenclature and detailed distribution. The book in two volumes also provides detailed introduction providing the geography, ecology, vegetation pattern and forest types of Indian Himalayas. Over 2000 digital images of the plants are given in 358 photo plates.

I congratulate the entire team of authors and contributors for bringing out this important book. I hope the book will be useful to all stakeholders including students, academicians, researchers, environmentalists, policy makers and the overseas botanical fraternity to know about the plant wealth of this great mountain range.

Date: 30.10.2019


(Prakash Javadekar)



सी.के.मिश्रा
C.K.Mishra



सत्यमेव जयते

सचिव
भारत सरकार
पर्यावरण, वन एवं जलवायु परिवर्तन मंत्रालय
SECRETARY
GOVERNMENT OF INDIA
MINISTRY OF ENVIRONMENT, FOREST AND CLIMATE CHANGE



MESSAGE

Recent studies reveal that, Himalayan ecosystems have been adversely affected due to natural and man-made interventions, including climate change. Many noticeable impacts such as changes in species abundance and range, shifts in habitat, change in phenology have been observed. To understand all these impacts, knowledge on plant diversity is essential. Unless we identify the indicator plant, monitoring of these fragile ecosystems is not possible. Botanical Survey of India (BSI) has been studying floral diversity in Himalaya and documenting its composition. I am happy to know that BSI has established long term floral diversity monitoring plots in Indian Himalayan region as pilot study, to monitor the change in floral diversity.

I am also delighted to know that in this endeavour, BSI is publishing an updated checklist of plants of entire Indian Himalayan Region (IHR) which is first of its kind. This publication; *“Plants of Indian Himalayan Region: An annotated checklist and pictorial guide”* in two parts, enumerates correct botanical names of 11157 taxa, under 2359 genera and 241 families along with 358 photo plates.

I congratulate the relentless efforts of Director, BSI and his team of Scientists in bringing out the information of Himalayan plants, otherwise scattered in sporadic publications. I am sure the book; *“Plants of Indian Himalayan Region: An annotated checklist and pictorial guide”* (in two parts) will be greatly useful in creating awareness among wide range of audience and update our knowledge on plant diversity of entire Indian Himalaya Region.


[C.K. Mishra]

New Delhi, the 1st November, 2019

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रवि अग्रवाल
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भारत सरकार
ADDITIONAL SECRETARY
MINISTRY OF ENVIRONMENT, FOREST &
CLIMATE CHANGE
GOVERNMENT OF INDIA

Dated: 31/10/2019




MESSAGE

I am happy to know that, Botanical Survey of India (BSI) has accomplished successfully the pilot project “Biodiversity Assessment through Long-term Monitoring plots in Indian Himalayan Landscape” under National Mission on Himalayan Studies. In the endeavour, BSI has been able to make a checklist of plants in Indian Himalayan Regions and publishing the book “Plants of Indian Himalayan Regions: An annotated checklist and pictorial guide”.

A rich variety of floral components of entire Himalaya and their ecosystem services are well recognized. Systematic documentation of occurrences and distribution of plant species are contributing immensely the conservation measure of these fragile ecosystems. I am delighted to know that, the book enumerates 11,157 taxa, belonging to 2,359 genera and 241 angiosperm families with more than 2000 digital images in 358 photo plates. The book will not only update our knowledge about the plant diversity of Indian Himalaya Region but also, will be an instrument for correct identity of the species.

I congratulate the team for their meticulous compilation of this pictorial guide of Himalayan plants and also to fulfill one of the major thrust areas of the ministry and mission to identify the floral component of Indian Himalayan Region.


(RAVI AGRAWAL) 31/10



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Dr. A. A. Mao
Director
Botanical Survey of India



FOREWORD

Botanical Survey of India, the premier research organisation on taxonomy has been engaged in documenting plant diversity from diverse ecosystems of our country. Continuous survey and exploration in different ecosystems, this organization have assembled enormous information on occurrence and distribution of plants species of our country. Many of the publication of BSI have been recognized as the integral referral taxonomic literatures. To increase our scope of research for a wider audience, BSI was assigned a pilot project on “Biodiversity Assessment through Long-term monitoring plots in the Indian Himalayan Landscape” under the prestigious “National Mission for Himalayan Studies” which was successfully completed.

I am happy that, in this endeavour BSI is able to publish the “Plants of Indian Himalayan Region: An annotated checklist and pictorial guide” in two volumes which enumerates 11,157 taxa, belonging to 2,359 genera and 241 angiosperm families with more than 2000 digital images. This exhaustive information is a first of its own kind and also fulfils the one of the mandate of Ministry and Indian obligation under Aichi Targets.

It is our sincere hope that this compilation will serve as a valuable baseline data for researchers, policy makers and the common plant lovers. This will also definitely help to identify the plants of this region and lay a foundation for further for progressive research in plant diversity.

I congratulate the authors and the contributors for their dedicated effort to bring out this book. I am also sure that this publication will enhance our knowledge on plant resources of Himalaya by creating awareness amongst the common people in particular.

A handwritten signature in blue ink, appearing to read 'A.A. Mao', with a horizontal line underneath.

(A.A. Mao)
Director

PREFACE

The Himalayas, literally meaning as '*abode of snow*', is a 2500 km long arc-shaped mountain range which is not only jewelled with snow-clad peaks and glaciers, but also wide extended lush-green forests harbouring one of the most biodiversity rich regions on the earth. The entire Himalaya has also been included amongst 35 Global biodiversity Hotspots. The diverse ecosystems of Himalaya are not only present beautiful landscapes, but also play important role in global atmospheric circulation, the hydrological cycle, and water resources availability, and provide a wide range of ecosystem services to the local inhabitants. A comprehensive information on the plant diversity particularly on taxonomy, correct identity and distribution is need of the hour.

In the present endeavour, which was part of the project under National Mission on Himalayan Studies (NMHS), implemented by Ministry of Environment, Forest & Climate Change (MoEF & CC), Government of India, we have documented the angiosperm diversity that were reported from Indian Himalayan Region (IHR) with updated nomenclature and detailed distribution. The inventory includes 11,157 taxa, belonging to 2359 genera and 241 angiosperm families, which are reported for the first time in this book on a comprehensive manner. The book also provides a detailed introduction on the geography, ecology, vegetation pattern and forest types of Indian Himalayas. The dicotyledons and monocotyledons share 77.03% and 22.97% of the himalayan plant resources.

The information is provided in two parts. All the families are arranged alphabetically. The part 1 deals from family Acanthaceae to Nymphaeaceae while the part 2 deals from family Nyssaceae to Zingiberaceae. The valid names are given in bold while the basionyms of synonyms were given in italics. The checklist divided into dicotyledons and monocotyleds, families within groups, genera within families and species and infra-specific taxa within genera are arranged alphabetically under each genus for the sake of convenience; in the end of the text a index to the family names is also included. All the taxa were provided with their distribution in the Indian Himalayan Region. Over 2000 digital images of the plants are given in 358 photo plates.

We hope, the book will be useful to all stakeholders including the national and international botanical fraternity, particularly those who are interested in plant wealth of Himalayas and policy makers to formulate effective conservation, management and sustainable development measures.

Paramjit Singh
Sudhansu Sekhar Dash
Bipin Kumar Sinha

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The Ministry of Environment, Forest and Climate Change (MoEF&CC), Government of India, implemented the scheme ‘The National Mission on Himalayan Studies (NMHS)’ in the year 2014–15 as an initiative to support study on biodiversity, ecology and , and socio-economic values of the Indian Himalayas Region (IHR).The ‘Biodiversity Conservation and Management’ is being one of the seven Broad Thematic Areas (BTAs) of the NMHS linked with (i) Mountain Biodiversity Database and Information System (MBDIS), (ii) Assessment of Ecosystem Health and Harnessing Potential for Overall Development by involving SBB and BRs in the IHR and (iii) Promoting recovery of Threatened Species by Involving State and Institutional Partners. In this respect, the present work is a the outcome of the effort of Botanical Survey of India (BSI),to compile the floristic wealth (Angiosperms) of IHR using both primary (field surveys) and secondary information sources (published literature and herbaria). The MoEF&CC is sincerely acknowledged for financial support through NMHS project (NMHS/2015–16/LG–05) entitled “Biodiversity Assessment through Long-term Monitoring Plots in the Indian Himalayan Landscape”.

We are grateful to the Principal Chief Conservator of Forests & Head of Forest Departments(PCCF &HoFF) of Arunachal Pradesh, Himachal Pradesh, Sikkim, Uttarakhand and West Bengal, for granting permission to conduct field surveys in different study sites located in these states. The Directors, District Forest Officersand other forest officials of the Great Himalayan National Park, Valley of Flowers National Park, Neora Valley National Park,Kyongnosla Alpine Sanctuary, Khangchendzonga Biosphere Reserve, Tawangand Namdapha National Park are thankfully acknowledged for their co-operation and providing logistic support throughout the study especially during the field surveys. The Deputy Commissioner of Sikkim (Gnathang) and Tawang district are also thanked, for granting accessibility to the restricted areas under Indian Army and Forest Department.

The information included in this work have been sourced from the various floristic accounts including books, flora, monographs, research papers represented the flora of different pockets on IHR. We are also thankful to the authors and compilers of the following notable sources used to compile the present work –**The flora of British India** (vol. 1–7), **Flora of India**(vol. 1–5, 12, 13 and 23), **Fascicles**

of Flora India (part 1–28), Flowering plants of India, Dicotyledons, High altitude Flowering plants of Western Himalaya, Plant Wealth of Nanda Devi Biosphere Reserve, Rhododendrone of North-East India–A pictorial Hand Book, Flora of cold desert (vol. 2) and Balsams of Eastern Himalaya. Apart from these, several regional floristic accounts i.e. Flora of Cold Deserts of Western Himalaya (vol. 1–2), Flora of Jammu and Plants of neighborhood (vol. 1–2), Flora of Ladakh, Alpine flora of Kashmir Himalaya, Flora of Udhampur, etc. from **Jammu & Kashmir**; Flora of Lahaul-Spiti (A cold desert in North West Himalaya), Flora of Himachal Pradesh: An analysis (vol. 1–3), Flora of the Pin Valley National Park, Lahul-Spit, Flora of Great Himalayan National Park, Flora of Kullu district, etc. from **Himachal Pradesh**; Flora of Uttarakhand (vol. 1), Flowering Plants of Uttarakhand: A Checklist, Flora of Gangotri National Park Western Himalaya, Flora of the District Garhwal, North West Himalaya (with Ethnobotanical Notes) Flora of Chamoli from **Uttarakhand**; Flora of Darjeeling Himalayas and Foothills (Angiosperms), Flora of West Bengal, Flora of Sikkim, Flora of Kanchenjunga Biosphere Reserve, from **Sikkim and Darjeeling**; A Contribution to the Flora of Namdapha, Materials for the Flora of Arunachal Pradesh (vol. 1–3.), Floristic Diversity of Arunachal Pradesh (Upper Subansiri District), Flora of Lower Subansiri District, Flora of KurungKumey District, from **Arunachal Pradesh** were used as secondary data sources.

We are also grateful all our colleagues of Botanical Survey of India and University for providing selected field and plant photographs.

We are thankful to the Director, Botanical Survey of India for providing constant encouragement and facilities. The Director, G.B. Pant National Institute of Himalayan Environment & Sustainable Development (GBPNIHE&SD) Uttarakhand and Er. Kireet Kumar, Scientist 'G' & Nodal Officer, NMHS-PMU, GBPNIHE&SD and NMHS staff for their communications and cooperation in smooth running of the project. We also extend our gratitude to Dr, P.V. Prasanna (Former Head, CNH), Dr. V.P. Prasad (Head, CNH) and the Heads of all the regional circles of Botanical Survey of India for providing necessary supports during this compilation.

Authors and Contributors

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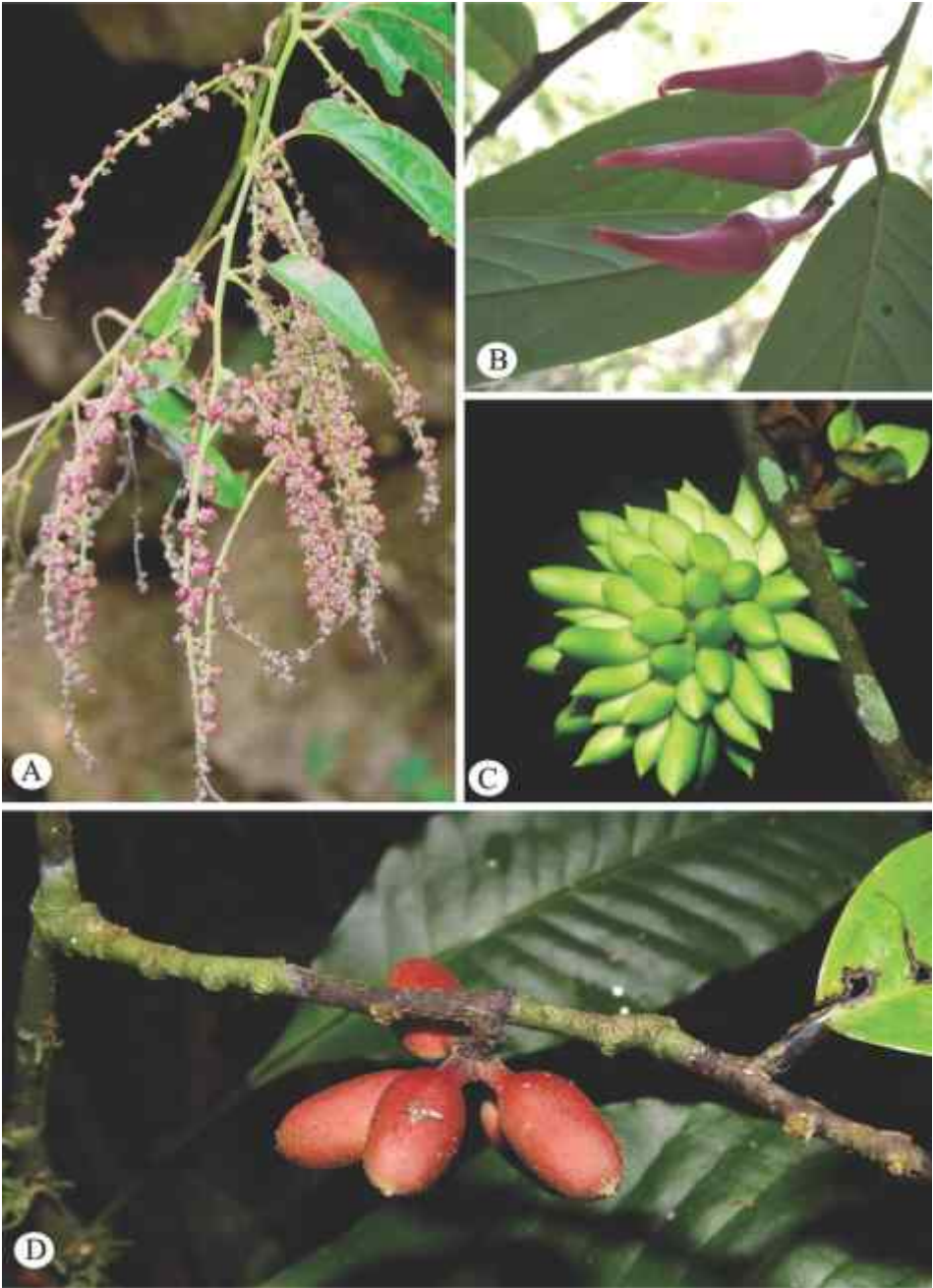


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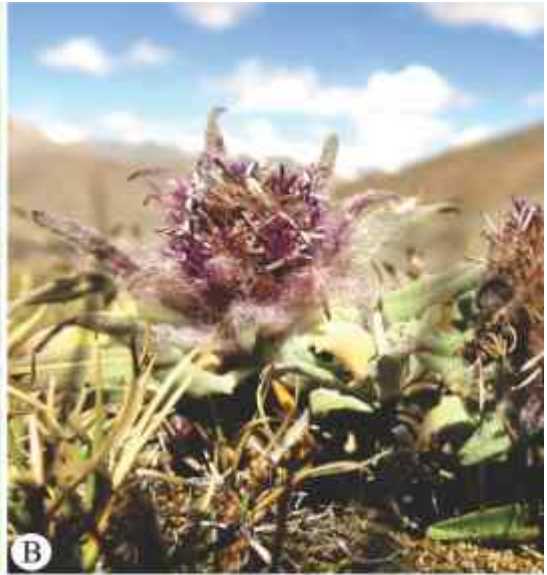


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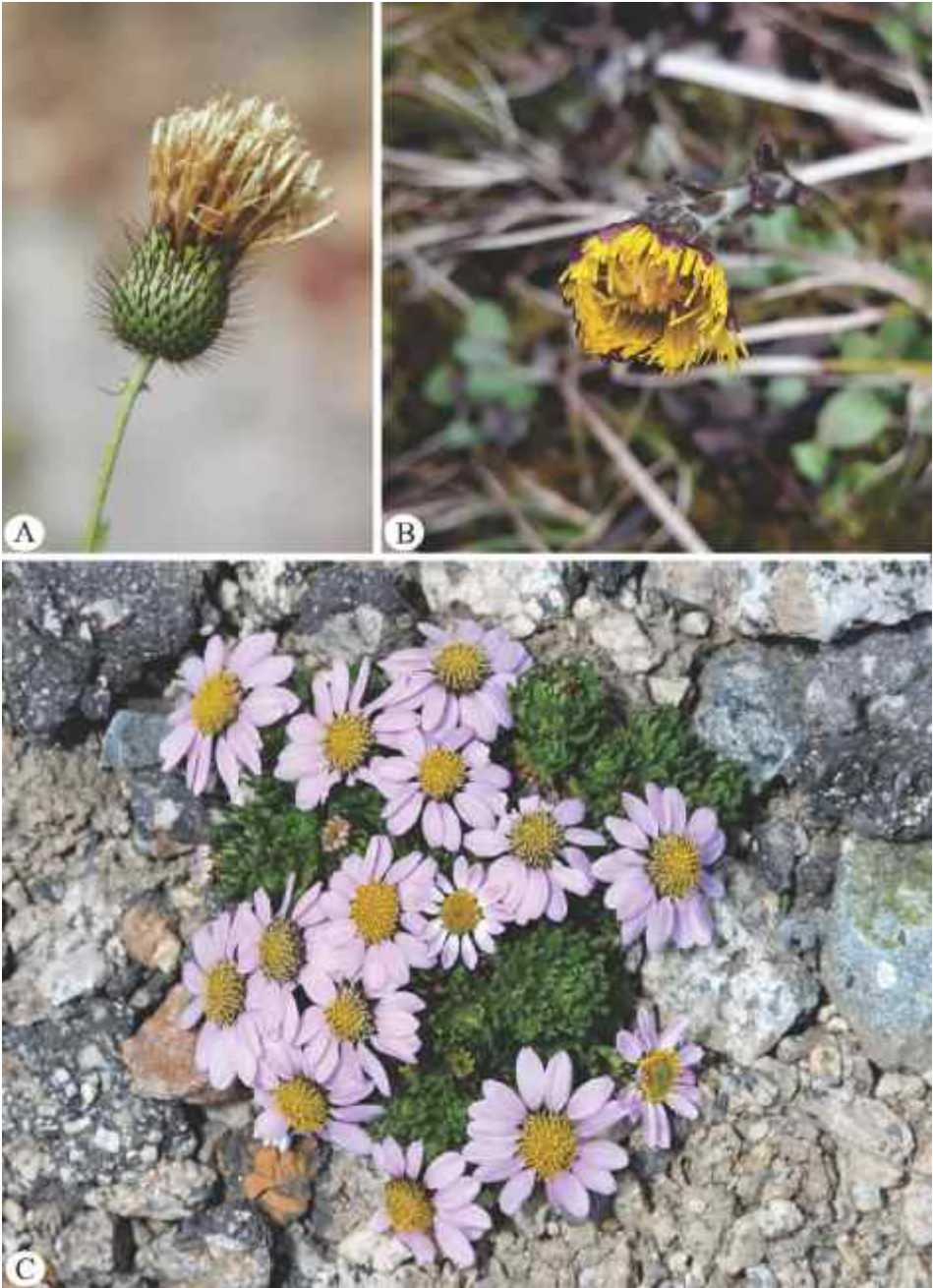


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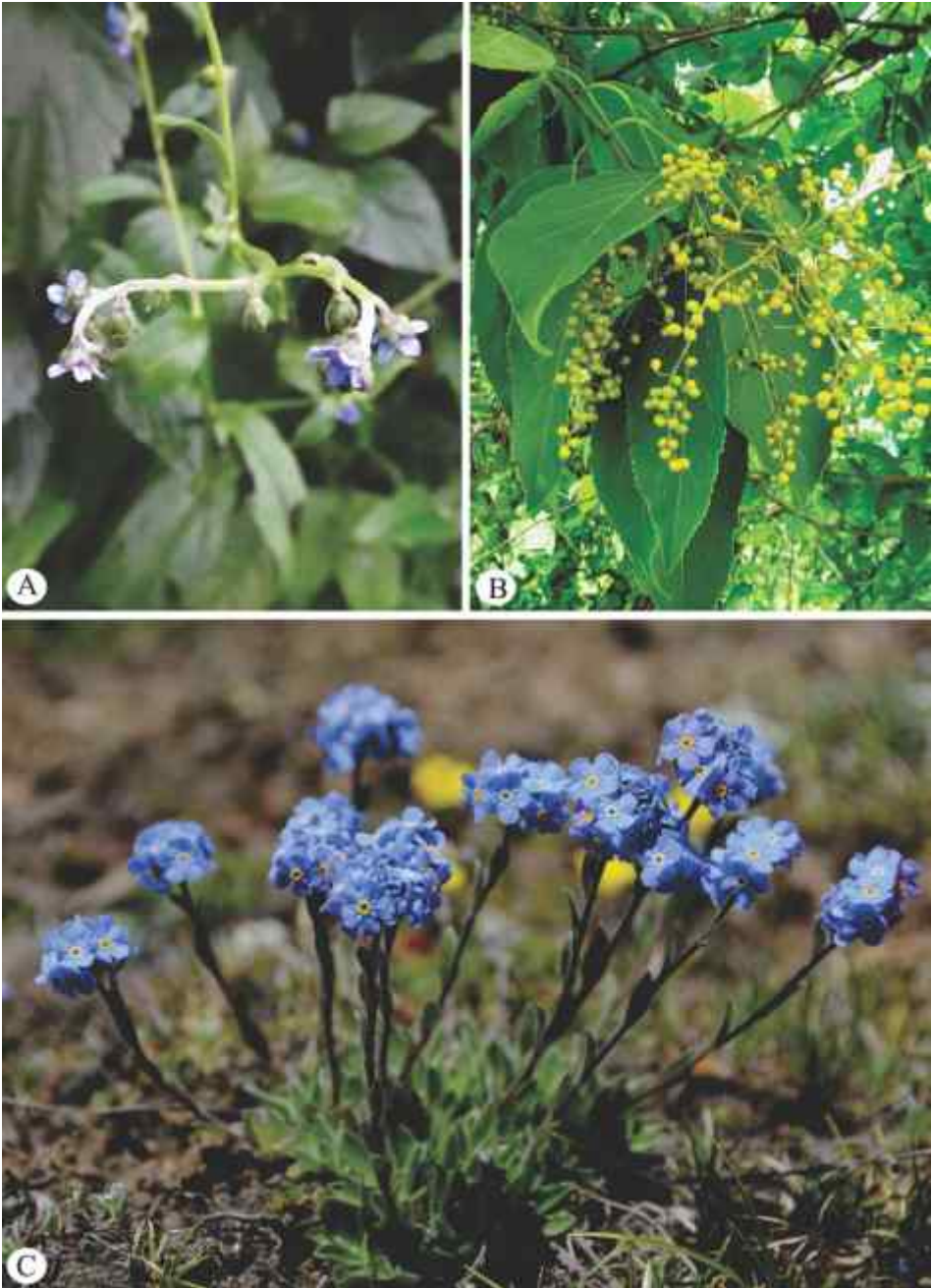


Plate 50: **A.** *Cynoglossum zeylanicum* (Vahl) Brand; **B.** *Ehretia acuminata* R. Br.; **C.** *Eritrichium nanum* (L.) Schrad. ex Gaudin



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Plate 52: A. *Arcyosperma primulifolium* (Thomson) O.E.Schulz; B. *Barbarea intermedia* Boreau

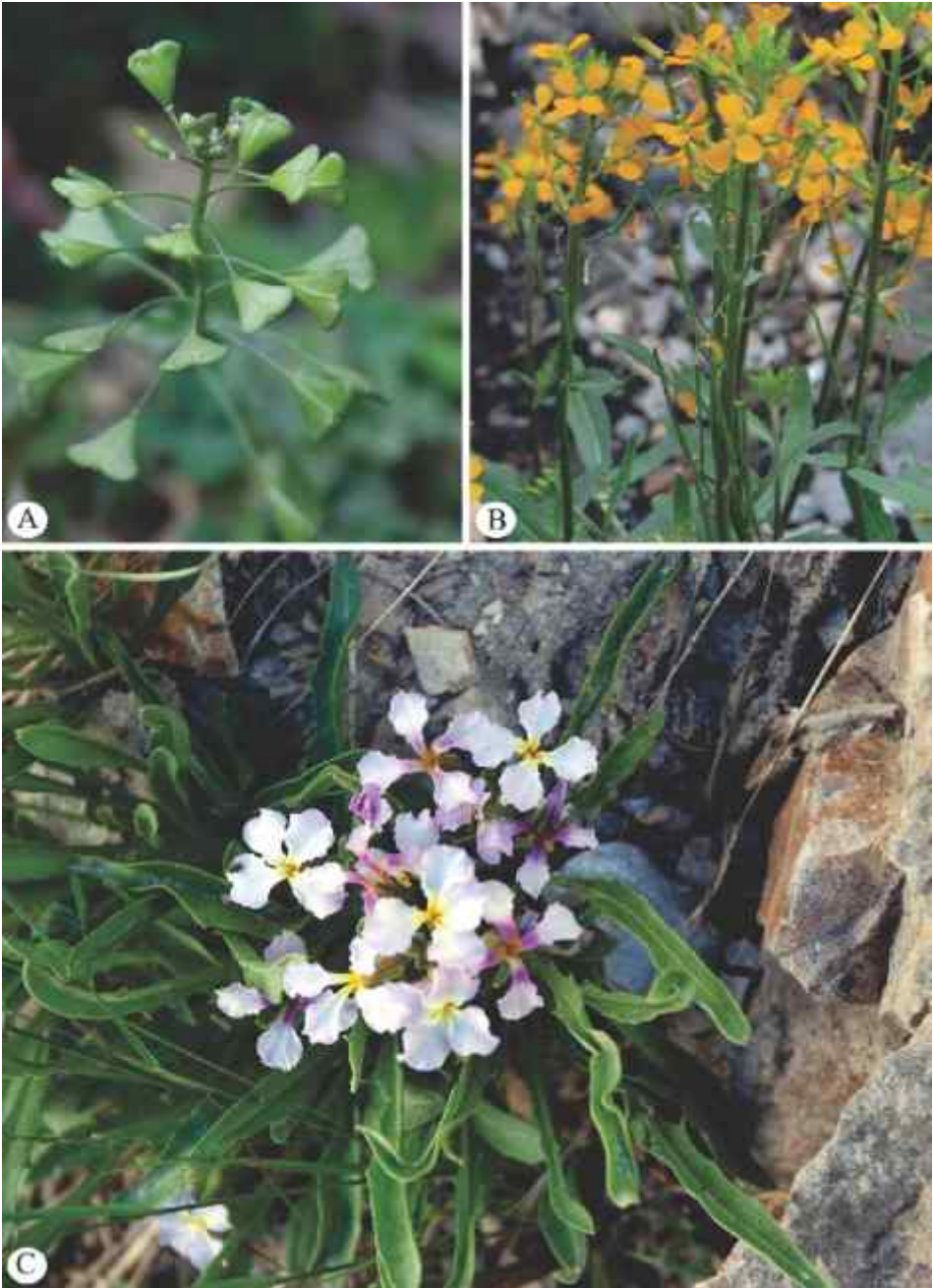


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Plate 56: A. *Codonopsis foetens* Hook.f. & Thomson; B. *Codonopsis javanica* (Blume) Hook.f. & Thomson; C. *Campanula aristata* Wall.; D. *Codonopsis thalictrifolia* Wall.



Plate 57: A. *Cyananthus inflatus* Hook.f. & Thomson; B. *Cyananthus integer* Wall. ex Benth.; C. *Cyananthus lobatus* Wall. ex Benth.; D. *Cyananthus macrocalyx* Franch. subsp. *spathulifolius* (Nannf.) K. K. Shrestha

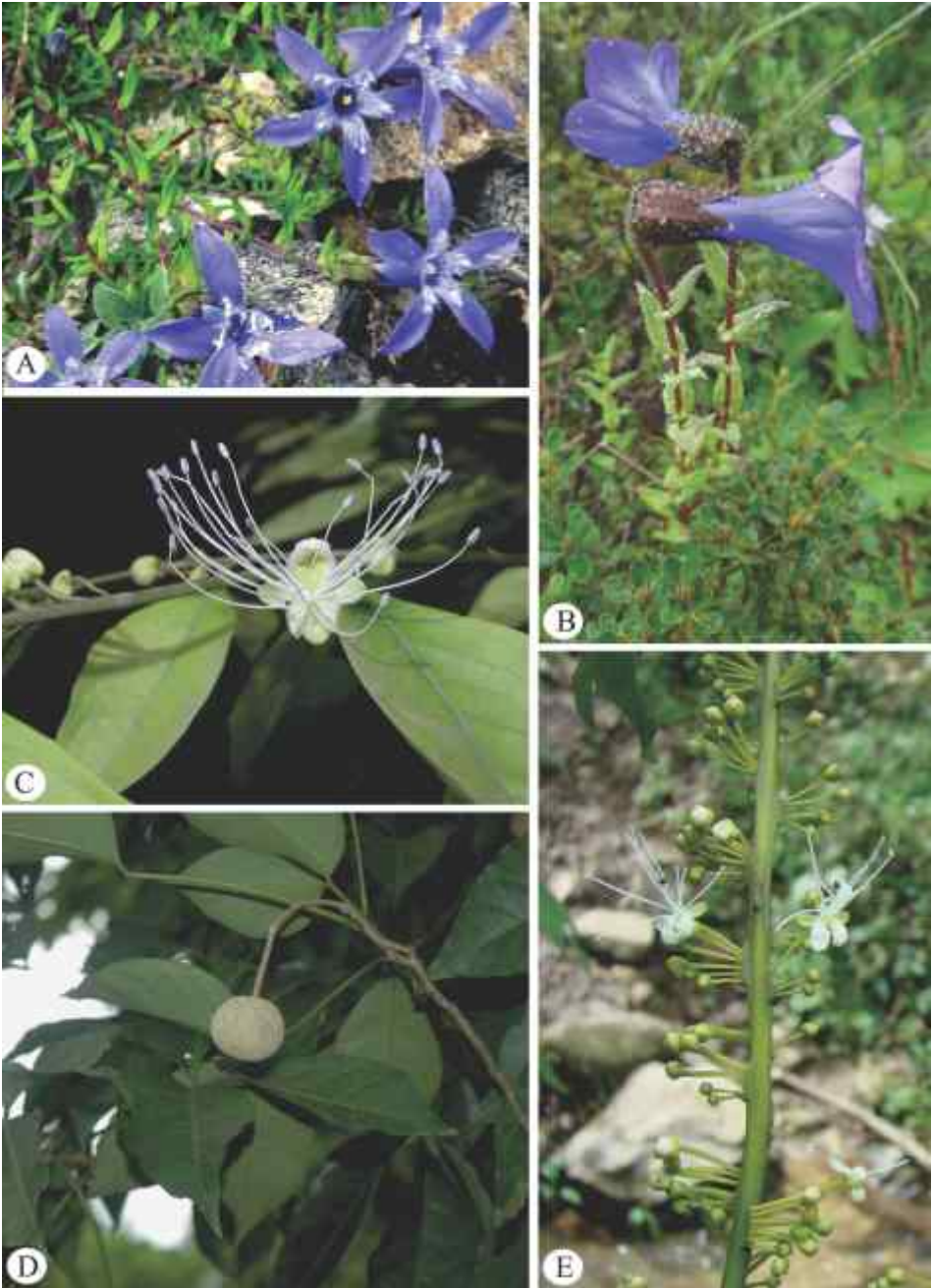


Plate 58: A. *Cyananthus microphyllus* Edgew.; B. *Cyananthus pedunculatus* C.B. Clarke; C. *Capparis acutifolia* Sweet; D. *Crateva religiosa* G. Forst.; E. *Capparis multiflora* Hook.f. & Thomson

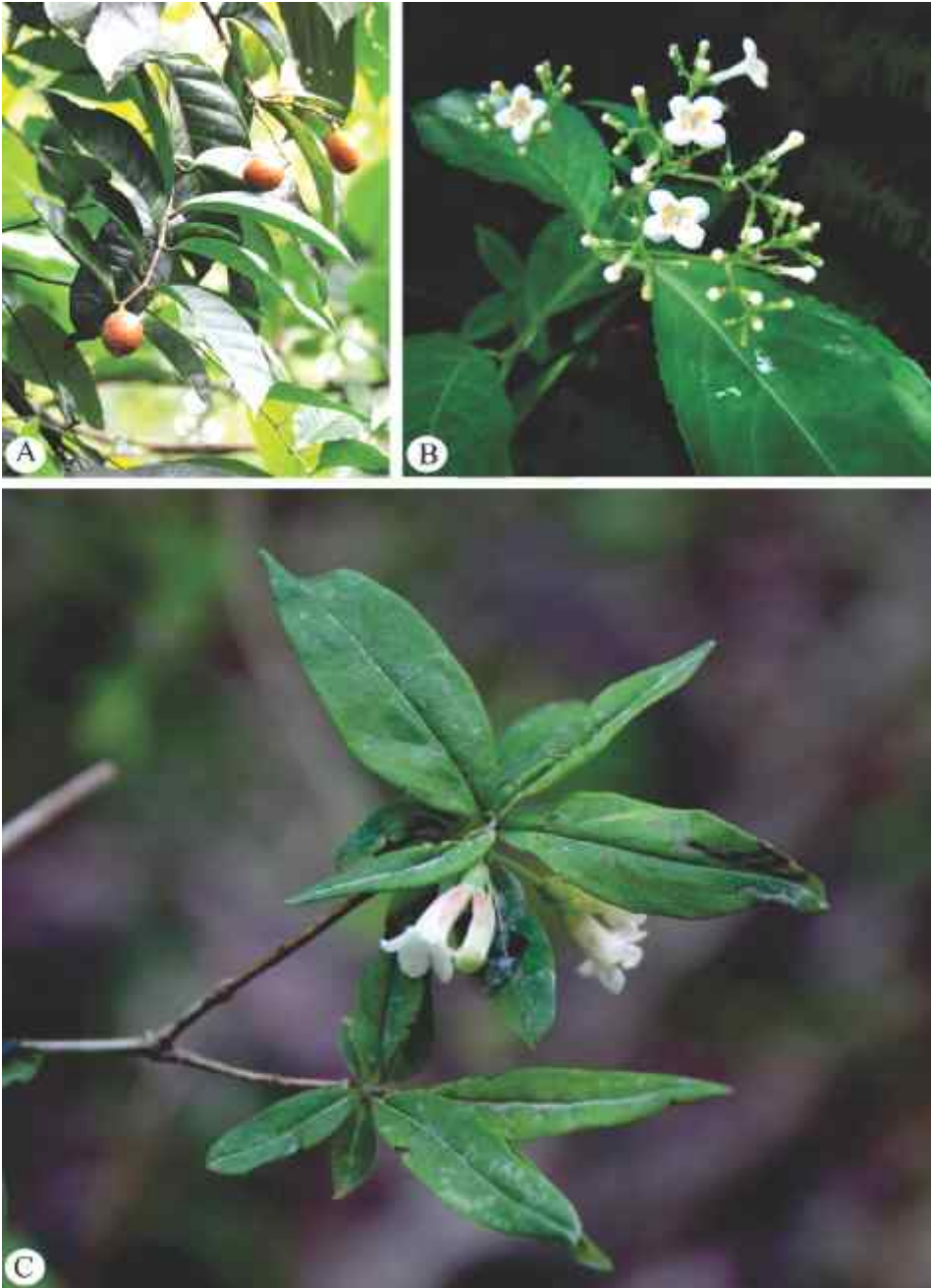


Plate 59: **A.** *Stixis suaveolens* (Roxburgh) Pierre; **B.** *Carlemannia tetragona* Hook.f.; **C.** *Devendraea angustifolia* (Wall. ex DC.) Pusalkar



Plate 60: A. *Leycesteria formosa* Wall.; B. *Lonicera asperifolia* Hook.f. & Thomson; C. *Lonicera glabrata* Wall.



Plate 61: A. *Sambucus javanica* Blume; B. *Viburnum foetidum* Wall.; C. *Viburnum mullaha* Buch.-Ham. ex D. Don



Plate 62: A. *Viburnum grandiflorum* Wall. ex DC.; B. *Arenaria festucoides* Benth.

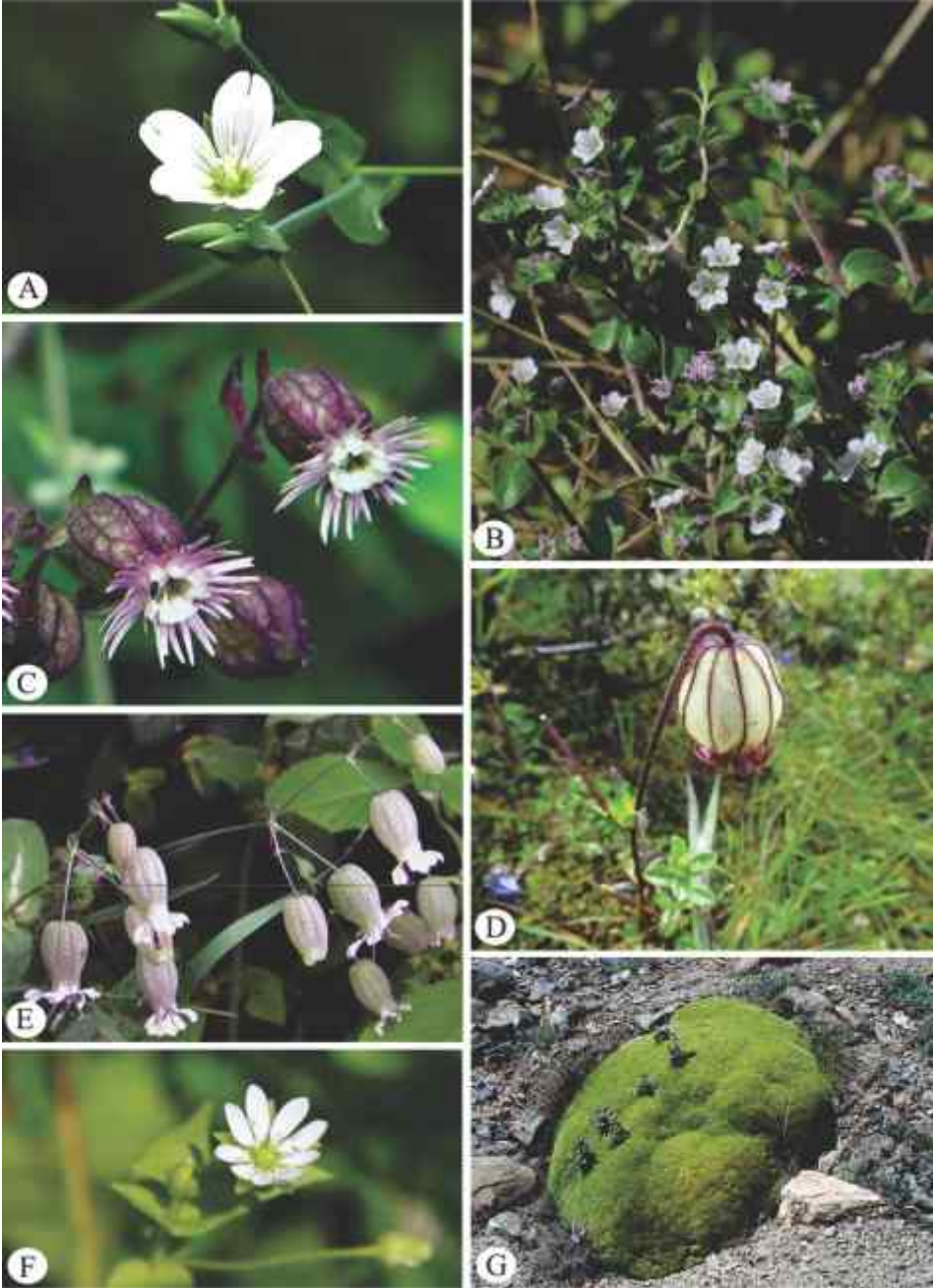


Plate 63: **A.** *Cerastium davuricum* Fisch. ex Spreng; **B.** *Gypsophila cerastoides* D.Don; **C.** *Silene indica* (Roxb.) Roxb. ex Otth var. *edgeworthii* (Bocquet) Y.J.Nasir; **D.** *Silene nigrescens* (Edgew.) Majumdar; **E.** *Silene vulgaris* (Moench) Garcke; **F.** *Stellaria aquatica* (L.) Scop.; **G.** *Thylacospermum caespitosum* (Cambess.) Schischk.



Plate 64: A. *Celastrus paniculatus* Willd.; B. *Euonymus echinatus* Wall.; C. *Euonymus fimbriatus* Wall.; D. *Euonymus tingens* Wall.



Plate 65: A. *Chenopodium foliosum* Asch.; B. *Chloranthus elatior* Link; C. *Chloranthus elatior* Link (Inflorescence close-up view)

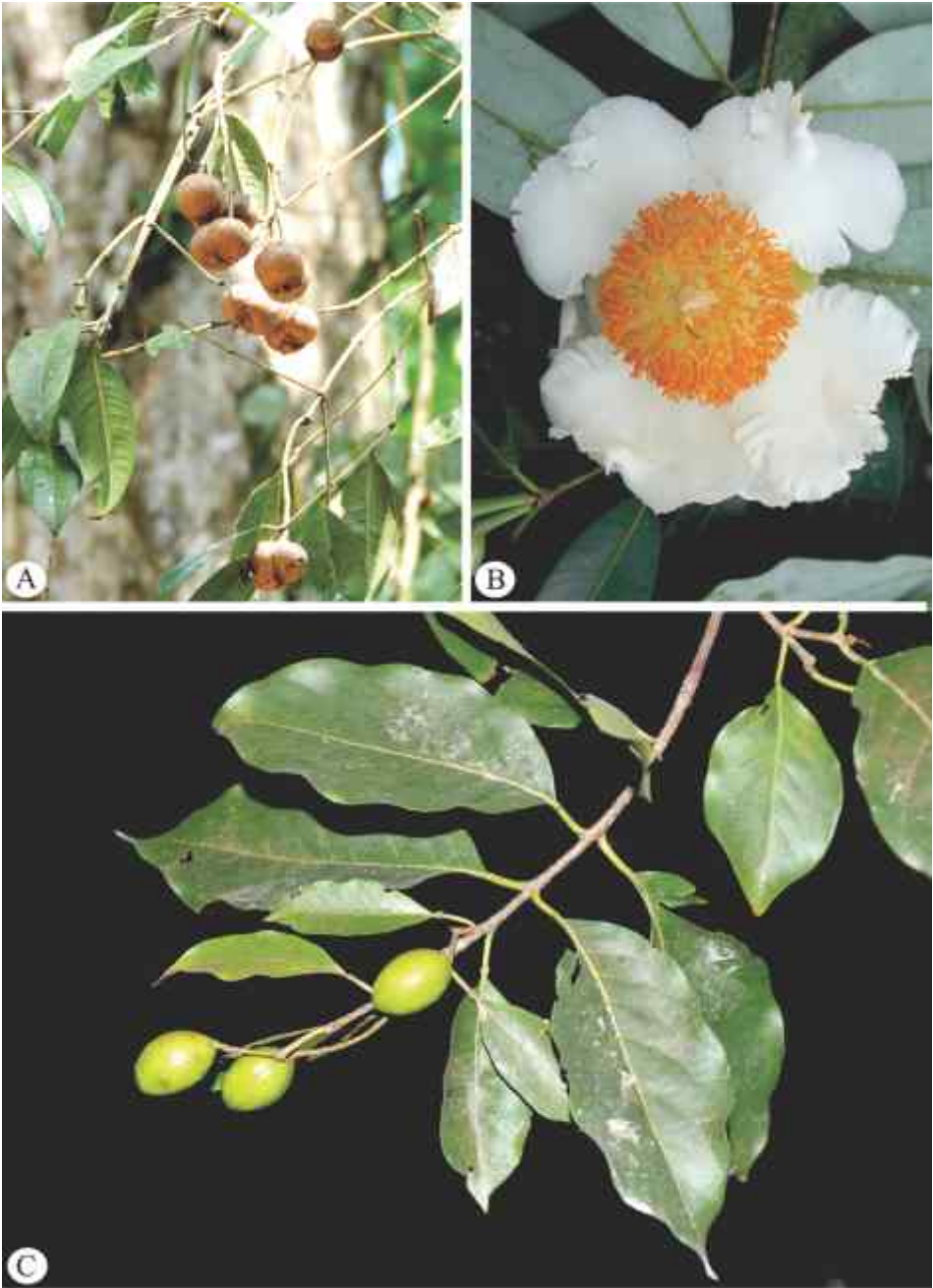


Plate 66: A. *Mesua assamica* (King ex Prain) Kosterm.; B. *Mesua ferrea* L.; C. *Terminalia chebula* Retz.



Plate 67: A. *Connarus paniculatus* Roxb.; B. *Ipomoea purpurea* (L.) Roth; C. *Operculina turpethum* (L.) Silva Manso



Plate 68: **A.** *Rhodiola crenulata* (Hook.f. & Thomson) H.Ohba; **B.** *Rhodiola fastigiata* (Hook.f. & Thomson) S.H.Fu



A



B

Plate 69: A. *Rhodiola imbricata* Edgew.; B. *Rhodiola sinuata* (Royle ex Edgew.) S.H.Fu



Plate 70: **A.** *Rhodiola tibetica* (Hook.f. & Thomson) S.H.Fu; **B.** *Sedum ewersii* Ledeb.; **C.** *Rhodiola wallichiana* (Hook.) S.H.Fu



Plate 71: A. *Gynostemma pentaphyllum* (Thunb.) Makino; B. *Cuscuta europaea* L.; C. *Berneuxia tibetica* Decne



Plate 72: A. *Dillenia indica* L.; B. *Dillenia pentagyna* Roxb.



Plate 73: A. *Dipterocarpus retusus* Blume; B. *Drosera burmanni* Vahl



Plate 74: A. *Drosera peltata* Thunb.; B. *Elaeagnus conferta* Roxb.; C. *Elaeagnus pyriformis* Hook.f.



Plate 75: *Hippophae salicifolia* D. Don



Plate 76: A. *Elaeocarpus rugosus* Roxb. ex G.Don; B. *Sloanea sterculiacea* (Benth.) Rehder & E.H.Wilson var. *assamica* (Benth.) Coode



Plate 77: **A.** *Agapetes atosanguinea* Airy Shaw; **B.** *Agapetes serpens* (Wight) Sleumer; **C.** *Agapetes discolour* C.B.Clarke



Plate 78: *Agapetes megacarpa* W. W. Sm.



Plate 79: A. *Cassiope fastigiata* (Wall.) D. Don; B. *Enkianthus deflexus* (Griff.) C. K. Schneid.



Plate 80: A. *Gaultheria fragrantissima* Wall.; B. *Gaultheria griffithiana* Wight; C. *Gaultheria heteromera* R.C. Fang; D. *Gaultheria hookeri* C.B. Clarke



Plate 81: A. *Gaultheria nummularioides* D.Don; B. *Gaultheria trichophylla* Royle



Plate 82: A. *Lyonia ovalifolia* (Wall.) Drude; B. *Rhododendron anthopogon* D. Don



Plate 83: *Rhododendron arboreum* Sm.



Plate 84: A. *Rhododendron campanulatum* D. Don; B. *Rhododendron cinnabarinum* Hook. f.



Plate 85: A. *Rhododendron grande* Wight; B. *Rhododendron johnstoneanum* Watt ex Hutch.



Plate 86: A. *Rhododendron keysii* Nutt.; B. *Rhododendron lepidotum* Wall. ex G. Don



Plate 87: A. *Rhododendron maddenii* Hook.f.; B. *Rhododendron sanguineum* Franch.; C. *Rhododendron neriifolium* Schltr.



Plate 88: A. *Rhododendron setosum* D. Don; B. *Rhododendron trilactorum* Cowan



Plate 89: A. *Rhododendron wightii* Hook.f.; B. *Vaccinium nummularia* Hook. f. & Thomson ex C.B. Clarke



Plate 90: A. *Euphorbia sharmae* U.C. Bhattach.; B. *Euphorbia maddenii* Boiss.



Plate 91: A. *Leptopus cordifolius* Decne.; B. *Macaranga denticulata* (Blume) Muell. Arg.; C. *Mallotus philippinensis* (Lam.) Muell. Arg.



Plate 92: A. *Ostodes paniculata* Blume; B. *Sarcococca wallichii* Stapf.; C. *Antidesma montanum* Blume; D. *Sauropus androgynus* (L.) Merr.



Plate 93: A. *Castanopsis indica* (Roxb.) Miq.; B. *Lithocarpus pachyphyllus* (Kurz) Rehder; C. *Quercus lamellosa* Sm.



Plate 94: A. & B. *Gynocardia odorata* R.Br.; C. *Hydnocarpus kurzii* (King) Warb.

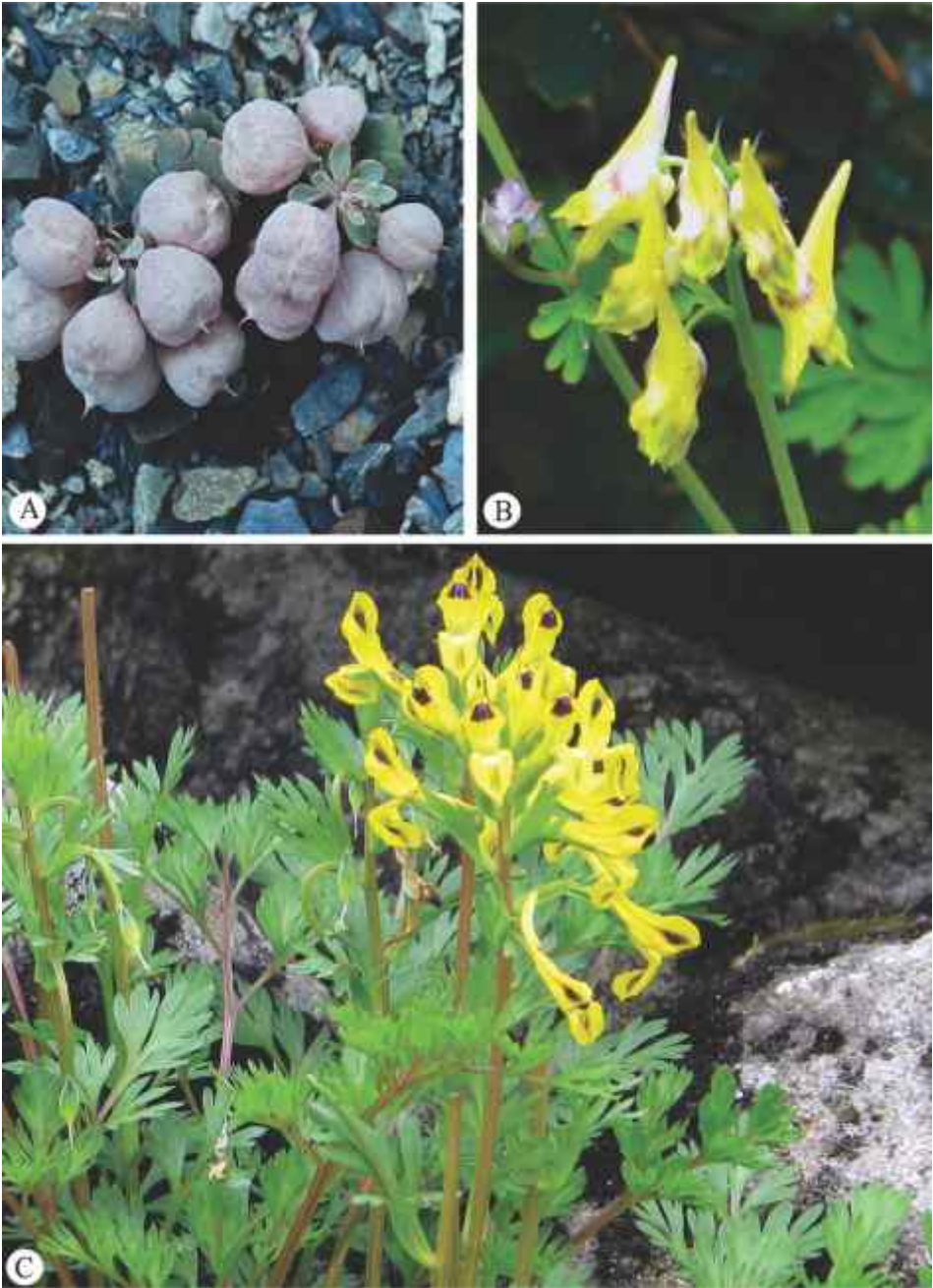


Plate 95: A. *Corydalis crassifolia* Royle; B. *Corydalis filiformis* Royle; C. *Corydalis govaniana* Wall.



Plate 96: *Corydalis juncea* Wall.



Plate 97: A. *Corydalis lhasaensis* C.Y. Wu & Z.Y. Su; B. *Corydalis magni* Pusalkar

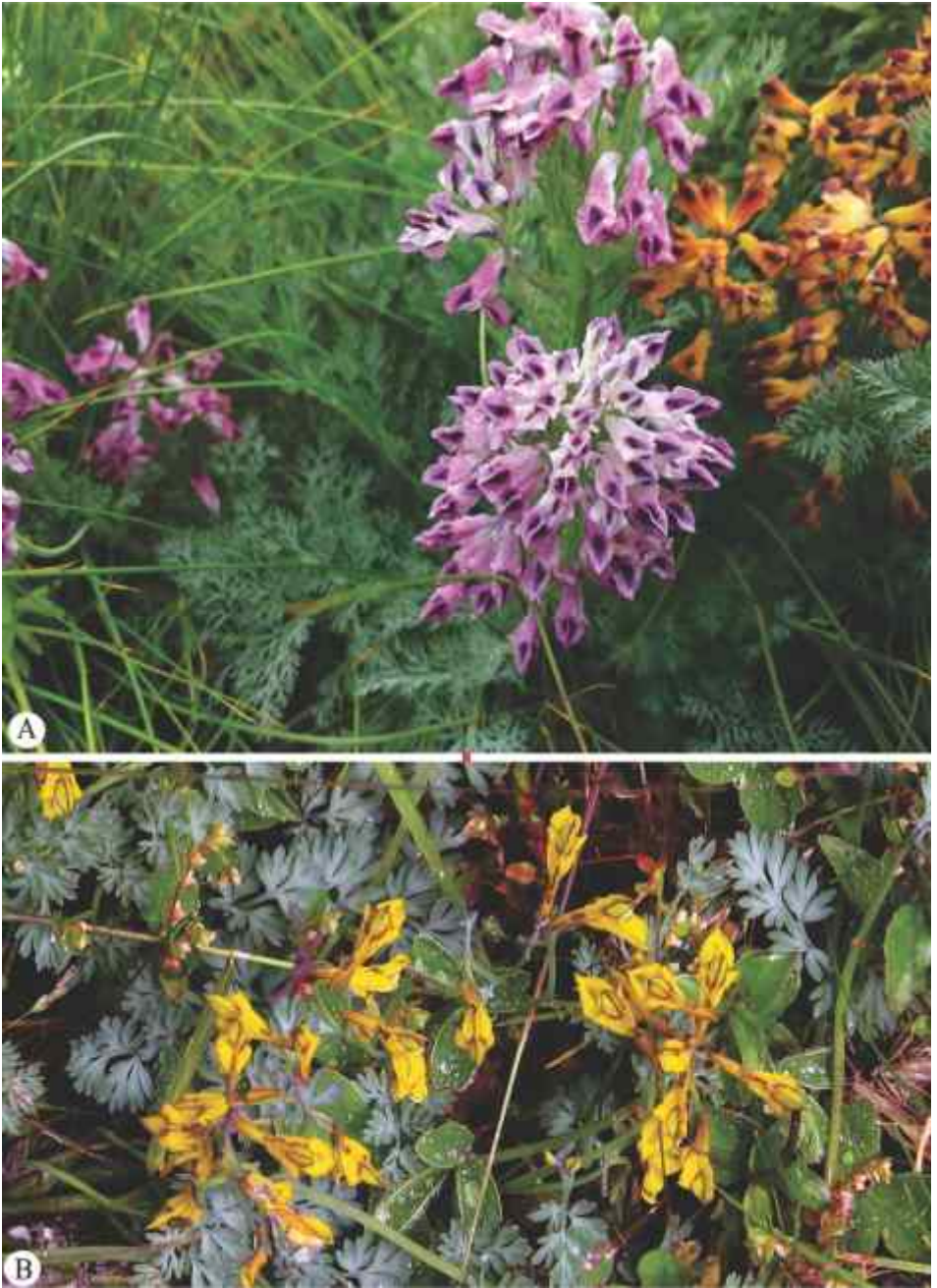


Plate 98: A. *Corydalis meifolia* Wall.; B. *Corydalis stracheyi* Duthie ex Prain

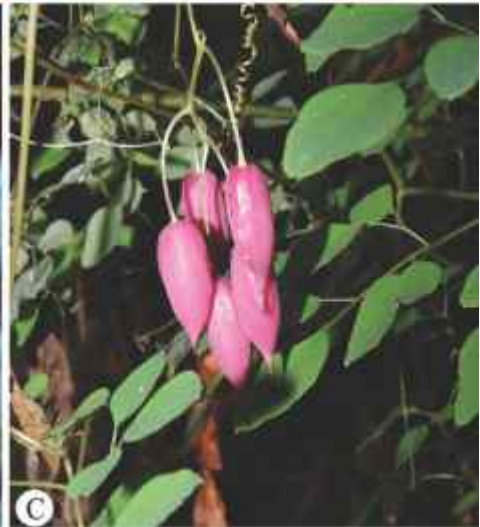


Plate 99: **A.** *Corydalis vaginans* Royle; **B.** *Corydalis violacea* (Vicary ex Prain) Pusalkar & D.K. Singh; **C.** *Dactylicapnos scandens* (D. Don) Hutch.



Plate 100: A. *Crawfurdia campanulacea* Wall. & Griff. ex C.B. Clarke; B. *Crawfurdia speciosa* C.B. Clarke; C. *Gentiana argentea* (Royle ex D. Don) Royle ex D. Don



Plate 101: A. *Gentiana capitata* Buch.-Ham. ex D.Don; B. *Gentiana venusta* (G.Don) Wall. ex Griseb.; C. *Gentiana elwesii* C.B.Clarke



Plate 102: A. *Gentiana stylophora* C.B. Clarke; B. *Halenia elliptica* D. Don



Plate 103: A. *Swertia bimaculata* (Siebold & Zucc.) Hook.f. & Thomson ex C.B. Clarke; B. *Swertia ciliata* (D. Don ex G. Don) B.L.Burt; C. *Swertia multicaulis* D. Don



Plate 104: *Swertia hookeri* C.B. Clarke



Plate 105: A. *Geranium nepalense* Sweet; B. *Geranium polyanthes* Edgew. & Hook.f.



Plate 106: **A.** *Geranium wallichianum* D. Don ex Sweet; **B.** *Geranium pratense* L.

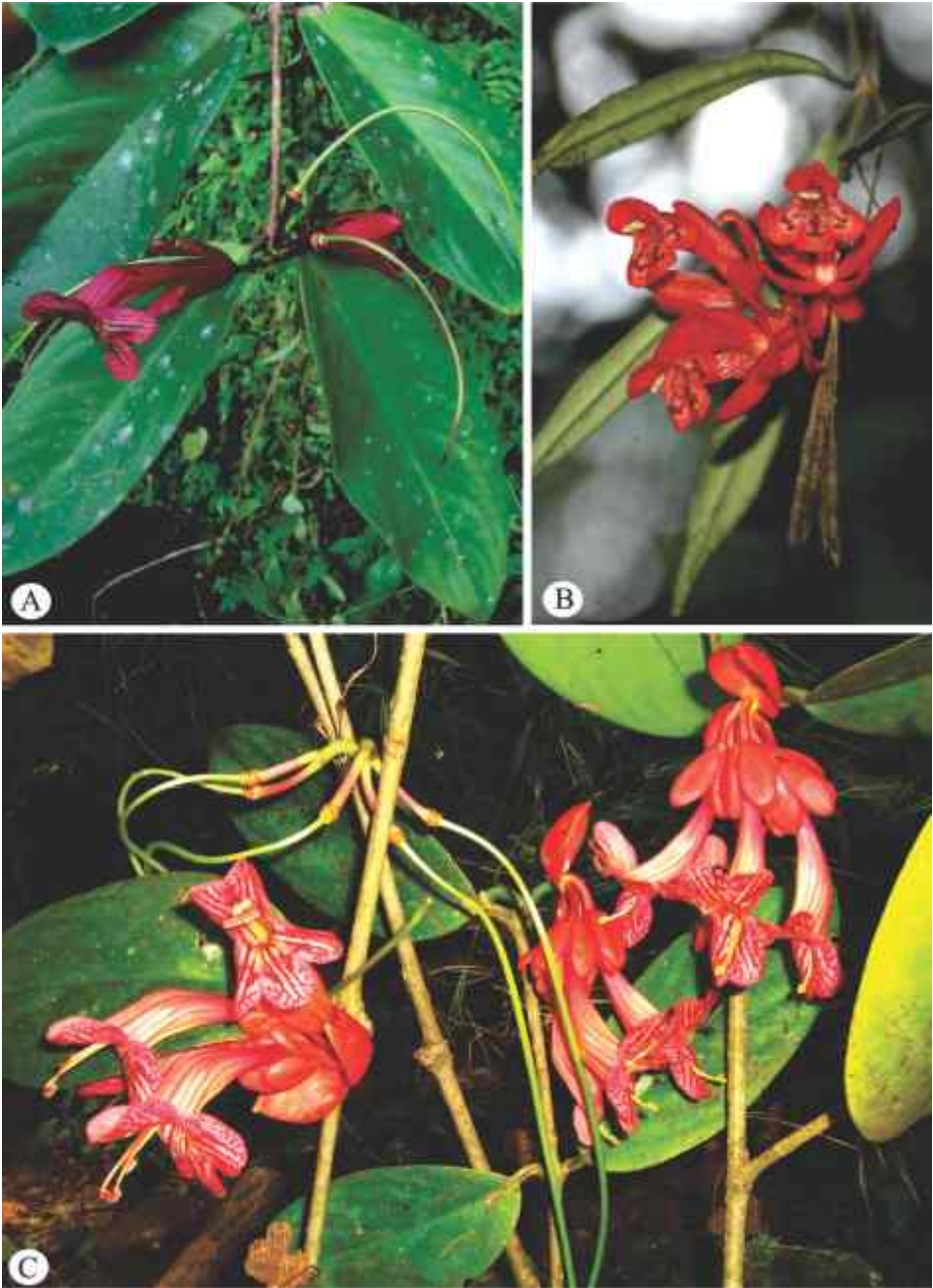


Plate 107: A. *Aeschynanthus acuminatus* Wall. ex DC.; B. *Aeschynanthus parviflorus* (D. Don) Spreng.; C. *Aeschynanthus superbus* C. B. Clarke



Plate 108: A. *Boeica filiformis* C.B. Clarke; B. *Codonanthe devosiana* Lem



Plate 109: A. *Didymocarpus aurantiacus* C.B. Clarke; B. *Didymocarpus pedicellatus* R.Br.



Plate 110: **A.** *Henckelia grandifolia* A.Dietr.; **B.** *Henckelia hookeri* (C.B.Clarke) D.J. Middleton & Mich. Möller



Plate 111: **A.** *Henckelia pumila* (D.Don) A.Dietr.; **B.** *Henckelia urticifolia* (Buch.-Ham. ex D.Don) A.Dietr.



Plate 112: **A.** *Loxostigma griffithii* (Wight) C.B. Clarke; **B.** *Rhynchoglossum obliquum* Blume



Plate 113: *Stauranthera grandifolia* Benth.



Plate 114: A. & B. *Lobelia montana* Reinw. ex Blume



A



B

Plate 115: A. *Ribes orientale* Desf.; B. *Illigera khasiana* C.B. Clarke



Plate 116: A. *Aesculus assamica* Griff.; B. *Aesculus indica* (Wall. ex Cambess.) Hook.



Plate 117: A. *Hydrangea anomala* D. Don; B. *Natsiatum herpeticum* Buch.-Ham. ex Arn.



Plate 118: A. *Hypericum elodeoides* Choisy; B. *Hypericum himalaicum* N. Robson



Plate 119: A. *Hypericum hookerianum* Wight & Arn.; B. *Hypericum japonicum* Thunb.; C. *Hypericum uralum* Buch.-Ham. ex D. Don



Plate 120: A. *Itea chinensis* Hook. & Arn.; B. *Itea nutans* Royle



Plate 121: **A.** *Engelhardia spicata* Lesch. ex Blume; **B.** *Juglans regia* L.



Plate 122: A. *Ajuga integrifolia* Buch.-Ham.; B. *Anisomeles indica* (L.) Kuntze; C. *Colquhounia coccinea* Wall.



Plate 123: A. *Dracocephalum heterophyllum* Benth.; B. *Elsholtzia ciliata* (Thunb.) Hyl.; C. *Elsholtzia flava* Benth.



Plate 124: **A.** *Elsholtzia eriostachya* (Benth.) Benth.; **B.** *Elsholtzia pilosa* (Benth.) Benth.



Plate 125: A. *Elsholtzia strobilifera* (Benth.) Benth.; B. *Lamium album* L.; C. *Hyssopus officinalis* L.



Plate 126: A. *Isodon coetsa* (Buch.-Ham. ex D.Don) Kudô; B. *Leucas ciliata* Benth.;
C. *Leucosceptrum canum* Sm.



Plate 127: A. *Mentha longifolia* (L.) L.; B. *Micromeria biflora* (Buch.-Ham. ex D. Don) Benth.

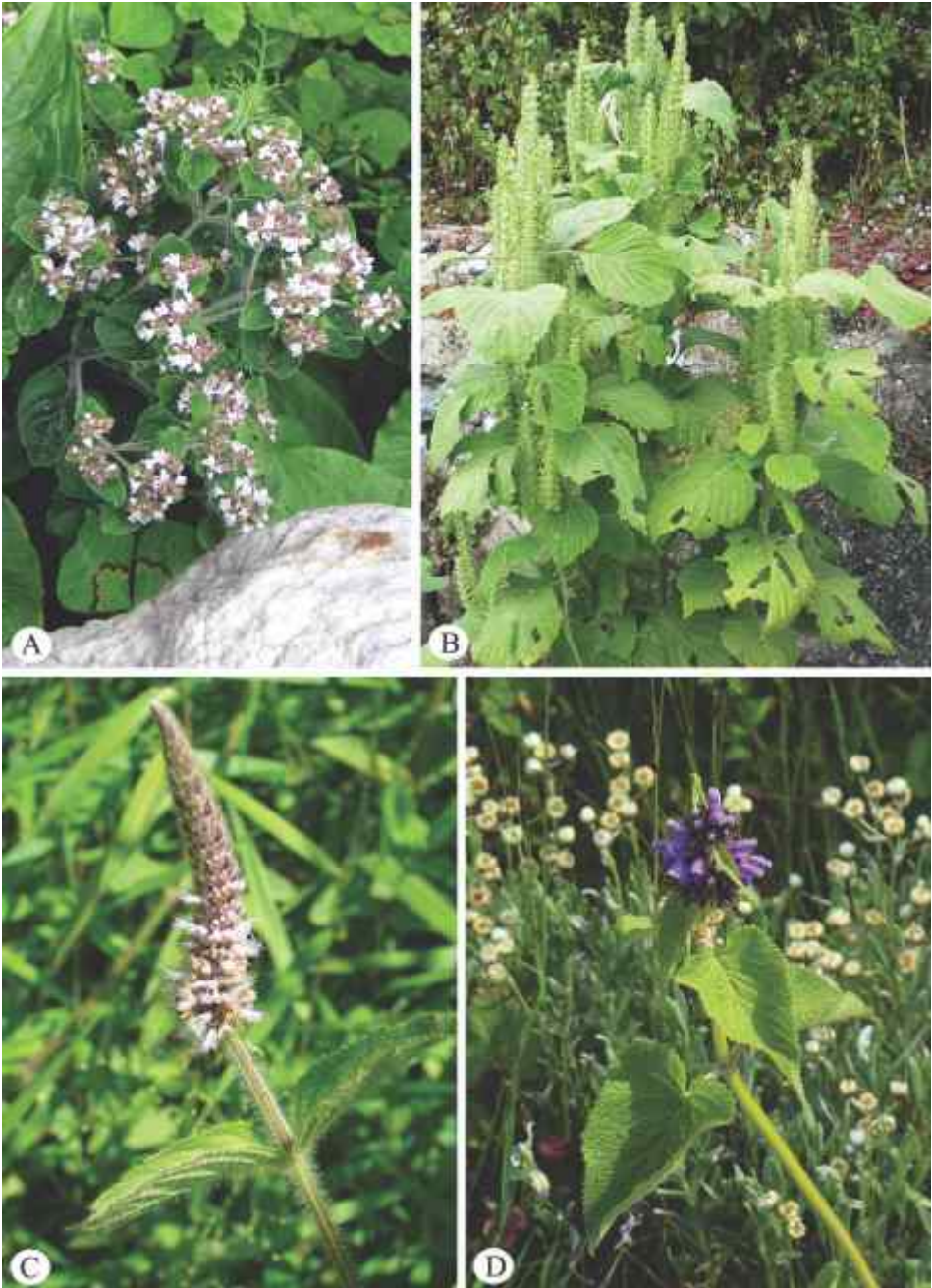


Plate 128: A. *Origanum vulgare* L; B. *Perilla frutescens* (L.) Britton; C. *Pogostemon auricularius* (L.) Hassk.; D. *Phlomis bracteosa* (Royle ex Benth.) Kamelin & Makhm.



Plate 129: A. *Prunella vulgaris* L.; B. *Stachys melissaefolia* Benth.



Plate 130: A. *Salvia hians* Royle ex Benth.; B. *Salvia mukerjeei* Bennet & Raizada



Plate 131: A. *Salvia nubicola* Wall. ex Sweet; B. *Thymus linearis* Benth.



Plate 132: A. *Holboellia latifolia* Wall.; B. *Actinodaphne gullavara* (Buch.-Ham. ex Nees) M.R. Almeida



Plate 133: A. *Litsea cubeba* (Lour.) Pers.; B. *Litsea elongata* (Nees) Hook.f.



Plate 134: *Phoebe hainesiana* Brandis



Plate 135: *Leea compactiflora* Kurz



Plate 136: A. *Bauhinia glauca* subsp. *tenuiflora* (C.B.Clarke) K.Larsen & S.S. Lar; B. *Caesalpinia cucullata* Roxb.



Plate 137: A. *Gymnocladus assamica* P.C. Kanjilal; B. *Saraca asoca* (Roxb.) Willd.; C. *Senna alata* (L.) Roxb.



Plate 138: A. *Acacia catechu* (L.f.) Willd.; B. *Albizia arunachalensis* K.C. Sahni & H.B. Naithani



Plate 139: **A.** *Archidendron arunachalense* S.S. Dash & Sanjappa; **B.** *Archidendron kerrii* (Gagnep.) I. C. Nielsen; **C.** *Archidendron nielsenianum* S.S. Dash & Sanjappa



Plate 140: A. *Abrus precatorius* L.; B. *Apios cornea* (Wall.) Benth.



Plate 141: A. *Astragalus himalayanus* Klotzsch.; B. *Astragalus munroi* Bunge



Plate 142: **A.** *Astragalus rhizanthus* subsp. *candolleanus* (Benth.) Podlech; **B.** *Astragalus peduncularis* Royle ex Benth.; **C.** *Astragalus sanjappae* L.B. Chaudhary & Z.H. Khan



Plate 143: A. *Astragalus uttaranchalensis* L.B. Chaudhary & Z.H. Khan; B. *Astragalus webbianus* Benth.



Plate 144: A. *Butea monosperma* (Lam.) Taub.; B. *Caragana versicolor* Benth.; C. *Codariocalyx gyroides* Hassk.

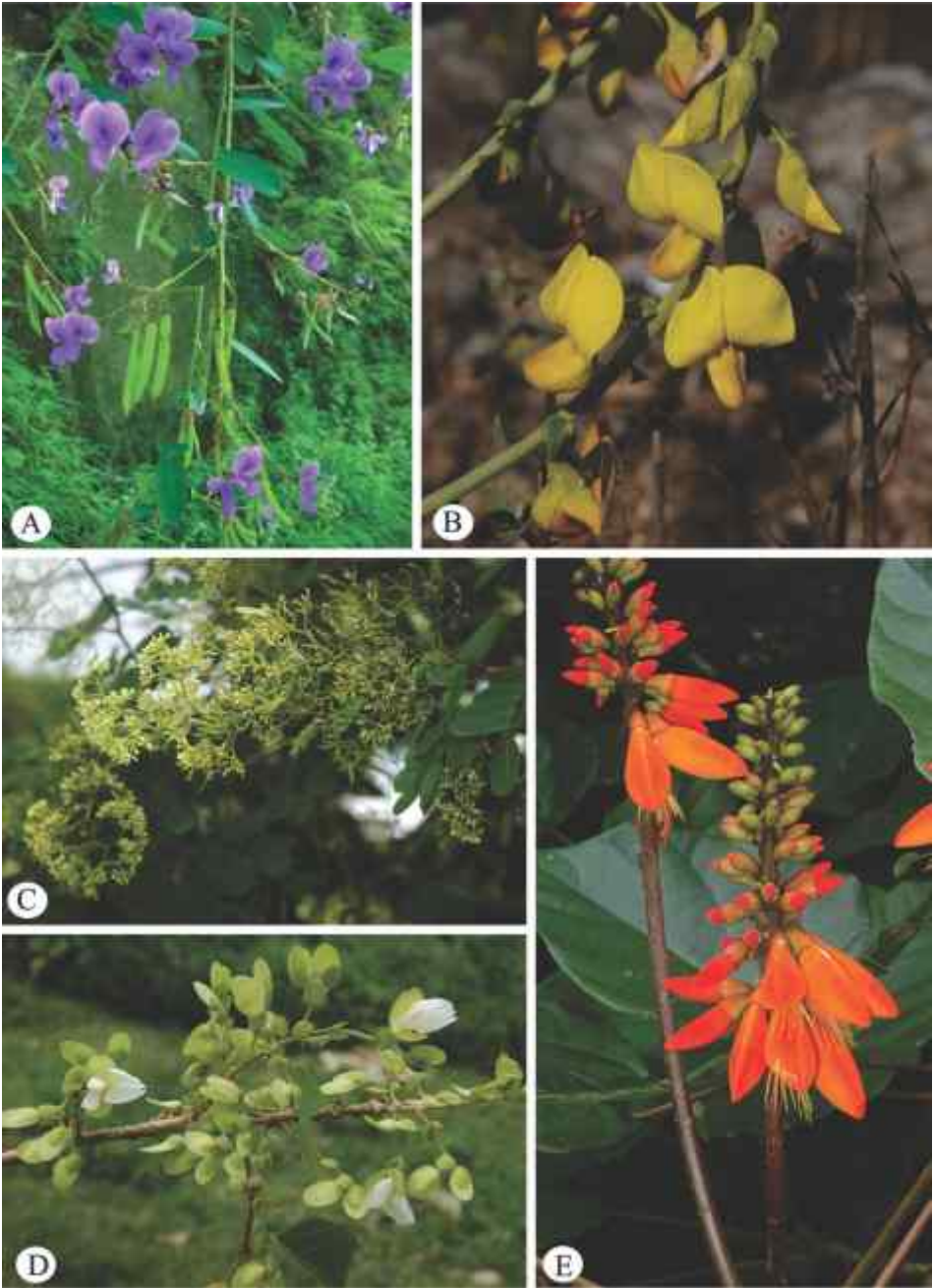


Plate 145: A. *Codariocalyx motorius* H.Ohashi; B. *Crotalaria spectabilis* Roth; C. *Dalbergia thomsonii* Benth.; D. *Dalhousiea bracteata* Graham; E. *Erythrina arborescence* Roxb.



Plate 146: A. *Desmodium elegans* DC.; B. *Desmodium multiflorum* DC.; C. *Indigofera heterantha* Wall. ex Brandis



Plate 147: A. *Lotus corniculatus* L.; B. *Mastersia assamica* Benth.; C. *Ohwia caudata* (Thunb.)
H.Ohashi



Plate 148: A. *Piptanthus nepalensis* (Hook.) D. Don; B. *Pueraria bella* Prain; C. *Sophora mollis* (Royle) Baker



Plate 149: A. *Trigonella emodi* Benth.; B. *Tephrosia candida* (Roxb.) DC.; C. *Vicia bakeri* Ali



Plate 150: A. *Utricularia brachiata* Oliv.; B. *Utricularia furcellata* Oliv.; C. *Utricularia scandens* Benj.



Plate 151: A. *Anisadenia saxatilis* Wall. ex Meissn.; B. *Lobelia erectiuscula* H.Hara; C. *Lobelia nicotianifolia* Roth ex. Schult; D. *Lobelia terminalis* C.B.Clarke

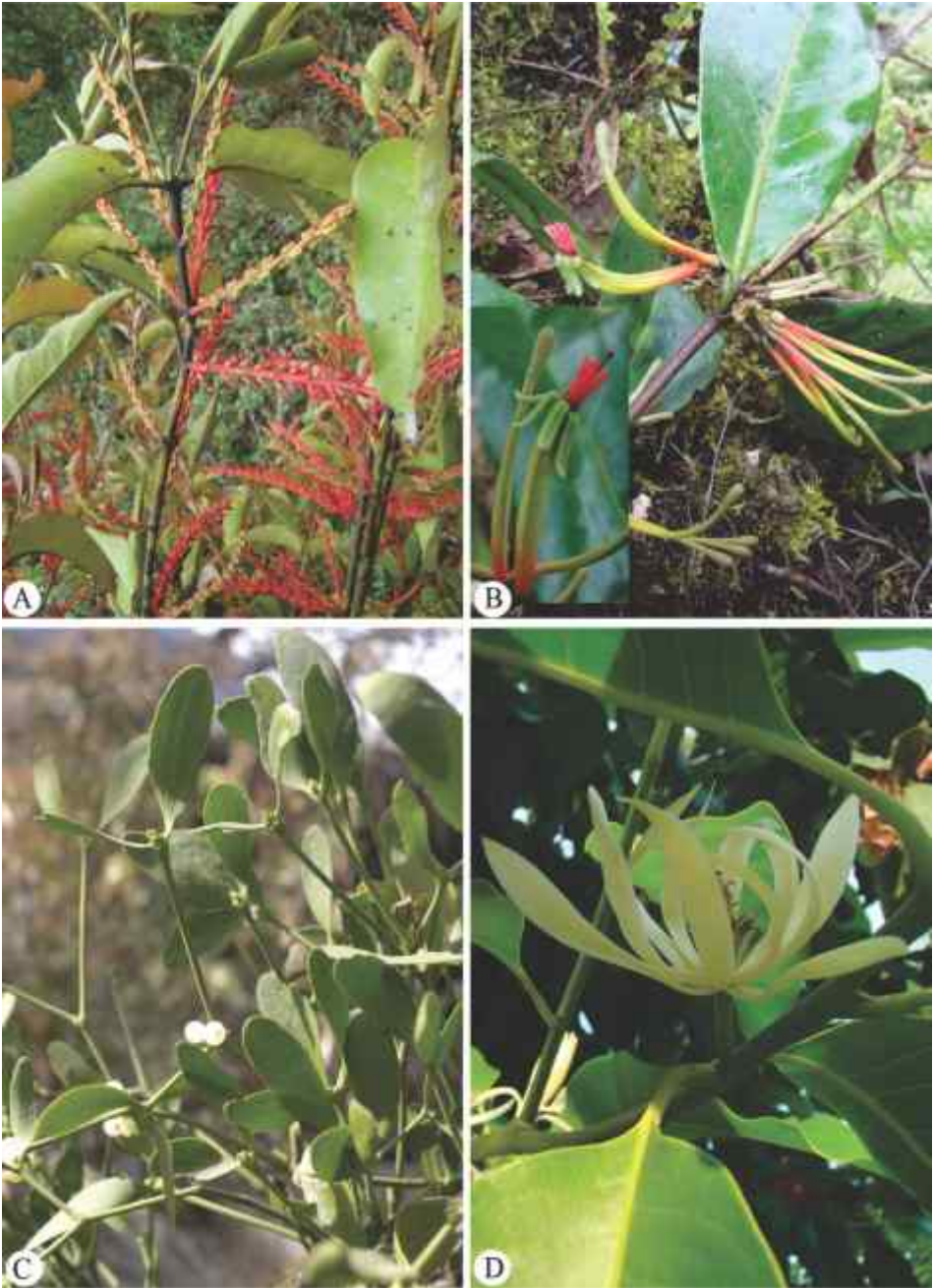


Plate 152: A. *Helixanthera ligustrina* (Wall.) Danser; B. *Scurrula elata* (Edgew.) Danser; C. *Viscum album* L.; D. *Magnolia doltsopa* (Buch.-Ham. ex DC.) Figlar



Plate 153: A. *Magnolia grandiflora* L.; B. *Magnolia hodgsonii* (Hook.f. & Thoms.) H. Keng; C. *Aspidopterys glabriuscula* A. Juss.



Plate 154: A. *Abutilon persicum* (Burm.f.) Merr.; B. *Malva verticillata* L.



Plate 155: **A.** *Medinilla assamica* (C.B.Clarke) C.Chen; **B.** *Medinilla rubicunda* (Jack) Blume; **C.** *Osbeckia stellata* Buch.-Ham. ex Ker-Gawl.; **D.** *Sarcopyramis napalensis* Wall.

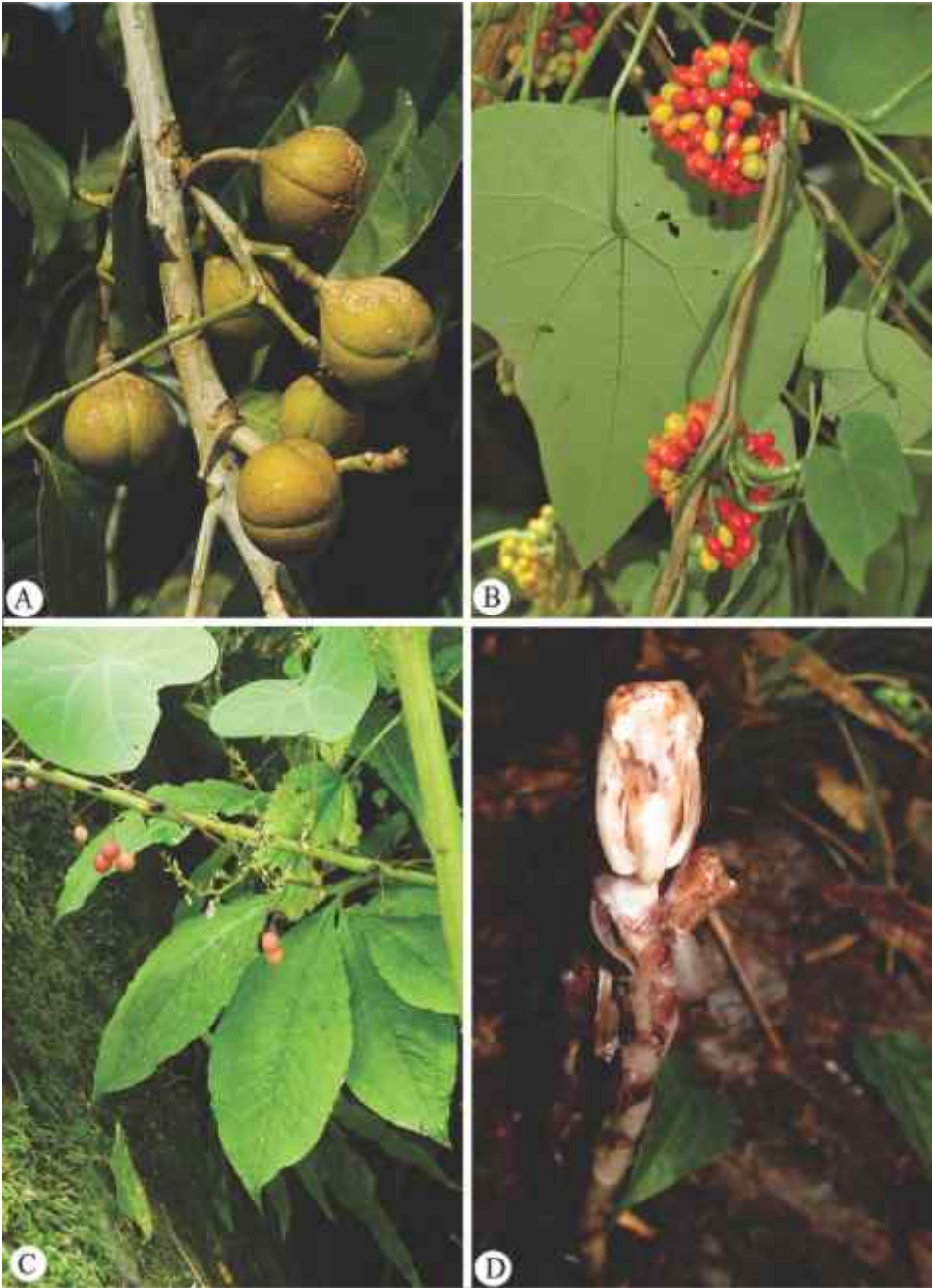


Plate 156: A. *Dysoxylum gotadhora* (Buch.-Ham.) Mabb.; B. *Stephania glandulifera* Miers; C. *Stephania gracilentia* Miers; D. *Monotropa uniflora* L.



Plate 157: A. *Monotropa humile* (D.Don) H. Hara; B. *Artocarpus lacucha* Buch.-Ham.;
C. *Ficus auriculata* Lour.; D. *Ficus hirta* Vahl



Plate 158: A. *Ficus hispida* L.; B. *Maclura cochinchinensis* (Lour.) Comer



Plate 159: A. *Maclura fruticosa* (Roxb.) Comer; B. *Streblus asper* Lour.; C. *Morina coulteriana* Royle



Plate 160: A. *Morina longifolia* Wall. ex DC. (Inflorescence close-up view); B. *Ardisia crispa* (Thunb.) DC.; C. *Hymenandra wallichii* A. DC.

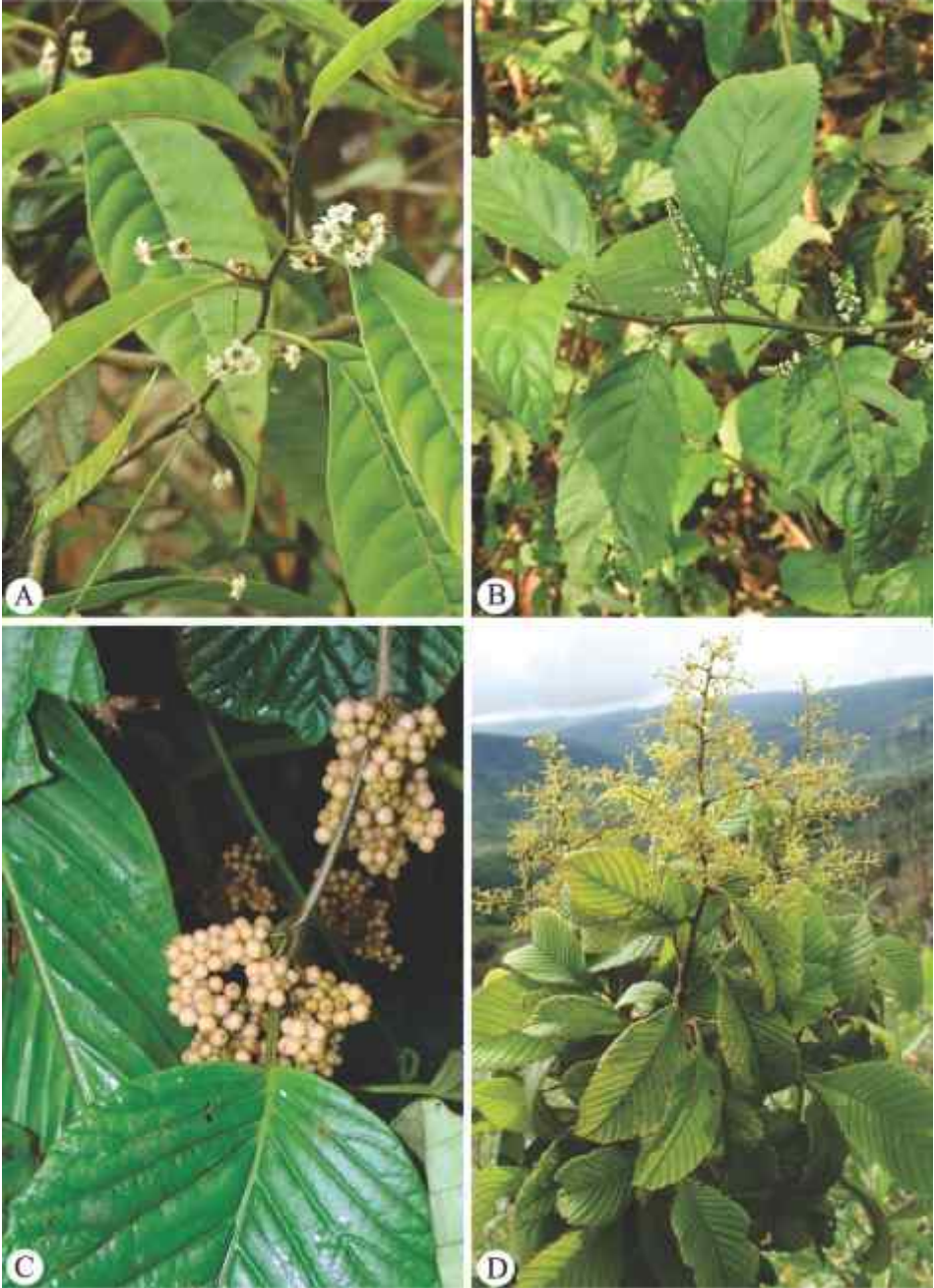


Plate 161: A. *Maesa chisia* Buch.-Ham. ex D. Don; B. *Maesa indica* (Roxb.) Wall.; C. *Maesa nayarii* G.S. Giri & S.K. Das; D. *Maesa rugosa* C.B. Clarke



Plate 162: A. *Syzygium assamicum* (Biswas & Purkay.) Raizada; B. *Syzygium cumini* Skeels (Inflorescence close-up view)



Plate 163: **A.** *Syzygium kurzii* (Duthie) N.P. Balakr. (Inflorescence close-up view); **B.** *Peganum harmala* L.



Plate 164: *Nymphaea rubra* Roxb. ex Andrews



Plate 165: A. *Acanthus leucostachyus* Wall. ex Nees; B. *Rhinacanthus calcaratus* Nees



Plate 166: A. *Strobilanthes hamiltoniana* (Steud.) Bosser & Heine; B. *Strobilanthes maculata* Nees; C. *Saurauia napaulensis* DC.



Plate 167: A. *Saurauia panduriformis* Elmer; B. *Bupleurum candollei* Wall. ex DC.



Plate 168: A. *Chaerophyllum villosum* Wall. ex DC.; B. *Lactuca macrorhiza* (Royle) Hook.f.; C. *Senecio graciliflorus* DC.



Plate 169: **A.** *Lactuca brunoniana* Wall. ex C.B. Clarke; **B.** *Saussurea auriculata* (DC.) Sch.Bip.



Plate 170: A. *Saussurea fastuosa* (Decne.) Sch.Bip.; B. *Balanophora involucrata* Hook.f. & Thomson; C. *Balanophora polyandra* Griff.; D. *Hackelia uncinata* (Benth.) C.E.C. Fischer



Plate 171: **A.** *Cynoglossum wallichii* G. Don; **B.** *Megacarpaea polyandra* Benth. ex Madden



Plate 172: A. *Pegaeophyton minutum* Hara; B. *Buddleja colvilei* Hook.f.



Plate 173: A. *Buddleja crisa* Benth.; B. *Codonopsis purpurea* Wall.



Plate 174: A. *Cyananthus microphyllus* Edgew.; B. *Lonicera obovata* Royle ex Hook.f. & Thomson



Plate 175: A. *Silene baccifera* (L.) Roth; B. *Garcinia celebica* L.



Plate 176: A. *Terminalia myriocarpa* Van Heurck & Müll. Arg.; B. *Sedum filipes* Hemsl.



Plate 177: A. *Herpetospermum pedunculatum* (Ser.) C.B. Clarke; B. *Thladiantha cordifolia* (Blume) Cogn.; C. *Campylotropis eriocarpa* Schindl.



Plate 178: A. *Desmodium sequax* Wall.; B. *Shuteria involucrata* (Wall.) Wight & Arn.



Plate 179: A. *Smithia ciliata* Royle; B. *Gentiana infelix* C.B. Clarke

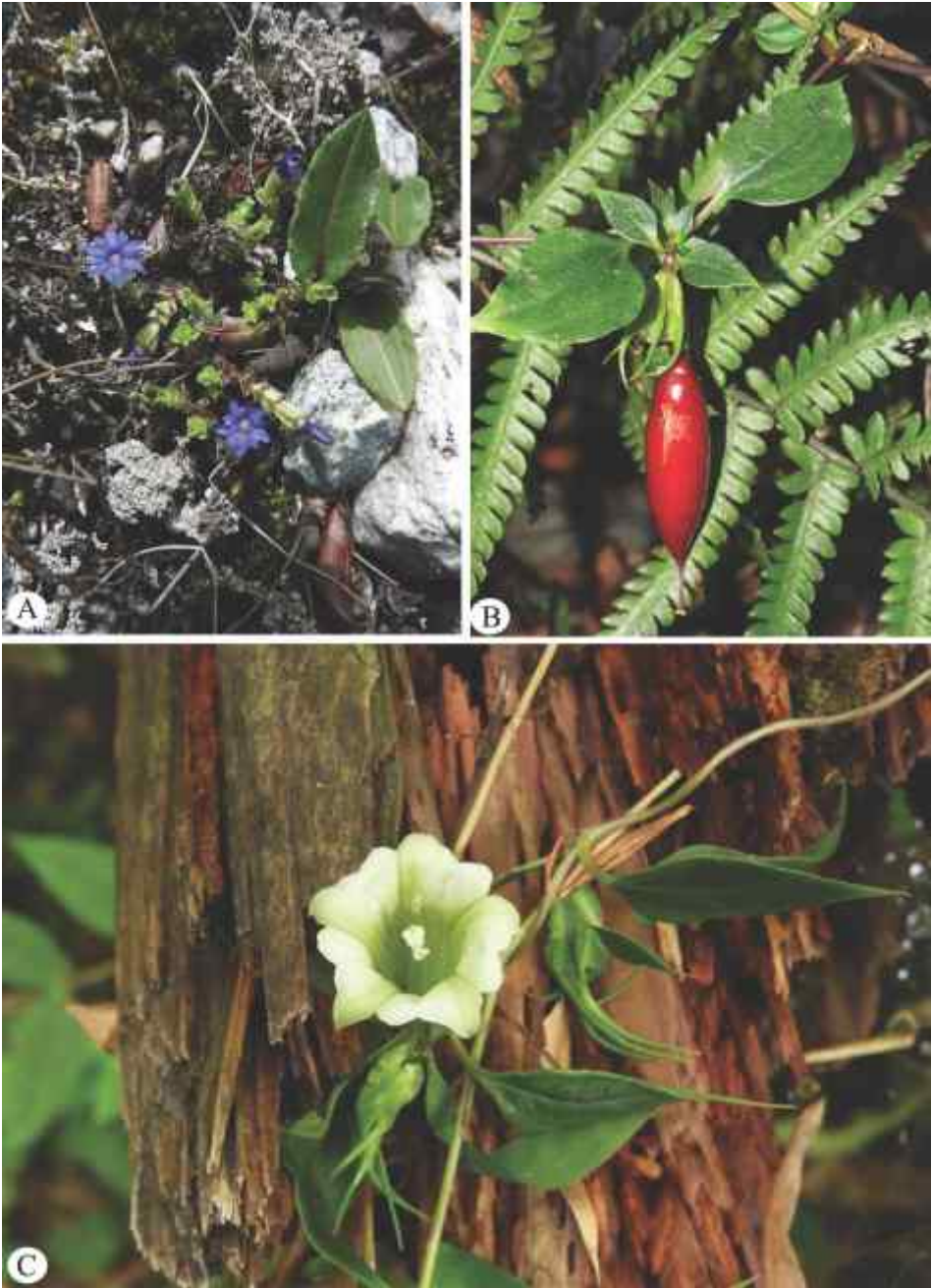


Plate 180: A. *Gentiana crassuloides* Bureau & Franch.; B. & C. *Tripterospermum volubile* (D. Don) Hara



Plate 181: A. *Gaultheria pyrolifolia* Hook.f. ex C.B.Clarke; B. *Rhododendron falconeri* Hook.f.



Plate 182: A. *Rhododendron hodgsonii* Hook.f.; B. *Rhododendron pendulum* Hook.f.



Plate 183: A. *Clinopodium umbrosum* (M.Bieb.) Kuntze; B. *Achyrospermum wallichianum* (Benth.) Benth. ex Hook.f.



Plate 184: A. *Melastoma malabathricum* L.; B. *Lycianthes neesiana* (Wall. ex Nees) D'Arcy & Zhi Y. Zhang

INTRODUCTION

The Himalaya, an enchantment territory of the nature where the magnificence of the world's highest mountains, is mirrored in the rugged beauty and unique culture of the people who live in their shadow. The world's largest, highest, and most populated mountain system, extend from Namcha Barwa in the east to the borders of Afghanistan in the west. This mountain system comprising a series of parallel and converging ranges and forming the highest mountain region in the world with three main river systems together with their tributaries- the Indus, Ganges and Brahmaputra systems. The immense mountain range began to form between 40 and 50 million years ago, when two large landmasses, India and Eurasia, driven by plate movement, collided. The pressure of the impinging plates could only be relieved by thrusting skyward, contorting the collision zone, and forming the jagged Himalayan peaks. More than 30 peaks of the Himalayas rise to heights of 7620 m (25,000 ft) or more. This mountain system, which connects the tropical rainforests of Arunachal Pradesh and Bhutan with the sparse and cold semi-deserts of the Ladakh region and the North Indian plains with the Tibetan plateau, has evolved a distinctive ecology that has become the basis for the existence of the natural as well as socio-cultural and political systems of South Asia.

Himalayas have been known as 'biodiversity hotspot'. Conservation International has recognised Himalaya as one of the 34 global Biodiversity hotspots in the world, which cover 2.3% of the Earth's land surface. These areas are suffering biodiversity loss and need immediate attention.

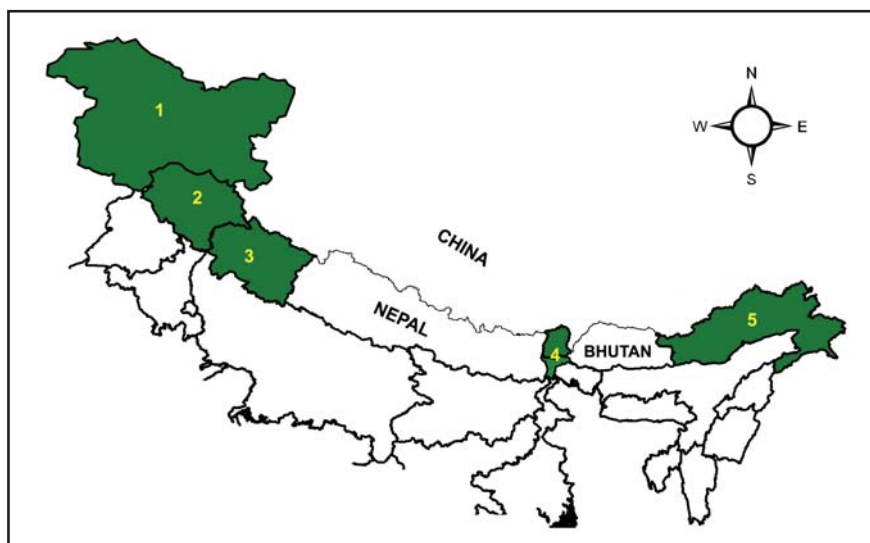


Fig. 1. Location map of Indian Himalayan Region: 1. Jammu & Kashmir, 2. Himachal Pradesh, 3. Uttarakhand, 4. Sikkim and Darjeeling, 5. Arunachal Pradesh).

Despite their apparent remoteness and inaccessibility, Himalaya have not been spared human-induced biodiversity loss. People have lived in these mountains of the Himalaya for thousands of years, but in recent decades, greater access to the global market has increased the demand for natural resources in the area. As a result, populations are growing in the most productive ecosystems, which are also some of the richest in biodiversity. Himalayan Mountain Range includes a transition zone between the Palearctic and Indo-Malayan realms. Species from both are represented in the hotspot. In addition, geological, climatic and altitudinal variations in the region, as well as topographic complexity, contribute to the biological diversity of the mountains along their east-west and north-south axes.

The Indian Himalayan Region (IHR) extends between 26°20' and 35°40' N and between 74°50' and 95°40' E, covering an area about 5 lakh km² (about 16.2 % of country's total geographical area), forms the northern boundary of the country. This region comprises of states of Jammu & Kashmir, Uttarakhand, Himachal Pradesh, Sikkim, Arunachal Pradesh, and Darjeeling District of West Bengal. This vast mountain range extending almost uninterrupted throughout its over 2500 km length, between 80 and 300 km width and rising from low-lying plains to over 8200 m amsl, is one of the youngest, fragile and complex ecosystems in the world. The distinctive land-features of Himalaya produced a characteristic climate of its own and influences the climate of much of Asia (Zobel & Singh, 1997). Not only this, the physiographic diversity of this great mountain range has almost all possible type of vegetation ranging from rainless cold deserts of northwest Himalaya to tropical riverine plains of eastern Himalaya; tropical evergreen forests to alpine scrubs to alpine grasslands. The principal vertical vegetation regime comprised of tropical and subtropical forests, temperate broadleaved deciduous and mixed forests, and temperate mixed broadleaved and coniferous forests, high altitude alpine scrubs, grassland or cold deserts (Pei, 1995; Chettri & al., 2008; 2010). Due to its high variability of climate, biodiversity with higher incidence of endemism, Indian Himalayan regions also have been included among Earth's biodiversity Hotspots, several Global eco-regions and several centres of origin for plant diversity (Olson et al., 2001; Olson & Dinerstein, 2002).

The biodiversity along with its fragile ecosystems have been increasingly threatened due to ever increasing natural and manmade interventions. A complete knowledge on the plant diversity of Indian Himalayan Region is still far from complete, except sporadic information in some regional or local floras. It is envisaged that the eastern Himalaya (including North-east India), which harbours more than 7500 species of flowering plants (Takhtajan, 1986; Baisya, 2001; Rao, 2007; Mao, 2010) and the western Himalaya supports over 5000 species of flowering plants with marginal overlapping of species (Hajra & Mudgal, 1997). IHR supports more than 50 % of the total flowering plants so-far recorded in India (Singh & Dash, 2015) of which 13 % species are endemic to this region (Singh & al., 2015). There are over 1125 tree species, 675 edibles and nearly 1743 species of medicinal value found in the IHR (Samanta & al., 2007; Dash & Singh, 2011). The region also supports world's richest alpine flora with maximum endemism (Tse-ring & al., 2010).

The present inventory of angiosperms species of Indian Himalayan Regions includes all the reported species from Arunachal Pradesh, Sikkim, Uttarakhand, Himachal Pradesh, Jammu & Kashmir and one district (Darjeeling) of West Bengal. The information is based on credible sources of data from different herbaria, published literature, and current field studies by team of researcher of the project “Biodiversity Assessment through Long-term Monitoring Plots in Indian Himalayan Landscape” allotted to the authors under National Mission on Himalayan Studies.

PHYSIOGRAPHY

On the basis of evolutionary history, stratigraphic sequences and component rock units, the Indian Himalayan Region is consisting of four distinct zones (Karan, 1966).

I. Siwalik or the outer Sub-Himalayan zone forming the foot hills of the Himalaya, rarely exceeding the 900 m in elevation and is 4 – 48 km wide. This is formed by the more or less continuous ranges showing abrupt fall. The Siwalik basin is formed by fluvial and lacustrine deposits and comprises lower, middle and upper siwalik subgroups. The southern slopes of Siwalik, narrowed down into the great gangetic plains of north India.

II. The lesser or middle Himalaya has an average height of 3050 m and about 65 – 80 km in width. This has a complex geological history and tectonic framework. This is the central part of the Himalaya sandwiched between southern Siwaliks and northern great Himalaya. This zone is characterized by crystalline and metamorphic rock-granites, gneisses and schist's generally with unfossiliferous sedimentary deposits of ancient age and has a closer affinity to the pre-palaeozoic and early palaeozoic era. Many rivers in western Himalaya like the Yamuna, Bhagirathi, Alakananda, Pindar, Gomati, Sarju, etc., and in Eastern Himalaya rivers like Brahmaputra, Teesta, Lohit, etc. have originated from this region.

III. The greater or central Himalayan zone is otherwise known as Himadri and comprises of tall snow-capped peaks rising above 4570 m. This is a thick slab of 15 – 20 km composed of high grade metamorphic – the Vaikrita groups of Precambrian age intruded by tertiary granites. This innermost zone of snow-covered high peaks shows altitude range between 4570 – 8120 m. This zone with innumerable valleys, housing large number of glaciers serves as water reservoirs, and the source of perennial nature to many great Indian rivers like Ganga, Yamuna, Brahmaputra, etc.

IV. The trans Himalaya refers to the northern slopes of the greater Himalaya lying in the rain shadow of the inner ranges those extending up to the Tibetan plateau. Lying at the base of Indus suture zone, these ranges are made up of fossilized sedimentary segments of late Precambrian and lower Eocene. The trans-Himalayan zone is characterized by cold deserts with extreme low temperature, great diurnal fluctuations, scanty and erratic rainfall, but receives heavy snowfall.

VEGETATION

Champion (1936) and Bor (1947) opined that the climax vegetation in India (including IHR) is either forests or cold deserts; forests and alpine meadows are two main plant formations that dominate the natural vegetation of Indian Himalaya Region (IHR). The species composition, dominance, community structure and pattern of flowering time differ significantly across the IHR due to great variation of physiography and phyto-climatic conditions. Several attempts were made by earlier workers to classify the vegetation of the India including IHR. We have adapted here the classification of Bahuguna & al. (2016) with a little modification where 10 major groups and 48 sub-groups were identified depending upon the ecological, climatic, bio-geographic and edaphic influences. On the basis of altitudinal range and vegetation types, the vegetation of Indian Himalayan Region (area covered in present study) broadly grouped under following categories.

The Tropical Forests

These types of forest ranges up to an altitude of 900 m amsl both in eastern Himalaya (EH) and western Himalaya (WH). These forests are characterized depending upon the type of species dominated. In the lowlands of eastern Himalaya where the average annual rainfall exceeds 250 cm, tropical wet evergreen forests are found. These forests mainly consist of tropical moist deciduous to semi evergreen elements with *Shorea robusta* and *Dipeterocarpus retusus* as dominant species. The predominant species found in the top canopy are *Altingia excelsa*, *Bischofia javanica*, *Castanopsis indica*, *C. watii*, *Cinnamomum bejolghota*, *Dillenia indica*,



Fig. 2. Bamboo forest of Neora valley National Park, West Bengal



Fig. 3. Tropical forest of Chambang, Arunachal Pradesh

Dysoxylum excelsum, *Elaeocarpus* spp., *Lithocarpus pachyphyllus*, *Magnolia hodgsonii*, *Quercus* spp., *Terminalia myriocarpa*, etc. Forest of these types of vegetation can be characterized by their close canopy, dense underground cover and luxuriant growth of the epiphytes. The middle canopy is formed by the medium-sized trees, viz. *Albizia procera*, *Archidendron clyperaria*, *Callicarpa macrophylla*, *Castanopsis lanceifolia*, *Dysoxylum gotadhora*, *Elaeocarpus prunifolius*, *Gynocardia odorata*, etc. Some places, along river banks pure chir pine forests can also be seen dominated (Singh & Dash 2018).

The lower canopy commonly consists of mainly large shrubs or small trees such as *Bauhinia purpurea*, *Brassiopsis glomerata*, *Buddleja asiatica*, *Clerodendrum colebrookianum*, *Debregeasia longifolia*, *Ficus auriculata*, *Goniothalamus sesquipetalis*, *Grewia disperma*, *Pseudodissochaeta assamica*, etc. *Cyathea spinulosa* (tree fern) and species of wild banana grow abundantly on moist hill slopes. The common climbers are *Acacia pinnata*, *Bauhinia ornata* var. *kerri*, *Beumontia grandiflora*, *Hodgsonia macrocarpa*, etc. Occurrence of *Mastersia assamica* is quite common and can easily be recognized by its scarlet flowers and heavy foliage. The herbaceous flora is scanty due to poor light penetration through dense canopy of upper layers.

The semi-evergreen elements such as Laurels, Oaks, Hollung, *Terminalia*, *Schima*, *Acer*, are predominantly found in eastern Himalaya mixed with different species of bamboos. The other common medium trees found are *Brassiopsis glomerata*, *Mussaenda*, *Oxyspora paniculata*, *Pseudodissochaeta assamica*, *Rhus griffithii*, *Sambucus hookeri*, *Saurauia napaulensis* and *Vernonia volkamerifolia*, etc. Some of the dominant palms that are found in these forests are *Arenga obtusifolia*, *Licuala peltata*, *Pinanga gracilis*, *Wallichia densiflora*, *Pandanus furcatus*, etc. while tree ferns and species of wild banana are also common in these forests.

Tropical moist deciduous forests further divided into subgroups viz. moist teak forests, mixed deciduous forests and moist Sal forests which are distributed to



Fig. 4. Tropical forest along Kurung river, Arunachal Pradesh

the foot-hills of IHR especially in eastern Himalaya. These forests receive an average rainfall of 100 – 200 cm with comparatively short dry period. Common species includes *Tectona grandis*, *Shorea robusta*, *Dalbergia latifolia*, *D. sissoo*, *Cassia fistula*, *Terminalia* spp., *Sapium insigne*, *Ficus glomerata*, *Bombax ceiba*, *Mallotus philippensis*, *Grewia tilaefolia*, *Duabanga grandiflora*, etc.

Due to high moisture content, epiphytes particularly orchids are found abundantly in eastern Himalaya. Common epiphytic plants includes members of *Aeschynanthus*, *Agapetes*, *Vaccinium*, etc., while orchids such as *Aerides multiflora*, *Bulbophyllum odoratissimum*, *B. protractum*, *B. reptans*, *Cleisostoma subulatum*, *Cymbidium aloifolium*, *Dendrobium densiflorum*, *D. gibsonii*, *D. lituiflorum*, *D. longicornu*, *Eria paniculata*, *E. spicata*, *Pholidota imbricata*, *Vanda cristata*, etc. with water storing leaves or velamen-covered roots are found commonly on large tree-trunks of top and middle tiers. The ground flora of tropical forests are dominated with members of *Begonia*, *Commelina*, *Impatiens*, *Polygonums*, Zingibers, along with common grasses and sedges as *Arundinella nepalensis*, *Arundo donax*, *Coix lacrymajobi*, *Phragmatis indica*, *Themeda villosa*, *Carex filicina*, *C. baccans*, *Fimbristylis dichotoma*, etc.

The Subtropical Forests

The subtropical forests are found predominately between 900–1800 m. In eastern Himalaya, these have mixed species composition without dominance of any single species, while in western Himalaya pure Chir pine (*Pinus roxburghii*) dominates in pure patches. The trees occupied in the top storey are mixture of semi-evergreen and deciduous species with tall, luxuriant growth. However, depending upon amount of rainfall and the species composition the subtropical forests of Himalaya can broadly be categorized in to dry deciduous forests, dry tropical thorn and scrub forests and subtropical broadleaved and coniferous forests. In Uttarakhand, West Bengal, Sikkim and Arunachal Pradesh the forest is mostly



Fig. 5. Sub-tropical forest of Namdapha National Park

dominated by semi evergreen species *Actinodaphne obovata*, *Aphanamixis polystachya*, *Cinnamomum bejolghota*, *C. pauciflorum*, *Elaeocarpus aristatus*, *E. varunua*, *Engelhardia spicata*, *Litsea monopetala*, *Macaranga denticulata*, *Phoebe attenuata*, etc. than deciduous elements. The foothills of Uttarakhand, West Bengal, Sikkim are dominated by pure patches of *Shorea robusta*, *Tectona grandis* and *Anogeissus latifolia*, etc. The subtropical broadleaved mixed forest is more prominent in eastern Himalaya than western Himalaya. The common elements of



Fig. 6. Sub-tropical palm forests in Kurungkumey, Arunachal Pradesh

these forests are members of genus *Butea*, *Quercus*, *Rhododendron*, *Syzygium*, *Castanopsis*, *Ficus*, *Terminalia*, etc. while in western Himalaya coniferous species especially *Pinus roxburghii* found dominated in subtropical forest.

In the Shivalik region, prolonged dry season evolved growth of thorny stunted trees and shrubs species. Such type of forests are dominant with *Acacia catechu*, *A. nilotica*, *Phoenix sylvestris*, *Euphorbia royleana*, *Randia* spp., *Rhus* spp., *Ziziphus* spp., etc.

The shrubby species that are commonly found in subtropical forests of Himalaya are *Abroma augusta*, *Clerodendrum serrulatum*, *Dichroa febrifuga*, *Embelia floribunda*, *Hydrangea heteromalla*, *Leea asiatica*, *Morinda angustifolia*, *Myrsine semiserrata*, *Mussaenda roxburghii*, *Melastoma malabathricum*, *Musa velutina*, *Mussaenda macrophylla*, *Osbeckia stellata*, *Phlogacanthus curviflorus*, *Vernonia volkameriaefolia*, etc. The forests of this region are abundant with many woody climbers. The important climbers are *Apios carnea*, *Argyreia argentea*, *Cissampelos pareira*, *Combretum wallichii* var. *griffithii*, *Dalbergia thomsonii*, *Entada rheedei*, *Hedyotis scandens*, *Millettia pachycarpa*, *Mastersia assamica*, *Paederia scandens*, *Thunbergia grandiflora*, *Raphidophora grandis*, *Schefflera venulosa*, etc. In Arunachal Pradesh, unique saprophytic plants that are found in subtropical forests are *Balanophora dioica*, *Monotropasturm humile*, *Galeola falconeri* *G. lindleyana*, etc.

The Temperate Forests

The temperate vegetation occurs between 1800 and 3500 m in the Himalaya. On the basis of species composition and altitudes, temperate forests are categorized into broadleaved temperate forest, mixed temperate coniferous forest, west Himalayan deodar forest, dry Himalayan temperate scrubs and coniferous forests.



Fig. 7. Mixed *Rhododendron* scrub at 3900 m. in Kurungkumey, Arunachal Pradesh



Fig. 8. Temperate conifer forest of East-Sikkim

East Himalayan broadleaved temperate forests are found between altitude 1800 and 2800 m amsl with medium sized trees forming close canopy. These type of forest are characterized by mostly Laurels, *Quercus*, *Acer*, *Castanopsis*, *Magnolia*, mixed with different species of *Rhododendrons*, in different proportion. Plants are represented mainly in three layers, the top canopy is represented by *Quercus lamellosa*, *Magnolia doltsopa*, *M. pterocarpa*; second canopy is represented by *Cinnanomum impressinervium*, *Lithocarpus elegans*, *L. pachyphylla*, *Lindera latifolia*, *Litsea monopetala*, *L. cubeba*, etc, while the third canopy which is quite dense represented by *Acer hookeri*, *A. oblongum*, *Alnus nepalensis*, *Exbucklandia populnea*, *Engelhardia spicata*, *Saurauia griffithii*, *Euonymus* spp., *Rhododendron* spp., *Symplocos racemosa*, etc. The lowest storey is dominated by the luxuriant and dense shrubby vegetation comprised of *Berberis wallichiana*, *Deutzia compacta*, *Elaegnus umbellata*, *Illigera khasiana*, *Ilex fragilis*, *Myrsine semiserrata*, *Ostodes paniculata*, *Rubus* spp., etc. Ground flora consists of species of *Aconogonon*, *Anaphalis*, *Begonia*, *Cardamine*, *Codonopsis*, *Drymaria*, *Elatostema*, *Fragaria*, *Pilea*, *Polygonum*, etc. Epiphytic orchids and other species epiphytes such as *Agapetes*, *Ficus*, *Vaccinium* are abundantly found; however climbers are rare.

West Himalayan broadleaved temperate forest are represented by the common tree species like *Quercus floribunda*, *Q. leucotrichophora*, *Q. semecarpifolia*, *Rhododendron arboreum*, *Aesculus indica*, *Daphniphyllum himalayense*, *Lyonia ovalifolia*, *Ilex dipyrena*, *Betula alnoides*, *Ulmus wallichiana*, *Corylus jacquemontii*, *Acer* spp., *Juglans regia*, *Machilus* spp., *Cornus* spp., *Litsea* spp., etc. In western Himalaya, there is a wide overlapping of subtropical coniferous species with the evergreen and deciduous temperate broad leaved tree species.



Fig. 9. Sub-alpine forest of Dzongri, Sikkim

East Himalayan mixed temperate coniferous forests: These type of forests are characterized by the mixed population of *Tsuga-Pinus-Taxus* series of conifers with *Rhododendron* species. This type of forest vegetation is typical in nature found in Arunachal Pradesh and Sikkim. The different types of mixed populations in eastern Himalaya are *Tsuga-Abies-Rhododendron* in West Kameng district of Arunachal Pradesh; pure stands of *Cupressus* in Upper Siang of Arunachal Pradesh, *Abies-Taxus* in West Siang or *Picea-Larix-Abies* in West Kameng, Tawang districts of Arunachal Pradesh and Domyeng valley of North Sikkim. The important *Rhododendron* species that are found mixed are *Rhododendron arboreum* subsp. *cinnamomeum*, *R. arizelum*, *R. campylogynum*, *R. cerasinum*, *R. dalhousiae*, *R. falconeri*, *R. faucium*, etc. The understorey of these forests consist of species of *Bistora amplexicaule*, *Paris polyphylla*, *Photinia integrifolia*, *Pleione praecox*, *Podophyllum hexandrum*, *Rubus calycinus*, *Neillia rubiflora*, *Potentilla griffithii*, members of *Polygonum*, *Aconogonon*, *Rosa*, *Spirea*, etc.

West Himalayan deodar forests are distributed to the all greater Himalayan valleys of Uttarakhand between 2200 – 3200 m altitudes. Particularly in Uttarakhand and Himachal Pradesh pure stands of *Cupressus torulosa* or *Quercus-Abies* forests are found. The oldest and richest *deodar* forests occur in Uttarkashi in Garhwal and Jageswar in Kumaon. *Cedrus deodar* commonly found sole dominant species forming extensive pure strands in these forests. In extreme western flank of Himalaya, between elevations of 2500 – 3500 m high altitude conifer forest comprising *Abies pindrow*, *A. spectabilis*, *Cedrus deodara*, *Picea smithiana*, *Pinus wallichiana* and *Taxus wallichiana* are common. These valleys and slopes often

form mixed communities with *Betula alnoides*, *B. utilis*, *Corylus jacquemontii*, *Acer* spp., *Ilex dipyrena*, *Quercus floribunda*, *Q. semecarpifolia*, *Lyonia ovalifolia*, *Rhododendron arboreum*, etc. The abundance of *Rhododendron* species are more in eastern Himalaya, while the abundance of *Quercus* is more in western Himalaya. *Betula utilis* in association with *Abies pindrow* forms the highest forests in Uttarakhand often being found within an altitudinal range of 3300 – 3400 m. while at along the upper tree line of Uttarkhand, only *Betula* mixed with *Rhododendron* remain important trees which spread up to 4000 m in different valleys. Common shrubs are associated are associates include *Berberia asiatica*, *B. aristata*, *B. lycium*, *B. chitria*, *Princepia utilis*, *Spiraea* spp., *Crataegus crenulata*, *Rubus* spp., etc. Second storey is well-developed and is dense and comprises species of *Ilex*, *Viburnum*, *Acer pictum*, *Litsea*, etc. while ferns forms the major components of the ground flora.

The Alpine Forests

Alpine forests occur above 4000 m altitude in eastern Himalaya (EH) while above 3500 m altitude in western Himalaya (WH). In eastern Himalaya, in higher altitudes above 4000 m, the vegetation comprises stunted bushy growth of *Juniperus* spp., *Rhododendron lepidotum*, *R. anthopogon*, *Salix zangica*, *Sorbus microphylla*, *Berberis angulosa*, *B. macrosepala*, *Rosa sericea*, etc. The lower elevations of this zone support shrubby species of *Rhododendron*, *Berberis*, *Cotoneaster*, *Euonymus*, *Gaultheria*, *Salix* and *Vaccinium*. While *Rhododendron anthopogon* and *R. pumilum*



Fig. 10. Alpine gravel in Valley of Flowers National Park

form dense tussocks between 4000–4300 m mountain tops. Many species of *Aconitum*, *Caltha*, *Cassiope*, *Pedicularis*, *Potentilla*, *Polygonatum*, *Primula*, *Rhodiola*, etc. form the herbaceous vegetation of alpine vegetation of E. Himalaya (Dash & Singh, 2017). While in western Himalaya, alpine scrub vegetation comprises of *Astragalus*, *Caragana*, *Cotoneaster*, *Lonicera*, *Rosa*, *Salix*, *Spiraea*, *Viburnum*, etc. (Shukla & Srivastava, 2015). The alpine forests are maintain plants of great medicinal value, viz. *Aconitum ferox*, *Coptis teeta*, *Gentiana kurroo*, *Neopicrorhiza scrophulariiflora*, *Saussurea* spp., *Rheum nobile*, etc.

Trans Himalayan cold deserts can be seen in parts of Jammu & Kashmir, Himachal Pradesh and Uttarakhand. A great deal of climatic adaptation viz., stunted, cushioned, prostrate, thick woody, spongy with long roots and succulent small leaves are found among the plant communities of cold deserts (Shukla & Srivastava, 2015). These forests are characterized by dry elements viz., *Acantholimon lycopodioides*, *Arabis tibetica*, *Caragana pygmaea*, *Chrysanthemum tibeticum*, *Corydalis crassifolia*, *Ephedra gerardiana*, *Lancea tibetica*, *Lepidium apetalum*, *Lindelofia anchusoides*, *Nepeta floccosa*, *Oxytropis lapponica*, *Polygonum sibiricum*, *Potentilla anserine*, *Rhodiola tibetica*, *Rosa webbiana*, *Saxifraga sibirica*, *Triglochin maritima*, *Waldheimia tomentosa*, etc.

SECONDARY FORESTS

Due to many natural and manmade activities a good number of primary forest have been dwindling in its natural condition. Frequent landslides, expansion of infrastructure, habitable areas and direct dependence of local inhabitants in the natural forest have majorly contributed to the change of the primary forest in Himalaya. Unplanned shifting cultivation is also one of the irrevocable transformations of the forest lands. The fire which usually used to burn out the debris, spread and destroy much more area than what it is actually needed for cultivation. Soil in the freshly disturbed regions is extremely fertile vulnerable for invasion of alien species. These abandoned plots ultimately revert to scrubby jungles or secondary forests, providing an easy spread for single dominant species to take over (Dash & Singh, 2015). Study on species recovery plots (Dash, 2012), revealed that the taxa with greater ability of seed dispersal and drought resistance (members of from Poaceae, Asteraceae and Rubiaceae) play a significant role in determining persistence and abundance in the secondary vegetation.

Depending on the extent of disturbances, the secondary forest is seen up to 2000 m elevation in eastern Himalaya particularly in Arunachal Pradesh. The upper canopy formed with one or two species among *Abroma augusta*, *Callicarpa arborea*, *Aralia armata*, *Grewia acuminata*, *Osbeckia nutans*, *Pseudodissochaeta assamica*, *Saurauia armata*, *S. fasciculata*, *S. macrotricha*, etc are common. The other shrubby species which are found in the degraded secondary forest are *Allophylus triphyllus*, *Aralia foliosa*, *Ardisia thyrsoiflora*, *Boehmeria penduliflora*, *Claoxylon khasianum*, *Debregeasia longifolia*, *Ehretia acuminata*, *Girardinia diversifolia*, *Glochidion hirsutum*, *Itea macrophylla*, *Meliosma simplicifolia*, *Micromelum integerrimum*, *Maesa indica*, *Melastoma malabathricum*, *Oxyspora*

paniculata, *Poikilospermum suaveolens*, *Pavetta indica*, etc. The herbaceous flora that appears as the pioneers in first succession stage are *Ageratum conyzoides*, *Capillipedium assimile*, *Boehmeria clidemioides*, *Colocasia affinis*, *Commelina diffusa*, *Commelina maculata*, *Crassocephalum crepidioides*, *Desmodium gyroides*, *D. laxiflorum*, *Elatostema rupestra*, *Eragrostis uniolooides*, *Galinsoa parviflora*, *Lindernia crustacea*, *Pilea bracteosa*, *Piper pedicellatum*, *Pogonanthrum crinitum*, *Saccharum arundinaceum*, *Sida rhombifolia*, *Sonchus wightianus*, *Spermococe hispida*, *Spilanthus paniculata*, *Torenia asiatica*, *Triumfeta rhomboidea*, *Urena lobata*, *Vernonia cinerea*, *Youngia japonica*, etc.

Table 1 . Total Forest and Tree cover in different states of Indian Himalayan Region

| State | Geographical Area | Total Forest & Tree Cover | percentage |
|---------------------|-------------------|---------------------------|------------|
| Jammu & Kashmir | 22224 | 31056 | 13.0% |
| Himachal Pradesh | 55673 | 15922 | 28.6% |
| Uttarakhand | 53480 | 25062 | 46.8% |
| Sikkim | 7096 | 3379 | 47.6% |
| West Bengal (DGHC) | 3149 | 2365 | 75.1% |
| Arunachal Pradesh | 83743 | 66964 | 80.9% |

(Source FSI 2017)

ECOSYSTEM DIVERSITY

The vast geographic area with its diverse climatic conditions and topography has given rise to various types of ecosystems in the IHR. The diversity of ecosystems ranged from the alpine grasslands to high rising mountain ecosystems, riverine plain forest to moist evergreen rain forest ecosystems and alpine wetland to alpine grassland ecosystems. Each of these eco-zones is having further biotypes characterized by unique floristic composition.

Grasslands of Western Himalaya / Bugyals

Fragile alpine ecosystems of western Himalaya are some of the unique biodiversity rich landscapes in the Himalaya which occurred between snow and tree lines. These alpine pasture lands or meadows above the tree limits is used as alpine pasture for grazing cattle during summer months and locally called as 'Bugyal or Khark' (Uttarakhand), 'Thaach' (Himachal Pradesh) and 'Margs' (Jammu & Kashmir) and play important role in the socio-economy status of inhabitants. These Alpine zones remain covered with snow in the winter months but come to life with colors at the advent of summer season. The above ground biomass is observed maximum during July–August due to the accumulation of food material in winter and translocation of the same in the growing season to above ground parts (Misra, 1968; Pandey, 1978; Numata, 1979). The above ground biomass declined after September due to lowering of temperature and permafrost.

Herbs are the main growth form of vegetation in alpine zones however they sometime intercepted by alpine woody elements (shrubs). Some of the common shrubs are *Berberi sjaeschkeana*, *Cassiope fastigiata*, *Cotoneaster* spp., *Ephedra*



Fig. 11. Alpine meadow of Dzongri, Sikkim



Fig. 12. Alpine meadow Kyongnosla WLS, Sikkim

gerardiana, *Gaultheria nummularioides*, *G. trichophylla*, *Juniperus communis*, *J. indica*, *J. recurva*, *Lonicera* spp., *Rhododendron anthopogon*, *R. campanulatum*, *R. lepidotum*, *Ribes glaciale*, *Rosa sericea*, *R. webbiana*, *Salix denticulata*, *S. flabellars*, *S. fruticulosa*, *S. lindleyana* and *Skimmia laureola*. The alpine meadows

are dominated by the herbaceous species of *Aconitum*, *Allium*, *Anaphalis*, *Anemone*, *Artemisia*, *Aster*, *Astragalus*, *Bupleurum*, *Caltha*, *Campanula*, *Crocus*, *Corydalis*, *Delphinium*, *Geum*, *Gentiana*, *Geranium*, *Impatiens*, *Pleurospermum*, *Poa*, *Polygonum*, *Potentilla*, *Primula*, *Rhodiola*, *Saussurea*, *Saxifraga*, *Selinum*, *Sedum*, etc. Besides these, the grasses and sedge are found to be dominant the steep alpine slope.

The alpine zone provided habits for a number of orchids especially terrestrial orchids where they grow in association with other herbaceous elements. Some of the representatives species are *Calanthe tricarinata*, *Cypripedium cordigerum*, *C. elegans*, *C. himalaicum*, *Dactylorhiza hatagirea*, *D. incarnata*, *Epipactis helleborine*, *E. royleana*, *E. veratrifolia*, *Goodyera biflora*, *G. foliosa*, *G. repens*, *G. procera*, *Gymnadenia orchidis*, *Habenaria* spp., *Herminium lanceum*, *H. macrophyllum*, *H. monorchis*, *Liparis* spp., *Listera* spp., *Malaxis muscifera*, *Neottia listeroides*, *N. microglottis*, *N. pinetorum*, *Oreorchis* spp., *Peristylus* spp., *Platanthera* spp., *Ponerorchis chusua*, *Satyrium nepalense*, *Spiranthes sinensis*, *Zeuxine strateumatica*, etc. The water courses and wet habitats often dominated by different species of ferns which grow either in pure patches or in mixed communities. *Adiantum venustum*, *Asplenium tripteropus*, *Athyrium* spp., *Botrychium* spp., *Claytosmunda claytoniana*, *Cryptogramma raddeana*, *Dryopteris* spp., *Huperzia selago*, *Lepisorus clathratus*, *Lycopodium clavatum*, *Onychium contiguum*, *Ophioglossum reticulatum*, *Osmundas* spp., *Polystichum* spp., and *Pteris cretica* are some of the common alpine ferns.

Cold deserts

The Cold deserts are distributed to Ladakh region in Jammu & Kashmir, Lahaul-Spiti and Kinnaur in Himachal Pradesh, Nelang valley, Mana and Niti valley in Uttarakhand extending from 4500–6000 m altitude. These are Trans-Himalayan rain shadow zone of western Himalayas characterized by extremely low temperature which sometimes recorded to -45°C and low rainfall. The vegetation of the region is very scanty and highly specialized, however, on closer look it unfolds astonishing ecological, morphological and physiological adaptations which help them to thrive in the harsh climatic conditions. Specialized habits like cushion or mat forming, diminutive and bushy habits, plants with deep penetrating tap root system, presence of thick and silvery hairy indumentums are some of the key adaptations in cold desert. The plants of cold desert have medicinal and economical potential as they are being used in Ayurveda, Unani and Amchis systems of medicine. The plains of Ladakh, Azure blue water bodies at Tsomoriri, valleys of Lahaul & Spiti, are some of the most beautiful landscapes in cold desert (Shukla & Srivastava, 2015).

The vegetation of cold desert can be categorized into three groups, viz., Alpine, typical cold desert elements and Ossetic vegetation. The dominant species which are found in these zones are *Thylacospermum caespitosum*, *Acantholimon lycopodioides*, *Echinops cornigerus*, *Tanacetum tibeticum*, *Nepeta floccosa*, *Arnebia guttata*, *Lancea tibetica*, *Lepidium apetalum*, *Elaeagnus angustifolia*, *Potentilla anserina*, *Sedum ewersii*, *Saxifraga sibirica*, *Waldheimia tomentosa*, *Dianthus*



Fig. 13. Cold desert along Pangong Lake in Ladakh



Fig. 14. Panoramic view of cold desert in Leh sector

anatolicus, *Oxytropis lapponica*, *Potentilla multifida*, *Plantago minima*, *Sedum tibeticum*, *Arabis tibetica*, *Corydalis crassifolia*, etc. The most noticeable adaptive character of the vegetation of this region is cushion forming habitat, diminutive or miniature habit, bushy habitat and protective layer of hairs. Plants with bushy habit are *Caragana pygmaea*, *Ephedra gerardiana*, *Hippophae rhamnoides*, *Myricaria prostrata* and *Lonicera hispida* while *Acantholimon lycopodioides*, *Thylacospermum caespitosum*, *Arenaria bryophylla* and species of *Astragalus*, *Androsace*, *Draba*, *Sedum*, *Saxifraga* are cushion-forming species. Species with diminutive or miniature habit are *Gentiana thomsonii*, *Taraxacum bicolor*, *Astragalus heydei*, many species from *Corydalis*, *Thermopsis inflata*, *Dracocephalum heterophyllum* whereas *Astragalus munroi*, *Saussurea gossypiphora*, *Soroseris glomerata*, etc. are the habit with a dense layer of protective covering of hairs (Shukla & Srivastava, 2015; Singh & Dash, 2018).

Fragile ecosystems of Llonakh

In contrast, the diversity of Llonakh Valley of Sikkim Himalaya is of rare kind and forms a unique alpine community. The species occur in this high altitude are predominantly of Tibetan affinity. Species from Ranunculaceae moderately represented. Among the few shrubby plants of the higher regions are the species of *Berberis* which persist far into the upper Llonakh valley where they are much dwarfed and generally prostrate. *Corydalis* is well represented and rich in species. The Brassicaceae particularly species from *Draba*, *Lychnis*, *Stellaria* and *Arenaria* are well represented by the tufted form in Llonakh. Legumes are moderately represented by the species of *Astragalus* and *Oxytropis*. Members of Rosaceae are conspicuous features of the vegetation with many species of *Potentilla*, *Sibbaldia*, *Spiraea* and *Cotoneaster*. *Saxifraga* is another dominant genus in upper reaches. Apiaceae are represented by prostrate *Cortia*. *Pleurospermum* and *Trachydium* grow on open wind-swept areas of Llonakh. With the exception of *Galium*, Rubiaceae are absent from the higher altitudes. Compositae are well distributed with abundance of species of *Saussurea* in the valley. *Anaphalis* and *Artemisia* are common towards the dry Tibetan region. *Pedicularis* is another dominant genus of this valley; their bright colours are a conspicuous feature in sparse Llonakh vegetation. Prostrate species of *Salix* are prevalent right up to the melting snow.

PHYTO-GEOGRAPHICAL AFFINITIES OF HIMALAYAN PLANTS

The flora of Himalaya shows interesting phyto-geographical affinities and is considered as the admixture of floristic elements of adjacent phyto-geographical region such as Tibet, China, Japan, Myanmar, Thailand, Malaysia (Rao, 1974; Rau, 1974; Subramanyam & Nayar, 1974; Balakrishnan, 1977, 1988; Jain & Sastry, 1978; Nair & al., 1980; Nayar, 1980; Jain, 1982; Hajra & Shukla, 1982; Hajra, 1982; Rao & Murti, 1990) It is also hypothesized there has been a continuous migration of floristic elements in both ways, with all surrounding regions. These migrated elements got mixed up with the indigenous elements to produce the present day complex phyto-diversity. However analysis of the flora with the adjacent phyto-geographical regions reflects the uniqueness in distribution. The occurrence

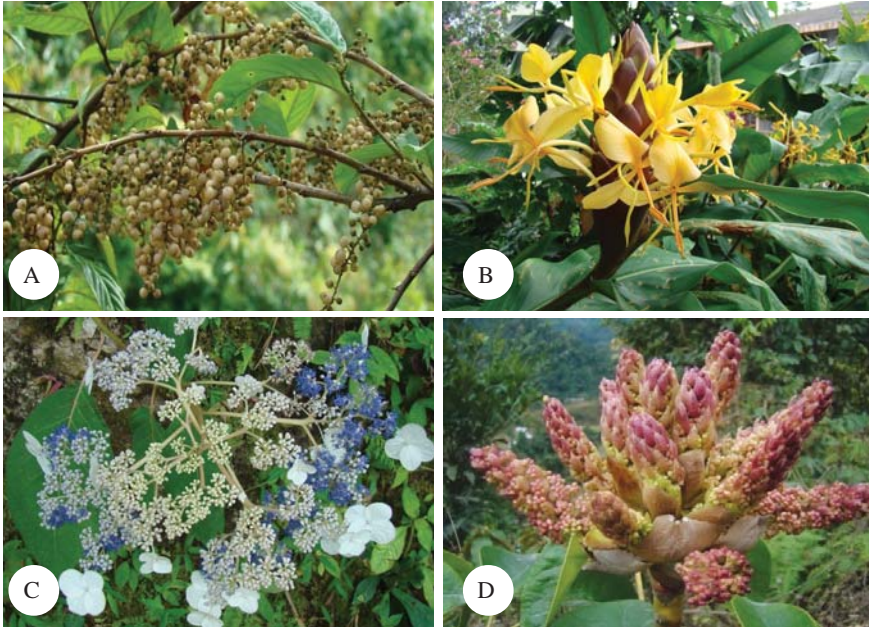


Fig. 15. A. *Maesa indica* (Roxb.) Wall.; B. *Hedychium gardnerianum* Sheppard ex Ker Gawl.; C. *Hydrangea anomala* D. Don; D. *Schefflera hypoleuca* (Kurz) Harms

of many species that are reported within India may be a result of comparatively recent migration, along the Himalayan chain from China. Similarly disjunctive distribution of many species such as *Codonopsis tubulosa*, *Clethra racemosa*, *Aspidopterys indica*, *Archidendron kerii*, *Elaeocarpus aristatus*, *E. rugosus*, *Schima wallichii* reflect processes of fragmentation and isolation of formerly widespread taxa.

Various interpretations are available to describe the affinities of the plants of Himalaya. Hooker considered the flora of this region under the province Burma; Mani (1974) considered the flora of eastern Himalaya, under the Indo-Chinese amphitheater; while Burkill (1925) considered the flora showing mixture of Chinese, Malayan and Japanese affinities. Based on the analysis of distribution patterns, Champion and Seth (1968) and Sagaeriya (1969) have been broadly classified vegetation of India based on different climatic zone. Gadgil and Mehar-Homji (1990) distinguished 5 phytogeographical zones for Himalaya while Balakrishnan (1996) differentiated 2 zones for Himalaya out of 11 physiographic regions he recognized within the Indian territory. The most agreeable phytogeographic divisions have proposed by Rodgers and Panwar (1990) and Rodgers & al., (2000), where in 10 biogeographical zones and 24 biotic provinces have inferred, out of which 5 zones have been designated for the Himalayas. However, depending upon the distribution pattern, the affinity of Himalayan flora can be broadly classified (Good, 1947; Grierson & Long, 1987; Dash, 2011) into South East Asian-Malaysian elements (mostly distribution in tropical region),

Chinese-Japanese elements (distribution in temperate region); Tibetan elements (mainly xerophytic plants of high altitude) Euro-Siberian elements (temperate and alpine zone species), Artic-Alpine elements (plants of high altitude with disjunctive distribution). Among the native flora, members of family Orchidaceae, Gramineae, Compositae, Leguminosae, Cyperaceae, Rosaceae, Rubiaceae rank highest in numbers.

South East Asian-Malaysian elements: These elements are dominant in the warm broad-leaved subtropical forests but gradually decline westwards. A number of taxa such as *Acrocarpus fraxinifolius*, *Actinidia callosa*, *Baccaurea ramiflora*, *Bauhinia purpurea*, *Bischofia javanica*, *Calamus* sp., etc. are the typical, all of which occur in S. Myanmar and Malayan peninsula, many ranged to Indo-China, a smaller number to the Malaysian Islands and Indonesia.

Chinese-Japanese elements: There is a great influence of Chinese-Japanese elements on Himalayan flora. The temperate and subtropical floral element of this group ancient in nature with high biodiversity and endemism. The distribution pattern of these elements depends on its limit of extension and the range of overlapping with adjacent geographical regions.

Based on the range of distribution limit both east and westward, six main patterns of distribution viz., Taxa distributed from NW Himalaya to China; Taxa distributed from NW to Arunachal Pradesh but absent from China and Japan; taxa distributed from North west Himalaya to Arunachal Pradesh but absent from China



Fig. 16. A. *Potentilla lineata* Trev.; B. *Cirsium eriophoroides* (Hook.f.) Petr.; C. *Allium hookeri* Thwaites; D. *Bergenia crassifolia* (L.) Fritsch

and Japan; Taxa distributed from Eastern Himalaya to China, but absent from W. Himalaya and Japan; Taxa commonly found in Western and Eastern Himalaya.

Tibetan elements: The Tibetan vegetation is mainly xerophytic and very different from that of Himalaya mainly because of low rainfall and high altitude. This type of vegetation is found in higher riches of Tawang, West Kameng, Kurungkumey district of Arunachal Pradesh, North district of Sikkim, and on the cold deserts of Jammu & Kashmir. Some of the important plant species which shows distinct Tibetan affinity are *Allium fasciculatum*, *Arenaria bryophylla*, *Braya tibetica*, *Cortiella hookeri*, *Ephedra gerardiana*, *Juncus thomsonii*, *Kobresia schoenoides*, *Lancea tibetica*, *Paraquilegia microphylla*, *Phlomooides rotata*, *Potentilla armerioides*, *Przewalskia* sp., *Ranunculus tricuspis*, *Rheum acuminatum*, *Ribes* sp., *Saussurea gossypiphora*, *S. obvallata*, *Stellera* sp., etc.

Euro-Siberian elements: Quite a number of temperate and alpine zone species of Arunachal Pradesh, Sikkim and Jammu & Kashmir are of European and Siberian Origin. The European and Mediterranean elements are represented by the species of *Ranunculus*, *Gentiana*, *Swertia*, *Anemone*, *Tamarix*, *Allium*, *Artemisia*, etc.

Arctic-Alpine Elements: These elements consist of taxa widespread in arctic region and also found at high altitude on some of the high mountain ranges of Europe and Asia, showing disjunct distribution. Some of the species that occur in higher ridges of Himalaya are *Bistorta vivipara*, *Diapensia* spp., *Koenigia islandica*, *Oxyria digyna*, *Pinguicula alpina*, *Sagina saginoides*, *Thalictrum alpinum*, etc.

ENDEMISM

The geographical position, physiography and geological history of Himalaya have altogether contributed to high endemism of plant species (Singh & al., 2015). The occurrence of high endemics in a region is the suggestive of isolation, center of speciation, extinction and adaptive evolution of the biota of a particular region. Distribution of endemic species, their concentration and the level in biological hierarchy are very important aspects in judging the phytogeographic affinities and demarcations (Singh & al., 2015).

Eastern Himalaya is richer in endemics than the western Himalaya. No families are endemic to this region; however all the endemics are manifested at species, subspecies or variety level. The altitudinal gradient of the mountain ranges is one of the decisive factors in shaping the spatial patterns of the species diversity and its uniqueness. Western Himalaya contributes 297 endemic taxa while eastern Himalaya contributes 466 endemic taxa (Singh & al., 2015). Western and Eastern Himalaya contributes 7% and 11% in total endemic taxa, respectively. Arunachal Pradesh and Sikkim, known for their high biological diversity contribute 183 taxa and 160 taxa respectively. In Western Himalaya, Jammu & Kashmir shows the maximum endemism with 82 taxa, followed by Uttarakhand with 81 taxa and Himachal Pradesh with 28 taxa. It is also interesting to note that, endemic diversity greatly differ along the altitudinal gradient. Orchidaceae with 77 taxa is the most dominant in eastern Himalayan followed by the family Ericaceae (29 taxa), Lauraceae (27 taxa)



Fig. 17. *Stapletonia arunachalensis* P. Singh, S.S. Dash & P. Kumari
An endemic to Arunachal Pradesh

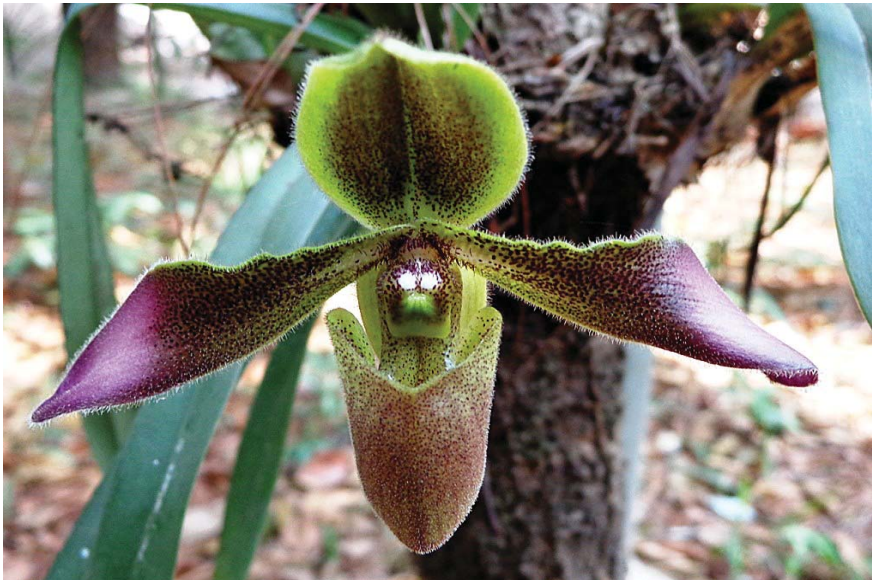


Fig. 18. *Paphiopedilum hirsutissimum*

and Balsaminaceae (22 taxa). Likewise, several genera show relatively higher richness in endemism (e.g. *Impatiens*, *Piper*, *Rhododendron*, *Agapetes* and *Saxifraga*). The genera rich in endemic species in western Himalaya include

Taraxacum (23), *Impatiens* (16), *Spiraea* (9), *Berberis* (8), *Cotoneaster* (8), *Astragalus* (7), *Potentilla* (5), etc., while in eastern Himalaya, *Impatiens* (30 species), *Piper* (17 species), *Rhododendron* (10 species) and *Agapetes* (10 species) are dominant genera. As the altitudinal gradient increases, more endemic species are encountered in the Himalayas. Analysis of data on endemic taxa in Himalaya revealed that, maximum representation is in alpine, followed by temperate, and subtropical regions (Singh & al., 2015).

PLANT RESOURCES

Many species have been contributed significantly to food security of the people residing in high hilly regions of Himalaya. These are used as either fruits (*Berberis* spp., *Myrica esculenta*, *Pyracantha crenulata*, *Ficus palmata*, *Rubus niveus*, *R. ellipticus*, *Fragaria nubicola*, *Malus sikkimensis*, *Prunus cornuta*, *Mangifera sylvatica*, *Cordia dichotoma*, *Elaeagnus latifolia*, etc.) or leafy vegetables (*Oenanthe javanica*, *Chenopodium album*, *Houttuynia cordata*, *Portulaca oleracea*, *Persicaria chinensis*, *Fagopyrum acutatum*, *Paeonia emodi*, *Phytolacca acinosa*, etc.). The floral stalks of *Bauhinia variegata*, *Bombax ceiba*, *Nelumbo nucifera*, *Agave americana*, *Musa* spp. are cooked as wild vegetable especially in eastern Himalaya. The underground rhizome or tubers of different wild species like *Alocasia* spp., *Dioscorea bulbifera*, *D. hispida*, *Codonopsis ovata*, *Nymphaea nouchali*, *Nelumbo nucifera*, *Vigna vexillata*, *Tulipa clusiana*, *Allium jacquemontii*, etc. are used as vegetable by local people of western Himalaya (Samant & Dhar, 1997; Dash, 2009, Dash & Singh, 2017).



Fig. 19. A. *Ajuga integrifolia* Buch.–Ham.; B. *Aletris pauciflora*; C. *Arnebia benthamii*

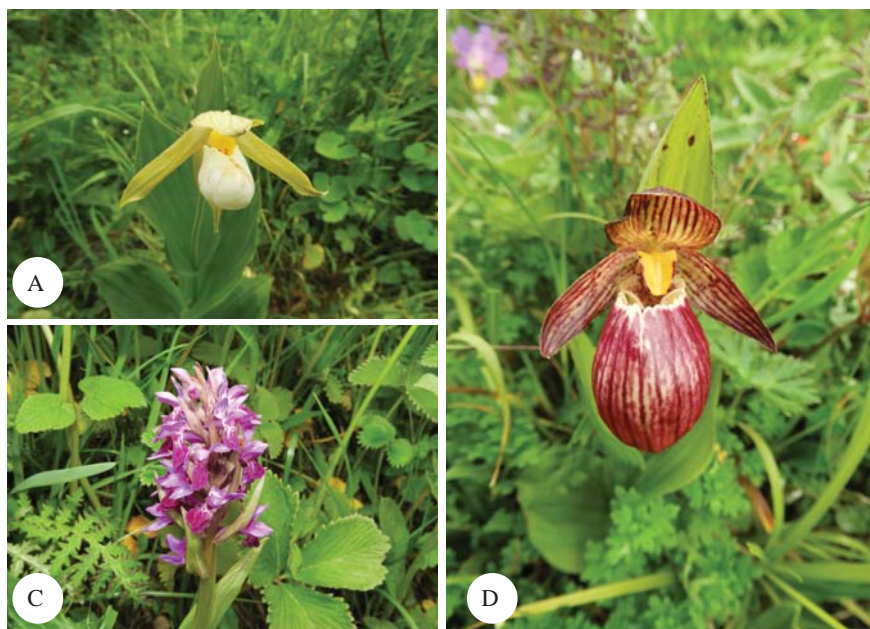


Fig. 20. A. *Cypripedium cordigerum* D.Don; B. *Cypripedium himalaicum* Rolfe; C. *Dactylorhiza hatagirea* (D.Don) Soó

Traditional use of plants is a part of the cultural heritage the local inhabitants of Himalyan state. Very often, due to non availability of modern health care system, local inhabitants of interior places are entirely depending upon the plants or plant products to cure different ailments they suffers from. The entire Himalaya harbours a wide range of important medicinal plants which are not only have tremendous commercial value but also a part of Ayurveda or Unani systems. Some of the important medicinal species that used in traditional systems as well as have commercial values are *Aconitum ferox*, *Sassurea gossypiphora*, *Gentiana kurroo*, *Picrorhiza scrophuliflora*, *Ephedra gerardiniana*, *Rhododendron anthopogon*, etc. Besides the important species that are being used in the folklore system are *Alpinia nigra* (for rheumatic pain), *Aconitum ferox* (rheumatism), *Ainsliaea latifolia* (stomachache), *Ajuga bracteosa* (urinary disorder, purgative), *Ammomum subulatum* (cold and cough), *Begonia sikkimensis* (febrifuge), *Berberis wallichiana* (antidote), *Buddleja asiatica* (headache, forehead pain), *Callicarpa arborea* (gastric trouble), *Cinnamomum tamala* (diarrhoea), *Clinopodium umbosum* (antiseptic), *Coelogyne fuscescens* (stomach ailment), *Coix lachryma-jobi* (urinary disorder), *Colocasia affinis* (febrifuge), *Costus speciosus* (breast swelling, health tonic), *Dendrocalamus hamiltonii* (menstrual disorder), *Ephedra gerardiniana* (bronchitis, respiratory problems), *Eurya acuminata* (rheumatic pain, insect antidote), *Ficus semicordata* (purgative), *Globa multiflora* (sprain or swelling), *Gynocardia odorata* (epilepsy), *Hedyotis scandens* (eye ailment, conjunctivitis), *Morinda angustifolia* (general bodyache), *Neopicrorhiza scrphulariiflora* (blood dysentery), *Rhaphidophora*

glauca (bodyache), *Rubia cordifolia* (leucorrhoea), *Rubus ellipticus* (dysentery, jaundice) etc. Dash, 2003). List of some important and common medicinal plants of IHR used in traditional health care systems as well as a constituent in Ayurveda system is depicted in Annexure -1 .

Himalayan region has a great diversity and abundance of economic trees, which are used as sources of Timber and wood. *Actinodaphne angustifolia* (house construction, poles and embankment), *Pterospermum acerifolium* (cabinet, planks), *Alnus nepalensis* (cabinet, planks, commercial purpose), *Altingia excelsa* (beams, pole, fuel wood), *Artocarpus heterophylla* (furniture, house construction), *Bischofia javanica* (miscellaneous work, fuel), *Bridelia retusa* (cabinet, poles, embankment, fuel wood), *Castanopsis lancefolia* (miscellaneous work), *Castanopsis indica* (house construction), *Cinnamomum bejolghota* (beams, pole), *Cinnamomum tamala* (cabinet, poles), *Dillenia indica* (beams, pole), *Dipterocarpus retusus* (beams, pole, house construction, commercial purpose), *Dysoxylum binectariferum* (beams, fuel wood), *Elaeocarpus floribundus* (house construction), *Exbucklandia populnefolia* (house construction), *Ficus* sp. (miscellaneous works), *Lindera neesiana* (miscellaneous work, house construction), (cabinet, planks), *Macaranga denticulata* (poles and beams), *Magnolia pterocarpa* (furniture, house construction), *Mangifera sylvatica* (beams, pole, planks), *Mesua ferrea* (furniture, house construction), *Michelia doltsopa* (furniture), *Phobe attenuata* (beams, pole), *Schima wallichii* (house construction, poles, planks), *Abies densa* (furniture, house construction),

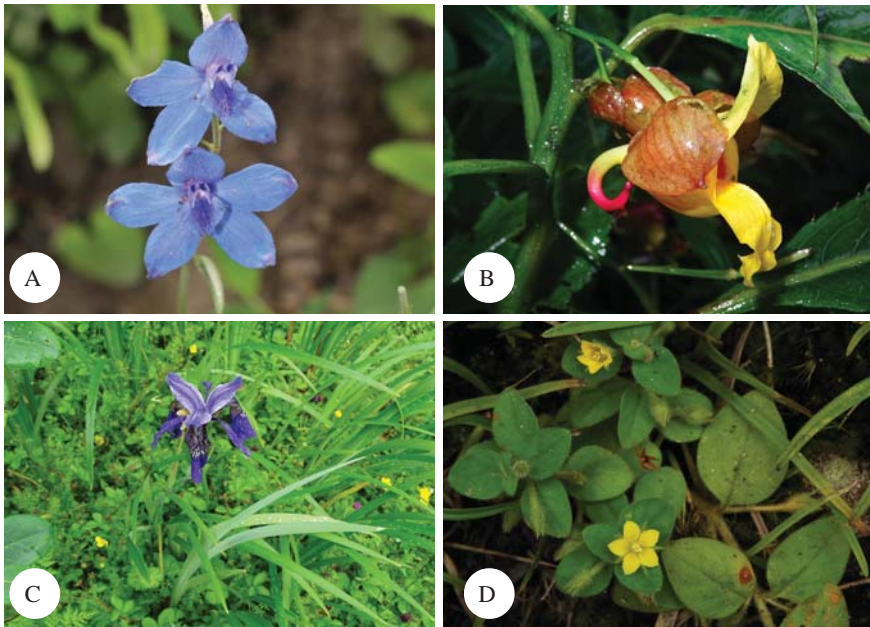


Fig. 21. A. *Delphinium denudatum* Wall. ex Hook.f. & Thomson; B. *Impatiens pseudolaevigata*; C. *Iris clarkei* Baker ex Hook.f; D. *Lysimachia deltoidea*

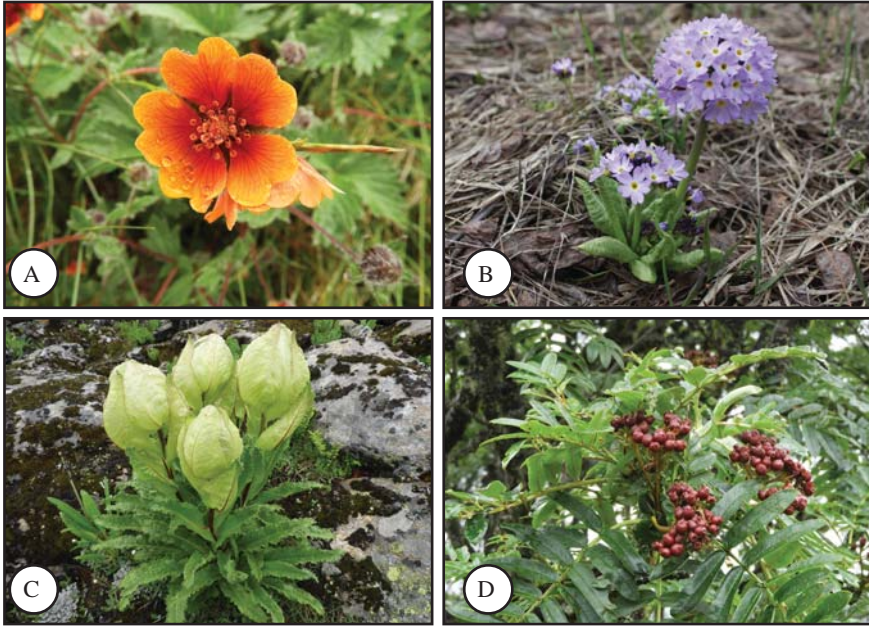


Fig. 22. A. *Potentilla atosanguinea* G; B. *Primula denticulata* Sm; C. *Saussuria obvalata*; D. *Sorbus cashmiriana*

Sterculia villosa (beams, pole, fuel wood), *Sterculia hamiltonii* (Cabinet, planks), *S. villosa* (furniture, house construction, commercial purpose), *Terminalia alata* (house construction, commercial purposes), *Terminalia chebula* (beams, pole), *Terminalia myriocarpa* (furniture, house construction, commercial purpose), *Toona ciliata* (furniture, house construction, commercial purpose), *Trewia nudiflora* (furniture, house construction), etc. (Dash & Singh, 2017). Apart from trees, various species of wild bamboos are used for various purposes in Indian Himalaya. Some common bamboos are *Bambusa balcooa*, *B. nutans*, *B. pallida*, *B. tulda*, *Chimonobambusa callosa*, *Dendrocalamus giganteus*, *D. hamiltonii*, *D. hookeri*, *Pseudostachyum polymorphum* *Schizostachyum polymorpha*. etc. (Kumari & Singh, 2014, Dash & Singh 2017).

The Himalayan plants are also a source of natural dyes for inhabitants who used them for colouring textile, cosmetics, skin, cave paintings, clothes, etc. Dyes are produced from various parts of the plant, i.e. root, rhizome, stem, bark, leaf, flower, fruit, seed or whole plant and in few cases from resin or gum and stem galls. Some of the common dyes yielding plants in IHR are *Acacia catechu*, *A. nilotica*, *Berberis asiatica*, *Butea monosperma*, *Carthamus tinctorius*, *Crocus sativus*, *Curcuma domestica*, *Embilica officinalis*, *Grevellia robusta*, *Hedychium spicatum*, *Indigofera tinctoria*, *Juglans regia*, *Lagerstroemia parviflora*, *Mallotus philippensis*, *Myrica esculenta*, *Pinus wallichaina*, *Princepia utilis*, *Rhododendron arboretum*, *Rubia cordifolia*, *Rumex hastatus*, *Tagetes erecta*, *Urtica dioica*, *Woodfordia fruticosa*, etc.

Collection of fuel wood and fodder from the forest is the main step that turns the cycle of economy and livelihoods of the rural people across the Indian Himalayan Region (Patnaik, 1986; Dhyani & al., 2011). Therefore, the dependence on the forest in the vicinity for the basic needs like fodder, fuel wood, timber, medicines, etc., is part of livelihood and economy (Kala, 2007). Up to 87% of fodder requirement is met by the forest directly in the Himalaya region (Pandey and Singh, 1984). Common fodder species are *Quercus* spp., *Rhododendrone* spp., *Ficus* spp., *Celtis australis*, *Morus serrata*, *Corylus jacquemontii*, *Indigofera*, *Acer* spp., *Ulmus* spp., *Betula* spp., *Viburnum* spp., *Symplocos* spp., *Lithocarpus* spp., *Lyonia ovalifolia*, *Ilex dipyrena*, *Albizia* spp., *Desmodium* spp., etc. Besides, these grasses including bamboos are important source of fodder across the IHR and are available to cattle round the year either as green fodder or as dry fodders.

There is a strong bond between plants and the traditional culture of the local inhabitants in IHR. Plants or plant parts have been used to perform various religious functions, rituals and also in celebration of festivals. *Saraca asoca*, *Mangifera indica*, *Ocimum basilicum*, *Ficus bengalensis*, *F. religiosa*, *F. glomerata*, *Morus serrata*, *Prunus cerasoides*, etc. are considered sacred. While, full plant or parts of *Cynodon dactylon*, *Artemisia nilagirica*, *Saussurea obvallata*, *Aegle marmelos*, *Origanum vulgare*, etc. are offered during various festival worship. In Himachal Pradesh, Sikkim and Arunachal Pradesh many community forests were designated as sacred thereby conserving the diversity as Sacred grove. Similarly some of the plants which are having religious importance are *Azadirachta indica*, *Aegle marmelos*, *Betula utilis*, *Cedrus deodara*, *Oroxylum indicum*, *Skimmia anquetilia*, *Rhynchostylis retusa*, etc. In western Himalayan, *Zanthoxylum armatum*, *Urtica dioica*, *Saussurea obvallata*, *Euphorbia* spp. are being used the worship against evil spirits.

CROP PLANT GENETIC RESOURCES

The crop plant genetic resources of the world can be assigned to specific centres of diversity identified on the basis of varietal diversity, homologous variation, endemism, dominant allele frequencies and disease resistance. India is one of the important centres of diversity having contributed 167 species. Within India, there are eight subcentres namely Western Himalaya, Eastern Himalaya, North Eastern Region, Gangetic Plains, Indus Plains, Western Ghats, Eastern Ghats and Andaman & Nicobar Islands. Himalayan region has been a source of several species of cereals, pulses, fruits, oil yielding plants, spices and tuberous vegetables and their wild relatives.

The Western Himalaya has contributed species of the genera of *Pyrus*, *Prunus*, *Sorbus*, *Rubus*, *Ribes*, *Hordeum*, *Elymus*, *Eremopyrum*, *Avena*, *Aegilops*, *Allium*, *Lepidium*, *Carum*, *Linum*, *Cicer* and *Cucumis*.

Eastern Himalaya have been the source of genera *Pyrus*, *Prunus*, *Sorbus*, *Rubus*, *Ribes*, *Hordeum*, *Musa*, *Elaeocarpus*, *Myrica*, *Morus*, *Coix*, *Digitaria*, *Oryza*, *Vigna*, *Mucuna*, *Trichosanthes*, *Momordica*, *Cucumis*, *Solanum*, *Brassicaceae*, *Corchorus*, *Piper*, *Amomum*, *Alpinia*, *Curcuma*, *Zingiber* and *Saccharum*.

There is whole range of medicinal and aromatic plants which have been commercially used and have their centre of origin in Himalaya. Among the important ones are *Asparagus racemosus*, *Atropa acuminata*, *Aconitum heterophyllum*, *Berberis* spp., *Bunium persicum*, *Carum* spp., *Colchicum luteum*, *Coptis teeta*, *Cymbopogon* spp., *Curcuma zedoria*, *Dactylorhiza latifolia*, *Dioscorea deltoides*, *Ephedra gerardiana*, *Gentiana kurroa*, *Heracleum* spp., *Inula* spp., *Nardostachys jatamansi*, *Podophyllum hexandrum*, *Picrorrhiza kurroa*, *Rheum emodi*, *Sausurea lappa*, *Swertia* spp., *Valeriana wallichii*, *Viola odorata*.

A number of wild ornamentals with potential for cultivation are found in the Himalaya. Special mention needs to be made of species of *Primula*, *Rhododendron*, *Impatiens*, *Saxifraga* and whole family *Orchidaceae*. Bamboo diversity in Himalaya, particularly in Eastern region is remarkable and they contribute to the daily needs of the millions of people.

THREATS

The heterogeneous flora of Himalaya is manifested with high degree of species richness and endemism. To conserve the rich diversity of flowering plants of this region, there is urgent need to scientifically manage and intensively monitor the Protected Area Network of this region. Commercial extraction and transit of medicinal herbs and other economic plants from the fragile Himalayan ecosystem is needed to be streamlined for the sustainable use and preservation of the viable wild gene pool. The assumption for nature conservation should prioritize based on the ecological indicators, socio-economic-ecological services for long-term persistence of biodiversity. Further scientific studies and cataloguing the diversity of life-forms need to be encouraged. The government of Himalayan states already taken up a number of conservation initiatives in this direction like ban on grazing in forests, prohibiting green felling of trees, promoting organic farming, and participatory conservation with active involvement of the local communities.



Fig. 23. Clearing a forest for shifting cultivation in Arunachal Pradesh.

CONSERVATION PRIORITIES

Inventory of biodiversity is prerequisite to understand the all levels of the ecosystem services and it's quantitative scientifically management. Being a signatory of Convention on Biological Diversity (CBD), India is committed to deliver outcomes of biodiversity research, inventorize and documentation of all plant resources of the country and also to bring in to the required amount of plant species under conservation. Botanical Survey of India, the leading organization of our country playing the central role in documenting, compiling and updating of all information on Plant diversity of all groups of plants on a commendable manner. The flora of Himalaya is manifested with high degree of species richness and endemism. To conserve and scientifically manage the rich diversity of flowering plants of Himalaya a well established and intensively monitored protected area network is in force. Presently, the Indian Himalayan region is having 4 Biosphere reserves (21362 sq.km), 18 National Parks (13562 sq.km.) and 70 Wildlife Sanctuaries (26975.1sq.km) which is about 25 percent of the total area under protected ares network. These protected areas, located in different locations, are part of the cultural heritage and are also play an important role in conservation of biodiversity rainforced with the traditional practices.

Himalayan region not only covered under the protected area network, but also within the framework of trans-boundary cooperative network. Kangchenjunga landscape, a contiguous ecosystem shared by Bhutan, India and Nepal, is a trans-boundary Himalaya landscape where biodiversity-based resources, such as high value medicinal plants, eco-tourism, are shared by all the three countries. Similarly the Kailash Sacred landscape, another importance trans-boundary Himalayan



Fig. 24. Great Himalayan National Park, Himachal Pradesh

landscape, comprises about 31,000 km² known for its immense biodiversity, cultural and sacred values shared by India, China and Nepal. The ecosystem goods and services derived sustain the livelihoods of about one million people living in the Kailash Landscape. Indo-Bhutan Manas landscape also plays an important role in tiger conservation in the Indian subcontinent and its habitat.

Table 2: Biosphere Reserves in Indian Himalayan Region and its conservation area.

| Sl. No. | Name of BSR | Location | Estab. | Area (km ²) |
|-------------------|-----------------|-------------------|------------|-------------------------|
| 1. | Nanda Devi | Uttarakhand | 18.01.1988 | 5860.69 |
| 2. | Dehang-Dibang | Arunachal Pradesh | 02.09.1998 | 5111.5 |
| 3. | Khangchendzonga | Sikkim | 07.02.2000 | 2619.92 |
| 4. | Cold Desert | Himachal Pradesh | 28.08.2009 | 7770 |
| Total area | | | | 21362.11 |

Table 3: National parks in Indian Himalayan Region and its conservation area.

| Sl. No. | Name of National Park | Name of State | Year of Est. | Area (km ²) |
|-------------------|----------------------------|--------------------------|--------------|-------------------------|
| 1. | Mouling NP | Arunachal Pradesh | 1986 | 483 |
| 2. | Namdapha NP | Arunachal Pradesh | 1983 | 1807.8 |
| 3. | Corbett NP | Uttarakhand | 1936 | 520.82 |
| 4. | Gangotri NP | Uttarakhand | 1989 | 2390 |
| 5. | Govind NP | Uttarakhand | 1990 | 472.08 |
| 6. | Nanda Devi NP | Uttarakhand | 1982 | 624.6 |
| 7. | Rajaji NP | Uttarakhand | 1983 | 820 |
| 8. | Valley of Flowers NP | Uttarakhand | 1982 | 87.5 |
| 9. | City Forest (Salim Ali) NP | Jammu & Kashmir | 1992 | 9 |
| 10. | Dachigam NP | Jammu & Kashmir | 1981 | 141 |
| 11. | Hemis NP | Jammu & Kashmir | 1981 | 3350 |
| 12. | Kishtwar NP | Jammu & Kashmir | 1981 | 425 |
| 13. | Great Himalayan NP | Himachal Pradesh | 1984 | 754.4 |
| 14. | Inderkilla NP | Himachal Pradesh | 2010 | 104 |
| 15. | Khirganga NP | Himachal Pradesh | 2010 | 710 |
| 16. | Pin Valley NP | Himachal Pradesh | 1987 | 675 |
| 17. | Simbalbara NP | Himachal Pradesh | 2010 | 27.88 |
| 18. | Neora Valley NP | West Bengal (Darjeeling) | 1986 | 159.89 |
| Total area | | | | 13562 |

Table 4: Wild Life Sanctuaries in Indian Himalayan Region and its conservation area.

| Sl. No. | Name of Wild Life Sanctuary | Name of State | Year of Est. | Area (km ²) |
|---------|--------------------------------------|-------------------|--------------|-------------------------|
| 1. | D' Ering Memorial (Lali) WLS | Arunachal Pradesh | 1978 | 190 |
| 2. | Dibang WLS | Arunachal Pradesh | 1991 | 4149 |
| 3. | Eagle Nest WLS | Arunachal Pradesh | 1989 | 217 |
| 4. | Itanagar WLS | Arunachal Pradesh | 1978 | 140.3 |
| 5. | Kamlang WLS | Arunachal Pradesh | 1989 | 783 |
| 6. | Kane WLS | Arunachal Pradesh | 1991 | 31 |
| 7. | Mahao WLS | Arunachal Pradesh | 1980 | 281.5 |
| 8. | Pakke (Pakhui) WLS | Arunachal Pradesh | 1977 | 861.95 |
| 9. | Sessa Orchid WLS | Arunachal Pradesh | 1989 | 100 |
| 10. | Tale WLS | Arunachal Pradesh | 1995 | 337 |
| 11. | Yordi Rabe Supse WLS | Arunachal Pradesh | 1996 | 397 |
| 12. | Bandli WLS | Himachal Pradesh | 1962 | 32.11 |
| 13. | Chail WLS | Himachal Pradesh | 1976 | 16 |
| 14. | Chandratal WLS | Himachal Pradesh | 2007 | 38.56 |
| 15. | Churdhar WLS | Himachal Pradesh | 1985 | 55.52 |
| 16. | Daranghati WLS | Himachal Pradesh | 1962 | 171.5 |
| 17. | Dhauladhar WLS | Himachal Pradesh | 1994 | 982.86 |
| 18. | Gangul Siyabehi WLS | Himachal Pradesh | 1962 | 108.4 |
| 19. | Kais WLS | Himachal Pradesh | 1954 | 12.61 |
| 20. | Kalatop-Khajjiar WLS | Himachal Pradesh | 1958 | 17.17 |
| 21. | Kanawar WLS | Himachal Pradesh | 1954 | 107.29 |
| 22. | Khokhan WLS | Himachal Pradesh | 1954 | 14.94 |
| 23. | Kibber WLS | Himachal Pradesh | 1992 | 2220.1 |
| 24. | Kugti WLS | Himachal Pradesh | 1962 | 405.49 |
| 25. | Lippa Asrang WLS | Himachal Pradesh | 1962 | 31 |
| 26. | Majathal WLS | Himachal Pradesh | 1954 | 30.86 |
| 27. | Manali WLS | Himachal Pradesh | 1954 | 29 |
| 28. | Nargu WLS | Himachal Pradesh | 1962 | 132.37 |
| 29. | Pong Dam Lake WLS | Himachal Pradesh | 1982 | 207.59 |
| 30. | Rakchham Chitkul (Sangla Valley) WLS | Himachal Pradesh | 1989 | 304 |
| 31. | Renuka WLS | Himachal Pradesh | 2013 | 4 |
| 32. | Rupi Bhaba WLS | Himachal Pradesh | 1982 | 503 |
| 33. | Sainj WLS | Himachal Pradesh | 1994 | 90 |
| 34. | Sech Tuan Nala WLS | Himachal Pradesh | 1962 | 390.29 |
| 35. | Shikari Devi WLS | Himachal Pradesh | 1962 | 29.94 |
| 36. | Shimla Water Catchment WLS | Himachal Pradesh | 1958 | 10 |
| 37. | Talra WLS | Himachal Pradesh | 1962 | 46.48 |

| | | | | |
|-------------------|--------------------------------|--------------------------|--------|-----------------|
| 38. | Tirthan WLS | Himachal Pradesh | 1992 | 61 |
| 39. | Tundah WLS | Himachal Pradesh | 1962 | 64 |
| 40. | Baltal-Thajwas WLS | Jammu & Kashmir | 1987 | 210.5 |
| 41. | Changthang WLS | Jammu & Kashmir | 1987 | 4000 |
| 42. | Gulmarg WLS | Jammu & Kashmir | 1987 | 180 |
| 43. | Hirapora WLS | Jammu & Kashmir | 1987 | 110 |
| 44. | Hokersar WLS | Jammu & Kashmir | 1992 | 13.75 |
| 45. | Jasrota WLS | Jammu & Kashmir | 1987 | 25.75 |
| 46. | Karakoram (Nubra Shyok) WLS | Jammu & Kashmir | 1987 | 5000 |
| 47. | Lachipora WLS | Jammu & Kashmir | 1987 | 80 |
| 48. | Limber WLS | Jammu & Kashmir | 1987 | 26 |
| 49. | Nandni WLS | Jammu & Kashmir | 1981 | 33.34 |
| 50. | Overa-Aru WLS | Jammu & Kashmir | 1987 | 425 |
| 51. | Rajparian (Daksum) WLS | Jammu & Kashmir | 2002 | 20 |
| 52. | Ramnagar Rakha WLS | Jammu & Kashmir | 1981 | 31.5 |
| 53. | Surinsar Mansar WLS | Jammu & Kashmir | 1981 | 55.5 |
| 54. | Trikuta WLS | Jammu & Kashmir | 1981 | 31.77 |
| 55. | Barsey Rhododendron WLS | Sikkim | 1998 | 104 |
| 56. | Fambong Lho WLS | Sikkim | 1984 | 51.76 |
| 57. | Kitam Bird WLS | Sikkim | 2005 | 6 |
| 58. | Kyongnosla Alpine WLS | | Sikkim | 1977 |
| 31 | | | | |
| 59. | Maenam WLS | Sikkim | 1987 | 35.34 |
| 60. | Pangolakha WLS | Sikkim | 2002 | 128 |
| 61. | Shingba Rhododendron WLS | Sikkim | 1984 | 43 |
| 62. | Askot WLS | Uttarakhand | 1986 | 600 |
| 63. | Binsar WLS | Uttarakhand | 1988 | 47.07 |
| 64. | Govind Pashu Vihar WLS | Uttarakhand | 1955 | 485.89 |
| 65. | Kedarnath WLS | Uttarakhand | 1972 | 975.2 |
| 66. | Mussoorie WLS | Uttarakhand | 1993 | 10.82 |
| 67. | Nandhaur WLS | Uttarakhand | 2012 | 269.96 |
| 68. | Sonanadi WLS | Uttarakhand | 1987 | 301.18 |
| 69. | Jorepokhri Salamander WLS | West Bengal (Darjeeling) | 1985 | 0.04 |
| 70. | Senchal WLS | West Bengal (Darjeeling) | 1976 | 38.88 |
| Total area | | | | 26975.08 |

Ex-situ conservation:

In the Indian context, the Ministry of Environment, Forest and Climate Change (MoEFCC), is the nodal Ministry responsible for the conservation of India's biodiversity. Realising the urgent need for ex situ conservation the MoEFCC also started programmes for infrastructure development, augmenting and introducing wild plant collections and awareness building. The updated Global Strategy for Plant Conservation (GSPC) adopted during Conferesnces Conference of the Parties (COP) of the CBD at The Hague in 2002 provides excellent framework of actions for conservation of plant species through 16 result-oriented targets aimed at different conservation goals by the end of 2020 and addressing these targets, particularly Target 8, through botanic garden development programmes would pay dividends on the ex situ conservation front.

Botanic gardens are appropriately established to serve as repositories/gene pools of threatened/ indigenous plant species, to provide the gene pool buffer stock to respond to unforeseen environmental changes as well as for recovery of endangered species, habitat rehabilitation and restoration, crop improvement and disseminate information on plant groups of biological and conservation value. Strengthening *ex situ* conservation is one of the essential components of India's National Biodiversity Strategy and Action Plan (NBSAP), which is based on the principles built in the National Environment Policy (2006) of the country.

Table 5: Some of the Himalayan plants that are conserved in Botanic gardens.

| Sl. No. | Name of the plant | Family | Purpose of conservation | Garden where the plant is conserved |
|---------|--|---------------------------|---|-------------------------------------|
| 1. | <i>Aconitum ferox</i> Wall. ex Ser. | Ranunculaceae | Medicinal | SHRC, Gangtok |
| 2. | <i>Alpinia malaccensis</i> (Burm.f.) Roscoe | Zingiberaceae | Medicinal | APRC, Itanagar |
| 3. | <i>Amorphophallus bulbifer</i> (Roxb.) Blume | Araceae | Medicinal | APRC, Itanagar |
| 4. | <i>Asparagus racemosus</i> Willd. | Asparagaceae | Medicinal | APRC, Itanagar |
| 5. | <i>Bambusa multiplex</i> (Lour.) Raeusch. ex Schult. | Poaceae (young shoots) | Edible | AJCIBG |
| 6. | <i>Bambusa nutans</i> Wall. ex Munro | Poaceae | Edible (young shoots) | FRI Dheradun, Chessa Itanagar |
| 7. | <i>Bambusa pallida</i> Munro | Poaceae | Young rhizomes are edible | Chessa Itanagar, FRI Dheradun, |
| 8. | <i>Bambusa tulda</i> Roxb. | Poaceae | In making furniture, boxes, basketry, mats, | Chessa Itanagar, AJCIBG |
| 9. | <i>Bambusa vulgaris</i> Schrad. | Poaceae | Medicinal; young shoots are edible | Chessa Itanagar, AJCIBG |
| 10. | <i>Catamixis baccharoides</i> Thomson | Asteraceae | Critically Endangered | NRC, Dehradun |

| | | | | |
|-----|--|----------------|--------------------------|-----------------------------|
| 11. | <i>Cheilocostus speciosus</i> (J.Koenig) C.D.Specht | Costaceae | Medicinal | APRC, Itanagar |
| 12. | <i>Chimonobambusa callosa</i> (Munro) Nakai, | Poaceae | Edible (young shoots) | AJCIBG, FRI, Dheradun |
| 13. | <i>Cinnamomum bejolghota</i> (Buch.-Ham.) Sweet | Lauraceae | Medicinal | APRC, Itanagar |
| 14. | <i>Cinnamomum tamala</i> (Buch.-Ham.) T. Nees & Eberm. | Lauraceae | Spices | ERC, Barapani , Shillong |
| 15. | <i>Coelogyne arunachalensis</i> H.J.Chowdhery & G.D. Pal | Orchidaceae | Endemic | ERC, Barapani , Shillong |
| 16. | <i>Curcuma aromatica</i> Salisb. | Zingiberaceae | Medicinal | APRC, Itanagar |
| 17. | <i>Cymbidium eburneum</i> Lindl. | Orchidaceae | Threatened | ERC, Barapani , Shillong |
| 18. | <i>Cymbidium hookerianum</i> Rchb.f. | Orchidaceae | Threatened | APRC, Itanagar |
| 19. | <i>Cymbidium whiteae</i> King & Pantl. | Orchidaceae | Vulnerable; Endemic | SHRC, Gangtok |
| 20. | <i>Dendrobium khasianum</i> Deori | Orchidaceae | Endemic | ERC, Barapani, Shillong |
| 21. | <i>Dioscorea deltoidea</i> Wall. ex Griseb. | Dioscoreaceae | Medicinal | NRC, Dehradun |
| 22. | <i>Ephedra saxatilis</i> (Stapf) Royle ex Florin | Ephedraceae | Vulnerable | NRC, Dehradun |
| 23. | <i>Eria glandulifera</i> Deori & Phukan | Orchidaceae | Ornamental | SHRC, Gangtok |
| 24. | <i>Esmeralda clarkei</i> Rchb.f. | Orchidaceae | Ornamental | SHRC, Gangtok |
| 25. | <i>Ginkgo biloba</i> L. | Ginkgoaceae | Medicinal; Endangered | SHRC, Gangtok |
| 26. | <i>Gloriosa superba</i> L. | Colchicaceae | Medicinal | APRC, Itanagar |
| 27. | <i>Gynocardia odorata</i> R.Br. | Achariaceae | Medicinal | APRC, Itanagar |
| 28. | <i>Incarvillea arguta</i> (Royle) Royle | Bignoniaceae | Vulnerable | NRC, Dehradun |
| 29. | <i>Incarvillea emodi</i> (Royle ex Lindl.) Chatterjee | Bignoniaceae | Vulnerable | NRC, Dehradun |
| 30. | <i>Jasminum parkeri</i> Dunn | Oleaceae | Endangered | NRC, Dehradun |
| 31. | <i>Mallotus philippensis</i> (Lam.) Müll. Arg. | Euphorbiaceae | Dyes And Tannins | ERC, Barapani, Shillong |
| 32. | <i>Nardostachys jatamansi</i> (D.Don) DC. | Caprifoliaceae | Medicinal | SHRC, Gangtok |
| 33. | <i>Oroxylum indicum</i> (L.) Kurz | Bignoniaceae | Medicinal | APRC, Itanagar |
| 34. | <i>Paphiopedilum</i> <i>fairrieianum</i> (Lindl.) Stein | Orchidaceae | Medicinal | SHRC, Gangtok |
| 35. | <i>Paphiopedilum</i> <i>fairrieianum</i> (Lindl.) Stein | Orchidaceae | Threatened | ERC, Barapani, Shillong |
| 36. | <i>Paphiopedilum insigne</i> (Wall. ex Lindl.) Pfitzer | Orchidaceae | Threatened | ERC, Barapani Shillong |

| | | | | |
|-----|--|----------------|--------------------------|----------------------------|
| 37. | <i>Paphiopedilum venustum</i> (Wall. ex Sims) Pfitzer | Orchidaceae | Threatened | ERC, Barapani, Shillong |
| 38. | <i>Phlomooides superba</i> (Royle ex Benth.) Kamelin & Makhm | Lamiaceae | Endangered | NRC, Dehradun |
| 39. | <i>Phoenix rupicola</i> T.Anderson | Arecaceae | Edible | SHRC, Gangtok |
| 40. | <i>Pholidota katakiana</i> Phukan, | Orchidaceae | Ornamental | SHRC, Gangtok |
| 41. | <i>Pholidota wattii</i> King & Pantl. | Orchidaceae | Medicinal | SHRC, Gangtok |
| 42. | <i>Pittosporum</i> <i>eriocarpum</i> Royle | Pittosporaceae | Endangered | NRC, Dehradun |
| 43. | <i>Rauvolfia serpentina</i> (L.) Benth. ex Kurz | Apocynaceae | Medicinal | ERC, Barapani, Shillong |
| 44. | <i>Renanthera imschootiana</i> Rolfe | Orchidaceae | Threatened | ERC, Barapani, Shillong |
| 45. | <i>Sophora mollis</i> (Royle) Baker | Leguminosae | Endangered | NRC, Dehradun |
| 46. | <i>Taxus baccata</i> L. | Taxaceae | Medicinal | SHRC, Gangtok |
| 47. | <i>Terminalia chebula</i> Retz. | Combretaceae | Medicinal | APRC, Itanagar |
| 48. | <i>Tinospora sinensis</i> (Lour.) Merr. | Menispermaceae | Medicinal | ERC, Barapani, Shillong |
| 49. | <i>Vanda coerulea</i> Griff. ex Lindl., | Orchidaceae | Threatened | ERC, Barapani, Shillong |
| 50. | <i>Zanthoxylum armatum</i> DC. | Rutaceae | Spices and Condiments | ERC, Barapani, Shillong |

ANALYSIS OF CHECKLIST

The extensive literature survey from IHR during present study resulted in documentation of 11157 taxa of flowering plants belonging to 2359 genera under 241 families (**Table 6**). Among the top dominant families (**Table 7**), Poaceae represented by maximum number with 912 species followed by Asteraceae with (820 speceis), Orchidaceae (819 species), Leguminosae (434 species). The first 20 dominating families contribute alomost 60 % of the total flowering plant found in Himalaya. *Carex* L. with 183 species is the most dominant genus (**Table 8**) in Himalaya followed by *Impatiens* L. (122 speceis), *Rhododendron* L. (112 species), *Primula* L. (99 species) *Pedicularis* L. (92 species) and *Saxifraga* L. (86 spp.). The first 10 dominating genera contributes 9.06 % of the total species in Himalaya.

A comparative account of the top twenty dominant families, 10 dominating genera in Himalaya and their respective species are depicted in **Table 7**.

The total number of species represented by the state of Arunachal Pradesh, Sikkim, Darjeeling Gorkha Hill Council (DGHC), West Bengal, Uttarakhand, Himachal Pradesh and Jammu & Kashmir are presented in **Table 9, 10 & 11**.

Table 6: General summary of angiosperms Indian Himalayan Region.

| Group | Families | | Genera | | Taxa | |
|---------------|------------|------------|-------------|------------|--------------|------------|
| | No. | % | No. | % | No | % |
| Dicotyledon | 200 | 82.99 | 1,805 | 76.52 | 8,184 | 73.35 |
| Monocotyledon | 41 | 17.01 | 554 | 23.48 | 2,973 | 26.65 |
| Total | 241 | 100 | 2359 | 100 | 11157 | 100 |

Table 7: Top twenty dominant families in Indian Himalayan Region.

| Sl. No. | Name | Genera | | Species | |
|--------------|------------------------------|-------------|--------------|-------------|--------------|
| | | Number | % | Number | % |
| 1 | Poaceae | 204 | 8.65 | 912 | 8.17 |
| 2 | Asteraceae | 185 | 7.84 | 820 | 7.35 |
| 3 | Orchidaceae | 140 | 5.93 | 819 | 7.34 |
| 4 | Leguminosae (Papilionoideae) | 105 | 4.45 | 534 | 4.79 |
| 5 | Rosaceae | 37 | 1.57 | 393 | 3.52 |
| 6 | Cyperaceae | 29 | 1.23 | 380 | 3.41 |
| 7 | Scrophulariaceae | 53 | 2.25 | 300 | 2.69 |
| 8 | Rubiaceae | 70 | 2.97 | 277 | 2.48 |
| 9 | Lamiaceae | 71 | 3.01 | 276 | 2.47 |
| 10 | Ericaceae | 12 | 0.51 | 234 | 2.10 |
| 11 | Ranunculaceae | 30 | 1.27 | 225 | 2.02 |
| 12 | Brassicaceae | 71 | 3.01 | 210 | 1.88 |
| 13 | Euphorbiaceae | 51 | 2.16 | 205 | 1.84 |
| 14 | Liliaceae | 45 | 1.91 | 190 | 1.70 |
| 15 | Apiaceae | 66 | 2.80 | 179 | 1.60 |
| 16 | Gentianaceae | 20 | 0.85 | 166 | 1.49 |
| 17 | Primulaceae | 8 | 0.34 | 164 | 1.47 |
| 18 | Caryophyllaceae | 24 | 1.02 | 149 | 1.34 |
| 19 | Acanthaceae | 38 | 1.61 | 147 | 1.32 |
| 20 | Boraginaceae | 39 | 1.65 | 144 | 1.29 |
| Total | | 1298 | 55.02 | 6724 | 60.27 |

Table 8: Ten dominant genera in Indian Himalayan Region.

| Sl. No | Name | Number of species | % |
|--------------|---------------------|-------------------|-------------|
| 1. | <i>Carex</i> | 183 | 1.64 |
| 2. | <i>Impatiens</i> | 122 | 1.09 |
| 3. | <i>Rhododendron</i> | 112 | 1.00 |
| 4. | <i>Primula</i> | 99 | 0.89 |
| 5. | <i>Pedicularis</i> | 92 | 0.82 |
| 6. | <i>Saxifraga</i> | 86 | 0.77 |
| 7. | <i>Bulbophyllum</i> | 88 | 0.79 |
| 8. | <i>Taraxacum</i> | 82 | 0.73 |
| 9. | <i>Corydalis</i> | 78 | 0.70 |
| 10. | <i>Astragalus</i> | 69 | 0.62 |
| Total | | 1011 | 9.06 |

Table 9. The first ten dominating families of IHR, Himalayan states and India

| IHR (Present study) Family | Arunachal Pradesh | | Sikkim | | Uttarakhand | | Himachal Pradesh | | Jammu & Kashmir | | INDIA | |
|---------------------------------|-------------------|---------------|--------|------------------|-------------|---------------|------------------|------------------|-----------------|------------------|-------|------------------|
| | Taxa | Family | Taxa | Family | Taxa | Family | Taxa | Family | Taxa | Family | Taxa | Family |
| Poaceae | 912 | Orchidaceae | 568 | Orchidaceae | 527 | Poaceae | 485 | Asteraceae | 328 | Asteraceae | 481 | Poaceae |
| Asteraceae | 820 | Leguminosae | 219 | Asteraceae | 293 | Asteraceae | 370 | Poaceae | 327 | Poaceae | 415 | Leguminosae |
| Orchidaceae | 819 | Poaceae | 205 | Poaceae | 291 | Leguminosae | 351 | Leguminosae | 278 | Leguminosae | 289 | Orchidaceae |
| Leguminosae (Papilionoideae) | 534 | Asteraceae | 195 | Leguminosae | 221 | Orchidaceae | 242 | Rosaceae | 157 | Rosaceae | 223 | Asteraceae |
| Rosaceae | 393 | Rubiaceae | 158 | Cyperaceae | 143 | Rosaceae | 207 | Scrophulariaceae | 138 | Brassicaceae | 177 | Rubiaceae |
| Cyperaceae | 380 | Ericaceae | 149 | Rosaceae | 138 | Cyperaceae | 187 | Lamiaceae | 136 | Lamiaceae | 175 | Cyperaceae |
| Scrophulariaceae | 300 | Cyperaceae | 115 | Scrophulariaceae | 112 | Lamiaceae | 146 | Cyperaceae | 125 | Cyperaceae | 169 | Acanthaceae |
| Rubiaceae | 277 | Rosaceae | 102 | Rubiaceae | 110 | Ranunculaceae | 122 | Ranunculaceae | 116 | Scrophulariaceae | 139 | Lamiaceae |
| Lamiaceae | 276 | Euphorbiaceae | 90 | Lamiaceae | 95 | Brassicaceae | 102 | Apiaceae | 92 | Apiaceae | 125 | Euphorbiaceae |
| Ericaceae | 234 | Acanthaceae | 89 | Euphorbiaceae | 94 | Apiaceae | 95 | Brassicaceae | 83 | Polygonaceae | 110 | Scrophulariaceae |

Table .10 The first ten dominating genera of IHR, Himalayan states and India

| IHR (Present study) Genus | Arunachal Pradesh | | Sikkim | | Uttarakhand | | Himachal Pradesh | | Jammu & Kashmir | | INDIA | |
|------------------------------|-------------------|--------------|--------|--------------|-------------|-------------|------------------|-------------|-----------------|-------------|-------|-------|
| | Sp. | Genus | Sp. | Genus | Sp. | Genus | Sp. | Genus | Sp. | Genus | Sp. | Genus |
| <i>Carex</i> | 183 | Rhododendron | 110 | Primula | 58 | Carex | 48 | Taraxacum | 72 | Impatiens | 230 | |
| <i>Impatiens</i> | 122 | Bulbophyllum | 69 | Pedicularis | 47 | Poa | 37 | Polygonum | 70 | Carex | 207 | |
| <i>Rhododendron</i> | 112 | Impatiens | 62 | Bulbophyllum | 46 | Potentilla | 33 | Poa | 59 | Astragalus | 137 | |
| <i>Primula</i> | 99 | Ficus | 55 | Juncus | 40 | Astragalus | 28 | Gentiana | 50 | Potentilla | 135 | |
| <i>Pedicularis</i> | 92 | Dendrobium | 52 | Rhododendron | 38 | Saxifraga | 26 | Epilobium | 45 | Poa | 132 | |
| <i>Saxifraga</i> | 86 | Primula | 47 | Dendrobium | 36 | Corydalis | 26 | Pedicularis | 41 | Saussurea | 132 | |
| <i>Bulbophyllum</i> | 88 | Carex | 38 | Gentiana | 32 | Cotoneaster | 25 | Cotoneaster | 40 | Nepeta | 115 | |
| <i>Taraxacum</i> | 82 | Agapetes | 34 | Calanthe | 21 | Artemisia | 25 | Saussurea | 37 | Pedicularis | 104 | |
| <i>Corydalis</i> | 78 | Eria | 33 | Coelogyne | 18 | Pedicularis | 23 | Cyperus | 37 | Gentiana | 91 | |
| <i>Astragalus</i> | 69 | Coelogyne | 25 | Swertia | 16 | Euphorbia | 23 | Euphorbia | 34 | Allium | 65 | |

Table 11. Distribution of Dicotyledons and Monocotyledons taxa in IHR and in the Himalayan states.

| Area | Species | | | Genera | | | Families | | |
|---------------------|-------------|-------------|--------------|-------------|------------|-------------|------------|-----------|------------|
| | Dicot | Mono. | Total | Dicot | Mono. | Total | Dicot | Mono. | Total |
| IHR (Present study) | 8184 | 2973 | 11157 | 1805 | 554 | 2359 | 200 | 41 | 241 |
| Arunachal Pradesh | 3280 | 1243 | 4523 | 970 | 325 | 1295 | 165 | 27 | 192 |
| Sikkim | 3579 | 1341 | 4920 | 1024 | 242 | 1266 | 173 | 27 | 200 |
| Uttarakhand | 3616 | 1165 | 4781 | 1078 | 313 | 1391 | 175 | 36 | 211 |
| Himachal Pradesh | 2645 | 619 | 3264 | 831 | 215 | 1046 | 151 | 27 | 178 |
| Jammu & Kashmir | 3395 | 857 | 4252 | 960 | 260 | 1220 | 158 | 31 | 189 |
| INDIA | 13397 | 5269 | 18666 | 2282 | 701 | 2983 | 203 | 47 | 250 |

PRESENTATION OF CHECKLIST

The present inventory of flowering plants of Himalaya includes all the reported taxa from five states (Arunachal Pradesh, Sikkim, Uttarakhand, Himachal Pradesh and Jammu & Kashmir) and Darjeeling district of West Bengal are classified into two groups i.e. Dicotyledons and Monocotyledons. Families within each group, genera within each family and species or infraspecific taxa within each species are arranged alphabetically. The current accepted botanical name is accompanied by the author citation, publication details and basionym (if any). Majority of the current accepted names are as per <http://www.theplantlist.org/>, but in few cases <http://www.ipni.org/> and <http://www.tropicos.org/> were also used. Species citation is followed by the distribution of taxa in the IHR viz. Arunachal Pradesh, Sikkim, Uttarakhand, Himachal Pradesh and Jammu & Kashmir, and Darjeeling (West Bengal) with their altitudinal ranges.

**Fig. 25.** Temperate forest along Tawang-Bumla track

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ENUMERATIONS TO PLANTS DICOTYLEDONS

ACANTHACEAE
(38 genera; 147 taxa)

Acanthus L.

Acanthus leucostachyus Wall. ex Nees, Pl. Asiat. Rar. 3: 98. 1832.

Distribution: Arunachal Pradesh; 900–1200 m. (Plate 165a)

Andrographis Wall. ex Nees

Andrographis echioides Nees, Pl. Asiat. Rar. 3: 117. 1832.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Uttarakhand; 500–1200 m.

Andrographis laxiflora (Blume) Lindau, Nat. Pflanzenfam. 4(3b): 323. 1895.

Justicia laxiflora Blume

Distribution: Arunachal Pradesh; 150–1500 m.

Andrographis paniculata (Burm.f.) Nees, Pl. Asiat. Rar. 3: 116. 1832. *Justicia paniculata* Burm.f.

Distribution: Uttarakhand; 500–1600 m.

Asystasia Blume

Asystasia macrocarpa Nees, Pl. Asiat. Rar. 3: 89. 1832.

Distribution: Sikkim, Uttarakhand; 800–1800 m.

Asystasiella Lindau

Asystasiella atroviridis (T.Anderson) Lindau, Nat. Pflanzenfam. 4(3b): 326. 1895.

Asystasia atroviridis T.Anderson

Distribution: Arunachal Pradesh.

Asystasiella neesiana (Wall.) Lindau, Nat. Pflanzenfam. 4(3b): 326. 1895. *Ruellia neesiana* Wall.

Distribution: Arunachal Pradesh; 700–1000 m.

Barleria L.

Barleria cristata L., Sp. Pl. 636. 1753.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 400–1800 m.

Barleria lupulina Lindl., Edwards's Bot. Reg. 18: t. 1483. 1833.

Distribution: Uttarakhand; 500–1500 m.

Barleria prionitis L., Sp. Pl. 636. 1753.

Distribution: Arunachal Pradesh, Jammu & Kashmir, Uttarakhand; 500–1600 m.

Barleria strigosa Willd., Sp. Pl. 3: 379. 1800.

Distribution: Sikkim, Uttarakhand; 1000–1700 m.

Blepharis Juss.

Blepharis integrifolia (L.f.) E.Mey. & Drège ex Schinz, Vierteljahrsschr. Naturf. Ges. Zürich 60: 416. 1915. *Acanthus integrifolius* L.f.

Distribution: Uttarakhand; 600–1800 m.

Blepharis maderaspatensis (L.) B.Heyne ex Roth, Nov. Pl. Sp. 320. 1821. *Acanthus maderaspatensis* L.

Distribution: Jammu & Kashmir, Uttarakhand; 1000–2000 m.

Clarkeasia J.R.I.Wood

Clarkeasia parviflora (T.Anderson) J.R.I.Wood, Edinburgh J. Bot. 51: 189. 1994. *Echinacanthus parviflorus* T.Anderson

Distribution: Sikkim.

Codonacanthus Nees

Codonacanthus pauciflorus (Nees) Nees, Prodr. 11: 103. 1847. *Asystasia pauciflora* Nees

Distribution: Arunachal Pradesh; 400–1000 m.

Cystacanthus T.Anderson

Cystacanthus vitellinus (Roxb.) Y.F.Deng, Fl. China 19: 477. 2011. *Justicia vitellina* Roxb.

Distribution: Arunachal Pradesh; 600–1500 m.

Dicliptera Juss.

Dicliptera bupleuroides Nees, Pl. Asiat. Rar. 3: 111. 1832.

Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 500–2000 m.

Dicliptera chinensis (L.) Juss., Ann. Mus. Hist. Nat. 9: 268. 1807. *Justicia chinensis* L.

Distribution: Himachal Pradesh, Uttarakhand; 900–1800 m.

Dicliptera paniculata (Forssk.) I. Darbysh., Kew Bull. 62: 122. 2007. *Dianthera paniculata* Forssk.

Distribution: Jammu & Kashmir, Uttarakhand; 900–1600 m.

Dicliptera raui Karthik. & Moorthy, Fl. Pl. India 12. 2009.

Distribution: Uttarakhand; 800–1600 m.

Dicliptera verticillata (Forssk.) C.Chr., Dansk Bot. Ark. 4(3): 11. 1922. *Dianthera verticillata* Forssk.

Distribution: Jammu & Kashmir.

Difflugossa Bremek.

Difflugossa divaricata Bremek., Verh. Kon. Ned. Akad. Wetensch., Afd. Natuurk., Sect. 2 41(1): 246. 1944.

Distribution: Sikkim.

Ecbolium Kurz

Ecbolium ligustrinum (Vahl) Vollesen, Kew Bull. 44: 651. 1989. *Justicia ligustrina* Vahl

Distribution: Arunachal Pradesh; 800–1850 m.

Echinacanthus Nees

Echinacanthus attenuatus Nees, Pl. Asiat. Rar. 3: 90. 1832.

Distribution: Sikkim, Uttarakhand; 1000–2100 m.

Elytraria Michx.

Elytraria acaulis (L.f.) Lindau, Nat. Pflanzenfam. Nachtr. 1: 304. 1897. *Justicia acaulis* L.f.

Distribution: Sikkim.

Eranthemum L.

Eranthemum griffithii (T.Anderson) Bremek. & Nann.–Bremek., Verh. Kon. Ned. Akad. Wetensch., Afd. Natuurk., Sect. 2 45(1): 35. 1948. *Daedalacanthus griffithii* T.Anderson

Distribution: Arunachal Pradesh; 900–1400 m.

Eranthemum pulchellum Andrews, Bot. Repos. 2: t. 88. 1800.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 300–900 m.

Eranthemum purpurascens Wight ex Nees, Pl. Asiat. Rar. 3: 106. 1832.

Distribution: Uttarakhand.

Eranthemum splendens (T.Anderson) Bremek. & Nann.–Bremek., Verh. Kon. Ned. Akad. Wetensch., Afd. Natuurk., Sect. 2 45(1): 35 1948. *Daedalacanthus splendens* T.Anderson

Distribution: Sikkim.

Goldfussia Nees

Goldfussia dalhousiana Nees, Prodr. 11: 174. 1847.

Distribution: Himachal Pradesh, Jammu & Kashmir; 1500–3000 m.

Hemigraphis Nees

Hemigraphis ebracteolata C.B.Clarke, Fl. Brit. India 4: 424. 1884.

Distribution: Uttarakhand; 1000–1900 m.

Hemigraphis hirta (Vahl) T.Anderson, J. Linn. Soc., Bot. 9: 462. 1867. *Ruellia hirta* Vahl

Distribution: Uttarakhand; 1100–2000 m.

Hemigraphis latebrosa (Roth) Nees, Prodr. 11: 723. 1847. *Ruellia latebrosa* Roth

Distribution: Arunachal Pradesh, Jammu & Kashmir, Uttarakhand; 400–1100 m.

Hemigraphis rupestris T.Anderson, J. Linn. Soc., Bot. 9: 462. 1867.

Distribution: Uttarakhand.

Hygrophila R.Br.

Hygrophila auriculata (Schumach.) Heine, Kew Bull. 16: 172. 1963. *Barleria auriculata* Schumach.

Distribution: Himachal Pradesh, Sikkim, Uttarakhand; 150–800 m.

Hygrophila erecta (Burm.f.) Hochr., Candollea 5: 230. 1934. *Ruellia erecta* Burm.f.

Distribution: Arunachal Pradesh; 500–1200 m.

Hygrophila phlomoides Nees, Pl. Asiat. Rar. 3: 80. 1832.

Distribution: Arunachal Pradesh, Sikkim; 200–300 m.

Hygrophila polysperma (Roxb.) T.Anderson, J. Linn. Soc., Bot. 9: 456. 1867. *Justicia polysperma* Roxb.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 1000–1500 m.

Hygrophila ringens (L.) R.Br. ex Spreng., Syst. Veg. 2: 828. 1825. *Ruellia ringens* L.

Distribution: Arunachal Pradesh, Uttarakhand; 900–1200 m.

Hypoestes Sol. ex R.Br.

Hypoestes triflora (Forssk.) Roem. & Schult., Syst. Veg. 1: 141. 1817. *Justicia triflora* Forssk.

Distribution: Arunachal Pradesh, Sikkim; 1000–1500 m.

Indoneesiella Sreem.

Indoneesiella echioides Sreem., Phytologia 16: 466. 1968.

Distribution: Uttarakhand.

Isoglossa Oerst.

Isoglossa collina (T.Anderson) B. Hansen, Nordic J. Bot. 5: 12. 1985. *Justicia collina* T.Anderson

Distribution: Arunachal Pradesh, Sikkim; 1500–2100 m.

Justicia L.

Justicia adhatoda L., Sp. Pl. 15: 1753.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Uttarakhand; 100–500 m.

Justicia brandegeana Wassh. & L.B.Sm., Fl. Ilustr. Catar. 1(Acantac.): 102. 1969. *Beloperone guttata* Brandege

Distribution: Uttarakhand; 600–1800 m.

Justicia diffusa Willd., Sp. Pl. 1: 87. 1797.

Distribution: Uttarakhand; 600–1400 m.

Justicia gendarussa Burm.f., Fl. Indica 10: 1768.

Distribution: Arunachal Pradesh, Uttarakhand; 800–1600 m.

Justicia japonica Thunb., Syst. Veg. ed. 14: 63. 1784.

Distribution: Arunachal Pradesh, Jammu & Kashmir, Sikkim; 300–600 m.

Justicia mollissima (Nees) Y.F.Deng & T.F.Daniel, Fl. China 19: 451–452. 2011.

Rostellaria mollissima Nees

Distribution: Arunachal Pradesh, Himachal Pradesh; 300–1500 m.

Justicia procumbens L., Sp. Pl. 15. 1753.

Distribution: Jammu & Kashmir, Uttarakhand; 900–1700 m.

Justicia prostrata Schlttdl. ex Nees, Prodr. 11: 390. 1847.

Distribution: Jammu & Kashmir, Uttarakhand; 800–1600 m.

Justicia pubigera (Nees) C.B.Clarke, Fl. Brit. India 4: 536. 1885. *Peristrophe*

pubigera Nees

Distribution: Himachal Pradesh, Uttarakhand.

Justicia quinqueangularis K.D.Koenig ex Roxb., Fl. Ind. 1: 134. 1820.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Uttarakhand; 600–1600 m.

Justicia vasculosa Wall., Numer. List 2469. 1830.

Distribution: Arunachal Pradesh, Sikkim; 500–1500 m.

Justicia virgata T.Anderson, J. Linn. Soc., Bot. 9: 516. 1867.

Distribution: Arunachal Pradesh, Sikkim; 300–900 m.

Justicia wallichii (Nees) T.Anderson J. Linn. Soc., Bot. 9: 516. 1867.

Leptostachya wallichii Nees

Distribution: Himachal Pradesh, West Bengal (Darjeeling).

Lepidagathis Willd.

Lepidagathis cuspidata Nees, Pl. Asiat. Rar. 3: 97. 1832.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand; 300–1200 m.

Lepidagathis incurva Buch.-Ham. ex D.Don, Prodr. Fl. Nepal. 119. 1825.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 500–1200 m.

Lepidagathis incurva Buch.-Ham. ex D.Don var. **mollis** (C.B.Clarke) Raizada

& H.O. Saxena, Indian For. 92: 315. 1966.

Distribution: Uttarakhand.

Lepidagathis incurva var. **ustulata** (Nees) R.R.Stewart, Annot. Cat. Vasc. Pl. West

Pakistan Kashmir 677. 1972. *L. ustulata* Nees

Distribution: Jammu & Kashmir, Uttarakhand; 800–1100 m.

Lepidagathis purpuricaulis Nees, Pl. Asiat. Rar. 3: 96. 1832.

Distribution: Arunachal Pradesh, Uttarakhand; 600–1600 m.

Lepidagathis trinervis Nees, Pl. Asiat. Rar. 3: 96. 1832.

Distribution: Sikkim.

Listrobanthes Bremek.

Listrobanthes khasyana (Nees) Bremek., Verh. Kon. Ned. Akad. Wetensch., Afd. Natuurk., Sect. 2. 41(1): 254. 1944. *Endopogon khasyanus* Nees
Distribution: Sikkim.

Nelsonia R.Br.

Nelsonia canescens (Lam.) Spreng., Syst. Veg. 1: 42. 1824. *Justicia canescens* Lam.
Distribution: Arunachal Pradesh, Sikkim, Uttarakhand; 400–1200 m.

Odontonema Nees

Odontonema tubaeforme (Bertol.) Kuntze, Revis. Gen. Pl. 2: 494 1891. *Justicia tubaeformis* Bertol.
Distribution: Uttarakhand; 500–1500 m.

Peristrophe Nees

Peristrophe bicalyculata (Retz.) Nees, Pl. Asiat. Rar. 3: 113. 1832. *Dianthera bicalyculata* Retz.
Distribution: Himachal Pradesh; 200–1400 m.

Peristrophe bivalvis (L.) Merr., Interpr. Herb. Amboin. 476. 1917. *Justicia bivalvis* L.
Distribution: Arunachal Pradesh; 800–1200 m.

Peristrophe fera C.B. Clarke, Fl. Brit. India 4: 556. 1885.
Distribution: Arunachal Pradesh; 300–1200 m.

Peristrophe speciosa Nees, Pl. Asiat. Rar. 3: 113. 1832.
Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 500–1200 m.

Petalidium Nees

Petalidium barlerioides (Roth) Nees, Pl. Asiat. Rar. 3: 82. 1832. *Ruellia barlerioides* Roth
Distribution: Himachal Pradesh, Uttarakhand; 400–1100 m.

Phaulopsis Willd.

Phaulopsis dorsiflora (Retz.) Santapau, Kew Bull. 1948: 276. 1948. *Ruellia dorsiflora* Retz.
Distribution: Arunachal Pradesh; 300–400 m.

Phaulopsis imbricata (Forssk.) Sweet, Hort. Brit. 327. 1826. *Ruellia imbricata* Forssk.
Distribution: Arunachal Pradesh, Himachal Pradesh, Sikkim; 300–900 m.

Phlogacanthus Nees

Phlogacanthus curviflorus (Wall.) Nees, Pl. Asiat. Rar. 3: 99. 1832. *Justicia curviflora* Wall.
Distribution: Arunachal Pradesh; 800–1500 m.

(Plate 1)

Phlogacanthus gracilis P.Anderson ex Burkill, Rec. Bot. Surv. India 10: 336. 1925.
Distribution: Arunachal Pradesh; 1000–2000 m.

Phlogacanthus guttatus Nees, Pl. Asiat. Rar. 3: 99. 1832.
Distribution: Arunachal Pradesh; 300–1200 m.

Phlogacanthus lambertii Raizada, Indian For. 60: 535. 1934.
Distribution: Uttarakhand; 900–1400 m.

Phlogacanthus parviflorus T.Anderson, J. Linn. Soc., Bot. 9: 506. 1867.
Distribution: Arunachal Pradesh; 200–900 m.

Phlogacanthus pubinervius T. Anderson, J. Linn. Soc., Bot. 9: 508. 1867.
Distribution: Sikkim.

Phlogacanthus thyrsoflorus Nees, Pl. Asiat. Rar. 3: 99. 1832.
Distribution: Arunachal Pradesh, Himachal Pradesh, Sikkim, Uttarakhand; 300–1200 m.

Phlogacanthus tubiflorus Nees, Pl. Asiat. Rar. 3: 99. 1832.
Distribution: Arunachal Pradesh; 400–1200 m.

Phlogacanthus wallichii C.B.Clarke, Fl. Brit. India 4: 511. 1884.
Distribution: Arunachal Pradesh; 200–1500 m.

Pseuderanthemum Radlk. ex Lindau

Pseuderanthemum album Merr., J. Malayan Branch. Roy. Asiat. Soc. 1: 37. 1923.
Distribution: Arunachal Pradesh; 800–1700 m.

Pseuderanthemum indicum A.M.Cowan & Cowan, Trees N. Bengal 98. 1929.
Distribution: Arunachal Pradesh, Sikkim; 300–1500 m.

Pseuderanthemum latifolium B.Hansen, Nordic J. Bot. 9(2): 213. 1989.
Distribution: Arunachal Pradesh, Sikkim; 500–900 m.

Pseuderanthemum leptanthus Lindau, Nat. Pflanzenfam. 4(3b): 330. 1895.
Distribution: Arunachal Pradesh; 300–1200 m.

Pteracanthus (Nees) Bremek.

Pteracanthus angustifrons (C.B.Clarke) Bremek., Verh. Kon. Ned. Akad. Wetensch., Afd. Natuurk., Sect. 2. 41(1): 199. 1944. *Strobilanthes angustifrons* C.B.Clarke
Distribution: Himachal Pradesh, Uttarakhand; 400–1300 m.

Pteracanthus attenuatus (Wall. ex Nees) Bremek., Verh. Kon. Ned. Akad. Wetensch., Afd. Natuurk., Sect. 2. 41(1): 199. 1944. *Ruellia attenuate* Wall. ex Nees
Distribution: Uttarakhand.

Pteracanthus nobilis (C.B.Clarke) Bremek., Verh. Kon. Ned. Akad. Wetensch., Afd. Natuurk., Sect. 2. 41(1): 199. 1944. *Strobilanthes nobilis* C.B.Clarke
Distribution: Arunachal Pradesh; 300–1100 m.

Pteracanthus urticifolius (Wall. ex Kuntze) Bremek., Verh. Kon. Ned. Akad. Wetensch., Afd. Natuurk., Tweede Sect. 41(1): 199 1944. *Strobilanthes urticifolia* Wall. ex Kuntze.

Distribution: Kashmir; 1200–2700 m.

Rhinacanthus Nees

Rhinacanthus calcaratus Nees, Prodr. 11: 444. 1847.

Distribution: Arunachal Pradesh; 300–1200 m. (Plate 165b)

Rhinacanthus grandiflorus Dunn, Bull. Misc. Inform. Kew 1920: 135. 1920.

Distribution: Arunachal Pradesh; 400–1000 m.

Ruellia L.

Ruellia beddomei C.B. Clarke, Fl. Brit. India 4: 413. 1884.

Distribution: Uttarakhand.

Ruellia brevifolia (Pohl) C. Ezcurra, Darwiniana 29: 278. 1989. *Stephanophysum brevifolium* Pohl

Distribution: Uttarakhand; 700–1300 m.

Ruellia ciliatiflora Hook., Bot. Mag. 66: t. 3718. 1839.

Distribution: Uttarakhand; 700–1700 m.

Ruellia patula Jacq., Misc. Austriac. 2: 358. 1779.

Distribution: Himachal Pradesh, Uttarakhand; 500–1000 m.

Ruellia prostrata Poir., Encycl. 6: 349. 1804.

Distribution: Jammu & Kashmir, Uttarakhand; 1100–1800 m.

Ruellia tuberosa L., Sp. Pl. 635. 1753.

Distribution: Uttarakhand; 800–1900 m.

Rungia Nees

Rungia himalayensis C.B. Clarke, Fl. Brit. India 4: 548. 1885.

Distribution: Jammu & Kashmir, Sikkim.

Rungia latior Nees, Compan. Bot. Mag. 2: 313. 1837.

Distribution: Arunachal Pradesh; 400–1400 m.

Rungia pectinata (L.) Nees, Prodr. 11: 470. 1847. *Justicia pectinata* L.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 700–1800 m.

Rungia repens (L.) Nees, Pl. Asiat. Rar. 3: 110. 1832. *Justicia repens* L.

Distribution: Arunachal Pradesh, Uttarakhand; 450–1500 m.

Rungia stolonifera C.B. Clarke, Fl. Brit. India 4: 547. 1885.

Distribution: Arunachal Pradesh; 400–1400 m.

Staurogyne Wall.

Staurogyne agrestis Leonard, J. Wash. Acad. Sci. 27: 400. 1937.

Distribution: Arunachal Pradesh; 400–1100 m.

Staurogyne glauca Kuntze, Revis. Gen. Pl. 2: 497. 1891.

Distribution: Arunachal Pradesh; 600–1200 m.

Staurogyne glutinosa Kuntze, Revis. Gen. Pl. 2: 497. 1891.

Distribution: Uttarakhand.

Staurogyne polybotrya Kuntze, Revis. Gen. Pl. 2: 497. 1891.

Distribution: Arunachal Pradesh, Sikkim; 500–1400 m.

Strobilanthes Blume

Strobilanthes affinis (Griff.) Terao ex J.R.I. Wood & J.R. Benn., Kew Bull. 58: 134. 2003. *Adenosma affinis* Griff.

Distribution: Arunachal Pradesh; 1200–1500 m.

Strobilanthes atropurpureus Nees, Pl. Asiat. Rar. 3: 86. 1832.

Distribution: Himachal Pradesh, Jammu & Kashmir; 600–1400 m.

Strobilanthes auriculatus Nees, Pl. Asiat. Rar. 3: 86. 1832.

Distribution: Uttarakhand; 1000–1900 m.

Strobilanthes boerhaavioides T. Anderson, J. Linn. Soc., Bot. 9: 479. 1867.

Distribution: Arunachal Pradesh; 1000–1500 m.

Strobilanthes bracteata (Nees) J.R.I. Wood, Edinburgh J. Bot. 51: 232. 1994. *Goldfussia bracteata* Nees

Distribution: Uttarakhand; 1200–1600 m.

Strobilanthes brunoniana Nees, Pl. Asiat. Rar. 3: 87. 1832.

Distribution: Arunachal Pradesh.

(Plate 2b)

Strobilanthes capitata (Nees) T. Anderson, J. Linn. Soc., Bot. 9: 475. 1867.

Goldfussia capitata Nees

Distribution: Arunachal Pradesh, Sikkim; 400–1500 m.

Strobilanthes cusia (Nees) Kuntze, Revis. Gen. Pl. 2: 499. 1891. *Goldfussia cusia* Nees

Distribution: Arunachal Pradesh; 300–1200 m.

Strobilanthes dalhousieanus (Nees) C.B. Clarke, Fl. Brit. India 4: 460. 1884.

Goldfussia dalhousiana Nees

Distribution: Uttarakhand; 600–2000 m.

Strobilanthes denticulata T. Anderson, J. Linn. Soc., Bot. 9: 483. 1867.

Distribution: Arunachal Pradesh; 500–1000 m.

Strobilanthes dimorphotricha Hance, J. Bot. 21 (12): 355. 1883.

Distribution: Arunachal Pradesh; 400–1500 m.

Strobilanthes discolor (Nees) T. Anderson, J. Linn. Soc., Bot. 9: 477. 1867.

Goldfussia discolor Nees

Distribution: Arunachal Pradesh; 1500–3000 m.

(Plate 2a)

Strobilanthes extensa (Nees) Nees, Prodr. 11: 191. 1847. *Goldfussia extensa* Nees
Distribution: Arunachal Pradesh.

Strobilanthes fimbriata Nees, Pl. Asiat. Rar. 3: 85. 1832.
Distribution: Arunachal Pradesh; 700–1400 m.

Strobilanthes furcatus Biswas, Assam Forest Rec., Bot. 1: 23. 1934.
Distribution: Arunachal Pradesh; 1200–1500 m.

Strobilanthes glabrata Nees, Pl. Asiat. Rar. 3: 85. 1832.
Distribution: Arunachal Pradesh; 500–1200 m.

Strobilanthes glomerata (Nees) T. Anderson, J. Linn. Soc., Bot. 9: 475. 1867.
Goldfussia glomerata Nees.
Distribution: Arunachal Pradesh; 300–1000 m.

Strobilanthes glutinosus Nees, Pl. Asiat. Rar. 3: 86. 1832.
Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir,
Uttarakhand; 500–1800 m.

Strobilanthes hamiltoniana (Steud.) Bosser & Heine, Bull. Mus. Natl. Hist. Nat.,
Adansonia 10: 148. 1988. *Ruellia hamiltoniana* Steud.
Distribution: Arunachal Pradesh, Himachal Pradesh, Sikkim; 500–1700 m.

(Plate 166a)

Strobilanthes helicta T. Anderson, J. Linn. Soc., Bot. 9: 479. 1867.
Distribution: Arunachal Pradesh; 1200–2200 m.

Strobilanthes inflata T. Anderson, J. Linn. Soc., Bot. 9: 476. 1867.
Distribution: Arunachal Pradesh, Sikkim; 700–1600 m.

Strobilanthes lachenensis C.B. Clarke, Fl. Brit. India 4: 465. 1884.
Distribution: Sikkim.

Strobilanthes maculata Nees, Prodr. 11: 190. 1847.
Distribution: Arunachal Pradesh; 300–900 m.

(Plate 166b)

Strobilanthes mastersii T. Anderson, J. Linn. Soc., Bot. 9: 481. 1867.
Distribution: Arunachal Pradesh; 300–1000 m.

Strobilanthes monadelpha Nees, Pl. Asiat. Rar. 3: 87. 1832.
Distribution: Arunachal Pradesh; 1500 m.

Strobilanthes multidentis C.B. Clarke, Fl. Brit. India 4: 461. 1884.
Distribution: Arunachal Pradesh, Sikkim; 1500–2400 m.

Strobilanthes oligocephala T. Anderson ex C.B. Clarke., Fl. Brit. India 4: 461. 1884.
Distribution: Arunachal Pradesh, Sikkim; 1200–1800 m.

Strobilanthes paniculiformis J.R.I. Wood, Kew Bull. 61: 10. 2006.
Distribution: Arunachal Pradesh; upto 1200 m.

Strobilanthes parvifolia J.R.I. Wood, Kew Bull. 64(1): 25. 2009.
Distribution: Arunachal Pradesh; 1600 m.

Strobilanthes pectinata T.Anderson, J. Linn. Soc., Bot. 9: 474. 1867.
Distribution: Arunachal Pradesh, Sikkim; 900–1500 m.

Strobilanthes penstemonoides (Nees) T.Anderson, J. Linn. Soc., Bot. 9: 477. 1867.
Goldfussia pentastemonoides Nees.
Distribution: Arunachal Pradesh, Sikkim, Uttarakhand; 300–1500 m.

Strobilanthes pterygorrhachis C.B.Clarke, J. Linn. Soc., Bot. 25: 54. 1889.
Distribution: Arunachal Pradesh; 600–1400 m.

(Plate 2c)

Strobilanthes rhombifolia C.B.Clarke., Fl. Brit. India 4: 461. 1884.
Distribution: Arunachal Pradesh; 500–1500 m.

Strobilanthes secunda T.Anderson, J. Linn. Soc., Bot. 9: 480. 1867.
Distribution: Arunachal Pradesh; 800–1600 m.

Strobilanthes subnudata C.B.Clarke, Fl. Brit. India 4: 472. 1884.
Distribution: Sikkim.

Strobilanthes tenax Dunn, Bull. Misc. Inform. Kew 1920: 209. 1920.
Distribution: Arunachal Pradesh; 600–1200 m.

Strobilanthes thomsonii T.Anderson, J. Linn. Soc., Bot. 9: 478. 1867.
Distribution: Sikkim.

Strobilanthes tomentosa (Nees) J.R.I.Wood, Kew Bull. 64: 16. 2009. *Aechmanthera tomentosa* Nees
Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 900–1200 m.

Strobilanthes urophylla Nees, Prodr. 11: 192. 1847.
Distribution: Arunachal Pradesh; 300–1000 m.

Strobilanthes violifolia T.Anderson, J. Linn. Soc., Bot. 9: 485. 1867.
Distribution: Sikkim.

Strobilanthes wallichii Nees, Pl. Asiat. Rar. 3: 87. 1832.
Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 500–1200 m.

Sympagis (Nees) Bremek.

Sympagis petiolaris (Nees) Bremek., Verh. Kon. Ned. Akad. Wetensch., Afd. Natuurk., Sect. 2 41(1): 255. 1944. *Strobilanthes petiolaris* Nees
Distribution: Arunachal Pradesh, Sikkim; 600–1500 m.

ACERACEAE
(1 genus; 18 taxa)

Acer L.

Acer acuminatum Wall. ex D.Don, Prodr. Fl. Nepal. 249. 1825.
Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 1500–2500 m.

(Plate 3a)

- Acer caesium** Wall. ex Brandis, Forest Fl. N.W. India 3. 1874.
Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand.
- Acer calcaratum** Gagnep., Notul. Syst. (Paris) 13: 192. 1948.
Distribution: Sikkim, Uttarakhand.
- Acer campbellii** Hook.f. & Thomson ex Hiern, Fl. Brit. India 1: 696. 1875.
Distribution: Arunachal Pradesh, Sikkim; 1600–1800 m.
- Acer cappadocicum** Gled., Schriften Berlin. Ges. Naturf. Freunde 6: 116. 1785.
Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 1500–1800 m.
- Acer caudatum** Wall., Pl. Asiat. Rar. 2: 4. 1830.
Distribution: Arunachal Pradesh, Sikkim, Uttarakhand; 2000–3500 m.
- Acer laevigatum** Wall., Pl. Asiat. Rar. 2: 3. 1830.
Distribution: Arunachal Pradesh, Himachal Pradesh, Sikkim, Uttarakhand; 1500–2500 m.
- Acer laurinum** Hassk., Tijdschr. Natuurl. Gesch. Physiol. 10: 138. 1843.
Distribution: Arunachal Pradesh; 500–1000 m.
- Acer negundo** L. Sp. Pl. 1056. 1753.
Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand.
- Acer oblongum** Wall. ex DC., Prodr. 1: 593. 1824.
Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 1400–2000 m.
- Acer pectinatum** Wall. ex G.Nicholson, Gard. Chron. n.s., 15: 365 1881.
Distribution: Arunachal Pradesh, Sikkim, Uttarakhand; 3000–3700 m.
- Acer pentapomicum** Stewart ex Brandis, Forest Fl. N.W. India 111. 1874.
Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand.
- Acer pseudoplatanus** L. Sp. Pl. 1054. 1753.
Distribution: Himachal Pradesh.
- Acer saccharum** Marshall, Arbust. Amer. 4. 1785.
Distribution: Himachal Pradesh.
- Acer sikkimensis** Miq., Arch. Néerl. Sci. Exact. Nat. 2: 481. 1867.
Distribution: Arunachal Pradesh, Sikkim; 1500–2500 m.
- Acer stachyophyllum** Hiern, Fl. Brit. India 1: 694. 1875.
Distribution: Sikkim.
- Acer sterculiaceum** Wall., Pl. Asiat. Rar. 2:3, t. 105. 1830.
Distribution: Jammu & Kashmir, Himachal Pradesh, Sikkim, Uttarakhand.
- Acer sterculiaceum** Wall. subsp. **thomsonii** (Miq.) A.E. Murray, Kalmia 1: 37. 1969. *A. thomsonii* Miq.
Distribution: Arunachal Pradesh, Himachal Pradesh, Sikkim, Uttarakhand; 1500–1800 m.

ACTINIDIACEAE

(2 genera; 11 taxa)

Actinidia Lindl.**Actinidia callosa** Lindl., *Intr. Nat. Syst. Bot.* ed. 2: 439. 1836.

Distribution: Arunachal Pradesh, Sikkim, Uttarakhand; 1000–2500 m.

Actinidia strigosa Hook.f. & Thomson, *J. Proc. Linn. Soc., Bot.* 5: 55. 1861.

Distribution: Sikkim, West Bengal (Darjeeling); 2550–2750 m.

Saurauia Willd.**Saurauia armata** Kurz, *J. Asiat. Soc. Bengal*, Pt. 2, *Nat. Hist.* 42: 59. 1873. *S. cerea* Griff. ex Dyer

Distribution: Arunachal Pradesh; 400–1050 m. (Plate 3b)

Saurauia fasciculata Wall., *Pl. Asiat. Rar.* 2: 40. 1831.

Distribution: Arunachal Pradesh, Sikkim, West Bengal (Darjeeling); 500–1500 m.

Saurauia griffithii Dyer, *Fl. Brit. India* 1(2): 286–287. 1874.

Distribution: Arunachal Pradesh, Sikkim; 1200–1500 m. (Plate 3c)

Saurauia macrotricha Kurz ex Dyer, *Fl. Brit. India* 1(2): 287–288. 1874.

Distribution: Arunachal Pradesh, West Bengal (Darjeeling); 450–1500 m.

Saurauia napaulensis DC., *Mém. Soc. Phys. Genève* 1: 421. 1822.

Distribution: Arunachal Pradesh, Himachal Pradesh, Sikkim, Uttarakhand; 1500–2000 m. (Plate 166c)

Saurauia punduana Wall., *Pl. Asiat. Rar.* 2: 40. 1830.

Distribution: Arunachal Pradesh, Sikkim; 800–2400 m.

Saurauia panduriformis Elmer, *Leafl. Philipp. Bot.* 2: 580 1909. Distribution:

Arunachal Pradesh. (Plate 167a)

Saurauia roxburghii Wall., *Pl. Asiat. Rar.* 2: 40. 1831.

Distribution: Arunachal Pradesh, Sikkim, West Bengal (Darjeeling); 200–1500 m.

Saurauia sinohirsuta J.Q. Li & Soejarto, *Fl. China* 12: 360. 2007.

Distribution: Arunachal Pradesh; 900 m.

AIZOACEAE

(2 genera; 4 taxa)

Trianthema L.**Trianthema crystallina** Vahl, *Symb. Bot. (Vahl)* 1: 32. 1790.

Distribution: Sikkim.

Trianthema portulacastrum L., *Sp. Pl.* 223. 1753.

Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 1000–2300 m.

Trianthea triquetra Rottler & Willd., Neue Schriften Ges. Naturf. Freunde Berlin 4: 181 1803.

Distribution: Jammu & Kashmir.

Zaleya Burm.f.

Zaleya pentandra (L.) C. Jeffrey, Kew Bull. 14: 238. 1960. *Trianthea pentandra* L.

Distribution: Jammu & Kashmir.

AKANIACEAE
(1 genus; 1 taxon)

Bretschneidera Hemsley

Bretschneidera sinensis Hemsl., Hooker's Icon. Pl. 28:tt. 2708.. 1891.

Distribution: Arunachal Pradesh; 500 m. **(Plate 4)**

ALANGIACEAE
(1 genus; 4 taxa)

Alangium Lam.

Alangium alpinum (C.B. Clarke) W.W. Sm. & Cave, Rec. Bot. Surv. India 6: 96. 1914. *Marlea begoniifolia* Roxb. var. *alpina* C.B. Clarke

Distribution: Sikkim, West Bengal (Darjeeling); 610–2438 m.

Alangium barbatum (R.Br. ex C.B. Clarke) Baill. ex Kuntze, Revis. Gen. Pl. 1: 273. 1891. *Marlea barbata* R.Br. ex C.B. Clarke

Distribution: Arunachal Pradesh.

Alangium chinense (Lour.) Harms, Ber. Deutsch. Bot. Ges. 15: 24. 1897. *Stylidium chinense* Lour.

Distribution: Arunachal Pradesh, Himachal Pradesh, Sikkim, Uttarakhand; 1500–4000 m.

Alangium salviifolium (L.f.) Wangerin, Pflanzenr. IV, 220b: 9. 1910. *Grewia salviifolia* L.f.

Distribution: Jammu & Kashmir, Sikkim, Uttarakhand.

AMARANTHACEAE
(17 genera; 40 taxa)

Achyranthes L.

Achyranthes aspera L., Sp. Pl. 204. 1753.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 500–1500 m.

Achyranthes aspera L. var. **porphyristachya** (Wall. ex Moq.) Hook.f., Fl. Brit. India 4: 730 1885. *A. porphyristachya* Wall. ex Moq.

Distribution: Arunachal Pradesh, Sikkim, Uttarakhand; 500–1900 m.

Achyranthes bidentata Blume, Bijdr. 545. 1826.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 500–2500 m.

Aerva Forssk.

Aerva javanica (Burm.f.) Juss. ex Schult., Ann. Mus. Hist. Nat. 11: 131. 1808. *Iresine javanica* Burm.f.

Distribution: Himachal Pradesh; 1000–2500 m.

Aerva lanata (L.) Juss., Ann. Mus. Hist. Nat. 11: 131. 1808. *Achyranthes lanata* L.

Distribution: Jammu & Kashmir.

Aerva monsonia Mart., Beitr. Amarantac. 83. 1825.

Distribution: Jammu & Kashmir.

Aerva sanguinolenta (L.) Blume, Bijdr. 547. 1826. *Achyranthes sanguinolenta* L.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand.

Allmania R.Br. ex Wight

Allmania nodiflora (L.) R.Br. ex Wight, J. Bot. (Hooker) 1: 226. 1834. *Celosia nodiflora* L.

Distribution: Uttarakhand; 1000–2100 m.

Alternanthera Forssk.

Alternanthera ficoidea (L.) Sm., Cycl. 39(2 Suppl.): n. 8. 1819. *Gomphrena ficoidea* L.

Distribution: Uttarakhand; 800–1500 m.

Alternanthera paronychioides A. St.-Hil., Voy. Distr. Diam. 2(2): 43. 1833.

Distribution: Arunachal Pradesh, Uttarakhand.

Alternanthera philoxeroides (Mart.) Griseb., Abh. Königl. Ges. Wiss. Göttingen 24: 36 1879. *Bucholzia philoxeroides* Mart.

Distribution: Uttarakhand; 200–800 m.

Alternanthera pungens Kunth, Nov. Gen. Sp. 2: 206. 1818.

Distribution: Arunachal Pradesh, Jammu & Kashmir, Uttarakhand; 200–1200 m.

Alternanthera sessilis (L.) R. Br. ex DC., Cat. Pl. Horti Monsp. 77. 1813. *Gomphrena sessilis* L.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 200–1500 m.

Amaranthus L.

Amaranthus blitum L., Sp. Pl. 990. 1753.

Distribution: Arunachal Pradesh, Uttarakhand.

Amaranthus blitum L. subsp. **oleraceus** (L.) Costea, Sida 19: 984. 2001. *A. oleraceus* L.

Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim; 2000–2800 m.

Amaranthus caudatus L., Sp. Pl. 990. 1753.

Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand.

Amaranthus cruentus L., Syst. Nat. ed. 10 2: 1269. 1759.

Distribution: Himachal Pradesh, Uttarakhand.

Amaranthus cruentus L. var. **albus** S. Das, Nordic J. Bot. 30(4): 418. 2012.

Distribution: Himachal Pradesh.

Amaranthus graecizans L., Sp. Pl. 990. 1753.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 2500–3350 m.

Amaranthus hybridus L., Sp. Pl. 990. 1753.

Distribution: Arunachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 1500–2000 m.

Amaranthus retroflexus L., Sp. Pl. 991. 1753.

Distribution: Himachal Pradesh, Jammu & Kashmir.

Amaranthus spinosus L., Sp. Pl. 991.1753.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 200–2000 m.

Amaranthus tricolor L., Sp. Pl. 989. 1753. *A. gangeticus* L.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 200–2000 m.

Amaranthus viridis L., Sp. Pl. ed. 2. 1405. 1763.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 200–1000 m.

Bosea L.

Bosea amherstiana (Moq.) Hook.f., Fl. Brit. India 4: 716. 1885. *Rodetia amherstiana* Moq.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Uttarakhand; 1500–2500 m.

Celosia L.

Celosia argentea L., Sp. Pl. 205. 1753.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 500–1000 m.

Centrostachys Wall.

Centrostachys aquatica (R.Br.) Moq., Prodr. 13(2): 321. 1849. *Achyranthes aquatica* R.Br.

Distribution: Sikkim; upto 200 m.

Cyathula Blume

Cyathula capitata Moq., Prodr. 13(2): 329. 1849.

Distribution: Arunachal Pradesh, Himachal Pradesh, Sikkim, Uttarakhand; 1000–2500 m.

Cyathula prostrata (L.) Blume, Bijdr. 549. 1825. *Achyranthes prostrata* L.

Distribution: Arunachal Pradesh, Sikkim; 300–1200 m.

Cyathula tomentosa (Roth) Moq., Prodr. 13(2): 327. 1849. *Achyranthes tomentosa* Roth

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 1000–1500 m.

Deeringia R. Br.

Deeringia amaranthoides (Lam.) Merr., Interpr. Rumph. Herb. Amb. 211. 1917. *Achyranthes amaranthoides* Lam.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 200–1000 m.

(Plate 5a)

Digera Forssk.

Digera muricata (L.) Mart., Nova Acta Phys.–Med. Acad. Caes. Leop.–Carol. Nat. Cur. 13: 285 1826. *Achyranthes muricata* L.

Distribution: Jammu & Kashmir, Uttarakhand; 600–1900 m.

Gomphrena L.

Gomphrena celosioides Mart., Nova Acta Phys.–Med. Acad. Caes. Leop.–Carol. Nat. Cur. 13: 301. 1826.

Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand.

Gomphrena globosa L., Sp. Pl. 224. 1753.

Distribution: Sikkim, Uttarakhand; 800–1400 m.

Gomphrena serrata L., Sp. Pl. 224. 1753.

Distribution: Jammu & Kashmir, Uttarakhand; 1000 m.

Iresine P. Browne

Iresine lindenii Van Houtte, Fl. Serres Jard. Eur. 17: 41, t. 1737. 1868.

Distribution: Uttarakhand.

Psilotrichum Blume

Psilotrichum ferrugineum (Roxb.) Moq., Prodr. 13(2): 279. 1849. *Achyranthes ferruginea* Roxb.

Distribution: Arunachal Pradesh, Uttarakhand; 500–1000 m.

Pupalia Juss.

Pupalia lappacea (L.) Juss., Ann. Mus. Natl. Hist. Nat. 2: 132. 1803. *Achyranthes lappacea* L.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand.

Stilbanthus Hook.f.

Stilbanthus scandens Hook.f., Hooker's Icon. Pl. 13: 67, pl. 126. 1879.

Distribution: Arunachal Pradesh, Sikkim; 500–1000 m.

Telanthera R.Br.

Telanthera amoena Regel, Gartenflora 18: 101. 1869.

Distribution: Uttarakhand.

ANACARDIACEAE

(16 genera; 28 taxa)

Buchanania Spreng.

Buchanania cochinchinensis (Lour.) M.R.Almeida., Fl. Maharashtra 1: 287. 1996.

Toluifera cochinchinensis Lour.

Distribution: Himachal Pradesh, Uttarakhand

Brucea J.F. Mill.

Brucea javanica (L.) Merr., J. Arnold Arbor. 9: 3. 1928. *Rhus javanica* L.

Distribution: Arunachal Pradesh; 100–600 m.

Choerospondias B.L.Burt & A.W.Hill

Choerospondias axillaris (Roxb.) B.L.Burt & A.W.Hill, Ann. Bot. (Oxford) n.s., 1: 254. 1937. *Spondias axillaris* Roxb.

Distribution: Arunachal Pradesh, Sikkim; 1000–1300 m.

Cotinus Mill.

Cotinus coggygria Scop., Fl. Carniol. ed. 2, 1: 220. 1771.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand.

Cotinus coggygria Scop. var. **glaucophylla** C.Y.Wu, Fl. Yunnan.2: 386. 1979.

Distribution: Jammu & Kashmir, Uttarakhand

Dobinea Buch.-Ham. ex D.Don

Dobinea vulgaris Buch.-Ham. ex D.Don, Prodr. Fl. Nep. 249. 1825.

Distribution: Arunachal Pradesh, Sikkim; 500–1500 m.

Dracontomelon Miq.

Dracontomelon dao (Blanco) Merr. & Rolfe, Philipp. J. Sci., C 3: 108. 1908.

Paliurus dao Blanco.

Distribution: Arunachal Pradesh; 500–1000 m.

Drimycarpus Hook.f.

Drimycarpus racemosus (Roxb.) Hook.f. ex Marchand., Rév. Anacardiaceae. 172. 1869. *Holigarna racemosa* Roxb.

Distribution: Arunachal Pradesh, Sikkim; 100–1000 m.

Holigarna Buch.-Ham. ex Roxb.

Holigarna caustica (Dennst.) Oken, Allg. Naturgesch. 3(3): 1776. 1841.
Hadestaphylum causticum Dennst.

Distribution: Arunachal Pradesh; 100–500 m.

Lannea A.Rich.

Lannea coromandelica (Houtt.) Merr., J. Arnold Arbor. 19(4): 353. 1938. *Dialium coromandelicum* Houtt.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 100–1200 m.

Mangifera L.

Mangifera indica L. Sp. Pl. 200. 1753.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand.

Mangifera sylvatica Roxb., Fl. Ind., 2: 438. 1824.

Distribution: Arunachal Pradesh, Sikkim, Uttarakhand; 1200–1400 m.

Pegia Colebr.

Pegia nitida Colebr., Trans. Linn. Soc. London 15(2): 364–365. 1827.

Distribution: Arunachal Pradesh, Sikkim, Uttarakhand; 200–1000 m.

Pistacia L.

Pistacia chinensis Bunge subsp. **integerrima** (J.L. Stewart ex Brandis) Rech.f., Fl. Iranica 63. 8. 1969. *P. integerrima* J.L. Stewart ex Brandis

Distribution: Arunachal Pradesh, Himachal Pradesh, Uttarakhand; upto 1200 m.

Pistacia khinjuk Stocks, J. Bot. Kew Gard. Misc. 4: 143. 1852.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand.

Rhus L.

Rhus chinensis Mill., Gard. Dict. ed. 8. 7. 1768.

Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand.

Rhus himalaica (Hook.f.) D.Chandra, J. Econ. Taxon. Bot. 17(3): 590. 1993. *R. succedanea* L. var. *himalaica* Hook.f.

Distribution: Jammu & Kashmir, Sikkim, Uttarakhand.

Rhus parviflora Roxb., Fl. Ind. 2: 100. 1832.

Distribution: Himachal Pradesh, Sikkim, Uttarakhand.

Rhus punjabensis J.L. Stewart ex Brandis, Forest Fl. N.W. India 120. 1874.

Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand.

Rhus sinuata Thunb., Prodr. Pl. Cap. 52 1794.

Distribution: Uttarakhand.

Rhus succedanea L., Mant. Pl. 2: 221. 1771.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 600–1000 m.

Rhus succedanea L. var. **sphaerocarpa** Hook.f., Fl. Brit. India 2: 12. 1876.

Distribution: Sikkim.

Rhus verniciflua Stokes, Bot. Mat. Med. 2: 164. 1812.

Distribution: Uttarkhand, Jammu & Kashmir, Sikkim.

Semecarpus L.f.

Semecarpus anacardium L.f., Suppl. Pl. 182. 1781.

Distribution: Arunachal Pradesh, Himachal Pradesh, Sikkim, Jammu & Kashmir, Uttarakhand; 100–800 m.

Spondias L.

Spondias pinnata (L.f.) Kurz, Prelim. Rep. Forest Pegu Appendix A: 44, Appendix B: 42. 1875. *Mangifera pinnata* L.f.

Distribution: Arunachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 500–800 m.

Toxicodendron Mill.

Toxicodendron griffithii (Hook.f.) Kuntze, Revis. Gen. Pl. 1: 154. 1891. *Rhus griffithii* Hook.f.

Distribution: Arunachal Pradesh, Sikkim; 100–1200 m.

Toxicodendron hookeri (K.C.Sahni & Bahadur) C.Y.Wu & T.L.Ming, Fl. Reipubl. Popularis Sin. 45(1): 110. 1980. *Rhus hookeri* K.C.Sahni & Bahadur

Distribution: Arunachal Pradesh; 1400–1600 m.

Toxicodendron wallichii (Hook.f.) Kuntze, Revis. Gen. Pl. 1: 154 1891. *Rhus wallichii* Hook.f.

Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand, West Bengal (Darjeeling).

ANNONACEAE
(15 genera; 37 taxa)

Alphonsea Hook.f. & Thomson

Alphonsea lutea (Roxb.) Hook.f. & Thomson, Fl. Ind. 1: 153. 1855. *Uvaria lutea* Roxb.

Distribution: Arunachal Pradesh; 200–600 m.

Alphonsea ventricosa (Roxb.) Hook.f. & Thomson, Fl. Ind. 1: 152. 1855. *Uvaria ventricosa* Roxb.

Distribution: Arunachal Pradesh; 100–1000 m.

Annona L.

Annona reticulata L., Sp. Pl. 537. 1753.

Distribution: Arunachal Pradesh; 100–800 m.

Annona squamosa L., Sp. Pl. 537. 1753.

Distribution: Arunachal Pradesh, Sikkim, Uttarakhand; 100–500 m.

Artabotrys R.Br.

Artabotrys caudatus Wall. ex Hook.f. & Thomson, Fl. Ind. 1: 129. 1855.

Distribution: Arunachal Pradesh, Sikkim; 100–1000 m.

Artabotrys hexapetalus (L.f.) Bhandari, Baileya 12: 149. 1965. *Annona hexapetala* L.f.

Distribution: Uttarakhand.

Desmos Lour.

Desmos chinensis Lour., Fl. Cochinch. 352. 1790.

Distribution: Arunachal Pradesh, Sikkim; 300–400 m.

Desmos dumosus (Roxb.) Saff., Bull. Torrey Bot. Club 39: 506. 1912. *Unona dumosa* Roxb.

Distribution: Arunachal Pradesh; 300–800 m.

Desmos praecox (Hook.f. & Thomson) Saff., Bull. Torrey Bot. Club 39: 507. 1912.

Unona Praecox Hook.f. & Thomson

Distribution: Arunachal Pradesh.

Dasymaschalon (Hook.f. & Thomson) Dalla Torre & Harms

Dasymaschalon longiflorum (Roxb.) Finet & Gagnep., Bull. Soc. Bot. France 53(4): 143. 1906. *Unona longiflora* Roxb.

Distribution: Arunachal Pradesh, Sikkim; 1000–1200 m.

(Plate 5b)

Enicosanthum Becc.

Enicosanthum fuscum (King) Airy Shaw, Bull. Misc. Inform. Kew 1939: 277. 1939.

Distribution: Arunachal Pradesh.

Fissistigma Griff.

Fissistigma bicolor (Roxb.) Merr., Philipp. J. Sci. 15: 131. 1919. *Uvaris bicolor* Roxb.,

Distribution: Arunachal Pradesh, Sikkim; 300–800 m.

Fissistigma manubriatum (Hook.f. & Thomson) Merr., Philipp. J. Sci. 15: 124. 1919. *Melodorum manubriatum* Hook.f. & Thomson

Distribution: Arunachal Pradesh; 1000–1200 m.

Fissistigma polyanthum (Hook.f. & Thomson) Merr., Philipp. J. Sci. 15: 135. 1919. *Melodorum polyanthum* Hook.f. & Thomson

Distribution: Arunachal Pradesh; 300–550 m.

Fissistigma rubiginosum (A.DC.) Merr., Philipp. J. Sci. 15: 135. 1919. *Uvaria rubiginosa* A. DC.

Distribution: Arunachal Pradesh; 500–1200 m.

Fissistigma wallichii (Hook.f. & Thomson) Merr., Philipp. J. Sci. 15: 137. 1919. *Melodorum wallichii* Hook.f. & Thomson

Distribution: Arunachal Pradesh; 400–700 m.

Friesodielsia Steenis

Friesodielsia fornicata (Roxb.) D.Das, Bull. Bot. Surv. India 5: 43. 1963. *Uvaria fornicata* Roxb.

Distribution: Arunachal Pradesh; 1000–1560 m.

Goniothalamus (Blume) Hook.f. & Thomson

Goniothalamus sesquipedalis (Wall.) Hook.f. & Thomson, Fl. Ind. 1: 108. 1855. *Guatteria sesquipedalis* Wall.

Distribution: Arunachal Pradesh, Sikkim; 500–1500 m. (Plate 5c)

Goniothalamus simonsii Hook.f. & Thomson, Fl. Ind. 1: 108. 1855.

Distribution: Arunachal Pradesh; 800–1300 m.

Miliusa Lesch. ex A.DC.

Miliusa codonantha Chaowasku, Willdenowia 43: 103–104, f. 1–3. 2013.

Distribution: West Bengal (Darjeeling); 1200 m.

Miliusa dolichantha Craib, Kew Bull. 1920: 108. 1920.

Distribution: Arunachal Pradesh; up to 500 m.

Miliusa longiflora (Hook.f. & Thomson) J.Sinclair, Gard. Bull. Singapore 14: 378. 1955. *Saccopetalum longiflorum* Hook.f. & Thomson

Distribution: Arunachal Pradesh, Sikkim; 1000–1200 m.

Miliusa macrocarpa Hook.f. & Thomson, Fl. Ind. 1: 150. 1855.

Distribution: Arunachal Pradesh, Sikkim; 100–800 m.

Miliusa tomentosa (Roxb.) Finet & Gangnep., Bull. Soc. Bot. Fr. 53(4): 153. 1906. *Uvaria tomentosa* Roxb.

Distribution: Uttarakhand.

Miliusa velutina (Dunal) Hook.f. & Thomson, Fl. Ind. 1: 151. 1855. *Uvaria velutina* Dunal

Distribution: Jammu & Kashmir, Uttarakhand.

Mitrephora Hook.f. & Thomson

Mitrephora harae H.Ohashi, Fl. E. Himal. 97. 1966.

Distribution: Arunachal Pradesh, Sikkim; 500–1000 m.

Mitrephora tomentosa Hook.f. & Thomson, Fl. Ind.1: 113. 1855.

Distribution: Arunachal Pradesh; 100–1200 m.

Monoon Miq.

Monoon longifolium (Sonn.) B.Xue & R. M.K.Saunders, Taxon 61: 1032. 2012. *Uvaria longifolia* Sonn.

Distribution: Arunachal Pradesh; 100–200 m.

Polyalthia Blume

Polyalthia cerasoides (Roxb.) Bedd., Fl. Sylv. S. India t. 1. 1869. *Uvaria cerasoides* Roxb.

Distribution: Arunachal Pradesh; 100–200 m.

Polyalthia jenkinsii (Hook.f. & Thomson) Hook.f. & Thomson, Fl. Brit. India 1: 64. 1872. *Guatteria jenkinsii* Hook.f. & Thomson

Distribution: Arunachal Pradesh; 100–600 m.

Polyalthia longifolia (Sonn.) Thwaites, Enum. Pl. Zeyl. 398. 1864. *Uvaria longifolia* Sonn.

Distribution: Arunachal Pradesh, Sikkim, Uttarakhand.

Polyalthia simiarum (Buch.-Ham. ex Hook.f. & Thomson) Benth. ex Hook.f. & Thomson, Fl. Brit. India 1(1): 63. 1872. *Guatteria simiarum* Buch.–Ham. ex Hook.f. & Thomson

Distribution: Arunachal Pradesh, Sikkim; 100–1000 m.

Polyalthia suberosa (Roxb.) Thwaites, Enum. Pl. Zeyl. 398. 1864. *Uvaria suberosa* Roxb.

Distribution: Arunachal Pradesh; 100–800 m.

Trivalvaria (Miq.) Miq.

Trivalvaria argentea (Hook.f. & Thomson) J. Sinclair, Sarawak Mus. J. 52(3): 603. 1951. *Polyalthia argentea* Hook.f. & Thomson

Distribution: Arunachal Pradesh; 100–1000 m.

Uvaria L.

Uvaria dioeca Roxb., Fl. Ind. ed. 1832. 2: 659. 1832.

Distribution: Arunachal Pradesh, Sikkim; 500–800 m.

(Plate 5d)

Uvaria hamiltonii Hook.f. & Thomson, Fl. Ind. 1: 96. 1855

Distribution: Sikkim, Uttarakhand.

Uvaria lurida Hook.f. & Thomson var. **sikkimensis** King, Ann. Roy. Bot. Gard. Calcutta 4: 29, t. 23. 1893.

Distribution: Sikkim.

APIACEAE

(66 genera; 179 taxa)

Acronema Falc. ex Edgew.

Acronema bellum (C.B. Clarke) P.K. Mukh., Bull. Bot. Surv. India 24: 42. 1982. *Pimpinella bella* C.B. Clarke

Distribution: Sikkim; 3000–3700 m.

Acronema hookeri (C.B. Clarke) H. Wolff, Pflanzenz. IV, 228(90): 323. 1927. *Pimpinella hookeri* C.B. Clarke

Distribution: Sikkim; 2400–3600 m.

Acronema hookeri (C.B.Clarke) H.Wolff var. **graminifolia** H.Wolff, Pflanzenr. IV 228: 323. 1927.

Distribution: Sikkim; 2700–3000 m.

Acronema muscicola (Hand.–Mazz.) Hand.–Mazz., Symb. Sin. 7: 715. 1933.
Pimpinella muscicola Hand.–Mazz.

Distribution: Uttarakhand; 3200–4100 m.

Acronema tenerum (DC.) Edgew., Trans. Linn. Soc. London 20: 51. 1851.
Heliosciadium tenerum DC.

Distribution: Arunachal Pradesh, Himachal Pradesh, Sikkim, Uttarakhand; 500–3000 m.

Aegopodium L.

Aegopodium alpestre Ledeb., Fl. Altaic. 1: 354. 1829.

Distribution: Jammu & Kashmir.

Ammi L.

Ammi majus L., Sp. Pl. 243. 1753.

Distribution: Jammu & Kashmir, Uttarakhand.

Ammi visnaga (L.) Lam., Fl. Franç. 3: 462 1778. *Daucus visnaga* L.

Distribution: Jammu & Kashmir.

Anethum L.

Anethum graveolens L., Sp. Pl. 263. 1753.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand; 2300–3400 m.

Angelica L.

Angelica archangelica L., Sp. Pl. 250. 1753.

Distribution: Jammu & Kashmir, Sikkim, Uttarakhand; 3000–3500 m.

Angelica glauca Edgew., Trans. Linn. Soc. London 20: 53. 1846.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Uttarakhand; 1500–3000 m.

Angelica nubigena (C.B.Clarke) P.K.Mukh., Bull. Bot. Surv. India 24: 42. 1982.

Heracleum nubigenum C.B.Clarke

Distribution: Sikkim; 3000–4000 m.

Anthriscus Pers.

Anthriscus caucalis M.Bieb., Fl. Taur. Caucas. 1: 230. 1808.

Distribution: Uttarakhand.

Anthriscus nemorosa (M.Bieb.) Spreng., Pl. Umbell. Prodr. 27. 1813.

Chaerophyllum nemorosum M.Bieb.

Distribution: Himachal Pradesh; 1500–3000 m.

Anthriscus sylvestris (L.) Hoffm., Gen. Pl. Umbell. 40. 1814. *Chaerophyllum sylvestre* L.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand; 1500–3000 m.

Apium L.

Apium graveolens L., Sp. Pl. 264. 1753.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand; 850–2000 m.

Apium tenuifolium (Moench) Thell., Ill. Fl. Mitt.–Eur. 5(2): 1140. 1926. *Cnidium tenuifolium* Moench

Distribution: Jammu & Kashmir.

Arcuatopterus M.L.Sheh & R.H.Shan

Arcuatopterus sikkimensis (C.B.Clarke) Pimenov & Ostr., Feddes Repert. 111: 557. 2000. *Peucedanum sikkimense* C.B.Clarke

Distribution: Arunachal Pradesh, Sikkim; 1000–2000 m.

Berula W.D.J.Koch

Berula erecta (Huds.) Coville, Contr. U. S. Natl. Herb. 4: 115. 1893. *Sium erectum* Huds.

Distribution: Jammu & Kashmir.

Bunium L.

Bunium cylindricum Drude, Nat. Pflanzenfam. 3(8): 194. 1898.

Distribution: Himachal Pradesh; 2000–3500 m.

Bunium persicum (Boiss.) B.Fedtsch., Rastit. Turkest. 612. 1915. *Carum persicum* Boiss.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand; 2000–3500 m.

Bupleurum L.

Bupleurum aitchisonii H.Wolff, Pflanzenr. 4. 43: 141. 1910.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand; 2000–3500 m.

Bupleurum atroviolaceum (O.E.Schulz) Nasir, J.W. Pakistan 20: 54. 1972. *B. aitchisonii* H.Wolff f. *atroviolaceum* O.E.Schulz

Distribution: Jammu & Kashmir.

Bupleurum canaliculatum Diels, Notizbl. Bot. Gart. Berlin–Dahlem 14: 352. 1939.

Distribution: Jammu & Kashmir.

Bupleurum candollei Wall. ex DC., Prodr. 4: 131. 1830.

Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 2000–3500 m. **(Plate 167b)**

Bupleurum dalhousianum (C.B.Clarke) Koso-Pol., Trudy Imp. S.–Peterburgsk. Bot. Sada 30: 165 1915. *B. longicaule* Wall. ex DC. var. *dalhousiana* C.B.Clarke

Distribution: Himachal Pradesh, Uttarakhand; 2000–4800 m.

Bupleurum falcatum L., Sp. Pl. 237. 1753.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 1000–2800 m.

Bupleurum falcatum L. subsp. **cernuum** (Ten.) Arcang., Comp. Fl. Ital. ed. 2: 590. 1894. *B. cernuum* Ten.

Distribution: Jammu & Kashmir.

Bupleurum gracillimum Klotzsch, Bot. Ergebn. Reise Waldemar 148. 1862.

Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 3000–4000 m.

Bupleurum hamiltonii N.P.Balacr., J. Bombay Nat. Hist. Soc. 63: 328. 1967.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 3000–4000 m.

Bupleurum hoffmeisteri Klotzsch, Bot. Ergebn. Reise Waldemar 147. 1862.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand; 2000–3500 m.

Bupleurum jucundum Kurz., J. Bot. 5: 240. 1867.

Distribution: Himachal Pradesh, Jammu & Kashmir; 2000–3500 m.

Bupleurum lanceolatum Wall. ex DC., Prodr. 4: 132. 1830.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand; 2600–3500 m.

Bupleurum longicaule Wall. ex DC., Prodr. 4: 131. 1830.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 3000–4500 m.

Bupleurum maddenii C.B.Clarke, Fl. Brit. India 2: 678. 1879.

Distribution: Himachal Pradesh; 3000–4500 m.

Bupleurum marginatum Wall. ex DC., Prodr. 4: 134. 1830.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Uttarakhand; 2000–3500 m.

Bupleurum rotundifolium L., Sp. Pl. 236. 1753.

Distribution: Jammu & Kashmir.

Bupleurum scorzonerifolium Willd., Enum. Pl. Suppl.: 30. 1814.

Distribution: Sikkim; 3000–3700 m.

Bupleurum subuniflorum Boiss. & Heldr., Diagn. PL. Orient. 10: 28. 1849.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand; 2000–3500 m.

Bupleurum swatianum Nasir, Uni. Calif. Pub. Bot. 27: 425. 1954.

Distribution: Himachal Pradesh.

Bupleurum thomsonii C.B.Clarke, Fl. Brit. India 2: 675. 1879.

Distribution: Himachal Pradesh, Jammu & Kashmir; 3000–4270 m.

Carum L.

Carum carvi L., Sp. Pl. 263. 1753.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 3000–4270 m.

Centella L.

Centella asiatica (L.) Urb., Fl. Bras. 11(1): 287, t. 78. f. 1. 1879. *Hydrocotyle asiatica* L.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 300–1700 m.

Chaerophyllum L.

Chaerophyllum capnoides (Decne.) Benth. ex C.B. Clarke, Fl. Brit. India 2: 691. 1879. *Butinia capnoides* Decne.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand; 3000–4000 m.

Chaerophyllum reflexum Lindl., J. Linn. Soc., Bot. 18: 164. 1881.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 3000–4270 m

Chaerophyllum reflexum Lindl. var. **acuminatum** (Lindl.) Hedge & Lamond, Notes Roy. Bot. Gard. Edinburgh 38: 254. 1980. *C. acuminatum* Lindl.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand; 3000–4270 m.

Chaerophyllum reflexum Lindl. var. **dissectum** (C.B. Clarke) Hedge & Lamond, Notes Roy. Bot. Gard. Edinburgh 38: 254. 1980. *C. cachemiricum* C.B. Clarke var. *dissecta* C.B. Clarke

Distribution: Jammu & Kashmir.

Chaerophyllum villosum Wall. ex DC., Prodr. 4: 225. 1830.

Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 3000–4000 m. (Plate 168a)

Chamaesium H. Wolff

Chamaesium novem-jugum (C.B. Clarke) C. Norman, J. Bot. 76: 231. 1938. *Trachydium novem-jugum* C.B. Clarke

Distribution: Sikkim; 4000–5600 m.

Cicuta L.

Cicuta virosa L., Sp. Pl. 255. 1753.

Distribution: Jammu & Kashmir.

Cnidium Cusson

Cnidium monnieri (L.) Cusson, Mém. Soc. Méd. Paris 1782: 280. 1782. *Selinum monnieri* L.

Distribution: Uttarakhand.

Conium L.

Conium maculatum L., Sp. Pl. 243. 1753.

Distribution: Jammu & Kashmir.

Coriandrum L.

Coriandrum sativum L., Sp. Pl. 256. 1753.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 2000–3500 m.

Cortia DC.

Cortia depressa (D.Don) C. Norman, J. Bot. 75: 96. 1937. *Athamanta depressa* D.Don

Distribution: Arunachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 3000–4000 m. **(Plate 6a)**

Cortiella C. Norman

Cortiella hookeri (C.B.Clarke) C.Norman, J. Bot. 75: 94. 1937. *Cortia hookeri* C.B.Clarke

Distribution: Sikkim; 4000–5000 m.

Cortiella caespitosa R.H.Shan & M.L.Sheh, Acta Phytotax. Sin. 18: 376. 1980.

Distribution: Sikkim; 4000–4500 m.

Cortiella cortioides (C.Norman) M.F.Watson, Edinburgh J. Bot. 53: 130. 1996. *Selinum cortioides* C.Norman

Distribution: Sikkim; 2700–5500 m.

Cuminum L.

Cuminum cyminum L., Sp. Pl. 254. 1753.

Distribution: Uttarakhand.

Cyclosporum Lag.

Cyclosporum leptophyllum (Pers.) Sprague, J. Bot. 61: 131, f. 59. 1923.

Pimpinella leptophylla Pers.

Distribution: Uttarakhand.

Daucus L.

Daucus carota L., Sp. Pl. 242. 1753.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand; 2000–3500 m.

Eriocycla Lindl.

Eriocycla nuda Lindl., Ill. Bot. Himal. Mount. 232. 1835.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand; 2300–4500 m.

Eriocycla stewartii H. Wolff, Pflanzenr. IV, 228(90): 107. 1927.

Distribution: Jammu & Kashmir, Uttarakhand.

Eryngium L.

Eryngium biehersteinianum Nevski, Trudy Bot. Inst. Akad. Nauk S.S.S.R., Ser. 1, Fl. Sist. Vyssh. Rast. 4: 275. 1937.

Distribution: Jammu & Kashmir.

Eryngium billardieri Delile, Eryng. Hist. 25 t, 2, 1808.

Distribution: Jammu & Kashmir; 3000–4000 m.

Eryngium foetidum L., Sp. Pl. 232. 1753.

Distribution: Arunachal Pradesh, Uttarakhand; 300–1500 m.

Eryngium planum L., Sp. Pl. 233. 1753.

Distribution: Jammu & Kashmir.

Ferula L.

Ferula jaeschkeana Vatke, Indian Sem. Hort. Berol. Append. 2. 2. 1876.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand; 2300–4500 m.

(Plate 6b)

Ferula narthex Boiss., Fl. Orient. 2: 994. 1872.

Distribution: Jammu & Kashmir.

Ferula ovina (Boiss.) Boiss., Fl. Orient. 2: 986. 1872. *Peucedanum ovinum* Boiss.

Distribution: Jammu & Kashmir.

Ferula thomsonii C.B. Clarke, Fl. Brit. India 2: 708. 1879.

Distribution: Jammu & Kashmir.

Foeniculum Mill.

Foeniculum vulgare Mill., Gard. Dict. ed. 8. 1. 1768.

Distribution: Jammu & Kashmir, Sikkim, Uttarakhand; 2300–4500 m.

Heracleum L.

Heracleum cachemicum C.B. Clarke, Fl. Brit. India 2: 712. 1879.

Distribution: Jammu & Kashmir, Himachal Pradesh, Uttarakhand; 2300–4500 m.

Heracleum candicans Wall. ex DC., Prodr. 4: 192. 1830.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 1500–4500 m.

Heracleum candicans Wall. ex DC. var. **obtusifolium** (Wall. ex DC.) F.T. Pu & M.F. Watson, Acta Phytotax. Sin. 42(6): 562. 2004. *H. obtusifolium* Wall. ex DC.

Distribution: Sikkim; 3000–3700 m.

Heracleum canescens Lindl., Ill. Bot. Himal. Mts. 232. 1839.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand; 2300–4500 m.

Heracleum jacquemonti C.B. Clarke, Fl. Brit. India 2: 712. 1879.

Distribution: Uttarakhand.

Heracleum lanatum Michx., Fl. Bor.–Amer. 1: 166. 1803.

Distribution: Jammu & Kashmir, Uttarakhand.

Heracleum nepalense D.Don, Prodr. Fl. Nepal. 185. 1825.

Distribution: Arunachal Pradesh, Sikkim, Uttarakhand; 1800–3700 m.

Heracleum sublineare C.B.Clarke, Fl. Brit. India 2: 713. 1879.

Distribution: Sikkim; 3500–4000 m.

Heracleum pinnatum C.B.Clarke, Fl. Brit. India 2: 712. 1879.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 1500–4500 m.

Heracleum thomsonii C.B.Clarke, Fl. Brit. India 2: 711. 1879.

Distribution: Himachal Pradesh, Jammu & Kashmir; 2300–4500 m.

Heracleum wallichii DC., Prodr. 4:195. 1830.

Distribution: Arunachal Pradesh, Sikkim; 1500–2000 m.

Heracleum wallichii DC. var. **elatior** C.B.Clarke, Fl. Brit. India 2: 713. 1879.

Distribution: Arunachal Pradesh.

Hydrocotyle Spreng.

Hydrocotyle himalaica P.K.Mukh., Ind. For. 95: 470. t. 1. 1969.

Distribution: Arunachal Pradesh, Sikkim; 300–1600 m.

(Plate 6c)

Hydrocotyle javanica Thunb., Symb. Sin.7(3): 707.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; upto 1020 m.

(Plate 7a)

Hydrocotyle sibthorpioides Lam., Encycl. Meth. Bot. 3: 153. 1789.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand, West Bengal (Darjeeling); 2300–4000 m.

Kailashia Pimenov & Kljuykov

Kailashia robusta Pimenov & Kljuykov, Feddes Repert. 116: 84. 2005.

Distribution: Uttarakhand.

Kedarnatha P.K. Mukh. & Constance

Kedarnatha garwalica (H.Wolff) Pimenov & Kljuykov, Feddes Repert. 115(3–4): 234. 2004. *Trachydium garhwalicum* H.Wolff

Distribution: Himachal Pradesh, Uttarakhand; 3400–5250 m.

Kedarnatha sanctuarii P.K.Mukh. & Constance, Brittonia 38: 147. 1986.

Distribution: Uttarakhand; 3500 m.

Lalldhwojia Farille

Lalldhwojia cooperi Farille, Rev. Gén. Bot. 91: 31. 1984.

Distribution: Uttarakhand; 3500 m.

Libanotis Haller ex Zinn

Libanotis buchtormensis (Fisch.) DC., Coll. Mém. 5: pl. 3, f. 5. 1829. *Bubon buchtormensis* Fisch.

Distribution: Uttarakhand.

Ligusticum L.

Ligusticum elatum (Edgew.) C.B.Clarke, Fl. Brit. India 2: 698. 1879. *Cortia elata* Edgew.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand, West Bengal (Darjeeling); upto 4720 m.

Ligusticum marginatum C.B.Clarke, Fl. Brit. India 2: 698. 1879.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand.

Ligusticum striatum DC., Prodr. 4: 158 1830.

Distribution: Arunachal Pradesh, Uttarakhand; 1500–2000 m.

Lisaea Boiss.

Lisaea heterocarpa Boiss., Fl. Orient. 2: 1088.

Distribution: Jammu & Kashmir.

Meeboldia H.Wolff

Meeboldia achilleifolia (DC.) P.K.Mukh. & Constance, Edinburgh J. Bot. 48(1): 44. 1991. *Ptychotis achilleifolia* DC.

Distribution: Sikkim, Uttarakhand; 3000–4000 m.

Oenanthe L.

Oenanthe javanica (Blume) DC., Prodr. 4: 138. 1830. *Sium javanicum* Blume

Distribution: Arunachal Pradesh, Jammu & Kashmir, Uttarakhand, West Bengal (Darjeeling); 1000–2000 m. **(Plate 7b)**

Oenanthe thomsonii C.B.Clarke, Fl. Brit. India 2: 697. 1879.

Distribution: Arunachal Pradesh, Sikkim; 1600–2700 m.

Oreocome Edgew.

Oreocome aegopodioides Pimenov & Kljuykov, Willdenowia 39(1): 95. 2009.

Distribution: Uttarakhand.

Oreocome stelliphora Cauwet & Farille, Candollea 40: 549. 1985.

Distribution: Uttarakhand; 3800 m.

Osmorhiza Raf.

Osmorhiza aristata Makino & Jabe, Bot. Mag. (Tokyo) 17: 14. 1903.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand; 3000–4500 m.

Peucedanum L.

Peucedanum dhana Buch.-Ham. ex C.B.Clarke, Fl. Brit. India 2: 709. 1879.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand; upto 1400 m.

Peucedanum dehradunense Babu, Indian Forester 96: 535. 1970.

Distribution: Uttarakhand; 1500 m.

Peucedanum nepalense P.K.Mukh., Indian Forester 95: 567. 1969.

Distribution: Uttarakhand.

Physospermopsis H.Wolff

Physospermopsis obtusiuscula (Wall. ex DC.) C.Norman, J. Bot. 76(908): 231. 1938. *Hymenolaena obtusiuscula* Wall. ex DC.
Distribution: Sikkim; 3300–4200 m.

Physospermopsis kingdon-wardii (H.Wolff) C.Norman, J. Bot. 76(908): 231. 1938. *Trachydium kingdon-wardii* H.Wolff.
Distribution: Sikkim.

Pimpinella L.

Pimpinella acuminata (Edgew.) C.B.Clarke, Fl. Brit. India 2: 686. 1879. *Reutera acuminata* Edgew.
Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 2276–3600 m.

Pimpinella bracteata Haines, J. Proc. Asiat. Soc. Bengal 15: 314. 1919.
Distribution: Himachal Pradesh; 2000–3000 m.

Pimpinella diversifolia DC., Prodr. 4: 122. 1830.
Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 1500–2000 m.

Pimpinella sikkimensis C.B.Clarke, Fl. Brit. India 2: 685. 1879.
Distribution: Arunachal Pradesh, Sikkim; 1000–2000 m.

Pimpinella stracheyi C.B.Clarke, Fl. Brit. India 2: 688. 1879.
Distribution: Uttarakhand; 2000 m.

Pimpinella tenera Benth. var. **dissecta** C.B.Clarke, Fl. Brit. India 2: 686. 1879.
Distribution: Himachal Pradesh; 2000–3000 m.

Pimpinella tongloensis P.K.Mukh., Bull. Bot. Surv. India 12: 78. 1970.
Distribution: Sikkim.

Pimpinella urceolata Watt ex Banerji, J. Bombay Nat. Hist. Soc. 1: 88. 1951.
Distribution: Sikkim; 600–2200 m.

Pimpinella wallichii C.B.Clarke, Fl. Brit. India 2: 685. 1879.
Distribution: Sikkim; 1300–2200 m.

Platytaenia Kuhn

Platytaenia lasiocarpa Rchb. & Riedl subsp. **thomsonii** Hedw., J. Macbr. & Maslin, Biol. Skr. 13(4): 104. 1963.
Distribution: Himachal Pradesh; 2000–3000 m.

Pleuropermopsis C.Norman

Pleuropermopsis sikkimensis (C.B.Clarke) C.Norman, J. Bot. 76: 200. 1938. *Pleurospermum sikkimense* C.B.Clarke
Distribution: Sikkim; 3700–4700 m.

(Plate 7c)

Pleurospermum Hoffm.

Pleurospermum angelicoides (DC.) Benth. ex C.B. Clarke, Fl. Brit. India 2: 703. 1879. *Hymenolaena angelicoides* DC.

Distribution: Jammu & Kashmir, Sikkim, Uttarakhand; 2600–3700 m.

Pleurospermum apiolens C.B. Clarke, Fl. Brit. India 2(6): 705. 1879.

Distribution: Sikkim; 3300–4300 m.

Pleurospermum benthamii (Wall. ex DC.) C.B. Clarke, Fl. Brit. India 2(6): 703. 1879. *Hymenolaena benthamii* Wall. ex DC.

Distribution: Sikkim, Uttarakhand; 3200–4700 m.

Pleurospermum brunonis Benth. ex C.B. Clarke, Fl. Brit. India 2: 706. 1879.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand; 2000–3000 m.

Pleurospermum candollei Benth. ex C.B. Clarke, Fl. Brit. India 2: 703. 1879.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand; 2000–3000 m.

Pleurospermum corydalifolium Aitch. & Hemsl., J. Linn. Soc., Bot. 18: 62. 1880.

Distribution: Jammu & Kashmir.

Pleurospermum densiflorum Benth. ex C.B. Clarke, Fl. Brit. India 2: 706. 1879.

Distribution: Uttarakhand.

Pleurospermum dentatum Benth. ex C.B. Clarke, Fl. Brit. India 2: 704. 1879.

Distribution: Arunachal Pradesh, Sikkim, Uttarakhand; 3300–4200 m.

Pleurospermum erosa (DC.) P.K. Mukh., Bull. Bot. Surv. India 24: 44. 1982. *Hymenolaena dentata* DC. var. *erosa* DC.

Distribution: Uttarakhand.

Pleurospermum hookeri C.B. Clarke var. **thomsonii** C.B. Clarke, Fl. Brit. India 2: 705. 1879.

Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim; 2000–3000 m.

Pleurospermum lindleyanum (Klotzsch) B. Fedtsch., Rastit. Turkest. 604. 1915. *Hymenolaena lindleyana* Klotzsch

Distribution: Himachal Pradesh, Jammu & Kashmir; 2000–3000 m.

Pleurospermum stellatum (D. Don) Benth. ex C.B. Clarke, Fl. Brit. India 2(6): 704–705. 1879. *Selinum stellatum* D. Don

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand; 2270–4500 m.

Pleurospermum stylosum C.B. Clarke, Fl. Brit. India 2(6): 704. 1879.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand; 2270–4500 m.

Prangos Lindl.

Prangos pabularia Lindl., Quart. J. Sci. Lit. Arts 19: 7. 1825.

Distribution: Jammu & Kashmir, Uttarakhand; 2270–4500 m.

Psammogeton Edgew.

- Psammogeton biternatum** Edgew., Trans. Linn. Soc. London 20(1): 57. 1846.
Distribution: Himachal Pradesh; 2270–4500 m.
- Psammogeton canescens** (DC.) Vatke, Index Seminum 3. 1876. *Athamantha canescens* DC.
Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand; 2270–4500 m.
- Pternopetalum** Franch.
- Pternopetalum arunachalense** Bhaumik & P.Satyanar., Nordic J. Bot. 32(4): 471. 2013.
Distribution: Arunachal Pradesh; 2300 m.
- Pternopetalum gracillimum** (H. Wolff) Hand.-Mazz., Symb. Sin. 7(3): 719. 1933.
Cryptotaeniopsis gracillima H. Wolff
Distribution: Arunachal Pradesh; 3700 m.
- Pternopetalum radiatum** (W.W.Sm.) P.K.Mukh. & Constance, Indian For. 97(1): 55. 1971. *Pinpinella radiata* W.W.Sm.
Distribution: Sikkim.
- Pternopetalum senii** Deb & Dutta, (J.Sen Memorial Vol.) Bull. Bot Soc. Bengal 421. 1969.
Distribution: Arunachal Pradesh.
- Pternopetalum subalpinum** Hand.-Mazz., Symb. Sin. 7(3): 718, pl. 11, f. 1. 1933.
Distribution: Sikkim.
- Pternopetalum vulgare** (Dunn) Hand.-Mazz., Symb. Sin. 7(3): 719. 1933.
Cryptotaeniopsis vulgaris Dunn
Distribution: Arunachal Pradesh; 1500–2000 m.
- Pycnocycla** Lindl.
- Pycnocycla glauca** Lindl., Ill. Bot. Himal. Mts. 232. t. 51. 1835.
Distribution: Himachal Pradesh, Uttarakhand; 2270–4500 m.
- Sanicula** L.
- Sanicula elata** Buch.–Ham. ex D.Don, Prodr. Fl. Nep. 183. 1825.
Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 200–1600 m.
- Scaligeria** DC.
- Scaligeria elata** Boiss. & Hausskn., Fl. Orient. 2: 877. 1872.
Distribution: Jammu & Kashmir.
- Scaligeria indica** H. Wolff, Repert. Spec. Nov. Regni Veg. 27: 126. 1929.
Distribution: Jammu & Kashmir.
- Scandix** L.
- Scandix pecten-veneris** L., Sp. Pl. 256. 1753.
Distribution: Jammu & Kashmir, Himachal Pradesh; 2270–4500 m.

Schultzia Nees

Schultzia dissecta (C.B.Clarke) Norman, J. Bot. Lond. 76: 231. 1938. *Trachydium dissecta* C.B.Clarke

Distribution: Jammu & Kashmir, Sikkim.

Selinum L.

Selinum conifolium Benth. & Hook.f., Gen. Pl. 1: 914. 1867.

Distribution: Jammu & Kashmir.

Selinum elatum (Edgew.) M.Hiroe, Umbell. Asia 1: 154. 1958. *Oreocome elata* Edgew.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand; upto 3500 m.

Selinum filicifolium (Edgew.) Nasir, Fl. W. Pakistan 20: 119. 1972. *Orecome filicifolia* Edgew.

Distribution: Himachal Pradesh; upto 3500 m.

Selinum papyraceum C.B.Clarke, Fl. Brit. India 2: 701. 1879.

Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; upto 3500 m.

Selinum vaginatum C.B.Clarke, Fl. Brit. India 2: 700. 1879.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand; upto 4200 m.

Selinum wallichianum (DC.) Raizada & H.O.Saxena, Indian For. 92: 323. 1966. *Peucedanum wallichianum* DC.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; upto 4200 m.

Semenovia Regel & Herder

Semenovia thomsonii (C.B.Clarke) Manden., Trudy Tbilissk Bot. Inst. 20: 23. 1959. *Heracleum thomsonii* C.B.Clarke.

Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; upto 4200 m.

Seseli L.

Seseli roylei (Lindl.) Pimenov & Kljuykov, Feddes Repert. 113(5-6): 339. 2002. *Archangelica roylei* Lindl.

Distribution: Uttarakhand.

Seseli diffusum (Roxb. ex Sm.) Santapau & Wagh, Bull. Bot. Surv. India 5: 108. 1964. *Ligusticum diffusum* Roxb. ex Sm.

Distribution: Uttarakhand.

Seseli libanotis (L.) W.D.J.Koch, Nova Acta Phys.-Med. Acad. Caes. Leop.-Carol. Nat. Cur. 12: 111. 1824. *Athamantha libanotis* L.

Distribution: Himachal Pradesh, Jammu & Kashmir; 1000–1500 m.

Seseli mucronatum (Schrenk) Pimenov & Sdobnina, Byull. Moskovsk. Obshch. Isp. Prir., Otd. Biol. 78(4): 139. 1973. *Neogaya mucronata* Schrenk
Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; upto 4500 m.

Seseli petrosiadium Pimenov & Kljuykov, Bot. Zhurn. (Moscow & Leningrad) 85(10): 107. 2000.
Distribution: Himachal Pradesh, Uttarakhand.

Seseli sibiricum (L.) Garcke, Fl. N. Mitt.–Deutschland 139. 1849. *Athamanta sibirica* L.
Distribution: Jammu & Kashmir.

Seseli thomsonii (C.B. Clarke) Pimenov & Kljuykov, Bot. Zhurn. (Moscow & Leningrad) 85(10): 106. 2000. *Pituranthos thomsonii* C.B. Clarke
Distribution: Himachal Pradesh, Jammu & Kashmir; 2000–3500 m.

Seseli trilobum Benth. ex C.B. Clarke, Fl. Brit. India 2: 694. 1879.
Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand; upto 4200 m.

Sinocarum H. Wolff

Sinocarum acronemifolia (C.B. Clarke) P.K. Mukh. & Constance, Edinburgh J. Bot. 48: 43 1991. *Pimpinella acronemifolia* C.B. Clarke
Distribution: Arunachal Pradesh, Sikkim; 3000–3400 m.

Sinocarum clarkeanum P.K. Mukh. & Constance, Edinburgh J. Bot. 48: 42 1991.
Distribution: Sikkim; 3500–4200 m.

Sinocarum sikkimense (P.K. Mukh.) P.K. Mukh. & Constance, Edinburgh J. Bot. 48: 43. 1991. *Acronema sikkimensis* P.K. Mukh.
Distribution: Sikkim; 3600–4000 m.

Sinocarum wolffianum (Fedde ex H. Wolff) P.K. Mukh. & Constance, Edinburgh J. Bot. 48(1): 42. 1991. *Acronema wolffianum* Fedde ex H. Wolff
Distribution: Sikkim; 3700 m.

Sium L.

Sium latijugum C.B. Clarke, Fl. Brit. India 2: 683. 1879.
Distribution: Himachal Pradesh, Jammu & Kashmir; upto 4200 m.

Sium sisarum L., Sp. Pl. 251. 1753.
Distribution: Himachal Pradesh, Jammu & Kashmir; upto 4200 m.

Tordyliopsis DC.

Tordyliopsis brunonis DC., Prodr. 4: 199. 1830.
Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 2300–4500 m. (Plate 8a)

Torilis Adans.

Torilis japonica (Houtt.) DC., Prodr. 4: 219. 1830. *Caucalis japonica* Houtt.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 1000–2500 m.

Torilis leptophylla (L.) Rchb.f., Fl. Germ. 21: 169. 1866. *Caucalis leptophylla* L.

Distribution: Himachal Pradesh, Jammu & Kashmir; 2270–4500 m.

Trachydium Lindl.

Trachydium roylei Lindl., Ill. Bot. Himal. Mts. 1: 232. 1835.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand; 2000–4500 m.

Trachyspermum Link

Trachyspermum ammi (L.) Sprague, Bull. Misc. Inform. Kew 1929: 228. 1929. *Sison ammi* L.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 2000–3500 m.

Trachyspermum anethifolium H.Wolff, Pflanzenr. IV, 228(90): 90. 1927.

Distribution: Himachal Pradesh, Uttarakhand; 2000–4500 m.

Trachyspermum baluchistanicum Nasir, Biologia (Lahore) 9: 40. 1963.

Distribution: Jammu & Kashmir.

Trachyspermum falconeri H.Wolff, Pflanzenr. IV, 228(90): 90. 1927.

Distribution: Uttarakhand; 2300 m.

Trachyspermum roxburghianum (DC.) H.Wolff, Pflanzenr. IV 228 (Heft 90): 129. 1927. *Ptychotis roxburghiana* DC.

Distribution: Uttarakhand.

Tricholaser Gilli

Tricholaser cachemiricum (C.B.Clarke) Alava, Fl. Iran. 162: 491. 1987. *Heracleum cachemiricum* C.B.Clarke

Distribution: Uttarakhand.

Turgenia Hoffm.

Turgenia latifolia (L.) Hoffm., Gen. Pl. Umbell. 59. 1814. *Tordylium latifolium* L.

Distribution: Jammu & Kashmir.

Vicatia DC.

Vicatia conifolia Wall. ex DC., Prodr. 4: 243. 1830.

Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; upto 4500 m.

Vicatia wolffiana C.Norman, J. Bot. 78: 229. 1940.

Distribution: Jammu & Kashmir, Uttarakhand; 3600–5050 m.

APOCYNACEAE
(34 genera; 47 taxa)

Aganosma (Blume) G.Don

Aganosma caryophyllata G.Don, Gen. Hist. 4: 77. 1837.

Distribution: Uttarakhand.

Aganosma gracilis Hook.f., Fl. Brit. India 3: 664. 1882.

Distribution: Sikkim.

Allamanda L.

Allamanda cathartica L., Mant. Pl. 2: 241. 1771.

Distribution: Arunachal Pradesh, Sikkim, Uttarakhand, West Bengal (Darjeeling); 400–500 m.

Alstonia Scop.

Alstonia nerifolia D.Don, Prodr. Fl. Nep. 131. 1825.

Distribution: Arunachal Pradesh, Sikkim, West Bengal (Darjeeling); 900–1300 m.

Alstonia rostrata C.E.C.Fisch., Bull. Misc. Inform. Kew 1929: 315. 1929.

Distribution: Uttarakhand

Alstonia scholaris (L.) R.Br., Asclepiadeae 75. 1810. *Echites scholaris* L.

Distribution: Arunachal Pradesh, Uttarakhand; 100–1000 m.

Alyxia Banks ex R.Br.

Alyxia gracilis (Wall. ex A.DC.) Hook.f., Fl. Brit. India 3: 634. 1882. *Hunteria gracilis* Wall. ex A.DC.

Distribution: Sikkim, West Bengal (Darjeeling); 300–600 m.

Anodendron A.DC.

Anodendron paniculatum A.DC., Prodr. 8: 444. 1844.

Distribution: Arunachal Pradesh; upto 600 m.

Apocynum L.

Apocynum venetum L., Sp. Pl. 213. 1753.

Distribution: Jammu & Kashmir.

Beaumontia Wall.

Beaumontia grandiflora Wall., Tent. Fl. Nepal. 15, t. 7. 1824.

Distribution: Arunachal Pradesh, Sikkim, Uttarakhand, West Bengal (Darjeeling); 1200 m. **(Plate 8b)**

Carissa L.

Carissa carandas L., Mant. Pl. 1: 52. 1767.

Distribution: Himachal Pradesh, Uttarakhand.

Carissa spinarum L., Mant. Pl. 2: 559. 1771.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand, West Bengal (Darjeeling); 100–600 m.

Cascabela Raf.

Cascabela thevetia (L.) Lippold, Feddes Repert. 91: 52. 1980. *Cerbera thevetia* L.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand, West Bengal (Darjeeling).

Catharanthus G. Don

Catharanthus pusillus (Murray) G. Don, Gen. Hist. 4: 95. 1837. *Vinca pusilla* Murray

Distribution: Himachal Pradesh, Uttarakhand.

Catharanthus roseus (L.) G. Don, Gen. Syst. 4: 95. 1837. *Vinca rosea* L.

Distribution: Arunachal Pradesh, Jammu & Kashmir, Uttarakhand, West Bengal (Darjeeling).

Cerbera L.

Cerbera manghas L., Sp. Pl. 208. 1753.

Distribution: West Bengal (Darjeeling).

Chonemorpha G. Don

Chonemorpha fragrans (Moon) Alston, Ann. Roy. Bot. Gard. Perad. 11:203. 1929; *Echites fragrans* Moon

Distribution: Arunachal Pradesh, Sikkim, Uttarakhand; up to 1300 m.

Chonemorpha verrucosa (Blume) Mabb, Novon 3: 455. 1993. *Tabernaemontana verrucosa* Blume

Distribution: Uttarakhand; 300–500 m.

Epigynum Wight

Epigynum cochinchinensis (Pierre) Mabb., Kew Bull. 49: 304 1994. *Nouettea cochinchinensis* Pierre

Distribution: Uttarakhand.

Gongronema (Endl.) Decne.

Gongronema nepalense (Wall.) Decne., Prodr. 8: 624. 1844. *Gymnema nepalense* Wall.

Distribution: Uttarakhand.

Holarrhena R. Br.

Holarrhena pubescens Wall. ex G. Don, Gen. Syst. 4: 78. 1837.

Distribution: Arunachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand, West Bengal (Darjeeling); 1500 m. (Plate 9a)

Ichnocarpus R. Br.

Ichnocarpus frutescens (L.) W.T.Aiton, Hortus Kew. 2: 69. 1811. *Apocynum frutescens* L.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 300–1200 m.

Kibatalia G. Don

Kibatalia macrophylla (Pierre ex Hua) Woodson, Philipp. J. Sci. 60: 214 1936. *Paravallaris macrophylla* Pierre ex Hua

Distribution: Uttarakhand.

Kopsia Dumort.

Kopsia fruticosa A.DC., Prodr. 8: 352. 1844. *Cerbera fruticosa* Roxb.

Distribution: Arunachal Pradesh.

Melodinus J.R.Forst. & G.Forst.

Melodinus cochinchinensis (Lour.) Merr., Trans. Amer. Philos. Soc. n.s., 24: 310. 1935. *Oncinus cochinchinensis* Lour.

Distribution: Arunachal Pradesh, Sikkim; upto 1400 m.

Micrechites Miq.

Micrechites polyanthus (Blume) Miq., Fl. Ned. Ind. 2: 457. 1857. *Tabernaemontana polyantha* Blume

Distribution: Sikkim.

Nerium L.

Nerium oleander L., Sp. Pl. 209. 1753.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Uttarakhand; 2000 m.

Parameria Benth.

Parameria polyneura Hook.f., Fl. Brit. India 3: 660. 1882.

Distribution: Arunachal Pradesh.

Parsonsia P. Browne

Parsonsia alboflavescens (Dennst.) Mabb., Taxon 26: 532. 1977. *Periploca alboflavescens* Dennst.

Distribution: Arunachal Pradesh; up to 900 m.

Pentasachme Wall. ex Wight

Pentasachme wallichii Wight, Contr. Bot. India 60. 1834.

Distribution: Uttarakhand.

Plumeria L.

Plumeria rubra L., Sp. Pl. 209. 1753.

Distribution: Arunachal Pradesh, Uttarakhand, West Bengal (Darjeeling); upto 1200 m.

Pottsia Hook. & Arn.

Pottsia laxiflora (Blume) Kuntze, Revis. Gen. Pl. 2: 416. 1891. *Vallaris laxiflora* Blume

Distribution: Arunachal Pradesh; upto 1500 m.

Rauvolfia L.

Rauvolfia serpentina (L.) Benth. ex Kurz, Forest Fl. Burma 2: 171. 1877. *Ophioxylon serpentinum* L.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand, West Bengal (Darjeeling); 500 m. **(Plate 9b)**

Rauvolfia tetraphylla L., Sp. Pl. 208. 1753.

Distribution: Uttarakhand; 750 m.

Rauvolfia verticillata (Lour.) Baill., Hist. Pl. 13: 170. 1895. *Dissolaena verticillata* Lour.

Distribution: Arunachal Pradesh, West Bengal (Darjeeling).

Strophanthus DC.

Strophanthus wallichii A.DC., Prodr. 8: 418. 1844.

Distribution: Arunachal Pradesh.

Tabernaemontana L.

Tabernaemontana corymbosa Roxb. ex Wall., Edwards's Bot. Reg. 15: t. 1273. 1829.

Distribution: Uttarakhand.

Tabernaemontana divaricata (L.) R.Br. ex Roem. & Schult., Syst. Veg. 4: 427. 1819. *Nerium divaricatum* L.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Uttarakhand, West Bengal (Darjeeling); 100–1400 m.

Trachelospermum Lem.

Trachelospermum axillare Hook.f., Fl. Brit. India 3: 668. 1882.

Distribution: Arunachal Pradesh, Sikkim, Uttarakhand; 1200–1800 m.

Trachelospermum lucidum (D.Don) K.Schum., Nat. Pflanzenfam. 4(2): 173. 1895. *Alstonia lucida* D.Don

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 1600 m.

Vallaris Raf.

Vallaris solanacea (Roth) Kuntze, Revis. Gen. Pl. 2: 417. 1891. *Peltanthera solanacea* Roth

Distribution: Arunachal Pradesh, Jammu & Kashmir, Himachal Pradesh, Sikkim, Uttarakhand, West Bengal (Darjeeling); 1500 m.

Vinca L.

Vinca major L., Sp. Pl. 209. 1753.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand.

Urceola Vand.

Urceola micrantha (Wall. ex G.Don) Mabb., Novon 4: 151. 1994. *Echites micranthus* Wall. ex G.Don

Distribution: Arunachal Pradesh, Sikkim; 900–1500 m.

Wrightia R.Br.

Wrightia arborea (Dennst.) Mabb., Taxon 26: 533.1977. *Periploca arborea* Dennst.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; upto 600 m.

Wrightia coccinea (Roxb. ex Hornem.) Sims, Bot. Mag. 53: t. 2696. 1826. *Nerium coccineum* Roxb. ex Hornem.

Distribution: Arunachal Pradesh, Sikkim, West Bengal (Darjeeling); upto 700 m.

Wrightia sikkimensis Gamble, Bull. Misc. Inform. Kew 1908: 447. 1908.

Distribution: Sikkim, West Bengal (Darjeeling); 450–1200 m.

Wrightia tinctoria R.Br., Asclepiadeae 59. 1810.

Distribution: Uttarakhand.

AQUIFOLIACEAE

(2 genera; 15 taxa)

Cardiopteris Wall. ex Royle

Cardiopteris quinqueloba Hassk., Retzia 1(10): 64. 1855.

Distribution: Arunachal Pradesh; 500–700 m.

Ilex L.

Ilex dipyrena Wall., Roxb., Fl. Ind. 1. 473. 1820.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 1000–1500 m.

Ilex excelsa (Wall.) Voigt, Hort. Suburb. Calcutt. 347. 1845. *Cassina excelsa* Wall.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 2500–3000 m.

Ilex excelsa (Wall.) Voigt var. **hypotricha** (Loes.) S.Y. Hu, J. Arnold Arbor. 30(3): 308. 1949. *I. hypotricha* Loes.

Distribution: Arunachal Pradesh, Sikkim, Uttarakhand; 1000–1500 m.

Ilex fragilis Hook.f., Fl. Brit. India 1: 602. 1875.

Distribution: Arunachal Pradesh, Sikkim, Uttarakhand.

Ilex godajam Colebr. ex Hook.f., Fl. Brit. India 1: 604. 1875.

Distribution: Sikkim.

Ilex hookeri King, J. Asiat. Soc. Bengal 55(2): 266, t. 14. 1887.

Distribution: Sikkim.

Ilex insignis Hook.f., Fl. Brit. India 1: 599. 1875.

Distribution: Arunachal Pradesh, Sikkim; 600–1500 m.

Ilex intricata Hook.f., Fl. Brit. India 1: 602. 1875.

Distribution: Sikkim.

Ilex odorata Buch.-Ham. ex D.Don, Prodr. Fl. Nep. 189. 1825.

Distribution: Arunachal Pradesh, Himachal Pradesh, Sikkim, Uttarakhand; 800–1200 m.

Ilex pseudo-odorata Loes., Nova Acta Acad. Caes. Leop.–Carol. German. Nat. Cur. 78: 285. 1901.

Distribution: Arunachal Pradesh, Himachal Pradesh, Uttarakhand.

Ilex sikkimensis Kurz, J. Astat. Soc. Bengal 44: 202. 1875.

Distribution: Arunachal Pradesh, Sikkim; 1500–2000 m.

Ilex triflora Blume, Bijdr. 1150. 1827.

Distribution: Arunachal Pradesh; 800–1200 m.

Ilex umbellulata (Wall.) Loes., Nova Acta Acad. Caes. Leop.–Carol. German. Nat. Cur. 78: 100. 1901. *Ehretia umbellulata* Wall.

Distribution: Arunachal Pradesh; 2000–2500 m.

Ilex venulosa Hook.f., Fl. Brit. India 1: 602. 1875.

Distribution: Arunachal Pradesh; 1500–2000 m.

ARALIACEAE
(12 genera; 45 taxa)

Aralia L.

Aralia apioides Hand.-Mazz., Symb. Sin. 7: 701. 1933.

Distribution: Sikkim.

(Plate 10a)

Aralia armata Seem., J. Bot. 6: 134. 1868.

Distribution: Arunachal Pradesh.

Aralia cachemirica Decne., Voy. Inde 4: 72. 1841.

Distribution: Arunachal Pradesh, Himachal Pradesh, Sikkim, Uttarakhand; 900–2000 m.

Aralia devendrae Pusalkar, Taiwania 54(3): 226. 2009.

Distribution: Jammu & Kashmir.

Aralia foliolosa Seem. ex C.B. Clarke, Fl. Brit. India 2: 723. 1879.

Distribution: Arunachal Pradesh; 300–1000 m.

Aralia gigantea J.Wen, Brittonia 45: 53. 1993.

Distribution: Arunachal Pradesh, Sikkim; 800–1500 m.

Aralia leschenaultii (DC.) J.Wen, Brittonia 45: 53. 1993. *Panax leschenaultii* DC.

Distribution: Arunachal Pradesh, Sikkim, Uttarakhand, West Bengal (Darjeeling); 500–3650 m.

Aralia montana Blume, Bijdr. 870. 1826.

Distribution: Arunachal Pradesh, Sikkim; 600–1200 m.

Aralia parasitica (D.Don) J.Wen, Brittonia 45: 53. 1993. *Hedera parasitica* D.Don

Distribution: Arunachal Pradesh, Himachal Pradesh, Uttarakhand; 500–1500 m.

Aralia tibetana G.Hoo, Acta Phytotax. Sin., Addit. 1: 175. 1965.

Distribution: Sikkim.

Aralia thomsonii Seem. ex C.B.Clarke, J. Bot. 6: 134. 1868.

Distribution: Arunachal Pradesh.

Aucuba Thunb.

Aucuba himalaica Hook.f. & Thomson, Ill. Himal. Pl. t. 12 1855.

Distribution: Arunachal Pradesh, Sikkim, West Bengal (Darjeeling); 1400–2750 m.

Brassaiopsis Decne. & Planch.

Brassaiopsis aculeata (Buch.-Ham. ex D.Don) Seem., J. Bot. 2: 293. 1864. *Hedera aculeata* Buch.-Ham. ex D.Don

Distribution: Arunachal Pradesh, Uttarakhand; 1500–2000 m.

Brassaiopsis glomerulata (Blume) Regel, Gartenflora 12: 275, t. 411. 1863. *Aralia glomerulata* Blume

Distribution: Arunachal Pradesh, Sikkim; 200–1600 m.

Brassaiopsis griffithii C.B.Clarke, Fl. Brit. India 2: 736. 1879.

Distribution: Arunachal Pradesh.

(Plate 11a)

Brassaiopsis hainla (Buch.-Ham. ex D.Don) Seem., J. Bot. 2: 291. 1864.

Distribution: Arunachal Pradesh, Sikkim; 1300 m.

(Plate 11b)

Brassaiopsis hispida Seem., J. Bot. 2: 292. 1864. *Pseudobrassaiopsis hispida* (Seem.) R.N. Banerjee

Distribution: Arunachal Pradesh, Sikkim, 300–500 m.

Brassaiopsis hookeri C.B.Clarke, Fl. Brit. India 2: 737. 1879.

Distribution: Sikkim; 600–1500 m.

Brassaiopsis magnifica Dunn, Bull. Misc. Inform. Kew 1920: 132. 1920.

Distribution: Arunachal Pradesh; 200–1000 m.

Brassaiopsis mitis C.B.Clarke, Fl. Brit. India 2: 736. 1879.

Distribution: Sikkim.

Brassaiopsis simplicifolia C.B.Clarke, Fl. Brit. India 2: 735. 1879.

Distribution: Arunachal Pradesh; 1000–1500 m.

Eleutherococcus Maxim.

Eleutherococcus cissifolius (Griff. ex C.B.Clarke) Nakai, Chosen-shokubutsu 1: 420. 1914. *Aralia cissifolia* Griff. ex C.B.Clarke.

Distribution: Sikkim, Uttarakhand; 2285–3650 m.

Eleutherococcus trifoliatus (L.) S.Y.Hu, J. Arnold Arbor. 61: 110. 1980.
Zanthoxylum trifoliatum L.

Distribution: Arunachal Pradesh; 1000–1200 m.

Gamblea C.B.Clarke

Gamblea ciliata C.B.Clarke, Fl. Brit. India 2: 240. 1879.

Distribution: Arunachal Pradesh, Sikkim; 3000–3500 m.

Hedera L.

Hedera nepalensis K.Koch., Dendrol. 284, t: 75. 1853.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 1500–3000 m.

Heteropanax Seem.

Heteropanax dhruvii R.C.Srivast., Bull. Arunachal Forest Res. 25(1–2): 7. 2010.

Distribution: Arunachal Pradesh.

Heteropanax fragrans (Roxb.) Seem., Fl. Vit. 114. 1866. *Panax fragrans* Roxb.

Distribution: Arunachal Pradesh, Sikkim, Uttarakhand; 450–1200 m.

Macropanax Miq.

Macropanax dispermus (Blume) Kuntze, Rev. Gen. Pl. 1: 271. 1891. *Aralia disperma* Blume

Distribution: Arunachal Pradesh, Sikkim, Uttarakhand, West Bengal (Darjeeling); 1500–2000 m.

Macropanax undulatus (Wall. ex G.Don) Seem., J. Bot. 2: 294. 1864. *Hedera undulata* Wall. ex G.Don

Distribution: Arunachal Pradesh, Sikkim; 400–1500 m.

Merrillioanax H.L.Li

Merrillioanax alpinus (C.B.Clarke) C.B.Shang, Bull. Mus. Natl. Hist. Nat., B, Adansonia 5: 293. 1983. *Brassaiopsis alpina* C.B.Clarke

Distribution: Arunachal Pradesh, Sikkim.

Merrillioanax listeri (King) H.L.Li, Sargentia 2: 63, f. 10. 1942. *Dendropanax listeri* King

Distribution: Arunachal Pradesh.

Panax L.

Panax bipinnatifidus Seem., J. Bot. 6:54. 1868 .

Distribution: Arunachal Pradesh, Sikkim; 2500–3500 m

Panax bipinnatifidus Seem. var. **angustifolius** (Burkill) J.Wen, Utiliz. Biotechnol. Genet. Cult. Approaches N.Amer. & Asian Ginseng Improv. 73. 2001. *Aralia quinquefolia* var. *angustifolia* Burkill

Distribution: Sikkim; 1500–2000 m.

Panax pseudoginseng Wall., Trans. Med. Soc. Calcutta 4: 117. 1829.

Distribution: Arunachal Pradesh, Sikkim, Uttarakhand; 1500–2000 m. (Plate 10b)

Panax sokpayensis Shiva K.Sharma & Pandit, Syst. Bot. 34(2): 434. 2009.

Distribution: Sikkim; 2230 m.

Schefflera J.R.Forst. & G.Forst.

Schefflera clarkeana Craib, Fl. Siam. 1: 797. 1931.

Distribution: Arunachal Pradesh; 800–200 m.

Schefflera elata (Buch.-Ham.) Harms, Nat. Pflanzenfam. 3(8): 38. 1894. *Hedera elata* Buch.-Ham.

Distribution: Sikkim, Uttarakhand, West Bengal (Darjeeling); 300–1600 m.

Schefflera elliptica (Blume) Harms, Nat. Pflanzenfam. 3(8): 39. 1894. *Sciadaphyllum ellipticum* Blume

Distribution: Uttarakhand.

Schefflera leucantha R.Vig., Ann. Sci. Nat., Bot. IX, 9: 358. 1909.

Distribution: Sikkim, West Bengal (Darjeeling); 300–1600 m.

Schefflera pubigera (Brongn. ex Planch.) Frodin, World Checkl. & Bibliogr. Araliaceae 368. 2004. *Paratropia pubigera* Brongn. ex Planch.

Distribution: Sikkim, West Bengal (Darjeeling); 300–1600 m.

Schefflera pueckleri (K.Koch) Frodin, Baileya 23: 10. 1989. *Tupidanthus pueckleri* K.Koch

Distribution: Arunachal Pradesh.

(Plate 10c)

Schefflera rhododendrifolia (Griff.) Frodin, World Checklist Bibliogr. Araliaceae 371. 2003. *Panax rhododendrifolius* Griff.

Distribution: Arunachal Pradesh, Sikkim, Uttarakhand; 1800–4000 m.

Schefflera venulosa (Wight & Arn.) Harms, Nat. Pflanzenfam. 3(8): 39. 1894. *Paratropia venulosa* Wight & Arn.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 500–1500 m.

Schefflera wallichiana Harms, Nat. Pflanzenfam. 3(8): 38. 1894.

Distribution: Arunachal Pradesh; 1500–2000 m.

Trevesia Vis.

Trevesia palmata (Roxb. ex Lindl.) Vis., Mem. Reale Accad. Sci. Torino II, 4: 262. 1842. *Gastonia palmata* Roxb. ex Lindl.

Distribution: Arunachal Pradesh, Sikkim; 500–1000 m.

ARISTOLOCHIACEAE

(2 genera; 12 taxa)

Aristolochia L.

Aristolochia bracteolata Lam., Encycl. 1: 258. 1783.

Distribution: Uttarakhand.

Aristolochia dilatata N.E.Br., Bull. Misc. Inform. Kew 1911: 274. 1911.

Distribution: Uttarakhand.

Aristolochia gourigangaica N.C.Nair, Bull. Bot. Surv. India 10: 332. 1969.

Distribution: Uttarakhand.

Aristolochia griffithii Hook.f. & Thomson ex Duch. Prodr. 15: 437. 1864.

Distribution: Arunachal Pradesh, Sikkim; 1100–3000 m.

Aristolochia indica L., Sp. Pl. 960. 1753.

Distribution: Arunachal Pradesh, Jammu & Kashmir; 200–1200 m.

Aristolochia littoralis Parodi, Anales Soc. Ci. Argent. 5: 155. 1878.

Distribution: Jammu & Kashmir, Uttarakhand.

Aristolochia nakaoui Maek., Acta Phytotax. Geobot. 15: 173. 1954.

Distribution: Sikkim; 2000–2700 m.

Aristolochia platanifolia (Klotzsch) Duch., Prodr. 15(1): 437. 1864. *Siphisia platanifolia* Klotzsch

Distribution: Arunachal Pradesh, Sikkim; 1500–1700 m.

Aristolochia punjabensis Lace, Bull. Misc. Inform. Kew 1911: 273. 1911.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand.

Aristolochia saccata Wall., Pl. Asiat. Rar. 2: 2. 1830. *A. cathcartii* Hook.f.

Distribution: Arunachal Pradesh, Sikkim; 500–2000 m. **(Plate 12a)**

Aristolochia tagala Cham., Linnaea 7: 207. 1832.

Distribution: Arunachal Pradesh, Sikkim; 300–1200 m.

Asarum L.

Asarum himalaicum Hook.f. & Thomson ex Klotzsch, Monatsber. Königl. Preuss. Akad. Wiss. Berlin 1859: 585. 1859.

Distribution: Arunachal Pradesh, Sikkim; 2700–3500 m.

ASCLEPIADACEAE

(37 genera; 98 taxa)

Asclepias L.

Asclepias curassavica L., Sp. Pl. 215. 1753.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Uttarakhand; 100–1500 m.

Belostemma Wall. ex Wight

Belostemma hirsutum Wall. ex Wight, Contr. Bot. India 52. 1834.

Distribution: Arunachal Pradesh, Sikkim, West Bengal (Darjeeling); 300–900 m.

Calotropis R.Br.

Calotropis acia Buch.–Ham., Trans. Linn. Soc. London 14: 247. 1825.

Distribution: Sikkim, Uttarakhand, West Bengal (Darjeeling); 100–900 m.

Calotropis gigantea (L.) Dryand., Aiton, Hort. Kew. ed. 2, 2: 78. 1811. *Asclepias gigantea* L.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand, West Bengal (Darjeeling); 1000 m. **(Plate 12c)**

Calotropis procera W.T.Aiton., Hortus Kew. 2: 78. 1811.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand.

Calotropis procera W.T.Aiton. subsp. **hamiltonii** (Wight) Ali, Notes Roy. Bot. Gard. Edinburgh 38: 289. 1980. *C. hamiltonii* Wight

Distribution: Arunachal Pradesh, Himachal Pradesh, Uttarakhand, West Bengal (Darjeeling); 900 m.

Caralluma R.Br.

Caralluma aucheriana (Decne.) N.E.Br., Gard. Chron. III, 12: 369. 1892. *Boucerosia aucheriana* Decne.

Distribution: Jammu & Kashmir.

Carissa L.

Carissa spinarum L., Mant. Pl. 2: 559. 1771.

Distribution: Uttarakhand.

Ceropegia L.

Ceropegia attenuata Hook., Hooker's Icon. Pl. 9: t. 867. 1851.

Distribution: Arunachal Pradesh.

Ceropegia bulbosa Roxb., Pl. Coromandel 1: 11. 1795.

Distribution: Uttarakhand.

Ceropegia hookeri C.B.Clarke ex Hook.f., Fl. Brit. India 4: 73. 1883.

Distribution: Sikkim; 2400–3400 m.

Ceropegia longifolia Wall., Pl. As. Rar. 1: 56, t. 73. 1830.

Distribution: Arunachal Pradesh, Himachal Pradesh, Sikkim, Uttarakhand, West Bengal (Darjeeling); 1200–2000 m. **(Plate 12b)**

Ceropegia lucida Wall., Pl. Asiat. Rar. 2: 33. 1831.

Distribution: Sikkim.

Ceropegia macrantha Wight, Contr. Bot. India 31. 1834.

Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand, West Bengal (Darjeeling); 300–2300 m.

Ceropegia pubescens Wall., Pl. Asiat. Rar. 2: 81. 1831.

Distribution: Sikkim, West Bengal (Darjeeling); 600–2400 m.

Ceropegia wallichii Wight, Contr. Bot. India 32. 1834.

Distribution: Himachal Pradesh, Uttarakhand; 1750 m.

Cryptolepis R.Br.

Cryptolepis dubia M.R.Almeida, Fl. Maharashtra 3A: 221. 2001.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand, West Bengal (Darjeeling); 1200 m.

Cryptolepis sinensis (Lour.) Merr., Philipp. J. Sci. Bot. 15: 254. 1919. *Pergularia sinensis* Lour.

Distribution: Arunachal Pradesh, Sikkim, West Bengal (Darjeeling); 1500 m.

Cryptostegia R.Br.

Cryptostegia grandiflora Roxb. ex R.Br., Bot. Reg. 5: t. 435. 1819.

Distribution: Sikkim.

Cynanchum L.

Cynanchum acutum L., Sp. Pl. 212. 1753.

Distribution: Jammu & Kashmir, West Bengal (Darjeeling).

Cynanchum auriculatum Royle ex Wight, Contr. Bot. India 58. 1834.

Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 900–2750 m. **(Plate 13a&b)**

Cynanchum corymbosum Wight, Contr. Bot. India 56. 1834.

Distribution: Arunachal Pradesh, Sikkim, West Bengal (Darjeeling); 100–1500 m.

Cynanchum dalhousiae Wight, Contr. Bot. India 55. 1834.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand.

Cynanchum jacquemontianum Decne., Voy. Inde 4: 106. 1841.

Distribution: Jammu & Kashmir, Uttarakhand.

Cynanchum roylei Wight, Contr. Bot. India 58. 1834.

Distribution: Himachal Pradesh.

Cynanchum triangulare M.G.Gilbert, W.D.Stevens & P.T.Li, Novon 5: 9. 1995.

Distribution: Arunachal Pradesh.

Cynanchum wallichii Wight, Contr. Bot. India 56. 1834.

Distribution: Arunachal Pradesh.

Dischidia R.Br.

Dischidia bengalensis Colebr., Trans. Linn. Soc. London 12: 357, t. 15. 1822.

Distribution: Arunachal Pradesh, Sikkim, West Bengal (Darjeeling); 300–1100 m.

Dischidia nummularia R.Br., Prodr. 461. 1810.

Distribution: Arunachal Pradesh, West Bengal (Darjeeling); 900 m.

Dittoceras Hook.f.

Dittoceras andersonii Hook.f., Hooker's Icon. Pl. 15: t. 1422. 1883.

Distribution: Sikkim, West Bengal (Darjeeling); 600–1500 m.

Dregea Eckl. & Zeyh.

Dregea volubilis (L.f.) Benth. ex Hook.f., Fl. Brit. India 4: 46. 1883. *Asclepias volubilis* L.f.

Distribution: Arunachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 1000 m.

Genianthus Hook.f.

Genianthus crassifolius (Wight) Hook.f., Fl. Brit. India 4: 16. 1883. *Toxocarpus crassifolius* Wight

Distribution: Sikkim.

Genianthus laurifolius (Roxb.) Hook.f., Fl. Brit. India 4: 16. 1883. *Asclepias laurifolius* Roxb.

Distribution: Arunachal Pradesh, Sikkim, West Bengal (Darjeeling); 1500–1850 m.

Gomphocarpus R.Br.

Gomphocarpus physocarpus E.Mey., Comm. Pl. Afr. Austr. 202. 1838.

Distribution: Uttarakhand.

Gongronema (Endl.) Decne.

Gongronema nepalense Decne., DC., Prodr. 8: 624. 1844.

Distribution: Arunachal Pradesh, Sikkim, Uttarakhand, West Bengal (Darjeeling); 300–1200 m.

Gongronema thomsonii (Hook.f.) K.M.Mathew, Kew Bull. 34: 68. 1979. *Gymnema thomsonii* Hook.f.

Distribution: Sikkim, West Bengal (Darjeeling); 1600–2200 m.

Goniostemma acuminata Wight, Contr. Bot. India 62. 1834.

Distribution: Uttarakhand; 2000 m.

Gymnema R.Br.

Gymnema inodorum (Lour.) Decne., Prodr. 8: 551. 1844. *Cynanchum inodorum* Lour.

Distribution: Uttarakhand; 1300 m.

Gymnema latifolium Wall. ex Wight, Contr. Bot. India 45. 1834.

Distribution: Arunachal Pradesh.

Gymnema macranthum Hook.f., Hooker's Icon. Pl. 15: t. 1436. 1883.

Distribution: Sikkim, West Bengal (Darjeeling); 600–1800 m.

Gymnema montanum Hook.f., Fl. Brit. India 4: 31. 1883.

Distribution: Sikkim, Uttarakhand, West Bengal (Darjeeling).

Gymnema sylvestre (Retz.) R.Br. ex Sm., Cycl. 17(1): no. 4. 1811. *Periploca sylvestris* Retz.

Distribution: Uttarakhand; upto 1000 m.

Gymnema tingens (Roxb.) Spreng. Syst. Veg. 1: 844. 1824. *Asclepias tingens* Roxb.

Distribution: Sikkim, Uttarakhand, West Bengal (Darjeeling); upto 1500 m.

Hemidesmus R.Br.

Hemidesmus indicus (L.) R.Br. ex Schult., Syst. Veg. 6: 126. 1820. *Periploca indica* L.

Distribution: Sikkim, Uttarakhand, West Bengal (Darjeeling)

Heterostemma Wight & Arn.

Heterostemma alatum Wight & Arn., Contr. Bot. India 42. 1834.

Distribution: Arunachal Pradesh, Himachal Pradesh, Sikkim, Uttarakhand, West Bengal (Darjeeling); 1000–2000 m.

Holostemma R.Br.

Holostemma ada-kodien Schult., Sys. Veg. 6 : 95. 1820.

Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand, West Bengal (Darjeeling); 100–1400 m.

Hoya R.Br.

Hoya acuminata (Wight) Benth. ex Hook.f., Fl. Brit. India 4(10): 53. 1883. *Pterostelma acuminata* Wight

Distribution: Sikkim, West Bengal (Darjeeling); 1600 m.

Hoya arnottiana Wight, Contr. Bot. India 37. 1834.

Distribution: Arunachal Pradesh, Sikkim, West Bengal (Darjeeling); 1600 m.

Hoya edeni King ex Hook.f., Fl. Brit. India 4: 53. 1883.

Distribution: Arunachal Pradesh, Sikkim, West Bengal (Darjeeling); 900–1800 m.

Hoya fusca Wall., Pl. As. Rar. 1: 68, t. 75. 1830.

Distribution: Arunachal Pradesh, Sikkim, West Bengal (Darjeeling); 300–1900 m.

Hoya globulosa Hook.f., Gard. Chron. 2: 732, t. 115. 1882.

Distribution: Arunachal Pradesh, Jammu & Kashmir, Sikkim, West Bengal (Darjeeling); 300–900 m.

Hoya lanceolata Wall. ex D. Don, Prodr. Fl. Nep. 130. 1825.

Distribution: Arunachal Pradesh, Sikkim, Uttarakhand, West Bengal (Darjeeling); 900–1200 m. **(Plate 14a)**

Hoya linearis Wall. ex D. Don, Prodr. Fl. Nep. 130. 1825.

Distribution: Arunachal Pradesh, Himachal Pradesh, Sikkim, West Bengal (Darjeeling); 900–1800 m.

Hoya linearis var. **sikkimensis** Hook.f., Fl. British India 4(10): 53. 1883.

Distribution: Sikkim.

Hoya lobbii Hook.f., Fl. Brit. India 4: 54. 1883.

Distribution: Arunachal Pradesh.

Hoya longifolia Wall. ex Wight, Contr. Bot. India 36. 1834.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand, West Bengal (Darjeeling); 800–2400 m.

Hoya obcordata Hook.f., Fl. Brit. India 4: 56. 1883.

Distribution: Sikkim, West Bengal (Darjeeling); 1200–1700 m.

Hoya parasitica Wall. ex Traill, Trans. Hort. Soc. London 7: 23. 1830.

Distribution: Arunachal Pradesh; upto 600 m.

Hoya pauciflora Wight, Icon. Pl. Ind. Orient. 4: t. 1356. 1848.

Distribution: Arunachal Pradesh, Uttarakhand; 900–1500 m.

Hoya polyneura Hook.f., Fl. Brit. India 4: 54. 1883.

Distribution: Arunachal Pradesh, Sikkim, West Bengal (Darjeeling); 900–1500 m.

Hoya serpens Hook.f., Fl. Brit. India 4: 55. 1883.

Distribution: Sikkim, West Bengal (Darjeeling); 1400–1700 m.

Hoya teretifolia Griff ex Hook.f., Fl. Brit. India 4: 54. 1883.

Distribution: Arunachal Pradesh.

Hoya vaccinioides Hook.f., Fl. Brit. India 4: 56. 1883.

Distribution: Arunachal Pradesh.

Hoya verticillata (Vahl) G.Don, Gen. Hist. 4: 128. 1837. *Sperlingia verticillata*
Vahl

Distribution: Arunachal Pradesh.

Leptadenia R.Br.

Leptadenia reticulata (Retz.) Wight & Arn., Contr. Bot. India 47. 1834. *Cynanchum reticulata* Retz.

Distribution: Sikkim, Uttarakhand.

Marsdenia R.Br.

Marsdenia lucida Edgew. ex Madden, J. Asiat. Soc. Bengal 17(1): 370. 1848.

Distribution: Himachal Pradesh, Sikkim, Uttarakhand.

Marsdenia roylei Wight, Contrib. Bot. Ind. 40. 1834.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand, West Bengal (Darjeeling); 2000 m.

(Plate 14b)

Marsdenia tenacissima (Roxb.) Moon, Cat. Pl. Ceylon 21. 1824. *Asclepias tenacissima* Roxb.

Distribution: Sikkim, Uttarakhand, West Bengal (Darjeeling); upto 1500 m.

Marsdenia tinctoria R.Br., Mem. Wern. Nat. Hist. Soc. 1: 28–30. 1810.

Distribution: Arunachal Pradesh, Sikkim, West Bengal (Darjeeling); 1200 m.

Orthanthera Wight

Orthanthera viminea Wight, Contr. Bot. India 48. 1834.

Distribution: Jammu & Kashmir, Uttarakhand; 800 m.

Oxystelma R.Br.

Oxystelma esculentum (L.f.) Sm., Cycl. 25: (unnumbered) 1813. *Periploca esculenta* L.

Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand, West Bengal (Darjeeling); 400 m.

Pentanura Blume

Pentanura khasiana Kurz, Forest Fl. Burma 2: 196. 1877.

Distribution: Arunachal Pradesh; 100–1000 m.

Pergularia L.

Pergularia calesiana (Wight) Buch.–Ham. ex D.Dietr., Syn. Pl. 2: 895. 1840. *Marsdenia calesiana* Wight

Distribution: Sikkim, Uttarakhand, West Bengal (Darjeeling); 750–900 m.

Pergularia daemia (Forssk.) Chiov., Result. Sci. Miss. Stefan.–Paoli Somal. Ital. 1: 115. 1916. *Asclepias daemia* Forssk.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand.

Pergularia exilis (Colebr.) Spreng., Syst. Veg. 1: 844. 1824. *Tylophora exilis* Colebr.

Distribution: Arunachal Pradesh, Sikkim, Uttarakhand, West Bengal (Darjeeling); 450–1800 m.

Pergularia hamiltonii (Wight) D.Dietr., Syn. Pl. 2: 894–5. 1840. *Marsdenia hamiltonii* Wight

Distribution: Jammu & Kashmir, Uttarakhand.

Periploca L.

Periploca aphylla Decne., Voy. Inde 4: 109. 1843.

Distribution: Jammu & Kashmir.

Periploca calophylla (Wight) Falc., Proc. Lin. Soc. 1: 115. 1841. *Streptocaulon calophyllum* Wight

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand, West Bengal (Darjeeling); 900–1500 m.

Periploca hydaspidis Falc., Proc. Linn. Soc. Lond. 1: 115. 1841.

Distribution: Himachal Pradesh, Jammu & Kashmir.

Raphistemma Wall.

Raphistemma pulchellum (Roxb.) Wall., Pl. Asiat. Rar. 2: 50–51, pl. 163. 1831. *Asclepias pulchellum* Roxb.

Distribution: Arunachal Pradesh, Sikkim, West Bengal (Darjeeling); upto 1000 m.

Sarcostemma R.Br.

Sarcostemma secamone (L.) Bennet, Indian For. 95: 692. 1969. *Periploca secamone* L.

Distribution: Arunachal Pradesh.

Stelmatocrypton K.Schum.

Stelmatocrypton khasianum (Kurz.) Baill., Bulletin Mensuel de la Société Linnéenne de Paris 2(102): 812. 1889. *Petanura khasianum* Kurz.

Distribution: Arunachal Pradesh.

Streptocaulon Wight & Arn.

Streptocaulon sylvestre Wight., Contributions to the Botany of India 65. 1834.

Distribution: Sikkim, West Bengal (Darjeeling); upto 1000 m.

Telosma Coville

Telosma cordata (Burm.f.) Merr., Philippine Journal of Science 19(3): 372–373. 1921. *Asclepias cordata* Burm.f.

Distribution: Jammu & Kashmir.

Telosma pallida (Roxb.) Craib, Bulletin of Miscellaneous Information, Royal Gardens, Kew 1911(10): 418. 1911. *Asclepias pallida* Roxb.

Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand, West Bengal (Darjeeling); 300–1200 m.

Toxocarpus Wight & Arn.

Toxocarpus himalensis Falc. ex Hook.f., Fl. Brit. India 4(10): 13–14. 1883.

Distribution: Arunachal Pradesh, Sikkim, Uttarakhand, West Bengal (Darjeeling); upto 900 m.

Tylophora govanii (Wight & Arn.) Decne., Prodr. 8: 610. 1844. *Iphisia govanii* Wight & Arn.

Distribution: Himachal Pradesh, Uttarakhand.

Tylophora himalaica Hook.f., Fl. Brit. India 4: 42. 1883.

Distribution: Arunachal Pradesh, Sikkim, Uttarakhand, West Bengal (Darjeeling); 200–1000 m.

Tylophora hirsuta Wight, Contr. Bot. India 49. 1834.

Distribution: Arunachal Pradesh, Himachal Pradesh, Sikkim, Uttarakhand; upto 1500 m.

Tylophora indica (Burm.f.) Merr., Philipp. J. Sci. 19: 373. 1921. *Cynanchum indicum* Burm.f.

Distribution: Uttarakhand; 1500–1800 m.

Tylophora tenerrima Wight, Contr. Bot. India 50. 1834.

Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 1200–2100 m.

Tylophora longifolia Wight, Contr. Bot. Ind. 50. 1834.

Distribution: Arunachal Pradesh, Sikkim; 1000–1500 m.

Vallaris Burm.f.

Vallaris solanacea (Roth) Kuntze, Revis. Gen. Pl. 2: 417. 1891. *Peltanthera solanacea* Roth

Distribution: Uttarakhand.

Vincetoxicum Wolf

Vincetoxicum arnottianum (Wight) Wight, Icon. Pl. Ind. Orient., pl. 1614. 1850.

Distribution: Himachal Pradesh, Jammu & Kashmir.

Vincetoxicum canescens (Willd.) Decne., Prodr. 8: 523. 1844. *Asclepias canescens* Willd.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand; 1800–3000 m.

Vincetoxicum deltoideum Kuntze, Revis. Gen. Pl. 2: 424. 1891

Distribution: Arunachal Pradesh.

Vincetoxicum hirundinaria Medik., Hist. & Commentat. Acad. Elect. Sci. Theod.–Palat. 4(Phys.): 404. 1790.

Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 2000–3500 m.

Vincetoxicum roylei Kuntze, Revis. Gen. Pl. 2: 425. 1891.

Distribution: Himachal Pradesh, Uttarakhand.

ASTERACEAE

(185 genera; 820 taxa)

Acanthospermum Schrank

Acanthospermum hispidum DC., Prodr. 5: 522. 1836.

Distribution: Arunachal Pradesh, Himachal Pradesh; 1500 m.

Achillea L.

Achillea alpina L., Sp. Pl. 899. 1753.

Distribution: Eastern Himalaya; 1200–1900 m.

Achillea millefolium L., Sp. Pl. 899. 1753.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand; 500–1500 m.

Acilepis D. Don

Acilepis attenuata (DC.) H. Rob. & Skvarla, Proc. Biol. Soc. Wash. 122(2): 137. 2009. *Vernonia attenuata* DC.

Distribution: Arunachal Pradesh, Sikkim; upto 1500 m.

Acilepis divergens (DC.) H. Rob. & Skvarla, Proc. Biol. Soc. Wash. 122(2): 140. 2009. *Decaneurum divergens* DC.

Distribution: Uttarakhand.

Acilepis saligna (DC.) H. Rob., Proc. Biol. Soc. Washington 112(1): 226. 1999. *Vernonia saligna* DC.

Distribution: Arunachal Pradesh, Sikkim; upto 1500 m.

Acilepis squarrosa D.Don, Prodr. Fl. Nepal. 169. 1825 .

Distribution: Sikkim, Uttarakhand.

Acmella Rich. ex Pers.

Acmella calva (DC.) R.K.Jansen, Syst. Bot. Monogr. 8: 41. 1985. *Spilanthes calva* DC.

Distribution: Uttarakhand.

Acmella oleracea (L.) R.K.Jansen, Syst. Bot. Monogr. 8: 65. 1985. *Spilanthes oleracea* L.

Distribution: Arunachal Pradesh, Uttarakhand.

Acmella paniculata (Wall. ex DC.) R.K.Jansen, Syst. Bot. Monogr. 8: 67. 1985. *Spilanthes paniculata* Wall. ex DC.

Distribution: Arunachal Pradesh, Sikkim, Uttarakhand; 1500 m.

Adenocaulon Hook.

Adenocaulon himalaicum Edgew., Trans. Linn. Soc. London 20(1): 64. 1846.

Distribution: Himachal Pradesh, Sikkim, Uttarkhand; 2400–3000 m.

Adenostemma macrophyllum (Blume) DC., Prodr. 5: 113. 1836. *Lavenia macrophylla* Blume

Distribution: Uttarakhand.

Adenocaulon nepalense Bittmann., Candollea 45(1): 403. 1990.

Distribution: Sikkim; 3050–3960 m.

Adenostemma J.R.Frost. & G.Frost

Adenostemma lavenia (L.) Kuntze, Rev. Gen. Pl. 1: 304. 1891. var. **lavenia**. *Verbesina lavenia* L.

Distribution: Arunachal Pradesh, Sikkim; 800–2500 m.

Adenostemma lavenia (L.) Kuntze var. **angustifolium** Uniyal, Fl. Ind. 12: 347. 1995.

Distribution: Sikkim; 1225–2400 m.

Adenostemma lavenia (L.) Kuntze var. **elatum** (D.Don) Hochr. Symb. Sin. 7(4): 1086. 1936. *A. elatum* D.Don

Distribution: Arunachal Pradesh, Sikkim; 500–1500 m.

Adenostemma lavenia (L.) Kuntze var. **latifolium** (D.Don) C.B.Clarke ex Kuntze, Revis. Gen. Pl. 1: 304. 1891. *A. latifolium* D.Don

Distribution: Sikkim, Western Himalaya; 1525 m.

Adenostemma lavenia (L.) Kuntze var. **madurense** Panigrahi, KewBull. 30(4): 654. 1975.

Distribution: Arunachal Pradesh; 500–1500 m.

Ageratina Spach

Ageratina adenophora (Spreng.) R.M.King & H.Rob., *Phytologia* 19: 211. 1970.
Eupatorium adenophorum Spreng.

Distribution: Sikkim, Uttarakhand; 1700 m.

Ageratina ligustrina (DC.) R.M. King & H. Rob., *Phytologia* 19(4): 223. 1970.
Eupatorium ligustrinum DC.

Distribution: Uttarakhand.

Ageratum L.

Ageratum conyzoides L., *Sp. Pl.* 839. 1753.

Distribution: Arunachal Pradesh, Himachal Pradesh, Sikkim, Uttarakhand; 500–1500 m.

Ageratum houstonianum Mill., *Gard. Diet. ed.* 8. no. 2. 1768.

Distribution: Arunachal Pradesh, Sikkim, Uttarakhand; 100–600 m.

Ageratum kouli anum Bhellum., *J. Econ. Taxon. Botany*; 39(3/4): 420–423. 2015.

Distribution: Jammu & Kashmir.

Ainsliaea DC.

Ainsliaea angustifolia Hook.f. & Thomson ex C.B.Clarke, *J. Linn. Soc.* 14: 412. 1875.

Distribution: Arunachal Pradesh; upto 6000 m.

Ainsliaea aptera DC., *Prodr.* 7: 14. 1838.

Distribution: Jammu & Kashmir, Arunachal Pradesh, Himachal Pradesh, Sikkim, Uttarakhand; 3000–3600 m.

Ainsliaea latifolia (D.Don) Sch.-Bip., *Jahresber. Pollichia* 18–19: 190. 1861. *Liatris latifolia* D.Don

Distribution: Himachal Pradesh, Sikkim, Uttarakhand; 800–4000 m.

Ajania Poljakov

Ajania fruticulosa (Ledeb.) Poljakov, *Bot. Mater. Gerb. Bot. Inst. Komarova Akad. Nauk S.S.S.R.* 17: 428. 1955. *Tanacetum fruticulosum* Ledeb.

Distribution: Jammu & Kashmir; 4000–5000 m.

Ajania gracilis (Hook.f. & Thomson) Poljakov, *Flora URSS* 26: 407. 1961.
Tanacetum gracile Hook.f. & Thomson

Distribution: Jammu & Kashmir, Uttarakhand.

Ajania khartensis (Dunn) C. Shih, *Acta Phytotax. Sin.* 17(2): 115. 1979. *Tanacetum khartense* Dunn

Distribution: Arunachal Pradesh; 3000–4500 m.

Ajania nubigena (Wall. ex DC.) C.Shih, *Acta Phytotax. Sin.* 17(2): 116. 1979.
Tanacetum nubigenum Wall. ex DC.

Distribution: Jammu & Kashmir, Sikkim; 3500–4700 m.

Ajania tenuifolia Tzvelev, *Flora URSS* 26: 411. 1961.

Distribution: Jammu & Kashmir, Uttarakhand.

Ajania tibetica (Hook.f. & Thomson) Tzvelev, Fl. URSS 26: 410. 1961. *Tanacetum tibeticum* Hook.f. & Thomson.

Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand.

Amberboa (Pers.) Less.

Amberboa ramosa (Roxb.) Jafri, Scientist (Karachi) 3: 29. 1959. *Carduus ramosus* Roxb.

Distribution: Arunachal Pradesh, Himachal Pradesh, Sikkim, Uttarakhand; 1000–3000 m.

Ambrosia artemisiifolia L., Sp. Pl. 988. 1753.

Distribution: Arunachal Pradesh; 2000–3000 m.

Anaphalis DC.

Anaphalis adnata Wall. ex DC., Prodr. 6: 274. 1838.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 1000–1500 m.

Anaphalis busua (Buch.-Ham. ex D. Don) DC., Prodr. 6: 275. 1838. *Gnaphalium busuim* Buch.-Ham. ex D. Don

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; upto 1250 m.

Anaphalis cavei Chatterjee, Bull. Bot. Soc. Bengal 3(1): 17. 1951.

Distribution: Sikkim; 5000–5300 m.

Anaphalis contorta (D. Don) Hook.f., Fl. Brit. India 3: 284. 1881. *Antennaria contorta* D. Don

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 1200–5000 m.

Anaphalis cuneifolia Hook.f., Fl. Brit. India 3: 280. 1881.

Distribution: Himachal Pradesh.

Anaphalis deserti J.R. Drum., Bull. Misc. Inform. Kew 1910(3): 76. 1910.

Distribution: Sikkim; 4500 m.

Anaphalis griffithii Hook.f., Fl. Brit. India 3: 280. 1881.

Distribution: Arunachal Pradesh, Sikkim; upto 2500 m.

Anaphalis himachalensis Aswal & Goel, Nord. J. Bot. 8(4): 337. 1988.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir; 1200–5000 m.

Anaphalis hookeri C.B. Clarke, Fl. Brit. India 3(8): 282. 1881.

Distribution: Sikkim; 3000–3670 m.

Anaphalis kashmiriana P.C. Pant, R.R. Rao & G. Arti, J. Jap. Bot. 69(5): 258. 1994.

Distribution: Jammu & Kashmir; 3330–3835 m.

Anaphalis margaritacea (L.) Benth. & Hook.f., Gen. Pl. 2: 303. 1873. *Gnaphalium margaritaceum* L.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; upto 2500 m.

Anaphalis nepalensis (Spreng.) Hand.-Mazz., Symb. Sin. 7: 1099, 1936. *Helichrysum nepalensis* Spreng.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; upto 5000 m.

Anaphalis nepalensis (Spreng.) Hand.-Mazz. var. **monocephala** (DC.) Hand.-Mazz., Acta Horti Gothoburgensis 12(9): 239. 1938. *A. monocephala* DC.

Distribution: Uttarakhand.

Anaphalis royleana DC., Prodr. 6: 272. 1838.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 4000–5000 m.

Anaphalis royleana DC. var. **cana** Hook. f., Fl. Brit. India 3: 280. 1881.

Distribution: Uttarakhand.

Anaphalis royleana DC. var. **concolor** Hook. f., Fl. Brit. India 3: 280. 1881.

Distribution: Uttarakhand.

Anaphalis staintonii Georgiadou, Candollea 33(1): 137. 1978.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir; 4000–5000 m.

Anaphalis subumbellata C.B. Clarke, Compos. Ind. 104. 1876.

Distribution: Sikkim; 3400–4000 m.

Anaphalis triplinervis (Sims) Sims ex C.B. Clarke Camp. Ind. 105. 1876. var. **triplinervis**. *Antennaria triplinervis* Sims.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 1500–3000 m.

(Plate 20b)

Anaphalis triplinervis (Sims.) Sims. var. **monocephala** (DC.) Airy. Shaw, Bot. Mag. 158: t. 9396. 1935. *A. mucronata* DC. var. *monocephala* DC.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand.

Anaphalis virgata Thomson, Compos. Ind. 107. 1876.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim; 2700–4400 m.

Anaphalis xylorhiza Sch.Bip. ex Hook.f., Fl. Brit India 3: 281. 1883.

Distribution: Sikkim, Uttarakhand; upto 4725 m.

Anthemis L.

Anthemis cotula L., Sp. Pl. 2: 894. 1753.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand; 3100 m.

Arctium L.

Arctium lappa L., Sp. Pl. 2: 816. 1753.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Uttarakhand.

Arnica L.

Arnica montana L., Sp. Pl. 2: 884. 1753.

Distribution: Jammu & Kashmir.

Artemisia L.

Artemisia absinthium L., Sp. Pl. 2: 848. 1753.

Distribution: Himachal Pradesh, Jammu & Kashmir; 3200 m.

Artemisia amygdalina Dence., Jacq. Voy. Ind. 92. t. 100. 1843.

Distribution: Western Himalaya; 2500–3000 m.

Artemisia annua L., Sp. Pl.: 847. 847. 1753.

Distribution: Jammu & Kashmir, Uttarakhand.

Artemisia austrohimalayana Y.R.Ling & Puri, Guihaia 8(1): 64. 1988.

Distribution: Himachal Pradesh, Uttarakhand.

Artemisia biennis Willd., Phytographia 11:39. 1794.

Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 3200 m.

Artemisia borealisiamensis Y.R.Ling & Humphries, Bull. Bot. Research, Harbin 12(1): 62. 1992.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand; 1500–3000 m.

Artemisia campbellii Hook.f. & Thomson ex C.B.Clarke, Compos. Ind. 164. 1876.

Distribution: Sikkim; 4200–5100 m.

Artemisia capillaris Thunb., Fl. Jap. 309. 1784.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand; 3200 m.

Artemisia carvifolia Buch.-Ham. ex Roxb., Fl. Ind. 3: 422.1832.

Distribution: Uttarakhand.

Artemisia desertorum Spreng., Syst. Veg. 3: 490. 1826.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand.

Artemisia desertorum Spreng. var. **foetida** (DC.) Ling & Y.R.Ling, Bull. Bot. Res., Harbin 8(4): 55. 1988. *Artemisia foetida* DC.

Distribution: Uttarakhand.

Artemisia dracunculus L. Sp. Pl. 849. 1753.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand.

Artemisia dubia Wall. & Bess., Tent. Abrot. 39. 1832.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand; 2500–4500 m.

Artemisia dubia Wall. & Bess. var. **subdigitata** (Mattf.) Y.R.Ling, Kew Bull. 42(2): 444. 1987. *A. subdigitata* Mattf.

Distribution: Arunachal Pradesh, Uttarakhand, Jammu & Kashmir, Sikkim, Himachal Pradesh; upto 2000 m

Artemisia elegantissima Pamp. var. **kumaonensis** Pamp., Nuovo Giron. Bot. Ital. n.s. 33: 455. 1926.

Distribution: Uttarakhand; 1500 m.

Artemisia filiformilobulata Y.R.Ling & Puri, Guihaia 5(1): 1. 1985.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand; 2600–3600 m.

Artemisia gmelinii Weber ex Stechm., Altrn. Lab. Anim. Res. (Artemis.): 30. 1775. var. **gmelinii**.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand. upto 3000 m.

Artemisia gmelinii Weber ex Stechm var. **vestita** B.D.Naithani, Fl. India 12: 24. 1995.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand; 2500–3500 m.

Artemisia hedinii Ostenf., S. Tibet, Bot. 6(3): 41, pl. 3, f. 1. 1922.

Distribution: Uttarakhand.

Artemisia incisa Pamp., Nuovo Giorn. Bot. Ital. n.s. 33: 456.

Distribution: Himachal Pradesh, Jammu & Kashmir; 1200–3000 m.

Artemisia incisa Pamp var. **kunawarensis** Pamp., Nuovo Giorn. Bot. Ital. n.s. 33: 456. 1926.

Distribution: Himachal Pradesh; 3000 m.

Artemisia indica Willd., Sp. Pl. 3: 1846. 1803.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; upto 2000 m.

Artemisia indica Willd. var. **elegantissima** (Pamp.) Y.R.Ling & Humphries, Bull. Bot. Res., Harbin 8(4): 29 1988. *A. elegantissima* Pamp.

Distribution: Arunachal Pradesh.

Artemisia japonica Thunb., Fl. Jap. 310. 1784.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 2000–3000 m.

Artemisia macrocephala Jacquem. ex. Besser, Bull. Soc. Imp. Naturalistes Moscou 9: 28. 1836.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand; upto 4100 m.

Artemisia maritima L., Sp. Pl. 846. 1753.

Distribution: Arunachal Pradesh.

Artemisia maritima L. ex Hook.f. var. **thomsoniana** C.B.Clarke, Comp. Ind. 160. 1876.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand; upto 3700 m.

Artemisia minor Jacquem. ex Besser, Bull. Soc. Imp. Naturalistes Moscou 9: 22. 1836.

Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim; upto 5100 m.

Artemisia moorcroftiana Wall. Prodr. 6: 117. 1838.

Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; upto 3900 m.

Artemisia myriantha Wall. ex Besser, Nouv. Mem. Soc. Imp. Naturalistes Moscoe 3: 51. 1834.

Distribution: Arunachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 1200–2400 m.

Artemisia myriantha Wall. ex Besser. var. **pleiocephala** (Pamp.) Y.R. Ling, Kew Bull. 42(2): 446. 1987. *A. pleiocephala* Pamp.

Distribution: Arunachal Pradesh, Jammu & Kashmir; 2600–3000 m.

Artemisia nilagirica (C.B.Clarke) Pamp., Nuovo Giorn. Bot. Ital. n.s. 33: 452. 1926. *A. vulgaris* L. var. *nilagirica* C.B.Clarke

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 1000–2500 m.

Artemisia nilagirica (C.B.Clarke) Pamp. var. **septentrionalis** Pamp., Nuovo Giorn. Bot. Ital. n.s. 33. 453. 1926.

Distribution: Himachal Pradesh; 1500 m.

Artemisia parviflora Roxb. ex D.Don, Hort. Bengal. 61. 1814.

Distribution: Sikkim; 2000–4500 m.

Artemisia persica Boiss., Diagn. Pl. Orient. Ser. 1, 1 (6): 91. 1846.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand; upto 3200 m.

Artemisia robusta (Pamp.) Ling & Y.R.Ling, Bull. Bot. Res., Harbin 8(4): 26. 1988.

Distribution: Uttarakhand.

Artemisia roxburghiana Wall. ex Besser, Bull. Soc. Imp. Naturalistes Moscou 9. 57. 1836.

Distribution: Uttarakhand; 2600–3500 m.

Artemisia roxburghiana Wall. ex Besser var. **hypoleuca** (Edgew.) Pamp., Nuovo Giorn. Bot. Ital, Ser. 2, 34: 173. 1927. *A. hypoleuca* Edgew.

Distribution: Uttarakhand, Jammu & Kashmir.

Artemisia roxburghiana Wall. ex Besser var. **purpurascens** (Jacq. ex Besser) Hook.f., Fl. Brit. India 3: 326. 1881. *A. purpurascens* Jacq. ex Besser

Distribution: Jammu & Kashmir, Uttarakhand; 2600–3600 m.

Artemisia rutifolia Steph. ex Spreng., Sysyt. Veg. 3: 488. 1826.

Distribution: Himachal Pradesh.

Artemisia salsoides Willd., Sp. Pl. 3: 1832. 1803.

Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; upto 3600 m.

Artemisia salsoloides Willd. var. **wellbyi** (Hemsl. & Pearson) Ostenf., Hedin, S. Tibet 6(3): 40. 1922. *A. wellbyi* Hemsl. & Pearson

Distribution: Jammu & Kashmir; 5000 m.

Artemisia santolinifolia Turcz. ex Krasch., Fl. Zap. Sib. 11: 2791. 1949.

Distribution: Jammu & Kashmir, Uttarakhand; 3500–4800 m.

Artemisia scoparia Waldst. & Kitam. Descr. Pl. Rar. Hung. 1:66. T. 65. 1801.

Distribution: Himachal Pradesh.

Artemisia sieversiana Ehrh. ex Willd., Sp. Pl. 3: 1845. 1800.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand; upto 4200 m.

Artemisia stricta Edgew., Trans Linn. Soc. London 20: 73. 1846.

Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; upto 4200 m.

Artemisia thellungiana Pamp., Nuovo Giorn. Bot. Ital. n.s. 33: 457. 1926.

Distribution: Eastn Himalaya; 1200–2500 m.

Artemisia tournefortiana Rchb., Iconogr. Bot. Exot. 1: 6. Pl. 5. 1824.

Distribution: Himachal Pradesh, Jammu & Kashmir; upto 3900 m.

Artemisia vestita Wall. ex DC., Prodr. 6: 106. 1828.

Distribution: Himachal Pradesh.

Artemisia verlotiorum Lamotte, Mem. Ass. France. Cong. Clerm. Ferr. 511. 1876.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand; 1000–2000 m.

Artemisia vulgaris L., Sp. Pl. 848 1753.

Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim,, Uttarakhand; upto 4000 m.

Artemisiella Ghafoor

Artemisiella stracheyi (Hook.f. & Thomson) Ghafoor, Candollea 47(2): 642, f. 8. 1992. *Artemisia stracheyi* Hook.f. & Thomson

Distribution: Himachal Pradesh, Jammu & Kashmir; upto 4200 m.

Askellia W.A. Weber

Askellia flexuosa (Ledeb.) W.A.Weber, Phytologia 55(1): 6. 1984. *Prenanthes polymorpha* var. *flexuosa* Ledeb.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand; 3000–4000 m.

Askellia corniculata (Regel & Schmalh.) W.A.Weber, Phytologia 55(1): 6. 1984. *Crepis corniculata* Regel & Schmalh.

Distribution: Jammu & Kashmir.

Aster L.

Aster ageratoides Turcz., Bull. Soc. Imp. Naturalistes Moscou 10(7): 154. 1837.

Distribution: Arunachal Pradesh; 1000–2500 m.

Aster albescens (DC.) Hand.-Mazz., Acta Hort. Gotob. 12. 205. 1938. var. **albescens**. *Amphiraphis albescens* DC.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 2500–4000 m.

Aster asperulus Nees, Aster 281. 1832.

Distribution: Himachal Pradesh.

Aster asteroides (DC.) O.Kuntze, Revis. Gen. Pl. 1: 315. 1891. *Heterochaeta asteroides* DC.

Distribution: Jammu & Kashmir, Himachal Pradesh, Uttarakhand, Sikkim; 3600–4800 m.

Aster barbellatus Grierson, Notes Roy. Bot. Gard. Edinburgh 26: 119. 1964.

Distribution: Sikkim; 3000–3600 m.

Aster diplostephioides (DC.) Benth. ex C.B. Clarke, Gen. Pl. 2: 272. 1873. *Heterochaeta diplostephioides* DC.

Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; upto 4000 m.

Aster falconeri Hutch., Gard. Chron. Ser. 3. 47: 398. 1910. subsp. **falconeri**.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand; upto 3600 m.

Aster falconeri (C.B. Clarke) Hutch subsp. **nepalensis** Grierson, Notes Roy. Bot. Gard. Edinburgh 26(1): 141. 1964.

Distribution: Uttarakhand; 3500–4000 m.

Aster flaccidus Bunge, Mem. Acad. Sci. St. Petersburg. 2: 599. 1838.

Distribution: Arunachal Pradesh, Himachal Pradesh, Sikkim, Uttarakhand, Jammu & Kashmir; 4000–5000 m. **(Plate 15a)**

Aster heliopsis Grierson, Notes Roy. Bot. Gard. Edinburgh 26: 124. 1964.

Distribution: Sikkim; 4570 m.

Aster himalaicus C.B. Clarke, Comp. Ind. 43. 1876.

Distribution: Arunachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 2500–5000 m. **(Plate 16a)**

Aster indamellus Grierson, Notes Roy. Bot. Gard. Edinburgh 26(1): 87. 1964.

Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 4000–5000 m.

Aster laka C.B. Clarke, Compos. Ind. 49. 1876.

Distribution: Jammu & Kashmir, Himachal Pradesh.

Aster methodorus (Benth.) Govaerts, World Checkl. Seed Pl. 2(1): 9. 1996. *Brachyactis methodora* Benth.

Distribution: Arunachal Pradesh, Jammu, Himachal Pradesh, Sikkim, Uttarakhand; 3000–4000 m.

Aster molliusculus (Lindl. ex DC.) C.B. Clarke var. **minor** Grierson, Notes Roy. Bot. Gard. Edinburgh. 26(1): 115. 1964.

Distribution: Himachal Pradesh.

Aster molliusculus (Lindl. ex DC.) C.B. Clarke, Compos. Ind. 45. 1876. var. **molliusculus**. *Diplopappus molliusculus* Lindl. ex DC.

Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 4000–5000 m.

Aster neo-elegans Grierson, Notes Roy. Bot. Gard. Edinburgh 26: 118. 1964.

Distribution: Sikkim; 3200 m.

Aster peduncularis Wall. ex Nees, Gen. Sp. Aster 24. 1832.

Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand.

Aster sikkimensis Hook.f. & Thomson, Bot. Mag. 77 t. 4557. 1851.

Distribution: Arunachal Pradesh, Sikkim; 1500–2500 m. **(Plate 15b)**

Aster stracheyi Hook.f., Fl. Brit. India 3: 250. 1881.

Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 3400–4200 m.

Aster thomsonii C.B. Clarke, Comp. Ind. 48. 1876.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Uttarakhand; 2500–3000 m.

Aster tricephalus C.B. Clarke, Comp. Ind. 43. 1876.

Distribution: Arunachal Pradesh, Sikkim; 3000–4000 m.

Aster trinervius Roxb. ex Roxb., Prodr. Fl. Nep. 177. 1825.

Distribution: Arunachal Pradesh, Sikkim; 3000–4000 m.

Aster vestitus Franch., J. Bot. (Morot) 10(23): 378–379. 1896.

Distribution: Sikkim; 3050m.

Baccharoides Moench

Baccharoides anthelmintica (L.) Moench, Methodus (Moench) 578. 1794. *Conyza anthelmintica* L.

Distribution: Throughout Himalaya; upto 1700 m.

Bellis L.

Bellis perennis L., Sp. Pl. 2: 886. 1753.

Distribution: Uttarakhand.

Bidens L.

Bidens bipinnata L., Sp. Pl. 832. 1753.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 3000–4000 m.

Bidens biternata (Lour.) Merr. & Sherff, Bot. Gaz. 88: 293. 1929. *Coreopsis biternata* Lour.

Distribution: Arunachal Pradesh, Himachal Pradesh, Sikkim, Uttarakhand; upto 2000 m.

Bidens cernua L., Sp. Pl. 832. 1753.

Distribution: Himachal Pradesh, Jammu & Kashmir.

Bidens comosa (A.Gray) Wiegand, Bull. Torrey Bot. Club 24(9): 436. 1897. *B. connata* Muhl. ex Willd. var. *comosa* A.Gray

Distribution: Himachal Pradesh.

Bidens pilosa L., Sp. Pl. 832. 1753.

Distribution: Arunachal Pradesh, Uttarakhand, Sikkim; upto 2000 m. (**Plate 17a**)

Bidens tetraspinosa Majeed Kak & Javeid, J. Bombay Nat. Hist. Soc. 79(1): 175. 1982.

Distribution: Jammu & Kashmir.

Bidens tripartita L., Sp. Pl. 831. 1753. var. **tripartita**

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Uttarakhand; upto 2000 m.

Bidens tripartita L. var. **repens** (D.Don) Sherff, Bot. Gaz. 81: 45. 1926. *B. repens* D. Don

Distribution: Himachal Pradesh, Jammu & Kashmir.

Blainvillea Cass.

Blainvillea acmella (L.) Philipson, Blumea 6: 350. 1950. *Verbesina acmella* L.

Distribution: Himachal Pradesh, Jammu & Kashmir.

Blumea Rehb.

Blumea aromatica DC., Prodr. 5: 446. 1836.

Distribution: Arunachal Pradesh, Sikkim, Uttarakhand; upto 1500 m.

Blumea axillaris (Lam.) DC., Prodr. 5: 434. 1836. *Conyza axillaris* Lam.

Distribution: Himachal Pradesh, Uttarakhand.

Blumea balsamifera (L.) DC., Prodr. 5: 447. 1836. *Conyza balsamifera* L.

Distribution: Arunachal Pradesh, Sikkim; upto 1500 m.

Blumea bifoliata (L.) DC., Contr. Bot. India 14. 1834. *Conyza bifoliata* L.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand.

Blumea clarkei Hook.f., Fl. Brit. India 3: 267. 1881.

Distribution: Sikkim; upto 1000 m.

Blumea densiflora DC., Prodr. 5: 446. 1836.

Distribution: Arunachal Pradesh, Himachal Pradesh, Sikkim; upto 1500 m.

Blumea densiflora DC. var. **hookeri** (C.B. Clarke ex Hook.f.) C.C. Chang & Y.Q. Tseng, Fl. Reipubl. Popularis Sin. 75: 23. 1979. *B. hookeri* C.B. Clarke ex Hook.f.

Distribution: Sikkim; 1200 m.

Blumea eriantha DC., Contr. Bot. India 15. 1834.

Distribution: Uttarakhand.

Blumea fistulosa (Roxb.) Kurz, J. Asiat. Soc. Bengal 46(2): 187. 1877. *Conyza fistulosa* Roxb.

Distribution: Arunachal Pradesh, Sikkim, Uttarakhand; upto 1500 m.

Blumea hieracifolia DC., Contrib. Bot. Ind. 15. 1834.

Distribution: Arunachal Pradesh, Himachal Pradesh, Sikkim, Uttarakhand; upto 2500 m.

Blumea hieraciifolia (D. Don) DC. var. **hamiltonii** (DC.) C.B. Clarke, Compos. Ind. 83. 876. *B. hamiltonii* DC.

Distribution: Sikkim; 1000 m.

Blumea hieracifolia (D. Don) DC. var. **macrostachya** (DC.) Hook. f., Fl. Brit. India 3: 263. 1881. *B. macrostachya* DC.

Distribution: Arunachal Pradesh, Uttarakhand; upto 2500 m.

Blumea lacera (Burm. f.) DC., Wight, Contrib. Bot. Ind. 14. 1834. *Conyza lacera* Burm. f.

Distribution: Arunachal Pradesh, Uttarakhand; upto 2500 m.

Blumea laciniata (Wall. ex Roxb.) DC., Prodr. 5: 436. 1836. *Conyza laciniata* Roxb.

Distribution: Arunachal Pradesh, Sikkim; upto 2500 m.

Blumea lanceolaria (Roxb.) Druce, Rep. Bot. Exch. Club. Brit. Isles 4: 609. 1917. *Conyza lanceolaria* Roxb.

Distribution: Arunachal Pradesh, Sikkim; upto 1500 m.

Blumea maritima Vaniot, Bull. Acad. Bot. 12: 26. 1903.

Distribution: Arunachal Pradesh; upto 1500 m.

Blumea membranacea DC., Prodr. 5: 440. 1836.

Distribution: Arunachal Pradesh, Sikkim; upto 1500 m.

Blumea obliqua (L.) Druce, Rep. Bot. Exch. Club 1916: 609. 1917. *Erigeron obliquus* L.

Distribution: Himachal Pradesh, Uttarakhand.

Blumea oxyodonta DC., Contributions to the Botany of India 15. 1834.

Distribution: Uttarakhand.

Blumea repanda (Roxb.) Hand.-Mazz., Symb. Sin. 7(5): 1378. 1936. *Conyza repanda* Roxb.

Distribution: Arunachal Pradesh, Sikkim, Uttarakhand; upto 1500 m.

Blumea riparia (Blume) DC., Prodr. 5: 444. 1836. *Conyza riparia* Blume

Distribution: Arunachal Pradesh, Sikkim.

Blumea sikkimensis Hook. f., Fl. Brit. India 3(8): 268. 1881.

Distribution: Sikkim; 1500 m.

Blumea sinuata (Lour.) Merr., Trans. Amer. Philos. Soc. 24: 388. 1935. *Gnaphalium sinuatum* Lour.

Distribution: Uttarakhand.

Blumea viscosa (Mill.) V.M.Badillo, Revista Fac. Agron. (Maracay) 7: 9. 1974. *Conyza viscosa* Mill.

Distribution: Uttarakhand

Blumeopsis Gagnep.

Blumeopsis flava (DC.) Gagnep., Mils. Hist. Nat. Paris 26: 76. 1920. *Blumea flava* DC.

Distribution: Arunachal Pradesh, Sikkim; 2000–3500 m.

Brachyactis Ledeb.

Brachyactis pubescens (DC.) Aitch. & C.B. Clarke, J. Linn. Soc., Bot. 18. 68. 1880. *Conyza pubescens* DC.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand; upto 4000 m.

Brachyactis roylei (DC.) Wendelbo, Nytt Mag. Bot., Oslo 1: 62. 1952. *Conyza roylei* DC.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand; upto 4000 m.

Brachycome Cass.

Brachycome assamica C.B. Clarke, Comp. Ind. 40. 1876.

Distribution: Arunachal Pradesh; 3000–4000 m.

Cacalia L.

Cacalia levingii (C.B.Clarke) R. Mathur, Fl. Ind. Enum. Aster. 20. 1988. *Senecio levingii* C.B.Clarke

Distribution: Jammu & Kashmir.

Cacalia mertonii (C.B.Clarke) Kitam. ex Koyama, Mem. Fasc. Sci. Kyoto Univ. ser. Biol. 2(2): 166. *Senecio mertonii* C.B.Clarke

Distribution: Arunachal Pradesh, Sikkim, Uttarakhand; 500–3000 m.

Caesulia Roxb.

Caesulia axillaris Roxb, Pl. Corom. 1: 64. t. 93. 1798.

Distribution: Uttarakhand.

Calendula L.

Calendula arvensis M.Bieb., Fl. Taur. Caucas. 3: 596. 1819.

Distribution: Jammu & Kashmir.

Calendula officinalis L., Sp. Pl. 2: 921. 1753.

Distribution: Jammu & Kashmir; upto 3500 m.

Callistephus Cass.

Callistephus chinensis (L.) Nees, Gen. Sp. Aster. 222–223. 1832. *Aster chinensis* L.

Distribution: Himachal Pradesh.

Calyptocarpus Less.**Calyptocarpus vialis** Less., Syn. Gen. Compos. 221. 1832. 221 1832.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand.

Carduus L.**Carduus crispus** L., Sp. Pl. 2: 1303. 1763.

Distribution: Jammu & Kashmir

Carduus edelbergii Rech.f., K. Danske Vid. Selsk. Biol. Skr. 8(2) Symb. Afghan.: 175. 1955.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand; 2600–3000 m.

Carduus kumaunensis (Arènes) Kazmi, Mitt. Bot. Staatssamml. München v. 364. 1964. *C. crispus* L. subsp. *kumaunensis* Arènes

Distribution: Jammu & Kashmir, Uttarakhand.

Carduus pycnocephalus L., Sp. Pl. (ed. 2) 2: 1151. 1753.

Distribution: Jammu & Kashmir.

Carduus onopordioides Fisch. ex M.Bieb., Fisch. ex M. Bieb. Fl. Taur.-Caucas. 3: 552–553. 1819.

Distribution: Uttarakhand.

Carduus tenuiflorus Curtis, Fl. Londin. 2(6,61): 55. 1789.

Distribution: Jammu & Kashmir.

Carpesium L.**Carpesium abrotanoides** L., Sp. Pl. 860. 1753.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarkhand; upto 1500 m.

Carpesium cernuum L., Sp. Pl.: 859. 1753.

Distribution: Himachal Pradesh, Sikkim; 1300–1700 m.

Carpesium cernuum L. var. **pendunculosum** C.B.Clarke, Compos. Ind. 131. 1876.

Distribution: Himachal Pradesh, Sikkim; 2400 m.

Carpesium cordatum F.H.Chen & C.M.Hu, Acta Phytotax. Sin. 12(4): 497. 1974.

Distribution: Uttarakhand.

Carpesium nepalense Less., Linnaea 6: 234. 1832.

Distribution: Arunachal Pradesh, Uttarkhand.

(Plate 17b)**Carpesium nepalense** Less. var. **glandulosum** (Hook.f. & Thomson ex C.B.Clarke) Qaiser & Abid, Qaiser & Abid, Fl. Pakistan 210: 86, 88, f. 21E. 2003. *C. cernuum* L. var. *glandulosum* Hook.f. & Thomson ex C.B.Clarke

Distribution: Himachal Pradesh, Sikkim; 1800–4100 m.

Carpesium nepalense Less. var. **griffithii** (Hook.f.) S.Kumar, Fl. Ind. Enum. Aster. 22. 1988. *Carpesium cernuum* L. var. *griffithii* Hook.f.

Distribution: Arunachal Pradesh; upto 1500 m.

Carpesium nepalense Less. var. **lanatum** (Thomson ex C.B.Clarke) Kitam., Fl. E. Himalaya 1: 335. 1966. *C. cernuum* L. var. *lantum* Thomson ex C.B.Clarke
Distribution: Sikkim; 1200–1500 m.

Carpesium trachelifolium Less., Linnaea 6: 233. 1831.
Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; upto 3000 m.

Carthamus L.

Carthamus lanatus L., Sp. Pl. 2: 830. 1753.
Distribution: Jammu & Kashmir, Uttarakhand; 1500–2300 m.

Carthamus oxyacantha M.Bieb., Fl. Taur.–Caucas. 2: 283. 1808.
Distribution: Jammu & Kashmir; 300–1600 m.

Carthamus tinctorius L., Sp. Pl. 830. 1753.
Distribution: Uttarakhand.

Catamixis T.Thomson

Catamixis baccharoides Thomson, J. Linn. Soc., Bot. 9: 343. 1867.
Distribution: Uttarakhand; 500–1000 m

Centaurea L.

Centaurea calcitrapa L., Sp. Pl. 2: 917. 1753.
Distribution: Jammu & Kashmir; 1800–2000 m.

Centaurea iberica Trev. ex Spreng., Syst. Veg. 3: 406. 1826.
Distribution: Jammu & Kashmir; 300–2300 m.

Centipeda Lour.

Centipeda minima (L.) A.Braun & Asch., Ind. Sem. Fl. Berol. App. 6. 1868.
Artemisia minima L.
Distribution: Arunachal Pradesh, Himachal Pradesh; upto 1500 m.

Centratherum Cass.

Centratherum anthelminticum (L.) Kuntze, Fl. Pres. Madras 2: 667. 1921. *Conyza anthelmintica* L.
Distribution: Himachal Pradesh.

Chaetoseris C.Shih

Chaetoseris cyanea (D.Don) C.Shih, Acta Phytotax. Sin. 29(5): 404. 1991. *Sonchus cyaneus* D.Don
Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 2600–3000 m. **(Plate 16b)**

Chaetoseris macrantha (C.B.Clarke) C.Shih, Acta Phytotax. Sin. 29 (5): 403. 1991.
Lactuca macrantha C.B.Clarke
Distribution: Sikkim; 3000–5000 m.

Chondrilla L.**Chondrilla graminea** M.Bieb., Fl. Taur.–Caucas. 2: 244. 1808.

Distribution: Jammu & Kashmir; 2500–3600 m.

Chondrilla setulosa C.B.Clarke., Fl. Brit. India 3: 402. 1881.

Distribution: Jammu & Kashmir; 2500–3600 m.

Chromolaena DC.**Chromolaena odorata** (L.) R.M.King & H.Rob, Phytologia 20: 204. 1970.*Eupatorium odoratum* L.

Distribution: Arunachal Pradesh, Sikkim, Uttarakhand.; 100–1000 m.

Chrysanthellum Rich.**Chrysanthellum americanum** (L.) Vatke, Abh. Naturwiss. Vereine Bremen 9: 122.1885. 122 1885. *Anthemis americana* L.

Distribution: Uttarakhand.

Chrysanthemum indicum L., Sp. Pl. 889. 1753.

Distribution: Himachal Pradesh, Uttarakhand.

Chrysanthemum morifolium Ramat., J. Hist. Nat. 2: 240. 1792.

Distribution: Uttarakhand.

Cicerbita Wallr.**Cicerbita lessertiana** (Wall. ex DC.) S.K.Mamgain & R.R.Rao subsp. **lyrata**

(Decne.) Mamgain & R.R.Rao, J. Bombay Nat. Hist. Soc. 86(2): 273. 1989.

Melanoseris lyrata Decne.

Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim.

Cichorium L.**Cichorium endivia** L., Sp. Pl. 813. 1753.

Distribution: Uttarakhand.

Cichorium intybus L., Sp. Pl. 2: 813. 1753.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand; upto 4100 m.

Cirsium Mill.**Cirsium argyracanthum** DC., Prodr. 6: 640. 1838. *Cnicus argyracanthus* (DC.)

C.B. Clarke

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Uttarakhand.

Cirsium arvense (L.) Scop., Flora Carniolica 2: 126 1772. *Serratula arvensis* L.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand, West Bengal (Darjeeling); upto 4000 m.

Cirsium arvense L. var. **alpestre** Nägeli, Neue Denkschr. Allg. Schweiz. Ges. Gesamten Naturwiss. 5(1): 104. 1840.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand.

Cirsium eriophoroides (Hook.f.) Petrak, Biblioth. Bot. 8 (Heft 78): 9. 1912. *Cnicus eriophoroides* Hook.f.

Distribution: Sikkim; 2700–3600 m.

(Plate 17c)

Cirsium falconeri (Hook.f.) Petr. Repert. Spec. Nov. Regni Veg. 9: 198. 1911. *Cnicus falconeri* Hook.f.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand.

Cirsium interpositum Petr., Repert. Spec. Nov. Regni Veg. 43. 283. 1938.

Distribution: Arunachal Pradesh; upto 1500 m.

Cirsium nishiokae Kitam., Acta Phytotax. Geobot. 23(3–4): 75. 1968.

Distribution: West Bengal (Darjeeling); upto 2900 m.

Cirsium shansiense Petr., Mitt. Thuring., Bot. Ver. n.f. 1: 176. 1943.

Distribution: Arunachal Pradesh; upto 1600 m.

Cirsium souliei (Franch.) Mattf. ex Rehder & Kobuski, J. Arnold Arbor. 14: 42. 1933. *Cnicus souliei* Franch.

Distribution: Sikkim; upto 3960 m.

Cirsium verutum Spreng., Syst. Veg. 3: 370. 1826.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Uttarakhand, Sikkim; upto 1600 m.

(Plate 18a)

Cirsium wallichii DC., Prodr. 6: 643. 1873.

Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim; upto 1600 m.

Cirsium wallichii DC. var **glabratum** (Hook.f.) Wendelbo, Nytt. Mag. Bot. 1: 67. 1952. *Cnicus wallichii* DC. var. *glabrata* Hook.f.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand, Sikkim; upto 1600 m.

Cissampelopsis (DC.) Miq.

Cissampelopsis buimalia (Buch.–Ham. ex D. Don) C. Jeffrey & Y.L. Chen, Kew Bull. 39(2): 348. 1984. *Senecio buimalia* Buch.–Ham. ex D. Don

Distribution: Sikkim; 1500–2100 m.

Cissampelopsis corifolia C. Jeffrey & Y.L. Chen, Kew Bull. 39(2): 342, f. 21. 1984.

Distribution: Darjeeling, Sikkim; 1500–2000 m.

Cissampelopsis volubilis (Blume) Miq., Fl. Ned. Ind. 2. 103. 1856. *Cacalia volubilis* Blume

Distribution: Arunachal Pradesh; upto 1600 m.

Cissampelopsis walkeri (Arn.) C. Jeffrey & Y.L. Chen, Kew Bull. 39(2): 341. 1984. *Senecio walker* Arn.

Distribution: Arunachal Pradesh; upto 1200 m.

Conyza Hill.

Conyza angustifolia Roxb., Fl. Ind. 3: 429. 1832.

Distribution: Arunachal Pradesh, Sikkim; upto 1500 m.

Conyza japonica (Thunb.) Less. ex Less., Prodr. 5: 382. 1836. *Erigeron japonicum* Thunb.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; upto 1500 m.

Conyza leucantha (D. Don) Ludlow & P.H. Raven, Kew Bull. 17: 71. 1963. *Erigeron leucanthus* D. Don

Distribution: Arunachal Pradesh, Himachal Pradesh, Sikkim; upto 1500 m.

Conyza rufa Wall. ex DC., Prodr. 5: 384. 1836.

Distribution: Himachal Pradesh, Uttarakhand.

Conyza semipinnatifida Wall. ex DC., Prodr. 5: 382. 1836.

Distribution: Arunachal Pradesh.

Conyza viscidula Wall. ex DC., Prodr. 5: 383. 1836.

Distribution: Himachal Pradesh.

Coreopsis L.

Coreopsis tinctoria Nutt., J. Acad. Nat. Sci. Philadelphia 2: 114. 1821.

Distribution: Uttarakhand.

Cosmos Cav.

Cosmos sulphureus Cav., Icon. 1. 1791.

Distribution: Uttarakhand.

Cotula L.

Cotula anthemoides L., Sp. Pl. 891. 1753.

Distribution: Himachal Pradesh, Sikkim; 1500 m.

Cotula aurea L., Iter Hispan. 163. 1758.

Distribution: Jammu & Kashmir; upto 1500 m.

Cotula australis (Sieber ex Spreng.) Hook.f., Fl. Nov.-Zel. 1: 128. 1852. *Anacyclus australis* Sieb. ex Spreng.

Distribution: Arunachal Pradesh, Himachal Pradesh; upto 1500 m.

Cotula hemisphaerica Wall. ex Benth. & Hook.f., Comp. Ind. 150. 1876.

Distribution: Arunachal Pradesh, Uttarakhand; upto 1500 m.

Cousinia Cass.

Cousinia falconeri Hook.f., Fl. Brit. India 3: 360. 1881.

Distribution: Jammu & Kashmir; upto 3200 m.

Cousinia microcarpa Boiss, Diagn. Pl. Orient., ser. 2 3: 59. 1856.

Distribution: Jammu & Kashmir.

Cousinia prolifera Jaub. & Spach, Ill. Pl. Orient. 2: 74, t. 157. 1845.

Distribution: Jammu & Kashmir.

Cousinia thomsonii C.B. Clarke, Compos. Ind.: 213. 1876.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand; upto 1500 m.

Crassocephalum Moench

Crassocephalum crepidioides (Benth.) S. Moore, J. Bot. 1: 211. 1912. *Gynura crepidioides* Benth.

Distribution: Arunachal Pradesh, Sikkim; upto 1500 m.

Cremanthodium Benth.

Cremanthodium arnicoides (DC. ex Royle) R.D. Good, J. Linn. Soc. Bot. 48: 288. 1929. *Ligularia arnicoides* DC. ex Royle

Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; upto 1500 m. **(Plate 19a)**

Cremanthodium bhutanicum Ludlow, Bull. Brit. Mus. (Nat. Hist.) Bot. 5 (5): 278. 1976.

Distribution: Arunachal Pradesh; upto 4500 m.

Cremanthodium cremanthodioides (Hand.–Mazz.) R.D. Good, J. Linn. Soc., Bot. 48: 279. 1929. *Ligularis cremanthodioides* Hand.–Mazz.

Distribution: Arunachal Pradesh, Sikkim; 3600–4500 m.

Cremanthodium decaisnei C.B. Clarke, Compos. Ind. 168. 1876. *C. decaisnei* C.B. Clarke f. *clarkei* R.D. Good

Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; upto 1500 m.

Cremanthodium discoideum Maxim, Bull. Acad. Imp. Sci. Saint-Pétersbourg sér. 3. 27: 482–483. 1881.

Distribution: Sikkim; 5250 m.

Cremanthodium ellisii (Hook.f.) Kitam., H. Hara & al., Enum. Fl. Pl. Nepal 3: 22. 1982. *Wernerii ellisii* Hook.f.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand; upto 1500 m.

(Plate 18b)

Cremanthodium hookeri C.B. Clarke subsp. **polycephala** (R.D. Good) Hand.–Mazz., Bot. Jahrb. Syst. 69: 127. 1938. *C. hookeri* C.B. Clarke subsp. *polycephalum* R.D. Good

Distribution: Sikkim.

Cremanthodium nanum (Decne.) W.W. Sm., Notes Roy. Bot. Gard. Edinburgh 14: 118. 1924. *Ligularia nana* Decne.

Distribution: Jammu & Kashmir, Uttarakhand.

Cremanthodium oblongatum C.B. Clarke, Compos. Ind. 168. 1876.

Distribution: Sikkim, Uttarakhand; 3600–5000 m.

Cremanthodium palmatum Benth., Hooker's Icon. Pl. 12: t. 1142. 1873.

Distribution: Arunachal Pradesh, Sikkim; 3600–4200 m.

Cremanthodium pinnatifidum Benth., Hooker's Icon. Pl. 12: t. 1142. 1873.

Distribution: Sikkim; 4000–5000 m.

Cremanthodium pseudo-oblongatum R.D.Good, J. Linn. Soc., Bot. 48(322): 297–298. 1929.

Distribution: Sikkim; 900–2600 m.

Cremanthodium reniforme (DC.) Benth., Hooker's Icon. Pl. Ser. 3, 12: t. 17: 1141. 1873. *Ligularis reniformis* DC.

Distribution: Arunachal Pradesh, Himachal Pradesh, Sikkim, Uttarakhand; 3000–4500 m. **(Plate 19b)**

Cremanthodium retusum (DC.) R.D.Good, J. Linn. Soc., Bot. 48(322): 278. 1929. *Ligularia retusa* DC.

Distribution: Sikkim; 3600–4500 m.

Cremanthodium thomsonii C.B.Clarke, Compos. Ind. 169. 1876.

Distribution: Sikkim; 4000–4200 m.

Crepis L.

Crepis capillaris (L.) Wallr., Linnaea 14(6): 657–658. 1840. *Lapsana capillaris* L.

Distribution: Himachal Pradesh, Jammu & Kashmir; 3000–4000 m.

Crepis dachigamensis G.Singh., Forest Fl. Srinagar 127. 1976.

Distribution: Jammu & Kashmir; 1500–2000 m.

Crepis elongata Babc., Univ. Calif. Publ. Bot. 14: 326. 1928.

Distribution: Sikkim; 2500–4000 m.

Crepis foetida L., Sp. Pl. 2: 807. 1753.

Distribution: Jammu & Kashmir, Uttarakhand; 2200 m.

Crepis kashmirica Babc., Univ. Calif. Publ. Bot. xiv. 328. 1928.

Distribution: Jammu & Kashmir; Himachal Pradesh; 3500–4300 m.

Crepis multicaulis Ledeb., Icon. Pl. 1: 9. 1829. *C. multicaulis* Ledeb. subsp. *congesta* (Regel) Babc.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand.

Crepis naniforma Babc., Sp. Pl. 2: 807. 1753.

Distribution: Himachal Pradesh, Jammu & Kashmir; 3000–4500 m.

Crepis pulchra L., Sp. Pl. 2: 806. 1753.

Distribution: Jammu & Kashmir.

Crepis sancta (L.) Babe., Univ. Calif. Publ. Bot. 19: 403. 1941. *Hieracium sanctum* L.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand; upto 1500 m.

Crepis sancta (L.) Babe. subsp. **falconeri** (Hook.f.) Rech. f., Fl. Iranica 122: 330. 1977. *Pterotheca falconeri* Hook.f.

Distribution: Jammu & Kashmir, Uttarakhand.

Crupina (Pers.) DC.

Crupina vulgaris Pers. ex Cass., Dict. Sci. Nat., ed. 2. 12: 68. 1818.

Distribution: Jammu & Kashmir.

Cyanus Mill.

Cyanus depressus (M.Bieb.) Soják, Èas. Nár. Mus., Odd. Prír. 140(3–4): 131. 1972. *Centaurea depressa* M.Bieb.

Distribution: Jammu & Kashmir; upto 3800 m.

Cyanus segetum Hill, Veg. Syst. 4: 29. 1762.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand; upto 3800 m.

Cyathocline Cass.

Cyathocline purpurea (Buch.-Ham. ex D.Don) Kuntze, Revis. Gen. Pl. 1: 333. 1891. *Tanacetum purpureum* Buch.–Ham. ex D.Don

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand.

Cyanthillium DC.

Cyanthillium albicans (DC.) H.Rob., Proc. Biol. Soc. Washington 12(1): 229. 1999. *Vernonia albicans* DC.

Distribution: Uttarakhand.

Cyanthillium cinereum (L.) H.Rob., Proc. Biol. Soc. Wash. 10: 252. 1990. *Conyza cinerea* L.

Distribution: Arunachal Pradesh, Sikkim, Uttarakhand; upto 3500 m.

Dahlia Cav.

Dahlia imperialis Roesl ex Ortgies Gart. Fl. 243. 1863.

Distribution: Sikkim, Uttarakhand; 1000–2000 m.

Dahlia pinnata Cav., Icon. 1: 57 (t. 80). 1791.

Distribution: Uttarakhand.

Decaneuropsis H. Rob. & Skvarla

Decaneuropsis cumingiana (Benth.) H.Rob. & Skvarla, Proc. Biol. Soc. Wash. 120(3): 361. 2007. *Vernonia cumingiana* Benth.

Distribution: Arunachal Pradesh; upto 1000 m.

Decaneuropsis vagans (DC.) H.Rob. & Skvarla, Proc. Biol. Soc. Wash. 120(3): 365. 2007. *Vernonia vagans* DC.

Distribution: Arunachal Pradesh, Sikkim; upto 2000 m.

Dichrocephala L'Hér. ex DC.

Dichrocephala chrysanthemifolia (Blume) DC., Archives de Botanique 2: 518. 1833. *Cotula chrysanthemifolia* Blume

Distribution: Himachal Pradesh, Uttarakhand; 2500 m.

Dichrocephala integrifolia (L.f.) Kuntze, Rev. Gen. Pl. 1: 333. 1891. *Hippia integrifolia* L.f.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 3000–4500 m.

Dichrocephala integrifolia (L.f.) Kuntze subsp. **gracilis** (DC.) Fayed., Mitt. Bot. Staatssamml. München 15: 500. 1979. *Dichrocephala integrifolia* L.f.
Distribution: Sikkim; 1800–2500 m.

Dicoma Cass.

Dicoma schimperi (DC.) Baill. ex O.Hoffm., Nat. Pflanzenfam. iv. 5: 339. 1893. *Hochstetteria schimperi* DC.
Distribution: Jammu & Kashmir.

Dittrichia Greuter

Dittrichia graveolens (L.) Greuter, Exsicc. Genav. Conserv. Bot. Distrib. Fasc. 4: 71. 1973. *Erigeron graveolens* L.
Distribution: Himachal Pradesh, Jammu & Kashmir.

Dolomiaea DC.

Dolomiaea macrocephala DC., Arch. Bot. (Paris) 2: 330. 1833.
Distribution: Jammu & Kashmir, Uttarakhand; 3400–4600 m. (Plate 19c)

Doronicum L.

Doronicum falconeri C.B.Clarke ex Hook.f., Fl. Brit. India 3: 33. 1881.
Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; upto 1500 m.
Distribution: Jammu & Kashmir.

Doronicum kamaonense (DC.) Alv. Fern., Novon. 11(3): 294. 2001. *Fullartonia amaonensis* DC.
Distribution: Jammu & Kashmir, Sikkim; 3500–3950 m.

Doronicum roylei DC.var. **epapposa** Hook.f., Fl. Brit. India. 3. 332. 18181.
Distribution: Jammu & Kashmir, Sikkim; 3500–3950 m.

Dubyaea DC.

Dubyaea cymiformis C. Shih, Acta Phytotax. Sin. 31(5): 439. 1993.
Distribution: Sikkim.

Dubyaea hispida (D. Don) DC., Prodr. 7: 247. 1838. *Hieracium hispidum* D. Don
Distribution: Arunachal Pradesh, Himachal Pradesh, Sikkim; Uttarakhand, 3000–4500 m.

Dubyaea oligocephala (Sch.Bip.) Stebbins, J. Bot. 75: 17. 1937. *Paleyia oligocephala* Sch.Bip.
Distribution: Himachal Pradesh, Jammu & Kashmir; 2000–3000 m.

Duhaldea DC.

Duhaldea cappa (Buch.-Ham. ex D.Don) Pruski & Anderb., Comp. Newsl. 40: 44. 2003. *Conyza cappa* Buch.-Ham. ex D.Don
Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand.

Duhaldea cuspidata (Wall. ex DC.) Anderb., Pl. Syst. Env. 176: 104. 1991.
Amphiraphis cuspidata Wall. ex DC.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand.

Duhaldea nervosa (Wall. ex DC.) Anderb., Pl. Syst. Evol. 176(1–2): 104. 1991.
Inula nervosa Wall. ex DC.

Distribution: Himachal Pradesh, Sikkim, Uttarakhand.

Echinops L.

Echinops cornigerus DC., Prodr. 6: 525. 1838.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand; 3000–4500 m.

Echinops echinatus Roxb., Fl. Ind. 3: 447. 1832.

Distribution: Himachal Pradesh, Jammu & Kashmir; 1600 m.

Echinops niveus Wall. ex DC., Prodr. 6: 526. 1838.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand; 3000–4500 m.

Eclipta L.

Eclipta prostrata (L.) L., Mant. Pl. 2: 286. 1771. *Verbesina prostrata* L.

Distribution: Arunachal Pradesh, Sikkim, Uttarakhand; 1200 m.

Elephantopus L.

Elephantopus scaber L. Sp. Pl. 814. 1753.

Distribution: Arunachal Pradesh, Uttarakhand; upto 1500 m.

Emilia Cass.

Emilia coccinea (Sims) G. Don, Hort. Brit. ed. 3: 382. 1839. *Cacalia coccinea* Sims.

Distribution: Sikkim; 600 m.

Emilia scabra DC., Prodr. 6: 303. 1838.

Distribution: Arunachal Pradesh.

Emilia sonchifolia (L.) DC., Wight, Contrib. Bot. Ind. 24: 1834. *Cacalia sonchifolia* L.

Distribution: Arunachal Pradesh, Sikkim, Uttarakhand; upto 1500 m.

Erechtites Raf.

Erechtites valerianifolia Less. ex DC., Prodr. 6: 295. 1838.

Distribution: Arunachal Pradesh, Sikkim; upto 1500 m.

Erigeron L.

Erigeron acer L., Sp. Pl. 863. 1753.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Uttarakhand; 3000–4000 m.

Erigeron acer L. var. **khasianus** (Hook f.) Hajra, Fl. India 12: 118. 1995. *E. aplaina* L. var. *khasiana* Hook.f.

Distribution: Arunachal Pradesh; 2000 m.

Erigeron acris L. var. **multicaulis** (Wall. ex DC.) C.B. Clarke, Compos. Ind. 53. 187. 1876. *E. multicaulis* Wall. ex DC.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand; upto 2800 m.

Erigeron angustissimus Lindl. ex DC., Prodr. 5: 286. 1836.

Distribution: Jammu & Kashmir.

Erigeron aegyptiacus L., Mant. Pl. 112. 1767.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand.

Erigeron annus (L.) Pers., Syn. Pl. 2: 431. 1807. *Aster annus* L.

Distribution: Arunachal Pradesh, Sikkim, Uttarakhand; 2000 m.

Erigeron bellidioides (Buch.-Ham. ex D. Don) Benth. ex C.B. Clarke, Compos. Ind. 55. 1876. *Aster bellidioides* Buch.-Ham. ex D. Don

Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; upto 2800 m. **(Plate 20a)**

Erigeron bonariensis L., Sp. Pl. 863. 1753.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Uttarakhand, Sikkim; upto 1600 m.

Erigeron canadensis L., Sp. Pl. 863. 1753.

Distribution: Arunachal Pradesh, Sikkim; upto 1500 m.

Erigeron floribundus (Kunth) Sch. Bip., Mandon, Bull. Soc. Bot. France 12. 81. 1865. *Conyza floribunda* Kunth

Distribution: Arunachal Pradesh, Uttarakhand; upto 1500 m.

Erigeron karvinskianus DC., Prodr. 5: 285. 1836.

Distribution: Sikkim; 1800 m.

Erigeron kumaunensis (Vierh.) Wendelbo, Nytt Mag. Bot., Oslo i. 62. 1952. *Trimorpha kumaunensis* Vierh.

Distribution: Himachal Pradesh, Uttarakhand; 4000 m.

Erigeron monticolus DC., Prodr. 5: 286. 1836.

Distribution: Jammu & Kashmir, Uttarakhand.

Erigeron multiradiatus (Lindl. ex DC.) Benth. & Hook.f., Compos. Ind. 56. 1876. *Stenactis multiradiatus* Lindl. ex DC.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; upto 3200 m.

Erigeron poncinsii (Franch.) Botsch., Bot. Zurn. Moscow & Leningrad 42: 776. 1957. *Aster poncinsii* Franch.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand; upto 4050 m.

Erigeron pulchellus Michx., Fl. Bor. Amer. 2: 124. 1803.

Distribution: Himachal Pradesh; Upto 3200 m.

Erigeron roylei DC., Prodr. 5: 292. 1836.

Distribution: Himachal Pradesh, Jammu & Kashmir.

Erigeron semibarbatus DC., Prodr. 5: 292. 1836.

Distribution: Jammu & Kashmir, Uttarakhand; 2900–4300 m.

Erigeron sublyratus Roxb. ex DC., Contrib. Bot. Ind. 9. 1834.

Distribution: Arunachal Pradesh, Sikkim, Uttarakhand; upto 2000 m.

Erigeron trilobus (Decne.) Boiss., Fl. Orient. 3: 168. 1875. *Conyza triloba* Decne.

Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 600–2000 m.

Erigeron uniflorus L., Sp. Pl. 2: 864. 1753.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand, Sikkim; upto 4100 m.

Eschenbachia Moench

Eschenbachia aegyptiaca (L.) Brouillt, Fl. China 20–21: 556. 2011. *Erigeron aegyptiacus* L.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand.

Eschenbachia leucantha (D.Don) Brouillt, Fl. China 20–21: 556. 2011. *Erigeron leucanthus* D.Don

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Uttarakhand.

Ethulia L.f.

Ethulia conyzoides L.f., Decas Prima 1. t. 1. 1762.

Distribution: Arunachal Pradesh, Sikkim.

Ethulia megacephala Sch.Bip. ex Miq., Fl. Ned. Ind. 2: 8. 1856.

Distribution: Sikkim; 3900 m.

Eupatorium Bubani

Eupatorium cannabinum L., Sp. Pl. 838. 1753.

Distribution: Arunachal Pradesh, Sikkim, Uttarakhand; 2100–3000 m.

Eupatorium capillifolium (Lam.) Small ex Porter & Britton, Mem. Torrey Bot. Club 5: 311. 1894. *Artemisia capillifolia* Lam.

Distribution: Arunachal Pradesh, Himachal Pradesh, Uttarakhand; upto 2000 m.

Eupatorium chinense L., Sp. Pl. 837. 1753.

Distribution: Arunachal Pradesh, Himachal Pradesh, Sikkim, Uttarakhand; 1800 m.

Eupatorium nodiflorum Wall. ex DC., Prodr. 5: 179. 1836.

Distribution: Arunachal Pradesh.

Filago Loefl.

Filago arvensis L., Sp. Pl. 2: 856. 1753.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand; upto 2900 m.

Filago hurdwarica (Wall. ex DC.) Wagenitz, Walldenowia 4: 291. 1968.
Gnaphalium hurdwarica Wall. ex DC.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand; upto 2900 m.

Filago paradoxa Wagenitz, Willdenowia 5: 429. 1969.

Distribution: Jammu & Kashmir; 2500 m.

Filago pyramidata C.A.Mey., Verz. Pfl. Casp. Meer. (C.A. von Meyer). 78. 1831.

Distribution : Himachal Pradesh.

Galinsoga Ruiz & Pav.

Galinsoga parviflora Cav., Icon. iii. 41. t. 281. 1795.

Distribution: Arunachal Pradesh, Himachal Pradesh, Sikkim, Uttarkhand; 1800–2200 m. **(Plate 21a)**

Galinsoga quadriradiata Ruiz & Pav., Syst. Veg., Fl. Peruv. Chil. 198. 1798.

Distribution: Uttarakhand; 2000 m.

Garhadiolus Jaub. & Spach

Garhadiolus minutissimus (Bunge) Kitam., Acta Phytotax. Geobot. 17(2): 36. 1957. *Hedypnois minutissima* Bunge

Distribution: Jammu & Kashmir; 1500–3000 m.

Gerbera L.

Gerbera gossypina (Royle) Beauverd, Bull. Soc. Bot. Genève Ser. II, ii. 40. 1910.
Chaptalia gossypina Royle

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand.

Gerbera jamesonii Bolus ex Hook.f., Adlam Gard. Chron., ser. 3, 3(78): 775. 1888.

Distribution: Uttarakhand.

Gerbera kunzeana A.Br. & Asch., Index Seminum App. 3. 1871.

Distribution: Himachal Pradesh.

Gerbera maxima (D. Don) Beauverd, Bull. Soc. Bot. Geneve ser. 2, 2: 44. 1410.
Chaptalia maxima D. Don

Distribution: Arunachal Pradesh, Sikkim, Uttarakhand; 1800–2200 m.

Gerbera nivea (DC.) Sch.Bip., Flora 27(2): 780. 1844. *Oreoseris nivea* DC.

Distribution: Arunachal Pradesh, Sikkim, Uttarakhand; 3300–5000 m.

Gerbera piloselloides (L.) Cass., Dict. Sci. Nat. (ed. 2) 18: 461. 1820. *Arnica piloselloides* L.

Distribution: Arunachal Pradesh, Sikkim; 1500–3000 m.

Glebionis Cass.

Glebionis coronaria (L.) Cass. ex Spach, Hist. Nat. Veg. 10: 181. 1841.
Chrysanthemum coronarium L.

Distribution: Uttarakhand.

Glossocardia Cass.

Glossocardia bidens (Retz.) Veldkamp, Blumea 35: 468. 1991. *Zinnia bidens* Retz.

Distribution: Jammu & Kashmir, Uttarakhand

Glossocardia bosvallea (L.f.) DC., Contr. Bot. India 19. 1834. *Verbesina bosvallia* L.f.

Distribution: Jammu & Kashmir, Uttarakhand.

Gnaphalium L.

Gnaphalium coarctatum Willd., Sp. Pl., ed. 4. 3(3): 1886. 1803.

Distribution: Himachal Pradesh.

Gnaphalium pensylvanicum Willd., Enum. Hort. Berol. 867. 1809.

Distribution: Arunachal Pradesh, Sikkim, Uttarakhand; 2000–3000 m.

Gnaphalium polycaulon Pers, Syn. Pl. 2: 421. 1807.

Distribution: Himachal Pradesh, Sikkim, Uttarakhand; 3000 m.

Gnaphalium purpureum L., Sp. Pl. 854. 1753.

Distribution: Arunachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand, West Bengal (Darjeeling); 2000–3000 m.

Gnaphalium stewartii C.B. Clarke ex Hook.f., Fl. Brit. Ind. 3: 289. 1881.

Distribution: Himachal Pradesh, Jammu & Kashmir; 2000–3000 m.

Gnaphalium thomsonii Hook.f., Fl. Brit. Ind. 3: 289. 1881.

Distribution: Himachal Pradesh, Jammu & Kashmir; 2000–3000 m.

Gnaphalium pulvinatum (Delile) Greuter, Willdenowia 33: 242. 2003. *Gnaphalium pulvinatum* Delile

Distribution: Uttarakhand.

Gochnatia Kunth

Gochnatia spectabilis (D. Don) Less., Linnaea 5: 261. 1830. *Leucomeris spectabilis* D. Don

Distribution: Uttarakhand.

Grangea Adans.

Grangea maderaspatana (L.) Poir., Lam., Encycl. Meth. Bot. suppl. 2. 825. 1812. *Artemisia maderaspatana* L.

Distribution: Arunachal Pradesh, Himachal Pradesh, Uttarakhand; 2000–3000 m.

Guizotia Cass.

Guizotia abyssinica (L.f.) Cass., Dict. Sci. Nat. 59: 248. 1829. *Polymia abyssinica* L.f.

Distribution: Sikkim, Uttarakhand; 800–1200 m.

Gymnanthemum Cass.

Gymnanthemum extensum Steetz, Naturw. Reise Mossambique 6(2): 337. 1864.
Distribution: Sikkim; 1800 m.

Gynura Cass.

Gynura aurantiaca (Blume) DC., Prodr. 6: 300. 1837. *Cacalia aurantiaca* Blume.
Distribution: Uttarakhand.

Gynura bicolor (Roxb. ex Willd.) DC., Prodr. 6: 299. 1838. *Cacalia bicolor* Roxb. & Willd.

Distribution: Arunachal Pradesh, Himachal Pradesh, Uttarakhand, Sikkim; 2000–3000 m. **(Plate 20b)**

Gynura cusimbua (D.Don) S.Moore, J. Bot. 50: 212. 1912. *Cacalia cusimbua* D.Don

Distribution: Arunachal Pradesh, Himachal Pradesh, Uttarakhand.

Gynura nepalensis DC., Prodr. 6: 300. 1838.

Distribution: Arunachal Pradesh, Himachal Pradesh, Sikkim; upto 1500 m.

Gynura procumbens (Lour.) Merr., Enum. Philip. FL PI. 3: 618. 1923. *Cacalia procumbens* Lour.

Distribution: Arunachal Pradesh; upto 1500 m.

Gynura pseudochina (L.) DC., Prodr. 6: 299. 1838. *Senecio pseudochina* L.

Distribution: Arunachal Pradesh, Sikkim; upto 1500 m.

Helianthus L.

Helianthus annuus L., Sp. Pl. 2: 904. 1753.

Distribution: Sikkim; 1200 m.

Helianthus tuberosus L. Sp. Pl. 905. 1753.

Distribution: Himachal Pradesh.

Hemistepta Bunge

Hemistepta lyrata (Bunge) Bunge, Dorp. Jahrb. Litt. i. 222. 1833. *Cirsium lyratum* Bunge

Distribution: Arunachal Pradesh; 600–1500 m.

Heteropappus Less.

Heteropappus crenatifolius (Hand.-Mazz.) Grierson, Notes Roy. Bot. Gard. Edinburgh 26: 152. 1964. *Aster crenatifolius* Hand.-Mazz.

Distribution: Sikkim; 2600 m.

Heteropappus gouldii (C.E.C.Fisch) Grierson, Notes Roy. Bot. Gard. Edinburgh 26(1): 153–154. 1964. *Aster gouldii* C.E.C.Fisch

Distribution: Sikkim; 5540 m.

Heteropappus holohermaphroditus Grierson, Notes Roy. Bot. Gard. Edinburgh 26(1): 155. 1964.

Distribution: Himachal Pradesh, Jammu & Kashmir; 2000–3000 m.

Hieracium L.

Hieracium crocatum Fr., Symb. Hist., Hierac. 183. 1864.

Distribution: Himachal Pradesh, Jammu & Kashmir; upto 3800 m.

Hieracium lachenalii subsp. **cruentifolium** (Dahlst. & Lübeck) Zahn, 1282. 1929.
H. cruentifolium Dahlst. & Lübeck.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand; upto 2700 m.

Hieracium prenanthoides Vill., Prosp. Hist. Pl. Dauphiné 35. 1779.

Distribution: Jammu & Kashmir; 2000–4000 m.

Hieracium umbellatum L., Sp. Pl. 2: 804. 1753.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand; upto 2700 m.

Hieracium virosum Pall. Reise Russ. Reich. 1: 501. 1771.

Distribution: Jammu & Kashmir; upto 2700 m.

Himalaiella Raab-Straube

Himalaiella abnormis (Lipsch.) Raab-straube, Willdenowia 33(2): 390. 2003.
Saussurea abnormis Lipsch.

Distribution: Uttarakhand; 4400 m.

Himalaiella albescens (DC.) Raab-Straube, Willdenowia 33(2): 390. 2003.
Aplotaxis albescens DC.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand. **(Plate 21c)**

Himalaiella auriculata (DC.) Raab-Straube, Willdenowia 33(2): 390. 2003.
Aplotaxis auriculata DC.

Distribution: Jammu & Kashmir, Sikkim, Uttarakhand.

Himalaiella chenopodiifolia (Klatt) Raab-Straube, Willdenowia 33(2): 390. 2003.
Saussurea chenopodifolia Klatt

Distribution: Jammu & Kashmir; 2500–3500 m.

Himalaiella chitralica (Duthie) Raab-Straube, Willdenowia 33(2): 390. 2003.
Saussurea chitralica Duthie

Distribution: Jammu & Kashmir; 2500 m.

Himalaiella deltoidea (DC.) Raab-Straube, Willdenowia 33(2): 39. 2003. *Aplotaxis deltoidea* DC.

Distribution: Arunachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand.

Himalaiella foliosa (Edgew.) Raab-Straube, Willdenowia 33(2): 391. 2003.
Aplotaxis foliosa Edgew.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand; 2300–2600 m.

Himalaiella heteromalla (D.Don) Raab–Straube, Willdenowia 33(2): 391. 2003.
Cnicus heteromallus D.Don.

Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 550–4000 m.

Himalaiella nivea (Wall. ex DC.) Raab–Straube, Willdenowia 33(2): 391. 2003.
Aplotaxis nivea Wall. ex DC.

Distribution: Arunachal Pradesh, Sikkim; 1000–1500 m.

Himalaiella yakla (C.B.Clarke) K.Fujikawa & H.Ohba, J. Jap. Bot. 82(3): 133–134. 2007. *Saussurea yakla* C.B.Clarke

Distribution: Arunachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 2400–5300 m.

Hippolytia Poljakov

Hippolytia dolichophylla (Kitam.) K.Bremer & Humphries, Bull. Nat. Hist. Mus. (London), Bot., 23(2): 106. 1993. *Chrysanthemum dolichophyllum* Kitam

Distribution: Jammu & Kashmir, Uttarakhand; 3500–4500 m.

Hippolytia gossypina (C.B.Clarke) C.Shih, Acta Phytotax. Sin. 17(4): 67. 1979.
Tanacetum gossypinum C.B.Clarke

Distribution: Uttarakhand, Sikkim; 4100–6000 m.

Hippolytia senecionis (Jacquem. ex Besser) Poljakov ex Tzvelev, Fl. URSS 26: 414. 1961. *Artemisia senecionis* Jacquem. ex Besser

Distribution: Jammu & Kashmir, Uttarakhand; 3500–4000 m.

Hypochaeris L.

Hypochaeris glabra L., Sp. Pl. 810. 1753.

Distribution: Arunachal Pradesh, Sikkim; 600–1500 m.

Ifloga Cass.

Ifloga spicata (Forssk.) Sch.Bip., Webb & Berth. Phyt. Canar. ii. 310. 1845.
Chrysocoma spicata Forssk.

Distribution: Jammu & Kashmir, Uttarakhand; upto 400 m.

Inula L.

Inula acuminata Royle ex DC., Prodr. 5: 471. 1836.

Distribution: Himachal Pradesh, Jammu & Kashmir; upto 2400 m.

Inula britannica L., Sp. Pl. 2: 882. 1753.

Distribution: Jammu & Kashmir.

Inula cappa (Buch.–Ham. ex D.Don) DC., Prodr. 5: 469. 1836. *Conyza cappa* Buch.–Ham. ex D.Don

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim; 600–500 m.

Inula clarkei (Hook.f.) R.R. Stewart, Fl. W. Pakistan 753. 1972. *I. obtusifolia* Kerner var. *clarkei* Hook.f.

Distribution: Himachal Pradesh, Jammu & Kashmir; upto 3400 m.

Inula cuspidata (Wall. ex DC.) C.B. Clarke Compos. Ind. 125. 1876. *Amphirhapis cuspidata* Wall. ex DC.

Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim; upto 2100 m.

Inula eupatorioides DC., Prodr. 5: 469. 1836.

Distribution: Arunachal Pradesh, Himachal Pradesh, Sikkim, Uttarakhand; 1800 m.

Inula falconeri Hook.f., Fl. Brit. India 3: 294. 1881.

Distribution: Jammu & Kashmir; 2400 m.

Inula hookeri C.B. Clarke, Comp. Ind. 122. 1876.

Distribution: Arunachal Pradesh, Sikkim; 2000–3000 m.

Inula kalapani C.B. Clarke, Comp. Ind. 123. 1876.

Distribution: Arunachal Pradesh; 4000 m.

Inula macrosperma Hook.f., Fl. Brit. Ind. iii. 292. 1881.

Distribution: Sikkim.

Inula rubricaulis (DC.) Benth. & Hook.f., Gen. ii. 331. 1873. *Amphirhapis rubricaulis* DC.

Distribution: Sikkim; 900–1800 m.

Inula nervosa Wall. ex DC., Prodr. 5: 471. 1836.

Distribution: Arunachal Pradesh, Sikkim; upto 2000 m.

Inula obtusifolia A. Kerner, Ber. Naturwiss. Med. Vereins Innsbruck 1: 111. 1870.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand; upto 2700 m.

Inula orientalis Lam., Encycl. 3(1): 255. 1789.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand; upto 2000 m.

(Plate 22a)

Inula racemosa Hook.f., Fl. Brit. India 3: 292. 1881.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand; upto 2700 m.

Inula rhizocephala Schrenk, Enum. Pl. Nov. 1: 51. 1841.

Distribution: Jammu & Kashmir; upto 3600 m.

(Plate 22b)

Inula royleana DC., Prodr. 5: 464. 1836.

Distribution: Himachal Pradesh, Jammu & Kashmir; upto 3300 m.

Inula rubricaulis (DC.) C.B. Clarke, Comp. Ind. 126. 1876. *Amphirhapis rubricaulis* DC.

Distribution: Arunachal Pradesh, Sikkim, Uttarakhand; upto 4000 m.

Ixeridium (A. Gray) Tzvelev

Ixeridium sagittarioides (C.B.Clarke) Pak & Kawano, Mem. Fac. Sci. Kyoto Univ., Biol., 15(1–2): 48. 1992. *Lactuca sagittarioides* C.B.Clarke
Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Uttarakhand.

Ixeridium gracile (DC.) Pak & Kawano, Fac. Sci. Kyoto Univ., Biol. 15(1–2): 45. 1992. *Lactuca gracilis* DC.
Distribution: Arunachal Pradesh, Sikkim; upto 1500 m.

Ixeris (Cass.) Cass.

Ixeris polycephala Cass., Diet. Sci. Nat. 24: 50. 1822.
Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; upto 2000 m.

Jurinea Cass.

Jurinea cooperi J. Anthony, Notes Roy. Bot. Gard. Edinburgh 18(86): 21. 1933.
Distribution: Sikkim, 4300 m.

Jurinea dolomiaea Boiss., Fl. Orient. Suppl. 311. 1888.
Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand; upto 4300 m.

Kallimeris (Cass.) Cass.

Kalimeris altaica (Willd.) Nees ex Fisch. Mey & Ave-Lall., Index Seminum 8: 52. 1841.
Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand; upto 4000 m.

Koelpinia Pall.

Koelpinia linearis Pall., Reise Russ. Reich. 3: 755. 1776.
Distribution: Himachal Pradesh, Jammu & Kashmir; upto 3110 m.

Lactuca L.

Lactuca benthamii C.B.Clarke, Compos. Ind. 273. 1876.
Distribution: Jammu & Kashmir; 3000–5000 m.

Lactuca bracteata Hook.f. & Thomson ex C.B.Clarke, Compos. Ind. 270. 1876.
Distribution: Sikkim; 2500–4000 m.

Lactuca brunoniana Wall. ex C.B.Clarke. Comp. Ind. 266. 1876.
Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand; upto 3800 m.

(Plate 169a)

Lactuca crambifolia Boiss., Fl. Orient. 3: 806. 1875.
Distribution: Jammu & Kashmir; 2000–3000 m.

Lactuca decipiens Hook.f. & Thomson ex C.B.Clarke, Compos. Ind. 266. 1876
var. **decipiens**.
Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand; upto 3110 m.

Lactuca decipiens Hook.f. & Thomson ex C.B.Clarke var. **multifida** Hook.f., Fl. Brit. India 3(8): 407. 1881.

Distribution: Jammu & Kashmir.

Lactuca dissecta D.Don., Prodr. Fl. Nepal. 164. 1825.

Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; upto 3110 m.

Lactuca dolichophylla Kitam., Fl. E. Himal. 1: 341. 1966.

Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; upto 3700 m.

Lactuca erostrata Bano & Qaiser, Pakistan J. Bot. 43(5): 2261. 2011.

Distribution: Jammu & Kashmir.

Lactuca filicina Duthie ex Stebbins, Indian Forest Rec. Botany 1(6): 241. 1939.

Distribution: Uttarakhand; 1800–2500 m.

Lactuca indica L., Mant. Pl. 2: 278. 1771.

Distribution: Arunachal Pradesh; upto 2000 m.

Lactuca kashmiriana Mamgain & R.R.Rao, Mamgain & Rao, J. Bombay Nat. Hist. Soc. 83: 406. 1986.

Distribution: Jammu & Kashmir; 2500–4000 m.

Lactuca lahulensis Mamgain & R.R.Rao, Mamgain & Rao, Bull. Bot. Surv. India 27: 120. 1987.

Distribution: Himachal Pradesh, Uttarakhand; 3000–4000 m.

Lactuca lessertiana (Wall. ex DC.) Wall. ex C.B.Clarke, Compos. Ind. 270. 1876. *Mulgedium lessertianum* Wall. ex DC.

Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; upto 4100 m. **(Plate 23a)**

Lactuca sikkimensis (Hook.f.) Stebbins, Indian Forest Rec. Bot. 239. 1939. *Prenanthes sikkimensis* Hook.f.

Distribution: Arunachal Pradesh, Uttarakhand; 1200–2000 m.

Lactuca macrorhiza (Royle) Hook.f., Fl. Brit. India 3(8): 408. 1881. *Mulgedium macrorhizum* Royle

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim Uttarakhand. **(Plate 168b)**

Lactuca orientalis (Boiss.) Boiss., Fl. Orient. 3: 819. 1875. *Phaenopus orientalis* Boiss.

Distribution: Himachal Pradesh, Jammu & Kashmir; upto 3700 m.

Lactuca quercina L., Sp. Pl. 2: 795. 1753.

Distribution: Jammu & Kashmir; 1500–2500 m.

Lactuca rapunculoides C.B.Clarke, Compos. Ind. 268. 1876.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand; 3000–4500 m.

Lactuca sativa L., Sp. Pl. 2: 795. 1753.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand; upto 2600 m.

Lactuca serriola L., Cent. Pl. 2: 29. 1756.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Uttarakhand; upto 3800 m.

Lactuca tatarica (L.) C.A.Mey., Verz. Pfl. Casp. Meer. 56. 1831. *Sonchus tataricus* L.

Distribution: Himachal Pradesh, Jammu & Kashmir; upto 3100 m.

Lactuca viminea (L.) J.Presl & C.Presl, Fl. Cech. 160. 1819. *Prenanthes viminea* L.

Distribution: Himachal Pradesh; 2000–4500 m.

Lactuca undulata Ledeb., Icon. Pl. 2: 12. 1830.

Distribution: Jammu & Kashmir; 3000–5000 m.

Lactuca violifolia (Decne.) C.B.Clarke, Compos. Ind. 269. 1876. *Prenanthes violifolia* Decne.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand.

Lagascea Cav.

Lagascea mollis Cav., Anales Ci. Nat. 6. 1803.

Distribution: Himachal Pradesh, Uttarakhand.

Laggera Sch. Bip.

Laggera alata (D.Don) Sch.Bip. ex Oliv., Trans. Linn. Soc. 39: 94. 1873. *Erigeron alatus* D. Don

Distribution: Arunachal Pradesh, Himachal Pradesh, Sikkim, Uttarakhand; 2000–3500 m.

Laggera crispata (Vahl) Hepper & J.R.I.Wood, Kew Bull. 38: 83. 1983. *Conyza crispata* Vahl.

Distribution: Arunachal Pradesh, Sikkim, Uttarakhand; 1200–2500 m.

Laphangium (Hilliard & B.L. Burt) Tzvelev

Laphangium affine (D.Don) Tzvelev., Byull. Moskovsk. Obshch. Isp. Prir. Otd. Biol. 98(6): 105. 1993. *Gnaphalium affine* D.Don

Distribution: Arunachal Pradesh, Sikkim; upto 2500 m.

Laphangium luteoalbum (L.) Tzvelev., Byull. Moskovsk. Obshch. Isp. Prir. Otd. Biol. 98(6): 105. 1993. *Gnaphalium luteo-album* L.

Distribution: Jammu & Kashmir, Sikkim, Uttarakhand; 2000–3800 m.

Lapsana L.

Lapsana communis L., Sp. Pl. 2: 811. 1753.

Distribution: Jammu & Kashmir; upto 2000 m.

Launaea Cass.

Launaea acaulis (Roxb.) Bab. ex Kerr R. Siam., Enum. 2: 299. 1936. *Prenanthes acaulis* Roxb.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Uttarakhand; upto 1500 m.

Launaea aspleniifolia Hook.f., Fl. Brit. India 3(8): 415. 1881.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand; upto 1500 m.

Launaea intybacea (Jacq.) Beauverd, Bull. Soc. Bot. Genève, ser. 2, 2: 114. 1910. *L. intybacea* Jacq.

Distribution: Jammu & Kashmir; 400–1100 m.

Launaea microcephala Hook.f., Fl. Brit. India. 3(8): 415. 1881.

Distribution: Jammu & Kashmir; 3000–3500 m.

Launaea polyclada Burkill, List Fl. Pl. Baluchistan 44. 1909.

Distribution: Jammu & Kashmir; 1000–3000 m.

Launaea procumbens (Roxb.) Ramayya & Rajagopal, Kew Bull. 23: 465. 1969. *Prenanthes procumbens* Roxb.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Uttarakhand; 1100–8000 m.

Launaea secunda (C.B. Clarke) Hook.f., Fl. Brit. India. 3(8): 416. 1881. *Microhynchus secundus* C.B. Clarke

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand; 1500–3000 m.

Leibnitzia Cass.

Leibnitzia nepalensis (Kunze) Kitam., J. Jap. Bot. xiv. 297. 1938. *Cleistanthium nepalense* Kunze

Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 3900 m.

Leibnitzia pusilla (DC.) S. Gould, Enum. Fl. Pl. Nepal 3: 33. 1982. *Oreoseris pusilla* DC.

Distribution: Uttarakhand.

Leibnitzia ruficoma (Franch.) Kitam., J. Jap. Bot. xiv. 297. 1938. *Gerbera ruficoma* Franch.

Distribution: Sikkim; 3500–4500 m.

Leontopodium R.Br. ex Cass.

Leontopodium brachyactis Gand., Bull. Soc. Bot. France 46: 420. 1899.

Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; upto 3100 m.

Leontopodium haastioides Hand.-Mazz. Beih. Bot. Centralbl., Abt. 2. 44(2): 84. 1927.

Distribution: Sikkim; 5000–6000 m.

Leontopodium himalayanum DC., Prodr. 6: 276. 1837.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; upto 5500 m.

Leontopodium jacotianum Beauverd, Bull. Soc. Bot. Geneve. Ser. 2, 1: 190, 187. 1909.

Distribution: Jammu & Kashmir, Sikkim; 3400– 5000 m.

Leontopodium leontopodium Hand.–Mazz. Beih. Bot. Centralbl 44(2): 118. 1928.

Distribution: Uttarakhand.

Leontopodium monocephalum Edgew., Trans Linn. Soc. London 20(1): 73. 1846.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand, Sikkim; upto 5500 m.

Leontopodium nanum (Hook.f. & Thomson) Hand.–Mazz., Beih. Bot. Centralbl. 44(2): 111. 1928. *Antennaria nana* Hook.f. & Thomson

Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; upto 4400 m.

Leontopodium nivale (Ten.) A. Huet ex Hand.-Mazz. subsp. **alpinum** (Cass.) Greuter, Willdenowia 33(2): 244 . 2003. *L. alpinum* Cass.

Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim; upto 3100 m.

Leontopodium stracheyi (Hook.f.) C.B.Clarke ex Hemsl., J. Linn. Soc., Bot. 30: 136. 1894. *L. alpinum* Colm. ex Cass. var. *stracheyi* Hook.f.

Distribution: Sikkim, Uttarakhand; 3835 m.

Leucanthemum Mill.

Leucanthemum vulgare Lam., Fl. Franc. 2: 137. 1779.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand; upto 2500 m.

Leucomeris D.Don

Leucomeris spectabilis D.Don, Prodr. Fl. Nepal. 170. 1825.

Distribution: Uttarakhand; upto 2000 m.

Ligularia Duval

Ligularia amplexicaulis DC., Prodr. 6: 314. 1838.

Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; upto 4400 m. **(Plate 23c)**

Ligularia dux (C.B.Clarke) R.Mathur, Fl. Ind. Enumerat. Asterac. 53. 1988. *Senecio dux* C.B.Clarke

Distribution: Sikkim; 3000 m.

Ligularia fischeri (Ledeb.) Turcz., Bull. Soc. Imp. Naturalistes Moscou 11(1): 11. 1838. *Cineraria fischeri* Ledeb.

Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarkhand; 2800– 3600 m. **(Plate 23b)**

Ligularia hookeri (C.B.Clarke) Hand.-Mazz., Bot. Jahrb. Syst. 69(1): 127. 1938.
Cremanthodium hookeri C.B.Clarke

Distribution: Himachal Pradesh, Sikkim; 3900–4500 m.

Ligularia hookeri (C.B.Clarke) Hand.-Mazz. fo. **angustiligulatum** R.Mathur, Fl. Ind. Enum. Aster. 53. 1988.

Distribution: Sikkim; 2700–5000 m.

Ligularia hookeri (C.B.Clarke) Hand.-Mazz. fo. **latiligulatum** R. Mathur, Fl. Ind. Enum. Aster. 53. 1988.

Distribution: Sikkim; 2700–5000 m.

Ligularia jacquemontiana (Decne.) M.A.Rau, High Alt. Fl. Pl. W. Himalaya 134. 1975. *Senecillis jacquemontiana* Decne.

Distribution: Himachal Pradesh, Jammu & Kashmir; 3000–4000 m.

Ligularia japonica (Thunb.) Less., Syn. Comp. 390. 1832. *Arnica japonica* Thunb.

Distribution: Arunachal Pradesh; 3000–4000 m.

Ligularia kingiana (W.W.Sm.) R.Mathur, Fl. India Enum. Aster. 53. 1988. *Senecio kingianus* W.W.Sm.

Distribution: Arunachal Pradesh, Sikkim; 3500–4000 m.

Ligularia pachycarpa Kitam., Fl. E. Himalaya 139. 1971.

Distribution: Arunachal Pradesh, Sikkim; 3000–4200 m.

Ligularia retusa DC., Prodr. 6: 314. 1838.

Distribution: Sikkim; 3300–4900 m.

Ligularia sibirica Cass. Dict. Sci. Nat., ed. 2., 26: 402. 1823.

Distribution: Uttarakhand.

Ligularia thomsonii (C.B.Clarke) Pojark, Spisok Rast. Gerb. Fl. S.S.S.R. Bot. Inst. Vsesojuzn. Akad. Nauk 11: 165. 1949. *Senecio thomsonii* C.B.Clarke

Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim; 2000–3500 m.

Ligularia virgaurea Mattf. ex Rehder & Kobuski, J. Arnold Arbor. xiv. 40. 1933.

Distribution: Sikkim; 3000 m.

Lipschitzziella Kamelin

Lipschitzziella ceratocarpa (Decne.) Kamelin, Opred. Rast. Sred. Azii 10: 632. 1993. *Saussurea ceratocarpa* Decne.

Distribution: Jammu & Kashmir, Uttarakhand.

Matricaria L.

Matricaria chamomilla L., Sp. Pl. 2: 891. 1753.

Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand.

Melanoseris Decne.

Melanoseris macrorrhiza (Royle) N. Kilian, Fl. China 20–21: 224. 2011. *Mulgedium macrorrhizum* Royle

Distribution: Uttarakhand; 4500 m.

Melanoseris violaefolia (Decne) N. Kilian, Fl. China 20–21: 225. 2011. *Prenanthes violifolia* Decne.

Distribution: Sikkim, Jammu & Kashmir.

Microglossa DC.

Microglossa pyrifolia (Lam.) Kuntze, Rev. Gen. Pl. 1: 353. 1891. *Conyza pyrifolia* Lam.

Distribution: Arunachal Pradesh, Sikkim; 1500–2500 m.

Mikania Willd.

Mikania micrantha Kunth, Nov. Gen. Sp. 4: 134. 1820.

Distribution: Arunachal Pradesh, Sikkim; 1500–2500 m.

Monsis DC.

Monosis talaumifolia (Hook. & Thomson ex C.B. Clarke) H. Rob. Skvarla, Proc. Biol. Soc. Wash. 119(4): 606. 2006. *Vernonia talaumifolia* Hook. & Thomson ex C.B. Clarke

Distribution: Arunachal Pradesh, Sikkim; 1500–2500 m.

Montanoa Cerv.

Montanoa grandiflora DC. Prodr. 5: 565. 1836.

Distribution: Uttarakhand.

Myriactis Less.

Myriactis javanica DC., Prodr. 5: 308. 1836.

Distribution: Jammu & Kashmir, Uttarakhand.

Myriactis nepalensis Less, Linnaea 6: 128, t. 2. 1831.

Distribution: Arunachal Pradesh, Sikkim, Uttarakhand; 1500–3000 m.

Myriactis wallichii Less, Contr. Bot. India 10. 1834.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 2500–4000 m. **(Plate 24b)**

Nannoglottis Maxim.

Nannoglottis hookeri (C.B. Clarke ex Hook.f.) Kitam., Acta Phytotax. Geobot. 31(1–3): 50. 1980. *Doronicum hookeri* C.B. Clarke ex Hook.f.

Distribution: Sikkim; 3400–4100 m.

Neobrachyactis Brouillet

Neobrachyactis anomala (DC.) Brouillet., Fl. China 20–21: 572. 2011. *Erigeron anomalus* DC.

Distribution: Jammu & Kashmir, Sikkim; 3600–3900 m.

Neobrachyactis pubescens (DC.) Brouillet, Fl. China 20–21: 573. 2011. *Conyza pubescens* DC.

Distribution: Jammu & Kashmir, Sikkim.

Neobrachyactis roylei (DC.) Brouillet, Fl. China 20–21: 572. 2011. *Conyza roylei* DC.

Distribution: Jammu & Kashmir, Sikkim.

Olgaea Iljin

Olgaea thomsonii Iljin, Not. Syst. Herb. Hort. Petrop. iii. 142. 1922.

Distribution: Jammu & Kashmir; 2800–4000 m.

Onopordum L.

Onopordum acanthium L., Sp. Pl. 827. 1753.

Distribution: Jammu & Kashmir.

Parasenecio W.W.Sm. & J.Small

Parasenecio chenopodifolius (DC.) Grierson, Edinburgh, J. Bot. 57(3): 405. 2000. *Senecio chenopodifolius* DC.

Distribution: Arunachal Pradesh, Jammu & Kashmir, Uttarakhand; 3000–4000 m.

Parasenecio quinquelobus (Wall. ex DC.) Y.L.Chen, Fl. Republ. Popularis Sin. 77: 59–60. 1999. *Pernanthes quinquelobus* Wall. ex DC.

Distribution: Arunachal Pradesh, Uttarakhand; 2600–4300 m.

Parthenium L.

Parthenium hysterophorus L., Sp. Pl. 988. 1753.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand.

Pentanema Cass.

Pentanema cernuum (Dalzell) Ling, Acta Phytotax. Sin. x. 180. 1965. *Vicoa cernua* Dalzell

Distribution: Uttarakhand.

Pentanema indicum (L.) Ling, Acta Phytotax. Sin. x. 179. 1965. *Inula indica* L.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand; upto 1200 m.

Pentanema vestitum (Wall. ex DC.) Ling, Acta Phytotax. Sin. 10(2): 180. 1965. *Inula vestita* Wall. ex DC.

Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 1800 m.

Petasites Mill.

Petasites albus (L.) Gaertn., Fruct. Sem. Pl. 2: 406. 1791. *Tussilago alba* L.

Distribution: Arunachal Pradesh.

Petasites kamengicus Deb, Indian For. 93(4): 255. 1967.

Distribution: Arunachal Pradesh.

Petasites tricholobus Franch., Pl. David. i. 172. 1883.

Distribution: Arunachal Pradesh, Uttarakhand; 1875 m.

Phagnalon Cass.

Phagnalon acuminatum Boiss, Fl. Orient. 3: 222. 1875.

Distribution: Jammu & Kashmir.

Phagnalon darvazicum Krasch., Trudy Bot. Inst. Akad. Nauk S.S.S.R., Ser. 1, Fl. Sist. Vyssh. Rast. 3: 343. 1937.

Distribution: Jammu & Kashmir.

Phagnalon niveum Edgew. Trans., Linn. Soc. London 20(1): 68. 1846.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand; 1500–2500 m.

Picris L.

Picris hieracioides L., Sp. Pl. 792. 1753.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Uttarakhand, Sikkim; 1500–3000 m.

Picris hieracioides L. subsp. **kaimaensis** Kitam., Acta Phyt. Geobot. 27: 37. 1957.

Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; upto 3800 m.

Picrosia D. Don

Picrosia longifolia D. Don, Trans. Linn. Soc. London 6: 184. 1830.

Distribution: Uttarakhand.

Pilosella Hill

Pilosella echioides F.W. Schultz & Sch. Bip., Flora 45: 431. 1862.

Distribution: Jammu & Kashmir; 2000–4000 m.

Pluchea Cass.

Pluchea lanceolata (DC.) C.B. Clarke, Compos. Ind. 94. 1876. *Berthelotia lanceolata* DC.

Distribution: Uttarakhand.

Pluchea linearifolia C.B. Clarke, Comp. Ind. 95. 1876.

Distribution: Arunachal Pradesh; 3000 m.

Pluchea tomentosa DC., Contr. Bot. India 16. 1834.

Distribution: Himachal Pradesh, Uttarakhand.

Podospermum DC.

Podospermum purpureum W.D.J. Koch & Ziz, Nomencl. Bot. [Steudel] 755, syn. 1821.

Distribution: Jammu & Kashmir; 2000–2500 m.

Prenanthes L.

Prenanthes aitchisoniana (Beauverd) Bano & Qaiser, Pakistan J. Bot. 41(5): 2089. 2009.

Distribution: Himachal Pradesh.

Prenanthes khasiana C.B. Clarke, Comp. Ind. 273. 1876.

Distribution: Arunachal Pradesh; 1500–3000 m.

Prenanthes scandens Hook.f. & Thomson ex C.B. Clarke, Comp. Ind. 274. 1876.
Distribution: Arunachal Pradesh, Sikkim; 1200–3000 m.

Pseudognaphalium Kirp.

Pseudognaphalium hypoleucum (DC.) Hilliard & B.L. Butt, Bot. J. Linn. Soc. 82. 205. 1981. *Gnaphalium hypoleucum* DC.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim
Uttarakhand, West Bengal (Drajeeling); 2000–3000 m.

Pseudoyoungia D. Maity & Maiti

Pseudoyoungia gracilipes (Hook.f.) D. Maity & Maiti, Compositae Newslett. 48. 2010. *Crepis gracilipes* Hook.f.

Distribution: Uttarakhand, Sikkim; 4850 m.

Pseudoyoungia simulatrix (Babc.) D. Maity & Maiti, Compositae Newslett. 48. 2010. *Crepis simulatrix* Babc.

Distribution: Sikkim; 2700–5000 m.

Psychrogeton Boiss.

Psychrogeton andryaloides (DC.) Novopokr. ex Krasch. var. **denudatus** Grierson, Notes Roy. Bot. Gard. Edinburgh 27(2): 117. 1967.

Distribution: Himachal Pradesh, Jammu & Kashmir.

Pulicaria Gaertn.

Pulicaria dysenterica (L.) Gaertn., Fruct. Sem. Pl. 2: 462. 1791. *Inula dysenterica* L.

Distribution: Jammu & Kashmir.

Pulicaria foliolosa DC., Prodr. 5: 480. 1836.

Distribution: Sikkim; 1500 m.

Pulicaria gnaphalodes (Vent.) Boiss., Diagn. Pl. Orient. ser. 1, 6: 76. 1846. *Inula gnaphalodes* Vent.

Distribution: Jammu & Kashmir.

Pulicaria petiolaris Jaub. & Spach., Ill. Pl. Orient. 4(35): 69, t. 344. 1852.

Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; upto 1500 m.

Pulicaria vulgaris Gaertn., Fruct. Sem. Pl. 2: 461, t. 173. 1791.

Distribution: Jammu & Kashmir.

Pulicaria salviifolia Bunge, Mém. Acad. Imp. Sci. St.–Pétersbourg Divers Savans vii. 331. 1851.

Distribution: Jammu & Kashmir.

Pyrethrum Zinn.

Pyrethrum pyrethroides (Kar. & Kir.) B. Fedtsch. ex Krasch., Trudy Bot. Inst. Akad. Nauk SSR, I, 1: 176. 1933. *Richteria pyrethroides* Kar. & Kir.

Distribution: Himachal Pradesh, Jammu & Kashmir; upto 3800 m.

Rhaponticum Ludw.

Rhaponticum repens (L.) Hidalgo, Ann. Bot. (Oxford) 97(5): 714. 2006. *Centaurea repens* L.

Distribution: Himachal Pradesh, Jammu & Kashmir; upto 3700 m.

Rhynchospermum Reinw.

Rhynchospermum verticillatum Reinw., Syll. Pl. Nov. 2: 8. 1828.

Distribution: Arunachal Pradesh, Sikkim, Uttarakhand; 1800–2200 m.

Rudbeckia L.

Rudbeckia bicolor Nutt., J. Acad. Nat. Sci. Philadelphia 7(1): 81. 1834.

Distribution: Uttarakhand.

Saussurea DC.

Saussurea andersonii C.B. Clarke, Comp. Ind. 226. 226. 1876.

Distribution: Sikkim; 3500–4000 m.

Saussurea andryaloides (DC.) Sch. Bip., Linnaea 19: 331. 1846. *Aplotaxis andryaloides* DC.

Distribution: Jammu & Kashmir, Uttarakhand; upto 2400 m.

Saussurea aster Hemsl., J. Linn. Soc., Bot. xxx. 115. t. 5. 1894.

Distribution: Himachal Pradesh, Jammu & Kashmir; 4800–5800 m.

Saussurea atkinsonii C.B. Clarke, Compos. Ind. 226. 1876.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand; upto 2400 m.

Saussurea auriculata (DC.) Sch. Bip., Linnaea 19: 331. 1846. *Aplotaxis auriculata* DC.

Distribution: Jammu & Kashmir, Sikkim, Uttarakhand, West Bengal (Darjeeling); 3500–4200 m. **(Plate 169b)**

Saussurea bracteata Decne., Jacquem., Voy. Bot. 94, t. 102. 1844.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand; upto 2400 m. **(Plate 24c)**

Saussurea caespitosa (DC.) Wall. ex Sch. Bip. var. **depressa** (Hook. f.) Lipschitz. *S. taraxacifolia* (Lindl. ex Royle) Wall ex DC. var. *depressa* Hook. f.

Distribution: Arunachal Pradesh, Jammu & Kashmir, Uttarakhand, Sikkim; 4500–4600 m.

Saussurea candolleana Wall. ex C.B. Clarke, Compos. Ind. 230. 1876.

Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; upto 3425 m.

Saussurea ceratocarpa Decne. var. **depressa** (C.B. Clarke ex Hook. f.) Lipsch., Gen. Saussurea 42. 1979. *Jurinea ceratocarpa* (DC.) Benth. var. *depressa* C.B. Clarke ex Hook. f.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand.

Saussurea clarkei Hook.f., Fl. Brit. Ind. iii. 372. 1881.

Distribution: Jammu & Kashmir, Uttarakhand; 4500 m.

Saussurea columnaris Hand.-Mazz., Notizbl. Bot. Gart. Berlin-Dahlem xiii. 652. 1937.

Distribution: Jammu & Kashmir; 4500–5500 m.

Saussurea costus (Falc.) Lipsch., Bot. Zurn. 49(1) : 131. 1964. *Aucklandia costus* Falc.

Distribution : Himachal Pradesh, Jammu & Kashmir, Uttarakhand; 3200–3800 m.

Saussurea depsangensis Pamp., Lav. Ist. Bot. Reale Univ. 22: 176. 1934.

Distribution: Himachal Pradesh, Jammu & Kashmir; 4850–5200 m.

Saussurea diffusa Lipsch, Rod Saussurea DC. 140. 1979.

Distribution: Jammu & Kashmir.

Saussurea donkiah C.B. Clarke ex Spring., Edinburgh J. Bot. 57(3): 405. 2000.

Distribution: Sikkim; 3670–4880 m.

Saussurea fastuosa (Decne.) Sch.Bip., Linnaea 19: 331. 1846. *Aplotaxis fastuosa* Decne.

Distribution: Himachal Pradesh, Sikkim, Uttarakhand; 2500–3600 m. (**Plate 25a**)

Saussurea fibrosa King ex W.W.Sm., J. Proc. Asiat. Soc. Bengal 7: 72. 1911.

Distribution: West Bengal (Darjeeling); 4570–5180 m.

Saussurea gilesii Hemsl. Hooker's Icon. Pl. 18: t. 1736. 1888.

Distribution: Himachal Pradesh, Jammu & Kashmir.

Saussurea glacialis Herdr, Bull. Soc. Nat. Mosc. xi. (1867) II. 144. 1867.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand; 5500 m.

Saussurea glanduligera Sch.Bip ex Hook.f., Fl. Brit. India 3: 371. 1881.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand; upto 4800 m.

Saussurea gnaphalodes (Royle ex DC.) Sch.Bip., Linnaea 19: 331. 1846. *Aplotaxis gnaphalodes* Royle ex DC.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand; upto 5100 m.

(**Plate 25b**)

Saussurea gossypiphora D.Don, Mem. Wem. Nat. Hist. Soc. 3: 414. 1821. var. **gossypiphora**

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 3500–4500 m.

Saussurea graminifolia Wall. ex. DC., Prodr. 6 : 536. 1838.

Distribution: Jammu & Kashmir, Sikkim, Uttarakhand; 3700–5200 m.

Saussurea hieracioides Hook.f., Fl. Brit. Ind. iii. 371. 371 1881.

Distribution: Sikkim, Uttarakhand; 3700–4950 m.

Saussurea hookeri C.B.Clarke, Comp. Ind. 230. 1876.

Distribution: Sikkim, Uttarakhand, 4600–4850 m.

- Saussurea jacea** C.B. Clarke, Compos. Ind. 233. 1876.
Distribution: Himachal Pradesh, Jammu & Kashmir; 2700 m. (Plate 24d)
- Saussurea laneana** W.W.Sm., J. Proc. Asiat. Soc. Bengal 7: 74. 1911.
Distribution: Sikkim, 4000 m.
- Saussurea leontodontoides** (DC.) Sch.Bip., Linnaea 19: 330. 1846. *Aplotaxis leontodontoides* DC.
Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 3200–5100 m.
- Saussurea leptophylla** Hemsl. Hooker's Icon. Pl. 18: t. 1734. 1888.
Distribution: Jammu & Kashmir, 3200 m.
- Saussurea katochaete** Maxim., Bull. Acad. Petersb. xxvii. 491. 1881.
Distribution: Sikkim; 4170–4880 m.
- Saussurea kingii** J.R.Drumm. ex C.E.C.Fisch., Bull. Misc. Inform. Kew 98. 1937.
Distribution: Sikkim; 4570–5180 m.
- Saussurea laminamaensis** Kitam., Acta Phytotax. Geobot. 32(5–6): 140. 1981.
Distribution: Sikkim; 4270–4980 m.
- Saussurea medusa** Maxim, Bull. Acad. Petersb. xxvii. 488. 1881.
Distribution: Jammu & Kashmir; 4000 m.
- Saussurea nana** (Pamp.) Pamp., Sped. Ital. De Filippi Himal. 1913–14, Ser. II. xi. 176. 1934. *S. schultzei* Hook.f. var. *nana* Pamp.
Distribution: Himachal Pradesh, Jammu & Kashmir; 4500–6000 m. (Plate 25c)
- Saussurea nepalensis** Spreng., Syst. Veg. (Ed. 16) 3: 380. 1826.
Distribution: Arunachal Pradesh, Sikkim; 3200–4900 m.
- Saussurea nimborum** W.W.Sm., J. Proc. Asiat. Soc. Bengal 7: 73. 1911.
Distribution: Sikkim; 4000–5300 m.
- Saussurea nishipkae** Kitam., Acta Phytotax. Geobot. xxiv. 6. 1969.
Distribution: Sikkim; 4800 m.
- Saussurea obscura** Lipsch., Novosti Sist. Vyssh. Rast. 8: 250. 1971.
Distribution: Sikkim; 3600–4800 m.
- Saussurea obvallata** (DC.) Edgew., Trans. Linn. Soc. London 20: 76. 1841. *Aplotaxis obvallata* DC.
Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 3500–4500 m. (Plate 26)
- Saussurea pachyneura** Franch., Morot, Journ. de Bot. viii. 354. 1894.
Distribution: Sikkim; 4300–5300 m.
- Saussurea pantlingiana** W.W.Sm, J. Proc. Asiat. Soc. Bengal 7: 73. 1911.
Distribution: Sikkim; 4000 m.

- Saussurea piptanhera** Edgew., Trans. Soc. London 20: 76. 1846.
Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 3200 m. **(Plate 27a)**
- Saussurea polystioides** Hook.f., Fl. Brit. Ind. iii. 369. 1881.
Distribution: Sikkim, Uttarakhand; 4400 m.
- Saussurea przealskii** Maxim., Bull. Acad. Petersb. xxvii. 494. 1881.
Distribution: Sikkim; 3970–4580 m.
- Saussurea roylei** (DC.) Sch.Bip., Linnaea 19 : 330. 1846. *Aplotaxis roylei* DC.
Distribution: Jammu & Kashmir, Uttarakhand.
- Saussurea schlagintweitii** Klatt., Sitzungsber. Math. Phys. Cl. Königl. Bayer. Akad. Wiss. München 94. 1878.
Distribution: Jammu & Kashmir, Uttarakhand.
- Saussurea sikkimensis** Raab-Straube, Englera 34: 86. 2017.
Distribution: Sikkim.
- Saussurea simpsoniana** (Fielding & Gardner) Lipsch., Novit. Syst. Pl. Vasc., Acad. Sci. URSS 319. 1964. *Aplotaxis simpsoniana* Fielding & Gardner
Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; upto 3400 m. **(Plate 27b)**
- Saussurea spicata** Kitam., Acta Phytotax. Geobot. 30(4–6): 128. 1979.
Distribution: Sikkim; 4570–5180 m.
- Saussurea stella** Maxim., Bull. Acad. Petersb. xxvii. 490. 1881.
Distribution: Sikkim; 4650–4800 m.
- Saussurea stolizkae** C.B.Clarke, Comp. Ind. 225. 1876.
Distribution: Himachal Pradesh, Jammu & Kashmir; 4000–5000 m.
- Saussurea subulata** C.B.Clarke, Compos. Ind. 226. 1876.
Distribution: Jammu & Kashmir.
- Saussurea sudhanshui** Hajra, Indian For. 109(2): 77. 1983.
Distribution: Uttarakhand; 4500–4800 m.
- Saussurea sugho** C.B.Clarke, Comp. Ind. 255. 1876.
Distribution: Arunachal Pradesh, Sikkim; 3500–4800 m.
- Saussurea taraxacifolia** (Lindl. ex Royle) Wall ex DC., Prodr. 6: 532. 1838.
Cyathidium taraxacifolium Lindl. ex Royle
Distribution: Arunachal Pradesh, Jammu & Kashmir, Himachal Pradesh, Sikkim, Uttarakhand; 3500–4500 m. **(Plate 28a)**
- Saussurea thomsoni** C.B.Clarke, Compos. Ind. 227. 1876.
Distribution: Jammu & Kashmir.
- Saussurea tridactyla** Sch.Bip. ex Hook.f., Fl. Brit. India 3(8): 377. 1882.
Distribution: Sikkim, 4600–5600 m.

Saussurea uniflora Wall. ex Sch.Bip., Linnaea 19: 320 1846. var. **uniflora**.
Distribution: Sikkim; 3000–4700 m.

Saussurea wernerioides Sch.Bip. ex Hook.f., Fl. Brit. Ind. iii. 367. 1881.
Distribution: Jammu & Kashmir, Sikkim; 3800–5300 m.

Sclerocarpus Jacq.

Sclerocarpus africanus Jacq. ex Murray, Syst. Veg., ed. 14 (J. A.Murray). 783.
1784.
Distribution: Himachal Pradesh, Uttarakhand.

Scorzonera L.

Scorzonera virgata DC., Prodr. 7: 125. 1838.
Distribution: Jammu & Kashmir, Himachal Pradesh; upto 4000 m.

Senecio L.

Senecio albopurpureus Kitam., Faun. & Fl. Nepal Himal. 1952–53. i. 271. 1955.
Distribution: Sikkim; 4500–4800 m.

Senecio analogus DC., Prodr. 6: 366. 1838.
Distribution: Jammu & Kashmir, Himachal Pradesh, Uttarakhand; 4000 m.

Senecio biligulatus W.W.Sm., J. As. Soc. Bengal 7: 69. 1911.
Distribution: Arunachal Pradesh, Sikkim; 3000–4000 m.

Senecio candolleanus Wall. ex DC., Prodr. 6: 364. 1838.
Distribution: Sikkim, Uttarakhand; 3600–3900 m.

Senecio cappa Buch.–Ham. ex D. Don, Prodr. Fl. Nep. 179. 1825.
Distribution: Arunachal Pradesh.

Senecio chrysanthemoides DC. Prodr. 6: 365. 1837.
Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim,
Uttarakhand.

Senecio chola W.W.Sm., J. Proc. Asiat. Soc. Bengal 7: 72. 1911.
Distribution: Sikkim; 3600–3900 m.

Senecio dubitabilis C.Jeffrey & Y.L.Chen, Kew Bull. 39 (2): 427. 1984.
Distribution: Jammu & Kashmir, Himachal Pradesh, Uttarakhand; upto 4550 m.

Senecio glaucus L. subsp. **coronopifolius** (Maire) C.Alexander, Notes Roy. Bot.
Gard. Edinburgh 37(3): 412. 1979. *S. gallicus* subsp. *coronopifolius* Maire
Distribution: Jammu & Kashmir, Himachal Pradesh, Uttarakhand; upto 3650 m.

Senecio graciliflorus DC., Prodr. 6: 365. 1838.
Distribution: Jammu & Kashmir, Himachal Pradesh, Sikkim, Uttarakhand; upto
4550 m. **(Plate 168c)**

Senecio krascheninnikovii Schischk., Not. Syst. Herb. Inst. Bot. Kon. Acad. Sci.
URSS. 15: 410. 1953.
Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand; upto 4550 m.

Senecio krascheninnikovii Schischk. var. **alba** (B.Ghosh & U.C.Bhattach.) H.B.Naithani, Fl. Pl. India, Nepal & Bhutan 238. 1990. *Senecio pedunculatus* Edgew. var. *albus* B.Ghosh & U.C.Bhattach.

Distribution: Himachal Pradesh.

Senecio kumaonensis Duthie ex C.Jeffrey & Y.L.Chen, Kew Bull. 39(2): 357. 1984. Distribution: Sikkim, Uttarakhand; 3600–4500 m.

Senecio ladakhensis H.J.Chowdhery, Uniyal, R.Mathur & R.R.Rao, Indian J. Forest. 13(4): 366. 1990.

Distribution: Jammu & Kashmir, Himachal Pradesh.

Senecio laetus Edgew., Trans. Linn. Soc. London 20: 74. 1846.

Distribution: Jammu & Kashmir, Himachal Pradesh, Sikkim, Uttarakhand; upto 4000 m. **(Plate 28b)**

Senecio linariifolius Poepp. ex DC., Prodr. 6: 414. 1837.

Distribution: Arunachal Pradesh; 3000–4000 m.

Senecio mishmi C.B.Clark, Comp. Ind. 203. 1876.

Distribution: Arunachal Pradesh.

Senecio nodiflorus C.C.Chang, Bull. Fan. Mem. Inst. Biol. 6: 54. 1935.

Distribution: Arunachal Pradesh; 3000–4500 m.

Senecio nudicaulis Buch.-Ham. ex D. Don, Prodr. Fl. Nep. 178. 1825.

Distribution: Arunachal Pradesh, Uttarakhand; upto 3000 m.

Senecio ramosus Wall. ex DC., Prodr. 6: 365. 1838.

Distribution: Arunachal Pradesh, Sikkim; upto 3000 m.

Senecio raphanifolius Wall. ex DC., Prodr. 6: 366. 1838.

Distribution: Arunachal Pradesh, Sikkim; 2500–3000 m.

Senecio royleanus DC., Prodr. 6: 366. 1838.

Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim Uttarakhand; 2500–3000 m.

Senecio scandens Buch.-Ham. ex D.Don, Prodr. Fl. Nepal. 178. 1825.

Distribution: Arunachal Pradesh, Himachal Pradesh, Sikkim, Uttarakhand.; 1500–2100 m. **(Plate 29a)**

Senecio tetrandrus Buch.-Ham. ex DC.Prodr. 6: 365. 1838.

Distribution: Sikkim, West Bengal (Darjeeling); 2500–3000 m.

Senecio tibeticus Hook.f., Fl. Brit. India 3: 340. 1881.

Distribution: Jammu & Kashmir; 2400–3900 m.

Senecio vulgaris L., Sp. Pl. 2: 867. 1753.

Distribution: Jammu & Kashmir; 300–2300 m.

Senecio wightianus DC. ex Wight, Contrib. Bot. India 22. 1834.

Distribution : Arunachal Pradesh, Himachal Pradesh, Sikkim, Uttarakhand; 1500–2100 m.

Senecio wightii Benth. ex C.B. Clarke, Comp. Ind. 197. 197 1876.

Distribution: Arunachal Pradesh; 1200–2100 m.

Seriphidium (Besser ex W. Hook.) Poljakov

Seriphidium brevifolium (Wall. ex DC.) Ling & Y. R. Ling, Acta Phytotax. Sin. 18(4): 513. 1980. *Artemisia brevifolia* Wall. ex DC.

Distribution: Jammu & Kashmir, Uttarakhand.

Serratula L.

Serratula pallida DC., Prodr. 6: 670. 1838.

Distribution: Jammu & Kashmir, Himachal Pradesh, Uttarakhand; 1500–3100 m.

Shangwua Yu J. Wang, Raab-Straube, Susanna & J. Quan Liu

Shangwua denticulata (DC.) Raab-Straube & Yu J. Wang, Taxon 62(5): 993. 2013. *Aplotaxis denticulata* DC.

Distribution: Uttarakhand; 3200 m.

Sigesbeckia L.

Sigesbeckia orientalis L., Sp. Pl. 900. 1753.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 1200–3750 m.

Silybum Adans.

Silybum marianum (L.) Gaertn., Fruct. Sem. Pl. 2. 378. 1791. *Carduus marianus* L.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand; 300–1700 m.

Solidago L.

Solidago canadensis L., Sp. Pl. 878. 1753.

Distribution: Uttarakhand.

Solidago decurrens Lour. Fl. Cochinch. 2: 501. 1790.

Distribution: Uttarakhand.

Solidago virgaurea L., Sp. Pl. 1: 880. 1753.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; upto 2600 m.

(Plate 29b)

Solidago virgaurea L. subsp. **dahurica** (Kitag.) Kitag., Rep. Inst. Sci. Res. Manchoukuo 3, App. 1. 472. 1939. *S. dahurica* Kitag.

Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 1800–3000 m.

Soliva Ruiz & Pav.

Soliva anthemifolia (Juss.) R.Br., Hort. Brit. 243. 1826. *Gymnostyles anthemifolia* Juss.

Distribution: Jammu & Kashmir, Uttarakhand; 400–700 m.

Sonchus L.

Sonchus asper (L.) Hill, Herb. Brit. 1: 47. 1769. *S. oleraceus* L. var. *asper* L.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 2000–3000 m.

Sonchus brachyotus DC., Prodr. 7(1): 186. 1838.

Distribution: Himachal Pradesh, Arunachal Pradesh, Uttarakhand; upto 3500 m.

Sonchus oleraceus L., Sp. Pl. 794. 1753.

Distribution: Arunachal Pradesh, Sikkim, Uttarakhand; 2000–3500 m.

Sonchus wightianus DC., Prodr. 7: 187. 1838.

Distribution: Arunachal Pradesh, Himachal Pradesh, Uttarakhand; 1200–2500 m.

Sorosseris Stebbins

Sorosseris erysimoides (Hand.-Mazz.) C. Shih., Acta Phytotax. Sin. 31(5): 444. 1993. *Crepis gillii* S. Moore var. *erysimoides* Hand.-Mazz.

Distribution: Sikkim; 3000–5000 m.

Sorosseris glomerata (Decne.) Stebbins, Mem. Torrey Bot. Club 19(3) : 45. 1940. *Prenanthus glomerata* Decne.

Distribution: Jammu & Kashmir, Sikkim, Uttarakhand; 4000–5000 m.

Sorosseris hookeriana Stebbins, Mem. Torrey Bot. Club 19(3): 45. 1940.

Distribution: Himachal Pradesh, Sikkim, Uttarakhand; 3500–5000 m.

Sorosseris pumila Stebbins, Mem. Torrey Bot. Club 19(3): 38. 1940.

Distribution: Sikkim; 4000–5100 m.

Sorosseris umbrella (Franch.) Stebbins, Mem. Torrey Bot. Club 19(3): 33. 1940. *Crepis umbrella* Franch.

Distribution: Sikkim; 3640–5140 m.

Sphaeranthus L.

Sphaeranthus indicus L., Sp. Pl. 927. 1753.

Distribution: Arunachal Pradesh, Sikkim, Uttarakhand; 1500 m.

Sphaeranthus senegalensis DC., Prodr. 5: 370. 1836.

Distribution: Himachal Pradesh, Uttarakhand.

Stenosseris C. Shih

Stenosseris graciliflora (DC.) C. Shih, Acta Phytotax. Sin. 29(5): 413. 1991. *Lactuca graciliflora* DC.

Distribution: Arunachal Pradesh, Sikkim, Uttarakhand; 2000–3500 m.

Stevia Cav.

Stevia ovata Willd., Enum. Pl. 855. 1809.

Distribution: Himachal Pradesh.

Symphotrichum Nees

Symphotrichum ericoides (L.) G.L.Nesom, *Phytologia* 77(3): 280. 1995.
Aster ericoides L.

Distribution: Himachal Pradesh, Uttarakhand.

Synedrella Gaertn.

Synedrella nodiflora (L.) Gaertn., *Fruct. Sem. Pl.* 2: 456. 1791. *Verbesina nodiflora* L.

Distribution: Sikkim; 300–1650 m.

Synotis (C.B.Clarke) C.Jeffrey & Y.L. Chen

Synotis acuminata (Wall. ex DC.) C.Jeffrey & Y.L.Chen, *Kew Bull.* 39(2): 332. 1984. *Senecio acuminatus* Wall. ex DC.

Distribution: Arunachal Pradesh, Sikkim, Uttarakhand; upto 500 m.

Synotis ainisliifolia C.Jeffrey & Y.L.Chen, *Kew Bull.* 39 (2): 307. 1984.

Distribution: Arunachal Pradesh; upto 1500 m.

Synotis alata C.Jeffrey & Y.L.Chen, *Kew Bull.* 39(2): 308. 1984.

Distribution: Arunachal Pradesh, Himachal Pradesh, Sikkim, Uttarakhand; upto 2000–3500 m.

Synotis auriculata C.Jeffrey & Y.L.Chen, *Kew Bull.* 39 (2): 330. 1984.

Distribution: Arunachal Pradesh; upto 2000–3500 m.

Synotis borii (Raizada) R. Mathur, *J. Econ. Tax. Bot.* 8(2): 282. 1986. *Senecio borii* Raizada

Distribution: Arunachal Pradesh; upto 1900 m.

Synotis brevipappa C.Jeffrey & Y.L.Chen, *Kew Bull.* 39(2): 300. 1984.

Distribution: Arunachal Pradesh; upto 1900 m.

Synotis cappa (Buch.-Ham. ex D.Don) C. Jeffrey & Y.L.Chen, *Kew Bull.* 39(2): 319. 1984. *Senecio cappa* Buch.-Ham. ex D.Don

Distribution: Arunachal Pradesh, Sikkim, West Bengal (Darjeeling); upto 1900 m.

Synotis kunthiana (Wall. ex DC.) C.Jeffrey & Y.L. Chen, *Kew Bull.* 39 (2): 255. 1984. *Senecio kunthianus* Wall. ex DC.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Uttarakhand; 2500–3500 m. **(Plate 29c)**

Synotis nagensium (C.B.Clarke) C.Jeffrey & Y.L.Chen *Kew Bull.* 39: 321. 1984. *Senecio nagensium* C.B.Clarke

Distribution: Arunachal Pradesh; 2500–3500 m.

Synotis rufinervis (DC.) C.Jeffrey & Y.L.Chen *Kew Bull.* 39(2): 288 (1984): 288 1984. *Senecio rufinervis* DC.

Distribution: Himachal Pradesh, Uttarakhand.

Synotis saluenensis (Diels) C.Jeffrey & Y.L.Chen, *Kew Bull.* 39(2): 330. 1984. *Senecio saluenensis* Diels

Distribution: Arunachal Pradesh; upto 3500 m.

Synotis solidaginea (Hand.-Mazz.) C.Jeffrey & Y.L.Chen, Kew Bull. 39: 323. 1984.
Senecio solidaginea Hand.-Mazz.

Distribution: Arunachal Pradesh; 2500–3900 m.

Synotis tetrantha (DC.) C.Jeffrey & Y.L.Chen, Kew Bull. 39(2): 308. 1984. *Senecio tetranthus* DC.

Distribution: Arunachal Pradesh, Sikkim; 2000–3500 m.

Synotis triligulata (Buch.–Ham. ex D.Don) C.Jeffrey & Y.L.Chen, Kew Bull. 39(2): 329. 1984. *Senecio triligulatus* Buch.–Ham. ex D.Don

Distribution: Arunachal Pradesh, Sikkim; 2000–3500 m.

Synotis vagans (Wall. ex DC.) C.Jeffrey & Y.L.Chen, Kew, Bull. 39(2): 288. 1984.
Senecio vagans Wall. ex DC.

Distribution: Sikkim; 1800–2500m.

Synotis wallichii (DC.) C.Jeffrey & Y.L.Chen, Kew Bull. 39(2): 305. 1984. *Senecio wallichii* DC.

Distribution: Sikkim; 2700–3400 m.

Tagetes L.

Tagetes erecta L., Sp. Pl. 887. 1753.

Distribution: Arunachal Pradesh, Sikkim (cultivated).

Tagetes minuta L., Sp. Pl. 887. 1753.

Distribution: Arunachal Pradesh, Himachal Pradesh, Sikkim, Uttarakhand; upto 2000 m.

Tanacetum L.

Tanacetum artemisioides Sch.Bip. ex Hook.f., Fl. Brit. Ind. iii. 318. 1881.

Distribution: Jammu & Kashmir, Uttarakhand; 2500–3000 m.

Tanacetum atkinsonii (C.B.Clarke) Kitam., Enum., Fl. Pl. Nepal 3: 45. 1982.
Chrysanthemum atkinsonii C.B. Clarke

Distribution: Sikkim; 4000–5000 m.

Tanacetum cinerariifolium Sch. Bip., Tanacetum 58. 1844.

Distribution: Uttarakhand.

Tanacetum dolichophyllum (Kitam.) Kitam., Enum. Fl. Pl. Nepal 3: 45. 1982.
Chrysanthemum dolichophyllum Kitam.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Uttarakhand; upto 4000 m.

Tanacetum falconeri Hook.f., Fl. Brit. Ind. iii. 320. 320 1881.

Distribution: Jammu, Himachal Pradesh; 3000–4000 m.

Tanacetum gossypinum Hook.f. & Thomson ex C.B.Clarke, Comp. Ind. 154. 1876.

Distribution: Sikkim, Uttarakhand; 5500–6000 m.

Tanacetum gracile Hook.f. & Thomson, Fl. Brit. Ind. 3: 318. 1881.

Distribution: Jammu & Kashmir, Himachal Pradesh, Uttarakhand; 3000–5000 m.

Tanacetum nubigenum Wall. ex DC., Prodr 6 : 130. 1838.

Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim; 3700–5100 m.

Tanacetum nanum C.B.Clarke, Comp. Ind. 155. 1876.

Distribution: Jammu & Kashmir, Himachal Pradesh, Uttarakhand; 4000–5500 m.

Tanacetum robustum Hook.f. & Thomson ex C.B.Clarke, Comp. Ind. 154. 1876.

Distribution: Jammu & Kashmir, Himachal Pradesh, Uttarakhand; 3500–4500 m.

Tanacetum stoliczkae (C.B.Clarke) R.Khan, Edinburgh J. Bot. 48(1): 50. 1991.
Chrysanthemum stoliczkae C.B.Clarke

Distribution: Himachal Pradesh, Jammu & Kashmir; upto 4100 m.

Tanacetum tenuifolium Jacquem. ex DC., Prodr. 6: 129. 1838.

Distribution: Uttarakhand.

Tanacetum tomentosum DC., Prodr. 6: 130. 1837.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand; upto 4500 m.

Tanacetum tripinnatifidum Oliv., Hooker's Icon. Pl. 24: t. 2306. 1894.

Distribution: Jammu & Kashmir; 5000 m.

Taraxacum Zinn

Taraxacum aereum Soest, Wentia x. 36. 1963.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand.

Taraxacum amblylepidocarpum Soest, Wentia x. 12. 1963.

Distribution: Jammu & Kashmir.

Taraxacum apargiaeforme Dahlst., Acta Horti Gothob. 2. 1926.

Distribution: Jammu & Kashmir.

Taraxacum aurorum Soest, Wentia x. 59. 1963.

Distribution: Himachal Pradesh, Jammu & Kashmir.

Taraxacum azzizi Soest, Wentia x. 21. 1963.

Distribution: Jammu & Kashmir.

Taraxacum baltistanicum Soest, Wentia x. 14. 1963.

Distribution: Jammu & Kashmir, Uttarakhand.

Taraxacum banhyhalense Soest, Wentia x. 37. 1963.

Distribution: Jammu & Kashmir.

Taraxacum brevirostre Hand.-Mazz., Monogr. Tarax. 46. 1907.

Distribution: Jammu & Kashmir.

Taraxacum campyloides G.E.Haglund, Nytt Mag. Naturvidensk. 86: 56. 1948.

Distribution: Sikkim.

(Plate 30)

Taraxacum ceratophorum (Ledeb.) DC., Prodr. 7(1): 146. 1838. *Leontodon ceratophorus* Ledeb.

Distribution: Himachal Pradesh, Jammu & Kashmir.

Taraxacum coronatum Hand.-Mazz., Monogr. Taraxacum 33. 1907.

Distribution: Jammu & Kashmir.

Taraxacum dissectum (Ledeb.) Ledeb, Fl. Ross. 2: 814. 1846. *Leontodon dissectus* Ledeb.

Distribution: Jammu & Kashmir.

Taraxacum elegans Soest, Wentia x. 37. 1963.

Distribution: Himachal Pradesh, Jammu & Kashmir.

Taraxacum eriocarpum H. Hartmann, Candollea 39: 508. 1984.

Distribution: Jammu & Kashmir, Uttarakhand.

Taraxacum eriopodum (D.Don) DC., Prodr. 7(1): 147. 1838. *Leontodon eriopodon* D. Don

Distribution: Jammu & Kashmir, Sikkim, Uttarakhand; 3600–3900 m.

Taraxacum erythrospermum Andr. ex Besser, Enum. Pl. 75, 106. 1822.

Distribution: Jammu & Kashmir.

Taraxacum flavum Soest, Wentia x. 22. 1963.

Distribution: Jammu & Kashmir.

Taraxacum fulvescens Soest, Wentia x. 23. 1963.

Distribution: Jammu & Kashmir.

Taraxacum fulvobrunneum Soest, Wentia x. 24. 1963.

Distribution: Jammu & Kashmir.

Taraxacum forrestii Soest, Bull. Brit. Mus. (Nat. Hist.), Bot.2(10): 265–266. 1961.

Distribution: Uttarakhand; 4800 m.

Taraxacum gulmargense Soest, Wentia x. 25. 1963.

Distribution: Jammu & Kashmir.

Taraxacum harbhajan-singhii Soest, Wentia x. 26. 1963.

Distribution: Jammu & Kashmir.

Taraxacum helianthum Soest, Wentia x. 55. 1963.

Distribution: Jammu & Kashmir.

Taraxacum heteroloma Hand.-Mazz., Monogr. Taraxacum 120. 1907.

Distribution: Jammu & Kashmir.

Taraxacum heybroeckii Soest, Wentia x. 44. 1963.

Distribution: Jammu & Kashmir.

Taraxacum hoofiti Soest, Bull. Brit. Mus. (Nat. Hist.) 2(10): 267. 1961.

Distribution: Jammu & Kashmir.

Taraxacum indicum Hand.-Mazz., Monogr. Taraxacum 50. 1907.

Distribution: Jammu & Kashmir.

Taraxacum insigne M.P.Christ. & Wiinst., Dansk Exkurs. Fl. ed. 5. 312. 1934.

Distribution: Sikkim; 2300–3150 m.

- Taraxacum javanicum** Soest, Wentia x. 56. 1963.
Distribution: Himachal Pradesh, Uttarakhand.
- Taraxacum karakoricum** Soest, Bull. Brit. Mus. (Nat. Hist.), Bot. 2: 268. 1961.
Distribution: Himachal Pradesh, Jammu & Kashmir.
- Taraxacum kashmirens** Soest, Bull. Brit. Mus. (Nat. Hist.) 2(10): 268. 1961.
Distribution: Jammu & Kashmir.
- Taraxacum kjellmaniiforme** Soest, Wentia x. 57. 1963.
Distribution: Jammu & Kashmir.
- Taraxacum ladakense** van Soest, Wentia x. 11. 1963.
Distribution: Jammu & Kashmir.
- Taraxacum lahulense** Soest, Proc. Kon. Ned. Akad. Wetensch. C 69: 385. 1966.
Distribution: Jammu & Kashmir.
- Taraxacum lanigerum** Soest., Bull. Brit. Mus. (Nat. Hist.), Bot. 2(10): 269. 1961.
Distribution: Himachal Pradesh; 4100 m.
- Taraxacum latibasis** Soest, Wentia 10: 28. 1963.
Distribution: Jammu & Kashmir.
- Taraxacum leucanthum** (Ledeb.) Ledeb., Fl. Ross. 2: 815. 1897. *Leontodon leucanthus* Ledeb.
Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand; 4050 m.
- Taraxacum lobbichleri** Soest, Proc. Kon. Ned. Akad. Wetensch. C 69: 374. 1966.
Distribution: Jammu & Kashmir.
- Taraxacum longicarpum** Soest, Wentia x. 40. 1963.
Distribution: Jammu & Kashmir, Uttarakhand.
- Taraxacum ludlowii** Soest., Bull. Brit. Mus. (Nat. Hist.) Bot., ii. 269. 1961.
Distribution: Himachal Pradesh; 3730 m.
- Taraxacum luridum** C.E.Haglund, Bot. Not. 307. 1938.
Distribution: Jammu & Kashmir.
- Taraxacum maurocarpum** Dahlst., Acta Horti Gothob. ii. 176. 1926.
Distribution: Jammu & Kashmir.
- Taraxacum melleum** Soest, Wentia x. 14. 1963.
Distribution: Jammu & Kashmir.
- Taraxacum mitalii** Soest, Wentia x. 46. 1963.
Distribution: Sikkim.
- Taraxacum monochlamydeum** Hand.-Mazz., Monogr. Tarax. 43. 1907.
Distribution: Jammu & Kashmir.
- Taraxacum mucronulatum** Soest, Bull. Brit. Mus. Bot. 2: 270. 1961.
Distribution: Eastern Himalaya.

- Taraxacum nagaricum** Soest, Wentia x. 62. 1963.
Distribution: Jammu & Kashmir.
- Taraxacum nasiri** Soest, Wentia 10: 48. 1963.
Distribution: Jammu & Kashmir.
- Taraxacum neolobulatum** Soest, Acta Bot. Neerl. ix. 305. 1960.
Distribution: Himachal Pradesh.
- Taraxacum nigrum** Soest, Wentia x. 48. 1963.
Distribution: Jammu & Kashmir.
- Taraxacum nivale** Lange ex Kihlm., Meddeland. Soc. Fauna Fl. Fenn. 16: 67. 1889.
Distribution: Jammu & Kashmir.
- Taraxacum officinale** F.H. Wigg., Prim. Fl. Holset 56. 1780. var. **offiniale**
Distribution: Arunachal Pradesh, Himachal Pradesh, Uttarakhand, Sikkim, Uttarakand; upto 4500 m.
- Taraxacum officinale** F.H. Wigg. var. **parvula** Hook.f., Fl. Brit. India 3(8): 401. 1881.
Distribution: Throughout the Himalaya.
- Taraxacum ostenfeldii** Raunk., Bot. Tidsskr. xxv. 139. 1906.
Distribution: Himachal Pradesh.
- Taraxacum paludosum** (Scop.) Schltr. ex Crep. var. **tenuifolium** Hand.–Mazz., Monogr. Taraxacum 76. 1907.
Distribution: Jammu & Kashmir.
- Taraxacum parvulum** DC., Prodr. (DC.) 7(1): 149. 1838.
Distribution: Jammu & Kashmir, Sikkim, Uttarakhand; 2300–3150 m.
- Taraxacum parvuliforme** Soest, Proc. Kon. Ned. Akad. Wetensch. C 69: 375. 1966.
Distribution: Jammu & Kashmir.
- Taraxacum phoenicolepis** Soest, Wentia x. 29. 1963.
Distribution: Jammu & Kashmir.
- Taraxacum polyodo** Dahlst. Ark. Bot. 9(10): 56. 1910.
Distribution: Jammu & Kashmir.
- Taraxacum primogenium** Hand.–Mazz., Monogr. der Gatt. Tarax. 17. 1907.
Distribution: Jammu & Kashmir.
- Taraxacum pseudobicorne** Soest, Proc. Kon. Ned. Akad. Wetensch. C 69: 378. 1966.
Distribution: Jammu & Kashmir.
- Taraxacum pseudodissimile** Soest, Acta Bot. Neerl. ix. 309. 1960.
Distribution: Jammu & Kashmir.

Taraxacum pseudoeriopodium Soest, Wentia x. 29. 1963.

Distribution: Jammu & Kashmir.

Taraxacum pseudoleucanthum Soest, Proc. Kon. Ned. Akad. Wetensch. C 69: 365. 1966.

Distribution: Jammu & Kashmir.

Taraxacum pseudostenolepium Soest, Wentia x. 49. 1963.

Distribution: Jammu & Kashmir.

Taraxacum pseudostenii Soest, Wentia x. 50. 1963.

Distribution: Jammu & Kashmir, Uttarakhand.

Taraxacum pullocarpum Soest, Wentia x. 18. 1963.

Distribution: Jammu & Kashmir.

Taraxacum sherriffii Soest, Bull. Brit. Mus. (Nat. Hist.), Bot. 2: 272. 1961.

Distribution: Himachal Pradesh.

Taraxacum sikkimense Hand.-Mazz., Monogr. Taraxacum 103. 1907.

Distribution: Jammu & Kashmir, Sikkim; 4000 m.

Taraxacum spiticum Soest, Wentia x. 53. 1963.

Distribution: Himachal Pradesh.

Taraxacum squarrosiceps Soest, Wentia x. 30. 1963.

Distribution: Jammu & Kashmir.

Taraxacum staticifolium Soest, Bull. Brit. Mus. (Nat. Hist.), Bot.2(10): 272–273. 1961.

Distribution: Jammu & Kashmir.

Taraxacum stenolepium Hand.-Mazz. Monogr. Tarax. 121. 1907.

Distribution: Jammu & Kashmir.

Taraxacum stereodiforme Soest, Wentia x. 31. 1963.

Distribution: Himachal Pradesh, Jammu & Kashmir.

Taraxacum stevenii DC., Prodr. 7(1): 149. 1838.

Distribution: Jammu & Kashmir.

Taraxacum stewartii Soest, Wentia x. 51. 1963.

Distribution: Jammu & Kashmir.

Taraxacum tenebristylum Soest, Wentia x. 32. 1963.

Distribution: Jammu & Kashmir.

Taraxacum tibetanum Hand.-Mazz. Monogr. Tarax. 67. 1907.

Distribution: Sikkim.

Taraxacum tricuspdatum Soest, Proc. Kon. Ned. Akad. Wetensch. C 69: 382. 1966.

Distribution: Himachal Pradesh, Jammu & Kashmir.

Taraxacum vulpinum Soest, Wentia x. 33. 1963.

Distribution: Jammu & Kashmir.

Taraxacum wallichii DC., Prodr. 7(1): 147. 1838.

Distribution: Himachal Pradesh, Jammu & Kashmir.

Taraxacum wattii Hook.f., Fl. Brit. India 3: 402. 1881.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand, Sikkim; 4500 m.

Thespis DC.

Thespis divaricata DC., Guill. Arch. Bot. 2: 517. 1833.

Distribution: Arunachal Pradesh, Sikkim, Uttarakhand; upto 1000 m.

Tibetoseris Sennikov

Tibetoseris depressa (Hook.f. & Thomson) Sennikov, Bot. Zhurn. 92(11): 1750.

2007. var **depressa**. *Crepis depressa* Hook.f. & Thomson

Distribution: Sikkim; 3600–5000 m.

Tithonia Desf. ex Juss.

Tithonia diversifolia (Hemsl.) A.Gray, Proc. Amer. Acad. Arts 19: 5. 1883.

Mirasolia diversifolia Hems.

Distribution: Arunachal Pradesh, Sikkim; upto 1000 m.

Tithonia rotundifolia (Mill.) S.F.Blake, Contrib. Gray Herb, ser. 52: 41. 1917.

Tagetes rotundifolia Mill.

Distribution: Arunachal Pradesh; upto 1000 m.

Tragopogon L.

Tragopogon dubius Scop., Fl. Carn. Ed. 2, 2: 85. 1722.

Distribution: Himachal Pradesh, Jammu & Kashmir; upto 3700 m.

Tragopogon gracilis D.Don, Mem Wern. Soc. 3: 414. 1820.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand; upto 3700 m.

Tragopogon kashmirianus G.Singh, Forest Fl. Srinagar 123. 1976.

Distribution: Jammu & Kashmir; 1500–2000 m.

Tragopogon orientalis L., Sp. Pl. 2: 789. 1753.

Distribution: Jammu & Kashmir; 1500–3500 m.

Tragopogon porrifolius L. Sp. Pl. 2: 789. 1753.

Distribution: Himachal Pradesh, Jammu & Kashmir; 1500–4000 m.

Tricholepis Kindb.

Tricholepis elongata DC., Prodr. 6: 563. 1838.

Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarkhand; 1600–3300 m. (Plate 31a)

Tricholepis furcata DC., Prodr. 6: 563. 1838.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand.

Tricholepis karensium Kurz., Journ. As. Soc. Beng. 41: 318. 1872.

Distribution: Himachal Pradesh, Jammu & Kashmir.

Tricholepis stewarti C.B. Clarke ex Hook.f., Fl. Brit. Ind. iii. 380. 1881.

Distribution: Jammu & Kashmir; 1200–2700 m.

Tricholepis stictophyllum C.B. Clarke, Comp. Ind. 241. 1876.

Distribution: Uttarakhand.

Tricholepis tibetica Hook.f. & Thomson ex C.B. Clarke, Compos. Ind. 241. 1876.

Distribution: Jammu & Kashmir; 2500–3000 m.

Tridax L.

Tridax procumbens L., Sp. Pl. 900. 1753.

Distribution: Arunachal Pradesh, Sikkim, Uttarakhand; upto 1000 m.

Tripleurospermum Sch.Bip.

Tripleurospermum disciforme (C.A. Mey.) Sch.Bip., Tanacet. 34. 1844.

Distribution: Himachal Pradesh; 2500–4500 m.

Tussilago L.

Tussilago farfara L., Sp. Pl. 1: 865. 1753.

Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 2800–2900 m. (Plate 31b)

Uechtritza Freyn

Uechtritza lacei (Watt) C. Jeffrey., Kew Bull. xxi. 213. 1967. *Gerbera lacei* Watt

Distribution: Himachal Pradesh, Jammu & Kashmir; 2000–2800 m.

Verbesina L.

Verbesina encelioides (Cav.) Benth. & Hook.f. ex A. Gray, Bot. California 1: 350. 1876.

Distribution: Uttarakhand.

Vernonia Schreb.

Vernonia cinerea (L.) Less. var **ludens** C.B. Clarke, Comp. Ind. 21. 1876.

Distribution: Sikkim; 3600–5000 m.

Vernonia pyramidale (D. Don) S.N. Mitra, Ind. For. 99: 100. 1973. *Eupatorium pyramidale* D. Don

Distribution: Arunachal Pradesh; upto 3500 m.

Vernonia revoluta Buch.–Ham., Trans. Linn. Soc. London 14(2): 218. 1824.

Distribution: Sikkim, Jammu & Kashmir, Uttarakhand; 1200 m.

Vernonia silhetensis (DC.) Craib, Fl. Siam. 2: 243. 1936. *Decaneurum silhetense* DC.

Distribution: Sikkim; upto 1900 m.

Vernonia subsessilis DC., Prodr. 5: 62. 1836.

Distribution: Arunachal Pradesh, Sikkim; upto 1500 m.

Vernonia subsessilis DC. var. **macrophylla** Hook.f., Fl. Brit. Ind. 3(8): 230. 1881.

Distribution: Sikkim; 1000–1200 m.

Vernonia volkameriaefolia DC., Prodr. 5: 32. 1836.

Distribution: Arunachal Pradesh, Sikkim; upto 2000 m.

Waldheimia Kar. & Kir.

Waldheimia glabra (Decne.) Regel, Act. Hort. Petrop. vi. 309. 1879. *Allardia glabra* Decne.

Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand.

(Plate 31c)

Waldheimia huegelii (Sch.Bip.) Tzvelev, Flora URSS 26: 271. 1961. *Allardia huegelii* Sch.Bip.

Distribution: Uttarakhand.

Waldheimia nivea (Hook.f. & Thomson ex C.B.Clarke) Regel Trudy Imp. S. Peterburgsk. Bot. Sada 6: 308. 1879. *Allardia nivea* Hook.f. & Thomson ex C.B. Clarke

Distribution: Jammu & Kashmir; upto 4500 m.

Waldheimia stoliczkae (C.B.Clarke) Ostanf., S.Tibet, Bot. 6(3) : 38. 1922. *Allardia stoliczkae* C.B.Clarke.

Distribution: Himachal Pradesh, Jammu & Kashmir; upto 4500 m.

Waldheimia tridactylites Kar. & Kir., Bull. Soc. Imp. Naturalistes Moscou 15: 126. 1842.

Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; upto 4000 m.

Waldheimia tomentosa (Decne.) Regel, Trudy Imp. S. Peterburgsk. Bot. Sada 6: 308. 1879. *Allardia tomentosa* Decne.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand.

Waldheimia vestita (Hook.f. & Thomson ex C.B.Clarke) Pamp., Fl. Caracorum 208. 1930. *Allardia vestita* Hook.f. & Thomson ex C.B.Clarke

Distribution: Jammu & Kashmir; 4000 m.

Wedelia Jacq.

Wedelia urticifolia DC., Contributions to the Botany of India 18. 1834.

Distribution: Sikkim, Arunachal Pradesh, Uttarakhand.

Wollastonia DC. ex Decne.

Wollastonia biflora DC., Prodr. 5: 546. 1836.

Distribution: Uttarakhand.

Xanthium L.

Xanthium pungens Wallr, Beitr. Bot. 2. 1844.

Distribution: Uttarakhand; 600 m.

Xanthium strumarium L., Sp. Pl. 917. 1753.

Distribution: Arunachal Pradesh, Himachal Pradesh, Sikkim, Jammu & Kashmir, Uttarakhand; upto 2000 m.

Xerochrysum Tzvelev

Xerochrysum bracteatum (Vent.) Tzvelev, Novosti Sist. Vyssh. Rast. 27: 151. 1990. *Xeranthemum bracteatum* Vent.

Distribution: Uttarakhand.

Youngia Cass.

Youngia atripappa (Babc.) N. Kilian, Fl. China 20–21: 254. 2011. *Crepis atripappa* Babc.

Distribution: Sikkim; 3600–5000 m.

Youngia cineripappa (Babc.) Babc. & Stebbins, Publ. Carnegie Inst. Wash. 484: 60. 1937. *Crepis cineripappa* Babc.

Distribution: Sikkim; 1200–1800 m.

Youngia fuscipappa Thwaites, Enum. Pl. Zeyl. 168. 1860.

Distribution: Sikkim; 2000 m.

Youngia japonica (L.) DC., Prodr 7: 194. 1838. *Prenanthes japonica* L.

Distribution: Arunachal Pradesh, Sikkim, Uttarkhand; upto 2000 m.

Youngia racemifera (Hook.f.) Babc. & Stebbins, Univ. Calif. Publ. Bot. xviii. 229. 1943. *Crepis racemifera* Hook.f.

Distribution: Sikkim; 2500–4500 m.

Youngia pseudosenecio (Vaniot) C. Shih, Fl. Reipubl. Popularis Sin. 80(1): 157. 1997. *Lactuca pseudosenecio* Vaniot

Distribution: Uttarakhand.

Youngia stebbinsiana S. Y. Hu, Quart. J. Taiwan Mus. 22(1–2): 37. 1969.

Distribution: Sikkim, 2500–5000 m.

Youngia silhetensis (DC.) Babc. & Stebbins, Carn. Inst. Wash. Publ. 484. 104. 1937. *Hieracium silhetense* DC.

Distribution: Arunachal Pradesh; upto 1600 m.

Youngia tenuifolia (Willd.) Babc. & Stebbins, Publ. Carnegie Inst. Wash. 484. 46. 1937. *Crepis tenuifolia* Willd.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand; 3000–4000 m.

Zinnia L.

Zinnia elegans Jacq., Coll. iii. 152. 1789.

Distribution: Uttarakhand, Sikkim; 2200 m.

Zinnia peruviana (L.) L. Syst. Nat., ed. 10. 2: 1221. 1759. *Chrysogonum peruvianum* L.

Distribution: Uttarakhand.

AVERRHOACEAE

(1 genus; 2 taxa)

Averrhoa L.**Averrhoa bilimbi** L., Sp. Pl. 1: 428. 1753.

Distribution: Uttarakhand.

Averrhoa carambola L., Sp. Pl. 428. 1753.

Distribution: Arunachal Pradesh, Sikkim, Uttarakhand; 500–1000 m.

BALANOPHORACEAE

(2 genera; 5 taxa)

Balanophora J.R.Forst. & G.Forst.**Balanophora abbreviata** Blume, Enum. Pl. Javae 1: 87. 1827.

Distribution: Sikkim, West Bengal (Darjeeling); 1000–2000 m.

Balanophora dioica R.Br. ex Royle, 111. Bot. Himal. 330. 1836 & t. 99. 2. 1839.

Distribution: Arunachal Pradesh, Sikkim, Uttarakhand; 500–2000 m.

Balanophora involucrata Hook.f. & Thomson, Trans. Linn. Soc. London 22: 30. 1859.Distribution: Sikkim, Jammu & Kashmir, Uttarakhand, West Bengal (Darjeeling); 2000–3000 m. **(Plate 170b)****Balanophora polyandra** Griff., Trans. Linn. Soc. London 20: 94. 1851.Distribution: Arunachal Pradesh, Sikkim; 1000–2000 m. **(Plate 170c)****Rhopalocnemis** Jungh.**Rhopalocnemis phalloides** Jungh., Nov. Act. Nat. Cur. 18. Suppl. 1: 215. 1841.

Distribution: Arunachal Pradesh, Sikkim, West Bengal (Darjeeling); 2000–2500 m.

BALSAMINACEAE

(1 genus; 122 taxa)

Impatiens L.**Impatiens acmanthera** Hook.f., Rec. Bot. Surv. India 4: 17. 1905.

Distribution: Sikkim; 800 m.

Impatiens acuminata Benth. ex Hook.f. & Thomson, Numer. List 4754. 1831.

Distribution: Arunachal Pradesh; 500–1500 m.

Impatiens adamowskiana Gogoi & Borah, Nordic J. Bot. 33(5): 586. 2015.

Distribution: Arunachal Pradesh; 2600 m.

Impatiens aganantha Hook.f., Rec. Bot. Surv. India 5: 61. 1905.

Distribution: Sikkim.

Impatiens albobetala Gogoi & Borah, Webbia 72(1): 87. 2016.

Distribution: Arunachal Pradesh; 2200 m.

Impatiens amphorata Edgew., Trans. Linn. Soc. 20: 39. 1846.

Distribution: Himachal Pradesh.

Impatiens amplexicaulis Edgew., Trans. Linn. Soc. London 20: 37. 1851.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Uttarakhand; 2100–3500 m.

Impatiens angustiflora Hook.f., Fl. Brit. India 1: 480. 1875.

Distribution: Arunachal Pradesh, Sikkim; 1000–3000 m.

Impatiens annulifer Hook.f., Rec. Bot. Surv. India 4: 27. 1905.

Distribution: Arunachal Pradesh, Sikkim; 900–1700 m.

Impatiens arguta Hook.f. & Thomson, J. Linn. Soc. Bot. 4: 137. 1860.

Distribution: Arunachal Pradesh, Himachal Pradesh, Sikkim, Uttarakhand; 900–3500 m. (Plate 32a)

Impatiens ashihoi Gogoi & Borah, Phytotaxa 238(3): 278. 2015.

Distribution: Arunachal Pradesh.

Impatiens badrinathii Pusalkar & D.K.Singh, Taiwan 55(1): 13. 2010.

Distribution: Himachal Pradesh, Uttarakhand.

Impatiens balfourii Hook.f., Bot. Mag. 59: 698. t. 7878. 1903.

Distribution: Jammu & Kashmir, Uttarakhand.

Impatiens balsamina L., Sp. Pl. 938. 1753.

Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand.

Impatiens bella Hook.f. & Thomson, J. Linn. Soc. Bot. 4: 138. 1860.

Distribution: Arunachal Pradesh; 1000–1500 m.

Impatiens benthamii Steenis, Bull. Bot. Gard. Btzig. ser. 3, 17: 385. 1948.

Distribution: Arunachal Pradesh; 1500–2000 m.

Impatiens bicolor Royle, Ill. Bot. Himal. Mount. 151. t. 28. 1834.

Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 1600–2500 m.

Impatiens bicornuta Wall., Roxb., Fl. Ind. 2: 460. 1824.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 1200–3000 m.

Impatiens bivittata Hook.f., Rec. Bot. Surv. India 4: 16. 1905.

Distribution: Sikkim; 3000 m.

Impatiens brachycentra Kar. & Kir., Bull. Bot. Soc. Nat. Mosc. 1: 179. 1842.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Uttarakhand; 900–4200 m.

Impatiens bracteata Colebr., Roxb., Fl. Ind. 2: 459. 1824.

Distribution: Sikkim.

- Impatiens bracteolata*** Hook.f., Rec. Bot. Surv. India 4: 31–35. 1905.
Distribution: Arunachal Pradesh; 800–1200 m.
- Impatiens cathcartii*** Hook.f., Fl. Brit. India 1: 473. 1875.
Distribution: Arunachal Pradesh, Sikkim, West Bengal (Darjeeling); 400–1500 m.
- Impatiens chinensis*** L., Sp. Pl. 937. 1753.
Distribution: Arunachal Pradesh; 600–1200 m.
- Impatiens citrina*** Hook.f., Rec. Bot. Surv. India 4: 17. 1905.
Distribution: Arunachal Pradesh.
- Impatiens cothurnoides*** C.E.C.Fisch., Bull. Misc. Inform. 1931: 281. 1931.
Distribution: Sikkim, Uttarakhand; 3000 m.
- Impatiens cyclosepala*** Hook. f. ex. W.W. Sm., Notes Roy. Bot. Gard. Edinburgh 8:338. 1915.
Distribution: Arunachal Pradesh.
- Impatiens cymbifera*** Hook.f., Fl. Brit. India 1: 474. 1875.
Distribution: Sikkim, West Bengal (Darjeeling); 2100–3000 m. (Plate 32b)
- Impatiens dalaiensis*** Gogoi & Borah, Phytotaxa 207(3): 286. 2015.
Distribution: Arunachal Pradesh; 1517 m.
- Impatiens decipiens*** Hook.f., Rec. Bot. Surv. India 4: 17. 1905.
Distribution: Sikkim; 1500–2800 m.
- Impatiens devendrae*** Pusalkar, Taiwania 55(1): 18. 2010.
Distribution: Uttarakhand.
- Impatiens dibangensis*** Gogoi & Borah, Webbia 72(1): 89. 2016.
Distribution: Arunachal Pradesh; 2600 m.
- Impatiens discolor*** DC., Prodr. 1: 687. 1824.
Distribution: Arunachal Pradesh, Sikkim; 500–1000 m.
- Impatiens dorjeekhandui*** Chowlu, S. S. Dash & Gogoi, Nelumbo 59(2): 139–144. 2017.
Distribution: Arunachal Pradesh.
- Impatiens drepanophora*** Hook.f., Rec. Bot. Surv. India 4: 17. 1905.
Distribution: Arunachal Pradesh, Sikkim; 1800 m. (Plate 33a)
- Impatiens duthiei*** Hook.f., Rec. Bot. Surv. India 4: 11. 1905.
Distribution: Uttarakhand; 2700 m.
- Impatiens edgeworthii*** Hook.f. & Thomson in Hook.f., Fl. Brit. India 1: 476. 1874.
Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand.
- Impatiens exilis*** Hook.f., Rec. Bot. Surv. India 4: 13. 1905.
Distribution: Sikkim, West Bengal (Darjeeling); 600–1600 m.
- Impatiens falcifer*** Hook.f., Bot. Mag. T. 7923. 1903.
Distribution: Sikkim; 2400–3800 m. (Plate 33b)

- Impatiens flemingii*** Hook.f., Rec. Bot. Surv. India 4: 5. 1904.
Distribution: Jammu & Kashmir; 1500–3200 m.
- Impatiens florigera*** C.B. Clarke ex Hook.f., Rec. Bot. Surv. India 4: 13. 1905.
Distribution: Sikkim; 300–1500 m.
- Impatiens fugongensis*** K.M. Liu & Y.Y. Cong, Bot. Stud. 49: 161–162. 2008.
Distribution: Arunachal Pradesh; 2100 m.
- Impatiens gamblei*** Hook.f., Rec. Bot. Surv. India 4: 15. 1905.
Distribution: Sikkim, West Bengal (Darjeeling); 2500–3700 m.
- Impatiens gammiei*** Hook.f., Rec. Bot. Surv. India 4: 16–20. 1905.
Distribution: Arunachal Pradesh, Sikkim; 1300–3000 m.
- Impatiens glandulifera*** Royle, III. Bot. Himal. Mount. 151. t. 28. t. f. 2. 1835.
Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 2000–3000 m. (Plate 34a)
- Impatiens glauca*** Hook.f. & Thomson, J. Proc. Linn. Soc., Bot. 4: 155. 1860.
Distribution: Himachal Pradesh, Uttarakhand; 2100–3000 m. (Plate 41a)
- Impatiens graciliflora*** Hook.f., Rec. Bot. Surv. India 4: 15. 1905.
Distribution: Sikkim, West Bengal (Darjeeling); 1800–2000 m.
- Impatiens harae*** H. Ohba & S. Akiyama var. ***micrantha*** (Hara) H. Ohba & S. Akiyama, J. Jap. Bot. 62.369.1987. *I. bicornuta* Wall. var. *micrantha* Hara
Distribution: Uttarakhand.
- Impatiens haridasanii*** Hareesh & M. Sabu, Phytotaxa 326 (4): 264–268. 2017.
Distribution: Arunachal Pradesh.
- Impatiens hobsonii*** Hook.f., Rec. Bot. Surv. India 4: 15. 1905.
Distribution: Sikkim. 3300 m.
- Impatiens humilis*** Hook.f., Icon. Pl. ser. 4. 10: t. 2964. 1911.
Distribution: Sikkim; 2280 m.
- Impatiens inayatii*** Hook.f., Rec. Bot. Surv. India 4: 10. 1904.
Distribution: Uttarakhand.
- Impatiens infundibularis*** Hook.f., Rec. Bot. Surv. India 4: 13. 1905.
Distribution: Sikkim; 300–1500 m.
- Impatiens jaeschkei*** Hook.f., Icon. Pl. 30. t. 2902. 1910.
Distribution: Himachal Pradesh, Uttarakhand; 2700–3100 m.
- Impatiens jurpia*** Buch.–Ham. ex Hook.f. & Thomson, Numer. List 4761. 1831.
Distribution: Arunachal Pradesh, Sikkim, West Bengal (Darjeeling); 600–1700 m.
- Impatiens kaliensis*** Grey–Wilson, Kew Bull. 44: 65, f. 1 M–Q. 1989.
Distribution: Uttarakhand; 2850–3250 m.
- Impatiens khasiana*** Hook.f., Rec. Bot. Surv. India 4: 27–33. 1905.
Distribution: Arunachal Pradesh; 1000–1900 m. (Plate 34b)

Impatiens kingii Hook.f., Rec. Bot. Surv. India 4: 14. 1905.

Distribution: Sikkim.

Impatiens laevigata Wall. ex Hook.f. & Thomson, Numer. List. 4753. 1831.

Distribution: Arunachal Pradesh, Sikkim; 200–1500 m.

Impatiens langeana Hook.f., Icon Pl. 2907. 1910.

Distribution: Uttarakhand.

Impatiens latiflora Hook.f. & Thomson, J. Linn. Soc. Bot. 4: 139. 1860.

Distribution: Arunachal Pradesh, Sikkim; 300–1200 m. (Plate 35a)

Impatiens laxiflora Edgew., Trans. Linn. Soc. 20: 40. 1846.

Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand.

Impatiens laxiflora Edgew. var. **stracheyi** Hook.f., l.c. 480. 1875.

Distribution: Sikkim.

Impatiens leggie Pusalkar & D.K.Singh, Taiwania 55(1): 163, f. 2A–W, 4B, 6C–D. 2010.

Distribution: Himachal Pradesh, Uttarakhand. (Plate 36a)

36a Impatiens lemanni Hook.f. & Thomson, J. Linn. Soc. Bot. 4: 154. 1860.

Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim.

Impatiens leptocarpa Hook.f., Rec. Bot. Surv. India 4: 17. 1905.

Distribution: Sikkim.

Impatiens leptoceras DC., Prodr. 1: 688. 1824.

Distribution: Arunachal Pradesh.

Impatiens lohitisensis R. Gogoi & S. Bohra, Taiwania 58(1): 15. 2013.

Distribution: Arunachal Pradesh; 1100 m.

Impatiens longipes Hook.f. & Thomson, J. Linn. Soc. Bot. 4: 151. 1860.

Distribution: Arunachal Pradesh, Sikkim; 2000–3100 m.

Impatiens lutea Hook.f., Rec. Bot. Surv. India 4: 18–22. 1905.

Distribution: Arunachal Pradesh, Sikkim; 1500–2000 m.

Impatiens manipurensis Hook.f., Rec. Bot. Surv. India 4: 31. 1905.

Distribution: Arunachal Pradesh; 1500–2000 m. (Plate 36b)

Impatiens mannii Hook.f., J. Proc. Linn. Soc., Bot. 6: 7. 1862.

Distribution: Arunachal Pradesh.

Impatiens meeboldii Hook.f., Kew Bull. Misc. Inform. Kew 8: 291. 1910.

Distribution: Jammu & Kashmir; 2400 m.

Impatiens minimiflora Hook.f., Rec. Bot. Surv. India 4: 16. 1905.

Distribution: Sikkim; 3000 m.

Impatiens mishmiensis Hook.f., Fl. Brit. India 1: 476. 1875.

Distribution: Arunachal Pradesh; 1500–1800 m.

- Impatiens nilalohitae*** Hareesh & M.Sabu, *Phytotaxa* 323 (2): 189. 2017.
Distribution: Arunachal Pradesh.
- Impatiens occultans*** Hook.f., *Rec. Bot. Surv. India* 4: 17. 1905.
Distribution: Sikkim.
- Impatiens pahalgamensis*** Hook.f., *Kew Bull. Misc. Inform.* 1910: 291. 1910.
Distribution: Jammu & Kashmir; 3000 m.
- Impatiens paludosa*** Hook.f., *Fl. Brit. India* 1: 480. 1875.
Distribution: Arunachal Pradesh; 1600–1800 m.
- Impatiens pantlingii*** Hook.f., *Rec. Bot. Surv. India* 4: 16. 1905.
Distribution: Sikkim; 3000 m.
- Impatiens paramjitiana*** Gogoi & Borah, *Phytotaxa* 175(3): 171. 2014.
Distribution: Arunachal Pradesh; 400 m.
- Impatiens pathakiana*** Gogoi & Borah, *Telopea* 14: 121. 2012.
Distribution: Arunachal Pradesh.
- Impatiens podocarpa*** Hook.f., *Icon Pl.* 30. t. 2963. 1911.
Distribution: Uttarakhand; 2100–2500 m.
- Impatiens polysciadia*** Hook.f., *Ic. Pl.* 30: t. ser. 4, 10: t. 2906. 1910.
Distribution: Uttarakhand.
- Impatiens porrecta*** Wall., *Numer. List* 7275. 1832.
Distribution: Arunachal Pradesh; 300–1800 m.
- Impatiens prainii*** Hook.f., *Rec. Bot. Surv. India* 4: 14. 1905.
Distribution: Sikkim; 3000 m.
- Impatiens pseudocitrina*** Hareesh, M.Sabu & Gogoi, *Phytotaxa* 282(3): 231. 2016.
Distribution: Arunachal Pradesh; 1000 m.
- Impatiens pseudolaevigata*** Gogoi, B.B.T.Tham & Lidén, *Phytotaxa* 313(2): 227. 2017.
Distribution: Arunachal Pradesh.
- Impatiens puberula*** DC., *Prodr.* 1: 687. 1824.
Distribution: Arunachal Pradesh, Sikkim; 1500–2700 m. **(Plate 37a)**
- Impatiens pulchra*** Hook.f. & Thomson, *J. Linn. Soc. Bot.* 4: 139. 1860.
Distribution: Arunachal Pradesh, Sikkim; 300–1500 m.
- Impatiens pyrrohiza*** Lidén & P. Bharali, *Nordic J. Bot.* 35: 411. 2017.
Distribution: Arunachal Pradesh.
- Impatiens racemosa*** DC., *Prodr.* 1: 688. 1824.
Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 1500–2000 m. **(Plate 37b)**
- Impatiens racemulosa*** Wall., *Numer. List* 7274. 1832.
Distribution: Arunachal Pradesh; 800–1500 m.

- Impatiens radiata*** Hook.f., Fl. Brit. India 1: 476. 1875.
Distribution: Arunachal Pradesh, Sikkim; 600–3600 m. (Plate 38a)
- Impatiens reidii*** Hook.f., Icon Pl. 30: t., ser. 4, 10: t. 2901. 1910.
Distribution: Uttarakhand; 1800–2400 m.
- Impatiens roingensis*** Hareesh, A. Joe & M.Sabu, Webbia, 71(2): 187–190. 2016.
Distribution: Arunachal Pradesh.
- Impatiens rugosipetala*** Gogoi & Borah, Nordic J. Bot. 35:365. 2017.
Distribution: Arunachal Pradesh.
- Impatiens scabrida*** DC, Prodr. 1: 687. 1824.
Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 1500–3300 m. (Plate 38b)
- Impatiens scitula*** Hook.f., Rec. Bot. Surv. India 4: 14. 1905.
Distribution: Sikkim.
- Impatiens serrata*** Benth. ex Hook.f. & Thomson, J. Linn. Soc. 4: 136. 1860.
Distribution: Himachal Pradesh, Sikkim, Uttarakhand; 2400–3100 m.
- Impatiens serratifolia*** Hook.f., Rec. Bot. Surv. India 4: 18. 1905.
Distribution: Arunachal Pradesh, Sikkim; 2400–3300 m.
- Impatiens siangensis*** Gogoi, Phytotaxa 192(2): 117. 2015.
Distribution: Arunachal Pradesh.
- Impatiens siculifer*** Hook.f., Nouv. Arch. Mus. Hist. Nat., sér. 4, 10: 246. 1908.
Distribution: Arunachal Pradesh; 1000–1600 m.
- Impatiens sikkimensis*** Govaerts & Chakrab. Rheede 21(2): 173. 2011.
Distribution: Sikkim.
- Impatiens spirifer*** Hook.f. & Thomson, J. Proc. Linn. Soc. Bot. 4: 135. 1860.
Distribution: Sikkim; 1200–3200 m.
- Impatiens stenantha*** Hook.f., Fl. Brit. India 1: 478. 1875.
Distribution: Arunachal Pradesh, Sikkim; 1000–3000 m. (Plate 39a)
- Impatiens stoliczkai*** Hook.f., Icon Pl. 30: t. ser. 4, 10: t. 2904. 1910.
Distribution: Himachal Pradesh.
- Impatiens sulcata*** Wall., Fl. Ind. 2: 458. 1924.
Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 2000–3900 m. (Plate 39b)
- Impatiens tatoensis*** Gogoi & W.Adamowski, Telopea 20: 23. 2017.
Distribution: Arunachal Pradesh.
- Impatiens thomsonii*** Hook.f., J. Proc. Linn. Soc. 4: 128. 1860.
Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 2000–3600 m. (Plate 40a)

Impatiens thomsonii Hook.f. var. ***ecalcarata*** Hook.f., Rec. Bot. Surv. India 4(1): 8. 1905.

Distribution: Himachal Pradesh, Jammu & Kashmir.

Impatiens tingens Edgew., Trans. Linn. Soc. London 20: 41. 1846.

Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand.

Impatiens trichocladon Hook.f., Rec. Bot. Surv. India 4: 16. 1905.

Distribution: Sikkim; 3000 m.

Impatiens trigonopteris Hook.f. ex Arisdason & Gogoi, Phytotaxa 323 (3): 295–298. 2017.

Distribution: West Bengal (Darjeeling); 1830 to 2450 m.

Impatiens trilobata Colebr., Hook., Exot. Fl. 2: t. 141. 1825.

Distribution: Arunachal Pradesh, Sikkim.

Impatiens tripetala Roxb. ex DC., Prodr. 1: 687. 1824.

Distribution: Arunachal Pradesh, Sikkim; 450–1500 m.

Impatiens tropaeolifolia Griff. ex Hook.f., Fl. Brit. India 1: 472. 1875.

Distribution: Arunachal Pradesh & Sikkim.

Impatiens tuberculata Hook.f. & Thomson, J. Linn. Soc. Bot. 4: 155. 1860.

Distribution: Sikkim; 3000–4300 m.

Impatiens tubifer B. Heyne ex Roxb., Fl. Ind. 2: 464. 1824.

Distribution: Sikkim; 2750 m.

Impatiens uncipectala C.B. Clarke ex Hook.f., Rec. Bot. Surv. India 4: 18. 1905.

Distribution: Sikkim; 1900–2600 m.

Impatiens urticifolia Wall., Fl. Ind. 2: 457. 1824.

Distribution: Arunachal Pradesh, Sikkim; 600–1200 m.

Impatiens vexillaria Hook.f., Icon Pl., ser. 4. 10: t. 2905. 1910.

Distribution: Himachal Pradesh, Uttarakhand.

Impatiens vidyae R.C. Srivast., V.P.A. 52(4): 264. 2009.

Distribution: Arunachal Pradesh; 800–1500 m.

(Plate 40b)

Impatiens violiflora Hook.f., Fl. Brit. India 1: 457. 1874.

Distribution: Arunachal Pradesh; 200–1000 m.

Impatiens violoides Edgew. ex Hook.f., Rec. Bot. Surv. India 4: 8. 1904.

Distribution: Uttarakhand.

Impatiens wallichii Hook.f., Rec. Bot. Surv. India 4: 20. 1905.

Distribution: Sikkim, West Bengal (Darjeeling); 3000–3700 m.

Impatiens walongensis Hareesh, M. Sabu & Borah, Phytotaxa 317(3): 226–230. 2017.

Distribution: Arunachal Pradesh.

Impatiens xanthina H.F.Comber, Notes Roy. Bot. Gard. Edinburgh 18(89): 248–249, f. s.n. 1934.

Distribution: Arunachal Pradesh.

Impatiens yui S.H.Huang, Acta Bot. Yunnan. 25(3): 266–267, pl. 4, f. 1–7. 2003.

Distribution: Arunachal Pradesh.

Impatiens zironiana Gogoi, Hareesh & W.Adamowski, Webbia: J. Pl.Tax. Geog.72(1):83. 2017.

Distribution: Arunachal Pradesh.

BASELLACEAE

(2 genera; 3 taxa)

Anredera Juss.

Anredera baselloides (Kunth) Baill., Hist. Pl. 9: 147. 1888. *Boussingaultia baselloides* Kunth

Distribution: Uttarakhand.

Anredera cordifolia (Ten.) Steenis, Fl. Males. 5: 303. 1957. *Boussingaultia cordifolia* Ten.

Distribution: Himachal Pradesh.

Basella L.

Basella alba L., Sp. Pl. 272. 1753.

Distribution: Sikkim, Uttarakhand.

BEGONIACEAE

(02 genera; 28 taxa)

Begonia L.

Begonia aborensis Dunn, Bull. Misc. Inform. Kew 1920: 109. 1920.

Distribution: Arunachal Pradesh; 400–1200 m.

Begonia annulata K.Koch, Berliner Allg. Garten. 1: 76. 1837.

Distribution: Arunachal Pradesh, Sikkim; 300–2100 m.

Begonia burkillii Dunn, Bull. Misc. Inform. Kew 1920: 110. 1920.

Distribution: Arunachal Pradesh; 200–1200 m.

Begonia cathcartii Hook.f. & Thomson, Ill. Him. Pl. t. 13. 1855.

Distribution: Arunachal Pradesh, Sikkim; upto 600 m.

Begonia dioica Buch.-Ham. ex D.Don, Prodr. Fl. Nepal. 223. 1825.

Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim, West Bengal (Darjeeling); 100–2300 m.

Begonia flaviflora H.Hara, J. Jap. Bot. 45: 91. 1970.

Distribution: Sikkim; 1220–1830 m.

- Begonia gemmipara** Hook.f. & Thomson, Ill. Himal. Pl. t. 14. 1855.
Distribution: Sikkim; 2700–3500 m.
- Begonia hatacoa** Buch.–Ham. ex D.Don, Prodr. Fl. Nepal. 223. 1825.
Distribution: Arunachal Pradesh, Sikkim; 1200–2500 m.
- Begonia iridescens** Dunn, Bull. Misc. Inform. Kew 1920: 110. 1920.
Distribution: Arunachal Pradesh; 500–1900 m.
- Begonia josephi** A.DC., Ann. Sci. Nat. ser. 4, 11: 126. 1859.
Distribution: Arunachal Pradesh, Sikkim; 1600–2900 m. (Plate 42a)
- Begonia limprichtii** Irmsch., Repert. Spec. Nov. Regni Veg. Beih. 12: 440. 1922.
Distribution: Arunachal Pradesh.
- Begonia longifolia** Blume, Catalogus 102. 1823.
Distribution: Arunachal Pradesh; 250–1600 m.
- Begonia megaptera** A.DC., Ann. Sci. Nat. ser. 4, 11: 134. 1859.
Distribution: Arunachal Pradesh, Sikkim; 600–2500 m.
- Begonia nepalensis** (A.DC.) Warb., Pflanzenfam 3. 6a. 142. 1894. *Mezierea nepalensis* DC.
Distribution: Arunachal Pradesh, Sikkim; 1000–1800 m. (Plate 42b)
- Begonia obversa** C.B.Clarke., J. Linn. Soc. 25: 26. 1889.
Distribution: Arunachal Pradesh.
- Begonia ovatifolia** A.DC., Ann. Sci. Nat., Bot. IV, 11: 132. 1859.
Distribution: Sikkim, West Bengal (Darjeeling); 1500–2200 m.
- Begonia palmata** D.Don, Prodr. Fl. Nep. 223. 1825.
Distribution: Arunachal Pradesh, Sikkim; 200–1700 m.
- Begonia pedunculosa** Wall., Pl. Asiat. Rar. 1: 82, t. 97. 1830.
Distribution: Arunachal Pradesh; 1000–1800 m.
- Begonia picta** Sm., Exot. Bot. 2: 81, t. 101. 1805.
Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 1150–1750 m.
- Begonia rex** Putz., J. Gén. Hort. 2: 141. 1857.
Distribution: Arunachal Pradesh.
- Begonia roxburghii** A.DC., Prodr. 15(1): 398. 1864.
Distribution: Arunachal Pradesh, Sikkim; 500–800 m.
- Begonia rubella** Buch.–Ham. ex D.Don, Prodr. Fl. Nepal. 223. 1825.
Distribution: Sikkim, West Bengal (Darjeeling); 1500–2200 m.
- Begonia satrapis** C.B.Clarke, Fl. Brit. India 2: 638. 1879.
Distribution: Sikkim; 700 m.

Begonia scintillans Dunn, Bull. Misc. Inform. Kew 1920: 111. 1920.

Distribution: Arunachal Pradesh; 500–2000 m.

Begonia sikkimensis A.DC., Ann. Sci. Nat. ser. 4, 11: 134. 1859.

Distribution: Arunachal Pradesh, Sikkim, Uttarakhand; 1000–2300 m.

Begonia silhetensis (A.DC.) C.B. Clarke, Fl. Brit. India 2: 636. 1879. *Casparya silhetensis* A.DC.

Distribution: Arunachal Pradesh; upto 800 m. (Plate 41b)

Begonia xanthina Hook., Bot. Mag. 78: t. 4683. 1852.

Distribution: Sikkim, West Bengal (Darjeeling); 1220–1830 m. (Plate 42c)

Mezierea Gaudich.

Mezierea griffithiana A.DC., Nat. Pflanzenfam. 3(6a): 142. 1894.

BERBERIDACEAE

(6 genera; 69 taxa)

Berberis L.

Berberis affinis G. Don, Gen. Syst. 1: 115. 1831.

Distribution: Uttarakhand.

Berberis ahrendtii R.R. Rao & Uniyal, Indian J. Forest. 8: 334. 1985 (1986).

Distribution: Uttarakhand.

Berberis angulosa Wall. ex Hook. f. & Thomson, Fl. Ind. 1: 227. 1855.

Distribution: Arunachal Pradesh, Sikkim, Uttarakhand; 3000–3600 m.

Berberis aristata DC., Syst. Nat. 2: 8. 1821.

Distribution: Jammu & Kashmir, Sikkim, Uttarakhand. (Plate 43b)

Berberis asiatica Roxb. ex DC., Syst. Nat. 2: 13. 1821.

Distribution: Arunachal Pradesh, Himachal Pradesh, Sikkim, Uttarakhand; 1600–3000 m.

Berberis brandisiana Ahrendt, J. Roy. Asiat. Soc. Bengal 11: 2. 1945.

Distribution: Himachal Pradesh, Jammu & Kashmir.

Berberis calliobotrys Bien. ex Koehne, Deut. Dendrol. 168. 1893.

Distribution: Jammu & Kashmir.

Berberis canadensis Mill., Gard. Dict. ed. 8. 2. 1768.

Distribution: Uttarakhand.

Berberis ceratophylla G. Don, Gen. Hist. 1: 115. 1831.

Distribution: Himachal Pradesh.

Berberis chitria Buch.-Ham. ex Lindl., Bot. Reg. 9: t. 729. 1823.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Uttarakhand; 1500–3000 m.

Berberis concinna Hook.f. & Thomson var. **brevior** Ahrendt, J. Asiat. Soc. Beng. 11: 3. 1845.

Distribution: Sikkim, Uttarakhand; 3350–3950 m.

Berberis coriaria Royle ex Lindl., Edwards's Bot. Reg. 27: t. 46. 1841.

Distribution: Himachal Pradesh, Uttarakhand.

Berberis cretica L., Sp. Pl. 1: 331. 1753.

Distribution: Uttarakhand.

Berberis dasyclada Ahrendt., J. Bot. 79 (Suppl.): 12. 1941.

Distribution: Arunachal Pradesh; 2000–3500 m.

Berberis edgeworthiana C.K.Schneid., Bull. Herb. Boissier II, 8: 263. 1908.

Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim.

Berberis erythroclada Ahrendt, J. Bot. 79(Suppl.): 49. 1941.

Distribution: Sikkim.

Berberis everestiana Ahrendt, J. Linn. Soc., Bot. 57: 116. 1961.

Distribution: Sikkim.

Berberis floribunda Wall. ex G.Don, Gen. Hist. 1: 115. 1831.

Distribution: Uttarakhand.

Berberis glaucocarpa Stapf., Bot. Mag. 101: t. 9102. 1926.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand.

Berberis hamiltoniana Ahrendt, Gard. Ill. 64: 426. 1944.

Distribution: Uttarakhand.

Berberis himalaica Ahrendt, J. Bot. 79 (Suppl.): 68. 1942.

Distribution: Himachal Pradesh, Sikkim.

Berberis hobsonii Ahrendt., J. Linn. Soc., Bot. 57: 137. 1961.

Distribution: Sikkim.

Berberis hookeri Lem., Ill. Hort. 6: t. 207. 1859.

Distribution: Arunachal Pradesh, Sikkim; 3050–3500m.

(Plate 45a)

Berberis huegeliana C.K.Schneid., Bull. Herb. Boissier II, 5: 451. 1905.

Distribution: Jammu & Kashmir.

Berberis insignis Hook.f. & Thomson, Fl. Ind. 1: 226. 1855.

Distribution: Arunachal Pradesh, Sikkim; 3000–3500 m.

(Plate 44a)

Berberis jaeschkeana C.K.Schneid., Bull. Herb. Boissier II, 5: 399. 1905.

Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 3000–4000 m.

Berberis jaeschkeana C.K.Schneid. var. **apiculata** (Ahrendt) H.B.Naithani & S.N.Biswas, Flow. Pl. India, Nepal & Bhutan 25. 1990. *B. usteriana* (C.K.Schneid.) R.Parker var. *apiculata* Ahrendt

Distribution: Himachal Pradesh.

- Berberis koehneana** C.K.Schneid., Bull. Herb. Boissier II, 5: 814. 1905.
Distribution: Uttarakhand.
- Berberis kumaonensis** C.K.Schneid., Bull. Herb. Boissier II, 5: 397. 1905.
Distribution: Uttarakhand.
- Berberis kashmirana** Ahrendt, J. Bot. 80 (Suppl.): 97. 1942.
Distribution: Jammu & Kashmir.
- Berberis kunawurensis** Royle, Ill. Bot. Himal. Mts. 64. 1834.
Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand.
- Berberis lambertii** R.Parker, Bull. Misc. Inform. Kew 1921: 307. 1921.
Distribution: Uttarakhand.
- Berberis lycium** Royle, Ill. Bot. Himal. Mts. 64. 1834.
Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand. (Plate 43a)
- Berberis macrosepala** Hook.f. & Thomson, Fl. Ind. 1: 228. 1855.
Distribution: Arunachal Pradesh, Sikkim; 3500–4400 m.
- Berberis macrosepala** Hook.f. & Thomson var. **setifolia** Ahrendt, J. Bot. British and Foreign 79 (Suppl.): 46. 1941.
Distribution: Sikkim.
- Berberis micrantha** (Hook.f. & Thomson) Ahrendt, J. Linn. Soc., Bot. 57: 96. 1961. *B. aristata* DC. var. *micrantha* Hook.f. & Thomson
Distribution: Uttarakhand.
- Berberis nepalensis** Spreng., Syst. Veg. 2: 120. 1825.
Distribution: Arunachal Pradesh, Sikkim, Uttarakhand; 2000–3500 m.
- Berberis orthobotrys** Bien. ex Aitch., J. Linn. Soc., Bot. 19: 150. 1882.
Distribution: Jammu & Kashmir.
- Berberis orthobotrys** Bien. ex Aitch. subsp. **capitata** Jafri, Fl. W. Pak. 87: 20. 1975.
Distribution: Jammu & Kashmir.
- Berberis osmastonii** Dunn, Bull. Misc. Inform. Kew. 1920: 335. 1920.
Distribution: Uttarakhand.
- Berberis pachyacantha** Bien. ex Koehne, Deut. Dendrol. 170. 1893.
Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand; 3000 m.
- Berberis pachyacantha** Bien. ex Koehne subsp. **zabeliana** (C.K.Schneid.) Jafri, Fl.W. Pakistan 87: 21. 1975. *B. zabeliana* C.K.Schneid.
Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand; 2000–2600 m.
- Berberis parkeriana** C.K.Schneid., Repert. Spec. Nov. Regni Veg. 11: 162. 1912.
Distribution: Jammu & Kashmir.
- Berberis parisepala** Ahrendt, Gard. Chron. III, 109: 100. 1941.
Distribution: Sikkim

Berberis petiolaris Wall. ex G.Don, Gen. Hist. 1: 116. 1831.

Distribution: Jammu & Kashmir, Uttarakhand.

Berberis petiolaris Wall. ex G.Don var. **extensa** Ahrendt ex R.R.Rao, Husain & B.Datt, Bot. Bull. Acad. Sin. 35: 231. 1994.

Distribution: Uttarakhand.

Berberis petiolaris Wall. ex G.Don var. **garhwalana** Ahrendt, J. Bot. 80: 82. 1942.

Distribution: Uttarakhand.

Berberis pseudumbellata R.Parker, Bull. Misc. Inform. Kew 1921: 118. 1921.

Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 2000–3000 m.

Berberis pseudumbellata R.Parker subsp. **gilgitica** Jafri, Nasir & Ali, Fl. W. Pak. No. 87: 26. f. 8A. 1975.

Distribution: Jammu & Kashmir.

Berberis rawatii U.L.Tiwari & B.S.Adhikari, Nordic J. Bot. 29: 185. 2011.

Distribution: Uttarakhand.

Berberis royleana Ahrendt, J. Roy. Asiat. Soc. Bengal 11: 5. 1945.

Distribution: Jammu & Kashmir.

Berberis sikkimensis (C.K.Schneid.) Ahrendt, J. Bot. Lond. 80 (suppl.): 85. 1942.

B. chitria D.Don var. *sikkimensis* C.K.Schneid.

Distribution: Sikkim.

Berberis stewartiana Jafri, Fl. W. Pakistan 87: 24. 1975.

Distribution: Jammu & Kashmir.

Berberis tsarica Ahrendt., J. Bot. 79 (Suppl.): 48. 1941.

Distribution: Sikkim; 3950–4250 m.

Berberis thomsoniana C.K.Schneid., Bull. Herb. Boissier II, 5: 454 1905.

Distribution: Sikkim; 3350–3960 m.

Berberis ulicina Hook.f. & Thomson, Fl. Ind. 1: 227. 1855.

Distribution: Himachal Pradesh, Jammu & Kashmir; 4000–6000 m.

Berberis umbellata Wall. ex G.Don, Gen. Hist. 1: 116. 1831.

Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 2400–4200 m.

Berberis umbellata Wall. ex G.Don var. **brainii** Ahrendt, J. Bot. 80 (suppl.): 94. 1942.

Distribution: Sikkim.

Berberis virescens Hook.f., Bot. Mag. 116: t. 7116. 1890.

Distribution: Arunachal Pradesh, Sikkim, Uttarakhand; 2140–3800 m.

Berberis vulgaris L. Sp. Pl. 330. 1753.

Distribution: Himachal Pradesh.

Berberis wallichiana DC., Prodr. 1: 107. 1824.

Distribution: Arunachal Pradesh, Sikkim, Uttarakhand; 1400–2000 m.

Dyosma Woodson

Dyosma aurantiocaulis (Hand.-Mazz.) Hu, Bull. Fan Mem. Inst. Biol. 8: 37. 1937.

Podophyllum aurantiocaulis Hand.-Mazz.

Distribution: Arunachal Pradesh, Sikkim; 1800–2500 m. (Plate 44b)

Epimedium L.

Epimedium elatum C.Morren & Decne., Ann. Sci. Nat., Bot. II, 2: 356. 1834.

Distribution: Jammu & Kashmir.

Mahonia Nutt.

Mahonia borealis Takeda, Notes Roy. Bot. Gard. Edinburgh 6: 221. 1917.

Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand.

Mahonia calamicaulis Spare & C.E.C.Fisch., Bull. Misc. Inform. Kew 1929: 249. 1929.

Distribution: Arunachal Pradesh; 2000–3500 m.

Mahonia jaunsarensis Ahrendt, J. Linn. Soc., Bot. 57: 310. 1961.

Distribution: Uttarakhand.

Mahonia napaulensis DC., Syst. Nat. 2: 21. 1821.

Distribution: Arunachal Pradesh, Sikkim, Uttarakhand; 2000–3500 m. (Plate 45b)

Nandina Thunb.

Nandina domestica Thunb., Nov. Gen. Pl. 14. 1781.

Distribution: Himachal Pradesh, Uttarakhand.

Sinopodophyllum T.S. Ying

Sinopodophyllum hexandrum (Royle) T.S. Ying, Fl. Xizangica 2: 119. 1985.

Podophyllum hexandrum Royle

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 2500–4500 m. (Plate 44c)

BETULACEAE
(4 genera; 10 taxa)

Alnus Mill.

Alnus nepalensis D.Don, Prodr. Fl. Nep. 58. 1825.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 1200–3300 m. (Plate 46a)

Alnus nitida (Spach) Endl., Gen. Pl. Suppl. 4: 20. 1847. *Clethropsis nitida* Spach

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand; 1000–3000 m.

Betula L.

Betula alnoides Buch.-Ham. ex D.Don, Prodr. Fl. Nep. 58. 1825.

Distribution: Arunachal Pradesh, Himachal Pradesh, Sikkim, Uttarakhand; 800–2500 m.

Betula cylindrostachya Lindl. ex Wall., Pl. Asiat. Rar. 2: 7. 1830.

Distribution: Arunachal Pradesh.

Betula pendula Roth, Tent. Fl. Germ. 1: 405. 1788.

Distribution: Himachal Pradesh.

Betula utilis D.Don, Prodr. Fl. Nepal.: 58. 1825.

Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 2600–4200 m. **(Plate 46b)**

Carpinus L.

Carpinus faginea Lindl., Wall., Pl. As. Rar. 2: 5. 1831.

Distribution: Himachal Pradesh, Jammu & Kashmir.

Carpinus viminea Wall. ex Lindl., Wall., Pl. As. Rar. 2: 4, t. 106. 1831.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; upto 2600 m.

Corylus L.

Corylus ferox Wall., Pl. Asiat. Rar. 1: 77. 1830.

Distribution: Sikkim; 2100–2500 m.

Corylus jacquemontii Decne., Jacquem. Voy. Bot. 4: 160. t. 160. 1836.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand.

BIEBERSTEINIACEAE

(1 genus; 1 taxon)

Biebersteinia Steph. ex Fisch.

Biebersteinia odora Steph. ex Fisch., Mem. Soc. Imp. Nat. Moscou. 1: 89. t. 9. 1806.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand; 4300–5600 m.

BIGNONIACEAE

(26 genera; 36 taxa)

Adenocalymma Mart. ex Meisn.

Adenocalymma comosum DC., Prodr. 9: 201. 1845.

Distribution: Uttarakhand; 100–1000 m.

Amphilophium Kunth

Amphilophium paniculatum (L.) Kunth, Nov. Gen. Sp. Pl. 3: 148. 1818 publ. 1819. *Bignonia paniculata* L.

Distribution: Uttarakhand; 800–1600 m.

Bignonia L.

Bignonia binata Thunb., Pl. Bras. 3: 35. 1821.

Distribution: Uttarakhand.

Bignonia magnifica W.Bull, Gard. Chron. 2: 73. 1879.

Distribution: Uttarakhand; 800–1200 m.

Campsis Lour.

Campsis grandiflora (Thunb.) K.Schum., Nat. Pflanzenfam. 4(3b): 230. 1894.

Bignonia grandiflora Thunb.

Distribution: Uttarakhand; 500–1200 m.

Campsis radicans (L.) Bureu, J. Bot. 5: 372. 1867. *Bignonia radicans* L.

Distribution: Uttarakhand; 1000–1500 m.

Catalpa Scop.

Catalpa speciosa (Warder ex Barney) Warder ex Engelm., Bot. Gaz. 5: 1. 1880.

Catalpa bignonioides Walter var. *speciosa* Warder ex Barney

Distribution: Jammu & Kashmir.

Dolichandra Cham.

Dolichandra unguis-cati (L.) L.G. Lohmann, Nuevo Cat. Fl. Vasc. Venezuela 273.

2008. *Bignonia unguis-cati* L.

Distribution: Uttarakhand; 800–1500 m.

Fernandoa Welw. ex Seem.

Fernandoa adenophylla (Wall. ex G.Don) Steenis, Blumea 23: 135. 1976. *Bignonia*

adenophylla Wall. ex G.Don

Distribution: Arunachal Pradesh, Uttarakhand; 800–1200 m.

Handroanthus Mattos

Handroanthus chrysanthus (Jacq.) S.O.Grose, Syst. Bot. 32: 664. 2007. *Bignonia*
chrysantha Jacq.

Distribution: Uttarakhand; 500–1500 m.

Handroanthus impetiginosus (Mart. ex DC.) Mattos, Loefgrenia 50: 2. 1970.

Tecoma impetiginosa Mart. ex DC.

Distribution: Uttarakhand; 800–1600 m.

Incarvillea Juss.

Incarvillea emodi (Royle ex Lindl.) Chatterjee, Kew Bull. 3: 185. 1948. *Amphicome*
emodi Royle ex Lindl.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand. 1000–1500 m.

Incarvillea diffusa Royle, Ill. Bot. Himal. Mts. t. 72. 1835.

Distribution: Himachal Pradesh, Uttarakhand; 1000–2000 m.

Jacaranda Juss.

Jacaranda mimosifolia D.Don, Bot. Reg. 8: t. 631. 1822.

Distribution: Sikkim, Uttarakhand; 500–800 m.

Kigelia DC.

Kigelia africana (Lam.) Benth., Niger Fl. 463. 1849. *Bignonia africana* Lam.
Distribution: Uttarakhand; 900–1700 m.

Mansoa DC.

Mansoa alliacea (Lam.) A.H.Gentry, Ann. Missouri Bot. Gard. 66: 782. 1979 (publ. 1980). *Bignonia alliacea* Lam.
Distribution: Uttarakhand; 1500 m.

Mansoa hymenaea (DC.) A.H. Gentry, Ann. Missouri Bot. Gard. 66: 782. 1979 (publ. 1980). *Bignonia hymenaea* DC.
Distribution: Uttarakhand; 400–1400 m.

Markhamia Seem. ex Baill.

Markhamia lutea (Benth.) K.Schum., Nat. Pflanzenfam. 4(3b): 242. 1895.
Spathodea lutea Benth.
Distribution: Uttarakhand; 800–1600 m.

Millingtonia L.f.

Millingtonia hortensis L.f., Suppl. Pl. 291. 1782.
Distribution: Himachal Pradesh, Uttarakhand; 800–1800 m.

Nyctocalos Teijsm. & Binn.

Nyctocalos cuspidatum Miq., Ann. Mus. Bot. Lugduno–Batavi 3: 249. 1867.
Distribution: Arunachal Pradesh; 500–1500 m.

Oroxylum Vent.

Oroxylum indicum (L.) Kurz, Forest Fl. Burma 2: 237. 1877. *Bignonia indica* L.
Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 500–1000 m. **(Plate 47a)**

Pandorea (Endl.) Spach

Pandorea jasminoides (Lindl.) K.Schum., Nat. Pflanzenfam. 4(3b): 230. 1894.
Tecoma jasminoides Lindl.
Distribution: Uttarakhand; 900–1400 m.

Pauldopia Steenis

Pauldopia ghorta (Buch.–Ham. ex G.Don) Steenis, Acta Bot. Neerl. 18: 427. 1969.
Bignonia ghorta Buch.–Ham. ex G.Don.
Distribution: Arunachal Pradesh; 1200–1600 m.

Pyrostegia C.Presl

Pyrostegia venusta (Ker Gawl.) Miers, Proc. Roy. Hort. Soc. London 3: 188. 1863.
Bignonia venusta Ker Gawl.
Distribution: Uttarakhand; 400–1200 m.

Radermachera Zoll. & Moritzi

Radermachera gigantea (Blume) Miq., Ann. Mus. Bot. Lugduno–Batavi 3: 250. 1867. *Spathodea gigantea* Blume.

Distribution: Arunachal Pradesh; 100–1000 m.

Radermachera glandulosa (Blume) Miq., Ann. Mus. Bot. Lugduno–Batavi 3: 250. 1867. *Spathodea glandulosa* Blume.

Distribution: Arunachal Pradesh; 100–1000 m.

Radermachera sinica (Hance) Hemsl., Hooker's Icon. Pl. 28: t. 2728. 1905. *Stereospermum sinicum* Hance

Distribution: Arunachal Pradesh; 200–1200 m.

Roseodendron Miranda

Roseodendron donnell-smithii (Rose) Miranda, Bol. Soc. Bot. México 29: 43. 1965. *Tabebuia donnell-smithii* Rose

Distribution: Uttarakhand; 450–1200 m.

Spathodea P.Beauv.

Spathodea campanulata P.Beauv., Fl. Oware 1: 47. 1805.

Distribution: Uttarakhand; 800–1400 m.

Stereospermum Cham.

Stereospermum chelonoides (L.f.) DC., Biblioth. Universelle Genève n.s., 17: 124. 1838. *Bignonia chelonoides* L.f.

Distribution: Arunachal Pradesh, Jammu & Kashmir, Uttarakhand; 300–1000 m.

Stereospermum tetragonum DC., Biblioth. Universelle Genève n.s., 17: 124. 1838.

Distribution: Arunachal Pradesh, Uttarakhand; 300–1000 m.

Tabebuia Gomes ex DC.

Tabebuia rosea (Bertol.) Bertero ex A.DC., Prodr. 9: 215. 1845. *Tecoma rosea* Bertol.

Distribution: Uttarakhand; 800–1600 m.

Tecoma Juss.

Tecoma capensis (Thunb.) Lindl., Bot. Reg. 13: t. 1117. 1828. *Bignonia capensis* Thunb.

Distribution: Arunachal Pradesh, Uttarakhand; 300–1200 m.

Tecoma castanifolia (D.Don) Melch., Ber. Deutsch. Bot. Ges. 59: 26. 1941. *Stenolobium castanifolium* D. Don

Distribution: Sikkim, Uttarakhand; 800–1600 m.

Tecoma stans (L.) Juss. ex Kunth, Nov. Gen. Sp. Pl. 3: 144. 1818. *Bignonia stans* L.

Distribution: Sikkim, Uttarakhand; 800–1400 m.

Tecomella Seem.

Tecomella undulata (Sm.) Seem., Ann. Mag. Nat. Hist. III, 10: 30. 1862. *Bignonia undulata* Sm.

Distribution: Arunachal Pradesh, Jammu & Kashmir, Uttarakhand; 500–1200 m.

(Plate 47b)

BISCHOFIACEAE

(1 genus; 1 taxon)

Bischofia Blume

Bischofia javanica Blume, Bijdr. 1168. 1827.

Distribution: Arunachal Pradesh, Sikkim, Uttarakhand, West Bengal (Darjeeling); 270–2000 m.

BIXACEAE

(2 genera; 2 taxa)

Bixa L.

Bixa Orellana L., Sp. Pl. 512. 1753.

Distribution: Sikkim, Uttarakhand.

Cochlospermum Kunth

Cochlospermum religiosum (L.) Alston., Handb. Fl. Ceylon 6(Suppl.): 14. 1931.

Bombax religiosum L.

Distribution: Uttarakhand.

BOMBACACEAE

(2 genera; 3 taxa)

Bombax L.

Bombax ceiba L., Sp. Pl. 511. 1753.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Uttarakhand; 100–650 m.

Ceiba Mill.

Ceiba pentandra (L.) Gaertn., Fruct. Sem. Pl. 2: 244. 1791. *Bombax pentandrum* L.

Distribution: Sikkim.

Ceiba speciosa (A.St.-Hil.) Ravenna, Onira 3(15): 46. 1998. *Chorisia speciosa*

A.St.-Hil.

Distribution: Uttarakhand.

BORAGINACEAE

(39 genera; 144 taxa)

Actinocarya Benth.

Actinocarya acaulis (W.W.Sm.) I.M. Johnst., J. Arnold Arbor. 21: 53. 1940.

Eritrichium acaule W.W.Sm.

Distribution: Jammu & Kashmir, Sikkim; 4870–5330 m.

Actinocarya tibetica Benth., Gen. Pl. 2: 846. 1876.

Distribution: Jammu & Kashmir, Uttarakhand; 3700–4800 m.

Anchusa L.

Anchusa arvensis (L.) M.Bieb., Fl. Taur.–Caucas. 1: 123. 1808. *Lycopsis arvensis* L.
Distribution: Jammu & Kashmir, Uttarakhand.

Anchusa arvensis subsp. **orientalis** (L.) Nordh., Norsk Flora 526. 1940. *Lycopsis orientalis* L.
Distribution: Jammu & Kashmir, Uttarakhand; 3500–3900 m.

Anchusa azurea Mill., Gard. Dict. ed. 8 9. 1768.
Distribution: Jammu & Kashmir.

Anoplocaryum Ledeb.

Anoplocaryum brandisii Brand, Repert. Spec. Nov. Regni Veg. 22: 10. 1925.
Distribution: Himachal Pradesh, Jammu & Kashmir.

Arnebia Forssk.

Arnebia benthamii (Wall. ex G.Don) I.M.Johnst., J. Arnold Arbor. 35: 56. 1954.
Echium benthamii Wall. ex G.Don
Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand; 3900 m.

(Plate 48)

Arnebia bhattacharyyae Ambrish & S.K.Srivast., J. Jap. Bot. 88(5): 316. 2013
Distribution: Himachal Pradesh; 3200 m.

Arnebia euchroma (Royle) I.M.Johnst., Contr. Gray Herb. 73: 49. 1924.
Lithospermum euchromon Royle
Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand; 4000 m.

Arnebia euchroma I.M.Johnst. var. **grandis** Kazmi, J. Arnold Arbor. 52(3): 488. 1971.
Distribution: Jammu & Kashmir; 4800 m.

Arnebia guttata Bunge, Index Seminum (TU) 1840: 7. 1840.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand; 4000 m.

(Plate 49a)

Arnebia guttata Bunge subsp. **griffithii** (Boiss.) Sadat, Mitt. Bot. Staatssamml. München 28: 128. 1989. *A. griffithii* Boiss.
Distribution: Himachal Pradesh; 2400 m.

Arnebia guttata Bunge var. **thomsonii** (C.B.Clarke) Kazmi, J. Arnold Arbor. 52(3): 495. 1971. *A. thomsonii* C.B.Clarke
Distribution: Jammu & Kashmir.

Arnebia hispidissima (Lehm.) A.DC., Prodr. 10: 94. 1846. *Lithospermum hispidissimum* Lehm.
Distribution: Jammu & Kashmir, Uttarakhand.

Arnebia nandadeviensis Chandra Sek. & R.S.Rawal, J. Amer. Sci. 5(2): 105, photogr. 1–2. 2009.
Distribution: Uttarakhand; 3820 m.

Asperugo L.

Asperugo procumbens L. Sp. Pl. 138. 1753.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand.

Bothriospermum Bunge

Bothriospermum tenellum (Hornem.) Fisch. & C.A.Mey., Index Seminum (LE) 1: 23. 1835. *Anchusa tenella* Hornem.

Distribution: Arunachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 600–1200 m.

Buglossoides Moench

Buglossoides arvensis (L.) I.M.Johnst., J. Arnold Arbor. 35: 42. 1954. *Lithospermum arvense* L.

Distribution: Himachal Pradesh, Jammu & Kashmir.

Buglossoides tenuiflora (L.f.) I.M.Johnst., J. Arnold Arbor. 35: 42. 1954. *Lithospermum tenuiflorum* L.f.

Distribution: Jammu & Kashmir.

Chionocharis I.M. Johnst.

Chionocharis hookeri (C.B.Clarke) I.M.Johnst., Contr. Gray Herb. 73: 66. 1924. *Myosotis hookeri* C.B.Clarke

Distribution: Sikkim; 4400–5800 m.

Coldenia L.

Coldenia procumbens L., Sp. Pl. 125. 1753.

Distribution: Uttarakhand.

Cordia L.

Cordia dichotoma G.Forst., Fl. Ins. Austr. 18. 1786.

Distribution: Arunachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand, West Bengal (Darjeeling); 1000–1500 m.

Cordia myxa L. Sp. Pl. 199. 1753.

Distribution: Uttarakhand; 1500 m.

Cordia sinensis Lam., Tabl. Encycl. 1: 423. 1792.

Distribution: Jammu & Kashmir, Uttarakhand.

Cordia grandis Roxb., Fl. Ind. 2: 335. 1824.

Distribution: Uttarakhand.

Cordia vestita Hook.f. & Thomson, J. Proc. Linn. Soc., Bot. 2: 128. 1858.

Distribution: Jammu & Kashmir, Uttarakhand.

Cynoglossum L.

Cynoglossum amabile Stapf. & J.R.Drumm, Bull. Misc. Inform. Kew 1906: 202. 1906.

Distribution: Arunachal Pradesh.

Cynoglossum lanceolatum Forssk., Fl. Aegypt.–Arab. 41. 1775.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 1000–4000 m. (Plate 49b)

Cynoglossum microgloch Benth., Ill. Bot. Himal. Mts. 305. 1836.

Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 3650 m.

Cynoglossum microgloch Benth. var. **nervosum** (Benth. ex C.B. Clarke) Y.J. Nasir, Fl. Pak. 191: 163. 1989. *C. nervosum* Benth. ex Hook.f.

Distribution: Himachal Pradesh, Jammu & Kashmir; 4100 m.

Cynoglossum wallichii G. Don, Gen. Hist. 4: 354. 1837.

Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand, West Bengal (Darjeeling); 3650 m. (Plate 171a)

Cynoglossum wallichii G. Don var. **glochidiatum** (Wall. ex Benth.) Kazmi, J. Arnold Arbor. 52: 347. 1971. *C. glochidiatum* Wall. ex Benth.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 1200–1800 m.

Cynoglossum zeylanicum (Vahl) Brand, Pflanzenr. IV, 252: 134. 1921. *Anchusa zeylanica* Vahl.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 1000–1600 m. (Plate 50a)

Ehretia P. Browne

Ehretia acuminata R. Br., Prodr. Fl. Nov. Holl. 497. 1810.

Distribution: Arunachal Pradesh, Jammu & Kashmir, Uttarakhand, Sikkim. (Plate 50b)

Ehretia laevis Roxb., Pl. Corom. 42, t. 55. 1795.

Distribution: Arunachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 100–1000 m.

Ehretia microphylla Lam., Tabl. Encycl. 1: 425. 1792.

Distribution: Arunachal Pradesh, Sikkim; 500–1200 m.

Ehretia obtusifolia Hochst. ex A. DC., Prodr. 9: 507. 1845.

Distribution: Jammu & Kashmir, Uttarakhand.

Ehretia wallichiana Hook.f. & Thomson ex C.B. Clarke, Fl. Brit. India 4: 143. 1883.

Distribution: Arunachal Pradesh, Sikkim, West Bengal (Darjeeling); 1200–1500 m.

Eritrichium Schrad.

Eritrichium acaule W.W. Sm., Rec. Bot. Surv. India 4: 225. 1911.

Distribution: Sikkim; 3000–4500 m.

Eritrichium canum (Benth.) Kitam., Act. Phytotax. Geobot. 19: 104. 1963. *Echinosperrum canum* Benth.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand.

Eritrichium canum (Benth.) Kitam. var. **fruticosum** (Klotzsch) Y.J.Nasir, Fl. Pakistan 191: 134. 1989. *E. fruticosum* Klotz.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand; 4000 m.

Eritrichium canum (Benth.) Kitam. var. **spathulatum** (Benth.) Y.J.Nasir, Fl. Pakistan 191: 136. 1989. *Echinosperrum spathulatum* Benth.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand; 3400–4800 m.

Eritrichium canum (Benth.) Kitam. var. **patens** (Decne.) Y.J.Nasir, Fl. Pakistan 191: 136. 1989. *E. patens* Decne.

Distribution: Jammu & Kashmir.

Eritrichium laxum I.M.Johnst., J. Arnold Arbor. 33: 66. 1952.

Distribution: Sikkim; 4270–5270 m.

Eritrichium minimum (Brand) H.Hara, J. Jap. Bot. 51: 9. 1976. *Hackelia minima* Brand

Distribution: Uttarakhand, Sikkim.

Eritrichium nanum (L.) Schrad. ex Gaudin, Fl. Helv. 2: 57. 1828. *Myosotis nana* L.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand; 4150 m.

(Plate 50c)

Eritrichium thomsonii (C.B.Clarke) I.M.Johnst., J. Arnold Arbor. 21: 53. 1940.

Omphalodes thomsoni Clarke

Distribution: Uttarakhand.

Eritrichium thymifolium (DC.) Y.S.Lian & J.Q.Wang, Bull. Bot. Lab. N. E. Forest. Inst., Harbin 9: 46. 1980. *Echinosperrum thymifolium* DC.

Distribution: Jammu & Kashmir.

Eritrichium villosum (Ledeb.) Bunge, Verz. Altai Pfl. 14. 1836. *Myosotis villosa* Ledeb.

Distribution: Jammu & Kashmir, Himachal Pradesh, Uttarakhand.

Gastrocotyle Bunge

Gastrocotyle hispida (Forssk.) Bunge, Ann. Sci. Nat., Bot. III, 12: 363. 1849.

Anchusa hispida Forssk.

Distribution: Jammu & Kashmir.

Hackelia Opiz

Hackelia bhutanica R.R.Mill., Edinburgh J. Bot. 53: 117. 1996.

Distribution: Sikkim, West Bengal (Darjeeling); 2440–4268 m.

Hackelia deflexa Opiz, Oekon.–Techn. Fl. Böhm. 2(2): 147. 1839.

Distribution: Jammu & Kashmir.

Hackelia macrophylla I.M.Johnst., Contr. Gray Herb. 68: 45. 1923.

Distribution: Jammu & Kashmir.

Hackelia meeboldii Brand, Repert. Spec. Nov. Regni Veg. 22: 104. 1925.

Distribution: Jammu & Kashmir.

Hackelia obtusifolia R.R.Mill, Edinburgh J. Bot. 53: 118. 1996.

Distribution: Sikkim; 2745–4268 m.

Hackelia uncinata (Benth.) C.E.C.Fischer, Kew Bull. 1932: 298. 1932.
Cynoglossum uncinatum Benth.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 3950 m. (Plate 170d)

Heliotropium L.

Heliotropium bracteatum R.Br., Prodr. Fl. Nov. Holl. 493. 1810.

Distribution: Jammu & Kashmir.

Heliotropium dasycarpum Ledeb. ex. Aichw. var. **gymnostomum** Kazmi, J. Arnold Arboretum 51(2): 165. 1970.

Distribution: Jammu & Kashmir.

Heliotropium ellipticum Ledeb., Pl. Nov. 10. 1831.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand.

Heliotropium indicum L., Sp. Pl. 139. 1753.

Distribution: Arunachal Pradesh, Sikkim, Uttarakhand, West Bengal (Darjeeling); 100–500 m.

Heliotropium lasiocarpum Fisch. & C.A.Mey., Index Seminum 4: 38. 1838.

Distribution: Jammu & Kashmir.

Heliotropium pycnophyllum Phil., Fl. Atacam. 38. 1860. *Heliotropium brevisfolium* Wall. ex Roxb.

Distribution: Himachal Pradesh.

Heliotropium strigosum Willd., Sp. Pl. 1: 743. 1797.

Distribution: Arunachal Pradesh, Jammu & Kashmir, Himachal Pradesh, Sikkim, Uttarakhand, West Bengal (Darjeeling); 100–500 m.

Heliotropium supinum L., Sp. Pl. 130. 1753.

Distribution: Uttarakhand.

Heterocaryum A.DC.

Heterocaryum szovitsianum (Fisch. & C.A.Mey.) A.DC., Prodr. 10: 145. 1846.

Echinosperrum szovitsianum Fisch. & C.A.Mey.

Distribution: Jammu & Kashmir.

Ivanjohnstonia Kazmi

Ivanjohnstonia jaunsariensis Kazmi, Sultania 1: 1. 1975.

Distribution: Uttarakhand.

Lappula Moench

Lappula barbata (M.Bieb.) Gürke, Nat. Pflanzenfam. 4(3a): 107. 1893. *Myosotis barbata* M.Bieb.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand; 3950 m.

Lappula heteracantha Borbás, Nat. Pflanzenfam. iv. 3a (1893) 107. 1893.
Distribution: Jammu & Kashmir.

Lappula marginata Gürke, Nat. Pflanzenfam. 4(3a): 107. 1893.
Distribution: Jammu & Kashmir.

Lappula microcarpa (Ledeb.) Gurke, Nat. Pflanzenfam. 4(3a): 107. 1897.
Echinosperrum microcarpum Ledeb.
Distribution: Himachal Pradesh, Jammu & Kashmir.

Lasiocaryum I.M.Johnst.

Lasiocaryum densiflorum (Duthie) I.M. Johnst., J. Arnold Arbor. 21(1): 51. 1940.
Eritrichium densiflorum Duthie
Distribution: Jammu & Kashmir, Uttarakhand.

Lasiocaryum munroi (C.B. Clarke) I.M. Johnst., Contr. Gray Herb. 75: 46. 1925.
Eritrichium munroi C.B.Clarke
Distribution: Jammu & Kashmir, Sikkim, Uttarakhand; 3600–4570 m.

Lepechiniella Popov

Lepechiniella microcarpa (Boiss.) Riedl, Oesterr. Bot. Z. 110: 517. 1963.
Paracaryum microcarpum Boiss.
Distribution: Jammu & Kashmir.

Lindelofia Lehm.

Lindelofia longiflora (Benth.) Baill., Hist. Pl. 10: 379. 1890. *Cynoglossum longiflorum* Benth.
Distribution: Jammu & Kashmir, Uttarakhand.

Lindelofia longiflora (Benth.) Baill. var. **levingii** (C.B.Clarke) Brand, Pflanzenr. 4 (Heft 78): 85. 1921. *L. spectabilis* Lehm. var. *levingii* C.B.Clarke
Distribution: Jammu & Kashmir.

Lindelofia macrostyla (Bunge) Popov, Fl. URSS 19: 627. 1953. *Cynoglossum macrostylum* Bunge
Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand.

Lindelofia stylosa (Kar. & Kir.) Brand, Pflanzenr. IV, 252(78): 85. 1921.
Cynoglossum stylosum Kar. & Kir.
Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand.

Lithospermum L.

Lithospermum officinale L., Sp. Pl. 132. 1753
Distribution: Jammu & Kashmir, Uttarakhand.

Maharanga A.DC.

Maharanga bicolor (Wall. ex G.Don) A.DC., Prodr. 10: 71–72. 1846. *Onosma bicolor* Wall. ex G.Don
Distribution: Sikkim; 1980–3350 m.

Maharanga egregia (I.M.Johnst.) I.M.Johnst., J. Arnold Arbor. 35: 81. 1954.

Onosma egregium I.M.Johnst.

Distribution: Uttarakhand.

Maharanga emodi (Wall.) A.DC., Prodr. 10: 71. 1846. *Onosma emodi* Wall.

Distribution: Arunachal Pradesh, Uttarakhand, Sikkim; 1500–2500 m.

Maharanga wallichiana DC., Prodr. 10: 71. 1846.

Distribution: Uttarakhand; 2700–4000 m.

Mattiastrum (Boiss.) Brand

Mattiastrum asperum (Stocks) Brand, Repert. Spec. Nov. Regni Veg. 14: 153.

1915. *Paracaryum asperum* Stocks

Distribution: Jammu & Kashmir.

Mattiastrum himalayense (Klotzsch) Brand, Repert. Spec. Nov. Regni Veg. 14(394/399): 156. 1915. *Mattia himalayensis* Klotzsch

Distribution: Jammu & Kashmir.

Mattiastrum himalayense (Klotzsch) Brand var. **fallax** (Rech.f. & Riedl) Kazmi, J. Arnold Arbor. 52: 128. 1971. *M. himalayense* (Klotzsch) Brand subsp. *fallax* Rech.f. & Riedl

Distribution: Jammu & Kashmir.

Mattiastrum thomsonii (C.B.Clarke) Kazmi, J. Arnold Arbor. 52: 130. 1971.

Paracaryum thomsonii C.B.Clarke

Distribution: Jammu & Kashmir.

Mattiastrum tibeticum (C.B.Clarke) Brand, Repert. Spec. Nov. Regni Veg. 14(394/399): 156. 1915. *Paracaryum tibeticum* C.B.Clarke

Distribution: Jammu & Kashmir.

Microcaryum I.M.Johnst.

Microcaryum pygmaeum (C.B.Clarke) I.M.Johnst., Contr. Gray Herb. 73: 64.

1924. *Eritrichium pygmaeum* C.B.Clarke

Distribution: Sikkim, Uttarakhand; 4400–4900 m.

Microula Benth.

Microula pustulosa (C.B.Clarke) Duthie, Bull. Misc. Inform. Kew 1912(1): 39.

1912. *Eritrichium pustulosum* C.B.Clarke

Distribution: Sikkim, Uttarakhand; 3960–5420 m.

Microula sikkimensis (C.B.Clarke) Hemsl., Hooker's Icon. Pl. 26(3): pl. 2562.

1898. *Anchusa sikkimensis* C.B.Clarke

Distribution: Sikkim, 3900–4420 m.

Microula tibetica Benth., Gen. Pl. 2: 853. 1876.

Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim; 4250–5330 m.

(Plate 51a)

Mertensia Roth

Mertensia racemosa Benth. ex C.B. Clarke, Fl. Brit. India 4: 170. 1883.

Distribution: Himachal Pradesh.

Myosotis L.

Myosotis alpestris F.W. Schmidt, Fl. Boëm. 3: 26. 1794.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand.

Myosotis arvensis (L.) Hill, Veg. Syst. 7: 55. 1764. *M. scorpioides* L. var. *arvensis* L.

Distribution: Jammu & Kashmir.

Myosotis laxa Lehm. subsp. **caespitosa** (Schultz) Hyl. ex Nordh., Norsk Fl. 529.

1940. *M. caespitosa* Schultz

Distribution: Jammu & Kashmir, Uttarakhand.

Myosotis refracta Boiss., Voy. Bot. Midi. Esp. 2: 433. 1839.

Distribution: Himachal Pradesh, Jammu & Kashmir.

Myosotis scorpioides L., Sp. Pl. 131. 1753.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand.

Myosotis stricta Link ex Roem. & Schult., Syst. Veg. 4: 104. 1819.

Distribution: Himachal Pradesh, Jammu & Kashmir.

Myosotis sylvatica Hoffm., Deutschl. Fl. 61. 1791.

Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 4200 m.

Nonea Medik.

Nonea edgeworthii A. DC., Prodr. 10: 30. 1846.

Distribution: Jammu & Kashmir.

Nonea pulla (L.) DC., Fl. Franç. ed. 3, 3: 626. 1805. *Lycopsis pulla* L.

Distribution: Jammu & Kashmir.

Onosma L.

Onosma bracteata Wall., Fl. Ind. 2: 13. 1824.

Distribution: Jammu & Kashmir, Uttarakhand; 3400–4200 m.

Onosma dichroantha Boiss., Diagn. Pl. Orient., ser. 1 11: 107. 1849.

Distribution: Jammu & Kashmir.

Onosma hispida Wall. ex G. Don, Gen. Hist. 4: 317. 1838.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand; 3000–3800 m.

Onosma hookeri C.B. Clarke, Fl. Brit. India 4(10): 178. 1883.

Distribution: Sikkim, West Bengal (Darjeeling); 2834–5800 m.

Onosma hypoleucum I.M. Johnston, J. Arnold Arbor. 32(3): 220–221. 1951.

Distribution: Himachal Pradesh, Jammu & Kashmir.

Onosma limitaneum I.M.Johnst., J. Arnold Arbor. 32(4): 354. 1951.

Distribution: Arunachal Pradesh; 3000 m.

Onosma pyramidale Hook.f., Bot. Mag. 14: pl. 6987. 1888.

Distribution: Uttarakhand; 2450–2800 m.

Onosma thomsonii C.B.Clarke, Fl. Brit. India 4: 178. 1883.

Distribution: Jammu & Kashmir, Uttarakhand; 1500–2500 m.

Pseudomertensia Riedl

Pseudomertensia drummondii Kazmi, J. Arnold Arbor. 51(3): 375. 1970.

Distribution: Jammu & Kashmir.

Pseudomertensia elongata (Decne.) Riedl, Fl. Iranica 48: 61. 1967. *Lithospermum elongatum* Decne.

Distribution: Jammu & Kashmir.

Pseudomertensia lahulensis (Brand) Aswal, Fl. Lahaul–Spiti 457. 1994. *Lindelofia lahulensis* Brand

Distribution: Himachal Pradesh.

Pseudomertensia ovalifolium (Decne.) Bennet, J. Econ. Taxon. Bot. 4: 591. 1983.

Lithospermum ovalifolium Decne.

Distribution: Jammu & Kashmir.

Pseudomertensia parviflorum (Decne.) Riedl, Fl. Iranica 48: 60. 1967.

Craniospermum parviflorum Decne.

Distribution: Jammu & Kashmir.

Pseudomertensia racemosa (Royle) Kazmi, J. Arnold Arbor. 51: 379. 1970.

Myosotis racemosa Royle

Distribution: Uttarakhand; 1500–2800 m.

Pseudomertensia trollii Stewart & Kazmi, J. Arnold Arbor. 51(3): 369. 1970.

Distribution: Jammu & Kashmir.

Rochelia Roem. & Schult.

Rochelia bungei Trautv., Trudy Imp. S.–Peterburgsk. Bot. Sada 9(2): 462. 1886.

Distribution: Jammu & Kashmir.

Rochelia cardiosepala Bunge, Mém. Acad. Imp. Sci. St.–Pétersbourg Divers Savans 7: 420. 1851.

Distribution: Himachal Pradesh, Jammu & Kashmir.

Rochelia disperma (L.f.) K.Koch. *Lithospermum disperma* L.f.

Distribution: Jammu & Kashmir

Rochelia laxa I.M.Johnst., J. Arnold Arbor. 21: 55. 1940.

Distribution: Jammu & Kashmir.

Rochelia leiocarpa Ledeb., Fl. Altaic. 1: 172–173. 1829.

Distribution: Jammu & Kashmir.

Rochelia peduncularis Boiss., *Diagn. Pl. Orient.*, ser. 1 7: 35. 1846.

Distribution: Jammu & Kashmir.

Rochelia rectipes Stocks, Hooker's J. Bot. Kew Gard. Misc. 4: 176. 1852.

Distribution: Himachal Pradesh, Jammu & Kashmir.

Rochelia stylaris Boiss., *Fl. Orient.* 4. 1875.

Distribution: Jammu & Kashmir.

Rotula Lour.

Rotula aquatica Lour., *Fl. Cochinch.* 121. 1790.

Distribution: Arunachal Pradesh, Uttarakhand; 100–800 m.

Setulocarya R.R.Mill & D.G.Long

Setulocarya diffusa (Brand) R.R.Mill & D.G.Long., *Edinburgh J. Bot.* 53(1): 114–117. 1996. *Microcaryum diffusum* Brand

Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 4000–4420 m.

Solenanthus Ledeb.

Solenanthus circinnatus Ledeb., *Fl. Alt.* 1: 194. 1829.

Distribution: Himachal Pradesh, Jammu & Kashmir.

Tournefortia L.

Tournefortia hookeri C.B.Clarke, *Fl. Brit. India* 4: 147. 1883

Distribution: Sikkim, West Bengal (Darjeeling); 300–1500 m.

Tournefortia montana Lour., *Fl. Cochinch.* 1: 122. 1790.

Distribution: Sikkim, West Bengal (Darjeeling); about 400 m.

Tournefortia ovata Wall. ex G.Don, *Gen. Syst.* 4: 369. 1838.

Distribution: Arunachal Pradesh; 100–1000 m.

Trichodesma R.Br.

Trichodesma calycosum Collett & Hemsl., *J. Linn. Soc., Bot.* 28(189–191): 92–93. 1890.

Distribution: Sikkim, West Bengal (Darjeeling); 350–1800 m.

Trichodesma indicum (L.) Lehm., *Pl. Asperif. Nucif.* 193. 1818. *Borago indica* L.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand; 1600 m.

Trichodesma khasianum C.B.Clarke, *Fl. Brit. India* 4: 154. 1883.

Distribution: Arunachal Pradesh; 500–1000 m.

Trichodesma zeylanicum (Burm.f.) R.Br., *Prodr. Fl. Nov. Holl.* 496. 1810. *Borago zeylanica* Burm.f.

Distribution: Jammu & Kashmir, Sikkim.

Trigonotis Steven

Trigonotis caespitosa S.P.Banerjee, Bull. Bot. Surv. India 8: 322. 1967.

Distribution: Sikkim; 4785 m.

Trigonotis clarkei R.R.Mill, Edinburgh J. Bot. 53: 122. 1996.

Distribution: Sikkim; 1707–3353 m.

Trigonotis gracilipes I.M.Johnst., J. Arnold Arbor. 18(1): 9. 1937.

Distribution: Sikkim; 3050–4260 m.

Trigonotis microcarpa (DC.) Benth. ex C.B.Clarke, Fl. Brit.India 4: 172. 1883.

Eritrichium microcarpum DC.

Distribution: Arunachal Pradesh, Sikkim; 2000–2500 m.

Trigonotis multicaulis Benth. ex C.B.Clarke, Fl. Brit. India 4: 172. 1883.

Distribution: Sikkim; 3900–3963 m.

Trigonotis ovalifolia Benth. ex C.B.Clarke, Fl. Brit. India 4: 172. 1883.

Distribution: Sikkim, West Bengal (Darjeeling); 3050 m.

Trigonotis rotundifolia Benth. ex C.B.Clarke, Fl. Brit. India 4: 172. 1883.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 3350–4450 m.

Trigonotis tibetica (C.B.Clarke) I.M.Johnst., Contr. Gray Herb. 75: 48. 1925.

Eritrichium tibeticum C.B.Clarke

Distribution: Jammu & Kashmir, Sikkim; 3660–5180 m.

BRASSICACEAE

(71 genera; 210 taxa)

Alliaria Matthioli & Heist. ex Fabr.

Alliaria petiolata (M.Bieb.) Cavara & Grande, Bull. Orto Bot. Regia Univ. Napoli 3: 418. 1913. *Arabis petiolate* M.Bieb.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand. (Plate 51b)

Alyssum L.

Alyssum desertorum Stapf., Denkschr. Kaiserl. Akad. Wiss., Wien. Math.–Naturwiss. Kl. 51: 33. 1886.

Distribution: Himachal Pradesh, Jammu & Kashmir.

Alyssum klimesii Al–Shehbaz, Novon 12: 309. 2002.

Distribution: Jammu & Kashmir.

Aphragmus Andrz. ex DC.

Aphragmus hobsonii (H.Pearson) Al–Shehbaz & Warwick, Canad. J. Bot. 84: 279. 2006. *Cochlearia hobsonii* Pearson

Distribution: Sikkim; 2740–3650 m.

Aphragmus ladakiana Al–Shehbaz, Novit. Fl. Suec. Mant. 12: 310. 2002.

Distribution: Jammu & Kashmir.

Aphragmus oxycarpus (Hook.f. & Thomson) Jafri, Notes Roy. Bot. Gard. Edinburgh 22: 96. 1956. *Braya oxycarpa* Hook.f. & Thomson

Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand.

Aphragmus obscurus (Dunn) O.E.Schulz, Repert. Spec. Nov. Regni Veg. 31: 330. 1933. *Draba obscura* Dunn

Distribution: Jammu & Kashmir.

Aphragmus serpens (W.W.Sm.) Al-Shehbaz & Warwick, Canad. J. Bot. 84: 279. 2006. *Cochlearia serpens* W.W.Sm.

Distribution: Sikkim.

Arabidopsis Heynh.

Arabidopsis thaliana (L.) Heynh., Fl. Sachsen 538. 1842. *Arabis thaliana* L.

Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand.

Arabis L.

Arabis amplexicaulis Edgew., Trans. Linn. Soc. London 20: 31. 1851.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Uttarakhand; 1500–3500 m.

Arabis bijuga Watt., J. Linn. Soc. Bot. 18: 378. 1881.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand

Arabis nova Vill., Prosp. Hist. Pl. Dauph. 39. 1779.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 3900 m.

Arabis pterosperma Edgew., Trans. Linn. Soc. London 20: 33. 1851.

Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand.

Arabis recta Vill., Hist. Pl. Dauphine 3: 319. 1788.

Distribution: Himachal Pradesh.

Arabis saxicola Edgew., Trans. Linn. Soc. London. 20: 33. 1846.

Distribution: Jammu & Kashmir, Uttarakhand.

Arabis tibetica Hook.f. & Thomson, J. Proc. Linn. Soc., Bot. 5: 143. 1861.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand.

Arcyosperma O.E.Schulz

Arcyosperma primulifolium (Thomson) O.E.Schulz, Pflanzenr. IV, 105(86): 182. 1924. *Sisymbrium primulaefolium* Thomson

Distribution: Jammu & Kashmir, Sikkim, Uttarakhand.

(Plate 52a)

Atelantha Hook.f. & Thomson

Atelantha perpusilla Hook.f. & Thomson, J. Proc. Linn. Soc., Bot. 5: 138. 1861.

Distribution: Jammu & Kashmir.

Barbarea W.T.Aiton

Barbarea elata Hook.f. & Thomson, J. Proc. Linn. Soc., Bot. 5: 140. 1861.

Distribution: Sikkim; 3800 m.

Barbarea intermedia Boreau, Fl. Centre France 2: 48. 1840.

Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 2895–4265 m. (Plate 52b)

Barbarea vulgaris R.Br., Hortus Kew. 4: 109. 1812.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 3500–4500 m.

Brassica L.

Brassica carinata A.Braun, Flora 24: 267. 1841.

Distribution: Arunachal Pradesh; 600–1200 m.

Brassica cretica Lam., Encycl. 1: 747. 1785.

Distribution: Sikkim, Uttarakhand.

Brassica juncea (L.) Czern., Consp. Pl. Charc. 8. 1859. *Sinapis juncea* L.

Distribution: Arunachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 300–700 m.

Brassica napus L., Sp. Pl. 666. 1753.

Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand.

Brassica nigra (L.) K.Koch, Deutschl. Fl. ed. 3, 4: 713. 1833. *Sinapis nigra* L.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 1500 m.

Brassica oleracea L. Sp. Pl. 667. 1753.

Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand.

Brassica rapa L., Sp. Pl. 666. 1753.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 1800–2500 m.

Brassica tournefortii Gouan, Ill. Observ. Bot. 44. 1773.

Distribution: Jammu & Kashmir, Uttarakhand.

Braya Sternb. & Hoppe

Braya humilis (C.A.Mey.) B.L.Rob., Syn. Fl. N. Amer. 1(1): 141. 1895. *Sisymbrium humile* C.A.Mey.

Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim.

Braya rosea (Turcz.) Bunge, Index Seminum (TU) 1841: 8. 1841. *Draba rosea* Turcz.

Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand.

Camelina Crantz

Camelina sativa (L.) Crantz, Stirp. Austr. Fasc. 1: 17. 1762. *Myagrum sativum* L.
Distribution: Jammu & Kashmir

Capsella Medik.

Capsella bursa-pastoris (L.) Medik., Pfl.-Gatt. 85. 1792. *Thlaspi bursa-pastoris* L.
Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 2000–2500 m. (Plate 53a)

Cardamine L.

Cardamine circaeoides Hook.f. & Thomson, J. Proc. Linn. Soc., Bot. 5: 144. 1861.

Distribution: Arunachal Pradesh, Sikkim; 1500–2000 m.

Cardamine elegantula Hook.f. & Thomson, J. Proc. Linn. Soc., Bot. 5: 146. 1861.
Distribution: Arunachal Pradesh, Sikkim; 1800–3500 m.

Cardamine flexuosa With., Arr. Brit. Pl. ed. 3. 3: 578. 1796.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 1200–2000 m.

Cardamine fragariifolia O.E.Schulz, Bot. Jahrb. Syst. 32: 446. 1903.

Distribution: Arunachal Pradesh; 1300–2000 m.

Cardamine griffithii Hook.f. & Thomson, J. Proc. Linn. Soc., Bot. 5: 146. 1861.
Distribution: Sikkim; 2000–3800 m.

Cardamine hirsuta L., Sp. Pl. 655. 1753.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 500–1000 m.

Cardamine impatiens L., Sp. Pl. 655. 1753.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 1800–2500 m.

Cardamine loxostemonoides O.E.Schulz, Notizbl. Bot. Gart. Berlin-Dahlem 9: 1069. 1927.

Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand.

Cardamine macrophylla Willd., Sp. Pl. 3: 484. 1800.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 1500–2500m.

Cardamine pulchella (Hook.f. & Thomson) Al-Shehbaz & G.Yang, Harvard Pap. Bot. 3: 77. 1998. *Loxostemon pulchellus* Hook.f. & Thomson

Distribution: Sikkim; 4100m.

Cardamine scutata Thunb., Trans. Linn. Soc. London 2: 339. 1794.

Distribution: Uttarakhand.

Cardamine trifoliolata Hook.f. & Thomson, J. Proc. Linn. Soc., Bot. 5: 145. 1861.
Distribution: Sikkim, Uttarakhand; 1675–3100m.

Cardamine violacea (D. Don) Wall., Numer. List 4782. 1831. *Erysimum violaceum*

D. Don

Distribution: Sikkim.

Cardamine yunnanensis Franch., Bull. Soc. Bot. France 33: 398. 1886.

Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand.

Chorispora R.Br. ex DC.

Chorispora bungeana Fisch. & C.A.Mey., Enum. Pl. Nov. 1: 96. 1841.

Distribution: Jammu & Kashmir.

Chorispora macropoda Trautv., Bull. Soc. Imp. Naturalistes Moscou 33(1): 109. 1860.

Distribution: Jammu & Kashmir.

Chorispora sabulosa Cambess., Voy. Inde 4: 15. 1841.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand.

Chorispora sibirica (L.) DC., Syst. Nat. 2: 437. 1821. *Raphanus sibiricus* L.

Distribution: Jammu & Kashmir.

Chorispora tenella (Pall.) DC., Syst. Nat. 2: 435. 1821. *Raphanus tenellus* Pall.

Distribution: Himachal Pradesh, Jammu & Kashmir.

Christolea Cambess.

Christolea crassifolia Crambess., Voy. Bot. 4: 17. 1844.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand.

Cochlearia L.

Cochlearia cochlearioides (Roth) Santapau & Maheshw., J. Bombay Nat. Hist. Soc. 54: 804. 1957. *Alyssum cochlearioides* Roth

Distribution: Jammu & Kashmir, Uttarakhand.

Cochlearia minutissima O.Schulz, Notizbl. Bot. Gart. Berlin-Dahlem 9: 1073. 1927.

Distribution: Uttarakhand.

Conringia Heist. ex Fabr.

Conringia planisiliqua Fisch. & C.A.Mey., Index Seminum (LE) 3: 32. 1836.

Distribution: Jammu & Kashmir.

Crambe L.

Crambe cordifolia Stev., Mém. Soc. Imp. Naturalistes Moscou 3: 267. 1812.

Distribution: Himachal Pradesh, Uttarakhand.

Crambe cordifolia Stev. subsp. **kotschyana** (Boiss.) Jafri, Fl. W. Pak. 55: 37. 1973. *C. kotschyana* Boiss.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand.

Crucihimalaya Al-Shehbaz, O'Kane & R.A.Price

Crucihimalaya axillaris (Hook.f. & Thomson) Al-Shehbaz & al., Novon 9: 301. 1999. *Sisymbrium axillare* Hook.f. & Thomson

Distribution: Uttarakhand.

Crucihimalaya himalaica (Edgew.) Al-Shehbaz, O’Kane & R.A.Price, Novon 9: 301. 1999. *Arabis himalaica* Edgew .

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand;

1600–2200 m.

Crucihimalaya lasiocarpa (Hook.f. & Thomson) Al-Shehbaz, O’Kane & R.A.Price, Novon 9: 300. 1999. *Sisymbrium lasiocarpum* Hook.f. & Thomson

Distribution: Jammu & Kashmir, Sikkim, Uttarakhand.

Crucihimalaya mollissima (C.A.Mey.) Al-Shehbaz, O’Kane & R.A.Price, Novon 9: 299. 1999. *Sisymbrium mollissimum* C.A.Mey.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 2000–4000 m.

Crucihimalaya stricta (Cambess.) Al-Shehbaz, O’Kane & R.A.Price, Fl. Cauc. Crit. 3(4): 457. 1909. *Malcolmia stricta* Cambess.

Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 1500–5000 m.

Crucihimalaya wallichii (Hook.f. & Thomson) Al-Shehbaz, O’Kane & R.A.Price, Novon 9: 301. 1999. *Sisymbrium wallichii* Hook.f. & Thomson

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand.

Desideria Pamp.

Desideria himalayensis (Cambess.) Al-Shehbaz, Ann. Missouri Bot. Gard. 87: 555. 2000 (2001). *Cheiranthus himalayensis* Cambess.

Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand.

Desideria linearis (N.Busch) Al-Shehbaz, Ann. Missouri Bot. Gard. 87: 556. 2000 (2001). *Christolea linearis* N.Busch

Distribution: Jammu & Kashmir.

Desideria mirabilis Pamp., Bull. Soc. Bot. Ital. 1926: 107. 1926.

Distribution: Jammu & Kashmir.

Desideria pumila (Kurz) Al-Shehbaz, Ann. Missouri Bot. Gard. 87: 560. 2000 (2001). *Parrya pumila* Kurz

Desideria stewartii (T.Anders.) Al-Shehbaz, Ann. Missouri Bot. Gard. 87: 556. 2000 (2001). *Christolea stewartii* T.Anders.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand.

Descurainia Webb & Berthel.

Descurainia sophia (L.) Webb ex Prantl, Nat. Pflanzenfam. 3(2): 192. 1892.
Sisymbrium Sophia L.

Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand.

Dilophia Thomson

Dilophia purii D.S.Rawat, Dangwal & Gaur, J. Bombay Nat. Hist. Soc. 93: 262. 1996.

Distribution: Uttarakhand.

Dilophia salsa Thomson, Hooker's J. Bot. Kew Gard. Misc. 5: 20. 1853.

Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim; 3000–5000 m.

Diploaxis DC.

Diploaxis muralis (L.) DC., Syst. Nat. 2: 634. 1821. *Sisymbrium murale* L.

Distribution: Jammu & Kashmir.

Dontostemon Andrzej. ex Ledeb.

Dontostemon glandulosus (Kar. & Kir.) O.E.Schulz, Notizbl. Bot. Gart. Berlin-Dahlem 10: 554. 1929. *Arabis glandulosa* Kar. & Kir.

Distribution: Sikkim; 3300–5000 m.

Dontostemon pinnatifidus (Willd.) Al-Shehbaz & H.Ohba, Novon 10: 96. 2000.

Cheiranthus pinnatifidus Willd.

Distribution: Uttarakhand.

Draba L.

Draba affghanica Boiss., Fl. Orient. Suppl. 55. 1888.

Distribution: Jammu & Kashmir, Uttarakhand.

Draba alshehbazii Kilmes & D.A.German, Bot. J. Linn. Soc. 158. 750. 2008.

Distribution: Jammu & Kashmir; 5310–6000 m.

Draba altaica (C.A.Mey.) Bunge, Index Seminum (TU) 1841: 8. 1841. *D. rupestris* R.Br var. *altaica* C.A.Mey.

Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand.

Draba amoena O. Schulz, Pflanzenr. IV, 105(89): 188. 1927.

Distribution: Uttarakhand

Draba aubrietoides Jafri, Notes Roy. Bot. Gard. Edinburgh 22: 106. 1956.

Distribution: Jammu & Kashmir

Draba cachemirica Gand., Bull. Soc. Bot. France 46: 418. 1899.

Distribution: Himachal Pradesh, Jammu & Kashmir.

Draba cholaensis W.W.Sm., Rec. Bot. Surv. India 4: 352. 1913.

Distribution: Sikkim; 4300 m.

Draba elata Hook.f. & Thomson, J. Proc. Linn. Soc., Bot. 5: 150. 1861.

Distribution: Sikkim; 3350–4570 m.

Draba ellipsoidea Hook.f. & Thomson, J. Proc. Linn. Soc., Bot. 5: 153. 1861.

Distribution: Jammu & Kashmir, Sikkim; 4265 m.

Draba eriopoda Turcz., Bull. Soc. Imp. Naturalistes Moscou 15: 260. 1842.

Distribution: Sikkim; 4110 m.

Draba falconeri O.E.Schulz, Pflanzenr. IV, 105(89): 300. 1927.

Distribution: Jammu & Kashmir.

Draba glomerata Royle, Ill. Bot. Himal. Mts. 71. 1834.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand.

Draba gracillima Hook.f. & Thomson, J. Proc. Linn. Soc., Bot. 5: 153. 1861. *D. wardii* W.W.Sm.

Distribution: Arunachal Pradesh, Himachal Pradesh, Sikkim, Uttarakhand, West Bengal (Darjeeling); 3000–4000 m.

Draba humillima O.E.Schulz, Pflanzenr. IV. 105(89): 114. 1927.

Distribution: Sikkim; 4650–5000 m.

Draba korshinskyi (O.Fedtsch.) Pohle, Trudy Imp. S.-Peterburgsk. Bot. Sada 31: 484. 1915. *D. alpina* L. var. *korshinskyi* O.Fedtsch.

Distribution: Jammu & Kashmir.

Draba lanceolata Royle, Ill. Bot. Himal. Mts. 72 .1834.

Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand.

Draba lasiophylla Royle, Ill. Bot. Himal. Mts. 71. 1834.

Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 4265–4570 m.

Draba ludlowiana Jafri, Notes Roy. Bot. Gard. Edinburgh. 22: 105. 1956.

Distribution: Jammu & Kashmir, Uttarakhand.

Draba melanopus Kom., Trudy Imp. S.-Peterburgsk. Obshch. Estestvoisp., Vyp. 3, Otd. Bot. 26: index 1896.

Distribution: Jammu & Kashmir.

Draba nemorosa L., Sp. Pl. 643. 1753.

Distribution: Jammu & Kashmir.

Draba nuda (Bél. ex Boiss.) Al-Shehbaz & M.Koch, Novon 13: 173. 2003. *Arabis nuda* Bél. ex Boiss.

Distribution: Jammu & Kashmir.

Draba oariocarpa Schulz, Pflanzenr. IV. 105(89): 279. 1927.

Distribution: Sikkim; 4570–4650 m.

Draba olgae Regel & Schmalh., Putesh. Turkestan 3(3): 8. 1882.

Distribution: Himachal Pradesh, Jammu & Kashmir.

Draba oreades Schrenk., Enum. Pl. Nov. 2: 56. 1842.

Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 3960–4730 m.

Draba polyphylla Schulz, Pflanzenr. IV. 105 (89): 180. 1927.

Distribution: Sikkim; 3600–5000 m.

Draba radicans Royle. I11. Bot. Himal. Mts. 71.1834.

Distribution: Uttarakhand.

Draba setosa Royle, Ill. Bot. Himal. Mts. 71 .1834.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand.

Draba sikkimensis (Hook.f. & Thomson) Pohle, Repert. Spec. Nov. Regni Veg. Beih. 32: 144. 1925. *D. tibetica* Hook.f. & Thomson var. *sikkimensis* Hook.f. & Thomson

Distribution: Sikkim; 4880 m.

Distribution: Sikkim; 4880 m.

Draba stenocarpa Hook.f. & Thomson, J. Proc. Linn. Soc., Bot. 5: 153 .1861.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand.

Draba tenerrima O.E.Schulz, Notizbl. Bot. Gart. Berlin–Dahlem 11: 640. 1932.

Distribution: Jammu & Kashmir.

Draba tibetica Hook.f. & Thomson, J. Proc. Linn. Soc., Bot. 5: 152. 1861.

Distribution: Jammu & Kashmir, Sikkim; 3800–5200 m.

Draba trinervis O.E.Schulz, Pflanzenr. IV, 105(89): 131. 1927.

Distribution: Jammu & Kashmir

Draba winterbottomii (Hook.f. & Thomson) Pohle, Repert. Spec. Nov. Regni Veg. Beih. 32: 138. 1925. *D. tibetica* Hook.f. & Thomson var. *winterbottomii* Hook.f. & Thomson

Distribution: Jammu & Kashmir, Sikkim, Uttarakhand.

Distribution: Jammu & Kashmir, Sikkim, Uttarakhand.

Eurycarpus Botsch.

Eurycarpus lanuginosus (Hook.f. & Thomson) Botsch., Bot. Mater. Gerb. Bot. Inst. Komarova Akad. Nauk S.S.S.R. 17: 172. 1955. *Parrya lanuginosa* Hook.f. & Thomson

Distribution: Jammu & Kashmir

Distribution: Jammu & Kashmir.

Erophila DC.

Erophila verna (L.) DC., Mém. Mus. Hist. Nat. 7: 251 .1821. *Draba verna* L.

Distribution: Himachal Pradesh, Jammu & Kashmir.

Eruca Tourn. ex Adans.

Eruca vesicaria (L.) Cav., Descr. Pl. 426. 1802.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Uttarakhand; 1200–2000 m.

Erysimum L.

Erysimum altaicum C.A.Mey., Fl. Alt. 3: 153. 1831.

Distribution: Jammu & Kashmir.

Erysimum badghisi (Korsh.) Lipsky ex N.Busch, Fl. URSS 8: 123. 1939. *E. verrucosum* Boiss. & Gaill. var. *badghisi* Korsh.

Distribution: Jammu & Kashmir.

Erysimum deflexum Hook.f. & Thomson, J. Proc. Linn. Soc., Bot. 5: 165. 1861.

Distribution: Sikkim; 3950–5500 m.

Erysimum funiculosum Hook.f. & Thomson, J. Proc. Linn. Soc., Bot. 5: 165. 1861.

Distribution: Sikkim; 4265–4570 m.

Erysimum hieraciifolium L., Cent. Pl. 1: 18. 1755.

Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand. (**Plate 53b**)

Erysimum melicentae Dunn, Bull. Misc. Inform. Kew 1920: 336. 1920.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand.

Erysimum pachycarpum Hook.f. & Thomson, J. Proc. Linn. Soc., Bot. 5: 167. 1861.

Distribution: Sikkim; 3050–3950 m.

Erysimum repandum L., Demonstr. Pl. 17. 1753.

Distribution: Jammu & Kashmir, Uttarakhand.

Erysimum robustum D.Don, Prodr. Fl. Nepal. 202. 1825.

Distribution: Jammu & Kashmir.

Erysimum virgatum Roth, Catal. Bot. 1: 75. 1797.

Distribution: Sikkim; 3050–3950 m.

Euclidium W.T.Aiton

Euclidium syriacum (L.) R.Br., Hortus Kew. 4: 74. 1812. *Anastatica syriaca* L.

Distribution: Himachal Pradesh, Jammu & Kashmir.

Eutrema R.Br.

Eutrema deltoideum (Hook.f. & Thomson) O.E.Schulz, Pflanzenr. IV, 105(86): 35. 1924. *Sisymbrium deltoideum* Hook.f. & Thomson

Distribution: Sikkim; 3600–4700 m.

Eutrema himalaicum Hook.f. & Thomson, J. Linn. Soc. Bot. 5: 164. 1861.

Distribution: Sikkim; 3300–4500 m.

Eutrema heterophyllum (W.W.Sm.) H.Hara, J. Jap. Bot. 48: 97. 1973. *Braya heterophylla* W.W.Sm.

Distribution: Sikkim.

Eutrema hookeri Al-Shehbaz & Warwick, Harvard Pap. Bot. 10: 133. 2005.

Distribution: Sikkim; 4570 m.

Goldbachia DC.

Goldbachia laevigata (M.Bieb.) DC., Syst. Nat. 2: 577. 1821. *Raphanus laevigatus* M.Bieb.

Distribution: Jammu & Kashmir.

Guillenia Greene

Guillenia axillare (Hook.f. & Thomson) Bennet, J. Econ. Tax. Bot. 4: 593. 1983. *Sisymbrium axillare* Hook.f. & Thomson

Distribution: Arunachal Pradesh, Himachal Pradesh, Sikkim; 2500–3000 m.

Guillenia bracteosa (Jafri) H.B.Naithani & S.Biswas, Flow. Pl. India, Nepal & Bhutan 42. 1990. *Microsisymbrium bracteosum* Jafri

Distribution: Uttarakhand.

Guillenia duthiei (O.E.Schulz) Bennet, J. Econ. Taxon. Bot. 4: 593. 1983. *Microsisymbrium duthiei* O.E.Schulz

Distribution: Uttarakhand.

Guillenia flaccidum (O.E.Schulz) Bennet, J. Econ. Tax. Bot. 4: 593. 1983. *Microsisymbrium flaccidum* O.E.Schulz

Distribution: Jammu & Kashmir.

Guillenia minutiflorum (Hook.f. & Thomson) Bennet, J. Econ. Tax. Bot. 4: 593. 1983. *Sisymbrium minutiflorum* Hook.f. & Thomson

Distribution: Himachal Pradesh, Jammu & Kashmir.

Hornungia Rchb.

Hornungia procumbens (L.) Hayek, Repert. Spec. Nov. Regni Veg. Beih. 30(1): 480. 1925. *Lepidium procumbens* L.

Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand.

Iberis L.

Iberis amara L., Sp. Pl. 649. 1753.

Distribution: Himachal Pradesh, Uttarakhand.

Ianhedgea Al-Shehbaz & O'Kane

Ianhedgea minutiflora (Hook.f. & Thomson) Al-Shehbaz & O'Kane, Edinburgh J. Bot. 56: 322. 1999. *Sisymbrium minutiflorum* Hook.f. & Thomson

Distribution: Himachal Pradesh.

Isatis L.

Isatis costata C.A.Mey., Fl. Altaic. 3: 204. 1831.

Distribution: Jammu & Kashmir.

Isatis tinctoria L., Sp. Pl. 670. 1753.

Distribution: Himachal Pradesh, Jammu & Kashmir.

Leiospora (C.A.Mey.) Dvořák

Leiospora exscapa (C.A.Mey.) Dvořák, Spisy PŮř. Fak. Univ. v Brn 497: 357. 1968. *Parrya exscapa* C.A.Mey.

Distribution: Jammu & Kashmir.

Lepidium L.

Lepidium apetalum Willd., Sp. Pl. 3: 439. 1800.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand.

Lepidium capitatum Hook.f. & Thomson, J. Proc. Linn. Soc., Bot. 5: 175. 1861.

Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand.

Lepidium didymum L., Mant. Pl. 92. 1767.

Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand.

Lepidium draba L., Sp. Pl. 645. 1753.

Distribution: Jammu & Kashmir.

Lepidium draba L. subsp. **chalepense** (L.) P.Fourn., Quatre Fl. France 384. 1936.

L. chalepense L.

Distribution: Jammu & Kashmir.

Lepidium latifolium L., Sp. Pl. 644. 1753.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand.

Lepidium perfoliatum L., Sp. Pl. 643. 1753.

Distribution: Uttarakhand.

Lepidium pinnatifidum Ledeb., Fl. Ross. 1: 206. 1841.

Distribution: Himachal Pradesh, Uttarakhand.

Lepidium obtusum Basiner, Bull. Cl. Phys.-Math. Acad. Imp. Sci. Saint-Petersbourg 2: 203. 1844.

Distribution: Jammu & Kashmir.

Lepidium ruderale L., Sp. Pl. 645. 1753.

Distribution: Jammu & Kashmir, Uttarakhand.

Lepidium sativum L., Sp. Pl. 644. 1753.

Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand.

Lepidium virginicum L., Sp. Pl. 645. 1753.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 1000–1500 m.

Lepidium virginicum L. var. **kashmiricum** Dar & Naqshi, J. Bombay Nat Hist. Soc. 87(2): 278. 1990.

Distribution: Jammu & Kashmir.

Lepidostemon Hook.f. & Thomson

Lepidostemon pedunculatus Hook.f. & Thomson, J. Proc. Linn. Soc., Bot. 5: 131, 156. 1861.

Distribution: Sikkim; 4570 m.

Litwinowia Woronow

Litwinowia tenuissima (Pall.) Woronow ex Pavlov, Fl. Centr. Kazakh. 2: 302. 1935.
Vella tenuissima Pall.

Distribution: Jammu & Kashmir.

Lobularia Desv.

Lobularia maritima (L.) Desv., J. Bot. Agric. 3: 169. 1814 (1815). *Clypeola maritima* L.

Distribution: Uttarakhand.

Malcolmia W.T.Aiton

Malcolmia africana (L.) R.Br., Hortus Kew. 4: 121. 1812. *Hesperis africana* L.

Distribution: Jammu & Kashmir.

Malcolmia intermedia C.A.Mey., Verz. Pfl. Cauc. Meer. 186. 1831.

Distribution: Jammu & Kashmir.

Malcolmia strigosa Boiss., Ann. Sci. Nat., Bot., sér. 2, 17: 70. 1842.

Distribution: Jammu & Kashmir.

Matthiola W.T.Aiton

Matthiola flavida Boiss., Diagn. Pl. Orient., ser. 1 11: 9. 1846.

Distribution: Himachal Pradesh, Jammu & Kashmir; 4500 m.

Megacarpaea DC.

Megacarpaea bifida Benth., Hooker's J. Bot. Kew Gard. Misc. 7: 357. 1855.

Distribution: Jammu & Kashmir.

Megacarpaea polyandra Benth. ex Madden, Hooker's J. Bot. Kew Gard. Misc. 7: 356. 1855.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand. (Plate 171b)

Myagrum L.

Myagrum perfoliatum L., Sp. Pl. 640. 1753.

Distribution: Uttarakhand.

Nasturtium W.T.Aiton

Nasturtium microphyllum (Boenn. ex Rchb.) Rchb., Icon. Fl. Germ. Helv. 1: 15. 1834. *N. officinale* R.Br. var. *microphyllum* Boenn. ex Rchb.

Distribution: Himachal Pradesh.

Nasturtium officinale R.Br., Hortus Kew. 4: 110. 1812.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand

Neslia Desv.

Neslia paniculata (L.) Desv. subsp. **thracica** (Velen.) Bornm., Oesterr. Bot. Z. 44: 125. 1894. *N. thracica* Velen.

Distribution: Jammu & Kashmir.

Neurotropis (DC.) F.K.Mey.

Neurotropis platycarpa (Fisch. & C.A.Mey.) F.K.Mey., Feddes Repert. 84: 452 .1973. *Thlaspi platycarpum* Fisch. & C.A.Mey.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand.

Noccaea Moench

Noccaea cochlearioides (Hook.f. & Thomson) Al-Shehbaz, Acta Soc. Zool. Bohemoslov. 24: 91. 2002. *Thlaspi cochlearioides* Hook.f. & Thomson

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 3000–4000 m.

Notoceras W.T.Aiton

Notoceras bicornis (W.T.Aiton) Amo., Fl. Fan. Penins. Iberica 6: 536. 1873. *Erysimum bicornis* Aiton

Distribution: Jammu & Kashmir.

Olimarabidopsis Al-Shehbaz, O'Kane & R.A. Price

Olimarabidopsis pumila (Celak.) Al-Shehbaz, O'Kane & R.A.Price, Novon 9: 303. 1999. *Stenophragma pumilum* Celak.

Distribution: Himachal Pradesh, Jammu & Kashmir.

Parrya R.Br.

Parrya nudicaulis (L.) Boiss., Fl. Orient. 1: 159. 1867. *Cardamine nudicaulis* L.

Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 4200 m.

Parrya pinnatifida Kar. & Kir., Bull. Soc. Imp. Naturalistes Moscou 15: 147. 1842.

Distribution: Jammu & Kashmir.

Solms-laubachia Muschl.

Solms-laubachia platycarpa (Hook.f. & Thomson) Botsch., Bot. Mater. Gerb. Bot. Inst. Komarova Acad. Nauk SSSR 17: 171. 1955. *Parrya platycarpa* Hook.f. & Thomson

Distribution: Sikkim; 4880–5100 m.

Pegaeophyton Hayek & Hand.–Mazz

Pegaeophyton minutum Hara, J. Jap. Bot. 47(9): 270–272, f. 2. 1972.

Distribution: Sikkim, Uttarakhand; 3960–4900 m.

(Plate 172a)

Pegaeophyton purii Al-Shehbaz, Novon 14(2): 157. 2004.

Distribution: Uttarakhand

Pegaeophyton scapiflorum (Hook.f. & Thomson) C.Marquand & Airy Shaw, J. Linn. Soc., Bot. 48: 229. 1929. *Cochlearia scapiflora* Hook.f. & Thomson
Distribution: Arunachal Pradesh, Jammu & Kashmir, Sikkim; 3000–4000 m.

Phaeonychium O.E.Schulz

Phaeonychium albiflorum (T.Anders.) Jafri, Fl. W. Pak. No. 55: 162. 1973. *Cheiranthus albiflorus* T.Anders.
Distribution: Jammu & Kashmir

Phaeonychium parryoides (Kurz ex Hook.f. & T.Anders.) O.E.Schulz, Notizbl. Bot. Gart. Berlin–Dahlem 9(90): 1092. 1927. *Cheiranthus parryoides* Kurz ex Hook.f. & T.Anders.
Distribution: Himachal Pradesh, Jammu & Kashmir.

Ptilotrichum C.A.Mey.

Ptilotrichum canescens (DC.) C.A.Mey., Fl. Altaic. 3: 66. 1831. *Alyssum canescens* DC.
Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand.

Pycnoplinthopsis Jafri

Pycnoplinthopsis bhutanica Jafri, Pakistan J. Bot. 4: 74. 1972.
Distribution: Sikkim, Uttarakhand.

Pycnoplinthus O.E.Schulz

Pycnoplinthus uniflorus (Hook.f. & Thomson) O.E.Schulz, Pflanzenr. 86(IV. 105): 199. 1924. *Braya uniflora* Hook.f. & Thomson
Distribution: Jammu & Kashmir.

Raphanus L.

Raphanus raphanistrum L., Sp. Pl. 669. 1753.
Distribution: Jammu & Kashmir, Sikkim.

Raphanus raphanistrum L. subsp. **sativus** (L.) Domin, Beih. Bot. Centralbl. 26(2): 255. 1910. *Raphanus sativus* L.
Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 2000–3000 m.

Raphanus caudatus L., Mant. Pl. 95 .1767. *Raphanus sativus* L. var. *caudatus* (L.) Hook.f. & Anders.
Distribution: Uttarakhand.

Raphanus sativus L., Sp. Pl. 669. 1753.
Distribution: Sikkim.

Rapistrum Scop.

Rapistrum rugosum (L.) All., Fl. Pedem. 1: 257. 1785. *Myagrum rugosum* L.
Distribution: Jammu & Kashmir.

Rorippa Scop.

Rorippa benghalensis (DC.) H.Hara, J. Jap. Bot. 49: 132. 1974.

Distribution: Sikkim; 270–600 m.

Rorippa dubia (Pers.) H.Hara, J. Jap. Bot. 30: 196. 1955. *Sisymbrium dubium* Pers.

Distribution: Sikkim, Uttarakhand; 1650 m.

Rorippa indica (L.) Hiern. Cat. Afr. Pl. 1: xxvi .1896. *Sisymbrium indicum* L.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 1600–3000 m.

Rorippa islandica (Oeder) Borbas, Balaton Fl. 392. 1900. *Sisymbrium islandicum* Oeder

Distribution: Himachal Pradesh.

Rorippa madagascariensis (DC.) H.Hara, J. Jap. Bot. 30: 198. 1955. *Nasturtium madagascariensis* DC.

Distribution: Sikkim, Uttarakhand.

Rorippa palustris (L.) Besser, Enum. Pl. Volh. 27. 1821. *Sisymbrium amphibium* L. var. *palustre* L.

Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand.

Rorippa sylvestris (L.) Besser, Enum. Pl. Volh. 27. 1821. *Sisymbrium sylvestre* L.

Distribution: Jammu & Kashmir.

Scapiarabis M.Koch, R.Karl, D.A.German & Al-Shehbaz

Scapiarabis saxicola (Edgew.) M.Koch, R.Karl, D.A.German & Al-Shehbaz, Taxon 61(5): 965. 2012. *Arabis saxicola* Edgew.

Distribution: Jammu & Kashmir.

Sinapis L.

Sinapis alba L., Sp. Pl. 668. 1753.

Distribution: Jammu & Kashmir, Uttarakhand.

Sisymbrium L.

Sisymbrium altissimum L., Sp. Pl. 659. 1753.

Distribution: Jammu & Kashmir.

Sisymbrium brassiciforme C.A.Mey., Fl. Altaic. 3: 129–131. 1831.

Distribution: Himachal Pradesh, Jammu & Kashmir.

Sisymbrium heteromallum C.A.Mey., Fl. Altaic. 3: 132–133. 1831.

Distribution: Jammu & Kashmir

Sisymbrium irio L. Sp. Pl. 659. 1753.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand.

Sisymbrium loeselii L., Cent. Pl. 1. 18. 1755.

Distribution: Himachal Pradesh, Jammu & Kashmir.

Sisymbrium officinale (L.) Scop., Fl. Carniol. ed. 2, 2: 26. 1772. *Erysimum officinale* L.

Distribution: Jammu & Kashmir.

Sisymbrium orientale L., Cent. Pl. II 24. 1756.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand.

Smelowskia C.A.Mey.

Smelowskia calycina (Stephan) C.A.Mey., Fl. Altaic. 3: 170. 1831. *Lepidium calycinum* Stephan

Distribution: Jammu & Kashmir.

Smelowskia tibetica (Thomson) Lipsky, Trudy Imp. S.–Peterburgsk. Bot. Sada 23(1): 76. 1904.

Distribution: Jammu & Kashmir, Sikkim, Uttarakhand; 4265–4880 m.

Stevenia Adams ex Fisch.

Stevenia canescens (DC.) D.A.German, Key Pl. Tuva (ed.2) 194. 2007. *Alyssum canescens* DC.

Distribution: Jammu & Kashmir, Uttarakhand.

Tauscheria Fisch. ex DC.

Tauscheria lasiocarpa Fisch. ex DC., Syst. Nat. 2: 563. 1821.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand; 3800 m.

Tetracme Bunge

Tetracme pamirica Vassilcz., Fl. URSS viii. 300, 648. 1939.

Distribution: Jammu & Kashmir.

Thlaspi L.

Thlaspi andersonii (Hook.f. & Thomson) O.E.Schulz, Akad. Wiss. Wien, Math.–Naturwiss. Kl., Anz. 63: 98. 1926. *Iberidella andersonii* Hook.f. & Thomson

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand.

Thlaspi arvense L., Sp. Pl. 641. 1753.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 2000–4000 m.

Thlaspi cochleariforme DC., Syst. Nat. 2: 381. 1821.

Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand.

Thlaspi montanum L., Sp. Pl. 647. 1753.

Distribution: Arunachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 1500–2000 m.

Thlaspi septigerum (Bunge) Jafri, Notes Roy. Bot. Gard. Edinburg. 22: 118. 1956.
Eutrema septigerum Bunge
 Distribution: Jammu & Kashmir.

Turritis L.

Turritis glabra L., Sp. Pl. 666. 1753.
 Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand.

Winklera Regel

Winklera silaifolia Korsh., Bull. Acad. Petersb. Ser. V, ix. 419.1861.
 Distribution: Jammu & Kashmir.

BUDDLEJACEAE
 (1 genus; 12 taxa)

Buddleja L.

Buddleja asiatica Lour., Fl. Cochinch. 72. 1790.
 Distribution: Arunachal Pradesh, Himachal Pradesh, Sikkim, Uttarakhand; 500–1700 m.

Buddleja candida Dunn, Bull. Misc. Inform. Kew 1920: 134. 1920.
 Distribution: Arunachal Pradesh; 300–1200 m.

Buddleja colvilei Hook.f., Ill. Himal. Pl. t. 18. 1855.
 Distribution: Arunachal Pradesh, Sikkim; 1600–5000 m. **(Plate 172b)**

Buddleja crispa Benth., Scroph. Ind. 43. 1835.
 Distribution: Himachal Pradesh, Sikkim, Uttarakhand. **(Plate 173a)**

Buddleja davidii Franch., Nouv. Arch. Mus. Hist. Nat. II, 10: 65. 1887.
 Distribution: Uttarakhand.

Buddleja hookeri C.Marquand, Bull. Misc. Inform. Kew 1930: 191. 1930.
 Distribution: Arunachal Pradesh.

Buddleja lindleyana Fortune, Edwards's Bot. Reg. 30: t. 25. 1844.
 Distribution: Himachal Pradesh.

Buddleja macrostachya Benth., Scroph. Ind. 42. 1835.
 Distribution: Arunachal Pradesh, Sikkim; 1500–2500 m. **(Plate 54)**

Buddleja madagascariensis Lam., Encycl. 1: 513. 1785.
 Distribution: Uttarakhand.

Buddleja paniculata Wall., Fl. Ind. 1: 412. 1820.
 Distribution: Arunachal Pradesh, Sikkim, Uttarakhand; 1200–2800 m.

Buddleja subherbacea Keenan, Notes Roy. Bot. Gard. Edinburgh 39: 343. 1969.
 Distribution: Arunachal Pradesh.

Buddleja yunnanensis L.F.Gagnep., Notul. Syst. (Paris) 2: 187, 192. 1912.
 Distribution: Arunachal Pradesh.

BURSERACEAE

(3 genera; 5 taxa)

Boswellia Roxb. ex Colebr.**Boswellia serrata** Roxb. ex Colebr., *Asiat. Res.* 9: 379. t. 5. 1807.

Distribution: Uttarakhand.

Canarium L.**Canarium bengalense** Roxb., *Fl. Ind.* 3: 138. 1832.

Distribution: Arunachal Pradesh; 500–1000 m.

Canarium strictum Roxb., *Fl. Ind.* 3: 138. 1832.

Distribution: Arunachal Pradesh, Sikkim; 1000–1200 m.

Garuga Roxb.**Garuga floribunda** Decne. var. **gamblei** (King ex W.Sm.) Kalkman, *Blumea* 7: 466. 1953. *G. gamblei* King ex W. Sm.

Distribution: Arunachal Pradesh, Sikkim; 100–1000 m.

Garuga pinnata Roxb., *Pl. Coromandel.* 3: 5, t. 208. 1811.

Distribution: Arunachal Pradesh, Sikkim, Uttarakhand; 100–600 m.

BUXACEAE

(2 genera; 5 taxa)

Buxus L.**Buxus microphylla** Siebold & Zucc., *Fl. Jap.* 34. 1836.

Distribution: Uttarakhand; 3500–4000 m.

Buxus papillosa C.K.Schneid., *Ill. Handb. Laubholz.* 2: 139. 1907.

Distribution: Himachal Pradesh, Sikkim, Uttarakhand.

Buxus wallichiana Baill., *Monogr. Bux. et Styloc.* 63. 1859.

Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand.

Sarcococca Lindl.**Sarcococca pruniformis** Lindl., *Bot. Reg.* 12: t. 1021. 1826.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand, West Bengal (Darjeeling); 1200–2900 m.

Sarcococca wallichii Stapf., *Bull. Misc. Inform. Kew* 1916: 34. 1977.

Distribution: Arunachal Pradesh, Sikkim, West Bengal (Darjeeling); 1500–2300 m.

BYTTNERIACEAE

(1 genus; 2 taxa)

Byttneria Loefl.**Byttneria aspera** Collebr. ex Wall., *Fl. Ind.* 2: 383. 1824.

Distribution: Arunachal Pradesh, Sikkim; 300–1000 m.

Byttneria pilosa Roxb., Fl. India 2: 381. 1824.

Distribution: Sikkim.

CACTACEAE
(2 genera; 6 taxa)

Cereus Mill.

Cereus repandus (L.) Mill., Gard. Dict. ed. 8. 5. 1768. *Cactus peruvianus* L.

Distribution: Uttarakhand (cultivated).

Opuntia Mill.

Opuntia cochenillifera DC., Pl. Hist. Succ. t. 137. 1804.

Distribution: Uttarakhand.

Opuntia monacantha (Willd.) Haw., Suppl. Pl. Succ. 81. 1819. *Cactus monacanthos* Willd.

Distribution: Arunachal Pradesh, Jammu & Kashmir.

Opuntia elatior Mill., Gard. Dict. ed. 8. 4. 1768 .

Distribution: Himachal Pradesh, Uttarakhand; 1000–2300 m.

Opuntia ficus-indica (L.) Mill., Gard. Dict. ed. 8. 2. 1768. *Cactus ficus-indica* L.

Distribution: Uttarakhand; 2900 m.

Opuntia stricta (Haw.) Haw., Syn. Pl. Succ. 191. 1812. *Cactus strictus* Haw.

Distribution: Uttarakhand.

CALLITRICHACEAE
(1 genus; 3 taxa)

Callitriche L.

Callitriche hamulata Kütz. ex W.D.J.Koch, Syn. Fl. Germ. Helv. 246. 1835. *C. intermedia* Hoffm.

Distribution: Himachal Pradesh; 1000–2000 m.

Callitriche palustris L., Sp. Pl. 969. 1753.

Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 1500–2000 m.

Callitriche stagnalis Scop., Fl. Carn. ed. 2. 2: 251. 1772.

Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 2500–3000 m.

CALYCANTHACEAE
(1 genus; 1 taxon)

Chimonanthus Lindl.

Chimonanthus praecox (L.) Link, Enum. Hort. Berol. Alt. 2: 66. 1822. *Calycanthus praecox* L.

Distribution: Himachal Pradesh.

CAMPANULACEAE

(8 genera; 50 taxa)

Adenophora Fisch**Adenophora himalayana** Feer, Bot. Jahrb. Syst. 14: 618. 1890.

Distribution: Uttarakhand; 2400–4000 m.

Adenophora himalayana Feer subsp. **alpina** (Nannf.) D.Y.Hong, Fl. Reipubl. Popul. Sin. 73(2): 132. 1983. *A. alpina* Naaf.

Distribution: Himachal Pradesh.

Adenophora khasiana (Hook.f. & Thomson) Oliv. ex Collett & Hemsl., J. Linn. Soc., Bot. 28: 80. 1890. *Campanula khasiana* Hook.f. & Thomson

Distribution: Arunachal Pradesh.

Asyneuma Griseb. & Schenk**Asyneuma fulgens** (Wall) Briq., Candollea 4: 334. 1931. *Campanula fulgens* Wall.

Distribution: Sikkim, West Bengal (Darjeeling); 1219–3048 m.

Asyneuma thomsonii Bornm., Beih. Bot. Centralbl. 38(2): 350. 1921.

Distribution: Jammu & Kashmir.

Campanula L.**Campanula alsinoides** Hook.f. & Thomson, J. Linn. Soc., Bot. 2: 24. 1858.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand; upto 4300 m.

(Plate 55a)

Campanula argyrotricha Wall. ex DC., Prodr. 7: 473. 1839.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; upto 4300 m.

(Plate 55b)

Campanula aristata Wall., Fl. Ind. 2: 98. 1824.

Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; upto 4200 m.

(Plate 56c)

Campanula cana Wall., Fl. Ind. 2: 101. 1824.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 1500–3000 m.

Campanula cashmeriana Royle, III. Bot. Himal. Mts 1: 254. t. 62. F. 1. 1835.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand; 3600–4000 m.

Campanula dimorphantha Schweinf., Beitr. Fl. Aethiop. 140. 1867.

Distribution: Arunachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand.

Campanula immodesta Lammers, Novon 8(1): 34. 1998.

Distribution: Himachal Pradesh, Sikkim, Uttarakhand; 2800–4900 m.

Campanula latifolia L., Sp. Pl. 1:165. 1753.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand, West Bengal (Darjeeling); upto 2700 m.

(Plate 55c)

Campanula pallida Wall, Asiat. Res. 13: 375. 1820.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand, West Bengal (Darjeeling); 900–3500 m. (Plate 55d)

Campanula sylvatica Wall, Fl. Ind. 2: 97. 1824.

Distribution: Arunachal Pradesh, Sikkim, Uttarakhand; 1500–2700 m.

Campanula tenuissima Dunn, Bull. Misc. Inform. Kew 1924: 385. 1924.

Distribution: Jammu & Kashmir.

Campanula wattiana B.K.Nayar & Babu, J. Indian Bot. Soc. 49: 183. 1970.

Distribution: Himachal Pradesh, Uttarakhand; 2000–3800 m.

Campanumoea Blume

Campanumoea parviflora (Wall. ex DC.) Benth. Gen. Pl. 2: 558. 1876. *Codonopsis parviflora* Wall. ex DC.

Distribution: Arunachal Pradesh, Sikkim, West Bengal (Darjeeling); 305–1500 m.

Codonopsis Wall.

Codonopsis affinis Hook.f. & Thomson, J. Linn. Soc. Bot. 2: 12. 1858.

Distribution: Arunachal Pradesh, Sikkim, West Bengal (Darjeeling); 600–3048 m.

Codonopsis benthamii Hook.f. & Thomson, J. Proc. Linn. Soc., Bot. 2: 14. 1858.

Distribution: Sikkim; 1219–3048 m.

Codonopsis clematidea (Schrenk) C.B. Clarke, Fl. Brit. India 3: 433. 1881. *Wahlenbergia clematidea* Schrenk

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir; 600–1200 m.

Codonopsis convolvulacea Kurz., J. Bot. 11: 195. 1878.

Distribution: Sikkim; 1000–4600 m.

Codonopsis dicentrifolia (C.B. Clarke) W.W. Sm., Rec. Bot. Surv. India 4: 388. 1913. *Wahlenbergia dicentrifolia* C.B. Clarke

Distribution: Sikkim, West Bengal (Darjeeling); 1219–4048 m.

Codonopsis foetens Hook.f. & Thomson, J. Linn. Soc. 2: 16. 1858.

Distribution: Arunachal Pradesh, Sikkim; 3600–4500 m. (Plate 56a)

Codonopsis gracilis Hook.f. & Thomson, Ill. Himal. Pl. t. 16 A. 1855.

Distribution: Arunachal Pradesh, Sikkim; 1200–1500 m.

Codonopsis inflata Hook.f., Ill. Himal. Pl. 16C. 1855.

Distribution: Sikkim, West Bengal (Darjeeling); 1219–3048 m.

Codonopsis javanica (Blume) Hook.f. & Thomson, Ill. Himal. Pl. 116.1.16 B. 1855. *Campanumoea javanica* Blume

Distribution: Arunachal Pradesh, Sikkim, West Bengal (Darjeeling); 800–2200 m. (Plate 56b)

Codonopsis lancifolia (Roxb.) Moeliono, Fl. Males. 6: 120. 1960. *Campanula lancifolia* Roxb.

Distribution: Sikkim, West Bengal (Darjeeling); 1219–3048 m.

Codonopsis ovata Benth., III Ustr. Bot. Himal. 253. 1835.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Uttarakhand; upto 3800 m.

Codonopsis parviflora Wall. ex A.DC., Monogr. Campan. 123 1830.

Distribution: Sikkim, West Bengal (Darjeeling); 1219–3048 m.

Codonopsis purpurea Wall., Fl. Ind. 2: 105. 1824.

Distribution: Arunachal Pradesh, Uttarakhand. **(Plate 173b)**

Codonopsis rotundifolia Benth., Ill. Bot. Himal. Mts. t. 62. 1835.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Uttarakhand.

Codonopsis subsimplex Hook.f. & Thomson, J. Linn. Soc. 2: 16. 1858.

Distribution: Arunachal Pradesh, Sikkim, West Bengal (Darjeeling); 3300–3900 m.

Codonopsis thalictrifolia Wall., Fl. India 2: 106. 1824.

Distribution: Arunachal Pradesh, Sikkim, West Bengal (Darjeeling); 3600–4600 m. **(Plate 56d)**

Codonopsis vadsea S.S.Dash & A.A.Mao, Nelumbo 53: 17–19. 2011.

Distribution: Arunachal Pradesh; 3800 m.

Codonopsis vinciflora Kom., Bot. Sada 29: 103. 1908.

Distribution: Sikkim, West Bengal (Darjeeling); 1219–3048 m.

Codonopsis virdis Wall., Fl. India 2: 103. 1824.

Distribution: Arunachal Pradesh, Himachal Pradesh, Sikkim, Uttarakhand.

Cyananthus Wall. ex Benth.

Cyananthus cordifolius Duthie, Bull. Misc. Inform. Kew 1912: 37. 1912.

Distribution: Uttarakhand; 3200–4500 m.

Cyananthus hookeri C.B.Clarke, Fl. Brit. India 3: 435. 1881.

Distribution: Sikkim; 4500 m.

Cyananthus incanus Hook.f. & Thomson, J. Proc. Linn. Soc., Bot. 2: 20. 1858.

Distribution: Sikkim; 3500–4600 m.

Cyananthus inflatus Hook.f. & Thomson, Linn. Soc. 2: 21. 1858.

Distribution: Arunachal Pradesh, Sikkim; West Bengal (Darjeeling); 2700–4800 m. **(Plate 57a)**

Cyananthus integer Wall. ex Benth. Ill. Bot. Himal. Mts. 309. 1836.

Distribution: Uttarakhand; 3000–4500 m. **(Plate 57b)**

Cyananthus lobatus Wall. ex Benth., ll. Bot. Himal. Mts. 309. 1836.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 3300–4200 m. **(Plate 57c)**

Cyananthus macrocalyx Franch. subsp. **spathulifolius** (Nannf.) K.K.Shrestha, Acta Phytotax. Sin. 35: 412. 1997. *C. spathulifolius* Nannf.

Distribution: Sikkim; 3219–4048 m.

(Plate 57d)

Cyananthus microphyllus Edgew., Trans. Linn. Soc. London 20 (1): 81. 1851. *C. linifolius* Wall. ex Hook.f. & Thomson.

Distribution: Arunachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 2500–4700 m.

(Plate 58a)

Cyananthus pedunculatus C.B.Clarke, Fl. Brit. India 3: 434. 1881.

Distribution: Sikkim, Uttarakhand, West Bengal (Darjeeling); 3000–4500 m.

(Plate 58b)

Peracarpa Hook.f. & Thomson

Peracarpa carnosa (Wall.) Hook.f. & Thomson, J. Linn. Soc. Bot 2: 26. 1858. *Campanula carnos*a Wall.

Distribution: Arunachal Pradesh, Sikkim, Uttarakhand, West Bengal (Darjeeling); 1500–3000 m.

Wahlenbergia Schrad. ex Roth

Wahlenbergia hirsuta (Edgew.) Tuyn, Fl. Males. 6: 113. 1960. *Cephalostigma hirsutum* Edgew.

Distribution: Sikkim, Himachal Pradesh, Jammu & Kashmir, Uttarakhand; 1500 m.

Wahlenbergia marginata (Thunb.) A.DC., Monogr. Campan. 143. 1830. *Campanula marginata* Thunb.

Distribution: Jammu & Kashmir, Sikkim; 2100 m.

Wahlenbergia peduncularis (Wall. ex A. DC.) Hook.f. & Thomson, J. Proc. Linn. Soc., Bot. 2: 22. 1858. *Campanula peduncularis* Wall. ex A. DC.

Distribution: Sikkim, Uttarakhand; 1800–2200 m.

CANNABACEAE
(2 genera; 2 taxa)

Cannabis L.

Cannabis sativa L., Sp. Pl. 1027. 1753.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 300–3650 m.

Humulus L.

Humulus lupulus L., Sp. Pl. 1028. 1753.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand.

CAPPARACEAE
(5 genera; 29 taxa)

Capparis L.

Capparis acutifolia Sweet, Hort. Brit. ed. 2: 585. 1830.

Distribution: Sikkim; 300–1400 m.

(Plate 58c)

Capparis acutifolia Sweet subsp. **bodinieri** (H.Lév.) M.Jacobs, Blumea 12: 431. 1965. *C. bodinieri* H.Lév

Distribution: Sikkim.

Capparis acutifolia Sweet subsp. **sabiifolia** (Hook.f. & Thomson) M.Jacobs, Blumea 12: 432. 1965. *Capparis sabiifolia* Hook.f. & Thomson

Distribution: Arunachal Pradesh; 500–1300 m.

Capparis acutifolia Sweet subsp. **viminea** M.Jacobs, Blumea 12: 429. 1965.

Distribution: Arunachal Pradesh, Sikkim; 1500–2000 m.

Capparis assamica Hook.f. & Thomson, Fl. Brit. India 1: 177. 1872.

Distribution: Arunachal Pradesh; 500–1200 m.

Capparis cantoniensis Lour., Fl. Cochinch. 330. 1790.

Distribution: Sikkim; 300–1000 m.

Capparis decidua (Forssk.) Edgew., J. Linn. Soc. Bot. 6: 184. 1862. *Sodada decidua* Forssk.

Distribution: Jammu & Kashmir, Uttarakhand.

Capparis himalayensis Jafri, Pakistan J. Forest. 6: 197. 1956.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand.

Capparis multiflora Hook.f. & Thomson, Fl. Brit. India 1: 178. 1872.

Distribution: Arunachal Pradesh, Sikkim; 500–1400 m. (Plate 58e)

Capparis olacifolia Hook.f. & Thomson, Fl. Brit. India 1: 178. 1872.

Distribution: Arunachal Pradesh, Sikkim; 600–1500 m.

Capparis pachyphylla M.Jacobs, Blumea 12: 476. 1965.

Distribution: Uttarakhand.

Capparis roxburghii DC., Prodr. 1: 247. 1824.

Distribution: Arunachal Pradesh; 500–1000 m.

Capparis sepiaria L., Syst. Nat. ed. 10.2: 1071. 1759.

Distribution: Jammu & Kashmir, Uttarakhand.

Capparis sikkimensis Kurz., J. Asiat. Soc. Bengal, Pt. 2, Nat. Hist. 43(2): 181. 1874.

Distribution: Sikkim.

Capparis spinosa L., Sp. Pl. 1: 503. 1753.

Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand.

Capparis tenera Dalzell, Hooker's J. Bot. Kew Gard. Misc. 2: 41. 1850.

Distribution: Arunachal Pradesh; 200–800 m.

Capparis zeylanica L., Sp. Pl. ed. 2: 720. 1762.

Distribution: Jammu & Kashmir, Uttarakhand.

Cleome L.

Cleome ariana Hedge & Lamond, Fl. Iran. 68: 17. 1970.

Distribution: Jammu & Kashmir.

Cleome brachycarpa (Forssk.) Vahl ex DC., Prodr. 1: 240. 1824. *C. vahliana* Fresen.

Distribution: Jammu & Kashmir.

Cleome fimbriata Vicary, J. Asiat. Soc. Bengal 16: 1158. 1847.

Distribution: Jammu & Kashmir.

Cleome gynandra L., Sp. Pl. 671. 1753.

Distribution: Arunachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 300–1800 m.

Cleome houtteana Schltld., Linnaea 24: 669. 1851.

Distribution: Sikkim.

Cleome monophylla L., Sp. Pl. 672. 1753.

Distribution: Sikkim.

Cleome viscosa L., Sp. Pl. 672. 1753.

Distribution: Jammu & Kashmir, Sikkim, Uttarakhand; 600–1050 m.

Cleoserrata Iltis

Cleoserrata speciosa (Raf.) Iltis, Novon 17: 448. 2007. *Cleome speciosa* Raf.

Distribution: Sikkim.

Crateva L.

Crateva adansonii DC. subsp. **odora** (Buch.–Ham.) Jacobs, Blumea 12: 198. 1964.

Crateva odora Buch.–Ham

Distribution: Jammu & Kashmir, Uttarakhand.

Crateva religiosa G.Forst., Fl. Ins. Austr. 35. 1786.

Distribution: Arunachal Pradesh, Sikkim, Uttarakhand; 300–1000 m. (Plate 58d)

Crateva unilocularis Buch.- Ham., Trans. Linn. Soc. London 15: 121. 1827.

Distribution: Sikkim.

Stixis Lour.

Stixis suaveolens (Roxb.) Pierre, Bull. Mens. Soc. Linn. Paris 1:654. 1887. *Roydsia suaveolens* Roxb.

Distribution: Arunachal Pradesh, Sikkim; 300–800 m.

(Plate 59a)

CAPRIFOLIACEAE

(8 genera; 64 taxa)

Abelia R.Br.

Abelia triflora R.Br. ex Wall., Pl. Asiat. Rar. 1: 14. 1830.

Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 3000–4000 m.

Carlemannia Benth.**Carlemannia griffithii** Benth., Hooker's J. Bot. Kew Gard. Misc. 5: 308. 1853.

Distribution: Arunachal Pradesh, Sikkim.

Carlemannia tetragona Hook.f., Fl. Brit. India 3: 85. 1881.Distribution: Arunachal Pradesh; 200–900 m. **(Plate 59b)****Devendraea** Pusalkar**Devendraea angustifolia** (Wall. ex DC.) Pusalkar, Taiwania 56(3): 214. 2011.*Lonicera angustifolia* Wall. ex DC.Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 2300–4500 m. **(Plate 59c)****Devendraea myrtillus** (Hook.f. & Thomson) Pusalkar, Taiwania 56: 213. 2011.*Lonicera myrtillus* Hook.f. & Thomson

Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; upto 3400 m.

Devendraea rupicola (Hook.f. & Thomson) Pusalkar, Taiwania 56: 215. 2011.*Lonicera rupicola* Hook.f. & Thomson

Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 2600–4000 m.

Devendraea spinosa (Decne.) Pusalkar, Taiwania 56: 216. 2011. *Xylosteon spinosum* Decne.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 3000–4800 m.

Leycesteria Wall.**Leycesteria dibangalliensis** S.K.Das & G.S.Giri, J. Bombay Nat. Hist. Soc. 88(2): 265. 1991.

Distribution: Arunachal Pradesh; 1400–1600 m.

Leycesteria formosa Wall., Fl. Ind. 2: 182. 1824.Distribution: Arunachal Pradesh, Himachal Pradesh, Sikkim, Uttarakhand; 2300–4500 m. **(Plate 60a)****Leycesteria gracilis** (Kurz) Airy Shaw, Hooker's Icon. Pl. 32: sub t. 3165, t. 3166. 1932. *Lonicera gracilis* Kurz

Distribution: Sikkim, West Bengal (Darjeeling); 2000–2438 m.

Leycesteria glaucophylla (Hook.f. & Thomson) C.B.Clarke, Fl. Brit. India 3: 16. 1880. *Lonicera glaucophylla* Hook.f. & Thomson

Distribution: Arunachal Pradesh, Sikkim, Uttarakhand; 1000–1500 m.

Leycesteria stipulata (Hook.f. & Thomson) Fritsch, Nat. Pflanzenfam. 4(4): 169. 1891. *Lonicera stipulata* Hook.f. & Thomson

Distribution: Sikkim, West Bengal (Darjeeling); 2000–2438 m.

Lonicera L.

Lonicera acuminata Wall., Fl. Ind. 2: 176–177. 1824.

Distribution: Arunachal Pradesh, Sikkim; 2000–2500 m.

Lonicera angustifolia Wall. ex DC. var. **myrtillos** (Hook.f. & Thomson) Q. E. Yang, Landrein, Borosova & J. Osborne, Fl. China 19: 623. 2011. *L. myrtillos* Hook.f. & Thomson

Distribution: Himachal Pradesh, Jammu & Kashmir; 2300–4500 m.

Lonicera asperifolia Hook.f. & Thomson, J. Proc. Linn. Soc., Bot. 2: 166. 1858.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; upto 3400 m. **(Plate 60b)**

Lonicera caerulea L., Sp. Pl. 174. 1753.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; upto 3400 m.

Lonicera caucasica Pall., Fl. Ross. (Pallas) 1(1): 57. 1784.

Distribution: Uttarakhand.

Lonicera caucasica Pall. subsp. **govaniana** (Wall. ex DC.) H.Hara, Enum. Fl. Pl. Nep. 2:195. 1979. *L. govaniana* Wall. ex DC.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; upto 3400 m.

Lonicera cyanocarpa Franch., J. Bot. (Morot) 10 (19): 314. 1896.

Distribution: Sikkim; 2440–4880 m.

Lonicera discolor Lindl., Edwards's Bot. Reg. 30: t. 33. 1844.

Distribution: Uttarakhand.

Lonicera glabrata Wall., Fl. Ind. 2: 175. 1824.

Distribution: Arunachal Pradesh, Sikkim; 2900–3500 m. **(Plate 60c)**

Lonicera govaniana Wall. ex DC., Prodr. 4: 337. 1830.

Distribution: Himachal Pradesh; upto 3400 m.

Lonicera hildebrandiana Collett & Hemsl., J. Linn. Soc., Bot. 28: 64, pl. 11. 1890.

Distribution: Arunachal Pradesh.

Lonicera hispida Pall. ex Schult., Syst. Veg. 5: 258. 1819.

Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; upto 3400 m.

Lonicera hypoleuca Decne., Voy. Inde 4 (Bot.): 81, pl. 89. 1844.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand; upto 3400 m.

Lonicera japonica Thunb., Syst. Veg. ed. 14. 216. 1784.

Distribution: Sikkim; 1800–2700 m.

Lonicera lanceolata Wall., Fl. Ind., ed. 1820. 2: 177. 1824.

Distribution: Sikkim; 2440–3880 m.

Lonicera litangensis Batalin, Trudy Imp. S.-Peterburgsk. Bot. Sada 14(1): 173–174. 1895.

Distribution: Sikkim; 2440–3880 m.

Lonicera macrantha (D.Don) Spreng., Syst. Veg. 4(2): 82. 1827. *Caprifolium macranthum* D.Don.

Distribution: Arunachal Pradesh, Sikkim; 1500–2000 m.

Lonicera magnibracteata M.P.Nayar & G.S.Giri, J. Econ. Taxon. Bot. 3: 293. 1982.

Distribution: Sikkim.

Lonicera microphylla Willd. ex Schult., Syst. Veg. 5: 258. 1819.

Distribution: Jammu & Kashmir, Uttarakhand; upto 3400 m.

Lonicera myrtilloides Purpus, Mitt. Deutsch. Dendrol. Ges. 16: 255. 1907.

Distribution: Sikkim; 3200–3900 m.

Lonicera nigra L., Sp. Pl. 173. 1753.

Distribution: Sikkim; 1500–4000 m.

Lonicera obovata Royle ex Hook.f. & Thomson, J. Proc. Linn. Soc., Bot. 2: 169. 1858.

Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 2340 – 4500 m. **(Plate 174b)**

Lonicera orientalis Lam., Encycl. 1: 731. 1783.

Distribution: Himachal Pradesh; upto 3400 m.

Lonicera porphyrantha (C.Marquand & Airy Shaw) M.P.Nayar & G.S.Giri, J. Econ. Taxon. Bot. 3: 295. 1982. *L. cyanocarpa* Franch. var. *porphyrantha* C.Marquand & Airy Shaw

Distribution: Sikkim; 2440–3880 m.

Lonicera purpurascens Walp., Rep. Bot. Syst. 2: 449. 1843.

Distribution: Himachal Pradesh, Sikkim, Uttarakhand.

Lonicera quinquelocularis Hard., Asiat. Res. 6: 351. 1799.

Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 3000–4500 m.

Lonicera semenovii Regel, Trudy Imp. S.-Peterburgsk. Bot. Sada 5(2): 608. 1878.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 3000–4500 m.

Lonicera sericea Royle, Ill. Bot. Himal. Mts. 1: 236. 1835.

Distribution: Jammu & Kashmir, Sikkim, Uttarakhand; 3200–3800 m.

Lonicera spinosa (Decne.) Jacq. ex Walp., Repert. Bot. Syst. 2: 449. 1843.

Distribution: Uttarakhand.

Lonicera tangutica Maxim., Bull. Acad. Imp. Sci. S.-Petersbourg 24(1): 48–49. 1878.

Distribution: Sikkim; 3440–4100 m.

Lonicera tomentella Hook.f. & Thomson, J. Proc. Linn. Soc., Bot. 2: 167. 1858.
Distribution: Sikkim; 2400–4500 m.

Lonicera vaccinioides Rehder, Repert. Spec. Nov. Regni Veg. 6: 272. 1909.
Distribution: Himachal Pradesh.

Lonicera webbiana Wall. ex DC., Prodr. 4: 336. 1830.
Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; upto 4500 m.

Sambucus L.

Sambucus adnata Wall. ex DC., Prodr. 4: 322. 1830.
Distribution: Sikkim; 305–1200 m.

Sambucus javanica Blume, Bijdr. Fl. Ned. Ind. 13: 657. 1825.
Distribution: Arunachal Pradesh, Sikkim, West Bengal (Darjeeling); 605–2134 m.
(Plate 61a)

Sambucus nigra L., Sp. Pl. 269. 1753.
Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand; 2000–3000 m.

Sambucus wightiana Wall. ex Wight & Arn., Prodr. Fl. Ind. Orient. 1: 388. 1834.
Distribution: Himachal Pradesh; 2000–3000 m.

Silvianthus Hook.f.

Silvianthus bracteatus Hook.f., Hooker's Icon. Pl. 11: 36. pl. 1048. 1868.
Distribution: Arunachal Pradesh.

Viburnum L.

Viburnum betulifolium Batalin, Trudy Imp. S.-Peterburgsk. Bot. Sada 13(2): 371–372. 1894.
Distribution: Arunachal Pradesh.

Viburnum colebrookeanum Wall. ex DC., Prodr. 4: 325. 1830.
Distribution: Arunachal Pradesh, Sikkim; 300–1000 m.

Viburnum corylifolium Hook.f. & Thomson, J. Linn. Soc., Bot. 2: 174. 1858.
Distribution: Arunachal Pradesh, Uttarakhand.

Viburnum cotinifolium D.Don, Prodr. Fl. Nepal.:14. 1825.
Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 3000–4500 m.

Viburnum cylindricum Buch.-Ham. ex D.Don, Prodr. Fl. Nep. 142. 1825.
Distribution: Arunachal Pradesh, Himachal Pradesh, Sikkim, Uttarakhand; 1000–2000 m.

Viburnum erubescens Wall., Pl. Asiat. Rar. 2: 29. pl. 134. 1831.
Distribution: Arunachal Pradesh, Sikkim, Uttarakhand; 1000–2000 m.

Viburnum foetidum Wall., Pl. Asiat. Rar. 1: 49. pl. 61. 1830.

Distribution: Arunachal Pradesh.

(Plate 61b)

Viburnum grandiflorum Wall. ex DC., Prodr. 4: 329. 1830.

Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 2600–3350 m.

(Plate 62a)

Viburnum mullaha Buch.–Ham. ex D.Don, Prodr. Fl. Nep. 141. 1825.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 2800–3000 m.

(Plate 61c)

Viburnum nervosum D.Don, Prodr. Fl. Nep. 141. 1825.

Distribution: Arunachal Pradesh, Himachal Pradesh, Sikkim, Uttarakhand; 3000–4000 m.

Viburnum odoratissimum Ker Gawl., Bot. Reg. 6: pl. 456. 1820.

Distribution: Arunachal Pradesh.

Viburnum odoratissimum Ker Gawl. var. **awabuki** (K.Koch) Zabel ex Rümpler, Ill. Gartenbau–Lex. ed. 3. 877. 1902. *V. awabuki* K.Koch

Distribution: Arunachal Pradesh.

Viburnum punctatum Buch.–Ham. ex D.Don, Prodr. Fl. Nepal. 1: 142. 1825.

Distribution: Sikkim, Uttarakhand.

Viburnum semprvirens K.Koch, Hort. Dendr. 300. 1853.

Distribution: Arunachal Pradesh; 1600–2000 m.

CARICACEAE

(1 genus; 1 taxon)

Carica L.

Carica papaya L., Sp. Pl. 1036. 1753.

Distribution: Arunachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; upto 1700 m.

CARYOPHYLLACEAE

(24 genera; 149 taxa)

Arenaria L.

Arenaria bhutanica Majumdar & Babu, J. Arnold Arbor. 50: 626. 1969.

Distribution: Sikkim, Uttarakhand.

Arenaria bryophylla Fernald, Rhodora 21: 5. 1919.

Distribution: Jammu & Kashmir, Sikkim, Uttarakhand.

Arenaria ciliolata Edgew. & Hook.f., Fl. Brit. India 1: 240. 1874.

Distribution: Sikkim, Uttarakhand; 3600–5200 m.

Arenaria ciliolata Edgew. & Hook.f. var. **pendula** Duthei ex F.N. Williams, J. Linn. Soc., Bot. 33: 373. 1898.

Distribution: Uttarakhand.

Arenaria compressa McNeill, Notes Roy. Bot. Gard. Edinburgh 24: 118. 1962.
Distribution: Himachal Pradesh.

Arenaria curvifolia Majumdar, Blumea 26: 446. 1980.
Distribution: Uttarakhand.

Arenaria debilis Hook.f., Fl. Brit. India 1: 242. 1874.
Distribution: Sikkim, Uttarakhand; 3000–4900 m.

Arenaria densissima Wall. ex Edgew. & Hook.f., Fl. Brit. India 1: 239. 1874.
Distribution: Sikkim; 3500–5500 m.

Arenaria edgeworthiana Majumdar, J. Indian Bot. Soc. 44: 141. 1965.
Distribution: Sikkim; 4000–5100 m.

Arenaria ferruginea Duthie ex F.N.Williams, J. Linn. Soc., Bot. 33: 410. 1898.
Distribution: Uttarakhand.

Arenaria festucoides Benth., Ill. Bot. Himal. Mts. 81. 1834.
Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir,
Uttarakhand. **(Plate 62b)**

Arenaria glanduligera Edgew., Fl. Brit. India 1:240. 1874.
Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim,
Uttarakhand; 3000–5000 m.

Arenaria kansuensis Maxim., Bull. Akad. Imp. Sci. St.–Petersbourg III, 26: 428.
1880.
Distribution: Himachal Pradesh, Uttarakhand.

Arenaria kumaonensis Maxim., Fl. Tangutica: 86. 1889.
Distribution: Uttarakhand.

Arenaria littedalei Hemsl., Bull. Misc. Inform. Kew 1896: 209. 1896.
Distribution: Sikkim; 4300–5300 m.

Arenaria melandryiformis F. Williams, J. Linn. Soc., Bot. 38: 399. 1909.
Distribution: Sikkim; 4500–5150 m.

Arenaria melandryoides Edgew., Fl. Brit. India 1: 241. 1874.
Distribution: Sikkim.

Arenaria neelgherrensis Wight & Arn., Prodr. Fl. Ind. Orient. 1: 43. 1834.
Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim,
Uttarakhand.

Arenaria orbiculata Royle ex Edgew. & Hook.f., Fl. Brit.India 1: 240. 1874.
Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim,
Uttarakhand; 1500–4000 m.

Arenaria oreophila Hook.f., Fl. Brit. India 1: 238. 1874.
Distribution: Sikkim.

Arenaria polytrichoides Edgew., Fl. Brit. India 1: 237. 1874.

Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim; 4200–5200 m.,

Arenaria pulvinata Edgew., Fl. Brit. India 1: 238. 1874.

Distribution: Himachal Pradesh, Sikkim; 4500–5500 m.

Arenaria ramellata F. N. Williams, J. Linn. Soc., Bot. 38: 399. 1909.

Distribution: Sikkim.

Arenaria serpyllifolia L., Sp. Pl. 423. 1753.

Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand.

Arenaria stracheyi Edgew., Fl. Brit. India. 1: 240. 1874

Distribution: Jammu & Kashmir, Sikkim; 3000–5300 m.

Arenaria thangoensis W.W.Sm, Rec. Bot. Surv. India 4: 180. 1911.

Distribution: Sikkim, Uttarakhand.

Brachystemma D. Don

Brachystemma calycinun D. Don, Prodr. Fl. Nepal. 216. 1825.

Distribution: Arunachal Pradesh, Sikkim, Uttarakhand; 400–2500 m.

Cerastium L.

Cerastium alpinum L., Sp. Pl. 438. 1753.

Distribution: Jammu & Kashmir.

Cerastium cerastoides (L.) Britton, Mem. Torrey Bot. Club 5: 152. 1894. *Stellaria cerastoides* L.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Uttarakhand; 2000–4500 m.

Cerastium davuricum Fisch. ex Spreng., Pl. Min. Cogn. Pug. 2: 65. 1815.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand. (**Plate 63a**)

Cerastium fontanum subsp. **vulgare** (Hartm.) Greuter & Burdet, Willdenowia 12: 37. 1982. *Cerastium vulgare* Hartm.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 2500–3000 m.

Cerastium glomeratum Thuill., Fl. Env. Paris ed. 2. 226. 1799.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 100–4200 m.

Cerastium pusillum Ser., Prodr. 1: 418. 1842.

Distribution: Jammu & Kashmir.

Cerastium thomsonii Hook.f., Fl. Brit. India 1: 228. 1874.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand.

Dianthus L.

Dianthus anatolicus Boiss., Diagn. Pl. Orient. 1: 22. 1843.

Distribution: Himachal Pradesh, Jammu & Kashmir.

Dianthus angulatus Royle, Ill. Bot. Himal. Mts. 79. 1834.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand.

Dianthus cachemiricus Edgew. & Hook.f., Fl. Brit. India. 1: 214. 1874.

Distribution: Jammu & Kashmir.

Dianthus caryophyllus L., Sp. Pl. 410. 1753.

Distribution: Jammu & Kashmir.

Dianthus chinensis L., Sp. Pl. 411. 1753.

Distribution: Jammu & Kashmir, Sikkim, Uttarakhand.

Dianthus crinitus Sm., Trans. Linn. Soc. London 2: 300. 1794.

Distribution: Jammu & Kashmir.

Dianthus deltoides L., Sp. Pl. 411. 1753.

Distribution: Jammu & Kashmir.

Dianthus falconeri Edgew. & Hook.f., Fl. Brit. India. 1: 214. 1874.

Distribution: Jammu & Kashmir.

Dianthus jacquemontii Edgew. & Hook.f., Fl. Brit. India. 1: 214. 1874.

Distribution: Jammu & Kashmir.

Dianthus orientalis Adams, Beitr. Naturk. 1: 54. 1805.

Distribution: Himachal Pradesh, Jammu & Kashmir.

Dianthus seguieri Vill., Hist. Pl. Dauphine 1: 330. 1786.

Distribution: Himachal Pradesh, Jammu & Kashmir.

Drymaria Willd. ex Schult.

Drymaria cordata (L.) Willd. ex Schult., Syst. Veg. 5: 406. 1819. *Holosteum cordatum* L.

Distribution: Arunachal Pradesh, Sikkim, Uttarakhand.

Drymaria cordata subsp. **diandra** (Blume) J.A.Duke, Ann. Missouri Bot. Gard. 48: 253. 1961. *Drymaria diandra* Blume

Distribution: Arunachal Pradesh, Himachal Pradesh, Sikkim, Uttarakhand; 600–1300m.

Drymaria villosa Schtdl. & Cham., Linnaea 5: 232. 1830.

Distribution: Arunachal Pradesh, Sikkim, Uttarakhand; 1200–1500 m.

Eremogone Fenzl

Eremogone griffithii (Boiss.) Ikonn., Novosti Sist. Vyssh. Rast. 10: 140. 1973.

Arenaria griffithii Boiss.

Distribution: Jammu & Kashmir.

Gypsophila L.

Gypsophila cerastoides D.Don, Prodr. Fl. Nepal. 213. 1825.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; above 3000 m. **(Plate 63b)**

Gypsophila sedifolia Kurz, Flora 55: 285. 1872.

Distribution: Jammu & Kashmir.

Herniaria L.

Herniaria cachemiriana J.Gay in Duch. Rev. Bot. ii. (1846–47) 370.

Distribution: Jammu & Kashmir, Uttarakhand.

Herniaria hirsuta L., Sp. Pl. 218. 1753.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand.

Herniaria incana Lam., Encycl. 3: 124. 1789.

Distribution: Jammu & Kashmir, Uttarakhand.

Holosteum L.

Holosteum umbellatum L., Sp. Pl. 88. 1753.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand.

Lychnis L.

Lychnis ischnopetala (F.N.Williams) Majumdar, Fl. India 2: 542. 1993. *Hedona ischnopetala* F.Williams

Distribution: Jammu & Kashmir.

Lepyrodiclis Fenzl

Lepyrodiclis holosteoides (C. A.Mey.) Fenzl. ex Fisch. C.A.Mey., Enum. Pl. Nov. 1: 93, 110. 1841. *Gouffeia holosteoides* C.A.Mey.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand.

Lepyrodiclis tenera Boiss., Diagn. Pl. Orient., ser. 2 2(1): 84.1854.

Distribution: Jammu & Kashmir.

Minuartia Loefl.

Minuartia biflora (L.) Schinz. & Thell., Bull. Herb. Boissier II, 7: 404. 1907. *Stellaria biflora* L.

Distribution: Himachal Pradesh, Jammu & Kashmir.

Minuartia ebracteolata Majumdar & B.K.Giri, Candollea 38(1): 343, f. 1a–g. 1983.

Distribution: Himachal Pradesh, Jammu & Kashmir

Minuartia foliosa (Royle ex Edgew. & Hook.f.) Majumdar, J. Indian Bot. Soc. 44: 142. 1965. *Arenaria foliosa* Royle ex Edgem. & Hook.f.

Distribution: Himachal Pradesh.

Minuartia kashmirica (Edgew.) Mattf. in Bot. Jahrb. Syst. 57 (Biebl. 126) 7: 32. 1921. *Arenaria kashmirica* Edgew.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand.

Minuartia sedoides (L.) Hiern, J. Bot. 37: 321. 1899. *Cherleria sedoides* L.

Distribution: Jammu & Kashmir

Odontostemma Benth. ex G.Don.

Odontostemma depauperata (Edgew.) Satish Chandra, D.S.Rawat & Pusalkar, Phytotaxa 291(2):167. 2017. *Stellaria depauperata* Edgeworth
Distribution: Sikkim.

Polycarpaea Lam.

Polycarpaea corymbosa (L.) Lam., Tabl. Encycl. 2: 129. 1797. *Achyranthes corymbosa* L.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand.

Polycarpon Loefl.

Polycarpon prostratum (Forssk.) Aschers & Schweinf., Oesterr. Bot. Z. 39: 128. 1889. *Alsine prostrata* Forssk.

Distribution: Uttarakhand.

Pseudostellaria Pax

Pseudostellaria heterantha (Maxim.) Pax, Nat. Pflanzenfam. (ed. 2) 16(c): 318. 1934. *Krascheninikovia heterantha* Maxim

Distribution: Jammu & Kashmir, Sikkim, Uttarakhand.

Pseudostellaria heterantha (Maxim.) Pax var. **nepalensis** Hara, J. Jap. Bot. 51: 131. 1976.

Distribution: Sikkim.

Pseudostellaria himalaica (Franch.) Pax, Nat. Pflanzenfam. (ed. 2) 16(c): 318. 1934. *Stellaria davidii* Hemsely var. *himalaica* Franch.

Distribution: Himachal Pradesh, Uttarakhand.

Sagina L.

Sagina apetala Ard., Animadv. Bot. Spec. Alt. 2: xxii. 1764.

Distribution: Jammu & Kashmir, Uttarakhand.

Sagina japonica (Sw.) Ohwi, J. Jap. Bot. 13(6): 438. 1937. *Spergula japonica* Sw.

Distribution: Arunachal Pradesh, Sikkim, West Bengal (Darjeeling); 2700–3500 m.

Sagina procumbens L., Sp. Pl. 128. 1753.

Distribution: Jammu & Kashmir, Sikkim.

Sagina purii R.D. Gaur, J. Bombay Nat. Hist. Soc. 89: 236. 1992.

Distribution: Uttarakhand.

Sagina saginoides (L.) H.Karst., Deut. Fl. 539. 1882. *Spergula saginoides* L.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand ; 600–2700 m.

Shivparvatia Pusalkar & D.K.Singh

Shivparvatia glanduligera (Edgew.) Pusalkar & D.K.Singh, J. Jap. Bot. 90(2): 84. 2015.

Distribution: Uttarakhand.

Silene L.

Silene amoena L., Sp. Pl. 1: 417. 1753.

Distribution: Himachal Pradesh, Jammu & Kashmir.

Silene baccifera (L.) Roth, Tent. Fl. Germ. 1: 192. 1788. *Cucubalus baccifer* L.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 1500–3000 m. **(Plate 175a)**

Silene caespitella F. Williams, J. Linn. Soc., Bot. 38(268): 403. 1909.

Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand.

Silene cancellata (Jacquem. ex Edgew. & Hook.f.) Majumdar, J. Indian Bot. Soc. 42: 650. 1964. *Lychnis cancellata* Jacquem. ex Edgew. & Hook.f.

Distribution: Jammu & Kashmir.

Silene cashmeriana (Royle) Majumdar J. Indian Bot. Soc. 42: 649. 1963. *Lychnis cashmeriana* Royle

Distribution: Jammu & Kashmir.

Silene chambaensis Majumdar, J. Indian Bot. Soc. 42: 649. 1964.

Distribution: Himachal Pradesh.

Silene conoidea L., Sp. Pl. 418. 1753.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand.

Silene coronaria (Desr.) Clairv. ex Rchb., Fl. Germ. Excurs. 2: 826. 1832. *Lychnis coronaria* Desr.

Distribution: Jammu & Kashmir.

Silene eduardi Bocquet, Candollea 22: 14. 1967.

Distribution: Himachal Pradesh, Uttarakhand.

Silene falconeri (Rohrb.) Bocquet, Candollea 22: 9. 1967. *Melandrium falconeri* Rohrb.

Distribution: Jammu & Kashmir.

Silene falconeriana Benth., Ill. Bot. Himal. Mts. 79, pl. 20. 1834.

Distribution: Himachal Pradesh, Uttarakhand.

Silene gallica L., Sp. Pl. 417. 1753.

Distribution: Himachal Pradesh, Uttarakhand.

Silene gangotriana Pusalkar, D.K.Singh & Laksmin, Kew Bull. 59: 621. 2004 publ. 2005.

Distribution: Uttarakhand.

Silene gonosperma (Rupr.) Bocquet, Candollea 22(1): 7. 1967. *Physolychnis gonosperma* Rupr.

Distribution: Jammu & Kashmir, Sikkim.

Silene graminifolia Otth, Prodr. 1: 368. 1824.

Distribution: Himachal Pradesh.

Silene himalayensis (Rohrb.) Majumdar, J. Indian Bot. Soc. 42: 648. 1963. *Lychnis apetala* L. var. *himalayensis* Rohrb.

Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand.

Silene indica Roxb. ex Otth, Prodr. 1: 368. 1824.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand.

Silene indica Roxb. ex Otth var. **bhutanica** (W.W. Sm.) Bocquet, Candollea 22(1): 13. 1967. *Lychnis bhutanica* W.W.Sm.

Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand.

Silene indica Roxb. ex Otth var. **edgeworthii** (Bocquet) Y.J. Nasir, Fl. Pakistan 175: 70, f. 10: I. 1986. *S. edgeworthii* Bocquet.

Distribution: Uttarakhand.

(Plate 63c)

Silene kumaonensis F.N. Williams, J. Linn. Soc., Bot. 32: 43. 1896.

Distribution: Uttarakhand.

Silene kunawarensis Benth., Ill. Bot. Himal. Mts. 79. 1835.

Distribution: Himachal Pradesh, Jammu & Kashmir.

Silene latifolia Poir subsp. **alba** (Mill.) Greuter & Burdet, Willdenowia 12: 189. 1982.

Distribution: Uttarakhand.

Silene laxantha Majumdar, J. Indian Bot. Soc. 52: 650 .1963.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand.

Silene moorcroftiana Wall. ex Benth., Ill. Bot. Himal. Mts. 79. 1834.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand.

Silene nepalensis Majumdar, J. Indian Bot. Soc. 42: 649. 1963.

Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand.

Silene nigrescens (Edgew.) Majumdar, J. Indian Bot. Soc. 42: 647. 1963. *Lychnis nigrescens* Edgew.

Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand.

(Plate 63d)

Silene persica Boiss., Diagn. Pl. Orient., ser. 11: 27. 1842.

Distribution: Himachal Pradesh.

Silene rechingeri Bocquet, Candollea 22: 11. 1967.

Distribution: Himachal Pradesh, Jammu & Kashmir.

Silene repens Patr. in, Syn. Pl. 1: 500. 1805.

Distribution: Himachal Pradesh.

Silene setaesperma Majumdar, J. Indian Bot. Soc. 42: 649. 1964.

Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand.

Silene setisperma Majumdar, J. Indian Bot. Soc. 42(4): 649-650. 1963.

Distribution: Uttarakhand.

Silene songarica (Fisch., C.A.Mey. & Avé-Lall.) Bocquet *Candollea* 22(1): 3–4. 1967. *Melandrium songaricum* Fisch., C.A.Mey & Ave-Lall.

Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand.

Silene stewartii (Edgew.) Majumdar, *Bull. Bot. Surv. India* 16: 155. 1974 (1977). *Lychnis stewartii* Edgew.

Distribution: Himachal Pradesh, Jammu & Kashmir.

Silene stracheyi Edgew., *Fl. Bor.-Amer.* 1: 221. 1874.

Distribution: Sikkim; 3000–4000 m.

Silene thomsonii Majumdar, *J. Indian Bot. Soc.* 42: 650. 1964.

Distribution: Himachal Pradesh, Sikkim; 3000–4000 m.

Silene uralensis (Rupr.) Bocquet subsp. **apetala** (L.) Bocquet, *Candollea* 22: 26. 1967. *Lychnis apetala* L.

Distribution: Himachal Pradesh.

Silene viridiflora L. f. **webbiana** (Wall. ex Benth.) Rohrb. *Monog. Silene.* 215. 1868. *S. webbiana* Wall. ex Benth.

Distribution: Himachal Pradesh.

Silene viscosa (L.) Pers., *Syn. Pl.* 1: 497 1805. *Cucubalus viscosus* L.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand.

Silene vulgaris (Moench) Garcke, *Fl. N. Mitt.-Deutschland* ed. 9: 64. 1869. *Behen vulgaris* Moench.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand. (Plate 63e)

Spergula L.

Spergula arvensis L., *Sp. Pl.* 440. 1753.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand.

Spergula diandra (Guss.) Heldr., *Pl. Atticae* 1848 s.p. 1851. *Arenaria diandra* Guss.

Distribution: Himachal Pradesh, Uttarakhand.

Spergula fallax (Lowe) E.H.L.Krause, *Deutschl. Fl.* ed. 2, 5: 19. 1901. *Spergularia fallax* Lowe

Distribution: Jammu & Kashmir, Uttarakhand.

Spergularia (Pers.) J.Presl & C.Presl

Spergularia diandra (Guss.) Heldr., *Pl. Atticae* 1848 s.n. 1851. *Arenaria diandra* Guss.

Distribution: Uttarakhand.

Spergularia rubra (L.) J.Presl & C.Presl, *Fl. Cech.* 94. 1819. *Arenaria rubra* L.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand; 3900 m.

Stellaria L.

Stellaria aquatica (L.) Scop., Fl. Carniol. ed. 2, 1: 319. 1771. *Cerastium aquaticum* L.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand. **(Plate 63f)**

Stellaria cherleriae (Fisch. ex Ser.) F.N.Williams, Bull. Herb. Boissier, sér. 2, 7: 830. 1907. *Arenaria cherleriae* Fisch. ex Ser.

Distribution: Uttarakhand.

Stellaria congestiflora H.Hara, J. Jap. Bot. 52(7): 195, pl. 2. 1977.

Distribution: Sikkim; 3960–4750 m.

Stellaria decumbens Edgew., Trans. Linn. Soc. London, Bot. 20: 35. 1846.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 1000–1600 m.

Stellaria decumbens Edgew. var. **acicularis** Edgew. & Hook.f., Fl. Brit. India 1: 235. 1874.

Distribution: Sikkim; 4200–4900 m.

Stellaria decumbens Edgew. var. **polyantha** Edgew., Fl. Brit. India 1(2): 235. 1874.

Distribution: Jammu & Kashmir, Sikkim, Uttarakhand.

Stellaria decumbens Edgew. var. **pulvinata** Edgew. & Hook.f., Fl. Brit. India 1(2): 235. 1874.

Distribution: Jammu & Kashmir, Sikkim, Uttarakhand.

Stellaria devendrae Pusalkar & S.K.Srivast., Nordic J. Bot. 33(4): 385. 2015.

Distribution: Uttarakhand; 2000 m.

Stellaria graminea L., Sp. Pl. 422. 1753.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand.

Stellaria himalayensis Majumdar, J. Indian Bot. Soc. 44: 141. 1965.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand.

Stellaria lanata Hook.f., Fl. Brit. India 1(2): 232. 1874.

Distribution: Sikkim; 2700–3900 m.

Stellaria media (L.) Vill., Hist. Pl. Dauphiné 3: 615. 1789. *Alsine media* L.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 1000–2000 m.

Stellaria monosperma Buch.-Ham ex D.Don, Prodr. Fl. Nepal. 215. 1825.

Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 3675 m.

Stellaria monosperma Buch.-Ham ex D.Don var. **paniculata** (Edgew.) Majumdar, Indian Bot. Soc. 44(1): 141. 1965.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 1400–2200 m.

Stellaria palustris Ehrh. ex Retz., Fl. Scand. Prodr. ed. 2. 106. 1795.

Distribution: Himachal Pradesh, Jammu & Kashmir.

Stellaria patens D.Don, Prodr. Fl. Nepal. 215. 1825.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 1300–3400 m.

Stellaria pinvalliaca Chandra Sek. & S.K.Srivast., Feddes Repert. 118: 20. 2007.

Distribution: Himachal Pradesh.

Stellaria reticulivena Hayata, Icon. Pl. Formosan. 7: 1–2, f. 1. 1918.

Distribution: Arunachal Pradesh, Sikkim; 2000–2500 m.

Stellaria semivestita Edgew., Fl. Brit. India 1: 230. 1874.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand.

Stellaria sikkimensis Hook.f., Fl. Brit. India 1: 230. 1874.

Distribution: Arunachal Pradesh, Sikkim; 2000–2500 m.

Stellaria subumbellata Edgew., Fl. Brit. India 1(2): 233–234. 1874.

Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 3500–5300 m.

Stellaria tibetica Kurz, Regensberg Flora 55: 285. 1872.

Distribution: Himachal Pradesh, Jammu & Kashmir.

Stellaria uliginosa Murray, Prodr. Strip. Gott. 55. 1770.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 1500–2500 m.

Stellaria umbellata Turcz., Bull. Soc. Imp. Naturalistes Moscou. 15: 173. 1842.

Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand.

Stellaria vestita Kurz, J. Bot. 11: 194. 1873.

Distribution: Arunachal Pradesh, Sikkim; 1500–3500 m.

Stellaria wallichiana Haines, Bull. Misc. Inform. Kew 1920: 66. 1920.

Distribution: Arunachal Pradesh, Sikkim.

Stellaria webbiana (Benth. ex G.Don) Edgew. & Hook.f., Fl. Brit. India 1: 230.

1874. *Leucostemma webbianum* Benth. ex G.Don.

Distribution: Jammu & Kashmir, Uttarakhand.

Thylacospermum Fenzl

Thylacospermum caespitosum (Cambess.) Schischk., Sched. Herb. Fl. Ross. 9:

90. 1932. *Periandra caespitosa* Cambess.

Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand.

(Plate 63g)

Vaccaria Wolf

Vaccaria hispanica (Mill.) Rauschert, Wiss. Z. Martin–Luther–Univ. Halle–

Wittenberg, Math.-Naturwiss. Reihe 14: 496. 1965. *Saponaria hispanica* Mill.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand.

CASUARINACEAE

(2 genus; 2 taxon)

Allocauarina L.A.S. Johnson**Allocauarina littoralis** (Salisb.) L.A.S. Johnson, J. Adelaide Bot. Gard. 6: 76 1982. *Casuarina littoralis* Salisb.

Distribution: Uttarakhand.

Casuarina L.**Casuarina equisetifolia** L., Amoen. Acad. 4: 143. 1759.

Distribution: Uttarakhand.

CELASTRACEAE

(11 genera; 39 taxa)

Bhesa Buch.-Ham. ex Arn.**Bhesa robusta** (Roxb.) Ding Hou, Blumea, Suppl. 4: 152. 1958. *Celastrus robustus* Roxb.

Distribution: Arunachal Pradesh; 1000–1500 m.

Cassine L.**Cassine albens** (Retz.) Kosterm., Gard. Bull. Singapore 39(2): 178. 1986 (1987). *Schrebera albens* Retz.

Distribution: Himachal Pradesh, Sikkim, Uttarakhand.

Cassine glauca (Rottb.) Kuntze. Revis. Gen. Pl. 1. 114. 1891. *Mangifera glauca* Rottb.

Distribution: Himachal Pradesh, Uttarakhand.

Cassine paniculata (Wight & Arn.) Loeb. Callen, Adansonia Ser. 2. 15: 220. 1975. *Elaeodendron paniculatum* Wight & Arn.

Distribution: Jammu & Kashmir, Sikkim.

Celastrus L.**Celastrus hindsii** Benth., J. Bot. Kew Gard. Misc. 3: 334. 1851.

Distribution: Arunachal Pradesh; 100–1000 m.

Celastrus hookeri Prain, J. Asiat. Soc. Bengal 73(2): 197. 1904.

Distribution: Arunachal Pradesh, Sikkim; 1500–1700 m.

Celastrus monospermus Roxb., Fl. Ind. 2: 394. 1824.

Distribution: Arunachal Pradesh, Sikkim; 600–2000 m.

Celastrus paniculatus Willd., Sp. Pl. 1: 1125. 1798.Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 800–1000 m. **(Plate 64a)****Celastrus stylosus** Wall., Fl. Ind. 2: 401. 1824.

Distribution: Arunachal Pradesh, Sikkim, Uttarakhand; 1600–1800 m.

Euonymus L.

Euonymus attenuatus Wall. ex Lawson, Fl. Brit. India 1: 610. 1875.

Distribution: Arunachal Pradesh; 200–600 m.

Euonymus echinatus Wall., Fl. Ind 2: 410. 1824.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 1300–1400 m. **(Plate 64b)**

Euonymus fimbriatus Wall., Fl. Ind. 2: 408. 1824.

Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand.

(Plate 64c)

Euonymus frigidus Wall., Fl. Ind. 2: 409. 1824.

Distribution: Arunachal Pradesh, Sikkim, Uttarakhand; 500–2500 m.

Euonymus glaber Roxb., Fl. Ind. 2: 403. 1824.

Distribution: Arunachal Pradesh; 800–1600 m.

Euonymus grandiflorus Wall., Roxb. Fl. Ind. ed. Carey 2: 404. 1824.

Distribution: Himachal Pradesh, Sikkim, Uttarakhand; 1000–2000 m.

Euonymus hamiltonianus Wall., Roxb., Fl. Ind. 2: 403. 1824.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 1400–1600 m.

Euonymus lawsonii C.B. Clarke ex Prain, J. Asiat. Soc. Bengal 73: 195. 1904.

Distribution: Arunachal Pradesh; 1600–2200 m.

Euonymus lucidus D. Don, Prodr. Fl. Nep. 191, 1825. *E. pendulus* Wall.

Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand.

Euonymus sanguineus Loes. ex Diels, Bot. Jahrb. Syst. 29: 441. 1900.

Distribution: Himachal Pradesh.

Euonymus theifolius Wall. ex Lawson, Fl. Brit. India 1: 612. 1875.

Distribution: Arunachal Pradesh, Sikkim, Uttarakhand; 1500–2500 m.

Euonymus tingens Wall., Fl. Ind. 2: 406. 1824.

Distribution: Arunachal Pradesh, Himachal Pradesh, Sikkim, Uttarakhand; 1700–2100 m. **(Plate 64d)**

Euonymus vagans Wall., Fl. Ind. 2: 406. 1824.

Distribution: Sikkim, Uttarakhand.

Euonymus viburnoides Prain, J. Asiat. Soc. Bengal 73: 194. 1904.

Distribution: Arunachal Pradesh; 1600–2500 m.

Glyptopetalum Thwaites

Glyptopetalum angulatum (Griff.) Chakrab. & M.G. Gangop., J. Econ. Taxon. Bot. 14: 129. 1990. *Hippocratea angulata* Griff.

Distribution: Arunachal Pradesh; 1200–1800 m.

Gymnosporia (Wight & Arn.) Benth. & Hook.f.

Gymnosporia senegalensis (Lam.) Loes., Bot. Jahrb. Syst. 17: 541. 1893. *Celastrus senegalensis* Lam.

Distribution: Himachal Pradesh, Uttarakhand.

Lophopetalum Wight ex Arn.

Lophopetalum wightianum Arn., Ann. Nat. Hist. 3: 151. 1839.

Distribution: Arunachal Pradesh; 500–1500 m.

Maytenus Molina

Maytenus falconeri (M.A.Lawson) M.A.Rau ex D.C.S.Raju & Babu, Bull. Bot. Surv. India 10: 348. 1969. var. **falconeri**. *Gymnosporia falconeri* M.A.Lawson

Distribution: Uttarakhand.

Maytenus falconeri (M.A.Lawson) M.A.Rau ex D.C.S.Raju & Babu, Bull. Bot. Surv. India 10:348.1969. var. **kanjilalii** M.A.Rau.

Distribution: Utatrakhand.

Maytenus hookeri Loes., Enler & Prantl Pflanzenfam. 206: 140. 1942.

Distribution: Arunachal Pradesh; 300–800 m.

Maytenus royleana Cufod., Senck. Biol. 43: 313. 1962.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand.

Maytenus rufa (Wall.) Cufod., Senckenberg. Biol. 43: 3131. 1962. *Celastrus rufus* Wall.

Distribution: Himchal Pradesh, Uttarakhand.

Maytenus wallichiana (Spreng.) D.C.S.Raju & Babu, Bull. Bot. Surv. India 10: 349.1969. *Celastrus wallichianus* Spreng.

Distribtuion: Uttarakahnd.

Microtropis Wall. ex Meisn.

Microtropis densiflora Wight, Icon. Pl. Ind. Orient. 3: t. 1052. 1846.

Distribution: Arunachal Pradesh; 100–300 m.

Microtropis discolor (Wall.) Arn., Ann. Nat. Hist. 3: 152. 1839. *Cassine discolor* Wall.

Distribution: Arunachal Pradesh, Sikkim, Uttarakhand; 1100–1300 m.

Reissantia N.Hallé

Reissantia arborea (Roxb.) Hara, Jap. J. Bot. 40(11): 327. 1965. *Hippocratea arborea* Roxb.

Distribution: Arunachal Pradesh; 800–1200 m.

Reissantia indica (Willd.) N.Halle, Bull. Mus. Natl. Hist. Nat. II, 30:466. 1958. *Hippocratea indica* Willd.

Distribution: Arunachal Pradesh; 500–1500 m.

Salacia L.

Salacia chinensis L., Mant. Pl. 2: 293. 1771.

Distribution: Arunachal Pradesh; 400–500 m.

Salacia khasiana Purakayastha, Ind. For. 64: 277. 1938.

Distribution: Arunachal Pradesh.

Salacia roxburghii Wall., Numer. List 4217. 1831.

Distribution: Arunachal Pradesh; 100–300 m.

CERATOPHYLLACEAE

(1 genus; 2 taxa)

Ceratophyllum L.

Ceratophyllum demersum L., Sp. Pl. 942. 1753.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Uttarakhand; upto 1700 m.

Ceratophyllum platyacanthum Cham. subsp. **oryzetorum** (Kom.) Les, Syst. Bot. 13: 517. 1988. *C. oryzetorum* Kom.

Distribution: Jammu & Kashmir.

CHENOPODIACEAE

(17 genera; 43 taxa)

Acroglchin Schrad.

Acroglchin persicarioides (Poir.) Moq., Prodr. 13(2): 254. 1849. *Amaranthus persicarioides* Poir.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand; 2500–3400 m.

Atriplex L.

Atriplex crassifolia Ledeb., Icon. Pl. 1: 11. 1829.

Distribution: Himachal Pradesh, Jammu & Kashmir; 2600–3700 m.

Atriplex hortensis L., Sp. Pl. 1053. 1753.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand; 2600–3350 m.

Atriplex rosea L., Sp. Pl. ed. 2. 1493. 1763.

Distribution: Jammu & Kashmir.

Atriplex sagittata Borkh., Rhein. Mag. Erweit. Naturk. 1: 477. 1793. *A. nitens* Schkuhr

Distribution: Jammu & Kashmir.

Atriplex schugnanica Iljin, Fl. URSS 6: 97. 1936.

Distribution: Jammu & Kashmir.

Atriplex tatarica L. var. **pamirica** (Iljin) G.L.Chu, Fl. Reipubl. Popul. Sin. 25(2): 46. 1979. *A. pamirica* Iljin

Distribution: Jammu & Kashmir.

Axyris L.**Axyris amaranthoides** L., Sp. Pl. 979. 1753.

Distribution: Jammu & Kashmir, Uttarakhand.

Axyris hybrida L., Sp. Pl. 980. 1753.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand.

Axyris prostrata L., Sp. Pl. 980. 1753.

Distribution: Sikkim.

Bassia All.**Bassia dasyphylla** (Fisch. & C.A.Mey.) Kuntze, Revis. Gen. Pl. 2: 546. 1891. *Kochia dasyphylla* Fisch. & C.A.Mey.

Distribution: Jammu & Kashmir.

Bassia indica (Wight) A.J. Scott, Feddes Repert. 89: 108. 1978. *Kochia indica* Wight

Distribution: Himachal Pradesh, Jammu & Kashmir.

Bassia prostrata (L.) Beck, Icon. Fl. Germ. Helv. 24: 155. 1909. *Salsola prostrata* L., *Kochia prostrata* (L.) Schrad.

Distribution: Himachal Pradesh, Jammu & Kashmir.

Bassia scoparia (L.) A.J.Scott, Feddes Repert. 89: 108. 1978. *Chenopodium scoparia* L.

Distribution: Jammu & Kashmir, Uttarakhand.

Bassia stellaris (Moq.) Bornm., Repert. Spec. Nov. Regni Veg. 17: 276. 1921. *Kochia stellaris* Moq.

Distribution: Himachal Pradesh, Jammu & Kashmir.

Beta L.**Beta vulgaris** L., Sp. Pl. 222. 1753. *B. vulgaris* L. subsp. *maritima* (L.) Arcang.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand.

Chenopodium L.**Chenopodium album** L., Sp. Pl. 219. 1753.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 300–2600 m.

Chenopodium foliosum Asch., Fl. Brandenburg 572. 1864.

Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 2500–3850 m. (Plate 65a)

Chenopodium giganteum D.Don, Prodr. Fl. Nepal. 75. 1825.

Distribution: Himachal Pradesh.

Chenopodium glaucum L., Sp. Pl. 220. 1753.

Distribution: Himachal Pradesh, Jammu & Kashmir.

Chenopodium hybridum L., Sp. Pl. 219. 1753.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand; 2500–3350 m.

Chenopodium murale L., Sp. Pl. 219. 1753.

Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand.

Chenopodium opulifolium Schrad. ex W.D.J.Koch & Ziz, Cat. Pl. 6. 1814. *C. album* L. var. *opulifolium* (Schrad. ex W.D.J.Koch & Ziz) G.Mey.

Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 2500–3800 m.

Chenopodium vulvaria L., Sp. Pl. 220. 1753.

Distribution: Jammu & Kashmir.

Corispermum L.

Corispermum tibeticum Iljin, Izv. Glavn. Bot. Sada S.S.S.R. 28: 644. 1929.

Distribution: Jammu & Kashmir.

Dysphania R.Br.

Dysphania ambrosioides (L.) Mosyakin & Clemants, Ukrayins'k. Bot. Zhurn. 59: 382. 2002. *Chenopodium ambrosioides* L.,

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 400–1000 m.

Dysphania botrys (L.) Mosyakin & Clemants, Ukrayins'k. Bot. Zhurn. 59: 383. 2002. *Chenopodium botrys* L.

Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 2400–3500 m.

Halocharis Moq.

Halocharis hispida (Schrenk ex C.A.Mey.) Bunge, Mém. Acad. Imp. Sci. Saint Pétersbourg, Sér. 74(11): 62, pl. 1, f. 1 1862. *Halimocnemis hispida* Schrenk ex C.A.Mey.

Distribution: Jammu & Kashmir.

Halocharis sulphurea (Moq.) Moq., Prodr. 13(2): 201. 1849. *Halimocnemis sulphurea* Moq.

Distribution: Jammu & Kashmir.

Halocharis violacea Bunge, Mém. Acad. Imp. Sci. Saint Pétersbourg, Sér. 74(11): 63, pl. 1, f. 3. 1862.

Distribution: Himachal Pradesh, Jammu & Kashmir.

Halogeton C.A.Mey.

Halogeton glomeratus (M.Bieb.) Ledeb., Icon. Pl. 1: 10. 1829. *Anabasis glomerata* M. Bieb.

Distribution: Jammu & Kashmir.

Halogeton kashmirianus Grey–Wilson & Wadhwa, Kew Bull. 42: 473. 1987.
Distribution: Jammu & Kashmir.

Haloxyton Bunge

Haloxyton recurvum Bunge ex Boiss., Fl. Orient. 4: 949. 1879.
Distribution: Jammu & Kashmir.

Haloxyton thomsonii Bunge ex Boiss., Fl. Orient. 4: 950. 1879.
Distribution: Jammu & Kashmir.

Kochia Roth

Kochia trichophylla Stapf. Ceiba 19(1): 43. 1975.
Distribution: Uttarakhand.

Krascheninnikovia Gueldenst.

Krascheninnikovia ceratoides (L.) Gueldenst., Novi Comment. Acad. Sci. Imp. Petrop. 16: 555. 1772. *Axyris ceratoides* L.
Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand; 3400–4050 m.

Microgynoecium Hook.f.

Microgynoecium tibeticum Hook.f., Gen. Pl. 3: 56. 1880.
Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 4500–5500 m.

Spinacia L.

Spinacia oleracea L., Sp. Pl. 1027. 1753.
Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand.

Salsola L.

Salsola collina Pall., Ill. Pl. 34. 1803.
Distribution: Himachal Pradesh, Jammu & Kashmir; 3000–3800 m.

Salsola kali L., Sp. Pl. 222. 1753.
Distribution: Jammu & Kashmir.

Suaeda Forssk. ex J.F. Gmel.

Suaeda corniculata (C.A.Mey.) Bunge, Trudy Imp. S.–Peterburgsk. Bot. Sada 6: 429. 1879. *Schoberia corniculata* C.A.Mey.
Distribution: Jammu & Kashmir.

Suaeda microsperma (C.A.Mey.) Fenzl, Fl. Ross. 3: 785. 1851. *Schoberia microsperma* C.A.Mey.
Distribution: Himachal Pradesh, Jammu & Kashmir.

Suaeda vermiculata Forssk. ex J.F.Gmel., Onomat. Bot. Compl. 8: 798. 1776.
Distribution: Jammu & Kashmir, Uttarakhand.

CHLORANTHACEAE

(2 genera; 2 taxa)

Chloranthus Sw.**Chloranthus elatior** Link, Enum. Hort. Berol. Alt. 1: 140. 1821.

Distribution: Arunachal Pradesh, Sikkim; 300–1500 m. (Plate 65b&c)

Sarcandra Gardner**Sarcandra glabra** (Thunb.) Nakai, Fl. Sylv. Kor. 18: 17. 1930. *Bladhia glabra* Thunb.

Distribution: Arunachal Pradesh; 200–1000 m.

CIRCAEASTERACEAE

(1 genus; 1 taxon)

Circaeaster Maxim.**Circaeaster agrestis** Maxim., Bull. Acad. Imp. Sci. Saint-Pétersbourg III, 27: 557. 1881.

Distribution: Arunachal Pradesh, Sikkim, Uttarakhand.

CLUSIACEAE

(3 genera; 14 taxa)

Calophyllum L.**Calophyllum polyanthum** Wall. ex Choisy, Descr. Guttif. Inde. 43. 1849.

Distribution: Arunachal Pradesh, Sikkim; 600–1500 m.

Garcinia L.**Garcinia anomala** Planch. & Triana, Ann. Sci. Nat., Bot. IV, 14: 329. 1860.

Distribution: Arunachal Pradesh, Sikkim; 200–1000 m.

Garcinia atroviridis Griff. ex T. Anderson, Fl. Brit. India 1: 266. 1874.

Distribution: Arunachal Pradesh.

Garcinia celebica L., Herb. Amb. 7. 1754.

Distribution: Arunachal Pradesh. (Plate 175b)

Garcinia cowa Roxb. ex Choisy., Prodr. 1: 561. 1824.

Distribution: Arunachal Pradesh, Sikkim; up to 1200 m.

Garcinia elliptica Wall. ex Wight, Icon. Pl. Ind. Orient. t. 120. 1839.

Distribution: Arunachal Pradesh.

Garcinia lanceifolia Roxb., Fl. Ind. ed. 1832. 2: 623

Distribution: Arunachal Pradesh; 600–1000 m.

Garcinia pedunculata Roxb. ex Buch.-Ham., Edinburgh J. Sci. 7: 45. 1827.

Distribution: Arunachal Pradesh; 100–1200 m.

Garcinia sopsopia (Buch.-Ham.) Mabb., Taxon 26: 529. 1977. *Oxycarpus sopsopia* Buch.-Ham.

Distribution: Arunachal Pradesh, Sikkim; 100–800 m.

Garcinia stipulata T.Anderson, Fl. Brit. India 1: 267. 1874.

Distribution: Arunachal Pradesh, Sikkim; 800–1300 m.

Garcinia xanthochymus Hook.f. ex T.Anderson, Fl. Brit. India 1: 269. 1874.

Distribution: Arunachal Pradesh, Sikkim; 100–1000 m.

Mesua L.

Mesua assamica (King ex Prain) Kosterm., Reinwardtia 7(5): 426. 1969. *Kayea assamica* King & Prain

Distribution: Arunachal Pradesh; 100–1000 m. (Plate 66a)

Mesua ferrea L., Sp. Pl. (ed. 2) 1: 734. 1762.

Distribution: Arunachal Pradesh, Sikkim, Uttarakhand; 100–800 m. (Plate 66b)

Mesua floribunda (Wall.) Kosterm., Reinwardtia 7: 427. 1969. *Kayea floribunda* Wall.

Distribution: Sikkim; 200–900 m.

COMBRETACEAE

(5 genera; 22 taxa)

Anogeissus (DC.) Wall. ex Guill., Perr. & A. Rich.

Anogeissus latifolia (Roxb. ex DC.) Wall. ex Guillem. & Perr., Fl. Seneg. Tent. 280 1832. *Conocarpus latifolius* Roxb. ex DC.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand; 1500–2000 m.

Combretum Loefl.

Combretum acuminatum Roxb., Fl. Ind. 2: 228. 1824.

Distribution: Arunachal Pradesh; upto 300 m.

Combretum alatum Craib, Bull. Misc. Inform. Kew 1930(4): 162.

Distribution: Arunachal Pradesh; upto 450 m.

Combretum album Pers., Syn. Pl. 1: 411. 1805.

Distribution: Jammu & Kashmir, Sikkim, Uttarakhand; 700 m.

Combretum indicum (L.) DeFilipps, Useful Pl. Dominica 277. 1998. *Quisqualis indica* L.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Uttarakhand; 1000–2000 m.

Combretum nanum Buch.-Ham. ex D.Don, Prodr. Fl. Nepal. 219. 1825.

Distribution: Jammu & Kashmir, Sikkim, Uttarakhand; 500–600 m.

Combretum pilosum Roxb. ex G.Don, Fl. Ind. 2: 231. 1832.

Distribution: Arunachal Pradesh.

Combretum punctatum Blume, Bijdr. 640. 1825.

Distribution: Arunachal Pradesh.

Combretum punctatum Blume var. **squamosum** (Roxb. ex G.Don) Gang. & T. Chakrab., J. Econ. Tax. Bot. 17(3): 680. 1993. *C. squamosum* Roxb. ex G.Don

Distribution: Arunachal Pradesh.

Combretum wallichii DC. var. **flagocarpum** (C.B.Clarke) Gang. & T.Chakrab., J. Econ. Tax. Bot. 17(3): 681. 1993. *C. flagocarpum* C.B.Clarke.

Distribution: Arunachal Pradesh, Sikkim; 1500 m.

Combretum wallichii DC. var. **griffithii** (Van Heurck & Müll.Arg.) M.G. Gangop. & Chakrab., J. Econ. Tax. Bot. 17(3): 681. 1993. *C. griffithii* Van Heurck & Müll. Arg.

Distribution: Arunachal Pradesh; upto 700 m.

Getonia Roxb.

Getonia floribunda Roxb., Pl. Coromandel 1: 61. 1795.

Distribution: Arunachal Pradesh.

Pentaptera Roxb.

Pentaptera tomentosa Roxb. ex DC., Prodr. 3: 14. 1828.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim; 1000–2000 m.

Terminalia L.

Terminalia arjuna (Roxb. ex DC.) Wight & Arn., Prodr. Fl. Ind. Orient. 314. 1834. *Pentaptera arjuna* Roxb. ex DC.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir; 1000–2000 m.

Terminalia bellirica (Gaertn.) Roxb., Pl. Corom. 2: 54, t. 198. 1805. *Myrobalanus bellirica* Gaertn.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Uttarakhand; 1000–2000 m.

Terminalia catappa L., Mant. Pl. 128. 1767.

Distribution: Jammu & Kashmir.

Terminalia chebula Retz., Obs. Bot. 5: 31. 1789.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Uttarakhand; 900–1500 m.

(Plate 66c)

Terminalia citrina Flem., Asiat. Res. 11: 183. 1810.

Distribution: Arunachal Pradesh.

Terminalia crenulata Roth, Nov. Pl. Sp. 380. 1821.

Distribution: Jammu & Kashmir.

Terminalia cuneata Roth, Nov. Pl. Sp. 380. 1821.

Distribution: Uttarakhand.

Terminalia elliptica Wild., Sp. Pl. ed. 4, 4(2): 969. 1806.

Distribution: Uttarakhand.

Terminalia myriocarpa Van Heurck & Müll. Arg., Van Heurck., Obs. Bot. 215. 1871.

Distribution: Arunachal Pradesh, Sikkim, Uttarakhand; 750–1150 m. **(Plate 176a)**

CONNARACEAE

(2 genera; 2 taxa)

Connarus L.

Connarus paniculatus Roxb., Fl. Ind. 3: 139. 1832.

Distribution: Arunachal Pradesh.

(Plate 67a)

Rourea Aubl.

Rourea minor (Gaertn.) Leench., Handb. Fl. Ceylon 6 (Suppl.): 67. 1931. *Aegiceras minus* Gaertn.

Distribution: Arunachal Pradesh.

CONVOLVULACEAE

(16 genera; 78 taxa)

Aniseia Choisy

Aniseia martinicensis (Jacq.) Choisy, Mém. Soc. Phys. Genève 8(1): 66. 1838. *Convolvulus martinicensis* Jacq.

Distribution: Sikkim.

Argyreia Lour.

Argyreia argentea (Roxb.) Sweet, Hort. Brit. ed. 2: 373. 1830. *Lettsomia argentea* Roxb.

Distribution: Arunachal Pradesh, Sikkim; 100–1000 m.

Argyreia atropurpurea Raizada, Indian For. 93: 754. 1967.

Distribution: Sikkim, West Bengal (Darjeeling); up to 1000 m.

Argyreia bella (C.B. Clarke) Raizada, Indian For. 93: 754. 1967. *Lettsomia bella* C.B. Clarke

Distribution: Sikkim; up to 1000 m.

Argyreia capitiformis (Poir.) Ooststr., Fl. Malesiana, Ser. 1, Spermatoph. 6(6): 941. 1972. *Convolvulus capitiformis* Poir.

Distribution: Arunachal Pradesh, Sikkim, West Bengal (Darjeeling); 100–3500 m.

Argyreia hirsutissima Raizada, Indian For. 93: 754. 1967.

Distribution: Sikkim; 1500 m.

Argyreia hookeri C.B. Clarke, Fl. Brit. India 4: 185. 1885.

Distribution: Sikkim, West Bengal (Darjeeling); 150–1220 m.

Argyreia nasirii D.F.Austin, Fl. W. Pakistan 126: 4. 1979.

Distribution: Himachal Pradesh, Uttarakhand, Sikkim.

Argyreia nervosa (Burm.f.) Bojer, Hortus Maurit. 224. 1837. *Convolvulus nervosa* Burm.f.

Distribution: Arunachal Pradesh, Uttarakhand; 1000–1500 m.

Argyreia roxburghii (Wall.) Arn. ex Choisy, Mém. Soc. Phys. Genève 6: 419. 1833. *Convolvulus roxburghii* Wall.

Distribution: Arunachal Pradesh, Sikkim, Uttarakhand, West Bengal (Darjeeling); 100–1400 m.

Argyreia setosa Arn. ex Choisy, Convolv. Orient. 43. 1834 [Aug 1834].

Distribution: Sikkim; upto 700 m.

Argyreia sikkimensis Ooststr., Blumea vii. 178. (1952) .

Distribution: Arunachal Pradesh, West Bengal (Darjeeling); 300–1000 m.

Argyreia splendens (Hornem.) Sweet, Hort. Brit. 289. 1826. *Convolvulus splendens* Hornem.

Distribution: Arunachal Pradesh.

Argyreia thomsonii (C.B.Clarke) Babu, Fl. Bhutan 2(2): 843. 1999. *Lettsomia thomsonii* C.B.Clarke

Distribution: Himachal Pradesh, Jammu & Kashmir, West Bengal (Darjeeling).

Argyreia wallichii Choisy, Mém. Soc. Phys. Genève 6: 422. 1833.

Distribution: Sikkim, West Bengal (Darjeeling); upto 1220 m.

Argyreia wallichii Choisy var. **coriacea** C.B.Clarke, Fl. Brit. Ind. 4: 187. 1883.

Distribution: Sikkim; upto 2000 m.

Calystegia R.Br.

Calystegia hederacea Wall., Fl. Ind., ed. 1820. 2: 94–95. 1824.

Distribution: Himachal Pradesh.

Convolvulus L.

Convolvulus arvensis L. Sp. Pl. 153. 1753.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand.

Convolvulus microphyllus Sieber ex Spreng., Syst. Veg. 1: 611. 1824.

Distribution: Jammu & Kashmir.

Cressa L.

Cressa cretica L., Sp. Pl. 1: 223. 1753.

Distribution: Jammu & Kashmir.

Dinetus Buch.–Ham. ex Sweet

Dinetus grandiflorus (Wall.) Staples, Novon 3(2): 199. 1993. *Porana grandiflora* Wall.

Distribution: Arunachal Pradesh, Sikkim, West Bengal (Darjeeling); 300–1000 m.

Dinetus racemosus (Roxb.) Buch.–Ham. ex Sweet, Brit. Fl. Gard. 2:, pl. 127. 1825.
Porana racemosa Roxb.

Distribution: Arunachal Pradesh, Himachal Pradesh, Sikkim, Uttarakhand, West Bengal (Darjeeling); 500–2000 m.

Erycibe Roxb.

Erycibe laurifolia D.G.Long, Notes Roy. Bot. Gard. Edinburgh 41(1): 129. 1983.
Distribution: West Bengal (Darjeeling); 1220–1830 m.

Erycibe paniculata Roxb., Pl. Corom. 2: 31, t. 159. 1798.

Distribution: Arunachal Pradesh; 200–1000 m.

Erycibe subspicata Wall. ex G. Don, Gen. Hist. 4: 392. 1838.

Distribution: Arunachal Pradesh; 1000–1500 m.

Evolvulus L.

Evolvulus alsinoides (L.) L. Sp. Pl. ed. 2. 392. 1762. *Convolvulus alsinoides* L.

Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 1000 m.

Evolvulus nummularius (L.) L., Sp. Pl. (ed. 2) 1: 391. 1762. *Convolvulus nummularius* L.

Distribution: Sikkim, Uttarakhand; upto 1000 m.

Ipomoea L.

Ipomoea alba L., Sp. Pl. 1: 161. 1753.

Distribution: Uttarakhand, West Bengal (Darjeeling).

Ipomoea aquatica Forssk., Fl. Aegypt. Arab. 44. 1775.

Distribution: Arunachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 100–500 m.

Ipomoea arachnosperma Welw., Apont. 588. 1859.

Distribution: Himachal Pradesh, Jammu & Kashmir.

Ipomoea barlerioides (Choisy) Benth. ex C.B. Clarke., Fl. Brit. India 4: 201. 1883.

Aniseia barlerioides Choisy

Distribution: Uttarakhand; 1200 m.

Ipomoea batatas (L.) Lam., Tabl. Encycl., 2: 465. 1793. *Convolvulus babatas* L.

Distribution: Arunachal Pradesh, Uttarakhand; 500–1200 m.

Ipomoea biflora (L.) Pers., Syn. Pl. 1: 183. 1805. *Convolvulus biflorus* L.

Distribution: Uttarakhand, Sikkim, West Bengal (Darjeeling); 600–1500 m.

Ipomoea calophylla Fenzl, Flora 27: 312. 1844.

Distribution: Uttarakhand.

Ipomoea cairica (L.) Sweet, Hort. Birt. 287. 1827. *Convolvulus cairica* L.

Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 2000 m.

Ipomoea carnea Jacq. subsp. **fistulosa** (Mart. ex Choisy) D.F. Austin, Taxon 26(2–3): 237. 1977. *Ipomoea fistulosa* Mart. ex Choisy

Distribution: Uttarakhand.

Ipomoea eriocarpa R. Br., Prodr. Fl. Nov. Holl. 484. 1810.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand.

Ipomoea hederifolia L., Syst. Nat. (ed. 10) 2: 925. 1759.

Distribution: Jammu & Kashmir, Sikkim, Uttarakhand, West Bengal (Darjeeling); 200–600 m.

Ipomoea indica (Burm.) Merr., Interpr. Herb. Amboin. 445. 1917. *Convolvulus indicus* Burm.

Distribution: Himachal Pradesh, Uttarakhand, West Bengal (Darjeeling); 200–1900 m.

Ipomoea kingii Prain, J. Asiat. Soc. Bengal, Pt. 2, Nat. Hist. 63(2): 110. 1894.

Distribution: Arunachal Pradesh, Sikkim; 200–1000 m.

Ipomoea laxiflora H.J.Chowdhery & Debta, Indian J. Forest. 32: 120. 2009.

Distribution: Uttarakhand; 400–800 m.

Ipomoea lobata (Cerv.) Thell., Vierteljahrsschr. Naturf. Ges. Zürich 64: 775. 1919. *Mina lobata* Cerv.

Distribution: Uttarakhand.

Ipomoea marginata (Desr.) Verdc., Kew Bull. 42(3): 658. 1987. *Convolvulus marginatus* Desr.

Distribution: Uttarakhand.

Ipomoea mauritiana Jacq., Collectanea 4: 216. 1790.

Distribution: Arunachal Pradesh; 100–1000 m.

Ipomoea muricata (L.) Jacq., Pl. Rar. Hort. Schoenbr. 3: 40. 1798. *Convolvulus muricatus* L.

Distribution: Uttarakhand; 300–1500 m.

Ipomoea nil (L.) Roth, Catal. Bot. 1: 36, 1797. *Convolvulus nil* L.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 500–1400 m.

Ipomoea obscura (L.) Ker Gawl., Bot. Reg. 3: pl. 239. 1817. *Convolvulus obscurus* L.

Distribution: Uttarakhand.

Ipomoea pestigridis L. Sp. Pl. 162. 1753 .

Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand, West Bengal (Darjeeling); 1500 m.

Ipomoea poranoides C.B.Clarke, Fl. Brit. India 4: 208. 1883.

Distribution: Sikkim; 900–1500 m.

Ipomoea purpurea (L.) Roth, Bot. Abh. 27. 1787. *Convolvulus purpureus* L.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand, West Bengal (Darjeeling); 1000–2000 m. **(Plate 67b)**

Ipomoea quamoclit L., Sp. Pl. 1: 159–160. 1753.

Distribution: Jammu & Kashmir, Uttarakhand, West Bengal (Darjeeling); 220–830 m.

Ipomoea triloba L., Sp. Pl. 1: 161. 1753.

Distribution: Uttarakhand.

Ipomoea turbinata Lag. ex Choisy, Prodr. 9: 396, 345. 1845.

Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand, West Bengal (Darjeeling).

Ipomoea tuberculata Ker Gawl., Bot. Reg. 1, t. 86. 1816.

Distribution: Himachal Pradesh.

Ipomoea violacea L., Sp. Pl. 1: 161. 1753.

Distribution: Uttarakhand.

Jacquemontia Choisy

Jacquemontia pentanthos (Jacq.) G.Don Gen. Hist. 4: 283. 1837. *Convolvulus pentanthos* Jacq.

Distribution: Uttarakhand.

Lettsomia Ruiz & Pav.

Lettsomia hirsutissima C.B.Clarke, Fl. Brit. India 4: 193. 1883.

Distribution: Sikkim; upto 1500 m.

Lettsomia sikkimensis C.B.Clarke, Fl. Brit. India 4: 194. 1883.

Distribution: Sikkim; upto 1000 m.

Merremia Dennst. ex Endl.

Merremia aegyptia (L.) Urb., Symb. Antill. 4(3): 505. 1910. *Ipomoea aegyptia* L.

Distribution: Jammu & Kashmir.

Merremia dissecta (Jacq.) Hallier f., Bot. Jahrb. Syst. 16(4–5): 552. 1893. *Convolvulus dissectus* Jacq.

Distribution: Jammu & Kashmir, Uttarakhand; 900 m.

Merremia gemella (Burm.f.) Hallier f., Bot. Jahrb. Syst. 16(4–5): 552. 1893. *Convolvulus gemellus* Burm.f.

Distribution: West Bengal (Darjeeling).

Merremia hederacea (Burm.f.) Hallier f., Bot. Jahrb. 18: 118. 1894.

Distribution: Arunachal Pradesh, Himachal Pradesh, Sikkim, Uttarakhand; 100–1000 m.

Merremia hirta (L.) Merr., Philipp. J. Sci. Bot. 7: 244. 1912. *Convolvulus hirtus* L.

Distribution: Arunachal Pradesh, Sikkim, West Bengal (Darjeeling); 100–1200 m.

Merremia kingii Kerr, Fl. Siam. iii. 11. 5. 1954.

Distribution: West Bengal (Darjeeling); 600–1525 m.

Merremia mammosa Hallier f., Teysmannia 7: 164. 1879.

Distribution: West Bengal (Darjeeling); 100–1200 m.

Merremia peltata (L.) Merr., Interpr. Herb. Amboin. 441. 1917. *Convolvulus peltatus* L.

Distribution: Uttarakhand; 450 m.

Merremia poranoides Hallier f., Bull. Herb. Boissier 5: 375. 1897. *Ipomoea poranoides* C.B. Clarke

Distribution: West Bengal (Darjeeling)

Merremia sibirica (L.) Hallier f., Bot. Jahrb. Syst. 16(4–5): 551. 1893. *Convolvulus sibiricus* L.

Distribution: Himachal Pradesh, Uttarakhand.

Merremia umbellata (L.) Hallier f., Bot. Jahrb. Syst. 16(4–5): 552. 1893. *Ipomoea umbellata* E.Mey. *Convolvulus umbellatus* L.

Distribution: Arunachal Pradesh, Sikkim, West Bengal (Darjeeling); 200–900 m.

Merremia vitifolia (Burm.f.) Hallier f., Bot. Jahrb. 16: 552. 1893. *Convolvulus vitifolia* Burm.f.

Distribution: Arunachal Pradesh, Sikkim, Uttarakhand, West Bengal (Darjeeling); 500–1500 m.

Operculina Silva Manso

Operculina turpethum (L.) Silva Manso, Enum. Subst. Braz. 16. 1836. *Convolvulus turpethum* L.

Distribution: Sikkim, Uttarakhand; upto 1000 m.

(Plate 67c)

Porana Burm.f.

Porana paniculata Roxb., Pl. Corom. 3: 31. 1819.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand, West Bengal (Darjeeling); 200–800 m.

Porana stenoloba Kurz, J. Bot. 11: 136. 1873.

Distribution: Sikkim, West Bengal (Darjeeling); 1500–2000 m.

Poranopsis Roberty

Poranopsis paniculata (Roxb.) Roberty, Candollea 14: 26. 1953. *Porana paniculata* Roxb.

Distribution: Uttarakhand; 450–1800 m.

Rivea Choisy

Rivea hypocrateriformis (Desr.) Choisy, Mém. Soc. Phys. Hist.-Nat. Genève 6: 408. 1834. *Convolvulus hypocrateriformis* Desr.

Distribution: Himachal Pradesh.

Rivea laotica Ooststr., Blumea 8: 525. 1957.

Distribution: Uttarakhand.

Rivea ornata Choisy, Mem. Soc. Phys. Geneve. 409. (Conv. Or. 27). 1833.

Distribution: Arunachal Pradesh, Sikkim, Uttarakhand, West Bengal (Darjeeling); 600–1000 m.

Rivea roxburghii Prain ex D.Brandis, Indian Trees 484. 1906.

Distribution: Uttarakhand.

CORIARIACEAE

(1 genus; 4 taxa)

Coriaria L.

Coriaria duthiei D.K.Singh & Pusalkar, Nordic J. Bot. 27 (3): 203. 2009.

Distribution: Jammu & Kashmir.

Coriaria nepalensis Wall., Pl. Asiat. Rar. 3: 67. 1832.

Distribution: Arunachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 1500–1900 m.

Coriaria terminalis Hemsl., Icon. Pl. 24: t. 2220. 1892.

Distribution: Sikkim.

Coriaria terminalis Hemsl. var. **xanthocarpa** Rehder & Wilson, Sarg., Pl. Wilson 2: 171. 1916.

Distribution: Sikkim; 1200–3700 m.

CORNACEAE

(5 genera; 10 taxa)

Cornus L.

Cornus capitata Wall., Fl. Ind. 1: 434. 1820.

Distribution: Arunachal Pradesh, Himachal Pradesh, Sikkim, Uttarakhand; 1000–1800 m.

Cornus controversa Hemsl., Bot. Mag. 135: t. 8261. 1909.

Distribution: Arunachal Pradesh, Sikkim, West Bengal (Darjeeling); 900–3000 m.

Cornus kousa F. Buerger ex Hance, J. Linn. Soc., Bot. 13: 105. 1873.

Distribution: Sikkim.

Cornus macrophylla Wall., Fl. Ind. 1: 433. 1820.

Distribution: Himachal Pradesh, Sikkim, Uttarakhand; 2000–3500 m.

Cornus oblonga Wall., Fl. Ind. 1: 432. 1820. *Swida oblonga* (Wall.) Soják

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 2000–3500m.

Cornus sanguinea L., Sp. Pl. 117. 1753.

Distribution: Jammu & Kashmir.

Helwingia Willd.

Helwingia himalaica Hook.f. & Thomson ex C.B.Clarke, Fl. Brit. India 2: 726. 1879. Distribution: Arunachal Pradesh, Sikkim, West Bengal (Darjeeling); 2100–3050 m.

Mastixia Blume

Mastixia pentandra Blume subsp. **chinensis** (Merr.) K.M.Matthew, Blumea 23: 83. 1977. *Mastixia chinensis* Merr.
Distribution: Arunachal Pradesh.

Swida Opiz

Swida microphylla Soják, Novit. Bot. Univ. Carol. 10. 1960.
Distribution: Jammu & Kashmir.

Toricellia DC.

Toricellia tiliifolia DC., Prodr. 4: 257. 1830.
Distribution: Sikkim, Uttarakhand; 1000–2100 m.

CRASSULACEAE
(10 genera; 59 taxa)

Bryophyllum Salisb.

Bryophyllum delagoense (Eckl. & Zeyh.) Druce, Rep. Bot. Soc. Exch. Club Brit. Isles 4(Suppl. 2): 611. 1917. *Kalanchoe delagoensis* Eckl. & Zeyh.
Distribution: Uttarakhand; 1200 m.

Bryophyllum pinnatum (Lamk.) Oken, Allgem. Naturgesch. 3: 184. 1966.
Cotyledon pinnata Lamk.
Distribution: Himachal Pradesh, Uttarakhand; 2000–2800 m.

Crassula L.

Crassula alata (Viv.) A.Berger, Nat. Pflanzenfam. ed. 2. 18a: 389. 1930.
Tillaea alata Viv.
Distribution: Arunachal Pradesh, Jammu & Kashmir, Uttarakhand; 1000–2500 m.

Crassula campestris (Eckl. & Zeyh.) Endl., Repert. Bot. Syst. 2: 253. 1843.
Tetraphyle campestris Eckl. & Zeyh.
Distribution: Himachal Pradesh. 2000–3000 m.

Crassula schimperi Fisch. & C.A.Mey., Index Seminum 8: 56. 1842.
Distribution: Jammu & Kashmir, Sikkim, Uttarakhand.

Kalanchoe Adans.

Kalanchoe integra (Medik.) Kuntze, Revis. Gen. Pl. 1: 229. 1891. *Cotyledon integra* Medik.
Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim; 600–1200 m.

Kalanchoe laciniata (L.) DC., Pl. Hist. Succ. t. 100 1802. *Cotyledon laciniata* L.
Distribution: Arunachal Pradesh, Uttarakhand.

Orostachys Fisch.

Orostachys thyrsiflora Fisch., Mem. Soc. Imp. Naturalistes Moscou 2: 274. 1809.
Cotyledon thyrsiflora (Fisch.) Maxim.

Distribution: Himachal Pradesh, Jammu & Kashmir; 2000–3500 m.

Pseudosedum (Boiss.) A. Berger

Pseudosedum lievenii (Ledeb.) A. Berger, Nat. Pflanzenfam. ed. 2. 18a: 465. 1930.
Cotyledon lievenii Ledeb.

Distribution: Jammu & Kashmir; 2000–3500 m.

Rhodiola L.

Rhodiola amabilis (H. Ohba) H. Ohba, J. Jap. Bot. 51: 386. 1976. *Sedum amabile*
H. Ohba

Distribution: Sikkim; 2400–3800 m.

Rhodiola atsaensis (Fröd.) H. Ohba, J. Jap. Bot. 51: 386. 1976. *Sedum atsaense*
Fröd. Distribution: Sikkim; 4700–5000 m.

Rhodiola bouvieri (Raym.-Hamet) H. Ohba, J. Jap. Bot. 51: 387. 1976. *Sedum*
bouvieri Raym.-Hamet

Distribution: Uttarakhand.

Rhodiola bupleuroides (Wall. ex Hook.f. & Thomson) S.H. Fu, Acta Phytotax.
Sin. Addit. 1: 124. 1965. *Sedum bupleuroides* Wall. ex Hook.f. & Thomson

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim,
Uttarakhand; 2000–3500 m.

Rhodiola coccinea (Royle) Boriss., Fl. URSS ix. 41. 1939. *Sedum coccineum* Royle
Distribution: Sikkim; 3900–5000 m.

Rhodiola cretinii (Raym.-Hamet) H. Ohba, J. Jap. Bot. 51(12): 386. 1976. *Sedum*
cretinii Raym.-Hamet

Distribution: Sikkim; 4000–5800 m.

Rhodiola crenulata (Hook.f. & Thomson) H. Ohba, J. Jap. Bot. 51: 386. 1976.
Sedum crenulatum Hook.f. & Thomson

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim,
Uttarakhand; upto 5010 m. **(Plate 68a)**

Rhodiola chrysanthemifolia (H. Lév.) S.H. Fu, Acta Phytotax. Sin., Addit. 1: 127.
1965. *Sedum chrysanthemifolium* H. Lév.

Distribution: Sikkim; 3000–3800 m.

Rhodiola discolor (Franch.) S.H. Fu, Acta Phytotax. Sin., Addit. 1: 124. 1965. *Sedum*
discolor Franch.

Distribution: Sikkim; 3600–4500 m.

Rhodiola fastigiata (Hook.f. & Thomson) S.H. Fu, Acta Phytotax. Sin., Addit. 1:
122. 1965. *Sedum fastigiatum* Hook.f. & Thomson

Distribution: Sikkim, Uttarakhand; 4000–4800 m. **(Plate 68b)**

Rhodiola fui Boriss., Novosti Sist. Vyssh. Rast. 6: 114. 1970.

Distribution: Jammu & Kashmir, Uttarakhand; 2600–3750 m.

Rhodiola heterodonta (Hook.f. & Thomson) Boriss., Komarov, FL. URSS 9: 26, 32. 1939. *Sedum heterodontum* Hook.f. & Thomson

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand; 2000–3500 m.

Rhodiola himalensis (D.Don) S.H.Fu, Acta Phytotax. Sin., Addit. 1: 121. 1965. *Sedum himalense* D.Don

Distribution: Arunachal Pradesh, Jammu & Kashmir, Sikkim; 3500–5000 m.

Rhodiola hobsonii (Prain ex Raym.-Hamet) S.H.Fu, Acta Phytotax. Sin., Addit. 1: 118 1965. *Sedum hobsonii* Prain ex Raym.-Hamet

Distribution: Sikkim ; 2500–4000 m.

Rhodiola humilis (Hook.f. & Thomson) S.H.Fu, Acta Phytotax. Sin., Addit. 1: 119 1965. *Sedum humile* Hook.f. & Thomson

Distribution: Sikkim, Uttarakhand; 3000–3800 m.

Rhodiola imbricata Edgew., Trans. Linn. Soc. London 20(1): 47. 1846.

Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 2000–3500 m. **(Plate 69a)**

Rhodiola ovatisepala (Raym.-Hamet) S.H. Fu, Acta Phytotax. Sin., Addit. 1: 127. 1965. *Sedum linearifolium* var. *ovatisepalum* Raym.-Hamet

Distribution: Uttarakhand.

Rhodiola prainii (Raym.-Hamet) H.Ohba, J. Jap. Bot. 51(12): 386 1976. *Sedum prainii* Raym.-Hamet

Distribution: Sikkim; 3600–4600 m.

Rhodiola saxifragoides (Fröd.) H.Ohba, J. Jap. Bot. 52: 305. 1977. *Sedum saxifragoides* Fröd.

Distribution: Jammu & Kashmir.

Rhodiola sherriffii H.Ohba, J. Jap. Bot. 53: 258. 1978.

Distribution: Arunachal Pradesh, Sikkim; 3700–4300 m.

Rhodiola sinuata (Royle ex Edgew.) S.H.Fu, Acta Phytotax. Sin., Addit. 1: 127 1965. *Sedum sinuatum* Royle ex Edgew.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Uttarakhand; 2000–3500 m. **(Plate 69b)**

Rhodiola smithii (Raym.-Hamet) S.H.Fu, Acta Phytotax. Sin., Addit. 1: 122 1965. *Sedum smithii* Raym.-Hamet

Distribution: Sikkim; 3000–3800 m.

Rhodiola stapfii (Raym.-Hamet) S.H.Fu, Acta Phytotax. Sin., Addit. 1: 122 1965. *Sedum stapfii* Raym.-Hamet

Distribution: Sikkim; Upto 4265 m.

Rhodiola tibetica (Hook.f. & Thomson) S.H.Fu, Acta Phytotax Sin., Addit 1:121. 1965. *Sedum tibeticum* Hook.f. & Thomson

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand; 2000–3500 m.

(Plate 70a)

Rhodiola wallichiana (Hook.) S.H.Fu, Acta Phytotax. Sin., Addit. 1: 125. 1965. *Sedum wallichianum* Hook.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 2000–3500 m.

(Plate 70c)

Rosularia (DC.) Stapf.

Rosularia adenotricha (Wall. ex Edgew.) C.A.Jansson, Fl. Iranica 72: 29. 1970. *Sedum adenotrichum* Wall. ex Edgew.

Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 2000–3500 m.

Rosularia adenotricha (Wall. ex Edgew.) C.A.Jansson subsp. **viguieri** (Raym.-Hamet) C.A.Jansson, Fl. Iranica 72: 30. 1970. *Sedum adenotrichum* Wall. ex Edgew. var. *viguieri* Raym.-Hamet

Distribution: Jammu & Kashmir.

Rosularia alpestris (Kar. & Kir.) Boriss., Komarov, Fl. U.S.S.R. 9: 129. 1939. *Umbilicus alpestris* Kar. & Kir.

Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 2000–3500 m.

Rosularia rosulata (Edgew.) H.Ohba, J. Jap. Bot. 52(1): 9. 1977. *Sedum rosulatum* Edgew.

Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 2600–3550 m.

Rosularia sedoides (Decne.) H.Ohba, J. Jap. Bot. 52(1): 7. 1977. *Sempervivum sedoides* Decne.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand; 2000–3000 m.

Sedum L.

Sedum duthiei Fröd., Acta Horti Gothob. 6: 57. 1930.

Distribution: Uttarakhand.

Sedum ewersii Ledeb., Fl. Alt. 2: 191. 1830.

Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 2300–3500 m.

(Plate 70b)

Sedum filipes Hemsl., J. Linn. Soc., Bot. 23(155): 284–285, pl.7, f. 1–3. 1887.

Distribution: Sikkim; 1200–2133 m.

(Plate 176b)

Sedum fischeri Raym.-Hamet, J. Linn. Soc., Bot. 23: 284, t. 7a, fig. 1–3. 1887.

Distribution: Himachal Pradesh, Uttarakhand, Jammu & Kashmir, Sikkim; 3300–4900m.

Sedum gagei Raym.-Hamet, Repert. Spec. Nov. Regni Veg. 8: 263. 1910.

Distribution: Sikkim, Uttarakhand; 3900–5000 m.

Sedum holei Raym.-Hamet, J. Bot. 51: 55. 1913.

Distribution: Uttarakhand; 4600–5000 m.

Sedum lineare Thunb., Syst. Veg. ed. 14: 430. 1784.

Distribution: Uttarakhand; cultivated

Sedum magae Raym.-Hamet, Repert. Spec. Nov. Regni Veg. 13: 350. 1914.

Distribution: Uttarakhand; 4600–5000 m.

Sedum multicaule Wall. ex Lindl., Bot. Reg. 26. Misc. 58. 1840.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 1500–3200 m.

Sedum oreades (Decne.) Raym.-Hamet, Bull. Bot. Soc. Fr. 56: 571. 1909. *Umbilicus oreades* Decne.

Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 2000–3000 m.

Sedum perpusillum Hook.f. & Thomson, J. Proc. Linn. Soc., Bot. 2: 103. 1858.

Distribution: Sikkim; Upto 650 m.

Sedum quadrifidum Pall, Reise Russ. Reich. 3: 730. 1776.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 2000–4500 m.

Sedum roseum (L.) Scop., Fl. Carniol. ed. 2, 1: 326. 1771. *Rhodiola rosea* L.

Distribution: Arunachal Pradesh, Jammu & Kashmir, Sikkim.

Sedum seelemanni Raym.-Hamet, J. Bot. 54(Suppl. 1): 21. 1916.

Distribution: Uttarakhand; 4500–5000 m.

Sedum triactina A.Berger, Nat. Pflanzenfam. ed. 2. 18a: 460. 1930.

Distribution: Arunachal Pradesh, Sikkim; 2500–3900 m.

Sedum trullipetalum Hook.f. & Thomson, J. Proc. Linn. Soc., Bot. 2; 102. 1858.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 2000–3000 m.

Sinocrassula A.Berger

Sinocrassula indica (Decne.) A. Berger, Nat. Pflanzenfam. ed. 2. 18a: 463. 1930. *Crassula indica* Decne.

Distribution: Arunachal Pradesh, Himachal Pradesh, Sikkim, Uttarakhand; 1000–4000 m.

Sinocrassula indica (Decne.) A.Berger var. **paniculata** N.B.Singh & U.C. Bhattach., J. Econ. Taxon. Bot. 6: 211. 1985.

Distribution: Uttarakhand; 1800 m.

Sinocrassula indica (Decne.) A.Berger var. **viridiflora** K.T.Fu, Fl. Tsinling 1 (2): 606. 1974.

Distribution: Jammu & Kashmir, Uttarakhand; 2800–3500 m.

Tillaea L.

Tillaea pentandra Royle ex Edgew., Trans. Linn. Soc. Bot. 20: 50. 1846.

CRYPTERONIACEAE

(1 genus; 1 taxon)

Crypteronia Blume

Crypteronia paniculata Blume, Bijdr. 1151. 1826.

Distribution: Arunachal Pradesh; 200–800 m.

CUCURBITACEAE

(34 genera; 69 taxa)

Actinostemma Griff.

Actinostemma tenerum Griff., Pl. Cantor. 25, t. 3. 1836.

Distribution: Arunachal Pradesh; 550–1200 m.

Benincasa Savi

Benincasa fistulosa (Stocks) H.Schaef. & S.S.Renner, Taxon 60: 133. 2011.
Citrullus fistulosus Stocks

Distribution: Uttarakhand; upto 1800 m.

Benincasa hispida (Thunb.) Cogn., Monogr. Phan. 3: 513. 1881. *Cucurbita hispida* Thunb.

Distribution: Arunachal Pradesh, Jammu & Kashmir, Uttarakhand; 500–1400 m.

Biswarea Cogn.

Biswarea tonglensis (C.B.Clarke) Cogn., Bull. Soc. Roy. Bot. Belgique Compt.–Rend. 21: 16. 1882. *Warea tonglensis* C.B.Clarke

Distribution: Sikkim; 2000–3000 m.

Bryonia L.

Bryonia aspera Steven ex Ledeb., Fl. Ross. 2: 140. 1843.

Distribution: Himachal Pradesh; 2000–3000 m.

Bryonia cretica L. subsp. **dioica** (Jacq.) Tutin, Feddes Repert. 79: 61. 1968. *B. dioica* Jacq.

Distribution: Himachal Pradesh, 2000–3000 m.

Cayaponia Silva Manso

Cayaponia laciniosa (L.) C.Jeffrey, Kew Bull. 15: 346. 1962. *Bryonia laciniosa* L.

Distribution: Jammu & Kashmir.

Citrullus Schrad.

Citrullus colocynthis (L.) Schrad., *Linnaea* 12: 414. 1838. *Cucumis colocynthis* L.
Distribution: Jammu & Kashmir, Uttarakhand.

Citrullus lanatus (Thunb.) Matsum. & Nakai, *Cat. Sem. Hort. Bot. Univ.* 1920: 38. 1920. *Momordica lanata* Thunb.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand; 2300–3400 m.

Coccinia Wight & Arn.

Coccinia grandis (L.) Voigt., *Hort. Suburb. Calc.* 59. 1845. *Bryonia grandis* L.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand; 2300–3400 m.

Corallocarpus Welw. ex Benth. & Hook.f.

Corallocarpus epigaeus (Rottler) Hook.f., *Fl. Brit. India* 2: 628. 1879. *Bryonia epigaea* Rottler

Distribution: Jammu & Kashmir.

Cucumis L.

Cucumis leiospermus (Wight & Arn.) Ghebret. & Thulin, *Novon* 17: 177. 2007. *Bryonia leiosperma* Wight & Arn.

Distribution: Sikkim.

Cucumis melo L., *Sp. Pl.* 1011. 1753.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 2300–3400 m.

Cucumis sativus L., *Sp. Pl.* 1012. 1753.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 2300–3400 m.

Cucurbita L.

Cucurbita maxima Duchesne, *Ess. Hist. Nat. Courges* 7. 1786.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Uttarakhand; 2000–3400 m.

Cucurbita moschata Duchesne, *Ess. Hist. Nat. Courges* 7. 1786.

Distribution: Arunachal Pradesh, Uttarakhand; 400–700 m.

Cucurbita pepo L., *Sp. Pl.* 1010. 1753.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Uttarakhand; 400–3000 m.

Cyclanthera Schrad.

Cyclanthera pedata (L.) Schrad., *Index Sem. (Gottingen)* 1831: 2. 1831. *Momordica pedata* L.

Distribution: Sikkim, Uttarakhand, West Bengal (Darjeeling); upto 2650 m.

Diplocyclos (Endl.) T.Post & Kuntze

Diplocyclos palmatus (L.) C.Jeffrey, Kew Bull. 15(3): 352. 1962. *Bryonia palmata* L.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 1000–2000 m.

Edgaria C.B.Clarke

Edgaria darjeelingensis C.B.Clarke, J. Linn. Soc. Bot. 15: 114. 1876.

Distribution: Arunachal Pradesh, Sikkim; 1500–2500 m.

Gomphogyne Griff.

Gomphogyne cissiformis Griff., Bot. Coll. Cantor 26. 1845.

Distribution: Arunachal Pradesh, Sikkim, Uttarakhand; 1500–2400 m.

Gomphogyne macrocarpa Cogn., Pflanzenr. IV, 275 I: 40. 1916.

Distribution: Arunachal Pradesh.

Gymnopetalum Arn.

Gymnopetalum chinense (Lour.) Merr., Philipp. J. Sci. 15: 256 1919. *Euonymus chinensis* Lour.

Distribution: Arunachal Pradesh, Sikkim, West Bengal (Darjeeling); upto 600 m.

Gynostemma Blume

Gynostemma laxum (Wall.) Cogn., Monogr. Phan. 3: 914. 1881. *Zanonia laxa* Wall.

Distribution: Sikkim.

Gynostemma pentaphyllum (Thunb.) Makino, Bot. Mag. (Tokyo) 16: 179. 1902. *Vitis pentaphylla* Thunb.

Distribution: Arunachal Pradesh, Himachal Pradesh, Sikkim, Uttarakhand, West Bengal (Darjeeling); 900–2000 m. **(Plate 71a)**

Gymnopetalum tubiflorum (Wight & Arn.) Cogn., Monogr. Phan. 3: 388. 1881. *Bryonia tubiflora* Wight & Arn.

Distribution: Uttarakhand.

Hemsleya Cogn. ex F.B.Forbes & Hemsl.

Hemsleya graciliflora (Harms) Cogn., Pflanzenr. IV, 275 I: 24. 1916. *Alsomitra graciliflora* Harms

Distribution: Arunachal Pradesh; 3400 m.

Hemsleya macrocarpa (Cogn.) C.Y.Wu ex C.Jeffrey, Kew Bull. 36: 739 1982. *Gomphogyne macrocarpa* Cogn.

Distribution: Arunachal Pradesh.

Herpetospermum Wall. ex Hook.f.

Herpetospermum darjeelingense (C.B.Clarke) H. Schaef. & S.S. Renner, Taxon 60(1): 134. 2011. *Edgaria darjeelingensis* C.B.Clarke

Distribution: Uttarakhand.

Herpetospermum pedunculatum (Ser.) C.B. Clarke, J. Linn. Soc., Bot. 15: 115. 1876. *Bryonia pedunculata* Ser.

Distribution: Himachal Pradesh, Sikkim, Uttarakhand; 700–2600 m. (**Plate 177a**)

Hodgsonia Hook.f. & Thomson

Hodgsonia macrocarpa (Blume) Cogn., Monogr. Phan. 3: 349. 1881. *Trichosanthes macrocarpa* Blume

Distribution: Arunachal Pradesh, Sikkim; 100–200 m.

Indofevillea Chatterjee

Indofevillea khasiana Chatterjee, Nature 158:345. 1946.

Distribution: Arunachal Pradesh; 1500–2000 m.

Lagenaria Ser.

Lagenaria siceraria (Molina) Standl., Publ. Field. Mus. Nat. Hist. Chicago Bot. ser. 3, 3: 435. 1930. *Cucurbita siceraria* Molina.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; upto 2000 m.

Luffa Mill.

Luffa acutangula (L.) Roxb., Fl. Ind. 3: 713. 1832. *Cucumis acutangulus* L.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Uttarakhand; upto 2000 m.

Luffa cylindrica (L.) M. Roem., Fam. Nat. Syn. Monogr. 2: 63. 1846. *Momordica cylindrica* L.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Uttarakhand; upto 2000 m.

Luffa echinata Roxb., Fl. Ind. 3: 716. 1832.

Distribution: Himachal Pradesh, Uttarakhand; 1000–2000 m.

Luffa graveolens Roxb., Fl. Ind. 3: 716. 1832.

Distribution: Sikkim, West Bengal (Darjeeling); 300–800 m.

Melothria L.

Melothria perpusilla (Blume) Cogn., Monogr. Phan. 3: 607. 1881. *Cucurbita perpusilla* Blume.

Distribution: Arunachal Pradesh, Sikkim; 1300–2200 m.

Momordica L.

Momordica balsamina L., Sp. Pl. 1009. 1753.

Distribution: Uttarakhand.

Momordica charantia L., Sp. Pl. 1009. 1753.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 200–1200 m.

Momordica cochinchinensis (Lour.) Spreng., Syst. Veg. 3: 14. 1827. *Muricia cochinchinensis* Lour.

Distribution: Arunachal Pradesh, Himachal Pradesh; 200–1200 m.

Momordica dioica Roxb. ex Willd., Sp. Pl. 4: 605. 1805.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 200–1200 m.

Momordica subangulata Blume, Bijdr. 928. 1826.

Distribution: Sikkim.

Mukia Arn.

Mukia maderaspatana (L.) M.Roem., Fam. Nat. Syn. Monogr. 2: 47. 1846. *Cucumis maderaspatanus* L.

Distribution: Arunachal Pradesh, Himachal Pradesh, Sikkim, Uttarakhand, West Bengal (Darjeeling); 200–2200 m.

Neosalsomitra Hutch.

Neosalsomitra clavigera (M.Roem.) Hutch., Ann. Bot. (Oxford) n.s., 6: 101. 1942. *Alsomitra clavigera* M. Roem.

Distribution: Arunachal Pradesh, Sikkim.

Schizopepon Maxim.

Schizopepon dioicus Cogn. ex Oliv., Hooker's Icon. Pl. 23(1): pl. 2224. 1892.

Distribution: Sikkim.

Schizopepon longipes Gagnep., Bull. Mus. Natl. Hist. Nat. 24(5): 378. 1918.

Distribution: Sikkim, West Bengal (Darjeeling); 600–1800 m.

Sechium P. Browne

Sechium edule (Jacq.) Sw., Fl. Ind. Occid. 2: 1150. 1800., *Sicyos edulis* Jacq.

Distribution: Himachal Pradesh, Sikkim, Uttarakhand; upto 2000 m.

Siraitia Merr.

Siraitia sikkimensis (Chakrav.) C.Jeffrey, Kew Bull. 36: 737. 1982. *Neoluffa sikkimensis* Chakrav.

Distribution: Sikkim.

Solena Lour.

Solena amplexicaulis (Lam.) Gandhi, Fl. Hassan District 179. 1976. *Bryonia amplexicaulis* Lam.

Distribution: Arunachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 200–2200 m.

Solena heterophylla Lour., Fl. Cochinch. 2: 514. 1790.

Distribution: Sikkim, Uttarakhand; 450–3000 m.

Solena heterophylla Lour. ssp. **napaulensis** (Ser.) W.J.De Wilde. & Duyfjes., Blumea 49: 75. 2004. *Bryonia napaulensis* Ser.

Distribution: Uttarakhand.

Thladiantha Bunge

Thladiantha cordifolia (Blume) Cogn., Phan. 3: 424.1881. *Luffa cordifolia* Blume

Distribution: Arunachal Pradesh, Sikkim; 1300–2600 m (Plate 177b)

Thladiantha hookeri C.B.Clarke, Fl. Brit. India 2: 631. 1879.

Distribution: Arunachal Pradesh; 1200–1800 m

Trichosanthes L.

Trichosanthes bracteata Voigt var. **tomentosa** (Heyne ex C.B.Clarke) Chakravarty, Fasc. Fl. India 11:110. 1982. *T. palmata* Roxb. var. *tomentosa* Heyne ex Clarke.

Distribution: Arunachal Pradesh, Himachal Pradesh; 800–1800 m.

Trichosanthes cordata Roxb., Fl. Ind. 3:703. 1832.

Distribution: Arunachal Pradesh, Sikkim, Uttarakhand; 100–500 m.

Trichosanthes costata Blume, Bijdr. 933 1826.

Distribution: Uttarakhand.

Trichosanthes cucumerina L., Sp. Pl. 1008. 1753.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 700–3000 m.

Trichosanthes dicaelosperma C.B.Clarke, Fl. Brit. India 2: 609. 1879.

Distribution: Arunachal Pradesh, Sikkim; 600–1500 m.

Trichosanthes dioica Roxb., Fl. Ind. 3: 701. 1832.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 200–1000 m.

Trichosanthes lepiniana (Naudin) Cogn., Monogr. Phan. 3: 377. 1881. *Involucraria lepiniana* Naudin

Distribution: Sikkim.

Trichosanthes pilosa Lour., Fl. Cochinch. 588. 1790.

Distribution: Arunachal Pradesh, Sikkim, Uttarakhand, West Bengal (Darjeeling); 3600–5000 m.

Trichosanthes tricuspidata Lour., Fl. Cochinch. 589. 1790.

Distribution: Arunachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 300–1500 m.

Trichosanthes truncata C.B.Clarke, Fl. Brit. India 2: 608. 1879. *T. ovata* Cogn.

Distribution: Arunachal Pradesh, Sikkim; 300–1200 m.

Trichosanthes wallichiana (Ser.) Wight, Madras J. Lit. Sci. 12: 52. 1840. *Involucraria wallichiana* Ser.

Distribution: Arunachal Pradesh, Himachal Pradesh, Sikkim; 600–1800 m.

Zanonia L.**Zanonia indica** L., Syst. Nat. (ed. 10) 2: 1292. 1759.

Distribution: Sikkim.

Zehneria Endl.**Zehneria japonica** (Thunb.) H.Y.Liu, Bull. Natl. Mus. Nat. Sci. (Taichung) 1: 40. 1989. *Bryonia japonica* Thunb.

Distribution: Arunachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 350–2100 m.

Zehneria mysorensis Wight, Ann. Mag. Nat. Hist. 8: 268. 1842.

Distribution: Sikkim, West Bengal (Darjeeling); 900–1800 m.

Zehneria scabra Sond., Fl. Cap. 2: 486. 1862.

Distribution: Sikkim.

CUSCUTACEAE

(1 genus; 13 taxa)

Cuscuta L.**Cuscuta approximata** Bab., Ann. Mag. Nat. Hist. 13. 253. t. 4. f. 3. 1844.

Distribution: Himachal Pradesh, Uttarakhand.

Cuscuta australis R.Br., Prodr. Fl. Nov. Holland et Ins. van-Dieman 1 : 491. 1810.

Distribution: Himachal Pradesh, Jammu & Kashmir.

Cuscuta campestris Yunck., Mem. Torrey Bot. Club 18(2): 138. 1932.

Distribution: Jammu & Kashmir.

Cuscuta capitata Roxb., Fl. Ind., ed. 1820 1: 468. 1820.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand.

Cuscuta chinensis Lam., Encycl. 2(1): 229. 1786.

Distribution: Uttarakhand.

Cuscuta epithymum (L.) L., Syst. Veg. (ed. 14) 140. 1774. *C. europaea* L. var. *epithymum* L.

Distribution: Jammu & Kashmir.

Cuscuta europaea L., Sp. Pl. 1: 124. 1753.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 3600–4000 m. (Plate 71b)

Cuscuta gigantea Griff., Not. Pl. Asiat. 1: 243. 1847.

Distribution: Uttarakhand; 700–3000 m.

Cuscuta indica (Engelm.) Petrov ex Butkov, Fl. URSS 19: 52. 1953. *C. europaea* L. var. *indica* Engelm.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand.

Cuscuta lehmanniana Bunge, Mem. Savantes Etranges Acad. Petersbourg 7: 396. 1851.

Distribution: Jammu & Kashmir.

Cuscuta reflexa Roxb., Pl. Coromandel 2: 3, pl. 104. 1798.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim.

Cuscuta reflexa Roxb. var. **anguina** (Edgew.) C.B. Clarke, Fl. Brit. India 4(10): 226. 1883. *C. anguina* Edgew.

Distribution: Sikkim, up to 2000 m.

Cuscuta santapau Banerjee & Das, Journ. Arn. Arb. 46: 87. 1965.

Distribution: Himachal Pradesh, Uttarakhand.

DAPHNIPHYLLACEAE

(1 genus; 1 taxon)

Daphniphyllum Blume

Daphniphyllum himalayense (Benth.) Muell. Arg., Prodr. 16(1): 113. 1869.
Goughia himalayensis Benth.

Distribution: Arunachal Pradesh, Himachal Pradesh, Sikkim, Uttarakhand; 1500–2000 m.

DATISCEAE

(1 genus; 1 taxon)

Datisca L.

Datisca cannabina L., Sp. Pl. 1037. 1753.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand, 1000–2300 m.

DIAPENSIACEAE

(2 genera; 3 taxa)

Diapensia L.

Diapensia himalaica Hook.f. & Thomson, Hooker's J. Bot. Kew Gard. Misc. 9: 373. 1857.

Distribution: Sikkim; 3000–4200 m.

Diapensia purpurea Diels, Repert. Spec. Nov. Regni Veg. 10: 419. 1912.

Distribution: Sikkim.

Berneuxia Decne.

Berneuxia thibetica Decne., Bull. Soc. Bot. France 20: 159. 1873.

Distribution: Arunachal Pradesh; 3800 m.

DILLENACEAE

(3 genera; 6 taxa)

Acrotrema Jack

Acrotrema costatum Jack, Malayan Misc. 1(5): 36. 1820.

Distribution: Arunachal Pradesh; 350 m.

Dillenia L.**Dillenia indica** L., Sp. Pl. 535. 1753.Distribution: Arunachal Pradesh, Sikkim, Uttarakhand; 100–600 m. **(Plate 72a)****Dillenia pentagyna** Roxb., Pl. Coromandel 1: 21. 1795.Distribution: Arunachal Pradesh, Sikkim; 100–500 m. **(Plate 72b)****Dillenia scabrella** (D.Don) Roxb. ex Wall., Pl. Asiat. Rar. 1: 20. 1830. *Colbertia scabrella* D.Don

Distribution: Arunachal Pradesh; 200–800 m.

Tetracera L.**Tetracera sarmentosa** (L.) Vahl, Symb. Bot. 3: 70. 1794. *Delima sarmentosa* L.

Distribution: Arunachal Pradesh, Sikkim; 500–1500 m.

Tetracera scandens (L.) Merr., Interpr. Herb. Amboin. 365. 1917. *Tragia scandens* L.

Distribution: Arunachal Pradesh; 100–1000 m.

DIPSACACEAE

(5 genera; 7 taxa)

Cephalaria Schrad.**Cephalaria syriaca** Schrad. ex Roem. & Schult., Syst. Veg. 3: 45. 1818.

Distribution: Jammu & Kashmir.

Dipsacus L.**Dipsacus atratus** Hook.f. & Thomson ex C.B. Clarke, Fl. Brit. India 3: 218. 1881.

Distribution: Arunachal Pradesh, Sikkim; 2500–3200 m.

Dipsacus inermis Wall., Fl. Ind. 1: 367. 1820.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 2000–3000 m.

Lomelosia Raf.**Lomelosia olivieri** (Coulter) Greuter & Burdet, Willdenowia 15: 75. 1985. *Scabiosa olivieri* Coulter.

Distribution: Jammu & Kashmir.

Pterocephalodes V. Mayer & Ehrend.**Pterocephalus hookeri** (C.B. Clarke) E. Pritz., Bot. Jahrb. Syst. 29: 601. 1901.*Scabiosa hookeri* C.B. Clarke

Distribution: Sikkim, Uttarakhand; 3048–4877 m.

Scabiosa L.**Scabiosa candollei** DC., Prodr. 4: 644. 1820.

Distribution: Jammu & Kashmir.

Scabiosa speciosa Royle, III. Bot. Himal. Mts. 245, t. 55, f.f. 2. 1835.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand.

DIPTEROCARPACEAE

(4 genera; 6 taxa)

Dipterocarpus C.F.Gaertn.**Dipterocarpus gracilis** Blume, Bijdr. 224. 1825.

Distribution: Arunachal Pradesh; 150–350 m.

Dipterocarpus retusus Blume, Catalogus. 77. 1823.

Distribution: Arunachal Pradesh; upto 1000 m.

(Plate 78a)

Hopea Roxb.**Hopea shingkeng** (Dunn) Bor, Indian Forest Rec., Bot. 2: 227. 1941. *Vatica shingkeng* Dunn.

Distribution: Arunachal Pradesh; 300–600 m.

Shorea Roxb. ex C.F.Gaertn.**Shorea assamica** Dyer, Fl. Brit. India 1(2): 307. 1874.

Distribution: Arunachal Pradesh; 100–900 m.

Shorea robusta Gaertn., Suppl. Carp. 3: 48. 1805.

Distribution: Arunachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 100–900 m.

Vatica L.**Vatica lanceifolia** (Roxb.) Blume, Mus. Bot. 2: 31. 1856. *Vateria lanceifolia* Roxb.

Distribution: Arunachal Pradesh; 400–800 m.

DROSERACEAE

(1 genus; 2 taxa)

Drosera L.**Drosera burmanni** Vahl, Symb. Bot. 3: 50. 1794.

Distribution: Sikkim; 1200 m.

(Plate 73b)

Drosera peltata Thunb., Drosera 7. 1797.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 2000–3000 m.

(Plate 74a)

EBENACEAE

(1 genus; 12 taxa)

Diospyros L.**Diospyros cacharensis** (Das & Kanjilal.f.) H.B.Naithani, Indian For. 106 (8): 583. 1980. *Maba cacharensis* Das & Kanjilal f.

Distribution: Arunachal Pradesh.

Diospyros chloroxylon Roxb., Pl. Coromandel 1: 38. 1795.

Distribution: Himachal Pradesh.

Diospyros exculpta Buch.–Ham., Trans. Linn. Soc. London 15: 110. 1826.
Distribution: Uttarakhand.

Diospyros kaki L.f., Suppl. Pl. 439. 1782.
Distribution: Uttarakhand.

Diospyros lanceifolia Roxb., Fl. Ind. 2: 53. 1832.
Distribution: Arunachal Pradesh, West Bengal (Darjeeling); upto 1500 m.

Diospyros lotus L., Sp. Pl. 1057. 1753.
Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, West Bengal (Darjeeling); 300–2500 m.

Diospyros malabarica (Desr.) Kostel., Allg. Med.–Pharm. Fl. 3: 1099. 1834;
Garcinia malabarica Desr.
Distribution: Arunachal Pradesh, Himachal Pradesh, Sikkim, Uttarakhand, West Bengal (Darjeeling); up to 1500 m.

Diospyros melanoxyton Roxb. var. **tupru** (Buch.–Ham.) V.Singh, Monogr. Ind. Diospyros 159. 2005. *D. tupru* Buch.–Ham.
Distribution: Uttarakhand.

Diospyros montana Roxb., Pl. Coromandel 1: 37. 1795.
Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 1000 m.

Diospyros nigricans Wall. ex A.DC., Prodr. 8: 239. 1844.
Distribution: Arunachal Pradesh; upto 1000 m.

Diospyros racemosa Roxb., Fl. Ind. ed. 1832, 2: 536. 1832.

Diospyros variegata Kurz, J. As. Soc. Bengal 1871. pi. ii. 73. 1871.
Distribution: Arunachal Pradesh.

ELAEAGNACEAE
(2 genera; 14 taxa)

Elaeagnus L.

Elaeagnus angustifolia L., Sp. Pl. 121. 1753.
Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand.

Elaeagnus caudata Schltld. ex Momiy., Fl. E. Himal. 2: 85, f. 7. 1971.
Distribution: Arunachal Pradesh, Sikkim, Uttarakhand, West Bengal (Darjeeling); 2650–2790 m.

Elaeagnus conferta Roxb., Fl. Ind. 1: 460. 1820.
Distribution: Sikkim, Uttarakhand, West Bengal (Darjeeling); 550–2100 m.

(Plate 74b)

Elaeagnus infundibularis Momiy., J. Jap. Bot. 48: 262, f. 3. 1973.
Distribution: Arunachal Pradesh, Sikkim, West Bengal (Darjeeling); 1000–2100 m.

Elaeagnus kanaii Momiy., J. Jap. Bot. 48 (9): 264–266, f. 4. 1973.
Distribution: Uttarakhand; up to 2500 m.

Elaeagnus latifolia L., Sp. Pl. 121. 1753.

Distribution: Himachal Pradesh.

Elaeagnus parvifolia Wall. ex Royle, Ill. Bot. Himal. 323, t. 81.f. 1836.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 2600–3000 m.

Elaeagnus pyramidalis Hook.f., Fl. Brit. India 5: 202. 1886.

Distribution: Arunachal Pradesh; 1000–1500 m.

Elaeagnus pyriformis Hook.f., Fl. Brit. India 5: 202. 1886.

Distribution: Arunachal Pradesh, West Bengal (Darjeeling); 380 m. (Plate 74c)

Hippophae L.

Hippophae gyantsensis (Rousi) Y.S.Lian, Acta Phytotax. Sin. 26 (3): 235. 1988.

H. rhamnoides L. subsp. *gyantsensis* Rousi

Distribution: Sikkim

Hippophae rhamnoides L. subsp. **turkestanica** Rousi, Ann. Bot. Fenn. 8: 208. 1971.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand; 3700 m.

Hippophae salicifolia D.Don, Prodr. Fl. Nepal.: 68. 1825.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 2133–2850 m. (Plate 75)

Hippophae tibetana Schtdl., Linnaea 32: 296. 1863.

Distribution: Arunachal Pradesh, Himachal Pradesh, Sikkim, Uttarakhand; 3500–4724 m.

ELAEOCARPACEAE

(2 genera; 17 taxa)

Elaeocarpus L.

Elaeocarpus acuminatus Wall. ex Mast., Fl. Brit. India 1: 406. 1874.

Distribution: Arunachal Pradesh, Sikkim; 500–700 m.

Elaeocarpus braceanus Watt ex C.B.Clarke, J. Linn. Soc. Bot. 25: 8. 1889.

Distribution: Arunachal Pradesh; 500–1000 m.

Elaeocarpus bracteatus Kurz, J. Asiat. Soc. Bengal 40(2): 48. 1871.

Distribution: Arunachal Pradesh; 1000–1500 m.

Elaeocarpus floribundus Blume, Bijdr. 120. 1825.

Distribution: Arunachal Pradesh, Sikkim, West Bengal (Darjeeling); 1000–1500 m.

Elaeocarpus glandulosus Wall. ex Merr., J. Am. Arb. 32: 194. 1951.

Distribution: Arunachal Pradesh; 300–800 m.

Elaeocarpus lanceifolius Roxb., Fl. Ind. 2: 598. 1832.

Distribution: Arunachal Pradesh, Sikkim, West Bengal (Darjeeling); 1600–2200 m.

Elaeocarpus prunifolius Wall. ex Müll. Berol., Annot. Elaeocarp. 15. 1849.

Distribution: Arunachal Pradesh, West Bengal (Darjeeling); 1000–1800 m.

Elaeocarpus rugosus Roxb. ex G. Don, Gen. Hist. 1: 559. 1831.

Distribution: Arunachal Pradesh, Sikkim, West Bengal (Darjeeling); 400–1500 m.

(Plate 76a)

Elaeocarpus serratus L., Sp. Pl. 515. 1753.

Distribution: Arunachal Pradesh, Sikkim, Uttarakhand, West Bengal (Darjeeling);

200–2000 m.

Elaeocarpus sikkimensis Mast., Fl. Brit. India 1: 402. 1874.

Distribution: Arunachal Pradesh, Sikkim, West Bengal (Darjeeling); 500–2000 m.

Elaeocarpus stapfianus Gagnepain, Lecomte, Nat. Syst. (Paris) 1: 136. 1910.

Distribution: Arunachal Pradesh; 800–1000 m.

Elaeocarpus tectorius (Lour.) Poir., Lamk., Encycl. Suppl. 2: 704. 1812.

Craspedum tectorium Lour.

Distribution: Arunachal Pradesh, Sikkim; 100–2000 m.

Elaeocarpus varunua Buch.–Ham. ex Mast., Fl. Brit. India 1: 407. 1874.

Distribution: Arunachal Pradesh, Sikkim, Uttarakhand, West Bengal (Darjeeling);

1400–1600 m.

Sloanea L.

Sloanea dasycarpa (Benth.) Hemsley, Ic. Pl. 27: 2, t. 2628. 1901. *Echinocarpus*

dasycarpus Benth.

Distribution: Arunachal Pradesh, Sikkim, West Bengal (Darjeeling); 200–800 m.

Sloanea sterculiacea (Benth.) Rehder & Wilson, Sarg., Pl. Wilson. 2(2): 362. 1915.

Echinocarpus sterculiaceus Benth.

Distribution: Sikkim, Uttarakhand; 600–1000 m.

Sloanea sterculiacea (Benth.) Rehder & Wilson var. **assamica** (Benth.) Coode,

Kew Bull. 38: 387. 1983. *Echinocarpus assamicus* Benth.

Distribution: Arunachal Pradesh, Sikkim, Uttarakhand, West Bengal (Darjeeling);

800–1000 m.

(Plate 76b)

Sloanea tomentosa (Benth.) Rehder & Wilson, Sarg., Pl. Wilson. 2(2): 362. 1915.

Echinocarpus tomentosus Benth.

Distribution: Arunachal Pradesh, Sikkim, Uttarakhand, West Bengal (Darjeeling);

1400–1600 m.

ELATINACEAE

(2 genera; 3 taxa)

Bergia L.

Bergia ammannioides Roxb. ex Roth, Nov. Pl. Sp. 219. 1821.

Distribution: Jammu & Kashmir, Sikkim, Uttarakhand.

Elatine L.

Elatine ambigua Wight, Bot. Misc. 2: 103. 1831.

Distribution: Jammu & Kashmir.

Elatine triandra Schknh, Bot. Handb. 1: 345. 1790.

Distribution: Himachal Pradesh, Himachal Pradesh, Jammu & Kashmir; 100–2800 m.

ERICACEAE

(12 genera; 234 taxa)

Agapetes D.Don ex G.Don

Agapetes aborensis Airy Shaw, Kew Bull. 14(1): 111. 1960.

Distribution: Arunachal Pradesh; 450–700 m.

Agapetes acuminata D.Don ex G.Don, Gen. Hist. 3: 862. 1834.

Distribution: Arunachal Pradesh; 900–1200 m.

Agapetes angulata (Griff.) Hook.f., Gen. Pl. 2(2): 571. 1876. *Ceratostema angulatum* Griff.

Distribution: Arunachal Pradesh; 1200–3500 m.

Agapetes anonyma Airy Shaw, Kew Bull. 3(1): 95. 1948.

Distribution: Arunachal Pradesh; 2100–2700 m.

Agapetes arunachalensis D.Banik & Sanjappa, Edinburgh J. Bot. 64(3): 335 (–338; fig. 1). 2007.

Distribution: Arunachal Pradesh; 1500–2400 m.

Agapetes atosanguinea Airy Shaw, Kew Bull. 13(3): 494. 1958 (publ. 1959).

Distribution: Arunachal Pradesh; 1500–1900 m. **(Plate 77a)**

Agapetes auriculata (Griff.) Benth. & Hook.f., Gen. Pl. 2(2): 571. 1876. *Thibaudia auriculata* Griff.

Distribution: Arunachal Pradesh, West Bengal (Darjeeling); 1200–1520m.

Agapetes bharelina (Airy Shaw) D.Banik & Sanjappa, Nordic J. Bot. 26(1–2): 4.

2008. *A. variegata* D.Don ex G.Don var. *bharelina* Airy Shaw

Distribution: Arunachal Pradesh; ab 700 m.

Agapetes bhutanica N.P.Balacr. & Sud.Chowdhury, Reinwardtia 7: 287. 1966.

Distribution: Arunachal Pradesh, West Bengal (Darjeeling); 150–500m.

Agapetes burmanica W.E. Evans, Notes Roy. Bot. Gard. Edinburgh 15: 199 1927.

Distribution: Arunachal Pradesh; 300–400 m.

Agapetes buxifolia Nutt. ex Hook.f., Bot. Mag. 83: t. 5012.1857.

Distribution: Arunachal Pradesh; up to 2300 m.

Agapetes dalaiensis D.Banik & Sanjappa, Edinburgh J. Bot. 64(3): 338 (–340; fig. 2). 2007.

Distribution: Arunachal Pradesh; 600 m.

- Agapetes discolour** C.B.Clarke, Fl. Brit. India 3: 448. 1881.
Distribution: Arunachal Pradesh, Sikkim; 1200–1600 m. (Plate 77c)
- Agapetes forrestii** W.E.Evans, Notes Roy. Bot. Gard. Edinburgh 15: 202. 1927.
Distribution: Arunachal Pradesh; 1800–2500 m.
- Agapetes griffithii** C.B.Clarke, Fl. Brit. India 3(9): 449. 1882.
Distribution: Arunachal Pradesh; 1200–2100 m.
- Agapetes hillii** Brandis, Indian Trees 404. 1906.
Distribution: Arunachal Pradesh; 1200–1300 m.
- Agapetes hookeri** (C.B.Clarke) Sleumer, Bot. Jahrb. Syst. 70(1): 106. 1939.
Pentapterygium hookeri C.B.Clarke
Distribution: Sikkim, West Bengal (Darjeeling); 1830–2540m.
- Agapetes hyalocheilos** Airy Shaw, Bull. Misc. Inform. Kew 1935(1): 42. 1935.
Distribution: Arunachal Pradesh; 1500–2200 m.
- Agapetes interdicta** (Hand.-Mazz.) Sleumer, Bot. Jahrb. Syst. 70(1): 106. 1939.
Pentapterygium interdictum Hand.–Mazz.
Distribution: Arunachal Pradesh; 2100–2400 m.
- Agapetes kanjilali** Das, Assam Forest Rec. Bot. 1: 13 1924.
Distribution: Arunachal Pradesh; 1800 m.
- Agapetes kingdonis** Airy Shaw, Kew Bull. 13(3): 489. 1959.
Distribution: Arunachal Pradesh.
- Agapetes linearifolia** C.B.Clarke, Fl. Brit. India 3(9): 449. 1882.
Distribution: Arunachal Pradesh.
- Agapetes listeri** (King ex C.B.Clarke) Sleumer, Bot. Jahrb. Syst. 70(1): 105. 1939.
Pentapterygium listeri King ex C.B.Clarke
Distribution: Arunachal Pradesh; 2300–2600 m.
- Agapetes macrantha** (Hook.) Benth. & Hook.f., Gen. Pl. 2(2): 571. 1876. *Thibaudia macrantha* Hook.
Distribution: Arunachal Pradesh; 1500–2000 m.
- Agapetes macrantha** (Hook.) Benth. & Hook.f. var. **grandiflora** (Hook.f.) D.Banik & Sanjappa, Nordic J. Bot. 26(1–2): 6. 2008. *A. grandiflora* Hook.f.
Distribution: Arunachal Pradesh; up to 1400 m.
- Agapetes macrantha** (Hook.) Benth. & Hook.f. var. **oblanceolata** (Airy Shaw) D.Banik & Sanjappa, Nordic J. Bot. 26(1–2): 9. 2008. *A. burmanica* W.E. Evans var. *oblanceolata* Airy Shaw.
Distribution: Arunachal Pradesh.
- Agapetes marginata** Dunn, Bull. Misc. Inform. Kew 1920(4): 133. 1920.
Distribution: Arunachal Pradesh; 1100–1500 m.
- Agapetes megacarpa** W.W.Sm., Notes Roy. Bot. Gard. Edinburgh 11: 194 1920.
Distribution: Arunachal Pradesh. (Plate 78)

Agapetes megacarpa W.W.Sm. var. **lohitensis** Banik & Sanjappa, J. Bot. Res. Inst. Texas 1(2): 905 (908, fig. 3). 2007.

Distribution: Arunachal Pradesh; 1300–1500 m.

Agapetes miniata (Griff.) Hook.f., Gen. Pl. 2(2): 571. 1876. *Ceratostema miniatum* Griff.

Distribution: Arunachal Pradesh; 1050–2600 m.

Agapetes miranda Airy Shaw, Kew Bull. 3(1): 102. 1948.

Distribution: Arunachal Pradesh.

Agapetes mitrarioides Hook.f. ex C.B. Clarke, Fl. Brit. India 3(8): 447. 1881.

Distribution: Arunachal Pradesh; 1500–2600 m.

Agapetes moorei Hemsl., Bot. Mag. 129: t. 7928. 1903.

Distribution: Sikkim.

Agapetes muscorum Airy Shaw, Kew Bull. 21(3): 473. 1968.

Distribution: Arunachal Pradesh; 2700 m.

Agapetes neriifolia (King & Prain) Airy Shaw, Bull. Misc. Inform. Kew 1935(1): 39. *A. desmogyne* King & Prain.

Distribution: Arunachal Pradesh.

Agapetes nutans Dunn, Bull. Misc. Inform. Kew 1920(4): 134.

Distribution: Arunachal Pradesh; 1300–2200 m.

Agapetes nuttallii C.B. Clarke, Fl. Brit. India 3(8): 445. 1881.

Distribution: Arunachal Pradesh; 1200–1500 m.

Agapetes obovata (Wight) Hook.f., Gen. Pl. [Bentham & Hooker f.] 2(2): 572. 1876. *Vaccinium obovatum* Wight

Distribution: Arunachal Pradesh; 1000–2000 m.

Agapetes praestigiosa Airy Shaw, Kew Bull. 13: 495. 1958 publ. 1959.

Distribution: Arunachal Pradesh; 2000–2900 m.

Agapetes refracta Airy Shaw, Kew Bull. 13: 496. 1958 publ. 1959.

Distribution: Arunachal Pradesh; 1620 m.

Agapetes salicifolia C.B. Clarke, Fl. Brit. India 3(8): 445. 1881

Distribution: Arunachal Pradesh.

Agapetes salicifolia C.B. Clarke var. **glanduliflora** D. Banik & Sanjappa, J. Bot. Res. Inst. Texas 1(2): 910 (fig. 5). 2007.

Distribution: Arunachal Pradesh; 1300–1400 m.

Agapetes saligna (Hook.f.) Hook.f., Gen. Pl. 2(2): 571. 1876. *Vaccinium salignum* Hook.f.

Distribution: Arunachal Pradesh, Sikkim, West Bengal (Darjeeling); 460–2000m.

Agapetes serpens (Wight) Sleumer, Bot. Jahrb. Syst. 70(1): 105. 1939. *Vaccinium serpens* Wight

Distribution: Arunachal Pradesh, Sikkim, West Bengal (Darjeeling); 900–2400 m.

(Plate 77b)

Agapetes serpens (Wight) Sleumer var. **alba** Airy Shaw, Kew Bulletin 1948: 102. 1948.

Distribution: Arunachal Pradesh, Sikkim, West Bengal (Darjeeling); 1100–3300 m.

Agapetes setigera D.Don ex G.Don, Gen. Hist. 2: 862. 1832.

Distribution: Arunachal Pradesh; 700–1500 m.

Agapetes siangensis D.Banik & Sanjappa, Edinburgh J. Bot. 64(3): 340–342; fig. 3. 2007

Distribution: Arunachal Pradesh.

Agapetes sikkimensis Airy Shaw, Bull. Misc. Inform. Kew 1935(1): 29.

Distribution: Arunachal Pradesh, Sikkim, West Bengal (Darjeeling); 900–1500m.

Agapetes similis Airy Shaw, Kew Bull. 21: 472 1968.

Distribution: Arunachal Pradesh; 1500–2400 m.

Agapetes smithiana Sleumer., Bot. Jahrb. Syst. 70(1): 106. 1939.

Distribution: Sikkim; 2000–2800 m.

Agapetes spissa Airy Shaw, Bull. Misc. Inform. Kew 1935(1): 49. 1935.

Distribution: Arunachal Pradesh; 1800–2500 m.

Agapetes subansirica G.D.Pal & Thoth., Bull. Bot. Surv. India 26(3–4): 239. 1986.

Distribution: Arunachal Pradesh; 1600–2100 m.

Agapetes subvinacea Airy Shaw, Kew Bull. 13(3): 500. 1959.

Distribution: Arunachal Pradesh; 1600–2700 m.

Agapetes variegata D.Don ex G.Don, Gen. Hist. 3: 862. 1834.

Distribution: Arunachal Pradesh; 1300–2000 m.

Cassiope D.Don

Cassiope fastigiata (Wall.) D.Don, Edinburgh New Philos. J. 17: 156. 1834.

Andromeda fastigiata Wall.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand, West Bengal (Darjeeling); 3200–4700 m. **(Plate 79a)**

Cassiope fastigiata D.Don subsp. **sennikovii** D.Maity, Feddes Repert. 125(3–4): 75. 2015.

Distribution: Sikkim; 4300–4800 m.

Cassiope selaginoides Hook.f. & Thomson, Hooker's J. Bot. Kew Gard. Misc. 7: 126, t. 4. 1855

Distribution: Arunachal Pradesh, Sikkim; 3400–4700 m.

Cassiope wardii C.Marquand, J. Linn. Soc., Bot. 48. 199. 1929.

Distribution: Arunachal Pradesh; 3200–3700 m.

Craibiodendron W.W. Sm.

Craibiodendron henryi W.W.Sm., Notes Roy. Bot. Gard. Edinburgh 5: 158. 1912.

Distribution: Arunachal Pradesh; 1600–2200 m.

Diplarche Hook.f. & Thomson

Diplarche multiflora Hook.f. & Thomson, Hooker's J. Bot. Kew Gard. Misc. 6: 383. 1854.

Distribution: Arunachal Pradesh, Sikkim; 3200–4500 m.

Diplarche pauciflora Hook.f. & Thomson, Hooker's J. Bot. Kew Gard. Misc. 6: 383. 1854.

Distribution: Sikkim; 4700 m.

Diplycosia Blume

Diplycosia discolor (Nutt. ex Hook.) C.B. Clarke, Fl. Brit. India 3: 459. 1882.
Gaultheria discolor Nutt. ex Hook.

Distribution: Arunachal Pradesh; 1600–2000 m.

Diplycosia indica Debta & H.J. Chowdhery, J. Bot. Res. Inst. Texas 3(1): 147. 2009.

Distribution: West Bengal (Darjeeling).

Enkianthus Lour.

Enkianthus deflexus (Griff.) C.K. Schneid., Ill. Handb. Laubholz. 2: 521. 1911.
Rhodora deflexa Griff.

Distribution: Arunachal Pradesh, Sikkim, West Bengal (Darjeeling); 2000–3500 m.

(Plate 79b)

Gaultheria L.

Gaultheria akaensis S. Panda & Sanjappa, Edinburgh J. Bot. 63: 15. 2006.

Distribution: Arunachal Pradesh, West Bengal (Darjeeling); about 1800 m.

Gaultheria brevistipes (C.Y. Wu & T.Z. Hsu) R.C. Fang., Novon 9(2): 164. 1999.
Leucothoe brevistipes C.Y. Wu & T.Z. Xu

Distribution: Arunachal Pradesh; 2200–2800 m.

Gaultheria codonantha Airy Shaw, Hooker's Icon. Pl. 33: t. 3207. 1933

Distribution: Arunachal Pradesh; upto 1500 m.

Gaultheria dolichopoda Airy Shaw, Bull. Misc. Inform. Kew 1940(7): 321. 1941.

Distribution: Arunachal Pradesh; 2200–2600 m.

Gaultheria dumicola W.W. Sm., Notes Roy. Bot. Gard. Edinburgh 9: 106. 1916.

Distribution: Arunachal Pradesh; 1300–2200 m.

Gaultheria fragrantissima Wall., Asiat. Res. 13: 397. 1820.

Distribution: Arunachal Pradesh, Sikkim, West Bengal (Darjeeling); 1200–1800 m.

(Plate 80a)

Gaultheria griffithiana Wight, Calcutta J. Nat. Hist. 8: 176. 1847.

Distribution: Arunachal Pradesh, Sikkim, West Bengal (Darjeeling); 2100–3000 m.

(Plate 80b)

Gaultheria heteromera R.C. Fang, Novon 9: 164. 1999.

Distribution: Arunachal Pradesh.

(Plate 80c)

Gaultheria hookeri C.B.Clarke, Fl. Brit. India [J. D. Hooker] 3(9): 458. 1882.
Distribution: Arunachal Pradesh, Sikkim, West Bengal (Darjeeling); 3000–3300 m.
(Plate 80d)

Gaultheria hypochlora Airy Shaw, Bull. Misc. Inform. Kew 1940(7): 324. 1941.
Distribution: Arunachal Pradesh; 3000–3500 m.

Gaultheria kamengiana S.Panda & Sanjappa, Pleione 3(2): 229. 2009.
Distribution: Arunachal Pradesh.

Gaultheria longibracteolata R.C.Fang, Novon 9(2): 166. 1999.
Distribution: Arunachal Pradesh.

Gaultheria lohitiensis S.Panda & Sanjappa, Edinburgh J. Bot. 63: 17. 2006.
Distribution: Arunachal Pradesh; 700–1500 m.

Gaultheria nummularioides D.Don, Prodr. Fl. Nepal. 150. 1825.
Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand, West Bengal (Darjeeling); 1800–3500m.
(Plate 81a)

Gaultheria pyrolifolia Hook.f. ex C.B.Clarke, Fl. Brit. India 3: 457. 1882.
Distribution: Arunachal Pradesh, Sikkim, West Bengal (Darjeeling); 3200–4600 m.
(Plate 181a)

Gaultheria pyroloides Hook.f. & Thomson ex Miq., Ann. Mus. Bot. Lugduno-Batavi 1: 30. 1863.
Distribution: Sikkim; 3650–4570m.

Gaultheria semi-infera (C.B.Clarke) Airy Shaw, Bull. Misc. Inform. Kew 1940: 306. 1941. *Diplycosia semi-infera* C.B.Clarke
Distribution: Arunachal Pradesh, Sikkim, West Bengal (Darjeeling); 2100–3000 m.

Gaultheria seshagiriana Subba Rao & Kumari, Bull. Bot. Surv. India 10: 223. 1969.
Distribution: Arunachal Pradesh; 3000–3800 m.

Gaultheria sinensis J.Anthony, Notes Roy. Bot. Gard. Edinburgh 18: 19. 1933.
Distribution: Arunachal Pradesh, Sikkim; 3000–3600 m.

Gaultheria stapfiana Airy Shaw, Kew Bull. 7(2): 171. 1952.
Distribution: Arunachal Pradesh, Sikkim, West Bengal (Darjeeling); 1600–3500 m.

Gaultheria tetramera W.W.Sm., Notes Roy. Bot. Gard. Edinburgh 11: 211. 1920.
Distribution: Sikkim; about 3200 m.

Gaultheria thymifolia Stapf ex Airy Shaw, Bull. Misc. Inform. Kew 1940(7): 322. 1941.
Distribution: Arunachal Pradesh.

Gaultheria trichophylla Royle, Ill. Bot. Himal. Mts. 260. 1835.
Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand, West Bengal (Darjeeling); 3000–3900 m.
(Plate 81b)

Gaultheria trichophylla Royle var. **eciliata** Rae & D.G.Long, Notes Roy. Bot. Gard. Edinburgh 45: 334. 1988.

Distribution: Arunachal Pradesh, Sikkim; 3900–4500 m.

Gaultheria trichophylla Royle var. **ovata** S.Panda & Sanjappa, Bull. Bot. Surv. India 48:159. 2006.

Distribution: Sikkim; about 4350 m.

Gaultheria wardii C.Marquand & Airy Shaw, J. Linn. Soc., Bot. 48. 198. 1929.

Distribution: Arunachal Pradesh; 2500 m

Leucothoe D.Don

Leucothoe griffithiana C.B.Clarke, Fl. Brit. India 3(9): 460. 1882.

Distribution: Arunachal Pradesh; 2300–2800 m.

Lyonia Raf.

Lyonia macrocalyx (J.Anthony) Airy Shaw, Bot. Mag. 160: t. 9490. 1937. *Pieris macrocalyx* J. Anthony

Distribution: Arunachal Pradesh; 1800 m.

Lyonia ovalifolia (Wall.) Drude, Nat. Pflanzenfam. 4(1): 44. 1889. *Andromeda ovalifolia* Wall.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand, West Bengal (Darjeeling); 1500–2000 m. **(Plate 82a)**

Lyonia ovalifolia (Wall.) Drude var. **elliptica** (Siebold & Zucc.) Hand.-Mazz., Symb. Sin. 7(4): 788. 1936. *Andromeda elliptica* Siebold & Zucc.

Distribution: Arunachal Pradesh.

Lyonia ovalifolia (Wall.) Drude var. **lanceolata** (Wall.) Hand.-Mazz., Symb. Sin. 7(4): 788. 1936. *Andromeda lanceolata* Wall.

Distribution: Arunachal Pradesh; 900–2000 m.

Lyonia villosa (Wall. ex C.B.Clarke) Hand.-Mazz., Symb. Sin. 7(4): 789. 1936. *Pieris villosa* Wall. ex C.B.Clarke

Distribution: Arunachal Pradesh, Sikkim, Uttarakhand, West Bengal (Darjeeling); 3000–3900 m.

Lyonia villosa (Wall. ex C.B.Clarke) Hand.-Mazz. var. **sphaerantha** (Hand.-Mazz.) Hand.-Mazz., Symb. Sin. 7(4): 789. 1936. *Xolisma sphaerantha* Hand.-Mazz.

Distribution: Arunachal Pradesh.

Pieris D.Don

Pieris formosa (Wall.) D.Don, Edinburgh New Philos. J. 17(33): 159. 1834. *Andromeda formosa* Wall.

Distribution: Arunachal Pradesh, Sikkim, West Bengal (Darjeeling); 2000–3300 m.

Rhododendron L.

Rhododendron arunachalense D.F.Chamb. & Rae, Edinburgh J. Bot. 47(2): 197. 1990.

Distribution: Arunachal Pradesh; about 1500 m.

Rhododendron argioplum Balf.f. & R.E.Cooper, Notes Roy. Bot. Gard. Edinburgh 9(44–45): 213–214. 1916.

Distribution: Arunachal Pradesh, Sikkim, West Bengal (Darjeeling).

Rhododendron anthopogon D.Don, Mem. Wern. Nat. Hist. Soc. 3: 409–410. 1821.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand, West Bengal (Darjeeling); 2400–4900 m. (Plate 82b)

Rhododendron arboreum Sm., Exot. Bot. 1: 9. t. 6. 1804–05.

Distribution: Arunachal Pradesh, Jammu & Kashmir, Himachal Pradesh, Sikkim, Uttarakhand, West Bengal (Darjeeling); 2700–3700 m. (Plate 83)

Rhododendron arboreum Sm. var. **roseum** Lindl., Edwards's Bot. Reg. 15: pl. 1240. 1829.

Distribution: Sikkim; 1400–3900 m.

Rhododendron arboreum Sm. var. **cinnamomeum** (Wall. ex G.Don) Lindl., Edwards's Bot. Reg. 23: pl. 1982. 1837. *R. cinnamomeum* Wall. ex G.Don

Distribution: Arunachal Pradesh, Sikkim, West Bengal (Darjeeling); 2700–3700 m.

Rhododendron argioplum Balf.f. & R.E.Cooper, Notes Roy. Bot. Gard. Edinburgh 9(44–45): 213–214. 1916.

Distribution: Sikkim, West Bengal (Darjeeling).

Rhododendron arizelum Balf.f. & Forrest, Notes Roy. Bot. Gard. Edinburgh 12(57–58): 90–93. 1920.

Distribution: Arunachal Pradesh; 1500–3000 m.

Rhododendron baileyi Balf.f., Notes Roy. Bot. Gard. Edinburgh 11(52–53): 23–26. 1919.

Distribution: Sikkim; 3100–4000 m.

Rhododendron barbatum Wall. ex G.Don, Gen. Syst. 3: 844. 1834.

Distribution: Arunachal Pradesh, Sikkim, Uttarakhand, West Bengal (Darjeeling); 2700–3800 m.

Rhododendron barbatum G.Don f. **imberbe** (Hutch.) H.Hara, Enum. Fl. Pl. Nepal 3: 57. 1982.

Distribution: Uttarakhand.

Rhododendron beanianum Cowan, New Fl. & Silva 10: 246. 1938.

Distribution: Arunachal Pradesh; 3000–3500m.

Rhododendron boothii Nutt., Hooker's J. Bot. Kew Gard. Misc. 5: 356. 1853.

Distribution: Arunachal Pradesh; 1800–2500 m.

Rhododendron bulu Hutch., Rhododendron Soc. Notes 1929–31, iii. No. 5, 280. 1932.

Distribution: Arunachal Pradesh; 3000–3800 m.

Rhododendron calostrotum Balf.f. & Kingdon–Ward, Notes Roy. Bot. Gard. Edinburgh 13(61): 35. 1920.

Distribution: Arunachal Pradesh; 3000–4500 m.

Rhododendron camelliiflorum Hook.f., Rhododendron Sikkim Himalaya 3: pl. 28 & 4932. 1851.

Distribution: Arunachal Pradesh, Jammu & Kashmir, Sikkim; 2500–3700 m.

Rhododendron campanulatum D.Don, Mem. Wern., Nat. Hist. Soc. 3: 410–411. 1821.

Distribution: Arunachal Pradesh, Jammu & Kashmir, Himachal Pradesh, Sikkim, Uttarakhand, West Bengal (Darjeeling); 2800–4000 m. (Plate 84a)

Rhododendron campanulatum D.Don subsp. **aeruginosum** (Hook.f.) D.F.Chamb., Notes Roy. Bot. Gard. Edinburgh 37(2): 329. 1979. *R. aeruginosum* Hook.f.

Distribution: Sikkim; 3500–4600 m.

Rhododendron campylocarpum Hook.f., Rhododendron Sikkim Himalaya 3: pl. 30. 1851.

Distribution: Arunachal Pradesh, Sikkim, West Bengal (Darjeeling); 3000–4600 m.

Rhododendron campylogynum Franch., Bull. Soc. Bot. France 32: 10. 1885.

Distribution: Arunachal Pradesh; 2700–4900 m.

Rhododendron cephalanthum Franch., Bull. Soc. Bot. France 32: 9–10. 1885.

Distribution: Arunachal Pradesh; 3000–4500 m.

Rhododendron cerasinum Tagg., Sp. Rhodod. 737. 1930.

Distribution: Arunachal Pradesh; 3200–3800 m.

Rhododendron chamaethomsonii (Tagg) Cowan & Davidian, Rhododendron Year Book 6: 70. 1951. *R. repens* Balf.f. & Forrest var. *chamaethomsonii* Tagg

Distribution: Arunachal Pradesh; 4000–4600 m.

Rhododendron ciliatum Hook.f., Rhododendron Sikkim Himalaya 3: pl. 24. 1851.

Distribution: Arunachal Pradesh, Sikkim, West Bengal (Darjeeling); 2900–3400 m.

Rhododendron cinnabarinum Hook.f., Rhododendron Sikkim Himalaya 1: pl. 8. 1849.

Distribution: Arunachal Pradesh, Sikkim, West Bengal (Darjeeling); 1900–4000 m. (Plate 84b)

Rhododendron collettianum Aitch. & Hemsl., J. Linn. Soc., Bot. 18: 75. 1881.

Distribution: Jammu & Kashmir; 3000–4000 m.

Rhododendron concinnooides Hutch. & Kingdon–Ward, Notes Roy. Bot. Gard. Edinburgh 16: 180. 1931.

Distribution: Arunachal Pradesh; 3000–4000 m.

Rhododendron crinigerum Franch., J. Bot. (Morot) 12(15–16): 260. 1898.

Distribution: Arunachal Pradesh; 3500–4000 m.

Rhododendron dalhousieae Hook.f., *Rhododendron Sikkim Himalaya* 1: pl. 1 & 2. 1849.

Distribution: Arunachal Pradesh, Sikkim, West Bengal (Darjeeling); 1500–2100 m.

Rhododendron dalhousieae Hook.f. var. **rhabdotum** (Balf.f. & R.E.Cooper) Cullen, *Notes Roy. Bot. Gard. Edinburgh* 36(1): 107. 1978. *R. rhabdotum* Balf.f. & R.E. Cooper

Distribution: Arunachal Pradesh; 1500–2600 m.

Rhododendron decipiens Lacaita, *J. Linn. Soc., Bot.* 43: 473. 1916.

Distribution: Sikkim, West Bengal (Darjeeling); 3500–4000 m.

Rhododendron dekatanum Cowan., *Notes Roy. Bot. Gard. Edinburgh* 19(94): 226–227. 1937.

Distribution: Arunachal Pradesh.

Rhododendron delavayi Franch., *Bull. Soc. Bot. France* 33: 23. 1886.

Distribution: Arunachal Pradesh; 1500–3000.

Rhododendron delavayi Franch. var. **peramoenum** (Balf.f. & Forrest) T.L.Ming, *Acta Bot. Yunnan.* 6(2): 148. 1984. *R. peramoenum* Balf.f. & Forrest

Distribution: Arunachal Pradesh; 1500– 3000 m.

Rhododendron dendricola Hutch., *Notes Roy. Bot. Gard. Edinburgh* 12(56): 60–62, f. 8. 1919.

Distribution: Arunachal Pradesh; 1200–1400 m.

Rhododendron edgeworthii Hook.f., *Rhododendron Sikkim Himalaya* 3: pl. 21. 1849.

Distribution: Arunachal Pradesh, Sikkim, West Bengal (Darjeeling); 2100–3300 m.

Rhododendron eclecticum Balf.f. & Forrest, *Notes Roy. Bot. Gard. Edinburgh* 12(57–58): 105–108. 1920.

Distribution: Arunachal Pradesh; 3000–4300 m.

Rhododendron eudoxum Balf.f. & Forrest, *Notes Roy. Bot. Gard. Edinburgh* 11(52–53): 62–64. 1919.

Distribution: Arunachal Pradesh; 3350–4250 m.

Rhododendron exasperatum Tagg, *Sp. Rhodod.* 836. 1930.

Distribution: Arunachal Pradesh; 3000–3700 m.

Rhododendron falconeri Hook.f., *Rhododendr. Sikkim–Himalaya* 1: t. 10. 1849.

Distribution: Arunachal Pradesh, Sikkim, West Bengal (Darjeeling); 3000–3500 m.

(Plate 181b)

Rhododendron forrestii Balf.f. ex Diels, *Notes Roy. Bot. Gard. Edinburgh* 5(25): 211. 1912.

Distribution: Arunachal Pradesh; 3000–4000 m.

Rhododendron formosum Kingdon–Ward, *Field Notes Rhododendr.* 3 . 1929.

Distribution: Arunachal Pradesh; 1500–2300 m.

Rhododendron fulgens Hook.f., *Rhododendron Sikkim Himalaya* 3: 27, pl. 24. 1851.
Distribution: Arunachal Pradesh, Sikkim, West Bengal (Darjeeling); 3000–4300 m.

Rhododendron fulvum Balf.f. & W.W. Sm., *Notes Roy. Bot. Gard. Edinburgh* 10(47–48): 110–112. 1917.

Distribution: Arunachal Pradesh; 3000–4700 m.

Rhododendron glaucophyllum Rehder, *J. Arnold Arbor.* 26: 73. 1945.

Distribution: Arunachal Pradesh, Sikkim; 2700–3700 m.

Rhododendron glischrum Balf.f. & W.W.Sm. subsp. **rude** (Tagg & Forrest) D.F.Chamb., *Notes Roy. Bot. Gard., Edinburgh* 36(1): 117. 1978. *R. rude* Tagg & Forrest

Distribution: Arunachal Pradesh; 2500–3000 m.

Rhododendron grande Wight, *Calcutta J. Nat. Hist.* 8:176. 1847.

Distribution: Arunachal Pradesh, Sikkim, West Bengal (Darjeeling); 2500–3000 m
(Plate 85a)

Rhododendron griffithianum Wight, *Icon. Pl. Ind. Orient.* 4: 6, pl. 1203. 1848.

Distribution: Arunachal Pradesh, Sikkim, West Bengal (Darjeeling); 2000–3000m.

Rhododendron hodgsonii Hook.f., *Rhododendron Sikkim Himalaya* 2: pl. 15. 1851.

Distribution: Arunachal Pradesh, Sikkim, West Bengal (Darjeeling); 3000–3600 m.
(Plate 182a)

Rhododendron hookeri Nutt., *Hooker's J. Bot. Kew Gard. Misc.* 5: 359. 1853.

Distribution: Arunachal Pradesh; 2500 – 3000 m.

Rhododendron hypenanthium Balf.f., *Notes-Roy. Bot. Gard. Edinb.* 9: 291. 1916.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand, Sikkim; 3300–5000 m.

Rhododendron johnstoneanum Watt ex Hutch., *Notes Roy. Bot. Gard. Edinburgh* 12: 72. 1919.

Distribution: Arunachal Pradesh; 1800–3100 m. (Plate 85b)

Rhododendron kasoense Hutch. & Kingdon-Ward, *Notes Roy. Bot. Gard. Edinburgh* 16(79): 181–182. 1931.

Distribution: Arunachal Pradesh; 1400–1800 m.

Rhododendron kendrickii Nutt., *Ann. Mag. Nat. Hist.* 12: 10. 1853.

Distribution: Arunachal Pradesh, Sikkim, West Bengal (Darjeeling); 2300–3300 m.

Rhododendron keysii Nutt., *Hooker's J. Bot. Kew Gard. Misc.* 5: 353. 1853.

Distribution: Arunachal Pradesh, Sikkim; 2400–3800 m. (Plate 86a)

Rhododendron lanatum Hook.f., *Rhododendron Sikkim Himalaya* 2: pl. 16. 1851.

Distribution: Arunachal Pradesh, Sikkim; 3000–4500 m.

Rhododendron lanigerum Tagg, *Sp. Rhodod.* 248. 1930.

Distribution: Arunachal Pradesh; 2500 –3500 m.

Rhododendron lepidotum Wall. ex G.Don, Gen. Hist. 3: 845. 1834.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand, West Bengal (Darjeeling); 2500–4500 m. **(Plate 86b)**

Rhododendron lepidotum Wall. ex G.Don subsp. **obovatum** (Hook.f.) Pradhan & Lachungpa, Sikkim–Himalayan Rhododendrons 45. (1990). *R. obovatum* Hook.f.
Distribution: Sikkim; 3600–4500 m.

Rhododendron leptocarpum Nutt., Hooker's J. Bot. Kew Gard. Misc. 6: 256. 1854.

Distribution: Arunachal Pradesh, Sikkim; 3000–3500 m.

Rhododendron lindleyi T.Moore, Gard. Chron. 1864: 364. 1864.

Distribution: Arunachal Pradesh, Sikkim, West Bengal (Darjeeling); 2000–2800 m.

Rhododendron lohitense D.Bhattach., Fasc. Fl. India 25: 65. 2014

Distribution: Arunachal Pradesh.

Rhododendron maddenii Hook.f., Rhododendron Sikkim Himalaya 2: pl. 18. 1851.

Distribution: Arunachal Pradesh, Sikkim, West Bengal (Darjeeling); 1500–3000 m. **(Plate 87a)**

Rhododendron mechukae A.A.Mao & A.Paul., Edinburgh J. Bot. 70(1): 58. 2013.

Distribution: Arunachal Pradesh; 24000 m.

Rhododendron megalyx Balf.f. & Kingdon-Ward, Notes Roy. Bot. Gard. Edinburgh 9(44–45): 246–249. 1916.

Distribution: Arunachal Pradesh; 2000–3500 m.

Rhododendron megeratum Balf.f. & Forrest, Notes Roy. Bot. Gard. Edinburgh 12(57–58): 140–143. 1920.

Distribution: Arunachal Pradesh; 3000–4000 m.

Rhododendron mekongense French. var. **rubrolineatum** (Balf.f. & Forrest) Cullen, Notes Roy. Bot. Gard. Edinburgh 36(1): 115. 1978. *R. rubrolineatum* Balf.f. & Forrest

Distribution: Arunachal Pradesh; 3350–4250 m.

Rhododendron moumainense Hook. Bot. Mag. 82:, pl. 4904. 1856.

Distribution: Arunachal Pradesh.

Rhododendron nayarii G.D. Pal, J. Bombay Nat. Hist. Soc. 98(2): 258. 2001.

Distribution: Arunachal Pradesh; ca 3200 m.

Rhododendron neriifolium Schltr., Bot. Jahrb. Syst. 55: 149. 1918.

Distribution: Arunachal Pradesh; 2700–3500m. **(Plate 87c)**

Rhododendron nivale Hook.f., Rhododendron Sikkim Himalaya 3: pl. 26(B). 1851.

Distribution: Sikkim, Uttarakhand; 4000–5500 m.

Rhododendron niveum Hook.f., J. Hort. Soc. London 7: 78. 1852.

Distribution: Arunachal Pradesh, Sikkim; 2900–3700 m.

Rhododendron nuttallii Booth ex Nutt., Hooker's J. Bot. Kew Gard. Misc. 5: 355. 1853.

Distribution: Arunachal Pradesh; 1500–2000 m.

Rhododendron obtusum Hort. ex Wats., Brit. 2: t. 162. [1823–1825].

Distribution: Arunachal Pradesh; 1500–2000 m.

Rhododendron papillatum Balf.f. & R.E.Cooper, Notes Roy. Bot. Gard. Edinburgh 13: 282. 1922.

Distribution: Arunachal Pradesh, Sikkim, West Bengal (Darjeeling); 1800–3300 m.

Rhododendron parryae Hutch, Gard. Chron. III, 93: 387. 1933.

Distribution: Arunachal Pradesh; 1500–1800 m.

Rhododendron pemakoense Kingdon-Ward, Gard. Chron., ser. 3 88: 298. 1930.

Distribution: Arunachal Pradesh; 2800–3200 m.

Rhododendron pendulum Hook.f., Rhododendron Sikkim Himalaya 2: pl. 13. 1851.

Distribution: Arunachal Pradesh, Sikkim; 2000–3700 m. **(Plate 182b)**

Rhododendron pocophorum Balf.f. ex Tagg, Notes Roy. Bot. Gard. Edinburgh 15(75): 316–317. 1927.

Distribution: Arunachal Pradesh; 3500–4000 m.

Rhododendron protistum Balf.f. & Forrest., Notes Roy. Bot. Gard. Edinburgh 12(57–58): 151–152. 1920.

Distribution: Arunachal Pradesh; 2400–4000 m.

Rhododendron pruniflorum Hutch. & Kingdon-Ward, Notes Roy. Bot. Gard. Edinburgh 16(79): 174. 1931.

Distribution: Arunachal Pradesh; 3000–4000 m.

Rhododendron pseudomaddenii A.A.Mao & Bhaumik, Edinburgh J. Bot. 72(2): 210. 2015

Distribution: Arunachal Pradesh; 3000 m.

Rhododendron pudorosum Cowan, Notes Roy. Bot. Gard. Edinburgh 19(94): 239–240. 1937.

Distribution: Arunachal Pradesh; 3700 m.

Rhododendron pumilum Hook.f., Rhododendron Sikkim Himalaya 2: pl. 14. 1851.

Distribution: Arunachal Pradesh, Sikkim; 3500–4200 m.

Rhododendron rawatii I.D.Rai & B.S.Adhikari, Phytotaxa 71: 12. 2012

Distribution: Uttarakhand; 3100–3400 m.

Rhododendron sanguineum Franch., J. Bot. (Morot) 12(15–16): 259. 1898.

Distribution: Arunachal Pradesh. **(Plate 87b)**

Rhododendron santapau Sastry & al., J. Bombay Nat. Hist. Soc. 65: 744. 1969.

Distribution: Arunachal Pradesh; 900–2300 m.

- Rhododendron setosum** D. Don, Mem. Wern. Nat. Hist. Soc. 3: 408–409. 1821.
Distribution: Arunachal Pradesh, Sikkim, West Bengal (Darjeeling); 2500–4500 m
(Plate 88a)
- Rhododendron sidereum** Balf.f., Notes Roy. Bot. Gard. Edinburgh 12(57–58): 162–164. 1920.
Distribution: Arunachal Pradesh; 2500–3700 m.
- Rhododendron sikkimense** Pradhan & Lachungpa, Sikkim–Himalayan Rhododendrons 74. 1990.
Distribution: Arunachal Pradesh, Sikkim; 3700 m.
- Rhododendron sinogrande** Balf.f. & W.W. Sm., Notes Roy. Bot. Gard. Edinburgh 9(44–45): 274–278. 1916.
Distribution: Arunachal Pradesh; 4000–4300 m.
- Rhododendron smithii** Nutt., Bot. Mag. 85: t. 5120. 1859.
Distribution: Arunachal Pradesh; 2700–3600 m.
- Rhododendron stewartianum** Diels, Notes Roy. Bot. Gard. Edinburgh 5(25): 211–212. 1912.
Distribution: Arunachal Pradesh; 3300–3600 m.
- Rhododendron subansiriense** D.F. Chamb. & Cox, Notes Roy. Bot. Gard. Edinburgh 36: 124. 1978.
Distribution: Arunachal Pradesh; 2600–2800 m.
- Rhododendron succothii** Davidian, Rhododendron Camellia Year Book 20: 103. 1965.
Distribution: Arunachal Pradesh; 3000–4200 m.
- Rhododendron taggianum** Hutch, Sp. Rhodod. 499. 1930.
Distribution: Arunachal Pradesh; 1000–1300 m.
- Rhododendron tephropeplum** Balf.f. & Forrest, Notes Roy. Bot. Gard. Edinburgh 13: 302. 1922.
Distribution: Arunachal Pradesh; 2200–4200 m.
- Rhododendron thomsonii** Hook.f., Rhododendron Sikkim Himalaya 2: pl. 12. 1851.
Distribution: Arunachal Pradesh, Sikkim; 3800–4000 m.
- Rhododendron thomsonii** Hook.f. subsp. **candelabrum** (Hook.f.) D.F. Chamb., Notes Roy. Bot. Gard. Edinburgh 36(1): 121. 1978. *R. candelabrum* Hook.f.
Distribution: Sikkim.
- Rhododendron tanastylum** Balf.f. & Kingdon–Ward, Trans. Bot. Soc. Edinburgh 27: 217. 1917.
Distribution: Arunachal Pradesh; 2000–3200 m.
- Rhododendron titapuriense** A.A. Mao, K.N.E. Cox & D.F. Chamb, Plantsman 2(1): 27. 2013
Distribution: Arunachal Pradesh; 2350 m.

Rhododendron triflorum Hook.f., *Rhododendron Sikkim Himalaya* 2: pl. 19. 1851.
Distribution: Arunachal Pradesh, Sikkim, West Bengal (Darjeeling); 2300–3700 m.

Rhododendron trilectorum Cowan, *Notes Roy. Bot. Gard. Edinburgh* 21(3): 144–145. 1953.

Distribution: Arunachal Pradesh, Sikkim, West Bengal (Darjeeling); 2500–3500 m.
(Plate 88b)

Rhododendron tsariense Cowan, *Notes Roy. Bot. Gard. Edinburgh* 19(94): 232–233. 1937.

Distribution: Arunachal Pradesh; 3500–4500 m.

Rhododendron tubiforme (Cowan & Davidian) Davidian, *Quart. Bull. Amer. Rhododendron Soc.* 36: 15. 1982. *R. glaucophyllum* Rehder var. *tubiforme* Cowan & Davidian

Distribution: Arunachal Pradesh; 2800–3500 m.

Rhododendron uvariifolium Diels, *Notes Roy. Bot. Gard. Edinburgh* 5(25): 213. 1912.

Distribution: Arunachal Pradesh.

Rhododendron vaccinioides Hook. *Rhododendron Sikkim Himalaya* 2: 3. 1851.

Distribution: Arunachal Pradesh, Sikkim, West Bengal (Darjeeling); 2200–2800 m.

Rhododendron virgatum Hook.f., *Rhododendron Sikkim Himalaya* 3: pl. 26(A). 1851.

Distribution: Arunachal Pradesh, Sikkim; 2000–4000 m.

Rhododendron wallichii Hook.f., *Rhododendron Sikkim Himalaya* 1: pl. 5. 1849.

Distribution: Arunachal Pradesh, Sikkim, West Bengal (Darjeeling); 3000–4000 m.

Rhododendron walongense Kingdon-Ward, *Gard. Chron.* 133: 5. 1953.

Distribution: Arunachal Pradesh; 1500–2100 m.

Rhododendron wightii Hook.f., *Rhododendron Sikkim Himalaya* 3: pl. 27. 1851.

Distribution: Arunachal Pradesh, Sikkim; 2500 – 5000 m. (Plate 89a)

Rhododendron xanthocodon Hutch., *Gard. Chron.*, ser. 3 95: 409 1934.

Distribution: Arunachal Pradesh; 3000–4000 m.

Rhododendron xanthostephanum Merr., *Brittonia* 4: 148. 1941.

Distribution: Arunachal Pradesh; 1600–3500 m.

Vaccinium L.

Vaccinium arbutoides C.B. Clarke, *Fl. Brit. India* 3(9): 453. 1882.

Distribution: Arunachal Pradesh; 1500–2500 m.

Vaccinium chaetothrix Sleumer, *Bot. Jahrb. Syst.* 71(4): 432. 1941.

Distribution: Arunachal Pradesh; 2600–3000 m.

Vaccinium dendrocharis Hand.-Mazz., *Akad. Wiss. Wien, Math.-Naturwiss. Kl., Anz.* 62: 132. 1925.

Distribution: Arunachal Pradesh; 2400–2700 m.

Vaccinium dunalianum Wight, Calcutta J. Nat. Hist. 8:175.1847.

Distribution: Arunachal Pradesh, Sikkim, West Bengal (Darjeeling); 1000–3000 m.

Vaccinium dunalianum Wight var. **brevifolium** Sleumer, Botanische Jahrbücher für Systematik, Pflanzengeschichte und Pflanzengeographie 71(4): 450. 1941.

Distribution: Arunachal Pradesh.

Vaccinium dunalianum Wight var. **megaphyllum** Sleumer, Botanische Jahrbücher für Systematik, Pflanzengeschichte und Pflanzengeographie 71(4): 448. 1941.

Distribution: Arunachal Pradesh; 1800–2100 m.

Vaccinium forrestii Diels, Notes from the Royal Botanic Garden, Edinburgh 5(25): 294–295. 1912.

Distribution: Arunachal Pradesh; 1800–2500 m.

Vaccinium gaultheriifolium (Griff.) Hook.f. ex C.B. Clarke, Fl. Brit. India 3(9): 453. 1882. *Thibaudia gaultheriifolia* Griff.

Distribution: Sikkim; 2130–2400m.

Vaccinium glaucoalbum Hook.f. ex C.B. Clarke, Fl. Brit. India 3(9): 453. 1882.

Distribution: Arunachal Pradesh, Sikkim; 2280–2750m.

Vaccinium griffithianum Wight, Calcutta J. Nat. Hist. 8: 174. 1847.

Distribution: Arunachal Pradesh; 12200–2200 m.

Vaccinium manipurensis Watt ex Brandis, Bot. Jahrb. Syst. 71: 435. 1941.

Distribution: Arunachal Pradesh; 1500–2300 m.

Vaccinium leucobotrys (Nutt. ex Hook) G. Nicholson, Ill. Dict. Gard. 4: 130. 1886. *Epigynium leucobotrys* Nutt. ex Hook.

Distribution: West Bengal (Darjeeling); 1200–2200 m.

Vaccinium modestum W.W.Sm., Notes Roy. Bot. Gard. Edinburgh 8(38): 210–211. 1914.

Distribution: Sikkim; 3300–4300 m.

Vaccinium myodianum S.Panda & Sanjappa, J. Bombay Nat. Hist. Soc. 104: 188. 2007 (publ. 2008).

Distribution: Arunachal Pradesh.

Vaccinium nummularia Hook.f. & Thomson ex C.B. Clarke, Fl. Brit. India 3(9): 45. 1882.

Distribution: Arunachal Pradesh, Sikkim, West Bengal (Darjeeling); 2440–3200 m.

(Plate 89b)

Vaccinium nuttallii (C.B. Clarke) Sleumer, Bot. Jahrb. Syst. 71: 477. 1941. *V. serratum* (Dunal) Sleumer var. *nuttallii* C.B. Clarke

Distribution: Arunachal Pradesh; 2000–2500 m.

Vaccinium papulosum C.Y.Wu & R.C.Fang, Acta Bot. Yunnan. 9(4): 388–390. pl. 8. 1987.

Distribution: Arunachal Pradesh.

Vaccinium retusum (Griff.) Hook.f. ex C.B. Clarke, Fl. Brit. India 3(9): 451. 1882.
Thibaudia retusa Griff.

Distribution: Arunachal Pradesh, Sikkim, West Bengal (Darjeeling); 2130-3050 m.

Vaccinium scopulorum W.W.Sm., Notes Roy. Bot. Gard. Edinburgh 9(42): 135. 1916.

Distribution: Arunachal Pradesh.

Vaccinium setipes Airy Shaw, Kew Bull. 3: 245. 1948.

Distribution: Arunachal Pradesh; 1600–1800 m.

Vaccinium sikkimense C.B. Clarke, Fl. Brit. India 3(9): 451. 1882.

Distribution: Sikkim, West Bengal (Darjeeling); 3730–3960m.

Vaccinium subdissitifolium P.F. Stevens, J. Arnold Arbor. 66(4): 484–486. 1985.

Distribution: Sikkim, West Bengal (Darjeeling); 1675–1980m.

Vaccinium vacciniaceum (Roxb.) Sleumer, Bot. Jahrb. Syst. 71(4): 479. 1941.
Ceratostema vacciniaceum Roxb.

Distribution: Arunachal Pradesh, Sikkim, West Bengal (Darjeeling); 1200–2100 m.

Vaccinium venosum Wight, Icon. Pl. 4, pl. 1185. 1848.

Distribution: Arunachal Pradesh.

EUPHORBIACEAE

(51 genera; 205 taxa)

Acalypha L.

Acalypha amentacea Roxb., Fl. Ind. 3: 676. 1832.

Distribution: Uttarakhand.

Acalypha australis L., Sp. Pl. 2: 1004. 1753.

Distribution: Uttarakhand.

Acalypha brachystachya Hornem., Hort. Hafn. 2: 909. 1815.

Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim; 1200–2500 m.

Acalypha ciliata Forssk., Fl. Aegypt-Arab. 162. 1775.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand.

Acalypha indica L., Sp. Pl. 2: 1003. 1753.

Distribution: Uttarakhand.

Acalypha lanceolata Willd., Sp. Pl. ed. 4, 4: 524. 1805.

Distribution: Uttarakhand.

Acalypha spiciflora Burm.f., Fl. Indica 203. 1768.

Distribution: Arunachal Pradesh; 200–1000 m.

Acalypha supera Forssk., Fl. Agypt.-Arab. 162. 1775.

Distribution: Uttarakhand.

Acalypha wilkesiana Mull. Arg, Prodr. 15(2): 817. 1866.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand.

Actephila Blume

Actephila excelsa (Dalz.) Muell. Arg., *Linnaea* 32: 78. 1863. *Anomospermum excelsum* Dalz.

Distribution: Arunachal Pradesh; 400–1200 m.

Alchornea Sw.

Alchornea mollis Mull. Arg., *Linnaea* 34: 168. 1865.

Distribution: Sikkim; upto 1100 m.

Alchornea tiliifolia (Benth.) Muell. Arg., *Linnaea* 34: 168. 1865. *Stipellaria tiliaefolia* Benth.

Distribution: Arunachal Pradesh, Sikkim; 500–1200 m.

Andrachne L.

Andrachne telephioides L., *Sp. Pl.* 1014. 1753.

Distribution: Jammu & Kashmir.

Antidesma L.

Antidesma acidum Retz., *Obs. Bot.* 5: 30. 1789.

Distribution: Arunachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 400–1200 m.

Antidesma bunius (L.) Spreng., *Syst. Veg.* 1: 826. 1825. *Stilago bunius* L.

Distribution: Arunachal Pradesh, Sikkim, Uttarakhand; 1000–1600 m.

Antidesma ghaesembilla Gaertn., *Sem. Pl.* 1: 189, t. 39.f. 5. 1788.

Distribution: Sikkim, Uttarakhand.

Antidesma khasianum Hook.f., *Fl. Brit. India* 5: 362. 1887.

Distribution: Arunachal Pradesh; 1800 m.

Antidesma montanum Blume, *Bijdr.* 1124. 1827.

Distribution: Arunachal Pradesh, Sikkim; 350–1000 m.

(Plate 92c)

Antidesma nigricans Tul., *Ann. Sci. Nat. ser. 3*, 15: 225. 1851.

Distribution: Arunachal Pradesh, Sikkim.

Antidesma velutinosum Blume, *Bijdr.* 112. 1825.

Distribution: Arunachal Pradesh, Sikkim.

Aporosa Blume

Aporosa octandra (Buch.-Ham. ex D.Don) Vickery, *Enum. Fl. Pl. Nepal* 3: 193.

1982. *Myrica octandra* Buch.-Ham. ex D.Don

Distribution: Arunachal Pradesh, Sikkim.

Baccaurea Lour.

Baccaurea ramiflora Lour., *Fl. Cochinch.* 661. 1790.

Distribution: Arunachal Pradesh, Sikkim.

Balakata Esser

Balakata baccata (Roxb.) Esser, *Blumea* 44: 155. 1999. *Sapium baccatum* Roxb.
Distribution: Arunachal Pradesh, Sikkim; 400–1200 m.

Baliospermum Blume

Baliospermum calycinum Mull. Arg., *Flora* 47: 470. 1864.

Distribution: Arunachal Pradesh, Sikkim, West Bengal (Darjeeling); 600–1600 m.

Baliospermum calycinum Muell. Arg. var. **micranthum** (Muell. Arg.) Chakrab. & N.P. Balakr., *Bull. Bot. Surv. India* 32: 16. 1990. *B. micranthum* Muell. Arg.

Distribution: Arunachal Pradesh; 1000–1500 m.

Baliospermum calycinum Muell. Arg. var. **nepalense** (Hurus. & Yas. Tanaka) Chakrab. & N.P. Balakr., *Bull. Bot. Surv. India* 32: 20. 1990. *B. nepalense* Hurus. & Yas. Tanaka

Distribution: Sikkim; 600–1850 m.

Baliospermum calycinum Muell. Arg. var. **sinuatum** (Mull. Arg.) Chakrab. & N.P. Balakr., *Bull. Bot. Surv. India* 32: 24. 1992. *B. sinuatum* Mull. Arg.

Distribution: Arunachal Pradesh; up to 1200 m.

Baliospermum solanifolium (Burm.) C.R.Suresh, *Interpr. Van Rheede's Hort. Malab.* 106. 1988. *Croton solanifolius* Burm.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 300–1600 m.

Breynia J.R.Forst. & G.Forst.

Breynia retusa (Dennst.) Alston, *Ann. Roy. Bot. Gard.* 11: 204. 1929. *Phyllanthus retusus* Dennst.

Distribution: Arunachal Pradesh, Sikkim; 500–1500 m.

Breynia vitis-idaea (Burm.f.) CE.C.Fisch., *Bull. Misc. Inform. Kew* 1932: 65. 1932. *Rhamnus vitis-idaea* Burm.f.

Distribution: Sikkim, Uttarakhand.

Bridelia Willd.

Bridelia assamica Hook.f., *Fl. Brit. India* 5: 269. 1887.

Distribution: Arunachal Pradesh; 500–1000 m.

Bridelia glauca Blume, *Bijdr.* 597. 1826.

Distribution: Arunachal Pradesh, Sikkim; 300–1200 m.

Bridelia montana (Roxb.) Willd., *Sp. Pl.* 4: 978. 1805. *Clutia montana* Roxb.

Distribution: Arunachal Pradesh, Uttarakhand; 300–1000 m.

Bridelia retusa (L.) A.Juss., *Euphorb. Gen.* 109. 1824. *Clutia retusa* L.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 400–1000 m.

Bridelia sikkimensis Gehrm., Bot. Jahrb. Syst. 41 (95): 34. 1908.

Distribution: Arunachal Pradesh, Sikkim; 200–1800 m.

Bridelia stipularis (L.) Blume, Bijdr. 597. 1825. *Clutia stipularis* L.

Distribution: Arunachal Pradesh, Himachal Pradesh, Sikkim, Uttarakhand; 300–650 m.

Bridelia tomentosa Blume, Bijdr. 597. 1826.

Distribution: Sikkim; 200–700 m.

Bridelia verrucosa Haines, Journ. Bot. 59: 193. 1921.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand; 1800 m.

Chrozophora Neck. ex A. Juss.

Chrozophora tinctoria (L.) A. Juss., Euphorb. Gen. 110. 1824. *Croton tinctorius* L.

Distribution: Himachal Pradesh, Jammu & Kashmir.

Claoxylon A. Juss.

Claoxylon khasianum Hook.f., Fl. Brit. India 5: 411. 1887.

Distribution: Arunachal Pradesh; upto 700 m.

Claoxylon longipetiolatum Kurz, J. Asiat. Soc. Bengal 42: 244. 1873.

Distribution: Arunachal Pradesh.

Cleidion Blume

Cleidion javanicum Blume var. **alongense** (Bennet & Sum.Chandra) Chakrab. & N.P. Balakr., Fam. Euphorbiaceae India 135. 2007. *C. alongense* Bennet & Sum. Chandra

Distribution: Arunachal Pradesh; 500–1000 m.

Cleidion javanicum Blume, Bijdr. Fl. Ned. Ind. 613. 1826. var. **javanicum**.

Distribution: Arunachal Pradesh, Sikkim; 450 m.

Cleidion javanicum Blume var. **longipedicellatum** Chakrab. & M. Gangop., J. Econ. Taxon. Bot. 12: 491. 1989.

Distribution: Sikkim; upto 1200 m.

Cleistanthus Hook.f. ex Planch.

Cleistanthus collinus (Roxb.) Benth. ex Hook.f., Fl. Brit. India 5: 274. 1887. *Clutea collina* Roxb.

Distribution: Uttarakhand.

Cleistanthus monoicus (Lour.) Müll. Arg., Prodr. 15(2): 508. 1866. *Clutia monoica* Lour.

Distribution: Sikkim; upto 900 m.

Cnesmone Blume

Cnesmone javanica Blume, Bijdr. 630. 1826.

Distribution: Arunachal Pradesh.

Codiaeum Rumph. ex A. Juss.

Codiaeum variegatum (L.) A. Juss., Euphorb. Gen. 80, 111. t. 9, f. 30. 1824. *Croton variegatus* L.

Distribution: Uttarakhand.

Croton L.

Croton bonplandianus Baill., Adansonia 4: 339. 1864.

Distribution: Jammu & Kashmir, Sikkim, Uttarakhand.

Croton caudatus Geiseler, Mong. Croton 73. 1807.

Distribution: Arunachal Pradesh, Sikkim; 1300 m.

Croton chlorocalyx Wall ex Hook. f., Fl. Brit. India 5: 394. 1887.

Distribution: Arunachal Pradesh.

Croton congestus Lour., Fl. Cochinch. 582. 1790.

Distribution: Uttarakhand.

Croton joufra Roxb., Fl. Ind. 3: 685. 1832.

Distribution: Arunachal Pradesh; 800 m.

Croton persimilis Müll. Arg., Linnaea 34: 116. 1865.

Distribution: Arunachal Pradesh.

Croton tiglium L., Sp. Pl. 1004. 1753.

Distribution: Arunachal Pradesh, Sikkim; 800–1200 m.

Drypetes Vahl

Drypetes assamica (Hook. f.) Pax ex Hoffm., Pflanzenr. Heft. 81: 241. 1922. *Cyclostemon assamicus* Hook. f.

Distribution: Arunachal Pradesh, Sikkim, Uttarakhand.

Drypetes eglandulosa Kurz, J. Asiat. Soc. Bengal, Pt. 2, Nat. Hist. 42 (2): 240. 1873.

Distribution: Arunachal Pradesh.

Drypetes indica (Mull. Arg.) Pax & K. Hoffm., Pflanzenr. IV, 147, XV: 278. 1922. *Cyclostemon indicus* Mull. Arg.

Distribution: Arunachal Pradesh, Sikkim; upto 1650 m.

Drypetes subsessilis (Kurz) Pax & K. Hoffm., Pflanzenr. IV, 147, XV: 248. 1922. *Cyclostemon subsessilis* Kurz

Distribution: Sikkim; upto 600 m.

Drypetes venusta (Wight) Pax ex Hoffm., Pflanzenr. Euphorb. Phyllanthoid Phyllanth. 268. 1922. *Astylis venusta* Wight

Distribution: Arunachal Pradesh; 1000–1500 m.

Endospermum Benth.

Endospermum chinense Benth., Fl. Hongk. 304. 1861.

Distribution: Sikkim; upto 700 m.

Euphorbia L.

Euphorbia antiquorum L., Sp. Pl. 450.1753.

Distribution: Arunachal Pradesh, Uttarakhand.

Euphorbia boissieriana (Woronow) Prokh., Fl. URSS 14: 445. 1949. *Tithymalus boissierianus* Woronow

Distribution: Jammu & Kashmir.

Euphorbia cashmeriana Royle, Bot. Himal. Mts. 329. 1836.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand.

Euphorbia clarkeana Hook.f., Fl. Brit. India 5: 253. 1887.

Distribution: Himachal Pradesh, Jammu & Kashmir; 3200 m.

Euphorbia cornigera Boiss., Prodr. 15(2): 122. 1862.

Distribution: Jammu & Kashmir.

Euphorbia cotinifolia L., Sp. Pl. 453 1753.

Distribution: Uttarakhand.

Euphorbia cristata B.Heyne ex Roth, Nov. Pl. Sp. 226. 1821.

Distribution: Jammu & Kashmir, Sikkim; 400–1500 m.

Euphorbia crotonoides Boiss Proder. 15(2): 98. 1862.

Distribution: Uttarakhand.

Euphorbia donii Outejans, Phytologia 67: 45. 1989.

Distribution: Uttarakhand.

Euphorbia dracunculoides Lam., Encycl. 2: 428. 1786.

Distribution: Uttarakhand.

Euphorbia esula L., Sp. Pl. 461. 1753.

Distribution: Jammu & Kashmir.

Euphorbia falcata L., Sp. Pl. 456. 1753.

Distribution: Jammu & Kashmir.

Euphorbia fusiformis Buch.-Ham. ex D.Don, Prodr. Fl. Nep. 62. 1825.

Distribution: Himachal Pradesh, Uttarakhand.

Euphorbia griffithii Hook.f., Fl. Brit. India 5: 259. 1887.

Distribution: Arunachal Pradesh, Sikkim; 2700–3300 m.

Euphorbia helioscopia L., Sp. Pl. 459. 1753.

Distribution: Himachal Pradesh, Uttarakhand; 1000–1500 m.

Euphorbia heterophylla L., Sp. Pl. 453. 1753.

Distribution: Arunachal Pradesh, Himachal Pradesh, Uttarakhand; 400–1500 m.

Euphorbia heyneana Spreng., Syst. Veg. 3: 791. 1826.

Distribution: Jammu & Kashmir, Uttarakhand.

Euphorbia hirta L., Sp. Pl. 454. 1753.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 200–2000 m.

Euphorbia hispida Boiss., Cent. Euphorb. 8. 1856.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand; 3500 m.

Euphorbia hypericifolia L., Sp. Pl. 454. 1753.

Distribution: Jammu & Kashmir, Uttarakhand.

Euphorbia indica Lam., Dict. Bot. 2: 423. 1786.

Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 1000–1500 m.

Euphorbia jacquemontii Boiss., Prodr. 15 (2): 113. 1866.

Distribution: Himachal Pradesh, Jammu & Kashmir.

Euphorbia kanaorica Boiss., Prodr. 15 (2): 154. 1866.

Distribution: Himachal Pradesh, Jammu & Kashmir; 2000–3000 m.

Euphorbia lathyris L., Sp. Pl. 457. 1753.

Distribution: Jammu & Kashmir.

Euphorbia luteoviridis D.G.Long, Notes Roy. Bot. Gard. Edinburgh 44: 163. 1986.

Distribution: Arunachal Pradesh, Sikkim; 2500–3500 m.

Euphorbia maddenii Boiss., Prodr. 15 (2.1): 141. 1862.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand; 2600–3050 m.

(Plate 90b)

Euphorbia micractina Boiss., Prodr. 15(2): 127. 1862.

Distribution: Jammu & Kashmir.

Euphorbia milii Des Moul., Bull. Hist. Nat. Soc. Linn. Bordeaux 1: 25, pl. 1. 1826.

Distribution: Uttarakhand.

Euphorbia nana Royle, Ill. Bot. Himal. Mts. 329, t. 82. 1836.

Distribution: Uttarakhand.

Euphorbia neriifolia L., Sp. Pl. 454. 1753.

Distribution: Uttarakhand.

Euphorbia nivulia Buch.-Ham., Trans. Linn. Soc. Bot. 14: 286. 1825.

Distribution: Himachal Pradesh. Distribution: Himachal Pradesh, Uttarakhand.

Euphorbia orbiculata Kunth, Nov. Gen. 2: 52. 1817.

Distribution: Arunachal Pradesh.

Euphorbia osyridea Boiss., Diagn. Pl. Orient. 7: 87. 1846.

Distribution: Jammu & Kashmir.

Euphorbia pamirica (Prokh.) Prokh., Fl. URSS 14: 438. 1949. *Tithymalus pamiricus* Prokh.

Distribution: Jammu & Kashmir.

Euphorbia parviflora L., Syst. ed. 2. 1047. 1759.

Distribution: Himachal Pradesh, Sikkim; 300–1900 m.

Euphorbia peplus L., Sp. Pl. 456. 1753.

Distribution: Jammu & Kashmir, Uttarakhand.

Euphorbia pilosa L., Sp. Pl. 460. 1753.

Distribution: Himachal Pradesh, Uttarakhand.

Euphorbia prolifera Buch.-Ham. ex D. Don, Prods. Fl. Nepal 62. 1825.

Distribution: Jammu & Kashmir, Uttarakhand.

Euphorbia prostrata Ait., Hort. Kew ed. 1. 2: 139. 1789.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand; 1000–1800 m.

Euphorbia pulcherrima Willd ex Klotzsch., Otto & Dietr., Neul Allgen. Deutsche Gartenz. 2: 27. 1834.

Distribution: Jammu & Kashmir, Sikkim, Uttarakhand; upto 1800 m.

Euphorbia royleana Boiss., Prodr. 15 (2): 83. 1866.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand; 1100–1500 m.

Euphorbia sharmae U.C. Bhattach., Bull Bot. Soc. Bengal 21: 33. 1967.

Distribution: Sikkim, Uttarakhand; 4000 m.

(Plate 90a)

Euphorbia sikkimensis Boiss., Prodr. 15 (2): 113. 1862.

Distribution: Arunachal Pradesh, Sikkim; 2500–3500 m.

Euphorbia stracheyi Boiss., Prodr. 15 (2.1): 114. 1866. *E. himalayensis* Boiss.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 3500–4350 m.

Euphorbia thomsoniana Boiss., Prodr. 15 (2): 113. 1862.

Distribution: Jammu & Kashmir; 2900 m.

Euphorbia thymifolia L., Sp. Pl. 454. 1753.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand.

Euphorbia thyrsoidea Boiss., Prodr. 15 (2): 164. 1866.

Distribution: Himachal Pradesh, Jammu & Kashmir.

Euphorbia tibetica Boiss., Prodr. 15 (2): 114. 1866.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand; 3800–4000 m.

Euphorbia tirucalli L., Sp. Pl. 454. 1753.

Distribution: Uttarakhand.

Euphorbia tithymaloides L., Sp. Pl. 453. 1753.

Distribution: Arunachal Pradesh.

Euphorbia wallichii Hook. f., Fl. Brit. India 5: 258. 1887.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand; 2500–3000 m.

Excoecaria L.

Excoecaria acerifolia Didr., Vidensk. Meddel. Dansk Natur.-Hist. Foren. Kjobenhavn 1857: 129. 1857.

Distribution: Arunachal Pradesh, Uttarakhand.

Excoecaria agallocha L., Sp. Pl. 1451. 1753.

Distribution: Arunachal Pradesh.

Excoecaria oppositifolia Griff, Calcutta J. Nat. Hist. 4: 386. 1844.

Distribution: Arunachal Pradesh.

Falconeria Royle

Falconeria insignis Royle, Bot. Himal. Mts. 354. 1839.

Distribution: Arunachal Pradesh, Himachal Pradesh, Sikkim, Uttarakhand; 500–1800 m.

Flueggea Willd.

Flueggea virosa Roxb. ex Willd., Sp. Pl. 4: 758. 1805.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 700–1800 m.

Glochidion J.R.Forst. & G.Forst.

Glochidion acuminatum Muell. Arg., Linnaea 32: 68. 1863.

Distribution: Arunachal Pradesh, Sikkim; 1200–2000 m.

Glochidion daltonii (Mull. Arg.) Kurz., Forest Fl. Burma 2: 344. 1877. *Phyllanthus daltonii* Mull. Arg.

Distribution: Sikkim; upto 1200 m.

Glochidion ellipticum Wight, Ic. Pl. Ind. 5 (2): 1606. 1852.

Distribution: Arunachal Pradesh, Uttarakhand; 1200 m.

Glochidion helferi (Müll. Arg.) Hook.f., Fl. Brit. India 5: 311. 1887. *Phyllanthus helferii* Müll. Arg.

Distribution: Arunachal Pradesh.

Glochidion heyneanum (Wight & Arn.) Wight, Icon. Pl. Ind. Ort. 5 (2): 29. 1908. *Gynoon heyneanum* Wight & Arn.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 400 m.

Glochidion khasicum (Müll. Arg.) Hook.f., Fl. Brit. India 5: 324. 1887. *Phyllanthus khasicus* Müll. Arg.

Distribution: Arunachal Pradesh; 800–1500 m.

Glochidion lanceolarium (Roxb.) Voigt, Hort. Suburb. Calc. 153. 1845. *Bridleia lanceolaria* Roxb.

Distribution: Arunachal Pradesh, Sikkim, Uttarakhand; 200–1500 m.

Glochidion multiloculare (Rottler ex Wild.) Voigt, Hort. Suburb. Calcutta. 152. 1845. *Agyneia multilocularis* Rottler ex Wild.

Distribution: Arunachal Pradesh, Sikkim, Uttarakhand; upto 300 m.

Glochidion nubigenum Hook.f., Fl. Brit. India 5: 315. 1887.

Distribution: Arunachal Pradesh, Sikkim; upto 900 m.

Glochidion oblatum Hook.f., Fl. Brit. India 5: 312. 1887.

Distribution: Arunachal Pradesh, Sikkim; 100–1000 m.

Glochidion sphaerogynum (Müll. Arg.) Kurz, For. Fl. Brit. Burma 2: 346. 1877.

Phyllanthus sphaerogynus Müll. Arg.

Distribution: Arunachal Pradesh, Sikkim; 300–950 m.

Glochidion thomsonii (Müll. Arg.) Hook.f., Fl. Brit. India 5: 318. 1887. *Phyllanthus thomsonii* Müll. Arg.

Distribution: Sikkim; upto 1500 m.

Glochidion zeylanicum (Gaertn.) A.Juss var. **arborescens** (Blume) Chakrab. & M. Gangop., J. Econ. Taxon. Bot. 19: 228. 1995. *G. arborescens* Blume

Distribution: Arunachal Pradesh; 450–900 m.

Glochidion zeylanicum (Gaertn.) A.Juss var. **arunachalense** Chakrab. & M. Gangop., J. Econ. Taxon. Bot. 19: 229. 1995.

Distribution: Arunachal Pradesh; up to 800 m.

Glochidion zeylanicum (Gaertn.) A.Juss var. **tomentosum** (Dalzell) Trimen, Syst. Cat. Fl. Pl. Ceylon 79. 1885. *G. tomentosum* Dalzell

Distribution: Arunachal Pradesh, Sikkim; 500–1750 m.

Glochidion zeylanicum (Gaertn.) A.Juss, Euphorb. Gen. 107, t. 1824 var. **zeylanicum**. *Bradleya zeylanica* Gaertn.

Distribution: Uttarakhand.

Homonoia Lour.

Homonoia riparia Lour., Fl. Cochinch. 637. 1790.

Distribution: Arunachal Pradesh, Sikkim; 450 m.

Hymenocardia Wall. ex Lindl.

Hymenocardia punctata Wall. ex Lindl., Intr. Nat. Syst. Bot. ed. 2: 441. 1836.

Distribution: Arunachal Pradesh.

Jatropha L.

Jatropha curcas L., Sp. Pl. 1006. 1753.

Distribution: Arunachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 100–1600 m.

Jatropha gossypifolia L., Sp. Pl. 1006. 1753.

Distribution: Arunachal Pradesh, Uttarakhand.

Jatropha integerrima Jacq., Eneum. Syst. Pl. 32. 1760.

Distribution: Uttarakhand.

Jatropha multifida L., Sp. Pl. 1006. 1753.

Distribution: Uttarakhand.

Jatropha podagrica Hook., Bot. Mag. 74: t. 4376. 1848.

Distribution: Sikkim.

Lasiococca Hook.f.

Lasiococca symphyllifolia (Kurz) Hook.f., Hooker's Icon. Pl. 16: 1587. 1887.

Homonoia symphyllifolius Kurz.

Distribution: Sikkim; 500–800 m.

Leptopus Decne.

Leptopus cordifolius Decne., Voy. Inde 4: 155. 1844.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 1800–2500 m. **(Plate 91a)**

Leptopus emicans (Dunn) Pojark., Bot. Mater. Gerb. Bot. Inst. Komarova Akad. Nauk. S.S.S.R. 20: 272. 1960. *Andrachne emicans* Dunn

Distribution: Arunachal Pradesh; 100–400 m.

Macaranga Thouars

Macaranga balakrishnanii B.Mitra & Chakrab., J. Econ. Taxon. Bot. 15: 465. 1991.

Distribution: Sikkim; upto 1300 m.

Macaranga denticulata (Blume) Muell. Arg., Prodr. 15(2): 1000. 1866. *Mappa denticulata* Blume

Distribution: Arunachal Pradesh, Sikkim, Uttarakhand; 700–1800 m. **(Plate 91b)**

Macaranga gamblei Hook.f., Fl. Brit. India 5: 445. 1887.

Distribution: Arunachal Pradesh; 600 m.

Macaranga indica Wight, Ic. Pl. Ind. Or. 5: t. 1883.

Distribution: Arunachal Pradesh, Sikkim, Uttarakhand.

Macaranga peltata (Roxb.) Muell. Arg., Prodr. 15(2): 1010. 1866. *Osyris peltata* Roxb.

Distribution: Arunachal Pradesh, Sikkim; 800 m.

Mallotus Lour.

Mallotus barbatus Muell. Arg., Linnaea 34: 184. 1865.

Distribution: Arunachal Pradesh.

Mallotus japonicus (L.f.) Mull. Arg., Linnaea 34: 189. 1865. *Croton japonicus* L.f.

Distribution: Sikkim.

Mallotus nepalensis Muell. Arg., Linnaea 34: 188. 1865.

Distribution: Arunachal Pradesh, Sikkim; 1400–1800 m.

Mallotus nudiflorus (L.) Kulju & Welzen, *Blumea* 52: 124. 2007. *Trewia nudiflora* L. var. *tomentosa* Susila & N.P.Balacr.

Distribution: Sikkim; upto 1200 m.

Mallotus oreophilus Müll. Arg., *Linnaea* 34: 188. 1865.

Distribution: Sikkim; 1200–2100 m.

Mallotus philippensis (Lam.) Muell. Arg., *Linnaea* 34: 196. 1865. *Croton philippensis* Lam.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 500–1800 m. **(Plate 91c)**

Mallotus repandus (Rottler ex Willd.) Mull. Arg, *Linnaea* 34: 197. 1865. *Croton repandus* Rottler ex Willd.

Distribution: Sikkim; upto 1000 m.

Mallotus roxburghianus Muell. Arg., *Linnaea* 34: 186. 1866.

Distribution: Arunachal Pradesh, Sikkim; 300–1000 m.

Mallotus tetracoccus (Roxb.) Kurz., *J. Asiat. Soc. Beng.* 16: 245. 1873. *Rottlera tetracocca* Roxb.

Distribution: Arunachal Pradesh, Sikkim; 200–1000 m.

Manihot Mill.

Manihot esculenta Crantz, *Inst. Rei. Herb.* 1: 167. 1766.

Distribution: Arunachal Pradesh, Sikkim, Uttarakhand; 200–1200 m.

Margaritaria L.f.

Margaritaria indica (Dalzell) Airy Shaw, *Kew Bull.* 20: 387. 1966. *ProSORUS indicus* Dalzell

Distribution: Uttarakhand.

Meineckia Baill.

Meineckia macropus (Hook.f.) G.L.Webster, *Acta Bot. Neerl.* 14: 352. 1965. *Phyllanthus macropus* Hook.f.

Distribution: Arunachal Pradesh.

Mercurialis L.

Mercurialis leiocarpa Siebold & Zucc., *Fl. Jap. Fam. Nat.* 1: 37. 1845.

Distribution: Arunachal Pradesh, Sikkim; 2200–2800 m.

Micrococca Benth.

Micrococca mercurialis (L.) Benth., *Niger Fl.* 503 1849. *Tragia mercurialis* L.

Distribution: Uttarakhand

Ostodes Blume

Ostodes paniculata Blume, *Bijdr.* 620. 1825.

Distribution: Arunachal Pradesh, Sikkim; 400–2000 m.

(Plate 92a)

Phyllanthus L.

Phyllanthus airy-shawii Brunel & J.P.Roux, *Nordic J. Bot.* 4: 470. 1984.

Distribution: Sikkim; upto 1500 m.

Phyllanthus amarus Schumach. & Thonn., *Kongl. Danske Vidensk. Selsk. Skr.* 4: 195. 1829.

Distribution: Himachal Pradesh, Uttarakhand.

Phyllanthus clarkei Hook.f., *Fl. Brit. India* 5: 299. 1887.

Distribution: Arunachal Pradesh, Sikkim, Uttarakhand; 1500–2600 m.

Phyllanthus debilis Klein ex Willd., *Sp. Pl.* 4: 582. 1804.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; upto 1000 m.

Phyllanthus emblica L., *Sp. Pl.* 982. 1753. *Emblica officinalis* Gaertn.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 350–1200 m.

Phyllanthus fraternus Webster., *Gray Herb. No.* 176: 53. 1955.

Distribution: Himachal Pradesh, Jammu & Kashmir.

Phyllanthus leschenaultii Müll. Arg., *Linnaea* 32: 37. 1863.

Distribution: Sikkim; 250–1000 m.

Phyllanthus maderaspatensis L., *Sp. Pl.* 982. 1753.

Distribution: Uttarakhand.

Phyllanthus parvifolius Buch.-Ham., *Prodr. Fl. Nep.* 63. 1825.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 300–1600 m.

Phyllanthus praetervisus Mull. Arg., *Linnaea* 34: 73. 1865.

Distribution: Arunachal Pradesh, Sikkim; 200–1500 m.

Phyllanthus pseudoparvifolius R.L.Mitra & Sanjappa, *Bull. Bot. Surv. India* 45: 10. 2003.

Distribution: Sikkim; 200–2500 m.

Phyllanthus reticulatus Poir., *Encycl. Meth. Bot.* 5: 298. 1809.

Distribution: Arunachal Pradesh, Sikkim, Uttarakhand; 400 m.

Phyllanthus rheedei Wight, *Icon. Pl. Ind. Orient.* 5: 25, t. 1895, f. 1. 1852.

Distribution: Uttarakhand.

Phyllanthus scabrifolius Hook.f., *Fl. Brit. India* 5: 299. 1887.

Distribution: Uttarakhand.

Phyllanthus sikkimensis Mull. Arg., *Linnaea* 32: 48. 1863.

Distribution: Sikkim; 150–1300 m.

Phyllanthus tetrandrus Roxb., *Fl. Ind. ed.* 1832, 3: 674. 1832. *P. roxburghii* Muell. Arg.

Distribution: Arunachal Pradesh.

Phyllanthus urinaria L., Sp. Pl. 982. 1753.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 200–2000 m.

Phyllanthus virgatus G.Forst., Fl. Ins. Austr. Prodr. 65. 1786.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 150–1800 m.

Plukenetia L.

Plukenetia corniculata Sm., Nova Acta Regiae Soc. Sci. Upsal. 6: 4. 1799.

Distribution: Arunachal Pradesh, Sikkim; upto 800 m.

Putranjiva Endl.

Putranjiva roxburghii Wall., Tent. Fl. Nep. 61. 1826.

Distribution: Arunachal Pradesh, Jammu & Kashmir, Uttarakhand.

Ricinus L.

Ricinus communis L., Sp. Pl. 1007. 1753.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 300–1800 m.

Sapium Jacq.

Sapium sebiferum (L.) Roxb., Fl. Ind. 3: 693. 1832. *Croton sebiferum* L.

Distribution: Himachal Pradesh, Sikkim; 500–1500 m.

Sarcococca Lindl.

Sarcococca wallichii Stapf., Kew Bull. 1916: 37. 1916.

Distribution: Arunachal Pradesh; 1500–2000 m.

(Plate 92b)

Sauropus Blume

Sauropus androgynus (L.) Merr., For. Bur. Philipp. Bull. 1: 30. 1903. *Clusia androgyna* L.

Distribution: Arunachal Pradesh, Sikkim; 400–1000 m.

(Plate 92d)

Sauropus bishnupadae M.Gangop. & Chakrab., J. Econ. Taxon. Bot. 20: 524. 1996.

Distribution: Sikkim

Sauropus compressus Mull. Arg., Prodr. 15(2): 243. 1866.

Distribution: Sikkim; 150–900 m.

Sauropus macranthus Hassk., Retzia 1: 166. 1855.

Distribution: Arunachal Pradesh; 200–800 m.

Sauropus quadrangularis (Willd.) Müll. Arg., Linnaea 32: 73. 1863. *Phyllanthus quadrangularis* Willd.

Distribution: Sikkim; 350–1800 m.

Sauropus repandus Mull. Arg., Flora 55: 2. 1872.

Distribution: Sikkim; 200–1500 m.

Sauropus rhamnoides Blume, Bijdr. 596. 1826.

Distribution: Arunachal Pradesh.

Sauropus stipitatus Hook.f., Fl. Brit. India 5: 333. 1887.

Distribution: Arunachal Pradesh; 600–1400 m.

Sauropus trinervis Wall. ex Muell. Arg., Linnaea 32: 72. 1863.

Distribution: Arunachal Pradesh; upto 1200 m.

Sumbaviopsis J.J.Sm.

Sumbaviopsis albicans (Blume) J.J.Sm., Meded. Dept. Handb. 10: 357. 1910.

Adisca albicans Blume

Distribution: Arunachal Pradesh.

Suregada Roxb. ex Rottler

Suregada multiflora (A.Juss.) Baill., Étude Euphorb. 396. 1858. *Gelonium multiflorum* A.Juss.

Distribution: Sikkim; upto 1500 m.

Tragia L.

Tragia hispida Willd., Sp. Pl. ed. 4, 4: 323. 1805.

Distribution: Uttarakhand.

Tragia involucrata L., Sp. Pl. 980. 1753.

Distribution: Arunachal Pradesh, Sikkim, Uttarakhand; 500–1000 m.

Trewia L.

Trewia nudiflora L., Sp. Pl. 1193. 1753.

Distribution: Arunachal Pradesh, Himachal Pradesh, Uttarakhand.

Triadica Lour.

Triadica cochinchinensis Lour., Fl. Cochinch. Ed. 1, 2: 610. 1790.

Distribution: Arunachal Pradesh, Sikkim, Uttarakhand; 400–1200 m.

Triadica sebifera (L.) Small, Florida Trees 59, 102. 1913. *Croton sebiferum* L.

Distribution: Uttarakhand.

Vernicia Lour.

Vernicia cordata (Thunb.) Airy Shaw, Kew Bull. 20: 394. 1966. *Dryandra cordata* Thunb.

Distribution: Sikkim; 900–1800 m.

Vernicia fordii (Hemsl.) Airy Shaw, Kew Bull. 20: 394. 1966. *Aleurites fordii* Hemsl.

Distribution: Sikkim; 800–1200 m.

Vernicia montana Lour., Fl. Cochinch. 586. 1790.

Distribution: Sikkim, Uttarakhand; upto 1200 m.

FAGACEAE
(5 genera; 46 taxa)

Castanea Mill.

Castanea sativa Mill., Gard. Dict. ed. 3. 1. 1768.

Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 1500–2000 m.

Castanopsis (D. Don) Spach

Castanopsis argentea (Blume) A. DC., Seem. J. Bot. I. 182. 1863. *Fagus argentea* Blume

Distribution: Arunachal Pradesh; 650 m

Castanopsis argyrophylla King ex Hook. f., Fl. Brit. India 5: 622. 1888.

Distribution: Sikkim; 1200–2100 m.

Castanopsis armata (Roxb.) Spach, Hist. Veg. Phan. 11: 185. 1842. *Quercus armata* Roxb.

Distribution: Arunachal Pradesh, Sikkim; 600–900 m.

Castanopsis castanicaarpa (Roxb.) Spach, Hist. Veg. Phan. 11: 185. 1842. *Quercus castanicaarpa* Roxb.

Distribution: Arunachal Pradesh.

Castanopsis clarkei King ex Hook. f., Fl. Brit. India 5: 623. 1888.

Distribution: Sikkim; 1500–2000 m.

Castanopsis echinocarpa Miq., Ann. Mus. Bot. Lugd.-Bat. 1: 119. 1863.

Distribution: Arunachal Pradesh.

Castanopsis hystrix Hook. f. & Thomson ex A. DC., J. Bot. 1: 182. 1863.

Distribution: Sikkim; 2000–2300 m.

Castanopsis indica (Roxb.) Miq., Ann. Mus. Bot. Lugd.-Bat. 1: 119. 1863. *Castanea indica* Roxb.

Distribution: Arunachal Pradesh, Sikkim; upto 2000 m. (Plate 93a)

Castanopsis lanceifolia (Oerst.) Hickel ex A. Camus, Bull. Soc. Bot. France 68: 394. 1922. *Panasia lanceifolia* Oerst.

Distribution: Arunachal Pradesh, Sikkim, West Bengal (Darjeeling); upto 2000 m.

Castanopsis longispina (King ex Hook. f.) C. C. Huang & Y. T. Zhang, Guihaia 12: 1. 1992. *C. tribuloides* (Smith) A. DC. var. *longispina* King ex Hook. f.

Distribution: Sikkim; 300–1200 m.

Castanopsis purpurella (Miq.) N. R. Balakr., Fl. Jowai 2: 458. 1983. *Castanea apurpurella* Miq.

Distribution: Arunachal Pradesh; 500–1500 m.

Castanopsis tribuloides (Smith) A. DC., J. Bot. 1: 182. 1863. *Quercus tribuloides* Smith

Distribution: Arunachal Pradesh, Sikkim, Uttarakhand; upto 2400 m.

Castanopsis wattii (King ex Hook.f.) A.Camus, Chataigniers texte: 270, 421. 1929.
C. tribuloides (Sm.) A.DC. var. *wattii* King ex Hook.f.
 Distribution: Arunachal Pradesh, Sikkim; 500–2200 m.

Fagus L.

Fagus sylvatica L., Sp. Pl. 998. 1753.
 Distribution: Himachal Pradesh.

Lithocarpus Blume

Lithocarpus dealbatus (Hook.f. & Thomson ex Miq.) Rehder, Am. Arb. 1: 124. 1919. *Quercus dealbata* Hook.f. & Thomson ex Miq.
 Distribution: Arunachal Pradesh; upto 2000 m.

Lithocarpus elegans (Blume) Hatus ex Soepadmo, Reinwardtia 8: 236. 1970.
Quercus elegans Blume
 Distribution: Arunachal Pradesh, Sikkim; upto 2200 m.

Lithocarpus fenestratus (Roxb.) Rehder, J. Am. Arb. 1: 126. 1919. *Quercus fenestrata* Roxb.
 Distribution: Arunachal Pradesh, Sikkim; upto 2000 m.

Lithocarpus kamengii K.C.Sahni & H.B.Naithani, Ind. For. 106 (6): 441. 1980.
 Distribution: Arunachal Pradesh.

Lithocarpus listeri (King) Grierson & D.G.Long, Notes Roy. Bot. Gard. Edinburgh 40: 134. 1982. *Quercus listeri* King
 Distribution: Arunachal Pradesh; upto 2000 m.

Lithocarpus lithocarpaeus (Oerst.) Hjelmq., Bot. Nat. Suppl. 2, 1: 118. 1948.
Pasania lithocarpaea Oerst.
 Distribution: Arunachal Pradesh; upto 2500 m.

Lithocarpus pachyphyllus (Kurz) Rehder, J. Am. Arb. 1: 129. 1919. var. **pachyphyllus**. *Quercus pachyphylla* Kurz
 Distribution: Arunachal Pradesh, Sikkim; upto 2500 m. **(Plate 93b)**

Lithocarpus pachyphyllus (Kurz) Rehder var. **fruticosus** (Watt ex King) A.Camus, Chenes Texte 3(1): 624. 1953. *Quercus pachyphylla* Kurz var. *fruticosa* Watt ex King
 Distribution: Sikkim; 1600–3000 m.

Lithocarpus polystachyus (Wall. ex A.DC.) Rehder, J. Arnold Arbor. 1: 130. 1919.
Quercus polystachya Wall. ex A.DC.
 Distribution: Uttarakhand.

Lithocarpus wrayi (King) A.Camus, Bot. Syst. 18: 42. 1932. *Quercus wrayi* King
 Distribution: Arunachal Pradesh; upto 1500 m.

Lithocarpus xylocarpus (Kurz) Markgr., Bot. Jahrb. 59: 66. 1924. *Quercus xylocarpa* Kurz
 Distribution: Arunachal Pradesh; upto 2000 m.

Quercus L.**Quercus acutissima** Carruth., J. Linn. Soc. Bot. 6: 33. 1861.

Distribution: Arunachal Pradesh, Sikkim, Uttarakhand; upto 3000 m.

Quercus baloot Griff., Itin. Pl. Khasyah Mts. 328. 1848.

Distribution: Jammu & Kashmir.

Quercus floribunda Lindl. ex A. Camus, Chenes Atlas 2: 131. 1935.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand.

Quercus glauca Thunb., Fl. Jap. 175. 1784.

Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 1100–2100 m.

Quercus griffithii Hook.f. & Thomson ex Miq., Ann. Mus. Bot. Lugd.-Bat. 1: 104. 1863.

Distribution: Arunachal Pradesh, Sikkim; 1300–2500 m.

Quercus helferiana A.DC., Prodr. 16(2): 101. 1864.

Distribution: Arunachal Pradesh; upto 2000 m.

Quercus ilex L., Sp. Pl. 995. 1753.

Distribution: Himachal Pradesh, Uttarakhand.

Quercus kamroopii D.Don, Prodr. Fl. Nep. 57. 1825.

Distribution: Arunachal Pradesh, Sikkim; 2000–2600 m.

Quercus lamellosa Sm., Cyclop. 29: n. 23. 1814.

Distribution: Arunachal Pradesh, Sikkim; upto 2700 m.

(Plate 93c)**Quercus lanata** Sm., Cyclop. 29: 27. 1814.

Distribution: Arunachal Pradesh, Sikkim, Uttarakhand; upto 3000 m.

Quercus michauxii Nutt., Sp. Pl. 995. 1753.

Distribution: Himachal Pradesh.

Quercus oblongata D.Don, Prodr. Fl. Nepal. 57. 1825.

Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand, West Bengal (Darjeeling).

Quercus oxyodon Miq., Ann. Mus. Bot. Lugd.-Bat. 1: 114. 1863.

Distribution: Arunachal Pradesh; upto 3000 m.

Quercus rex Hemsl., Ic. Pl. t. 2663. 1901.

Distribution: Arunachal Pradesh; 500–1000 m.

Quercus robur L., Sp. Pl. 996. 1753.

Distribution: Himachal Pradesh, Jammu & Kashmir.

Quercus rubra L., Sp. Pl. 996. 1756.

Distribution: Himachal Pradesh, Uttarakhand.

Quercus semecarpifolia Sm., Cyclop. 29: n. 20. 1814.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 1700–3500 m.

Quercus semiserrata Roxb., Fl. Ind. 3: 641. 1832.

Distribution: Arunachal Pradesh, Sikkim; upto 2000 m.

Quercus thomsoniana A.DC., Prodr. 16(2): 98. 1864.

Distribution: Sikkim; 1200–2500 m.

Quercus undulata Torr., Ann. Lyc. N. York 2: 248. t. 4. 1828.

Distribution: Himachal Pradesh.

FLACOURTIACEAE

(5 genera; 7 taxa)

Flacourtia Comm. ex L'Hér.

Flacourtia indica (Burm.f.) Merr., Interpr. Rumph. Herb. Amb. 377. 1917. *Gmelina indica* Burm.f.

Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand.

Flacourtia jangomas (Lour.) Raeusch., Nomencl. Bot. ed. 3. 290. 1797. *Stigmarota jangomas* Lour.

Distribution: Arunachal Pradesh, Himachal Pradesh, Uttarakhand; 100–1000 m.

Gynocardia Roxb.

Gynocardia odorata R.Br., Pl. Coromandel 3: 95. 1820.

Distribution: Arunachal Pradesh, Sikkim; 100–800 m.

(Plate 94a&b)

Homalium Jacq.

Homalium ceylanicum (Gardner) Benth. subsp. **minutiflorum** (Kurz) Mitra, Fl. India 2:411.1993. *H. minutiflorum* Kurz

Distribution: Arunachal Pradesh, Sikkim.

Hydnocarpus Gaertn.

Hydnocarpus kurzii (King) Warb., Nat. Pflanzenfam. 3(6a): 21. 1893. *Taractogenos kurzii* King

Distribution: Arunachal Pradesh; 200–1000 m.

(Plate 94c)

Xylosma G.Forst.

Xylosma controversa Clos, Ann. Sci. Nat., Bot., sér. 4, 8: 231. 1857.

Distribution: Arunachal Pradesh, Sikkim; 100–1000 m.

Xylosma longifolia Clos, Ann. Sci. Nat., Bot., sér. 4, 8: 231. 1857.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Uttarakhand; 300–600 m.

FUMARIACEAE
(4 genera; 94 taxa)

Corydalis DC.

Corydalis adiantifolia Hook.f. & Thomson, Fl. Ind. 1: 271. 1855. var. **adiantifolia**

Distribution: Jammu & Kashmir.

Corydalis adiantifolia Hook.f. & Thomson var. **heterocarpa** Jafri, Fl. W. Pak. 73: 36. 1974.

Distribution: Jammu & Kashmir.

Corydalis alpestris C.A.Mey., Verz. Pfl. Casp. Meer. 176. 1831.

Distribution: Jammu & Kashmir.

Corydalis amarnathiana Dar, Semi & Naqshi, Taiwania 56(4): 305–307. 2011.

Distribution: Jammu & Kashmir; 3500 m.

Corydalis arcuata M.K.Pathak, K.Chowlu, Saika & Liden, Nelumbo 55: 34. 2013.

Distribution: Arunachal Pradesh; 2320 m.

Corydalis biflora Liden, M.K.Pathak, K.Chowlu & B.Saikia, Nelumbo 55: 43. 2013.

Distribution: Sikkim; 4900 m.

Corydalis boweri Hemsl., J. Linn. Soc., Bot. 30: 108. 1894.

Distribution: Uttarkhand.

Corydalis cashmeriana Royle, Ill. Bot. Himal. Mts. 69. 1834.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 2500–3500 m.

Corydalis casimiriana Duthie & Prain ex Prain, J. Asiat. Soc. Bengal, Pt. 2, Nat. Hist. 65: 27. 1896.

Distribution: Jammu & Kashmir, Sikkim, Uttarakhand.

Corydalis casimiriana Duthie & Prain ex Prain subsp. **longicalcarata** (D.G.Long) Liden, Fl. China. 7: 392. 2008.

Distribution: Sikkim; 3000 m.

Corydalis cavei D.G.Long, Notes Roy. Bot. Gard. Edinburgh 42: 103. 1984.

Distribution: Sikkim; 2740–3350m.

Corydalis chaerophylla DC., Prodr. 1: 128. 1824.

Distribution: Arunachal Pradesh, Himachal Pradesh, Sikkim, Uttarakhand; 1500–2000 m.

(Plate 99a)

Corydalis changuensis D.G.Long, Notes Roy. Bot. Gard. Edinburgh 42: 102. 1984.

Distribution: Sikkim; 3600–3900m.

Corydalis clarkei Prain, J. Asiat. Soc. Bengal, Pt. 2, Nat. Hist. 65: 34. 1896.

Distribution: Jammu & Kashmir.

- Corydalis cornuta** Royle, Ill. Bot. Himal. Mts. 69. 1834.
Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand.
- Corydalis crassifolia** Royle, Ill. Bot. Himal. Mts. 68. 1834.
Distribution: Himachal Pradesh, Jammu & Kashmir; 4200 m. (Plate 95a)
- Corydalis crispa** Prain, J. Asiat. Soc. Bengal, Pt. 2, Nat. Hist. 65: 30. 1896.
Distribution: Sikkim.
- Corydalis crithmifolia** Royle, Ill. Bot. Himal. Mts. 68. 1834.
Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand.
- Corydalis davidii** Franch., Nouv. Arch. Mus. Hist. Nat. II, 8: 198. 1885 (1886).
Distribution: Arunachal Pradesh; 3000–3500 m.
- Corydalis denticulobracteata** Fedde, Repert. Spec. Nov. Regni Veg. 25: 219. 1928.
Distribution: Sikkim; 4880 m.
- Corydalis devendrae** Pusalkar, Kew. Bull. 66(4): 552. 2012.
Distribution: Uttarakhand.
- Corydalis diffusa** Liden, Rheedeia 5: 6. 1995.
Distribution: Arunachal Pradesh; 3700 m.
- Corydalis diphylla** Wall., Tent. Fl. Nepal. 54. 1826.
Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand; 3800 m.
- Corydalis dubia** Prain, J. Asiat. Soc. Bengal, Pt. 2, Nat. Hist. 65: 33. 1896.
Distribution: Sikkim; 3900–4800m.
- Corydalis duthiei** Maxim., Fl. Tangut. 49. 1889.
Distribution: Himachal Pradesh, Uttarakhand.
- Corydalis drepanantha** D.G.Long, Notes Roy. Bot. Gard. Edinburgh 42: 101. 1984.
Distribution: Arunachal Pradesh; 2000–2300 m.
- Corydalis ecristata** (Prain) D.G.Long, Notes. Roy. Bot. Gard. Edinburgh 42: 91. 1984.
Distribution: Sikkim, Uttarakhand.
- Corydalis elegans** Wall. ex Hook.f. & Thomson, Fl. Ind. 1: 265. 1855.
Distribution: Himachal Pradesh, Uttarakhand.
- Corydalis falconeri** Hook.f. & Thomson, Fl. Ind. 1: 124. 1855.
Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand.
- Corydalis filiformis** Royle, Ill. Bot. Himal. Mts. 68. 1834.
Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand. (Plate 95b)
- Corydalis filicina** Prain, J. Asiat. Soc. Bengal, Pt. 2, Nat. Hist. 65: 30. 1896.
Distribution: Sikkim.
- Corydalis flabellata** Edgew., Trans. Linn. Soc. London 20: 30. 1851.
Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand.

Corydalis flaccida Hook.f. & Thomson, Fl. Ind. 1: 260. 1855.

Distribution: Sikkim; 3350–4200m.

Corydalis gortschakovii Schrenk., Enum. Pl. Nov. 1: 100. 1841.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand.

Corydalis govaniana Wall., Tent. Fl. Nepal. 55. 1826.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand. (Plate 95c)

Corydalis govaniana Wall. var. **malukiana** Jafri in Nasir & Ali, Fl. W. Pak. 73: 22. 1974.

Distribution: Jammu & Kashmir.

Corydalis govaniana Wall. var. **swatensis** (Kitam) Jafri in Nasir & Ali (eds.), Fl. Pakistan 73: 22. 1974. *C. swatensis* Kitam.

Distribution: Uttarakhand.

Corydalis geraniifolia Hook.f. & Thomson, Fl. Ind. 1: 269. 1855.

Distribution: Arunachal Pradesh, Sikkim; 1600–2500 m.

Corydalis hendersonii Hemsl., J. Linn. Soc., Bot. 30: 103. 1894.

Distribution: Jammu & Kashmir, Sikkim; 3500–6000 m.

Corydalis hookeri Prain, J. Asiat. Soc. Bengal, Pt. 2, Nat. Hist. 65: 34. 1896.

Distribution: Sikkim; 3000–5000 m.

Corydalis inopinata Prain ex Fedde, Repert. Spec. Nov. Regni Veg. 22: 26. 1925.

Distribution: Sikkim; 5000 m.

Corydalis jigmei C.E.C.Fisch. & Kaul, Bull. Misc. Inform. Kew 1940: 266. 1940.

Distribution: Sikkim; 4300–5200 m.

Corydalis juncea Wall., Tent. Fl. Nepal. 54. 1826.

Distribution: Sikkim; 3600–4600m.

(Plate 96)

Corydalis kedarensis Pusalkar & D.K.Singh, Taiwania 54: 334. 2009.

Distribution: Uttarakhand; 3500–4000 m.

Corydalis laelia Prain, J. Asiat. Soc. Bengal, Pt. 2, Nat. Hist. 65: 25. 1896.

Distribution: Sikkim

Corydalis latiflora Hook.f. & Thomson, Fl. Ind. 1: 270. 1855.

Distribution: Sikkim; 4400–4900 m.

Corydalis lathyroides Prain, J. Asiat. Soc. Bengal, Pt. 2, Nat. Hist. 65: 23. 1896.

Distribution: Sikkim, Uttarakhand; 3350–4100m.

Corydalis ledebouriana Kar. & Kir., Bull. Soc. Imp. Naturalistes Moscou 14: 377. 1841.

Distribution: Jammu & Kashmir.

Corydalis leptocarpa Hook.f. & Thomson, Fl. Ind. 1: 260. 1855.

Distribution: Arunachal Pradesh, Sikkim; 1600–2500 m.

- Corydalis lhasaensis** C.Y.Wu & Z.Y.Su, Fl. Reipubl. Popul. Sin. 32: 280. 1999.
Distribution: Uttarakhand. (Plate 97a)
- Corydalis longipes** DC. Prodr. 1: 128. 1824.
Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand.
- Corydalis magni** Pusalkar, Kew. Bull. 66(4): 548. 2012.
Distribution: Uttarakhand. (Plate 97b)
- Corydalis meifolia** Wall., Tent. Fl. Nepal. 52. 1826.
Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 4650 m.
(Plate 98a)
- Corydalis mira** (Batalin) C.Y.Wu & H.Chuang subsp. **fokarica** Mikhailova, Novosti Sist. Vyssh. Rast. 47: 28. 2016.
Distribution: Jammu & Kashmir; 3300 m.
- Corydalis moorcroftiana** Wall. ex Hook.f. & Thomson, Fl. Ind. 1: 266. 1855.
n.olia var. sikkimensis Prain,
Distribution: Himachal Pradesh.
- Corydalis mucronifera** Maxim., Fl. Tangut. 51. 1889.
Distribution: Sikkim, Uttarakhand; 4200–5000 m.
- Corydalis murreeana** Jafri, Fl. W. Pakistan 73: 7. 1974.
Distribution: Jammu & Kashmir, Uttarakhand.
- Corydalis nana** Royle, Ill. Bot. Himal. Mts. 68. 1834.
Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand.
- Corydalis ophiocarpa** Hook.f. & Thomson, Fl. Ind. 1: 259. 1855.
Distribution: Arunachal Pradesh, Sikkim; 600–1200 m.
- Corydalis pakistanica** Jafri, Fl. W. Pak. 73: 26. 1974.
Distribution: Jammu & Kashmir.
- Corydalis polygalina** Hook.f. & Thomson, Fl. Ind. 1: 263. 1855.
Distribution: Sikkim, Uttarakhand; 3650–4880 m.
- Corydalis pseudocrithmifolia** Jafri, Fl. W. Pak. 73: 12. 1974.
Distribution: Jammu & Kashmir.
- Corydalis pseudojuncea** Ludlow & Stearn, Bull. Brit. Mus. (Nat. Hist.) Bot. 5(2): 62. 1975.
Distribution: Uttarakhand.
- Corydalis pseudolongipes** Liden, Bull. Brit. Mus. (Nat. Hist.) Bot. 18: 532. 1989.
Distribution: Arunachal Pradesh, Sikkim, Uttarakhand; 1500–3500 m.
- Corydalis pterygotallia** Hand.-Mazz., Anz. Akad. Wiss. Wien, Math.-Naturwiss. Kl. 62: 222. 1925.
Distribution: Arunachal Pradesh; 3100–3600 m

Corydalis rubrisepala Liden, Rheedea 1: 34. 1991.

Distribution: Arunachal Pradesh.

Corydalis schelesnowiana Regel & Schmalh., Izv. Imp. Obshch. Lyubit. Estestv. Moskovsk. Univ. 34(2): 4. 1882.

Distribution: Jammu & Kashmir.

Corydalis shakyae Liden, Bull. Brit. Mus. (Nat. Hist.), Bot. 18: 519. 1989.

Distribution: Uttarakhand.

Corydalis sikkimensis (Prain) Fedde, Repert Spec. Nov. Regni Veg. 17: 201. 1921. *C. duthei* Maxim. var. *sikkimensis* Prain

Distribution: Jammu & Kashmir, Sikkim, Uttarakhand; 400–4600 m.

Corydalis stenophylla B.Saikia, K.Chowlu, M.K.Pathak & Liden, Nelumbo 55: 43. 2013.

Distribution: Arunachal Pradesh, Sikkim.

Corydalis stracheyi Duthie ex Prain, J. Asiat. Soc. Bengal. Pt. 2, Nat. Hist. 65: 37. 1896.

Distribution: Jammu & Kashmir, Sikkim, Uttarakhand; 4000–4600 m. (Plate 98b)

Corydalis stricta Steph ex DC., Syst. Nat. 2: 123. 1821. *C. thyrsoiflora* Prain

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand; 4000 m.

Corydalis tangutica Peschkova, Bot. Zhurn. (Moscow & Leningrad) 75: 87. 1990.

Distribution: Arunachal Pradesh; 3700 m.

Corydalis tibetica Hook.f. & Thomson, Fl. Ind. 1: 265. 1855.

Distribution: Jammu & Kashmir.

Corydalis trifoliata Franch., Bull. Soc. Bot. France 33: 392. 1886.

Distribution: Sikkim; 3650–4250 m.

Corydalis uranoscopa Liden, Edinburgh J. Bot. 55: 347. 1998.

Distribution: Himachal Pradesh, Uttarakhand.

Corydalis vaginans Royle, Ill. Bot. Himal. Mts. 68 1834.

Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand.

Corydalis violacea (Vicary ex Prain) Pusalkar & D.K.Singh, Nelumbo 52: 139. 2010. *C. meifolia* Wall. var. *violacea* Vicary ex Prain

Distribution: Uttarakhand.

(Plate 99b)

Dactylicapnos Wall.

Dactylicapnos arunachalensis Liden & M.K.Pathak, Nordic J. Bot. 32(2): 183. 2014.

Distribution: Arunachal Pradesh; 800 m.

Dactylicapnos cordata Liden, Nordic J. Bot. 28: 658. 2010.

Distribution: West Bengal (Darjeeling).

Dactylicapnos grandifoliolata Merr., Brittonia 4: 64. 1941.

Distribution: Arunachal Pradesh, Sikkim

Dactylicapnos lichiangensis (Fedde) Hand.-Mazz., Symb. Sin. 7: 338. 1931.

Dicentra lichiangensis Fedde

Distribution: Arunachal Pradesh; 1400 m.

Dactylicapnos macrocapnos (Prain) Hutch., Bull. Misc. Inform. Kew 1921: 105.

1921. *Dicentra macrocapnos* Prain

Distribution: Arunachal Pradesh, Himachal Pradesh, Uttarakhand.

Dactylicapnos odontocarpa Liden, Nordic J. Botany 28: 658. 2010.

Distribution: Sikkim.

Dactylicapnos platycarpa Liden, Nordic J. Bot. 28: 658. 2010.

Distribution: Sikkim

Dactylicapnos roylei (Hook.f. & Thomson) Hutch., Bull. Misc. Inform. Kew 1921:

104. 1921. *Dicentra roylei* Hook.f. & Thomson

Distribution: Arunachal Pradesh, Himachal Pradesh, Sikkim, Uttarakhand; 1400–1600 m.

Dactylicapnos scandens (D.Don) Hutch., Bull. Misc. Inform. Kew 1921: 105. 1921.

Diclytra scandens D.Don

Distribution: Arunachal Pradesh, Sikkim; 1500–2500 m.

(Plate 99c)

Dactylicapnos ventii (Khanh) Lidén, Nordic J. Bot. 25: 35. 2007 (2008). *Dicentra*

ventii Khanh

Distribution: Sikkim; 1500–2700m.

Fumaria L.

Fumaria indica (Haussk.) Pugsley, J. Linn. Soc., Bot. 44: 313. 1919. *F. vaillantii*

Loisel var. *indica* Hausskn.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Uttarakhand; 1800–2000 m.

Fumaria capreolata L., Sp. Pl. 701 .1753.

Distribution: Sikkim; 4400m.

Fumaria parviflora Lam., Encycl. 2: 567. 1788.

Distribution: Uttarkhand.

Fumaria vaillantii Loisel., J. Bot. (Paris) 2: 358. 1809.

Distribution: Jammu & Kashmir, Uttarakhand.

Hypecoum L.

Hypecoum leptocarpum Hook.f. & Thomson, Fl. Ind. 1: 276. 1855.

Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand.

Hypecoum pendulum L., Sp. Pl. 124. 1753.

Distribution: Jammu & Kashmir.

GENTIANACEAE
(20 genera; 166 taxa)

Canscora Lam.

Canscora andrographioides Griff. ex C.B. Clarke, J. Linn. Soc., Bot. 14: 431. 1875.

Distribution: Arunachal Pradesh; 100–1500 m.

Canscora alata (Roth) Wall., Numer. List 4363. 1831. *Exacum alatum* Roth.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand, West Bengal (Darjeeling); 1500–2500 m.

Canscora diffusa (Vahl) R.Br. ex Roem. & Schult., Syst. Veg. 3: 301. 1818. *Gentiana diffusa* Vahl

Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand.

Centaurium Hill

Centaurium centauroides (Roxb.) S.R. Rao & Hemadri., Bombay Nat. Hist. Soc. 67: 357. 1970. *Chironia centauroides* Roxb.

Distribution: Uttarakhand.

Centaurium pulchellum (Sw.) Druce, Fl. Berkshire 342. 1898.

Distribution: Jammu & Kashmir, Uttarakhand.

Centaurium pulchellum (Sw.) Druce var. **altaicum** (Griseb.) Kitag. & H. Hara, J. Japanese Bot. 13(1): 26. 1937. *Erythraea ramosissima* Pers. var. *altaica* Griseb.

Distribution: Uttarakhand.

Comastoma (Wettst.) Toyok.

Comastoma pedunculata (Royle ex G. Don) Holub, Folia Geobot. Phytotax. 3: 218. 1968. *Eurythalia pedunculata* Royle ex D. Don

Distribution: Jammu & Kashmir, Sikkim, Uttarakhand; 3200–4600 m.

Comastoma stellariifolium (Franch.) Holub, Folia Geobot. Phytotax. 3: 218. 1968. *Gentiana stellariifolia* Franch.

Distribution: Sikkim; 3962–4267 m.

Comastoma tenellum (Rottb.) Toyok., Bot. Mag. (Tokyo) 74: 198. 1961. *Gentiana tenella* Rottb.

Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 3000–4000 m.

Comastoma urnigera (E. Aitken & D. G. Long) Holub, Preslia. 70: 103. 1998. *Gentianella urnigera*. E. Aitken & D. G. Long

Distribution: Sikkim; 4270–4720 m.

Crawfurdia Wall.

Crawfurdia arunachallensis S.S. Dash, R. Gagoi & A.A. Mao, J. Japanese Bot. 86(3): 127–132. 2011.

Distribution: Arunachal Pradesh.

Crawfordia campanulacea Wall. & Griff. ex C.B. Clarke, Fl. Brit. India 4: 106. 1883.

Distribution: Arunachal Pradesh, Sikkim; 2500–3000 m. (Plate 100a)

Crawfordia puberula C.B. Clarke., J. Linn. Soc., Bot. 14: 442. 1875.

Distribution: Sikkim; 2743–3225 m.

Crawfordia speciosa C.B. Clarke., J. Linn. Soc., Bot. 14: 442. 1875.

Distribution: Arunachal Pradesh, Sikkim, West Bengal (Darjeeling); 2134–3810 m (Plate 100b)

Enicostema Blume

Enicostema axillare (Lam.) A. Raynal, Adansonia: recueil périodique d'observations botanique, n.s. 9(1): 75–77. 1969. *Gentiana axillaris* Lam.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand; 1000 m.

Exacum L.

Exacum hamiltonii G. Don, Gen. Hist. 4: 212. 1837.

Distribution: Sikkim, West Bengal (Darjeeling); 1220–1830 m.

Exacum nanum Klack., Bot. Jahrb. Syst. 126: 478. 2006. *Cotylanthera caerulea* Lace

Distribution: Arunachal Pradesh; 1000–1250 m.

Exacum paucisquamum (C.B. Clarke) Klack, Bot. Jahrb. Syst. 126: 478. 2006. *Cotylanthera paucisquama* C.B. Clarke

Distribution: Sikkim, Uttarakhand, West Bengal (Darjeeling); 1829–2438 m.

Exacum pedunculatum L., Sp. Pl. 112. 1753.

Distribution: Uttarakhand.

Exacum tenue (Blume) Klack. in Bot. Jahrb. Syst. 126(4): 478. 2006.

Distribution: Arunachal Pradesh.

Exacum teres Wall., Fl. Ind. 1: 414. 1820.

Distribution: Arunachal Pradesh, Sikkim, West Bengal (Darjeeling); 240–1220 m.

Exacum tetragonum Roxb., Fl. Ind. ed. Carey, 1: 413. 1820.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 600–1500 m.

Exacum tetragonum Roxb. var. **tetragonum** Roxb., Fl. Ind. 1: 413. 1820.

Distribution: Arunachal Pradesh; 500–1800 m.

Fagraea Thunb.

Fagraea ceilanica Thunb., Kongl. Vetensk. Acad. Nya Handl. 3: 132. 1782.

Distribution: West Bengal (Darjeeling); 200–600 m.

Gentiana L.

- Gentiana albicalyx** Burkill, J. Proc. Asiat. Soc. Bengal 2: 314. 1906.
Distribution: Arunachal Pradesh, Sikkim, Uttarakhand, West Bengal (Darjeeling); 2740–4420 m.
- Gentiana albomarginata** C.Marquand., Bull. Misc. Inform. Kew 1937: 175. 1937.
Distribution: Uttarakhand.
- Gentiana amplicrater** Burkill, J. Proc. Asiat. Soc. Bengal 2: 312. 1906.
Distribution: Sikkim.
- Gentiana aperta** Maxim., Bull. Acad. Imp. Sci. Saint-Pétersbourg 3, 27: 500. 1881.
Distribution: Jammu & Kashmir; 3900–4200 m.
- Gentiana aquatica** L., Sp. Pl. 229. 1753.
Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand.
- Gentiana aquatica** L. var. **pseudoaquatica** (Kun.) S.Agrawal, J. Econ. Taxon. Bot. 5: 437. 1984. *G. pseudoaquatica* Kun.
Distribution: Uttarakhand; 4000–5000 m.
- Gentiana argentea** Royle ex D.Don, Trans. Linn. Soc. London 17: 513. 1837.
Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 3800 m.
(Plate 100c)
- Gentiana atuntsiensis** W.W.Sm., Notes Roy. Bot. Gard. Edinburgh 8: 121. 1913.
Distribution: Arunachal Pradesh.
- Gentiana bryoides** Burkill, J. Proc. Asiat. Soc. Bengal 2: 316. 1906.
Distribution: Arunachal Pradesh, Sikkim, West Bengal(Darjeeling); 3000–4500 m.
- Gentiana cachemirica** Decne., Voy. Indie 4: 111. 1843.
Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand.
- Gentiana capitata** Buch.–Ham. ex D.Don, Prodr. Fl. Nepal. 126. 1825.
Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand, West Bengal (Darjeeling); 1600–2500 m.
- Gentiana capitata** Buch.–Ham. ex D.Don subsp. **harwanensis** (G.Singh) Halda, Acta Mus. Richnov. Sect. Nat. 3: 36. 1995. *G. harwanensis* G.Singh
Distribution: Jammu & Kashmir, Uttarakhand; 1700–4000 m. (Plate 101a)
- Gentiana carinata** Griseb., Gen. Sp. Gentian, 304. 1838.
Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand.
- Gentiana cephalodes** Edgew., London J. Bot. 4: 637. 1845.
Distribution: Arunachal Pradesh, Sikkim, Uttarakhand; 2000–3000 m.
- Gentiana clarkei** Kun., Etud. Monog. Eugentiana 276. 1894.
Distribution: Himachal Pradesh.
- Gentiana coronata** Royle, Ill. Bot. Himal. Mts. [Royle] 278. t. 68. f. 1.
Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand; 4300 m.

- Gentiana crassuloides*** Bureau & Franch., J. Bot. (Morot) 5: 104. 1891.
Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 3600–4620 m. (Plate 180a)
- Gentiana decemfida*** Buch.–Ham. ex D.Don, Prodr. Fl. Nepal. 127. 1825.
Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand.
- Gentiana depressa*** D.Don., Prodr. Fl. Nepal. 125. 1825.
Distribution: Sikkim; 3350–3660 m.
- Gentiana duthiei*** Burkill, J. Proc. Asiat. Soc. Bengal 2: 318. 1906.
Distribution: Uttarakhand.
- Gentiana elwesii*** C.B.Clarke, Fl. Brit. India 4: 115. 1883.
Distribution: Arunachal Pradesh, Sikkim; 3660–5100 m. (Plate 102)
- Gentiana emodi*** C.Marquand ex Sealy, Bot. Mag. 170: t. 230. 1954.
Distribution: Sikkim; 4270–5030 m.
- Gentiana gilvostriata*** C.Marquand, Bull. Misc. Inform. Kew 1931: 83. 1931.
Distribution: Sikkim; 4570–4880 m.
- Gentiana glabriuscula*** Harry Sm. ex T.N.Ho, Bull. Nat. Hist. Mus. (London), Bot. 23: 58. 1993.
Distribution: Sikkim; 2440–3170 m.
- Gentiana himalayensis*** T.N.Ho, Bull. Nat. Hist. Mus. (London), Bot. 23: 57. 1993.
Distribution: Sikkim; 3660–5100 m.
- Gentiana hugelii*** Griseb., Prodr. 9: 108. 1845.
Distribution: Jammu & Kashmir, Uttarakhand; 2600–4200 m.
- Gentiana huxleyi*** Kusn., Trudy Imp. S.–Peterburgsk. Bot. Sada 13: 64. 1893.
Distribution: Uttarakhand.
- Gentiana infelix*** C.B.Clarke, Fl. Brit. India 4: 111. 1883.
Distribution: Himachal Pradesh, Sikkim, Uttarpradesh; 4420–5040 m. (Plate 179b)
- Gentiana kurroo*** Royle, Ill. Bot. Himal. Mts. 278. 1835.
Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Uttarakhand.
- Gentiana leucomelaena*** Maxim., Mélanges Biol. Bull. Phys.–Math. Acad. Imp. Sci. Saint–Pétersbourg 13: 175. 1891.
Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand.
- Gentiana lacerulata*** Harry Sm., Kew Bull. 15: 52. 1961.
Distribution: Sikkim; 3780–5400 m.
- Gentiana macrauchena*** C.Marquand, Bull. Misc. Inform. Kew 1931: 85. 1931.
Distribution: Sikkim; 4300 m.

- Gentiana maeulchanensis** Franch., Bull. Soc. Bot. France 43: 488. 1896.
Distribution: Sikkim; 2440–3200 m.
- Gentiana meiantha** (C.B. Clarke) Harry Sm., Notes Roy. Bot. Gard. Edinburgh 26: 248. 1965. *G. ornata* (Wall. ex G. Don) Griseb. var. *meiantha* C.B. Clarke
Distribution: Sikkim; 3270–3960 m.
- Gentiana membranulifera** T.N. Ho, Acta Phytotax. Sin. 38: 10. 2000.
Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand.
- Gentiana micans** C.B. Clarke, Fl. Brit. India 4: 112. 1883.
Distribution: Sikkim; 3660–4570 m.
- Gentiana micantiformis** Burkill, J. Proc. Asiat. Soc. Bengal 2: 315. 1906.
Distribution: Sikkim; 3200–3960 m.
- Gentiana nubigena** Edgew., Trans. Linn. Soc. London 20: 85. 1846.
Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 4100–4880 m.
- Gentiana nudicaulis** Kurz., J. Asiat. Soc. Bengal, Pt. 2, Nat. Hist. 42(2): 235. 1873.
Distribution: Sikkim; 1500–2000 m.
- Gentiana obconica** T.N. Ho, Acta Phytotax. Sin. 23: 45. 1985.
Distribution: Sikkim; 3960–4720 m.
- Gentiana olivieri** Griseb., Gen. Sp. Gent. 278. 1838.
Distribution: Himachal Pradesh.
- Gentiana oreodoxa** Harry Sm., Anz. Akad. Wiss. Wien, Math.–Naturwiss. Kl. 63: 99. 1926.
Distribution: Sikkim; 3350–4750 m.
- Gentiana ornata** (Wall. ex G. Don) Griseb., Gen. Sp. Gent. 277. 1838. *Pneumonanthe ornata* Wall. ex G. Don
Distribution: Arunachal Pradesh, Sikkim; 3960–5180 m.
- Gentiana pedicellata** (D. Don) Wall., Numer. List 4394. 1831. *Ericala pedicellata* D. Don
Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand, West Bengal (Darjeeling); 1500–2500 m.
- Gentiana phyllocalyx** C.B. Clarke, Fl. Brit. India 4: 116. 1883.
Distribution: Sikkim; 3960–4880 m.
- Gentiana pluviarum** W.W. Sm., J. Proc. Asiat. Soc. Bengal 7: 77. 1911.
Distribution: Sikkim; 3960 m.
- Gentiana pringlei** M. Shabir, P. Agnihotri, J.K. Tiwari & T. Husain, Taiwania 63(4): 356–359. 2018.
Distribution: Jammu & Kashmir; 3300 m.

- Gentiana prolata*** Balf.f., Trans. Bot. Soc. Edinburgh 27: 266. 1918.
Distribution: Arunachal Pradesh, Sikkim; 3000–4500 m.
- Gentiana prostrata*** Haenke, Collectanea 2: 66. 1789.
Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand; 3500–4300 m.
- Gentiana prostrata*** Haenke var. ***karelinii*** (Griseb.) Kusn., Trudy Imp. S.–Peterburgsk. Bot. Sada 15: 368. 1904. *G. karelinii* Griseb.
Distribution: Sikkim; 3000–4000 m.
- Gentiana recurvata*** C.B. Clarke, Fl. Brit. India 4: 110. 1883.
Distribution: Sikkim; 2740–3660 m.
- Gentiana recurvata*** C.B. Clarke subsp. ***prainii*** (Burkill) Halda, Acta Mus. Richnov. Sect. Nat. 3: 40. 1995. *G. prainii* Burkill
Distribution: Arunachal Pradesh, Sikkim; 3350–4270 m.
- Gentiana robusta*** King ex Hook.f., Hooker's Icon. Pl. 15: t. 1439. 1883.
Distribution: Sikkim; 4570–5200 m.
- Gentiana saginoides*** Burkill, J. Proc. Asiat. Soc. Bengal 2: 318. 1906.
Distribution: Uttarakhand.
- Gentiana sikkimensis*** C.B. Clarke, Fl. Brit. India 4: 114. 1883.
Distribution: Arunachal Pradesh, Sikkim; 4000–4500 m.
- Gentiana springateana*** D. Maity, Edinburgh J. Bot. 71(3): 289. 2014
Distribution: Sikkim; 4500–4800 m.
- Gentiana squarrosa*** Ledeb., Mém. Acad. Imp. Sci. St. Pétersbourg Hist. Acad. 5: 527. 1812.
Distribution: Himachal Pradesh.
- Gentiana stellata*** Turrill, Bull. Misc. Inform. Kew 1922: 153. 1922.
Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand; 3500–4300 m.
- Gentiana stipitata*** Edgew., Trans. Linn. Soc. 20: 84. 1846.
Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Uttarakhand; 3000–3500 m.
- Gentiana stylophora*** C.B. Clarke, Fl. Brit. India 4: 118. 1883.
Distribution: Arunachal Pradesh, Sikkim; 3048–4267 m. (Plate 102a)
- Gentiana tetrasepala*** Biswas, Hooker's Icon. Pl. 34: t. 3359. 1938.
Distribution: Uttarakhand; 4000–5000 m.
- Gentiana tianschanica*** Rupr. ex Kusn., Mém. Acad. Imp. Sci. Saint Pétersbourg, Sér. 7 14(4): 61. 1869.
Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand; 4000 m.
- Gentiana tibetica*** King ex Hook.f., Hooker's Icon. Pl. 15: t. 1441. 1883.
Distribution: Sikkim; 2740–4420 m.

Gentiana tubiflora (Wall. ex G.Don) Griseb., Gen. Sp. Gent. 277. 1838. *Ericala tubiflora* Wall. ex G.Don

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 4420–5040 m.

Gentianella tumailica M. Shabir, Agnihotri, Tiwari & Husain, Nordic J. Bot. 36 (6): e01919.3. 2018.

Distribution: Jammu & Kashmir; 4000–4200 m.

Gentiana urnula Harry Sm., Kew Bull. 15: 51. 1961.

Distribution: Sikkim; 4570–4880 m.

Gentiana veitchiorum Hemsl., Gard. Chron. III, 46: 178. 1909.

Distribution: Sikkim, Uttarakhand; 3350–5030 m.

Gentiana venusta Wall. ex Griseb., Gen. Sp. Gent. 276. 1838.

Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 3000–4000 m. (Plate 101b)

Gentianella Moench

Gentianella aurea (L.) Harry Sm., Uppsala Univ. Årsskr. 7: 259. 1945. *Gentiana aurea* L.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand.

Gentianella azurea (Bunge) Holub, Folia Geobot. Phytotax. 2: 116. 1967. *Gentiana azurea* Bunge

Distribution: Uttarakhand.

Gentianella gentianoides (Franch.) Harry Sm., Symb. Sin. 7: 981. 1936. *Swertia gentianoides* Franch.

Distribution: Uttarakhand.

Gentianella maddenii (C.B.Clarke) Airy Shaw, Hooker's Icon. Pl. 35: t. 3431. 1943. *G. moorcroftiana* var. *maddenii* C.B.Clarke

Distribution: Jammu & Kashmir, Uttarakhand; 3200–4500 m.

Gentianella maddenii (C.B.Clarke) Airy Shaw var. **glanduligera** (Airy Shaw) S.Agarwal, Indian For. 109: 576. 1983. *G. glanduligera* Airy Shaw

Distribution: Uttarakhand; 3500–4000 m.

Gentianella moorcroftiana (Wall. ex G.Don.) Airy Shaw, Hooker's Icon. Pl. 35: t. 3421. 1943. *Gentiana moorcroftiana* Wall. ex G.Don.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand; 4050 m.

Gentianella pygmaea (Regel & Schmalh.) Harry Sm. ex S.Nilsson, Grana Palynol. 7: 144. 1967. *Gentiana pygmaea* Regel & Schmalh.

Distribution: Jammu & Kashmir, Sikkim; 4877–5227 m.

Gentianella rapunculoides (Willd. ex Schult.) J.S.Pringle, Phytologia 48: 284. 1981. *Gentiana rapunculoides* Willd. ex Schult.

Distribution: Himachal Pradesh.

Gentianella tenella (Rottb.) Börner var. **sikkimensis** (C.B. Clarke) S.Garg, Indian Gentian. 22. 1988.

Distribution: Jammu & Kashmir, Sikkim; 4000–5000 m.

Gentianopsis Ma

Gentianopsis contorta (Royle) Ma, Acta Phytotax. 1: 14. 1951. *Gentiana contorta* Royle

Distribution: Himachal Pradesh, Uttarakhand; 3000 m.

Gentianopsis detonsa (Rottb.) Ma, Acta Phytotax. 1: 15. 1951. *Gentiana detonsa* Rottb.

Distribution: Himachal Pradesh, Jammu & Kashmir; 3850 m.

Gentianopsis paludosa (Munro ex Hook.f.) Ma, Acta Phytotaxonomica Sinica 1(1): 11, pl. 3, f. 1. 1951.

Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 3658–4877 m.

Halenia Borkh.

Halenia elliptica D. Don, Trans. Linn. Soc. London 17: 529. 1837.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 1829–4877 m. **(Plate 102b)**

Hoppea Willd.

Hoppea dichotoma Willd., Neue Schriften Ges. Naturf. Freunde Berlin 3: 435. 1801.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand; 1650 m.

Jaeschkea Kurz

Jaeschkea canaliculata (Royle ex G. Don) Knobl., Bot. Centralbl. 60: 387. 1894. *Gentiana canaliculata* Royle ex G. Don

Distribution: Himachal Pradesh, Jammu & Kashmir.

Jaeschkea microsperma C.B. Clarke, Fl. Brit. India 4(10): 119. 1883.

Distribution: Sikkim; 3350–5180 m.

Jaeschkea oligosperma Knobl., Bot. Centralbl. 60: 387. 1894. *Gentiana oligosperma* Griseb.

Distribution: Himachal Pradesh, Jammu & Kashmir.

Jaeschkea smithii S.Garg, Indian Gentian. 25. 1988.

Distribution: Sikkim; 3500–5000 m.

Kuepferia Adr. Favre

Kuepferia kanchii D. Maity, S.K. Dey & Adr. Favre, Nordic J. Bot. 34(4): 416. 2016

Distribution: Sikkim; 4700 m.

Kuepferia pringlei D. Maity & S.K. Dey, Edinburgh J. Bot. 72(3): 430. 2015

Distribution: Sikkim; 4400 m.

Kuepferia pringlei D.Maity & S.K.Dey var. **cavei** D.Maity, S.K.Dey & Adr.Favre, *Nordic J. Bot.* 34(5): 581. 2016.

Distribution: Sikkim; 4400 m.

Kuepferia pringlei D.Maity & S.K.Dey var. **lhonakensis** D.Maity, S.K.Dey & Adr.Favre, *Nordic J. Bot.* 34(5): 580. 2016.

Distribution: Sikkim; 4000 m.

Lomatogonium A.Braun

Lomatogonium brachyantherum (C.B.Clarke) Fernald, *Rhodora* 21(251): 197. 1919. *Pleurogyne brachyanthera* C.B.Clarke

Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim; 3800–4300 m.

Lomatogonium caeruleum (Royle) Harry Sm. ex B.L.Burt, *Notes Roy. Bot. Gard. Edinburgh* 26: 275. 1965. *Swertia caerulea* Royle

Distribution: Jammu & Kashmir, Uttarakhand; 3000–3800 m.

Lomatogonium carinthiacum (Wulfen) A.Braun, *Flora* 13: 221. 1830. *Swertia carinthiacum* Wulf.

Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand.

Lomatogonium carinthiacum (Wulfen) A.Braun var. **stellerianum** Fernald, *Rhodora* 21: 198. 1919.

Distribution: Jammu & Kashmir, Sikkim; 1500–3000 m.

Lomatogonium cherukurianum S. K. Dey & D. Maity *Nordic J. Bot.* 35: 348. 2017.

Distribution: Sikkim.

Lomatogonium chumbicum (Burkill) Harry Sm., *Grana Palynol.* 7(1): 145. 1967. *Swertia chumbica* Burkill

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 3290–4420 m.

Lomatogonium graciliflorum Harry Sm., *J. Jap. Bot.* 56: 276. 1981.

Distribution: Uttarakhand; 3400–4000 m.

Lomatogonium himalayense (Klotzsch) E. Aitken, *Edinburgh J. Bot.* 53: 87. 1996. *Pleurogyne himalayensis* Klotzsch

Distribution: Sikkim; 3962–4420 m.

Lomatogonium sikkimense (Burkill) Harry Sm., *Grana Palynol.* 7(1): 145. 1967. *Swertia sikkimensis* Burkill.

Distribution: Sikkim; 3658–4572 m.

Lomatogonium spathulatum (A. Kern.) Fernald, *Rhodora* 21: 198. 1919. *Pleurogyne spathulata* A. Kern.

Distribution: Himachal Pradesh, Jammu & Kashmir.

Parajaeschkea Burkill

Parajaeschkea smithii Burkill, *Rec. Bot. Surv. India* 4: 223. 1911.

Distribution: Sikkim; 3600–4500 m.

Sebaea Sol. ex R. Br.**Sebaea microphylla** Knobl. Bot. Centralbl. 15(60): 324. 1894.

Distribution: Uttarakhand.

Swertia L.**Swertia alata** C.B. Clarke, Fl. Brit. India 4(10): 125. 1883.

Distribution: Arunachal Pradesh, Himachal Pradesh, Uttarakhand; 700–1000 m.

Swertia alpina U.C. Bhattach. & S. Agrawal, Bull. Bot. Soc. Bengal 36: 47. 1982 (publ. 1986).

Distribution: Uttarakhand; 3000–4500 m.

Swertia alternifolia Royle, Ill. Bot. Himal. Mts. 278. 1835.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand.

Swertia angustifolia Buch.–Ham. ex D. Don, Prodr. Fl. Nepal. 127–128. 1825.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand, West Bengal (Darjeeling); 200–2440 m.

Swertia angustifolia Buch.–Ham. ex D. Don var. **pulchella** (D. Don) Burkill, J. Asiat. Soc. Bengal 2: 375. 1906. *Ophelia pulchella* D. Don

Distribution: Sikkim, Uttarakhand.

Swertia assamensis H. Sm., Bull. Brit. Mus. (Nat. Hist.) Bot. 4(6): 248. 1970.

Distribution: Arunachal Pradesh; about 4000 m.

Swertia bimaculata Hook. f. & Thomson ex C. B. Clarke, J. Linn. Soc., Bot. 14(78): 449. 1875.

Distribution: Arunachal Pradesh, Sikkim, West Bengal (Darjeeling); 2000–3500 m.

(Plate 103a)

Swertia chirayita (Roxb.) Buch.–Ham. ex C. B. Clarke., Fl. Brit. India 4: 124. 1883. *Gentiana chirayita* Roxb.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand, West Bengal (Darjeeling); 2000–3000 m.

Swertia ciliata (D. Don ex G. Don) B. L. Burtt, Notes Roy. Bot. Gard. Edinburgh 26(3): 272. 1965. *Ophelia ciliata* D. Don ex G. Don

Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand, West Bengal (Darjeeling); 2440–2700 m.

(Plate 103b)

Swertia cincta Burkill, J. Asiat. Soc. Bengal 2(7): 319. 1906.

Distribution: Arunachal Pradesh.

Swertia coerulea Royle, III. Bot. Himai. Mount. 278. t. 67. f. 1. 1835.

Distribution: Himachal Pradesh.

Swertia cordata (Wall. ex G. Don) C. B. Clarke, Fl. Brit. India 4(10): 123. 1883. *Ophelia cordata* Wall. ex G. Don

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 2500–3500 m.

Swertia cuneata Wall. ex D.Don, London Edinburgh Philos. Mag. & J. Sci. 8: 77. 1836.

Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 3658–4572 m.

Swertia griffithii C.B.Clarke, Fl. Brit. India 4: 122. 1883.

Distribution: Sikkim; 2000–3000 m.

Swertia handeliana Harry Sm., Akad. Wiss. Wien, Math.–Naturwiss. Kl., Anz. 63: 106. 1926.

Distribution: Arunachal Pradesh; 3600 m.

Swertia hookeri C.B.Clarke, Fl. Brit. India 4(10): 127. 1883.

Distribution: Arunachal Pradesh, Sikkim; 3000–3500 m. **(Plate 104)**

Swertia kingii Hook.f., Hooker's Icon. Pl. 15(2): 34, pl. 1442. 1883.

Distribution: Arunachal Pradesh, Sikkim, Uttarakhand.

Swertia lurida Royle ex D.Don, Trans. Linn. Soc. London 17: 528. 1837.

Distribution: Himachal Pradesh, Uttarakhand.

Swertia macrosperma (C.B.Clarke) C.B.Clarke, Fl. Brit. India 4(10): 123–124. 1883. *Ophelia macrosperma* C.B.Clarke

Distribution: Sikkim; 300–1800 m.

Swertia multicaulis D. Don, Prodr. Fl. Nepal. 128. 1825.

Distribution: Sikkim; 660–5030 m. **(Plate 103c)**

Swertia nervosa (Wall. ex G. Don) C.B.Clarke, Fl. Brit. India 4(10): 125. 1883.

Agathotes nervosa Wall. ex G.Don

Distribution: Sikkim, Uttarakhand, West Bengal (Darjeeling); 2350–2440 m.

Swertia paniculata Wall., Pl. Asiat. Rar. 3: 3, pl. 205. 1832.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand, West Bengal (Darjeeling); 3050 m.

Swertia petiolata D.Don, Trans. Linn. Soc. 17: 519. 1837.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand; 4000 m.

Swertia pulchella Buch.–Ham. ex D.Don, Prodr. Fl. Nepal. 127. 1825.

Distribution: Himachal Pradesh.

Swertia racemosa (Wall. ex Griseb.) C.B.Clarke, Fl. Brit. India 4(10): 124. 1883.

Ophelia racemosa Wall. ex Griseb.

Distribution: Sikkim; 3000–3500 m.

Swertia ramosa W.W.Sm., J. Proc. Asiat. Soc. Bengal 7: 77. 1911.

Distribution: Sikkim; 2740–3660 m.

Swertia rex C.B.Clarke, Fl. Brit. India 4: 127. 1883.

Distribution: Sikkim, 3000–3500 m.

Swertia speciosa Wall., London Edinb. Philos. Mag. J. Sci. 8: 77. 1836

Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 3353–4267 m.

Swertia speciosa Wall. var. **lacei** Burkill, J. Proc. Asiatic Soc. Bengal 2: 327. 1906.
Distribution: Jammu & Kashmir.

Swertia teres (G.Don) J.Shah, Pakistan J. Forest. 38(2): 81. 1988. *Ophelia teres*
D.Don ex G.Don
Distribution: Sikkim; 3350–4270 m.

Swertia tetragona (Edgew.) C.B.Clarke, Fl. Brit. India 4:122. 1883. *Ophelia tetragona* Edgew.
Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 1800–3000 m.

Swertia splendens Harry Sm., Bull. Brit. Mus. (Nat. Hist.), Bot. 4(6): 250–251, f. 6, pl. 31. 1970.
Distribution: Arunachal Pradesh.

Swertia thomsonii C.B.Clarke, Fl. Brit. Ind. 4(10): 129. 1883.
Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand.

Swertia wardii C.Marquand, J. Linn. Soc., Bot. 48(321): 208. 1929.
Distribution: Jammu & Kashmir, Sikkim; 3800–4570 m.

Swertia younghusbandii Burkill., J. Asiat. Soc. Bengal 2(7): 325. 1906.
Distribution: Sikkim.

Tripterospermum Blume

Tripterospermum fasciculatum (Wall.) Chater, Enum. Fl. Pl. Nepal. 3: 98. 1982.
Crawfordia fasciculata Wall.
Distribution: Arunachal Pradesh, Sikkim; 1400–2200 m.

Tripterospermum japonicum Maxim., Bull. Acad. Imp. Sci. Saint-Pétersbourg 20: 435. 1875.
Distribution: Sikkim; upto 2000 m.

Tripterospermum nigrobaccatum H.Hara, J. Jap. Bot. 40: 19. 1965.
Distribution: Sikkim, West Bengal (Darjeeling); 2440–3080 m.

Tripterospermum volubile (D.Don) Hara, Journ. Jap. Bot. 40: 21. 1965. *Gentiana volubile* D.Don.
Distribution: Arunachal Pradesh, Himachal Pradesh, Sikkim, Uttarakhand, West Bengal (Darjeeling); 1525–3200 m. **(Plate 180b)**

Veratrilla Baill. ex Franch.

Veratrilla bailloni Franch., Bull. Soc. Bot. France 46: 311. 1899.
Distribution: Arunachal Pradesh, Sikkim; 3658–3962 m.

Veratrilla burkilliana (W.W.Sm.) Harry Sm., Grana Palynol. 7(1): 145. 1967.
Swertia burkilliana W.W.Sm.
Distribution: Sikkim.

GERANIACEAE
(3 genera; 34 taxa)

Erodium L'Hér.

Erodium cicutarium (L.) L'Her. ex Aiton, Hort. Kew. 2: 414. 1789. *Geranium cicutarium* L.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand.

Erodium stephanianum Willd., Sp. Pl. 3: 625. 1800.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand.

Erodium tibetanum Edgew. & Hook.f., Fl. Brit. India 1: 434. 1874.

Distribution: Jammu & Kashmir.

Geranium L.

Geranium clarkei P.F. Yeo, Hardy Geraniums 188. 1985.

Distribution: Jammu & Kashmir; 2100–4200 m.

Geranium collinum Stephan. ex Willd., Sp. Pl. 3: 705. 1800.

Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand.

Geranium donianum Sweet, Geraniaceae 4: t. 338. 1827.

Distribution: Sikkim, Uttarakhand; 2400–4800 m.

Geranium divaricatum Ehrh., Beitr. Naturk. 7: 164. 1792.

Distribution: Jammu & Kashmir.

Geranium himalayense Klotz., Bot. Ergebn. Reise Waldemar 122.t. 16. 1862. *G. pratense* sensu Edgew. & Hook.f.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand.

Geranium kotschyi Boiss subsp. **charlesii** (Aitch. & Hemsl.) P.H. Davis, Israel J. Bot. 19: 111. 1970. *G. tuberosum* L. var. *charlesii* Aitch. & Hemsl.

Distribution: Jammu & Kashmir.

Geranium lambertii Sweet, Geraniaceae 4: t. 338. 1827.

Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand.

Geranium lucidum L., Sp. Pl. 682. 1753.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand.

Geranium mascatense Boiss., Diagn. Pl. Or Nov. Ser. 1, 1: 59. 1843.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand; 2000–3500 m.

Geranium molle L., Sp. Pl. 682. 1753.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand.

Geranium molle L. var. **grandiflorum** Vis., Fl. Dalm. 3: 212. 1852.

Distribution: Himachal Pradesh.

Geranium nakaoanum H. Hara, Fl. Pl. Nepal Himal. 276. f. 23. 1955.

Distribution: Sikkim; 2800–4500 m.

Geranium nepalense Sweet, Geraniaceae 1: t. 12. 1820.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 1200–1800 m. (Plate 105a)

Geranium pamiricum Ikonn., Novos. Sist. Vyss. Rast. 9: 301. 1972.

Distribution: Jammu & Kashmir; 2500–3800 m.

Geranium polyanthes Edgew. & Hook.f., Fl. Brit. India 1: 431. 1874.

Distribution: Arunachal Pradesh, Himachal Pradesh, Sikkim, Jammu & Kashmir, Uttarakhand; 2500–3500 m. (Plate 105b)

Geranium pratense L. Sp. Pl. 681. 1753.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand. (Plate 106 b)

Geranium procurrens P.F.Yeo, Bot. Mag. 179: t. 644. 1973.

Distribution: Sikkim, Uttarakhand; 2100–3600 m.

Geranium pusillum L., Syst. Nat. ed. 10, 1144. 1759.

Distribution: Jammu & Kashmir.

Geranium rectum Trautv., Bull. Soc. Nat. Mosc. 33 (2): 459. 1860.

Distribution: Himachal Pradesh, Jammu & Kashmir.

Geranium refractum Edgew. & Hook.f., Fl. Brit. India 1: 428. 1874.

Distribution: Sikkim.

Geranium rivulare Vill., Prosp. Hist. Pl. Dauphiné 40. 1779.

Distribution: Himachal Pradesh.

Geranium robertianum L., Sp. Pl. 681. 1753.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand.

Geranium rotundifolium L., Sp. Pl. 683. 1763.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand.

Geranium rubifolium Lindl., Bot. Reg. 26. t. 67. 1840.

Distribution: Jammu & Kashmir.

Geranium sibiricum L., Sp. Pl. 683. 1753.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand.

Geranium swatense Schonb.-Tem., Fl. Iran. 69: 22. 1970.

Distribution: Jammu & Kashmir.

Geranium tuberaria Camb., Voy. Bot. Inde 4: 33. t. 37. 1841.

Distribution: Himachal Pradesh, Jammu & Kashmir.

Geranium wallichianum D. Don ex Sweet, Geraniaceae 1: t. 90. 1821.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand. (Plate 106a)

Pelargonium L'Hér.

Pelargonium graveolens L.'Her., Hort. Kew. 2: 423. 1789.

Distribution: Uttarakhand.

Pelargonium hortorum L.H.Bailey, Stand. Cycl. Hort. 2531, f. 2840. 1916.

Distribution: Himachal Pradesh, Uttarakhand.

Pelargonium odoratissimum (L.) L'Hér., Hort. Kew. 2: 419. 1789. *Geranium odoratissimum* L.

Distribution: Uttarakhand.

GESNERIACEAE

(22 genera; 82 taxa)

Aeschynanthus Jack

Aeschynanthus acuminatus Wall. ex DC., Prodr. 9: 263. 1845.

Distribution: Arunachal Pradesh, Sikkim, West Bengal (Darjeeling); 500–1000 m.

(Plate 107a)

Aeschynanthus angustoblondus W.T.Wang, Acta Phytotax. Sin. 13: 64. 1975.

Distribution: Arunachal Pradesh.

Aeschynanthus bracteatus Wall. ex DC., Prodr. 9:261.1845.

Distribution: Arunachal Pradesh, Sikkim, West Bengal (Darjeeling); 100–1800 m.

Aeschynanthus chiritoides C.B.Clarke, Monogr. Phan. 5: 28. 1883.

Distribution: Arunachal Pradesh; 100–1500 m.

Aeschynanthus gracilis Parish ex C.B. Clarke, Comm. & Cyrt. Beng. 75, t.48A. 1874.

Distribution: Sikkim

Aeschynanthus hookeri C.B.Clarke, Monogr. Phan. 5: 21. 1883.

Distribution: Arunachal Pradesh, Sikkim, West Bengal (Darjeeling); 1500–2400 m.

Aeschynanthus kingii C.B.Clarke, Monogr. Phan. 5: 31. 1883.

Distribution: Sikkim.

Aeschynanthus levipes C.B.Clarke, Monogr. Phan. 5: 28. 1883.

Distribution: Arunachal Pradesh; 2500–3800 m.

Aeschynanthus linearifolia C.E.C.Fisch., Bull. Misc. Inform. Kew 1935: 321. 1935.

Distribution: Arunachal Pradesh; 2500–2800 m.

Aeschynanthus masoniae Kurz ex C.B.Clarke, Monogr. Phan. 5: 29. 1883.

Distribution: Arunachal Pradesh; 2500–3800 m.

Aeschynanthus micrantha C.B.Clarke, Monogr. Phan. 5: 27. 1883.

Distribution: Arunachal Pradesh, Sikkim; 500–1200 m.

Aeschynanthus monetaria Dunn, Bull. Misc. Inform. Kew 1920: 135. 1920.

Distribution: Arunachal Pradesh; 200–1000 m.

Aeschynanthus parasiticus (Roxb.) Wall., Numer. List 796. 1829. *Incarvillea parasitica* Roxb.

Distribution: Arunachal Pradesh, Sikkim; 1000–1800 m.

Aeschynanthus parviflorus (D.Don) Spreng., Syst. Veg. 4(2): 238. 1827.
Trichosporum parviflorum D.Don

Distribution: Arunachal Pradesh, Sikkim, Uttarakhand, West Bengal (Darjeeling);
1000–1500 m. **(Plate 107b)**

Aeschynanthus philippensis C.B.Clarke, Monogr. Phan. 5: 39. 1883.

Distribution: Arunachal Pradesh; 500–1500 m.

Aeschynanthus stenosepalus J.Anthony, Notes Roy. Bot. Gard. Edinburgh 18:
191. 1934.

Distribution: Arunachal Pradesh; 2500–3800 m.

Aeschynanthus superbus C.B.Clarke, Commelyn. Cyrtandr. Bengal. t. 6. 1874.

Distribution: Arunachal Pradesh; 100–1000 m. **(Plate 107c)**

Aeschynanthus tirapensis Bhattacharyya, Bull. Bot. Surv. India 35: 131. 1993.

Distribution: Arunachal Pradesh.

Beccarinda Kuntze

Beccarinda cordifolia (J.Anthony) B.L.Burt, Notes Roy. Bot. Gard. Edinburgh
22: 63. 1955. *Petrodora cordifolia* J. Anthony

Distribution: Arunachal Pradesh; 2500–3800 m.

Boea Comm. ex Lam.

Boea multiflora R.Br., Pl. Jav. Rar. 120. 1840.

Distribution: Arunachal Pradesh, Sikkim; 1200–1500 m.

Boeica T.Anderson ex C.B.Clarke

Boeica filiformis C.B.Clarke, Commelyn. Cytrandr. Bengal. 118. 1874.

Distribution: Arunachal Pradesh; 500–1500 m. **(Plate 108a)**

Boeica fulva C.B.Clarke, Commelyn. Cytrandr. Bengal. 118. 1874.

Distribution: Arunachal Pradesh; 500–1200 m.

Boeica hirsuta C.B.Clarke., Monogr. Phan. 5: 136. 1883.

Distribution: Arunachal Pradesh.

Boeica porosa C.B.Clarke., Monogr. Phan. 5: 136. 1883.

Distribution: Arunachal Pradesh; 2500–3800 m.

Briggsia Craib

Briggsia kurzii (C.B.Clarke) W.E.Evans, Notes Roy. Bot. Gard. Edinburgh 16:
133. 1928. *Didymocarpus kurzii* C.B.Clarke

Distribution: Arunachal Pradesh, Sikkim; 2500–3800 m.

Briggsia muscicola (Diels) Craib, Notes Roy. Bot. Gard. Edinburgh 11: 264. 1919.
Didissandra muscicola Diels

Distribution: Arunachal Pradesh; 1500–3000 m.

Codonanthe (Mart.) Hanst.

Codonanthe devosiana Lem., Ill. Hort. 2: t. 56. 1855.

Distribution: Arunachal Pradesh, Sikkim, West Bengal (Darjeeling); 1000–1400 m.
(Plate 108b)

Corallo-discus Batalin

Corallo-discus lanuginosus (Wall. ex DC.) B.L. Burtt, Gard. Chron. III, 122: 212. 1947. *Didymocarpus lanuginosus* Wall. ex R.Br.

Distribution: Himachal Pradesh, Sikkim, Uttarakhand, West Bengal (Darjeeling); 1800–2400 m.

Didymocarpus Wall.

Didymocarpus albicalyx C.B. Clarke., Monog. Phan. 5: 78. 1883.

Distribution: Sikkim, West Bengal (Darjeeling); 1200–2700 m.

Didymocarpus andersonii C.B. Clarke, Commelyn. Cyrtandr. Bengal. t. 62. 1874.

Distribution: Sikkim; 4000–5000 m.

Didymocarpus aromatica D. Don, Prodr. Fl. Nepal. 123. 1825.

Distribution: Uttarakhand, Sikkim; 1500–1900 m.

Didymocarpus aurantiacus C.B. Clarke, Commelyn. Cyrtandr. Bengal. 90, t. 60. 1874.

Distribution: Sikkim, West Bengal (Darjeeling); 600–1300 m. (Plate 109a)

Didymocarpus aureoglandulosus C.B. Clarke, Repert. Spec. Nov. Regni Veg. 4: 292. 1907.

Distribution: Sikkim.

Didymocarpus curvicapsa Hilliard, Edinburgh J. Bot. 52: 217. 1995.

Distribution: Sikkim.

Didymocarpus macrophyllus Wall. ex D. Don, Prodr. Fl. Nepal. 122. 1825.

Distribution: Sikkim, Uttarakhand; 1400–2200 m.

Didymocarpus moellerii A. Joe, Hareesh & M. Sabu, Phytotaxa 266 (1): 57–60. 2016.

Distribution: Arunachal Pradesh; 1201 m.

Didymocarpus mortonii C.B. Clarke, Commelyn. & Cyrtandr. Bengal. t. 65. 1874.

Distribution: Sikkim, West Bengal (Darjeeling).

Didymocarpus oblongus Wall. ex D. Don, Prodr. Fl. Nepal. 123. 1825.

Distribution: Arunachal Pradesh, Himachal Pradesh, Sikkim, Uttarakhand; 1000–3000 m.

Didymocarpus pedicellatus R.Br., Pl. Jav. Rar. 118. 1840.

Distribution: Arunachal Pradesh, Himachal Pradesh, Sikkim, Uttarakhand; 500–2000 m.
(Plate 109b)

Didymocarpus podocarpus C.B. Clarke., Monogr. Phan. 5: 76. 1883.

Distribution: Sikkim; 2200–4000 m.

Didymocarpus primulifolius D.Don, Prodr. Fl. Nepal. 123. 1825.

Distribution: Sikkim, Uttarakhand; 2000–3000 m.

Didymocarpus pulcher C.B.Clarke, Monogr. Phan. 5: 79.1883.

Distribution: Arunachal Pradesh, Sikkim; 500–1500 m.

Didymocarpus triplotrichus Hilliard, Edinburgh J. Bot. 52: 218. 1995.

Distribution: Sikkim, West Bengal (Darjeeling).

Epithema Blume

Epithema carnosum Benth., Scroph. Ind. 57. 1835.

Distribution: Arunachal Pradesh, Sikkim, West Bengal (Darjeeling); 500–1500 m.

Hemiboea C.B.Clarke

Hemiboea subcapitata C.B.Clarke, Hooker's Icon. Pl. 18(4): sub pl. 1798. 1888.

Distribution: Arunachal Pradesh; 400–1000 m.

Henckelia Spreng.

Henckelia adenocalyx (Chatterjee) D.J.Middleton & Mich. Möller, Taxon 60: 774. 2011. *Chirita adenocalyx* Chatterjee.

Distribution: Arunachal Pradesh; 500–1100 m.

Henckelia anachoreta (Hance) D.J. Middleton & Mich. Möller, Taxon 60: 774. 2011. *Chirita anachoreta* Hance

Distribution: Arunachal Pradesh.

Henckelia bifolia (D.Don) A.Dietr., Sp. Pl. 1: 574. 1831. *Chirita bifolia* D. Don.

Distribution: Arunachal Pradesh, Himachal Pradesh, Sikkim, Uttarakhand; 2000–4000 m.

Henckelia burttii D.J.Middleton & Mich. Möller, Taxon 60: 775. 2011.

Distribution: Arunachal Pradesh; 1000–1500 m.

Henckelia calva (C.B.Clarke) D.J.Middleton & Mich. Möller, Taxon 60: 775. 2011. *Chirita calva* C.B.Clarke

Distribution: Sikkim; 1000–2300 m.

Henckelia dibangensis (B.L.Burt, S.K.Srivast. & Mehrotra) D.J. Middleton & Mich. Möller, Taxon 60: 775. 2011. *Chirita dibangensis* B.L. Burt., S.K.Srivast & Mehrotra

Distribution: Arunachal Pradesh; 1400–2000 m.

Henckelia dimidiata (Wall. ex C.B.Clarke) D.J.Middleton & Mich. Möller, Taxon 60: 775, 2011. *Chirita dimidiata* Wall. ex C.B. Clarke

Distribution: Sikkim.

Henckelia grandifolia A.Dietr., Sp. Pl. 1: 576. 1831.

Distribution: Arunachal Pradesh, Sikkim, West Bengal (Darjeeling); 500–1300 m.

(Plate 110a)

Henckelia hookeri (C.B.Clarke) D.J.Middleton & Mich. Möller, Taxon 60: 775. 2011. *Chirita hookeri* C.B.Clarke.

Distribution: Arunachal Pradesh; 500–1200 m. **(Plate 110b)**

Henckelia lachenensis (C.B.Clarke) D.J.Middleton & Mich. Möller, Taxon 60: 776. 2011. *Chirita lachenensis* C.B.Clarke

Distribution: Sikkim; 2000–3000 m.

Henckelia mishmiensis (Debb. ex Biswas) D.J.Middleton & Mich. Möller, Taxon 60: 776. 2011. *Chirita mishmiensis* Debb. ex Biswas

Distribution: Arunachal Pradesh, Sikkim, West Bengal (Darjeeling); 500–1500 m.

Henckelia oblongifolia (Roxb.) D.J.Middleton & Mich. Möller, Taxon 60: 776. 2011. *Incarvillea oblongifolia* Roxb.

Distribution: Arunachal Pradesh; 100–1500 m.

Henckelia primulacea (C.B.Clarke) D.J.Middleton & Mich. Möller, Taxon 60: 776. 2011. *Chirita primulacea* C.B. Clarke.

Distribution: Arunachal Pradesh, Sikkim, West Bengal (Darjeeling); 300–1000 m.

Henckelia pumila (D.Don) A.Dietr., Sp. Pl. 1: 574. 1831. *Chirita pumila* D. Don.

Distribution: Arunachal Pradesh, Himachal Pradesh, Sikkim, Uttarakhand, West Bengal (Darjeeling); 500–1400 m. **(Plate 111a)**

Henckelia urticifolia (Buch.–Ham. ex D.Don) A. Dietr, Sp. Pl. 1: 574. 1831. *Chirita urticaefolia* Buch.–Ham. ex D.Don

Distribution: Arunachal Pradesh, Sikkim, West Bengal (Darjeeling); 400–1000 m. **(Plate 111b)**

Kaisupeea B.L. Burt

Kaisupeea herbacea (C.B.Clarke) B.L.Burt, Nordic J. Bot. 21(2): 117. 2001. *Boea herbacea* C.B.Clarke.

Distribution: Arunachal Pradesh; 200–1000 m.

Leptoboea Benth.

Leptoboea glabra C.B.Clarke in A.DC., Monogr. Phan. 5: 165. 1883.

Distribution: Sikkim.

Leptoboea multiflora (C.B.Clarke) Benth. ex Gamble, Man. Ind. Timb. 274. 1881.

Championia multiflora C.B.Clarke

Distribution: Sikkim.

Loxostigma C.B.Clarke

Loxostigma griffithii (Wight) C.B.Clarke, Monogr. Phan. 5: 60. 1883.

Didymocarpus griffithii Wight

Distribution: Arunachal Pradesh, Sikkim, West Bengal (Darjeeling); 1000–1800 m.

(Plate 112a)

Lysionotus D.Don

Lysionotus atropurpurea H.Hara, J. Jap. Bot. 48: 358, f. 4.1973.

Distribution: Arunachal Pradesh, Sikkim, West Bengal (Darjeeling); 500–1000 m.

Lysionotus conferta C.B.Clarke, Monog. Phan. 5: 58. 1883.

Distribution: Arunachal Pradesh.

Lysionotus gamosepalus var. **biflorus** A. Joe, Hareesh & M. Sabu, Taiwania 62(4): 337. 2017.

Distribution: Arunachal Pradesh.

Lysionotus palinensis G.D. Pal, J. Bombay Nat. Hist. Soc. 97(1): 131. 2000.

Distribution: Arunachal Pradesh; 500–1400 m.

Lysionotus serratus D.Don, Edinburgh Phil. J. 7: 85. 1822.

Distribution: Arunachal Pradesh, Sikkim, Uttarakhand; 700–1200 m.

Microchirita Y.Z.Wang

Microchirita hamosa (R.Br.) Yin Z.Wang, J. Syst. Evol. 49: 60. 2011.

Distribution: Uttarakhand; 1400–1800 m.

Petrocosmea Oliv.

Petrocosmea parryorum C.E.Fischer, Bull. Misc. Inform. Kew 1926: 438. 1926.

Distribution: Sikkim.

Platystemma Wall.

Platystemma violoides Wall., Pl. Asiat. Rar. 2: 42. 1831.

Distribution: Himachal Pradesh, Sikkim, Uttarakhand; 600–1400 m.

Rhynchoglossum Blume

Rhynchoglossum lazulinum A.S.Rao et J. Joseph, Bull. Bot. Surv. India 9(1–4): 280. 1967.

Distribution: Arunachal Pradesh; 500–1200 m.

Rhynchoglossum obliquum Blume, Bijdr. 741. 1826.

Distribution: Arunachal Pradesh, Himachal Pradesh, Sikkim, Uttarakhand, West Bengal (Darjeeling); 200–1000 m. **(Plate 112b)**

Rhynchotechum Blume

Rhynchotechum alternifolium C.B.Clarke, Monogr. Phan. 5: 198. 1883.

Distribution: Arunachal Pradesh.

Rhynchotechum calycinum C.B.Clarke, Monogr. Phan. 5: 199. 1883.

Distribution: Arunachal Pradesh; 300–600 m.

Rhynchotechum ellipticum (Wall. ex D.Dietr.) A.DC., Prodr. 9: 285. 1845.
Corysanthera elliptica Wall. ex D.Dietr.

Distribution: Arunachal Pradesh, Sikkim; 500–1000 m.

Rhynchotechum hookeri (C.B.Clarke) B.M.Anderson, Edin. J. Bot. 70(1): 152. 2013. *R. ellipticum* (Wall. ex D.Dietr.) A. DC. var. *hookeri* C.B.Clarke

Distribution: Arunachal Pradesh.

Rhynchothecum vestitum Wall. ex C.B. Clarke, Commelyn. Cyrtandr. Bengal. 132, pl. 92 1874.

Distribution: Arunachal Pradesh, Sikkim; 100–1200 m.

Stauranthera Benth.

Stauranthera grandiflora Benth., Scroph. Ind. 57. 1835.

Distribution: Arunachal Pradesh; 300–800 m. (Plate 113)

Stauranthera umbrosa (Griff.) C.B. Clarke, Commelyn. Cyrtandr. Bengal. t. 89. 1874. *Cyananthus umbrosa* Griff.

Distribution: Arunachal Pradesh; 200–500 m.

Tetraphyllum Griff. ex C.B. Clarke

Tetraphyllum bengalense C.B. Clarke, Monogr. Phan. 5: 137. 1883.

Distribution: Arunachal Pradesh; 200–500 m.

GROSSULARIACEAE

(2 genera; 13 taxa)

Itea L.

Itea chinensis Hook. & Arn., Bot. Beech. Voy. 189, t. 39. 1841.

Distribution: Arunachal Pradesh. (Plate 120a)

Itea macrophylla Wall., Fl. Ind. 2: 419. 1824.

Distribution: Arunachal Pradesh, Sikkim; 400–1600 m.

Itea nutans Royle, Ill. Bot. Himal. Mts. 226. 1835.

Distribution: Jammu & Kashmir, Uttarakhand; 2000 m. (Plate 120b)

Ribes L.

Ribes alpestre Wall. ex Decne., Jacq. Voy. Ind. 4: 64. t. 75. 1844.

Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 2000–3500 m.

Ribes glaciale Wall, Fl. Ind. 2: 513. 1824.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 2000–3500 m.

Ribes griffithii Hook.f. & Thomson, J. Linn. Soc. Bot. 2: 88. 1857.

Distribution: Arunachal Pradesh, Sikkim, Uttarakhand; 2500–4000 m.

Ribes himalense Royle ex. Decne., Jacquemnt, Voy. Bot. 4: 66, t. 77. 1835. *R. emodense* Rehd.

Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 2000–3500 m.

Ribes laciniatum Hook.f. & Thomson, J. Proc. Linn. Soc., Bot. 2: 87. 1858.

Distribution: Sikkim; 2400–3970 m.

Ribes luridum Hook.f. & Thomson, J. Linn. Soc., Bot. 2: 87. 1858.

Distribution: Arunachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 3800–4300 m.

Ribes nigrum L., Sp. Pl. 201. 1753.

Distribution: Himachal Pradesh, Jammu & Kashmir; 2000–2800 m.

Ribes orientale Desf., Hist. Arb. 2: 88. 1809.

Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 2000–2800 m. **(Plate 115a)**

Ribes takare D.Don, Prodr. Fl. Nep. 208. 1825.

Distribution: Jammu & Kashmir, Arunachal Pradesh, Sikkim, Uttarakhand; 2000–3750 m.

Ribes takare D.Don var. **desmocarpum** (Hook.f. & Thomson) L.T.Lu, Fl. Reipubl.

Popularis Sin. 35(1): 351. 1995. *R. desmocarpum* Hook.f. & Thomson

Distribution: Sikkim.

HALORAGACEAE

(3 genera; 6 taxa)

Gonocarpus Thunb.

Gonocarpus micranthus Thunb., Nov. Gen. Pl. 55. 1783.

Distribution: Arunachal Pradesh, Sikkim; 1500–3000 m.

Hippuris L.

Hippuris vulgaris L., Sp. Pl. 1:4. 1753.

Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 4500 m.

Myriophyllum L.

Myriophyllum spicatum L., Sp. Pl. 992. 1753.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand; 900–1500 m.

Myriophyllum tetrandrum Roxb., Fl. Ind., ed. Carey & Wall. i. 470. 1820.

Distribution: Uttarakhand; 2000 m.

Myriophyllum tuberculatum Roxb., Fl. Ind., ed. Carey & Wall., i. 471. 1820.

Distribution: Uttarakhand; 400 m.

Myriophyllum verticillatum L., Sp. Pl. 992. 1753.

Distribution: Jammu & Kashmir.

HAMAMELIDACEAE

(6 genera; 6 taxa)

Altingia Noronha

Altingia excelsa Noronha, Verb. Bat. Genootsch. ed. 5. 2:41. 1827.

Distribution: Arunachal Pradesh; 300–1250 m.

Corylopsis Siebold & Zucc.

Corylopsis himalayana Griff., J. Asiat. Soc. Bengal 23: 642. 1854.

Distribution: Arunachal Pradesh, Sikkim; upto 3150 m.

Exbucklandia R.W.Brown

Exbucklandia populnea (R.Br. ex Griff.) R.W.Br., J. Wash. Acad. Sci. 36: 348. 1946. *Bucklandia populnea* R.Br. ex Griff.

Distribution: Arunachal Pradesh, Sikkim, Uttarakhand; upto 2000 m.

Liquidambar L.

Liquidambar formosana Hance, Ann. Sci. Nat., Bot. V, 5: 215. 1866.

Distribution: Uttarakhand; 500–800 m.

Loropetalum R.Br.

Loropetalum chinense (R.Br.) Oliv., Trans. Linn. Soc. London 23: 459. 1862.

Hamamelis chinensis R.Br.

Distribution: Arunachal Pradesh; upto 1000 m.

Parrotiopsis (Nied.) C.K.Schneid.

Parrotiopsis jacquemontiana (Decne.) Rehder, J. Arn. Arbor. 1: 256. 1920. *Parrotia jacquemontiana* Decne.

Distribution: Himachal Pradesh, Jammu & Kashmir; 2200–3000 m.

HERNANDIACEAE

(1 genus; 2 taxa)

Illigera Blume

Illigera khasiana C.B.Clarke, Fl. Brit. India 2: 461. 1878.

Distribution: Arunachal Pradesh; upto 1600 m.

(Plate 115b)

Illigera villosa C.B.Clarke, J. Linn. Soc. Bot 25. 22, t. 9. 1889.

Distribution: Arunachal Pradesh.

HIPPOCASTANACEAE

(1 genus; 2 taxa)

Aesculus L.

Aesculus assamica Griff., Not. Pl. Asiat. 4: 540. 1854.

Distribution: Arunachal Pradesh, Uttarakhand; 400–800 m.

(Plate 116a)

Aesculus indica (Wall. ex Cambess.) Hook., Bot. Mag. 85: t. 5117. 1859. *Pavia indica* Wall. ex Cambess.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand. (Plate 116b)

HYDRANGEACEAE

(4 genera; 15 taxa)

Deutzia Thunb.

Deutzia compacta Craib, Bull. Misc. Inform. Kew 1913(7): 264.

Distribution: Arunachal Pradesh, Sikkim, Uttarakhand; 2000–3500 m.

Deutzia corymbosa R.Br. ex G.Don, Gen. Hist. 2: 808. 1832.

Distribution: Jammu & Kashmir, Sikkim; 2800–3200 m.

Deutzia crenata Siebold & Zucc., Fl. Jap. 1: 19. 1835.

Distribution: Jammu & Kashmir.

Deutzia macrantha Hook.f. & Thomson, J. Proc. Linn. Soc., Bot. 2: 84. 1858.

Distribution: Uttarakhand; Cultivated

Deutzia staminea R.Br. ex Wall., Pl. Asiat. Rar. 2:82, t.191. 1831.

Distribution: Arunachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 1000–2500 m.

Hydrangea L.

Hydrangea anomala D.Don, Prodr. Fl. Nep. 211. 1825.

Distribution: Arunachal Pradesh, Himachal Pradesh, Sikkim, Uttarakhand; 1800–2700 m. (Plate 117a)

Hydrangea aspera D.Don, Prodr. Fl. Nepal. 211. 1825.

Distribution: Arunachal Pradesh, Sikkim, Uttarakhand; 200–2600 m.

Hydrangea chinensis Maxim., Mém. Acad. Imp. Sci. St.–Pétersbourg, Sér. 7. x. n. XVI. 7. 1867.

Distribution: Arunachal Pradesh.

Hydrangea heteromalla D.Don, Prodr. Fl. Nep. 211. 1825.

Distribution: Arunachal Pradesh, Sikkim, Uttarakhand; 2400–3300 m.

Hydrangea macrophylla (Thunb.) Ser., Prodr. 4: 15. 1830. *Viburnum macrophyllum* Thunb.

Distribution: Sikkim, Uttarakhand; 2000 m.

Hydrangea robusta Hook.f. & Thomson, J. Proc. Linn. Soc., Bot. 2: 76. 1858.

Distribution: Arunachal Pradesh, Sikkim, Uttarakhand; upto 2500 m.

Hydrangea stylosa Hook.f. & Thomson, J. proc. Linn. Soc., Bot. 2: 75. 1858.

Distribution: Arunachal Pradesh, Sikkim; 2100–2800 m.

Philadelphus L.

Philadelphus sericanthus Koehne, Gartenflora 45: 561. 1896.

Distribution: Arunachal Pradesh, Sikkim.

Philadelphus tomentosus Wall. ex G.Don, Gen. Syst. 2: 807. 1832.

Distribution: Arunachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; upto 1800 m.

Pileostegia Hook.f. & Thomson

Pileostegia subansiriana Naithani & Bennet, Ind. For. 110(5): 518.1984.

Distribution: Arunachal Pradesh; 1800 m.

HYDROPHYLLACEAE

(2 genera; 2 taxa)

Hydrolea L.**Hydrolea zeylanica** (L.) Vahl, Symb. Bot. 2: 46. 1791. *Nama zeylanica* L.

Distribution: Arunachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 500–1000 m.

Wigandia Kunth**Wigandia urens** (Ruiz & Pav.) Kunth, Nov. Gen. Sp. 3: 127. 1819. *Hydrolea urens* Ruiz & Pav.

Distribution: Uttarakhand.

HYPERICACEAE

(2 genera; 27 taxa)

Hypericum L.**Hypericum assamicum** S.N.Biswas, Webbia 25: 671. 1971.

Distribution: Arunachal Pradesh.

Hypericum benghalense S.N.Biswas, Bull. Bot. Surv. India 29: 53. 1987 (1989).

Distribution: West Bengal (Darjeeling).

Hypericum choisianum Wall. ex Robson, Fl. W. Pakistan 32: 6. 1973.

Distribution: Arunachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 2100–4000 m.

Hypericum dyeri Rehder, J. Arn. Arb. 20: 422. 1939.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand; 900–2500 m.

Hypericum elodeoides Choisy, Prodr. 1: 551. 1824.Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 1100–3500 m. **(Plate 118a)****Hypericum gracilipes** Stapf. ex C.E.C.Fisch., Bull. Misc. Inform. Kew 1940: 32. 1940.

Distribution: Sikkim, West Bengal (Darjeeling); 2100–2300 m.

Hypericum griffithii Hook.f. & Thomson ex Dyer, Fl. Brit. India 1: 253. 1874.

Distribution: Arunachal Pradesh; 1000–1500 m.

Hypericum himalaicum N.Robson, J. Jap. Bot. 52: 287. 1977.Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand, West Bengal (Darjeeling); 3000–3900 m. **(Plate 118b)****Hypericum hookerianum** Wight & Arn., Prodr. Fl. Ind. Orient. 99. 1834.Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 1200–2000 m. **(Plate 119a)**

Hypericum hookerianum Wight & Arn. var. **dentatum** S.N.Biswas, Bull. Bot. Surv. India 25: 195–196, f.1–6. 1985.

Distribution: Sikkim.

Hypericum humifusum L., Sp. Pl. 785. 1753.

Distribution: Arunachal Pradesh.

Hypericum japonicum Thunb., Syst. Veg. ed. 14: 702. 1784.

Distribution: Arunachal Pradesh, Himachal Pradesh, Sikkim, Uttarakhand; 1700–1800 m. **(Plate 119b)**

Hypericum kingdonii N.Robson, Bull. Nat. Hist. Mus. (London), Bot. 31: 74. 2001.

Distribution: Arunachal Pradesh.

Hypericum leschenaultii Choisy, Prodr. 1: 545. 1824.

Distribution: Himachal Pradesh.

Hypericum monanthemum Hook.f. & Thomson ex Dyer, Fl. Brit. India 1: 256. 1874.

Distribution: Arunachal Pradesh, Himachal Pradesh, Sikkim, Uttarakhand, West Bengal (Darjeeling); 1500–3800 m.

Hypericum monanthemum Hook.f. & Thomson ex Dyer subsp. **filicaule** (Dyer) N.Robson, Bull. Nat. Hist. Mus. (London), Bot. 31: 78. 2001. *Ascyrum filicaule* Dyer

Distribution: Sikkim; 3500–4000 m.

Hypericum oblongifolium Choisy, Prodr. Monogr. Hypéric. 42. 1821.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand.

Hypericum perforatum L., Sp. Pl. 785. 1753.

Distribution: Uttarakhand.

Hypericum petiolatum L. subsp. **yunnanense** (Franch.) N.Robson, Blumea 20: 262. 1972 (1973).

Distribution: Arunachal Pradesh; 1600 m.

Hypericum petiolulatum Hook.f. & Thomson ex Dyers, Fl. Brit. India 1: 255. 1874. *H. humifusum* subsp. *orbiculatum* S.N.Biswas

Distribution: Arunachal Pradesh, Sikkim, West Bengal (Darjeeling); 1800–3000m.

Hypericum podocarpoides N.Robson., J. Jap. Bot. 52: 276. 1977.

Distribution: Uttarakhand; 1300–2000 m.

Hypericum reptans Hook.f. & Thomson ex Dyer, Fl. Brit. India 1: 255. 1874.

Distribution: Sikkim; 2700–4000 m.

Hypericum tenuicaule Hook.f. & Thomson ex Dyer, Fl. Brit. India 1: 254. 1874.

Distribution: Sikkim; 2100–2400 m.

Hypericum uralum Buch. -Ham. ex D.Don, Bot. Mag. 50: t. 2375. 1823.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand, West Bengal (Darjeeling); 1500–3400 m. **(Plate 119c)**

Hypericum wightianum Wall. ex Wight. & Arn., Prodr. Fl. Ind. Orient., 1: 99. 1834. *H. wightianum* Wall. ex Wight. & Arn. subsp. *wightianum*.
Distribution: Jammu & Kashmir, Sikkim, Uttarakhand; 600–3600 m.

Hypericum williamsii N. Robson, J. Jap. Bot. 52: 279. 1977.
Distribution: Sikkim; 1700–1800m.

Vismia Vand.

Vismia petiolata Choisy, Prodr. Monogr. Hypéric. 36. 1821.
Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand; 1300–2800 m.

ICACINACEAE
(5 genera; 5 taxa)

Gomphandra Wall. ex Lindl.

Gomphandra tetrandra (Wall.) Sleumer, Notizbl. Berlin–Dahlem 15:238. 1940.
Lasianthera tetrandra Wall.
Distribution: Arunachal Pradesh; 800–1200 m.

Iodes Wall. ex Lindl.

Iodes ovalis Blume, Bijdr. 30. 1825.
Distribution: Arunachal Pradesh.

Mappianthus Hand.-Mazz.

Mappianthus hookerianus (Baill.) Sleumer, Blumea 17: 225. 1969. *Iodes hookeriana* Baill.
Distribution: Arunachal Pradesh; 800–1200 m.

Miquelia Meisn.

Miquelia kleinii Meisn., Pl. Vase. Gen. 1: 109. 1838.
Distribution: Arunachal Pradesh; 200–500 m.

Natsiatum Buch.-Ham. ex Arn.

Natsiatum herpeticum Buch.-Ham. ex Arn., Edinburgh New Philos. J. 16: 314. 1834.
Distribution: Arunachal Pradesh, Sikkim, Uttarakhand; 250–800 m. (**Plate 117b**)

ILLECEBRACEAE
(1 genus; 3 taxa)

Herniaria L.

Herniaria cachemiriana J. Gay, Duch. Rev. Bot. ii. (1846–47). 370. 1847.
Distribution: Jammu & Kashmir.

Herniaria hirsuta L., Sp. Pl. 218. 1753.
Distribution: Himachal Pradesh, Jammu & Kashmir.

Herniaria incana Lam., Encycl. 3: 124. 1789.
Distribution: Jammu & Kashmir.

ILLICACEAE
(1 genus; 4 taxa)

Illicium L.

Illicium cambodianum Hance, J. Bot. 14: 240. 1876.

Distribution: Arunachal Pradesh; 1600–1800 m.

Illicium griffithii Hook.f. & Thomson, Fl. Ind. 1: 74. 1855.

Distribution: Arunachal Pradesh; 1200–1800 m.

Illicium manipurense Watt ex King, Ann. Roy. Bot. Gard. Calcutta 3(2): 200. 1891.

Distribution: Arunachal Pradesh; 1800–2500 m.

Illicium simonsii Maxim., Bull. Acad. Imp. Sci. St. Petersbourg 32: 480. 1888.

Distribution: Arunachal Pradesh; 1800–2500 m.

JUGLANDACEAE
(2 genera; 5 taxa)

Engelhardia Lesch. ex Blume

Engelhardia roxburghiana Wall., Pl. As. Rar. 2: 85, t. 199. 1931.

Distribution: Arunachal Pradesh; 500–1500 m.

Engelhardia spicata Lesch. ex Blume var. **colebrookeana** (Lindl. ex Wall.) Koord. & Valet, Bijdr. 5 (Meded. Lands Plantent 33): 169. 1900. *E. colebrookeana* Lindl. ex Wall.

Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand.

Engelhardia spicata Lesch. ex Blume var. **integra** (Kurz) Grierson & Long, Notes Roy. Bot. Gard. Edinburgh 40(1): 133. 1982. *Engelhardia villosa* var. *integra* Kurz

Distribution: Uttarakhand.

Engelhardia spicata Lesch. ex Blume, Bijdr. 10: 528. 1825. var. **spicata**

Distribution: Arunachal Pradesh, Himachal Pradesh, Sikkim; 500–2100 m.

(Plate 121a)

Juglans L.

Juglans regia L., Sp. Pl. 2: 997. 1753.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 1800–3250 m.

(Plate 121b)

LAMIACEAE
(71 genera; 276 taxa)

Achyropermum Blume

Achyropermum densiflorum Blume, Bijdr. 841. 1826. *Teucrium wallichianum* Benth.

Distribution: Arunachal Pradesh, Sikkim; 500–3500 m.

Achyropermum wallichianum (Benth.) Benth. ex Hook.f., Fl. Brit. India 4: 673 1885. *Teucrium wallichianum* Benth.

Distribution: Arunachal Pradesh.

(Plate 183b)

Ajuga L.

Ajuga brachystemon Maxim, Bull. Acad. Sci. St. Petersb. 27: 192. 1883.

Distribution: Himachal Pradesh, Uttarakhand.

Ajuga integrifolia Buch.–Ham., Prodr. Fl. Nepal. 108. 1825.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 600–1500 m.

(Plate 122a)

Ajuga lobata D.Don, Prodr. Fl. Nep. 108. 1825.

Distribution: Arunachal Pradesh, Sikkim; 1500–2000 m.

Ajuga macrosperma Wall. ex Benth., Pl. Asiat. Rar. 1: 58. 1830.

Distribution: Arunachal Pradesh, Sikkim, Uttarakhand; 1000–1500 m.

Ajuga macrosperma Wall. ex Benth. var. **thomsonii** (Maxim.) Hook.f., Fl. Brit. India 4: 704. 1885. *A. thomsonii* Maxim.

Distribution: Sikkim.

Ajuga parviflora Benth., Wall. Pl. As. Rar. 1: 59. 1830.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand; 2600–2850 m.

Anisochilus Wall. ex Benth.

Anisochilus carnosus (L.f.) Wall. ex Benth., Pl. As. Rar. 2: 18. 1831. *Lavandula carnosus* L.f.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Uttarakhand; 1500–2000 m.

Anisochilus pallidus Wall., Pl. Asiat. Rar. 2: 18. 1830.

Distribution: Sikkim. 300–1500 m.

Anisochilus polystachys Benth., Pl. As. Rar. 2: 19. 1830.

Distribution: Arunachal Pradesh, Sikkim. 400–1500 m.

Anisomeles R.Br.

Anisomeles indica (L.) Kuntze, Revis. Gen. Pl. 2: 512. 1891.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 500–1500 m.

(Plate 122b)

Chelonopsis Miq.

Chelonopsis cashmerica (Mukerjee) Hedge, Fl. Pakistan 192: 136. 1990. *C. albiflora* Pax & K.Hoffm. var. *cashmerica* Mukerjee

Distribution: Jammu & Kashmir.

Clerodendrum G.Don

Clerodendrum splendens G.Don, Edinburgh Philos. J. 11: 349. 1824.

Distribution: Uttarakhand.

Clinopodium L.

Clinopodium capitellatum (Benth.) Kuntze, Revis. Gen. Pl. 2: 515. 1891.
Micromeria capitellata Benth.

Distribution: Himachal Pradesh, Uttarakhand.

Clinopodium gracile (Benth.) Kuntze, Revis. Gen. Pl. 2: 514. 1891. *Calamintha gracilis* Benth.

Distribution: Arunachal Pradesh; 600–3600 m.

Clinopodium hydaspidis (Falc. ex Benth.) Kuntze, Revis. Gen. Pl. 2: 515. 1891.
Micromeria hydaspidis Falc. ex Benth.

Distribution: Jammu & Kashmir.

Clinopodium piperitum (D.Don) Murata, Acta Phytotax. Geobot. 28: 30. 1977.
Thymus piperitus D.Don

Distribution: Jammu & Kashmir, Uttarakhand.

Clinopodium umbrosum (M.Bieb.) Kuntze, Linnaea 21: 673. 1848. *Melissa umbrosa* M.Bieb.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 1000–1500 m. **(Plate 183a)**

Clinopodium vulgare L., Sp. Pl. 587. 1753.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand; 2600–3850 m.

Colebrookea Roxb. ex Spreng.

Colebrookea oppositifolia Sm., Exot. Bot. 2: 111. t.115.1805.

Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 2500–3050 m.

Colquhounia Wall.

Colquhounia coccinea Wall., Trans. Linn. Soc. London 13: 608. 1822.

Distribution: Arunachal Pradesh, Sikkim, Uttarakhand. **(Plate 122c)**

Colquhounia coccinea Wall. var. **mollis** (Schltdl.) Prain, J. As. Soc. Bengal 62: 37. 1893. *C. mollis* Schlecht

Distribution: Arunachal Pradesh, Himachal Pradesh; 1600–2200 m.

Colquhounia vestita Wall., Tent. Fl. Nepal. t. 14. 1824.

Distribution: Jammu & Kashmir, Sikkim, Uttarakhand.

Coleus Lour.

Coleus forskohlii (Willd.) Briq., Nat. Pflanzenfam. div. 4(3a): 359. 1897.
Plectranthus forskohlii Willd.

Distribution: Himachal Pradesh, Sikkim, Uttarakhand.

Craniotome Rehb.

Craniotome furcata (Link) Kuntze, Rev. Gen. Pl. 2: 516. 1891. *Ajuga furcata* Link

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 1000–2500 m.

Dracocephalum L.**Dracocephalum bipinnatum** Rupr., Sert. Tianschan. 65. 1869.

Distribution: Jammu & Kashmir.

Dracocephalum heterophyllum Benth., Lab. Gen. et. Sp. 738. 1835–36.Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 2500–3050 m. **(Plate 123a)****Dracocephalum moldavica** L., Sp. Pl. 595. 1753.

Distribution: Jammu & Kashmir.

Dracocephalum nutans L., Sp. Pl. 596. 1753.

Distribution: Arunachal Pradesh, Jammu & Kashmir, Uttarakhand.

Dracocephalum paulsenii Briq., Bot. Tidsskr. 28: 238. 1907.

Distribution: Jammu & Kashmir.

Dracocephalum stamineum Kar. & Kir., Bull. Soc. Imp. Naturalistes Moscou 15: 423. 1842.

Distribution: Jammu & Kashmir.

Dracocephalum tanguticum Maxim., Bull. Acad. Imp. Sci. Saint-Pétersbourg 27: 530. 1881.

Distribution: Sikkim; 3000–4500 m.

Dracocephalum wallichii Sealy, Bot. Mag. 164: t. 9657. 1944.

Distribution: Sikkim, Uttarakhand.

Elsholtzia Willd.**Elsholtzia blanda** (Benth.) Benth., Lab. Gen. & Sp. 162. 1833. *Aphanochilus blanda* Benth.

Distribution: Arunachal Pradesh, Sikkim; 600–1500 m.

Elsholtzia ciliata (Thunb.) Hyl., Bot. Notiser 1941: 129. 1941. *Sideritis ciliata* Thunb.Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 1400–1600 m. **(Plate 123b)****Elsholtzia densa** Benth., Labiat. Gen. Spec. 714. 1835.

Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 2500–3650 m.

Elsholtzia eriostachya (Benth.) Benth., Labiat. Gen. Spec. 163. 1833. *Aphanochilus eriostachyus* Benth.Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 3000–4500 m. **(Plate 124a)****Elsholtzia flava** Benth., Labiat. Gen. Spec. 161. 1833.Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 2200–2800 m. **(Plate 123c)**

Elsholtzia fruticosa (D.Don) Rehder, Pl Wilson. 3: 381. 1916. *Perilla fruticosa* D.Don

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 2000–2600 m.

Elsholtzia kachinensis Prain, J. Asiat. Soc. Bengal, Pt. 2, Nat. Hist. 73: 206. 1904.

Distribution: Himachal Pradesh.

Elsholtzia pilosa (Benth.) Benth., Labiat. Gen. Spec. 163. 1833. *Aphemochilus pilosus* Benth.

Distribution: Arunachal Pradesh, Sikkim, Uttarakhand; 2000–2800 m. (Plate 124b)

Elsholtzia stachyodes (Link) Raizada & H.O.Saxena, Indian Forester 92: 309. 1966. *Hyptis stachyodes* Link

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand.

Elsholtzia strobilifera Benth., Labiat. Gen. Spec. 163. 1833.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 1500–2000 m. (Plate 125a)

Endostemon N.E.Br.

Endostemon viscosus (Roth) M.R.Ashby, J. Bot. 74: 126. 1936. *Ocimum viscosum* Roth

Distribution: Himachal Pradesh.

Eremostachys Bunge

Eremostachys acaulis Beck ex Rech.f., Repert. Spec. Nov. Regni Veg. 48: 161. 1940.

Distribution: Jammu & Kashmir.

Eremostachys edelbergii Rech.f., Biol. Skr. 8(1): 46. 1955.

Distribution: Jammu & Kashmir.

Eriophyton Benth.

Eriophyton rhomboideum (Benth.) Ryding, Taxon 60: 482. 2011. *Eriantha rhomboidea* Benth.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 3200–4550 m.

Eriophyton wallichii Benth., Pl. Asiat. Rar. 1: 63. 1830.

Distribution: Sikkim, Uttarakhand; 3000–5650 m.

Galeopsis L.

Galeopsis bifida Boenn., Prodr. Fl. Monast. Westphal. 178. 1824.

Distribution: Sikkim; 2500–4000 m.

Galeopsis tetrahit L., Sp. Pl. 579. 1753.

Distribution: Jammu & Kashmir, Sikkim.

Gomphostemma Benth.**Gomphostemma borensis** Dunn, Kew Bull. 1920: 135. 1920.

Distribution: Arunachal Pradesh; 500–800 m.

Gomphostemma lucidum Wall. ex Benth., Pl. Asiat. Rar. 2: 12. 1830.

Distribution: Arunachal Pradesh; 500–1500 m.

Gomphostemma mastersii Benth. ex Hook.f., Fl. Brit. India 4: 699. 1885.

Distribution: Arunachal Pradesh, Sikkim; 800–1200 m.

Gomphostemma melissifolium Wall. ex Benth., Pl. Asiat. Rar. 2: 12. 1830.

Distribution: Sikkim; upto 1000 m.

Gomphostemma niveum Hook.f., Fl. Brit. India 4: 697. 1885.

Distribution: Arunachal Pradesh; 500–1500 m.

Gomphostemma ovatum Wall. ex Benth., Pl. Asiat. Rar. 2: 12. 1830.

Distribution: Arunachal Pradesh, Sikkim; 1000–1500 m.

Gomphostemma parviflorum Wall. ex Benth., Pl. Asiat. Rar. 2: 12. 1830.

Distribution: Arunachal Pradesh, Sikkim; 100–600 m.

Gomphostemma parviflorum Wall. ex Benth. var. **farinosa** Prain, Ann. Roy. Bot. Gard. (Calcutta) 3: 253. 1891.

Distribution: Arunachal Pradesh.

Gomphostemma thomsonii Benth. ex Hook.f., Fl. Brit. India 4: 698. 1885.

Distribution: Arunachal Pradesh; 1000–1700 m.

Gontscharovia Boriss.**Gontscharovia popovii** (B.Fedtsch. & Gontsch.) Boriss., Bot. Mater. Gerb. Bot. Inst. Komarova Akad. Nauk S.S.S.R. 15: 324. 1953. *Satureja popovii* B. Fedtsch. & Gontsch.

Distribution: Jammu & Kashmir.

Hyptis Jacq.**Hyptis suaveolens** (L.) Poit., Ann. Mus. Hist. Nat. 7: 472. 1806. *Ballota suaveolens* L.

Distribution: Jammu & Kashmir, Uttarakhand.

Hyssopus L.**Hyssopus officinalis** L., Sp. Pl. 569. 1753.Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 3000–3650 m. **(Plate 125c)****Isodon** (Schrad. ex Benth.) Spach**Isodon assamicus** (Mukerjee) H.Hara, J. Jap. Bot. 60: 233. 1985. *Plectranthus assamicus* Mukerjee

Distribution: Arunachal Pradesh; 400–1000 m.

Isodon coetsa (Buch.–Ham. ex D.Don) Kudô, Mem. Fac. Sci. Taihoku Imp. Univ. 2: 131. 1929. *Plectranthus coetsa* Buch.–Ham. ex D.Don

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 400–1000 m. (Plate 126a)

Isodon hispidus (Benth.) Murata, Acta Phytotax. Geobot. 24:82. 1969. *Plectranthus hispidus* Benth.

Distribution: Arunachal Pradesh; 1500–2000 m.

Isodon japonicus (Burm.f.) H.Hara, Enum. Sperm. Jap. 1: 206. 1948. *Scutellaria japonica* Burm.f.

Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand.

Isodon lophanthoides (Buch.–Ham. ex D.Don) H.Hara, J. Jap. Bot. 60: 235. 1985. *Hyssopus lophanthoides* Buch.–Ham. ex D.Don

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 600–1200 m.

Isodon lophanthoides (Buch.–Ham. ex D.Don) H.Hara var. **graciliflorus** (Benth.) H. Hara, J. Jap. Bot. 60: 235. 1985. *Plectranthus graciliflorus* Benth.

Distribution: Arunachal Pradesh, Himachal Pradesh, Sikkim, Jammu & Kashmir; 400–800 m.

Isodon melissoides (Benth.) H.Hara, Labiat. Gen. Spec. 39. 1832. *Plectranthus melissoides* Benth.

Distribution: Arunachal Pradesh; 500–800 m.

Isodon repens (Wall. ex Benth.) Murata, Acta Phytotax. Geobot. 22: 21. 1966. *Plectranthus repens* Wall. ex Benth.

Distribution: Arunachal Pradesh, Himachal Pradesh, Sikkim; 800–1800 m.

Isodon rugosus (Wall. ex Benth.) Codd, Taxon 17: 239. 1968. *Plectranthus rugosus* Wall. ex Benth.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand, Sikkim; 2600–3000 m.

Isodon scrophularioides (Wall. ex Benth.) Murata, Acta Phytotax. Geobot. 22: 21. 1966. *Plectranthus scrophularioides* Wall. ex Benth.

Distribution: Arunachal Pradesh, Sikkim, Uttarakhand; 1000–1500 m.

Isodon ternifolius (D.Don) Kudô, Mem. Fac. Sci. Taihoku Imp. Univ. 2: 140. 1929. *Plectranthus ternifolius* D.Don

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 500–1200 m.

Isodon walkeri (Arn.) H.Hara, J. Jap. Bot. 60: 237. 1985. *Plectranthus walkeri* Arn.

Distribution: Arunachal Pradesh, Uttarakhand.

Lagochilus Bunge ex Benth.

Lagochilus cabulicus Benth., Prodr. 12: 515. 1848.

Distribution: Jammu & Kashmir.

Lagopsis Bunge

Lagopsis marrubiastrum (Stephan) Ikonn.–Gal., Bot. Mater. Gerb. Bot. Inst. Komarova Akad. Nauk S.S.S.R. 7: 41. 1937. *Moluccella marrubiastrum* Stephan

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand.

Lallemantia Fisch. & C.A.Mey.

Lallemantia royleana (Benth.) Benth., Prodr. 12: 404. 1848. *Dracocephalum royleanum* Benth.

Distribution: Uttarakhand.

Lamium L.

Lamium album L., Sp. Pl. 579. 1753.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand. (Plate 125b)

Lamium amplexicaule L., Sp. Pl. 579. 1753.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 1800–4500 m.

Lavandula L.

Lavandula angustifolia Mill., Gard. Dict. ed. 8. 2. 1768.

Distribution: Jammu & Kashmir.

Leonotis (Pers.) R.Br.

Leonotis nepetifolia (L.) R.Br., Hortus Kew. 3: 409. 1811.

Distribution: Uttarakhand.

Leonurus L.

Leonurus cardiaca L., Sp. Pl. 584. 1753.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand; 2500–3400 m.

Leonurus japonicus Houtt., Nat. Hist. PL 9: 366. 1778.

Distribution: Arunachal Pradesh.

Leonurus pubescens Benth., Pl. Asiat. Rar. 1: 63. 1830.

Distribution: Himachal Pradesh.

Leucas R.Br.

Leucas aspera (Willd.) Link, Enum. Hort. Berol. Alt. 2: 113. 1822. *Phlomis aspera* Willd.

Distribution: Jammu & Kashmir.

Leucas biflora (Vahl) Sm., Cycl. 20(2): 7. 1812. *Phlomis biflora* Vahl

Distribution: Uttarakhand.

Leucas cephalotes (Roth) Spreng. Syst. Veg. 2: 743. 1825. *Phlomis cephalotes* Roth

Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand.

Leucas ciliata Benth., Pl. As. Rar. 1:61. 1830.

Distribution: Arunachal Pradesh, Jammu & Kashmir, Sikkim; 1000–2000 m.

(Plate 126b)

Leucas decemdentata (Willd.) Sm., Cycl. 20(2): 6. 1812. *Phlomis decemdentata* Willd.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 400–1500 m.

Leucas hyssopifolia Benth., Pl. As. Rar. 1: 60. 1830.

Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand.

Leucas lanata Benth., Pl. Asiat. Rar. 1: 61. 1830.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand.

Leucas lavandulifolia Sm., Cycl. 20(2): 2. 1812.

Distribution: Arunachal Pradesh, Sikkim, Uttarakhand; 200–500 m.

Leucas nutans (Roth) Spreng., Syst. Veg. 2: 743. 1825. *Phlomis nutans* Roth

Distribution: Jammu & Kashmir, Uttarakhand.

Leucas stelligera Wall. ex Benth., Pl. Asiat. Rar. 1: 61. 1830.

Distribution: Jammu & Kashmir.

Leucas urticifolia (Vahl) Sm., Cycl. 20(2): 4. 1812. *Phlomis urticifolia* Vahl

Distribution: Jammu & Kashmir.

Leucas zeylanica (L.) W.T. Aiton, Hortus Kew. 3: 409. 1811. *Phlomis zeylanica* L.

Distribution: Himachal Pradesh.

Leucosceptrum Sm.

Leucosceptrum canum Sm., Exot. Bot. 2: 113. 1806.

Distribution: Arunachal Pradesh, Sikkim, Uttarakhand; 1000–1500 m. (Plate 126c)

Lophanthus Adans.

Lophanthus pinetorum (Aitch. & Hemsl.) Levin, Trudy Bot. Inst. Akad. Nauk S.S.S.R., Ser. 1, Fl. Sist. Vyssh. Rast. 5: 293 1941. *Nepeta pinetorum* Aitch. & Hemsl.

Distribution: Jammu & Kashmir; 1700–2300 m.

Lycopus L.

Lycopus europaeus L., Sp. Pl. 21. 1753.

Distribution: Himachal Pradesh, Jammu & Kashmir.

Lycopus exaltatus L.f., Suppl. Pl. 87. 1782.

Distribution: Jammu & Kashmir.

Marmoritis Benth.

Marmoritis nivalis (Benth.) Hedge, Fl. Pakistan 192: 119. 1990. *Nepeta nivalis* Benth.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand.

Marmoritis rotundifolia Benth., Hooker's J. Bot. Kew Gard. Misc. 3: 377. 1833.

Distribution: Jammu & Kashmir, Uttarakhand; 3500–4500 m.

Marrubium L.

Marrubium vulgare L., Sp. Pl. 583. 1753.

Distribution: Jammu & Kashmir, Uttarakhand.

Melissa L.

Melissa axillaris (Benth.) Bakh.f., Fl. Java 2: 629. 1965. *Geniosporum axillare* Benth.

Distribution: Arunachal Pradesh, Himachal Pradesh, Sikkim, Uttarakhand; 1000–1500 m.

Melissa flava Benth., Pl. Asiat. Rar. 1: 65. 1830.

Distribution: Uttarakhand.

Mentha L.

Mentha aquatica L., Sp. Pl. 576. 1753.

Distribution: Jammu & Kashmir.

Mentha arvensis L., Sp. Pl. 577. 1753.

Distribution: Jammu & Kashmir, Uttarakhand.

Mentha longifolia (L.) L., Fl. Monsp. 19. 1756. *M. spicata* var. *longifolia* L.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand; 2500–4000 m.

(Plate 127a)

Mentha piperita L., Sp. Pl. 576. 1753.

Distribution: Jammu & Kashmir, Uttarakhand.

Mentha royleana Wall. ex Benth., Pl. Asiat. Rar. 1: 29. 1830.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand.

Mentha spicata L., Sp. Pl. 576. 1753.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand.

Meriandra Benth.

Meriandra strobilifera Benth., Edwards's Bot. Reg. 15: t. 1282. 1829.

Distribution: Himachal Pradesh, Uttarakhand.

Micromeria Benth.

Micromeria biflora (Buch.–Ham. ex D. Don) Benth., Labiat. Gen. Spec. 378. 1834. *Thymus biflorus* Buch.–Ham. ex D. Don

Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 2300–3400 m.

(Plate 127b)

Micromeria biflora (Buch.-Ham. ex D.Don) Benth. var. **hispida** Kitam. & Murata, Fauna Fl. Nepal Himalaya: 212. 1955.

Distribution: Uttarakhand.

Micromeria hispida Boiss. & Heldr. ex Benth., Prodr. 12: 215. 1848.

Distribution: Uttarakhand.

Microtoena Prain

Microtoena griffithii Prain, J. As. Soc. Bengal 59: 310. 1890.

Distribution: Arunachal Pradesh.

Mosla (Benth.) Buch.-Ham. ex Maxim.

Mosla dianthera (Buch.-Ham. ex Roxb.) Maxim, Bull. Acad.Sci. St.-Petersb.20: 457. 1865. *Lycopus diantherus* Buch.-Ham. ex Roxb.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Uttarakhand; 500–1500 m.

Mosla scabra (Thunb.) C.Y. Wu & H.W. Li, Acta Phytotax. Sin. 12: 230. 1974. *Ocimum scabrum* Thunb.

Distribution: Sikkim; upto 2000 m.

Nepeta L.

Nepeta adenophyta Hedge, Pakistan J. Bot. 21: 195. 1989.

Distribution: Jammu & Kashmir.

Nepeta annua Pall., Acta Acad. Sci. Imp. Petrop. 2: 263. 1779.

Distribution: Jammu & Kashmir.

Nepeta batalica Reshi, J. Econ. Taxon. Bot. 36 (3): 447, pl. 3. 2012.

Distribution: Jammu & Kashmir.

Nepeta brachyantha Rech.f. & Edelb., Biol. Skr. 8(1): 26. 1955.

Distribution: Jammu & Kashmir.

Nepeta campestris Benth., Labiat. Gen. Spec. 734. 1835.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand.

Nepeta cataria L., Sp. Pl. 570. 1753.

Distribution: Jammu & Kashmir.

Nepeta ciliaris Benth., Pl. Asiat. Rar. 1: 64. 1830.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand.

Nepeta clarkei Hook.f., Fl. Brit. India 4: 663. 1885.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand.

Nepeta coerulescens Maxim., Bull. Acad. Imp. Sci. Saint-Pétersbourg 27: 529. 1881.

Distribution: Jammu & Kashmir, Sikkim; 2500–5000 m.

Nepeta connata Royle ex Benth., Hooker's J. Bot. Kew Gard. Misc. 3: 378. 1833.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand; 3000–3550 m.

Nepeta densiflora Kar. & Kir., Bull. Soc. Imp. Naturalistes Moscou 14: 725. 1841.
Distribution: Jammu & Kashmir.

Nepeta discolor Royle ex Benth., Hooker's J. Bot. Kew Gard. Misc. 3: 378. 1833.
Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 2600–3600 m.

Nepeta discolor Royle ex Benth. var. **kargilica** Reshi, J. Econ. Taxon. Bot. 36 (3): 448, pl. 3. 2012.
Distribution: Jammu & Kashmir.

Nepeta distans Royle, Hooker's J. Bot. Kew Gard. Misc. 3: 379. 1833.
Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand; 2500–4000 m.

Nepeta drassiana Reshi, J. Econ. Taxon. Bot. 36 (3): 444, pl. 3. 2012.
Distribution: Jammu & Kashmir.

Nepeta duthiei Prain & Mukerjee, J. Indian Bot. Soc. 19: 84. 1940.
Distribution: Uttarakhand.

Nepeta elliptica Royle ex Benth., Hooker's J. Bot. Kew Gard. Misc. 3: 378. 1833.
Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand; 2500–3050 m.

Nepeta erecta (Royle ex Benth.) Benth., Labiat. Gen. Spec. 482. 1834.
Dracocephalum erectum Royle ex Benth.
Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand; 2300–3250 m.

Nepeta eriostachya Benth., Labiat. Gen. Spec. 734.1835.
Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand; 2500–4350 m.

Nepeta eriostachya Benth. var. **rohtangensis** B.S.Aswal, Fl. Lahual–Spiti 513. 1994.
Distribution: Himachal Pradesh, Uttarakhand; 2500–4000 m.

Nepeta floccosa Benth., Labiat. Gen. Spec. 736. 1835.
Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand; 2600–3700 m.

Nepeta glutinosa Benth., Labiat. Gen. Spec. 735. 1835.
Distribution: Himachal Pradesh, Jammu & Kashmir.

Nepeta govaniana (Wall. ex Benth.) Benth., Labiat. Gen. Spec. 482. 1834.
Dracocephalum govanianum Wall. ex Benth.
Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand; 2600–3250 m.

Nepeta graciliflora Benth., Pl. Asiat. Rar. 1: 65. 1830.
Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand.

Nepeta grata Benth., Labiat. Gen. Spec. 735. 1835.
Distribution: Himachal Pradesh, Jammu & Kashmir.

Nepeta gumarica Reshi, J. Econ. Taxon. Bot. 36 (3): 445, pl. 2. 2012.
Distribution: Jammu & Kashmir.

- Nepeta hindostana** Haines, Bot. Bihar & Orissa 744. 1922.
Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarkhand.
- Nepeta juncea** Benth., Prodr. 12: 379. 1848.
Distribution: Jammu & Kashmir.
- Nepeta kokanica** Regel, Izv. Imp. Obsc. Ljubit. Estesv. Moskovsk. Univ. 34(2): 65. 1882.
Distribution: Jammu & Kashmir. 1700–2300 m.
- Nepeta laevigata** (D.Don) Hand.–Mazz., Symb. Sin. 7: 916. 1936. *Betonica laevigata* D. Don
Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand; 2600–4000 m.
- Nepeta lamiopsis** Benth. ex Hook.f., Fl. Brit. India 4: 659 1885.
Distribution: Sikkim. 3000–4000 m.
- Nepeta lancifolia** Reshi, J. Econ. Taxon. Bot. 36 (3): 450, pl. 5. 2012.
Distribution: Jammu & Kashmir.
- Nepeta leucolaena** Benth. ex Hook.f., Fl. Brit. India 4: 662. 1885.
Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand; 2500–3050 m.
- Nepeta linearis** Royle ex Benth., Hooker's J. Bot. Kew Gard. Misc. 3: 377. 1833.
Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand.
- Nepeta longibracteata** Benth., Lab. Gen. et. Sp. 737. 1835.
Distribution: Himachal Pradesh, Jammu & Kashmir; 2600–4300 m.
- Nepeta nervosa** Royle ex Benth., Hooker's J. Bot. Kew Gard. Misc. 3: 378. 1833.
Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand.
- Nepeta padamica** Reshi, J. Econ. Taxon. Bot. 36 (3): 449, pl. 4. 2012.
Distribution: Jammu & Kashmir.
- Nepeta paucifolia** Mukerjee, J. Indian Bot. Soc. 19: 88. 1940.
Distribution: Jammu & Kashmir.
- Nepeta podostachys** Benth., Prodr. 12: 372. 1848.
Distribution: Jammu & Kashmir.
- Nepeta podostachys** Benth. var. **hypoluciphylla** Reshi, J. Econ. Taxon. Bot. 36 (3): 443. 2012.
Distribution: Jammu & Kashmir.
- Nepeta podostachys** Benth. subsp. **paulsenii** (Briq.) A.L.Budantzev, Bot. Zhurn. (Moscow & Leningrad) 78(1): 99. 1993. *N. paulsenii* Briq.
Distribution: Jammu & Kashmir.
- Nepeta raphanorhiza** Benth., Labiat. Gen. Spec. 734. 1835.
Distribution: Jammu & Kashmir.
- Nepeta subincisa** Benth., Prodr. 12: 373. 1848.
Distribution: Jammu & Kashmir.

Nepeta supina Steven, Mém. Soc. Imp. Naturalistes Moscou 3: 265. 1812.
Distribution: Uttarakhand.

Nepeta tibetica Maire, Bull. Soc. Hist. Nat. Afrique N. 34: 138. 1943.
Distribution: Himachal Pradesh.

Ocimum L.

Ocimum americanum L., Cent. Pl. I. 15. 1755.
Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand.

Ocimum basilicum L., Sp. Pl. 597. 1753.
Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 200–1200 m.

Ocimum gratissimum L., Sp. Pl. 1197. 1753.
Distribution: Sikkim, Uttarakhand.

Ocimum kilimandscharicum Gürke, Pflanzenw. Ost–Afrikas C: 349. 1895.
Distribution: Uttarakhand.

Ocimum tenuiflorum L., Sp. Pl. 597. 1753.
Distribution: Arunachal Pradesh, Jammu & Kashmir, Sikkim, Himachal Pradesh, Uttarakhand.

Origanum L.

Origanum majorana L., Sp. Pl. 590. 1753.
Distribution: Jammu & Kashmir.

Origanum vulgare L., Sp. Pl. 590. 1753.
Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 2500–3450 m. **(Plate 128a)**

Orthosiphon Benth.

Orthosiphon incurvus Benth., Pl. Asiat. Rar. 2: 15. 1830.
Distribution: Arunachal Pradesh, Sikkim; 1000–2000 m.

Orthosiphon pallidus Royal ex Benth., Hooker's J. Bot. Kew Gard. Misc. 3: 370. 1833.
Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand.

Orthosiphon rubicundus (D. Don) Benth., Pl. Asiat. Rar. 2: 14. 1830. *Plectranthus rubicundus* D. Don
Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Uttarakhand.

Orthosiphon scapiger Benth., Pl. Asiat. Rar. 2: 15. 1830.
Distribution: Uttarakhand.

Orthosiphon wattii Prain, J. As. Soc. Bengal 66: 520. 1897.
Distribution: Arunachal Pradesh.

Paralamium Dunn

Paralamium griffithii (Hook.f.) Suddee & A.J. Paton, Kew Bull. 59: 316. 2004.
Plectranthus griffithii Hook.f.
 Distribution: Arunachal Pradesh; 500–1500 m.

Paraphlomis (Prain) Prain

Paraphlomis javanica (Blume) Prain, Ann. Roy. Bot. Gard. 9: 60. 1901. *Leonurus javanicus* Blume
 Distribution: Arunachal Pradesh; 200–500 m.

Perilla L.

Perilla frutescens (L.) Britton, Mem. Torrey Bot. Club 5: 277. 1894. *Ocimum frutescens* L.
 Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 500–1000 m. **(Plate 128b)**

Perovskia Kar.

Perovskia abrotanoides Kar., Bull. Soc. Imp. Naturalistes Moscou 14: 15. 1841.
 Distribution: Jammu & Kashmir.

Perovskia atriplicifolia Benth., DC. Prodr. 12: 261. 1848.

Distribution: Himachal Pradesh, Jammu & Kashmir.

Phlomidioschema Vvedenskiy

Phlomidioschema parviflorum (Benth.) Vved., Bot. Mater. Gerb. Bot. Inst. Komarova Akad. Nauk S.S.S.R. 9: 55. 1941. *Stachys parviflora* Benth.
 Distribution: Jammu & Kashmir.

Phlomis L.

Phlomis cashmeriana Royle ex Benth., Hooker's J. Bot. Kew Gard. Misc. 3: 382. 1833.
 Distribution: Jammu & Kashmir.

Phlomooides Moench

Phlomooides bracteosa (Royle ex Benth.) Kamelin & Makhm., Bot. Zhurn. (Moscow & Leningrad) 75: 244. 1990. *P. bracteosa* Royle ex Benth.
 Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 3200–3850 m. **(Plate 128d)**

Phlomooides breviflora (Benth.) Kamelin & Makhm., Bot. Zhurn. (Moscow & Leningrad) 75: 244. 1990. *P. breviflora* Benth.
 Distribution: Sikkim.

Phlomooides hamosa (Benth.) Mathiesen, Kew Bull. 66: 96. 2011. *Notochaeta hamosa* Benth.
 Distribution: Arunachal Pradesh, Sikkim, Uttarakhand; 1500–2500 m.

Phlomoïdes macrophylla (Benth.) Kamelin & Makhm., Bot. Zhurn. (Moscow & Leningrad) 75: 244. 1990. *Phlomis macrophylla* Benth.

Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 2700–4200 m.

Phlomoïdes rotata (Benth. ex Hook.f.) Mathiesen, Kew Bull. 66: 96. 2011. *Phlomis rotata* Benth. ex Hook.f.

Distribution: Sikkim; 2700–6000 m.

Phlomoïdes superba (Royle ex Benth.) Kamelin & Makhm., Bot. Zhurn. (Moscow & Leningrad) 75: 248. 1990. *Eremostachys superba* Royle ex Benth.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand.

Phlomoïdes spectabilis (Falc. ex Benth.) Kamelin & Makhm., Bot. Zhurn. (Moscow & Leningrad) 75: 245. 1990. *Phlomis spectabilis* Falc. ex Benth.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand.

Phlomoïdes tibetica (C. Marquand & Airy Shaw) Kamelin & Makhm., Bot. Zhurn. (Moscow & Leningrad) 75: 243. 1990. *Phlomis tibetica* C. Marquand & Airy Shaw

Distribution: Arunachal Pradesh, Sikkim; 2300–4700 m.

Physostegia Benth.

Physostegia virginiana (L.) Benth., Edwards's Bot. Reg. 15: t. 1289. 1829. *Dracocephalum virginianum* L.

Distribution: Himachal Pradesh.

Platostoma P. Beauv.

Platostoma coloratum (D. Don) A. J. Paton, Kew Bull. 52: 274. 1997. *Plectranthus colorata* D. Don

Distribution: Arunachal Pradesh, Sikkim, Uttarakhand; 1000–1800 m.

Platostoma hispidum (L.) A. J. Paton, Kew Bull. 52: 273. 1997. *Gomphrena hispida* L.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Uttarakhand; 1500–1800 m.

Plectranthus L'Hér.

Plectranthus amboïnicus (Lour.) Spreng., Syst. Veg. 2: 690. 1825. *Coleus amboïnicus* Lour.

Distribution: Uttarakhand.

Plectranthus barbatus Andrews, Bot. Repos. 10: t. 594. 1810.

Distribution: Arunachal Pradesh, Jammu & Kashmir, Uttarakhand.

Plectranthus mollis (Aiton) Spreng., Syst. Veg. 2: 690. 1825. *Ocimum molle* Aiton

Distribution: Himachal Pradesh, Sikkim, Uttarakhand.

Plectranthus rotundifolius (Poir.) Spreng., Syst. Veg. 2: 690. 1825. *Germania rotundifolia* Poir.

Distribution: Arunachal Pradesh, Uttarakhand.

Plectranthus scutellarioides (L.) R.Br., Prodr. Fl. Nov. Holl. 506. 1810. *Ocimum scutellarioides* L.

Distribution: Arunachal Pradesh, Uttarakhand.

Plectranthus unguentarius Codd, Bothalia 11: 387. 1975.

Distribution: Uttarakhand.

Pogostemon Desf.

Pogostemon amarantoides Benth., Prodr. 12: 153. 1848.

Distribution: Arunachal Pradesh, Sikkim, Uttarakhand; 800–1500 m.

Pogostemon auricularius (L.) Hassk., Nat. Geschied.10: 127. 1843. *Mentha auricularia* L.

Distribution: Arunachal Pradesh, Sikkim; 500–1000 m. **(Plate 128c)**

Pogostemon benghalensis Kuntze, Rev. Gen. Pl. 529. 1891.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Uttarakhand.

Pogostemon brachystachyus Benth., Prodr.12: 156. 1848.

Distribution: Arunachal Pradesh. 1400–1600 m.

Pogostemon crassicaulis (Benth.) Pres, Bull. Brit. Mus. (Nat. Hist.), Bot. 10: 73. 1982. *Dysophylla crassicaulis* Benth.

Distribution: Uttarakhand.

Pogostemon cruciatus (Benth.) Kuntze, Revis. Gen. Pl. 2: 530. 1891. *Dysophylla cruciata* Benth.

Distribution: Himachal Pradesh, Sikkim, Uttarakhand.

Pogostemon elsholtzioides Benth., Prodr. 12: 153. 1848.

Distribution: Arunachal Pradesh; 500–1200 m.

Pogostemon glaber Benth., Pl. Asiat. Rar. 1: 31. 1830.

Distribution: Arunachal Pradesh, Sikkim; 900–1500 m.

Pogostemon linearis (Benth.) Kuntze, Revis. Gen. Pl. 2: 530. 1891. *Dysophylla linearis* Benth.

Distribution: Arunachal Pradesh; 1500–1200 m.

Pogostemon menthoides Blume, Bijdr. 825. 1826. *P. fraternus* Miq.

Distribution: Arunachal Pradesh, Sikkim; 800–1500 m.

Pogostemon parviflorus Benth., Pl. Asiat. Rar. 1: 31. 1830.

Distribution: Arunachal Pradesh, Sikkim; 1000–1500 m.

Pogostemon pubescens Benth., Prodr. 12: 152. 1848.

Distribution: Uttarakhand.

Pogostemon pumilus (Graham) Press, Bull. Brit. Mus. (Nat. Hist.), Bot. 10: 74. 1982. *Mentha pumila* Graham

Distribution: Jammu & Kashmir, Sikkim, Uttarakhand.

Pogostemon stellatus (Lour.) Kuntze, Revis. Gen. Pl. 2: 429 1891. *Mentha stellata* Lour.

Distribution: Sikkim; upto 1200 m.

Pogostemon tuberosus Benth., Pl. Asiat. Rar. 1: 31. 1830.

Distribution: Arunachal Pradesh, Sikkim; 800–1500 m.

Pogostemon villosus (Roxb.) Benth., Labiat. Gen. Spec. 153. 1833. *Elsholtzia villosa* Roxb.

Distribution: Arunachal Pradesh.

Prunella L.

Prunella vulgaris L., Sp. Pl. 600. 1753.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 2600–3550 m. **(Plate 129a)**

Prunella vulgaris L. subsp. **hispida** (Benth.) Hultén, Kongl. Svenska Vetensk. Acad. Handl. IV, 13: 366. 1971. *Prunella hispida* Benth.

Distribution: Arunachal Pradesh, Sikkim. 1500–2500 m.

Rosmarinus L.

Rosmarinus officinalis L., Sp. Pl. 23. 1753.

Distribution: Uttarakhand.

Roylea Wall. ex Benth.

Roylea cinerea (D. Don) Baill., Hist. Pl. 11: 26. 1892. *Ballota cinerea* D. Don

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand.

Rubiteucris Kudô

Rubiteucris palmata (Benth. ex Hook.f.) Kudô, Mem. Fac. Sci. Taihoku Imp. Univ. 2: 297 1929. *Teucrium palmatum* Benth. ex Hook.f.

Distribution: Sikkim; 2000–3000 m.

Rydingia Scheen & V.A. Albert

Rydingia limbata (Benth.) Scheen & V.A. Albert, Syst. & Geogr. Pl. 77: 235. 2007. *Ballota limbata* Benth.

Distribution: Jammu & Kashmir.

Salvia L.

Salvia aegyptiaca L., Sp. Pl. 23. 1753.

Distribution: Jammu & Kashmir.

Salvia azurea Michx. ex Vahl, Enum. Pl. Obs. 1: 253. 1804.

Distribution: Uttarakhand.

Salvia campanulata Wall. ex Benth., Pl. Asiat. Rar. 1: 67. 1830.

Distribution: Arunachal Pradesh, Sikkim, Uttarakhand; 2400–4300 m.

Salvia coccinea Buc'hoz ex Etl., Salv. 23. 1777.

Distribution: Jammu & Kashmir, Uttarakhand.

Salvia farinacea Benth., Labiat. Gen. Spec. 274. 1833.

Distribution: Uttarakhand.

Salvia hians Royle ex Benth., Bot. Misc. 3: 373. 1833.

Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand.

(Plate 130a)

Salvia lamiifolia Jacq., Pl. Hort. Schoenbr. 3: 37. 1798.

Distribution: Jammu & Kashmir.

Salvia leucantha Cav., Icon. 1: 16. 1791.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand; 2800–3200 m.

Salvia mekongensis E.Peter var. **assamensis** Peter Stibal, Sond aus Fedd. Repert. 39: 181. 1936.

Distribution: Arunachal Pradesh.

Salvia moorcroftiana Wall. ex Benth., Pl. Asiat. Rar. 1: 67. 1830.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand.

Salvia mukerjeei Bennet & Raizada, Indian For. 108: 303. 1982.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand. (Plate 130b)

Salvia nubicola Wall. ex Sweet, Brit. Fl. Gard. 2: 140. 1825–28.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 2600–3350 m. (Plate 131a)

Salvia officinalis L., Sp. Pl. 23. 1753.

Distribution: Jammu & Kashmir, Uttarakhand.

Salvia plebeia R.Br., Prodr. Fl. Nov. Holl. 501. 1810.

Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand.

Salvia reflexa Hornem., Enum. Pl. Hort. Hafn. 34. 1807.

Distribution: Uttarakhand.

Salvia roborowskii Maxim., Bull. Acad. Imp. Sci. Saint-Pétersbourg 27: 527. 1881.

Distribution: Sikkim.

Salvia santolinifolia Boiss., Diagn. Pl. Orient. 5: 13. 1844.

Distribution: Himachal Pradesh, Uttarakhand.

Salvia sclarea L., Sp. Pl. 27. 1753.

Distribution: Jammu & Kashmir.

Salvia sikkimensis E.Peter, Repert. Spec. Nov. Regni Veg. 39: 177. 1936.

Distribution: Sikkim; 3100–4200 m.

Salvia splendens Sellow ex Schult., Mant. 1: 185. 1822.

Distribution: Jammu & Kashmir, Uttarakhand.

Salvia virgata Jacq., Hort. Bot. Vindob. 1: 14. 1770.

Distribution: Jammu & Kashmir.

Salvia viridis L., Sp. Pl. 24. 1753.

Distribution: Jammu & Kashmir.

Satureja L.

Satureja hortensis L., Sp. Pl. 568. 1753.

Distribution: Jammu & Kashmir, Uttarakhand.

Scutellaria L.

Scutellaria assamica Mukerjee, Notes Roy. Bot. Gard. Edinburgh 19: 305. 1983.

Distribution: Arunachal Pradesh.

Scutellaria discolor Colebr., Pl. Asiat. Rar. 1: 66. 1830.

Distribution: Arunachal Pradesh, Himachal Pradesh, Sikkim, Uttarakhand; 1800–2200 m.

Scutellaria galericulata L., Sp. Pl. 599. 1753.

Distribution: Jammu & Kashmir.

Scutellaria grossa Wall., Pl. Asiat. Rar. 1: 67. 1830.

Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand.

Scutellaria heydei Hook.f., Fl. Brit. India 4: 667. 1885.

Distribution: Jammu & Kashmir.

Scutellaria linearis Benth., Pl. Asiat. Rar. 1: 66. 1830.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand.

Scutellaria multicaulis Boiss., Diagn. Pl. Orient. 7: 61. 1846.

Distribution: Jammu & Kashmir.

Scutellaria paulsenii Briq., Bot. Tidsskr. 28: 233. 1907.

Distribution: Jammu & Kashmir.

Scutellaria prostrata Jacq. ex Benth., Labiat. Gen. Spec. 733. 1835.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand; 2600–4300 m.

Scutellaria repens Buch.–Ham., Prodr. Fl. Nepal. 110. 1825.

Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand.

Scutellaria scandens D. Don, Prodr. Fl. Nepal. 110. 1825.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand.

Scutellaria violacea Heyne ex Benth., Pl. Asiat. Rar. 1: 66. 1830.

Distribution: Arunachal Pradesh, Sikkim.

Sideritis L.

Sideritis montana L., Sp. Pl. 575. 1753.

Distribution: Jammu & Kashmir.

Siphocranion Kudô

Siphocranion macranthum (Hook.f.) C.Y.Wu, Acta Phytotax. Sin. 8: 56. 1959.
Plectranthus macranthus Hook.f.

Distribution: Arunachal Pradesh, Sikkim; 1200–1800 m.

Stachys L.

Stachys floccosa Benth., Labiat. Gen. Spec. 739. 1835.

Distribution: Himachal Pradesh, Jammu & Kashmir.

Stachys melissaefolia Benth., Labiat. Gen. Spec. 538. 1834.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 2400–3550 m. **(Plate 129b)**

Stachys oblongifolia Wall. ex Benth., Pl. Asiat. Rar. 1: 64. 1830.

Distribution: Arunachal Pradesh.

Stachys palustris L., Sp. Pl. 580. 1753.

Distribution: Jammu & Kashmir.

Stachys sericea Cav., Descr. Pl. 75. 1801.

Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 2800–4000 m.

Stachys sylvatica L., Sp. Pl. 580. 1753.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand.

Stachys tibetica Vatke, Bot. Zeitung (Berlin) 33: 447. 1875.

Distribution: Jammu & Kashmir.

Teucrium L.

Teucrium laxum D.Don, Prodr. Fl. Nepal. 109. 1825.

Distribution: Himachal Pradesh, Uttarakhand.

Teucrium quadrifarium Buch.–Ham., D.Don, Prodr. Fl. Nep. 108. 1825.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 1600–2000 m.

Teucrium royleanum Wall. ex Benth., Pl. Asiat. Rar. 1: 58. 1830.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand.

Teucrium scordium L., Sp. Pl. 565 1753.

Distribution: Jammu & Kashmir.

Teucrium viscidum Blume, Bijdr. 14: 827. 1825.

Distribution: Arunachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 400–1000 m.

Teucrium wattii Prain, J. As. Soc. Bengal 59: 317. 1890.

Distribution: Arunachal Pradesh.

Thymus L.

Thymus linearis Benth., Pl. Asiat. Rar. 1: 31. 1830.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand; 2600–4650 m.
(Plate 131b)

Thymus quinquecostatus Celak., Oesterr. Bot. Z. 39: 263. 1889.

Distribution: Jammu & Kashmir, Uttarakhand; 3200–4500 m.

Zataria Boiss.

Zataria multiflora Boiss., Diagn. Pl. Orient. 5: 18. 1844.

Distribution: Jammu & Kashmir.

Ziziphora L.

Ziziphora clinopodioides Lam., Tabl. Encycl. 1: 63. 1791.

Distribution: Jammu & Kashmir; 1700–2300 m.

LARDIZABALACEAE

(3 genera; 5 taxa)

Decaisnea Hook.f. & Thomson

Decaisnea insignis (Griff.) Hook.f. & Thomson, Proc. Linn. Soc. London 2: 350. 1854. *Slakia insignis* Griff.

Distribution: Arunachal Pradesh, Sikkim; 1500–2000 m.

Holboellia Wall.

Holboellia angustifolia Wall., Tent. Fl. Nepal. 25. 1824.

Distribution: Arunachal Pradesh, Sikkim, Uttarakhand; 2000–3300 m.

Holboellia latifolia Wall., Tent. Fl. Nepal. 24. 1824

Distribution: Arunachal Pradesh, Himachal Pradesh, Sikkim, Uttarakhand, West Bengal (Darjeeling); 1000–1600 m.
(Plate 132a)

Stauntonia DC.

Stauntonia brunoniana (Decne.) Hemsl., Hooker's Icon. Pl. 29: pl. 2843. 1907. *Parvatia brunoniana* Decne.

Distribution: Arunachal Pradesh; 100–500 m.

Stauntonia elliptica Hemsl., Hooker's Icon. Pl. 29: pl. 2844. 1907.

Distribution: Arunachal Pradesh; 200–1500 m.

LAURACEAE

(18 genera; 97 taxa)

Actinodaphne Nees

Actinodaphne gullavara (Buch.-Ham. ex Nees) M.R.Almeida, Fl. Maharashtra 4A: 251. 2003. *Laurus gullavara* Buch.-Ham. ex Nees

Distribution: Arunachal Pradesh.
(Plate 132b)

Actinodaphne longipes Kosterm., Reinwardtia 9: 98. 1974.

Distribution: Sikkim; 1700–2000 m.

Actinodaphne obovata (Nees) Blume, Mus. Bot. 1: 342. 1851. *Tetradenia obovata* Nees

Distribution: Arunachal Pradesh, Sikkim.

Actinodaphne obovata (Nees) Blume var. **wattii** King, Fl. Assam 4: 78. 1940.

Distribution: Arunachal Pradesh.

Actinodaphne sikkimensis Meisn., Prodr. 15(1): 213. 1864.

Distribution: Sikkim; 1500–2000 m.

Alseodaphne Nees

Alseodaphne andersonii (King ex Hook.f.) Kosterm., Reinwardtia 6: 159. 1962.

Cryptocarya andersonii King ex Hook.f.

Distribution: Arunachal Pradesh; 300–1500 m.

Alseodaphne himalayana Kosterm., Candollea 28: 111. 1973.

Distribution: Uttarakhand.

Alseodaphne petiolaris Hook.f., Fl. Brit. India 5: 144. 1886.

Distribution: Arunachal Pradesh.

Beilschmiedia Nees

Beilschmiedia assamica Meisn., Prodr. 15(1): 64. 1864.

Distribution: Arunachal Pradesh, Sikkim.

Beilschmiedia brandisii Hook.f., Fl. Brit. India 5: 123. 1886.

Distribution: Arunachal Pradesh.

Beilschmiedia clarkei Hook.f., Fl. Brit. India 5: 122. 1886.

Distribution: Sikkim; 1400–1700 m.

Beilschmiedia dalzellii (Meisn.) Kosterm., Reinwardtia 6: 282. 1962. *B. fagifolia*

Nees var. *dalzellii* Meisn.

Distribution: Sikkim; 220–1200 m.

Beilschmiedia fagifolia Nees, Pl. Asiat. Rar. 2: 69. 1831.

Distribution: Arunachal Pradesh.

Beilschmiedia gammieana King ex Hook.f., Fl. Brit. India 5: 125. 1886.

Distribution: Sikkim; 1700–2100 m.

Beilschmiedia roxburghiana Nees, Pl. Asiat. Rar. 2: 69. 1831.

Distribution: Arunachal Pradesh, Uttarakhand; 400–600 m.

Beilschmiedia sikkimensis King ex Hook.f., Fl. Brit. India 5: 122. 1886.

Distribution: Sikkim; 1200–2400 m.

Cassytha Osbeck

Cassytha filiformis L., Sp. Pl. 35. 1753.

Distribution: Jammu & Kashmir, Uttarakhand.

Cinnadenia Kosterm.

Cinnadenia paniculata (Hook.f.) Kosterm., *Adansonia* n.s., 13: 223. 1973.

Dodecadenia paniculata Hook.f.

Distribution: Sikkim; 700–2000 m.

Cinnamomum Schaeff.

Cinnamomum bejolghota (Buch.-Ham.) Sweet, Hort. Brit. 344. 1826. *Laurus bejolghota* Buch.-Ham.

Distribution: Arunachal Pradesh, Sikkim; 800–1500 m.

Cinnamomum camphora (L.) J.Presl, *Prir. Rostlin* 2: 36. 1825. *Laurus camphora* L.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Uttarakhand; 1500–2500 m.

Cinnamomum cassia (L.) J.Presl, *Prir. Rostlin* 2: 44. 1825. *Laurus cassia* L.

Distribution: Arunachal Pradesh; 500–1500 m.

Cinnamomum glanduliferum (Wall.) Meisn., *Prodr.* 15(1): 25. 1864. *Laurus glandulifera* Wall.

Distribution: Arunachal Pradesh, Sikkim, Uttarakhand; 1000–1500 m.

Cinnamomum glaucescens (Nees) Hand.-Mazz., *Oesterr. Bot. Z.* 85: 214. 1936.

Cecidodaphne glaucescens Nees

Distribution: Sikkim; 200–1200 m.

Cinnamomum impressinervium Meisn., *Prodr.* 15(1): 21. 1864.

Distribution: Arunachal Pradesh, Sikkim; 1500–2500 m.

Cinnamomum pauciflorum Chun ex H.T.Chang, *Acta Sci. Nat. Univ. Sunyatseni* 1959(2): 22. 1959.

Distribution: Arunachal Pradesh.

Cinnamomum tamala (Buch.-Ham.) T.Nees & Eberm., *Handb. Med.-Pharm. Bot.* 2: 426. 1831. *Laurus tamala* Buch.-Ham.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 1000–1500 m.

Cinnamomum verum J.Presl, *Prir. Rostlin* 2: 36. 1823.

Distribution: Uttarakhand.

Cinnamomum zeylanicum Nees, *Pl. Asiat. Rar.* 2: 74. 1831.

Distribution: Uttarakhand.

Cryptocarya R.Br.

Cryptocarya amygdalina Nees, *Pl. Asiat. Rar.* 2: 69. 1831.

Distribution: Arunachal Pradesh, Sikkim; 500–1000 m.

Dodecadenia Nees

Dodecadenia grandiflora Nees, *Pl. Asiat. Rar.* 2: 63. 1831.

Distribution: Uttarakhand, Himachal Pradesh.

Iteadaphne Blume

Iteadaphne caudata (Nees) H.W.Li, Acta Bot. Yunnan. 7(2): 132. 1985.
Daphnidium caudatum Nees.

Distribution: Arunachal Pradesh; 500–1000 m.

Lindera Thunb.

Lindera assamica (Meisn.) Kurz, Prelim. Rep. For. Veg. Pegu App. A. p. ciii. 1875.
Aperula assamica Meisn.

Distribution: Arunachal Pradesh, Sikkim.

Lindera cercidifolia Hemsl., J. Linn. Soc., Bot. 26: 387. 1891.

Distribution: West Bengal (Darjeeling).

Lindera latifolia Hook.f., Fl. Brit. India 5(13): 183. 1886.

Distribution: Sikkim; 1400–2000 m.

Lindera meisneri King ex Hook.f., Lingnan Sci. J. 7: 126, descr. ampl. 1942.

Distribution: Arunachal Pradesh.

Lindera melastomacea Fern.-Vill., Fl. Filip., ed. 3 4(13A): 181. 1880.

Distribution: Arunachal Pradesh.

Lindera nacusua (D.Don) Merr., Lingnan Sci. J. 15(3): 419. 1936. *Laurus nacusua*
D. Don

Distribution: Uttarakhand.

Lindera neesiana Kurz, Prelim. Rep. Forest Pegu App. A. p. ciii., App. B. 74, in
clavi. 1875.

Distribution: Arunachal Pradesh, Sikkim; 1500–2500 m.

Lindera obtusiloba Blume var. **heterophylla** (Meisn.) H.B.Cui, Prodr. 15(1): 246.
1864. *L. heterophylla* Meisn.

Distribution: Sikkim; 2500–3200 m.

Lindera pulcherrima (Nees) Hook.f., Fl. Brit. India 5(13): 185. 1886. *Daphnidium*
pulcherrimum Nees

Distribution: Uttarakhand, Sikkim.

Lindera sanjappae M.Bhaumik, M.K.Pathak & Chakrab., J. Econ. Taxon. Bot.
33(3): 657. 2009.

Distribution: Arunachal Pradesh; 600–800 m.

Lindera vermae M.K.Pathak, M.Bhaumik & Chakrab., J. Econ. Taxon. Bot. 33(3):
658. 2009.

Distribution: Arunachal Pradesh; 2000 m.

Litsea Lam.

Litsea albescens (Hook.f.) D.G.Long, Notes Roy. Bot. Gard. Edinburgh 41: 508.
1984. *L. oblonga* Hook.f. var. *albescens* Hook.f.

Distribution: Sikkim; 1200–2100 m.

Litsea chartacea Hook.f., Fl. Brit. India 5: 170. 1886.

Distribution: Arunachal Pradesh, Sikkim; 1500–1800 m.

- Litsea cubeba** (Lour.) Pers., Syn. Pl. 2: 4. 1806. *Laurus cubeba* Lour.
Distribution: Arunachal Pradesh, Sikkim; 500–2500 m. (Plate 133a)
- Litsea doshia** (D.Don) Kosterm., J. Sci. Res. (Jakarta) 1: 90. 1952. *Tetranthera doshia* D.Don.
Distribution: Arunachal Pradesh; 1500–2000 m.
- Litsea elongata** (Nees) Hook.f., Fl. Brit. India 5: 165. 1886. *Daphnidium elongatum* Nees
Distribution: Arunachal Pradesh, Himachal Pradesh, Sikkim, Uttarakhand. (Plate 133b)
- Litsea glutinosa** (Lour.) C.B.Rob., Philipp. J. Sci., C 6: 321. 1911. *Sebifera glutinosa* Lour.
Distribution: Arunachal Pradesh, Sikkim, Uttarakhand.
- Litsea hookeri** (Meisn.) D.G.Long, Notes Roy. Bot. Gard. Edinburgh 41: 510. 1984. *Cylicodaphne hookeri* Meisn.
Distribution: Arunachal Pradesh, Sikkim; 800–1500 m.
- Litsea khasyana** Meisn., Prodr. 15(1): 227. 1864.
Distribution: Arunachal Pradesh; 1500–2000 m.
- Litsea kingii** Hook.f., Fl. Brit. India 5: 156. 1886.
Distribution: Sikkim; 1200–2100 m.
- Litsea kurzii** King ex Hook.f., Fl. Brit. India 5: 164. 1886.
Distribution: Arunachal Pradesh.
- Litsea laeta** (Wall. ex Nees) Hook.f., Fl. Brit. India 5: 169. 1886. *Tetranthera laeta* Wall. ex Nees
Distribution: Arunachal Pradesh, Sikkim; 300–1000 m.
- Litsea lancifolia** (Roxb. ex Nees) Fern.-Vill., Fl. Filip., ed. 3 4(13A): 181. 1880. *Tetranthera lancifolia* Roxb. ex Nees
Distribution: Arunachal Pradesh; 1500–2000 m.
- Litsea lanuginosa** (Nees) Nees, Syst. Laur. 634. 1836. *Tetradenia lanuginosa* Nees.
Distribution: Uttarakhand.
- Litsea monopetala** (Roxb.) Pers., Syn. Pl. 2: 4. 1806. *Tetranthera monopetala* Roxb., *Litsea polyantha* Juss.
Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Uttarakhand; 400–1500 m.
- Litsea membranifolia** Hook.f., Fl. Brit. India 5: 159. 1886.
Distribution: Arunachal Pradesh.
- Litsea mishmiensis** Hook.f., Fl. Brit. India 5(13): 161. 1886.
Distribution: Arunachal Pradesh.
- Litsea nitida** (Roxb.) Hook.f., Fl. Brit. India 5: 174. 1886. *Tetranthera nitida* Roxb.
Distribution: Arunachal Pradesh.

Litsea panamanja (Buch.-Ham. ex Nees) Hook.f., Fl. Brit. India 5(13): 175. 1886.
Tetranthera panamanja Buch.-Ham. ex Nees
Distribution: Arunachal Pradesh; 1000–1500 m.

Litsea rangoonensis (Meisn.) Hook.f., Fl. Brit. India 5: 163. 1886. *Tetranthera rangoonensis* Meisn.
Distribution: Arunachal Pradesh; 1500–2000 m.

Litsea robusta Blume, Bijdr. 560. 1826.
Distribution: Arunachal Pradesh.

Litsea salicifolia (J.Roxb. ex Nees) Hook.f., Fl. Brit. India 5: 167. 1886. *Tetranthera salicifolia* J.Roxb. ex Nees
Distribution: Arunachal Pradesh, Himachal Pradesh, Sikkim; 1500–2000 m.

Litsea semecarpifolia (Wall. ex Nees) Hook.f., Fl. Brit. India 5: 165. 1886.
Tetranthera semecarpifolia Wall. ex Nees
Distribution: Arunachal Pradesh; 1000–1500 m.

Litsea sericea (Wall. ex Nees) Hook.f., Fl. Brit. India 5(13): 156. 1886. *Tetranthera sericea* Wall. ex Nees
Distribution: Arunachal Pradesh, Sikkim; 1500–2000 m.

Litsea sikkimensis (Meisn.) Kosterm. ex D.G. Long, Notes Roy. Bot. Gard. Edinburgh 41: 512. 1984. *Lindera sikkimensis* Meisn.
Distribution: Sikkim; 3300–3600 m.

Litsea thomsonii Hook.f., Fl. Brit. India 5: 170. 1886.
Distribution: Arunachal Pradesh.

Machilus Rumph. ex Nees

Machilus duthiei King, Fl. Brit. India 5: 861. 1890. *Persea duthiei* (King) Kosterm.
Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand.

Machilus gamblei King ex Hook.f., Fl. Brit. India 5(13): 138. 1886.
Distribution: Arunachal Pradesh, Himachal Pradesh, Uttarakhand.

Machilus glaucescens (Nees) Wight, Icon. Pl. Ind. Orient. 5(2): 12. 1852. *Ocotea glaucescens* Nees.
Distribution: Arunachal Pradesh, Sikkim.

Machilus kurzii King ex Hook.f., Fl. Brit. India 5(16): 860. 1890.
Distribution: Arunachal Pradesh, Sikkim.

Machilus robusta W.W. Sm., Notes Roy. Bot. Gard. Edinburgh 13(63–64): 169. 1921.
Distribution: Sikkim; 600–1200 m.

Neocinnamomum H. Liu

Neocinnamomum caudatum (Nees) Merr., Contr. Arnold Arbor. 8: 64. 1934.
Cinnamomum caudatum Nees.
Distribution: Arunachal Pradesh, Sikkim; 1500–1800 m.

Neolitsea (Benth.) Merr.

Neolitsea cuipala (D.Don) Kosterm., Bull. Bot. Surv. India 10: 287. 1968.
Tetranthera cuipala D.Don

Distribution: Sikkim, Uttarakhand. 1700–1900 m.

Neolitsea lanuginosa (Nees) Gamble, Pl. Wilson. 2(1): 79. 1914. *Tetradenia lanuginosa* Nees.

Distribution: Himachal Pradesh.

Neolitsea levinei Merr., Philipp. J. Sci. 13(3): 138–139. 1918. *N. chinensis* (Gamble) Chun

Distribution: Himachal Pradesh, Jammu & Kashmir.

Neolitsea pallens (D.Don) Momiy. & H. Hara, J. Jap. Bot. 47(9): 269–270. 1972.
Tetradenia pallens D.Don

Distribution: Uttarakhand, Jammu & Kashmir.

Neolitsea sanjappae M.K.Pathak, M.Bhaumik & Chakrab., J. Econ. Taxon. Bot. 33(3): 658. 2009.

Distribution: Arunachal Pradesh; 2000 m.

Neolitsea umbrosa (Nees) Gamble, Pl. Wilson. 2:79. 1914. *Tetradenia umbrosa* Nees, *Litsea foliosa* (Nees) Nees

Distribution: Arunachal Pradesh, Himachal Pradesh, Sikkim, Uttarakhand.

Ocotea Aubl.

Ocotea lancifolia (Schott) Mez, Jahrb. Königl. Bot. Gart. Berlin 5: 254. 1889.
Persea lancifolia Schott

Distribution: Arunachal Pradesh.

Parasassafras D.G. Long

Parasassafras confertiflorum (Meisn.) D.G.Long, Notes Roy. Bot. Gard. Edinburgh 41(3): 513–518, f. 2. 1984. *Actinodaphne confertiflora* Meisn.

Distribution: Arunachal Pradesh.

Persea Mill.

Persea clarkeana (King ex Hook.f.) Kosterm., Reinwardtia 6: 191. 1962. *Machilus clarkeana* King ex Hook.f.

Distribution: Sikkim; 2000–2500 m.

Persea fructifera Kosterm, Reinwardtia 6: 192. 1962.

Distribution: Arunachal Pradesh, Sikkim; 800–1200 m.

Persea gamblei (King ex Hook.f.) Kosterm., Reinwardtia 6(2): 192. 1962. *Machilus gamblei* King ex Hook.f.

Distribution: Arunachal Pradesh, Sikkim, Uttarakhand; 700–1300 m.

Persea gammieana (King ex Hook.f.) Kosterm., Enum. Fl. Pl. Nepal 3: 186. 1982.
Machilus gammieana King ex Hook.f.

Distribution: Arunachal Pradesh; 500–1000 m.

Persea listeri (King ex Hook.f.) Kosterm., Reinwardtia 6: 193. 1962. *Machilus listeri* King ex Hook.f.

Distribution: Arunachal Pradesh.

Persea minutiflora Kosterm., Reinwardtia 6: 193. 1962.

Distribution: Arunachal Pradesh; 700–1500 m.

Persea odoratissima (Nees) Kosterm., J. Sci. Res. (Jakarta) 1: 116. 1942. *Machilus odoratissima* Nees

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand.

Persea pallida (Nees) Oliv., Hooker's Icon. Pl. 14(2): sub t. 1316. 1880. *Ocotea pallida* Nees

Distribution: Arunachal Pradesh, Uttarakhand.

Persea parviflora (Meisn.) Harid. & R.R.Rao, Forest Fl. Meghalaya 2: 739. 1987. *Machilus parviflora* Meisn.

Distribution: Arunachal Pradesh.

Persea wallichii D.G. Long, Notes Roy. Bot. Gard. Edinburgh 41: 518. 1984.

Distribution: Uttarakhand.

Phoebe Nees

Phoebe attenuata (Nees) Nees, Syst. Laur. 104. 1836. *Ocotea attenuata* Nees

Distribution: Arunachal Pradesh, Sikkim. 400–1300 m.

Phoebe cathia (D.Don) Kosterm., Nat. Hist. Bull. Siam Soc. 25(3–4): 44. 1974. *Cinnamomum cathia* D.Don

Distribution: Arunachal Pradesh.

Phoebe cooperiana P.C.Kanjilal & Das, Assam Forest Rec., Bot. 2: 7. 1937.

Distribution: Arunachal Pradesh.

Phoebe goalparensis Hutch., Bull. Misc. Inform. Kew 1916: 190. 1916.

Distribution: Arunachal Pradesh.

Phoebe hainesiana Brandis, Hooker's Icon. Pl. 29: t. 2803. 1906.

Distribution: Arunachal Pradesh.

(Plate 134)

Phoebe lanceolata (Nees) Nees, Syst. Laur. 109. 1836. *Ocotea lanceolata* Nees

Distribution: Himachal Pradesh, Sikkim, Uttarakhand. 300–2100 m.

LECYTHIDACEAE

(2 genera; 3 taxa)

Barringtonia J.R.Forst. & G.Forst.

Barringtonia acutangula (L.) Gaertn., Fruct. 2: 97, t. 101. 1790. *Eugenia acutangula* L.

Distribution: Arunachal Pradesh, Jammu & Kashmir, Uttarakhand.

Careya Roxb.

Careya arborea Roxb., Pl. Corom. 3: 14. t. 218. 1811.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 2000–3000 m.

Careya herbacea Roxb., Pl. Coromandel 3: 13. 1819.

Distribution: Sikkim, Uttarakhand, West Bengal (Darjeeling); 200–1000 m.

LEEACEAE

(1 genus; 08 taxa)

Leea D. Royen ex L.

Leea aequata L., Syst. Nat. 2: 627. 1767.

Distribution: Arunachal Pradesh, Sikkim; 400–1000 m.

Leea alata Edgew., Trans. Linn. Soc. London 20: 36. 1846.

Distribution: Arunachal Pradesh, Sikkim, Uttarakhand; 500–1000 m.

Leea asiatica (L.) Ridsdale, Bot. Hist. Hort. Malab. 189. 1980. *Phytolacca asiatica* L.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 400–1200 m.

Leea compactiflora Kurz, J. Asiat. Soc. Bengal, Pt. 2, Nat. Hist. 42(2): 65. 1873.

Distribution: Arunachal Pradesh, Sikkim, Uttarakhand; 500–700 m. (Plate 135)

Leea erecta Voll & Brade, Rodriguésia 1(3): 59. 1935.

Distribution: Arunachal Pradesh; 1000–1500 m.

Leea guineense G. Don., Gen. Hist. 1: 712. 1831.

Distribution: Arunachal Pradesh, Sikkim; 400–1000 m.

Leea indica (Burm.f.) Merr., Philipp. J. Sci. 14(2): 245. 1919. *Staphylea indica* Burm.f.

Distribution: Arunachal Pradesh, Sikkim, Uttarakhand; 500–1000 m.

Leea macrophylla Roxb. ex Hornem., Hort. Bot. Hafn. 1: 231. 1813.

Distribution: Arunachal Pradesh, Sikkim, Uttarakhand; 400–800 m.

LEGUMINOSAE

Subfamily: CAESALPINIOIDEAE

(18 genera; 78 taxa)

Acrocarpus L.

Acrocarpus fraxinifolius Arn., Mag. Zool. Bot. 2: 547. 1838

Distribution: Arunachal Pradesh, Sikkim, Uttarakhand, West Bengal (Darjeeling); upto 1400 m.

Bauhinia L.

Bauhinia acuminata L., Sp. Pl. 375. 1753.

Distribution: Arunachal Pradesh, Sikkim.

Bauhinia corymbosa Roxb. ex DC., Prodr. 2: 515. 1825.

Distribution: Uttarakhand.

Bauhinia divergens Baker, Fl. Brit. India 2: 282. 1878.

Distribution: Arunachal Pradesh, Sikkim.

Bauhinia galuca Benth. subsp. **hupehana** (Craib) T.C.Chen, Fl. Reipubl. Popul. Sin. 39: 194. 1988. *B. hupehana* Craib. var. *grandis* Craib.

Distribution: Arunachal Pradesh.

Bauhinia glauca (Benth.) Wall. ex Beth. subsp. **tenuiflora** (Watt ex C.B.Clarke) K.Larsen & S.S.Larsen, Nat. Hist. Bull. Siam Soc. 25: 10. 1973. *Phanera glauca* Benth. subsp. *tenuiflora* Watt ex C.B.Clarke

Distribution: Arunachal Pradesh, Sikkim.

(Plate 136a)

Bauhinia khasiana Baker. Fl. Brit. India 2(5): 281.1878.

Distribution: Arunachal Pradesh, Sikkim, Uttarakhand

Bauhinia ornata Kurz., J. Asiat. Soc. Bengal, pt.2, Nat. Hist. 42 (2): 72. 1873.

Distribution: Arunachal Pradesh.

Bauhinia purpurea L., Sp. Pl. 375. 1753.

Distribution: Arunachal Pradesh, Sikkim, Uttarakhand.

Bauhinia rufescens Lam., Encycl.1: 391.1785.

Distribution: Uttarakhand (cultivated).

Bauhinia scandens L., Sp. Pl. 1: 374. 1753.

Distribution: Arunachal Pradesh, Sikkim

Bauhinia semla Wunderlin, Biol. Skr. 28: 24. 1987.

Distribution: Arunachal Pradesh, Himachal Pradesh, Sikkim, Uttarakhand, West Bengal (Darjeeling).

Bauhinia tomentosa L., Sp. Pl. 1: 375 1753.

Distribution: Uttarakhand.

Bauhinia touranensis Gagnep., Notul. Syst. (Paris 2(6): 181–182. 1912.

Distribution: Arunachal Pradesh, Sikkim

Bauhinia variegata L., Sp. Pl. 375. 1753

Distribution: Arunachal Pradesh, Sikkim, Uttarakhand; upto 1800 m.

Bauhinia vahlii Wight & Arn., Fern.–Vill. Fl. Filip. (ed. 3) Nov. App.72. 1877.

Distribution: Arunachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand, West Bengal (Darjeeling); upto 2300 m.

Bauhinia wallichii J.F.Macbr. Contr. Gray Herb. 59: 23. 1919.

Distribution: Arunachal Pradesh, Sikkim.

Brownea Jacq.

Brownea coccinea Jacq., Enum. Pl. Carib 26. 1760.

Distribution: Arunachal Pradesh, Sikkim (Cultivated).

Caesalpinia L.

Caesalpinia bonduc (L.) Roxb., Fl. Ind. 2: 362. 1832. *Guilandina bonduc* L.
Distribution: Arunachal Pradesh, Sikkim.

Caesalpinia crista L., Sp. L. 380. 1753.
Distribution: Arunachal Pradesh, Sikkim.

Caesalpinia cucullata Roxb., Fl. Ind. 2: 358. 1832.
Distribution: Arunachal Pradesh, Sikkim; 150–1800 m. (Plate 136b)

Caesalpinia decapetala (Roth) Alston, Trimen, Handb. Fl. Ceylon Supp. 6: 89.
1931. *Reichardia decapetala* Roth.
Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim.

Caesalpinia digyna Rottler, Ges. Naturf. Fr. Berl. Neue, Sehr 4: 200. t. 3 1803.
Distribution: Arunachal Pradesh, Sikkim.

Caesalpinia enneaphylla Roxb., Fl. Ind. 2: 358. 1832.
Distribution: Arunachal Pradesh.

Caesalpinia pulcherrima (L.) Swartz, Obs. 166. 1791. *Poinciana pulcherrima* L.
Distribution: Arunachal Pradesh, Sikkim.

Caesalpinia sappan L., Sp. Pl. 381. 1753.
Distribution: Arunachal Pradesh, Sikkim, Uttarkhand (Cultivated).

Caesalpinia tortuosa Roxb., Fl. Ind. 2: 365. 1832.
Distribution: Arunachal Pradesh, Sikkim.

Cassia L.

Cassia ferruginea (Schrad.) DC., Prodr. 2: 489. 1825. *Bactrylobium ferrugineum*
Schrad.
Distribution: Uttarakhand.

Cassia fistula L., Sp. Pl. 1: 377. 1753.
Distribution: Arunachal Pradesh, Sikkim, Uttarkhand.

Cassia floribunda Collad, Hist. Nat. Méd. Casses 2: pl. 11. 1816.
Distribution: Arunachal Pradesh, Sikkim.

Cassia javanica L., Sp. Pl. 379. 1753.
Distribution: Arunachal Pradesh (Cultivated).

Cassia javanica L. subsp. **nodosa** (Roxb.) K.Larsen & S.S.Larsen, Nat. Hist. Bull.
Siam Soc. 25(3–4): 205. 1974. *Cassia nodosa* Roxb.
Distribution: Cultivated throughout

Cassia mimosoides L. f. **auricoma** Benth., Trans. Linn. Soc. London 27: 580.
1871.
Distribution: Cultivated throughout the Himalayas.

Cassia purpurea Roxb. ex Lindl., Bot Reg. T. 857. 1824.

Distribution: Sikkim, Arunachal Pradesh (Cultivated).

Chamaecrista Moench

Chamaecrista leschenaultiana (DC.) Degener, Fl. Hawaiiensis Fam. 169b. 1934.

Cassia leschenaultiana DC.

Distribution: Arunachal Pradesh, Sikkim, Uttarakhand (Cultivated).

Chamaecrista mimosoides (L.) Greene, Pittonia 4: 27. 1897. *Cassia mimosoides* L.

Distribution: Arunachal Pradesh, Sikkim, Uttarakhand (Cultivated).

Chamaecrista nomame (Makino) H. Ohashi, J. Jap. Bot. 64(7): 215. 1989. *Cassia mimosoides* L. var. *nomame* (Siebold) Makino

Distribution: Uttarakhand (cultivated).

Chamaecrista pumila (Lam.) V. Singh, J. Econ. Taxon. Bot. 16: 600. 1992. *Cassia pumila* Lam. Encycl. 1: 651. 1785.

Distribution: Arunachal Pradesh, Sikkim.

Delonix Raf.

Delonix regia (Hook.) Raf., Fl. Tell. 2: 92. 1837. *Poinciana regia* Hook.

Distribution: Arunachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand (Cultivated).

Gleditsia J. Clayton

Gleditsia assamica Bor., Indian For. Rec. n.s. Bot. 2: 231. 1941.

Distribution: Arunachal Pradesh.

Gleditsia horrida Willd. subsp. **delavayi** (Franchet) Pach, Taxon 33: 101. 1984.

G. delavayi Franchet.

Distribution: Arunachal Pradesh.

Gleditsia macracantha Desf., Hist. Arb. Arbr. 2: 247. 1809.

Distribution: Himachal Pradesh, Uttarakhand.

Gleditsia triacanthos L., Sp. Pl. 1056. 1753.

Distribution: Himachal Pradesh, Uttarakhand (Cultivated).

Guibourtia Benn.

Guibourtia conjugata J. Leonard, Bulletin du Jardin Botanique de l'État à Bruxelles 19: 402. 1949.

Distribution: Arunachal Pradesh, Sikkim, Uttarakhand (Cultivated).

Gymnocladus Lam.

Gymnocladus assamicus P.C. Kanjilal, Assam For. Rec. 1: 7. 1934.

Distribution: Arunachal Pradesh.

(Plate 137a)

Gymnocladus burmanicus C.E. Parkinson, Bull. Misc. Inf. Kew. 333. 1928.

Distribution: Arunachal Pradesh.

Gymnocladus chinensis Baill., Bull. Soc. Linn. (Part-I): 34. 1875.

Distribution: Arunachal Pradesh.

Maniltoa Scheff.

Maniltoa polyandra (Roxb.) Harms, Pfamilien. Nachtr. 1: 194. 1897. *Cynometra polyandra* Roxb.

Distribution: Arunachal Pradesh, Sikkim.

Parkinsonia L.

Parkinsonia aculeate L., Sp. Pl. 1: 375. 1753.

Distribution: Cultivated throughout the Himalayas.

Peltophorum (Vogel) Benth.

Peltophorum pterocarpum (DC.) Backer ex K. Heyne, Nutt. Pl. Ned. Ind. 2: 755. 1927. *Inga pterocarpa* DC.

Distribution: Cultivated throughout the Himalayas.

Piliostigma Hochst.

Piliostigma malabaricum (Roxb.) Benth., Miq., Pl. Jungh. 261. 1852. *Bauhinia malabarica* Roxb.

Distribution: Himachal Pradesh, Sikkim, Uttarakhand, West Bengal (Darjeeling); upto 1200 m.

Phanera Lour.

Phanera ornata (Kurz) Thoth subsp. **ornata** var. **kerrii** (Gagnep.) K. Larsen & S.S. Larsen, Fl. Cambodge, Laos & Vietnam 18: 208. 1980. *Bauhinia kerrii* Gagnep.

Distribution: Arunachal Pradesh, Sikkim.

Phanera glauca Benth. subsp. **tenuiflora** (Watt ex C.B. Clarke) A. Schmitz var. **gandhiana** Gogoi & Bandyop., J. Bot. Res. Inst. Texas 8: 71. 2014.

Distribution: Arunachal Pradesh, Sikkim; upto 1500 m.

Saraca L.

Saraca asoca (Roxb.) de Wilde, Blumea. 15: 393. 1967. *Jonesia asoca* Roxb.

Distribution: Cultivated throughout the Himalayas. (Plate 137b)

Saraca griffithiana Prain, J. Asiat. Soc. Bengal, Pt. 2, Nat. Hist. 66: 491. 1897.

Distribution: Cultivated throughout the Himalayas.

Saraca indica L. Mant. Pl. 1: 98. 1767.

Distribution: Cultivated throughout the Himalayas.

Senna Mill.

Senna alata (L.) Roxb., Fl. Ind. 2: 349. 1832.

Distribution: Arunachal Pradesh, Sikkim.

- Senna aciphylla** (Benth. ex A. Gray) Randell, J. Adelaide Bot. Gard. 12(2): 204. 1989. *Cassia aciphylla* Benth. ex A.Gray
Distribution: Uttarakhand.
- Senna bicapsularis** (L.) Roxb., Fl. Ind. 2: 342. 1832. *Cassia bicapsularis* L.
Distribution: Arunachal Pradesh, Sikkim (Cultivated).
- Senna corymbosa** (Lam.) H.S.Irwin & Barneby, Mem. New York Bot. Gard. 35: 397. 1982. *Cassia corymbosa* Lam.
Distribution: Uttarakhand.
- Senna davidsonii** (V.Singh) V.Singh, J. Econ. Taxon. Bot. 16(3): 600. 1992. *Cassia davidsonii* V.Singh
Distribution: Uttarakhand.
- Senna didymobotrya** (Fresen.) H.S.Irwin & Barneby, Mem. New York Bot. Gard. 35: 467. 1982. *Cassia didymobotrya* Fresen.
Distribution: Uttarakhand.
- Senna fruticosa** (Mill.) H.S.Irwin & Barneby, Mem. New York Bot. Gard. 35: 121. 1982. *Cassia fruticosa* Mill.
Distribution: Uttarakhand.
- Senna hirsuta** (L.) H.S.Irwin & Barneby, Phytologia 44: 499. 1979. *Cassia hirsuta* L.
Distribution: Arunachal Pradesh, Sikkim (Cultivated).
- Senna hirsuta** (L.) H.S. Irwin & Barneby var. **leptocarpa** (Benth.) H.S.Irwin & Barneby, Mem. New York Bot. Gard. 35: 431. 1982. *Cassia leptocarpa* Benth.
Distribution: Uttarakhand.
- Senna marilandica** (L.) Link, Handbuch 2: 140. 1829. *Cassia marilandica* L.
Distribution: Uttarakhand.
- Senna multiglandulosa** (Jacq.) H.S.Irwin & Barneby, Mem. New York Bot. Gard. 35: 357. 1982. *Cassia multiglandulosa* Jacq.
Distribution: Uttarakhand.
- Senna multijuga** (Rich.) H.S.Irwin & Barneby, Mem. New York Bot. Gard. 35: 492. 1982. *Peirania doylei* Britton & Rose
Distribution: Uttarakhand.
- Senna obtusifolia** (L.) H.S.Irwin & Barneby, Mem. New York Bot. Gard. 35: 252. 1982. *Cassia obtusifolia* L.
Distribution: Uttarakhand.
- Senna occidentalis** (L.) Link, Handb. 2: 140. 1831. *Cassia occidentalis* L.
Distribution: Arunachal Pradesh, Sikkim, Uttarakhand (Naturalized).
- Senna pendula** (Willd) Irwin & Barnby var. **glabrata** (Vogel) H.S. Irwin & Barneby Mem. Newyork Bot. Gard. 35: 382. 1982. *Cassia indicora* var. *labrata* Vogel
Distribution: Uttarakhand (Cultivated).

Senna septemtrionalis (Viv.) H.S.Irwin & Barneby, (Viv.) H.S. Irwin & Barneby Mem. New York Bot. Gard. 35: 365. 1982. *Cassia septemtrionalis* Viv.

Distribution: Uttarakhand.

Senna spectabilis (DC.) H.S. Irwin & Barneby var. **excelsa** (Schrad.) H.S.Irwin & Barneby, Mem. New York Bot. Gard. 35: 604. 1982. *Cassia excelsa* Schrad.

Distribution: Uttarakhand.

Senna siamea (Lam.) Irwin & Barneby, Mem. New York Bot. Gard. 35: 98. 1982. *Cassia siamea* Lam.

Distribution: Arunachal Pradesh, Sikkim, Uttarakhand (Cultivated).

Senna sophera (L.) Roxburgh, Fl. Ind., 2: 347. 1832. *Cassia sophera* L.

Distribution: Arunachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 1500 m.

Senna sulfurea (Collad.) H.S.Irwin & Barneby, Mem. New York Bot. Gard. 35: 78. 1982. *Cassia sulfurea* Collad.

Distribution: Arunachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand.

Senna surattensis (Burm.f.) H.S.Irwin & Barneby, Mem. New York Bot. Gard. 35: 81. 1982. *Cassia surattensis* Burm.f.

Distribution: Arunachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand.

Senna tora (L.) Roxburgh, Fl. Ind., 2: 340. 1832. *Cassia tora* L., Sp. Pl. 1: 376. 1753.

Distribution: Arunachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand.

Tamarindus L.

Tamarindus indica L., Sp. Pl. 34. 1753.

Distribution: Arunachal Pradesh, Uttarakhand (Cultivated)

Subfamily: MIMOSOIDEAE

(10 genera; 51 taxa)

Acacia Willd.

Acacia auriculiformis A.Cunn. ex Benth., London J. Bot. 1: 377. 1842.

Distribution: Uttarakhand.

Acacia caesia (L.) Willd., Sp. Pl. 4: 1090. 1876. *Mimosa caesia* L.

Distribution: Cultivated throughout the Himalayas.

Acacia catechu (L.f.) Willd., Sp. Pl. 4: 1079. 1806. *Mimosa catechu* L.f.

Distribution: Arunachal Pradesh, Sikkim, West Bengal (Darjeeling). (**Plate 138a**)

Acacia concinna DC., Prodr. 2: 464. 1825.

Distribution: Eastern Himalaya.

Acacia dealbata Link, Enum. Hort. Berol. Alt. 2: 445. 1822.

Distribution: Uttarakhand.

Acacia decurrens Willd., Sp. Pl. 4(2): 1072. 1806.

Distribution: Uttarakhand.

- Acacia eburnea** (L.f.) Willd., Sp. Pl 4: 1081. 1806. *Mimosa eburnea* L.f.
Distribution: Arunachal Pradesh, Sikkim, West Bengal (Darjeeling).
- Acacia farnesiana** (L.) Willd., Sp. Pl. 4: 1083. 1806. *Mimosa farnesiana* L.
Distribution: Arunachal Pradesh, Sikkim, West Bengal (Darjeeling).
- Acacia gageana** Craib, Bull. Misc. Inf. 409. 1915.
Distribution: Arunachal Pradesh, Jammu & Kashmir. Sikkim, West Bengal (Darjeeling).
- Acacia intsia** (L.) Willd., Sp. Pl. 4: 1091. 1806. *Mimosa intsia* L.
Distribution: Througout Himalaya; upto 1700 m.
- Acacia lenticularis** Buck-Ham, London J. Bot. 1: 508. 1842.
Distribution: Througout Himalaya; upto 1700 m.
- Acacia megaladena** Desv., J. Bot. 1: 69. 1814.
Distribution: Througout Himalaya; upto 1700 m.
- Acacia modesta** Wall., Pl. Asiat. Rar. 2: 27, t. 130. 1831.
Distribution: Througout Himalaya; upto 1700 m.
- Acacia nilotica** (L.) Delile, (L.) Willd. ex Delile Descr. Égypte, Hist. Nat. 2(1): 79. 1813. *Mimosa nilotica* L.
Distribution: Uttarakhand.
- Acacia nilotica** subsp. **adstringens** (Schum. & Thonn.) Roberty, Candollea 11: 150. 1948. *Mimosa adstringens* Schumach. & Thonn.
Distribution: Uttarakhand.
- Acacia nilotica** subsp. **indica** (Benth.) Brenan, Bot. Mus. Leafl. 8: 99. 1940. *Acacia arabica* var. *indica* Benth.
Distribution: Uttarakhand.
- Acacia pennata** (L.) Willd., Sp. Pl. 4: 1090. 1806. *Mimosa pennata* L.
Distribution: Througout Himalaya; upto 1700 m.
- Acacia pruinescens** Kurz., J. Asiat. Soc. Bengal 45(2): 298. 1876.
Distribution: Eastern Himalaya.
- Acacia pseudo-eburnea** Dunn, Bull. Misc. Inform. Kew 1922(6): 185. 1922.
Distribution: Uttarakhand.
- Acacia torta** (Roxb.) Craib, Bull. Misc. Inform. Kew 1915(9): 410. 1915. *Mimosa torta* Roxb.
Distribution: Uttarakhand.
- Adenantha** L.
- Adenantha povonina** L., Sp. Pl. 384. 1753.
Distribution: Cultivated throughout.
- Albizia** Durazz.

Albizia arunachalensis K.C.Sahni & H.B.Naithani, Ind. For. 105(4): 274. 1985.
Distribution: Arunachal Pradesh. (Plate 138b)

Albizia chinensis (Osbeck) Merr., Am. J. Bot. 3: 575. 1916. *Mimosa chinensis* Osbeck.

Distribution: Arunachal Pradesh, Sikkim, Uttarakhand.

Albizia chinensis (Osbeck) Merr. var. **smithiana** (Roxb.) Sahni & al., Ind. For. 103: 354. 1977. *Mimosa smithiana* Osbeck.

Distribution: Sikkim.

Albizia garrettii I.C.Nielsen, Adansoniaser. 2: 19: 212. 1979.

Distribution: Arunachal Pradesh.

Albizia julibrissin Durazz., Mag. Tosc. 3(4): 11. 1772.

Distribution: Arunachal Pradesh, Sikkim, Uttarakhand; upto 2500 m.

Albizia julibrissin Duraz. var. **mollis** (Wall.) Benth., London J. Bot. 3: 91. 1844.
Acacia mollis Wall.

Distribution: Arunachal Pradesh, Himachal Pradesh, Sikkim, Uttarakhand.

Albizia lebbeck (L.) Benth., Lond. J. Bot. 1844. *Mimosa lebbeck* L.

Distribution: Throughout Himalaya; upto 1800 m.

Albizia lucidior (Steud.) Nielson, Adansoniaser. 2: 19: 222. 1979. *Inga lucidior* Steud.

Distribution: Throughout Himalaya; upto 1800 m.

Albizia myriophylla Benth., London J. Bot. 3: 90. 1844.

Distribution: Throughout Himalaya; upto 1800 m.

Albizia odoratissima (L.f.) Benth., London J. Bot. 3: 88. 1844. *Mimosa odoratissima* L.f.

Distribution: Throughout Himalaya; upto 1800 m.

Albizia procera (Roxb.) Benth., Lond. J. Bot. 3: 89. 1844. *Mimosa procera* Roxb.

Distribution: Throughout Himalaya; upto 1800 m.

Albizia saman (Jacq.) Merr., Fragm. Bot. pt. 1: 15, t. 9. 1800. *Mimosa saman* Jacq.

Distribution: Throughout Himalaya; upto 1800 m.

Albizia sherriffii Baker, f., J. Bot. 76: 20. 1938.

Distribution: Arunachal Pradesh.

Archidendron F. Muell.

Archidendron arunachalense S.S.Dash & Sanjappa, Nelumbo 53: 11. 2011.

Distribution: Arunachal Pradesh. (Plate 139a)

Archidendron bigeminum (L.) I.C.Nielsen, Ope. Bot. 76: 73. 1984. *Mimosa bigemina* L.

Distribution: Arunachal Pradesh, Sikkim; 850–1300 m.

Archidendron clypearia (Jack) I.C.Nielsen, *Adansonia* 2, 19: 15. 1979. *Inga clypearia* Jack

Distribution: Arunachal Pradesh, Sikkim.

Archidendron chevalieri (Kostermans) I.C.Nielsen, *Adansonia*, n.s., 19: 28. 1979. *Cylindrokelupha chevalieri* Kostermans

Distribution: Arunachal Pradesh.

Archidendron globosum (Blume) I.C.Nielsen, *Adansonia* n.s. 2: 19. 1979. *Inga globosa* Blume.

Distribution: Arunachal Pradesh, Sikkim.

Archidendron kerrii (Gagnep.) I.C.Nielsen, *Adansonia* n.s. 19: 29. 1979. *Pithocellobium kerrii* Gagnep.

Distribution: Arunachal Pradesh.

(Plate 139b)

Archidendron nielsenianum S.S.Dash & Sanjappa, *Nelumbo* 53: 8. 2011.

Distribution: Arunachal Pradesh.

(Plate 139c)

Entada Adans.

Entada rheedei Spreng., *Syst. Veg.* 2: 325.1825.

Distribution: Arunachal Pradesh, Sikkim; upto 2500 m.

Entada rheedei Spreng. var **sinohimalensis** (Grierson & D.G.Long) Panig., *Taxon* 34. 714. 1985. *E. pursaetha* subsp. *sinohimalensis* Grierson & D.G.Long

Distribution: Arunachal Pradesh, Sikkim.

Lysiloma Benth.

Lysiloma latisiliquum (L.) Benth. *Trans. Linn. Soc. London* 30(3): 534. 1875. *Mimosa latisiliqua* L.

Distribution: Cultivated throughout Himalaya; upto 1800 m.

Mimosa L.

Mimosa pudica L., *Sp. Pl.* 518. 1753.

Distribution: Naturalized throughout Himalaya.

Mimosa rubicaulis Lam. subsp. **himalayana** (Gamble) Ohashi, Hara & Williams, *Enum. Fl. Pl. Nep.* 2: 126. 1979. *M. himalayana* Gamble.

Distribution: Throughout Himalaya; upto 1800 m.

Mimosa rubicaulis Lam., *Encycl.* 1(1): 20. 1783.

Distribution: Uttarakhand.

Parkia R.Br.

Parkia biglandulosa Wight. & Arn. *Prod.* 279. 1834.

Distribution: Arunachal Pradesh; upto 1800 m.

Parkia timoriana (DC.) Merr., *Philippine J. Sci. Bot.* 5: 33. 1910. *Inga timoriana* DC.

Distribution: Throughout Himalaya; upto 1800 m.

Pithecellobium Maritus

Pithecellobium dulce (Roxb.) Benth., Hook. London J. Bot. 3: 199. 1844. *Mimosa dulcis* Roxb.

Distribution: Throughout Himalaya; upto 1800 m.

Prosopis L.

Prosopis juliflora (Sw.) DC., Prodr. 2: 447. 1825. *Mimosa juliflora* Sw.

Distribution: Uttarakhand.

Subfamily: PAPILIONOIDEAE
(105 genera; 534 taxa)

Abrus Adans.

Abrus precatorious L., Syst. Nat., 2: 472. 1767.

Distribution: Throughout Himalaya.

(Plate 140a)

Abrus pulchellus Wall. ex Thwaites, Enum. Pl. Zeyl. 91. 1859.

Distribution: Uttarakhand (cultivated)

Abrus pulchellus Wall. ex Thwaites subsp. **mollis** (Hance) Verdc., Kew Bull. 24: 248. 1970. *A. mollis* Hance

Distribution: Arunachal Pradesh.

Aeschynomene L.

Aeschynomene indica L., Sp. Pl. 713. 1783.

Distribution: Througout Himalaya.

Alhagi Gagnebin

Alhagi maurorum Medik., Chrupf. Phys. Oek. Ges. 2: 397. 1787.

Distribution: Jammu & Kashmir.

Alhagi nepalensis (D.Don) Shaparenko, Soviestsk. Bot. 1933: 170. 1933. *Manna nepalensis* D.Don

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand.

Aganope Miq.

Aganope polystachya (Benth.) Thoth. & D.N.Das, Rheede 2: 63. 1992. *Derris polystachya* Benth.

Distribution: Arunachal Pradesh, Sikkim, West Bengal (Darjeeling).

Alysicarpus Neck. ex Desv.

Alysicarpus bupleurifolius (L.) DC., Prod. 2: 352. 1825. *Hedysarum bupleurifolium* L.

Distribution: Througout Himalaya; upto 1350 m.

Alysicarpus glumaceus (Vahl.) DC., Prodr. 2: 353. 1825. *Hedysarum glumaceum* Vahl.

Distribution: Arunachal Pradesh, Himachal Pradesh, Sikkim, Uttarakhand.

Alysicarpus glumaceus (Vahl) DC. var. **minor** (Prain) Raizada, *Alysicarpus rugosus* (Willd.) DC. var. *minor prain*.

Distribution: Uttarakhand.

Alysicarpus hamosus Edgew., J. Asiat. Soc. Bengal, Pt. 2, Nat. Hist. 21: 171. 1853.

Distribution: Uttarakhand.

Alysicarpus heyneanus Wt. & Arn. var. **meeboldii** (Schindl.) Pramanik & Thoth., J. Econ. Tax. Bot. 12. 363. 1988. *A. meeboldii* Schindl.

Distribution: Jammu & Kashmir.

Alysicarpus longifolius Wight & Arn. Prodr. Fl. Ind. Orient. 1: 233. 1834.

Distribution: Uttarakhand.

Alysicarpus monilifer (L.) DC., Prodr. 2: 353. 1825. *Hedysarum moniliferum* L.

Distribution: Uttarakhand.

Alysicarpus scariosus Graham, Numer. List n. 5766 1831.

Distribution: Uttarakhand.

Alysicarpus vaginalis (L.) DC., Prodr. 2: 353. 1825. *Hedysarum vaginale* L.

Distribution: Uttarakhand.

Amphicarpaea Elliott ex Nutt.

Amphicarpaea bracteata (L.) Fernald subsp. **edgeworthii** (Benth.) H. Ohashi, Fl. E. Himalaya 137. 1966. *A. edgeworthii* Benth.

Distribution: Jammu & Kashmir, Himachal Pradesh.

Amphicarpaea ferruginea Benth., Miq., Pl. Jungh. 231. 1852.

Distribution: Sikkim.

Amphicarpaea ferruginea Benth. var. **bracteosa** (Prain) H. Ohashi & Tateishi, J. Jap. Bot. 57: 4. 1982. *Shuteria ferruginea* (Benth.) Baker var. *bracteosa* Prain.

Distribution: Sikkim.

Apios Fabr.

Apios carnea (Wall.) Benth. ex Baker, Fl. Brit. India 2: 188. 1876. *Cyrtotropis carnea* Wall.

Distribution: Arunachal Pradesh, Sikkim.

(Plate 140b)

Arachis L.

Arachis hypogaea L., Sp. Pl. 2: 741. 1753.

Distribution: Uttarakhand.

Argyrolobium Eckl. & Zeyh.

Argyrolobium flaccidum (Royle) Jaub. & Spach, Ann. Sci. Nat. ser. 2, 19: 48. 1843. *Cytisus flaccidus* Royle

Distribution: Himachal Pradesh, Jammu & Kashmir; upto 3000 m.

Argyrolobium roseum (Cambess.) Jaub. & Spach, Ann. Sci. Nat. ser. 2, 19: 51. 1843. *Cytisus roseus* Cambess.

Distribution: Jammu & Kashmir, Himachal Pradesh; upto 2500 m.

Astracantha Podlech

Astracantha strobilifera (Royle ex Benth.) Podlech, Mitt. Bot. Staatssamml. München 19: 20. 1983. *A. strobiliferus* Royle ex Benth.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand.

Astragalus L.

Astragalus acaulis Baker, Fl. Brit. India 2: 132. 1876.

Distribution: Sikkim; 4500–5000 m.

Astragalus aegacanthoides R.Parker, Ind. For. 78. 1923.

Distribution: Uttarkhand; 4500–5000 m.

Astragalus amherstianus Benth., Ill. Bot. Himal. 199. 1835.

Distribution: Himachal Pradesh, Jammu & Kashmir; 4500–5000 m.

Astragalus bicuspis Fisch., Bull. Soc. Imp. Naturalistes Moscou 26(2): 406. 1853.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand.

Astragalus breviscapus B. Fedtsch., Trudy Imp. S.–Peterburgsk. Bot. Sada 24. 234. 1905.

Distribution: Jammu & Kashmir; upto 3500 m.

Astragalus charguschanus Freyn, Bull. Herb. Boissier Ser. II. iv. 764. 1905.

Distribution: Jammu & Kashmir.

Astragalus chlorostachys Lindl, Trans. Hort. Soc. London 7: 249. 1830.

Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; upto 3500 m.

Astragalus coluteocarpus Boiss., Diagn. Pl. Orient., Ser. 1, 9: 65. 1849.

Distribution: Himachal Pradesh, Jammu & Kashmir; upto 3500 m.

Astragalus coluteocarpus Boiss. var. **chitralensis** Wenniger, Mitt. Bot. Staatssamml. München. 30: 52. 1991.

Distribution: Jammu & Kashmir, upto 3500 m.

Astragalus concretus Benth., Royle, Ill. Bot. Himal. 199. 1835.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand; 2500–4000 m.

Astragalus confertus Benth. ex Bunge, Mém. Acad. Imp. Sci. St.–Pétersbourg, Sér. 7. 15(1): 27. 1869.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; upto 5500 m.

Astragalus densiflorus Kar. & Kir., Bull. Soc. Nat. Moscou 15: 329. 1842.

Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 3500–5500 m.

Astragalus donianus DC., Prod. 2: 283. 1825.

Distribution: Arunachal Pradesh, Sikkim; upto 4000 m.

Astragalus falconeri Bunge, Mem. Acad. Sci. St.–Pet. ser. 7. 11: 4. 1868.

Distribution: Jammu & Kashmir; upto 40000 m.

Astragalus floridus Benth. ex Bunge, Mém. Acad. Imp. Sci. St.–Pétersbourg, Sér. 7. 11(16): 24. 1868.

Distribution: Sikkim; upto 3500 m.

Astragalus frigidus (L.) A.Gray, Proc. Amer. Acad. Arts 6: 219. 1864. *Phaca frigida* L.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand; upto 3000 m.

Astragalus gilgitensis Ali, Phytion (Horn) 11: 135. 1966.

Distribution: Jammu & Kashmir.

Astragalus gracilipes Benth. ex Bunge, Mém. Acad. Imp. Sci. St.–Pétersbourg, Sér. 7. 11(16): 15. 1868.

Distribution: Jammu & Kashmir.

Astragalus grahamianus Royle., Ill. Bot. Himal. Mts. 199, t. 36, f. 2. 1835.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand; 4000–6000 m.

Astragalus graveolens Benth., Ill. Bot. Himal. 199. 1835.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand; upto 4000 m.

Astragalus hendersonii Baker, Fl. Brit. India 2: 120. 1876.

Distribution: Jammu & Kashmir; upto 3000 m.

Astragalus heydei Baker, Fl. Brit. India 2: 118. 1876.

Distribution: Jammu & Kashmir; 5000–6000 m.

Astragalus himalayanus Klotzsch., Bot. Ergebn. Reise Waldemar 160, t. 4. 1862.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand; 1700–4400 m.

(Plate 141a)

Astragalus hoffmeisteri (Klotzsch) Ali, Kew Bull. 1958: 304. 1958.

Distribution: Jammu & Kashmir; upto 4400 m.

Astragalus hosackioides Benth. ex Baker f., Fl. Brit. India 2(4): 123. 1876.

Distribution: Himachal Pradesh, Jammu & Kashmir.

Astragalus imitensis Ali, Candollea 17: 90. 1960.

Distribution: Jammu & Kashmir.

Astragalus kashmirensis Bunge, Mém. Acad. Imp. Sci. St.–Pétersbourg, Sér. 7. 15(1): 246. 1869.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand; 3000–3500 m.

Astragalus khasianus Benth. ex Bunge, Mem. Acad. Sci. St.–Pet. Ser. 7, 11: 27. 1868.

Distribution: Sikkim, upto 3000 m.

Astragalus kongrensis Benth. ex Baker, Fl. Brit. India 2: 120. 1876.

Distribution: Sikkim.

Astragalus lessertioides Benth. ex Bunge, Mem. Acad. Sci. St.–Pet. ser. 7, 11: 24. 1868.

Distribution: Sikkim; 3500–4900 m.

Astragalus leucocephalus Grab, III. Bot. Himal. Mts. 198. 1835.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand; upto 2500 m.

Astragalus macropterus DC., Prod. 2: 283. 1825.

Distribution: Jammu & Kashmir.

Astragalus maddenianus Benth. ex Baker f., Fl. Brit. India 2: 127. 1876.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand.

Astragalus malacophyllus Benth. ex Bunge, Mém. Acad. Imp. Sci. St.–Pétersbourg, Sér. 7. 11(16): 36. 1868.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand; upto 3500 m.

Astragalus maxwellii Royle ex Benth., Ill. Bot. Himal. 198. 1835.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand; 2200– 4500 m.

Astragalus melanostachys Benth. ex Bunge, Mem. Acad. Sci. St.–Pet. ser. 7, 11: 21. 1868.

Distribution: Himachal Pradesh, Jammu & Kashmir; 3350–5000 m.

Astragalus multiceps Benth., Ill. Bot. Himal. Mts. 199. 1835.

Distribution: Himachal Pradesh, Jammu & Kashmir; 3350–4000 m.

Astragalus munroi Benth. ex Bunge, Mem. Acad. Sci. St.–Pet. ser. 7.11: 30. 1868.

Distribution: Jammu & Kashmir. **(Plate 141b)**

Astragalus nivalis Kar. & Kir., Bull. Soc. Imp. Naturalistes Moscou 15: 341. 1842.

Distribution: Himachal Pradesh, Jammu & Kashmir; upto 5000 m.

Astragalus ophiocarpus Benth. ex Bunge, Fl. Orient. 2: 224. 1872.

Distribution: Jammu & Kashmir.

Astragalus oplites Benth. ex R.Parker, Kew Bull. 1921: 270. 1921.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand; upto 4500 m.

Astragalus oxyodon Baker, Fl. Brit India 2: 125. 1876.

Distribution: Himachal Pradesh, Jammu & Kashmir.

Astragalus peduncularis Royle, Ill. Bot. Himal. 199. 1835.

Distribution: Himachal Pradesh, Jammu & Kashmir. **(Plate 142b)**

Astragalus polyacanthus Royle, Ill. Bot. Himal. Mts. 199. 1835.

Distribution: Throughout Western Himalaya; upto 5000 m .

Astragalus pseudochlorostachys Ali, Bot. Notis. 118: 94. 1965.

Distribution: Jammu & Kashmir.

Astragalus psilocentros Fisch., Bull. Soc. Nat. Moscou 26(2): 405. 1853.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand.

Astragalus psilocentros Fisch. var. **pilosus** Benth. ex R. Parker, Forest Fl. Punjab (ed.) 2140–141. 1924.

Distribution: Uttarakhand.

Astragalus pyrrotrichus Boiss., Diagn. Pl. Or. nov. ser. 2(9): 73. 1849.

Distribution: Jammu & Kashmir.

Astragalus rhizanthus Royle ex Benth., Ill. Bot. Himal. Mts. 6: 200. 1835.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand.

Astragalus rhizanthus Royle ex Benth. subsp. **candolleanus** (Benth.) Podlec, Podlech Mitt. Bot. Staatssamml. Ünchen 25: 183. 1988. *A. candolleanus* Benth.

Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; upto 4500 m. **(Plate 142a)**

Astragalus rigidulus Benth. ex Bunge, Mem. Acad. Sci. St.–PeL ser. 7. 11: 23. 1868.

Distribution: Sikkim.

Astragalus sanjappae L.B.Chaudhary & Z.H.Khan, Rheedeia 15: 129. 2005.

Distribution: Sikkim, Uttarakhand; up to 4200 m. **(Plate 142c)**

Astragalus scorpiurus Bunge, Mem. Acad. Sci. St.–Pet.ser. 7. 11: 5. 1868.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand.

Astragalus sikkimensis Benth. ex Bunge, Mém. Acad. Imp. Sci. St.–Pétersbourg, Sér. 7. 11(16): 23. 1868.

Distribution: Sikkim; 2600–4500 m.

Astragalus stewartii Baker, Fl. Brit. India 2(4): 129. 1876.

Distribution: Himachal Pradesh, Uttarakhand; upto 4650 m.

Astragalus stipulatus D.Don ex Sims, Bot. Mag. 50: t. 2380. 1823.

Distribution: Sikkim; 2000–4500 m.

Astragalus strictus Benth., Ill. Bot. Himal. Mts. 198. 1835.

Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 3000–5600 m.

Astragalus subuliformis DC., Astragalologia 107. 1802.

Distribution: Jammu & Kashmir.

Astragalus subumbellatus Koltzsch., Bot. Ergebn. Reise Wald. 159. t. 3. 1862.

Distribution: Himachal Pradesh, Jammu & Kashmir; 2000–2350 m.

Astragalus tenuicaulis Benth. ex Bunge, Mém. Acad. Imp. Sci. St.–Pétersbourg, sér. 7. 11(16): 23. 1868.

Distribution: Sikkim.

Astragalus tibetanus Bunge, Mém. Acad. Imp. Sci. St.–Pétersbourg, Sér. 7. 11(16): 52. 1868.

Distribution: Himachal Pradesh, Jammu & Kashmir.

Astragalus tribulifolius Benth. ex Bunge, Gen. Astragali 1: 4. 1868.

Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand.

Astragalus trichocarpus Graham, Numer. List n. 5926. 1831–32.

Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand.

Astragalus uttaranchalensis L.B.Chaudhary & Z.H.Khan, Taiwania 51: 36. 2006.

Distribution: Uttarakhand.

(Plate 143a)

Astragalus vogelii Bornm. subsp. **fatimensis** Maire, Mém. Soc. Hist. Nat. Afrique N. 3: 126. 1933.

Distribution: Uttarakhand.

Astragalus webbianus Benth., Ill. Bot. Himal. Mts. 199. 1835.

Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand.

(Plate 143b)

Astragalus yunnanensis Franch., Pl. Delavay. 162. 1890.

Distribution: Uttarakhand.

Astragalus zanskarensis Benth. ex Bunge, Mém. Acad. Imp. Sci. St.–Pétersbourg, sér. 7. 11(16): 43. 1868.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand; 3350–5500 m.

Astragalus zemuensis W.W.Sm., Rec. Bot. Surv. India 4: 185. 1911.

Distribution: Sikkim; 3500–4500 m.

Butea Roxb. ex Willd.

Butea monosperma (Lam.) Taub., Nat. Pflanzenfam. 3(3): 366. 1894.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand.

(Plate 144a)

Cajanus Adans.

Cajanus cajan (L.) Millsp., Publ. Field Columb. Mus., Bot. Ser. 2(1): 53. 1900.

Cytisus cajanus L.

Distribution: Throughout the Himalaya.

Cajanus crassus (Prain ex King.) Maesen, Agric. Univ. Wageningen Pap. 85(4): 105. 1986. *Atylosia crassa* Prain & King

Distribution: Throughout the Himalaya.

Cajanus elongatus (Benth.) Maesen, Agric. Univ. Wageningen Pap. 85(4): 115. 1986. *Atylosia elongata* Benth.

Distribution: Arunachal Pradesh.

Cajanus goensis Dalz., J. Bot. Kew Gard. Misc. 2: 264. 1850.

Distribution: Arunachal Pradesh.

Cajanus grandiflorus (Benth. ex Baker) Maesen, Agric. Univ. Wageningen Pap. 85(4): 125. 1986. *Atylosia grandiflora* Benth ex Baker.

Distribution: Sikkim.

Cajanus mollis (Benth.) Maesen, Agric. Univ. Wageningen Pap. 85(4): 154. 1986.

Distribution: Arunachal Pradesh, Sikkim.

Cajanus platycarpus (Benth.) Maesen, Agric. Univ. Wageningen Pap. 85(4): 160. 1985. *Atylosia platycarpa* Benth.

Distribution: Uttarakhand.

Cajanus scarabaeoides (L.) Thouars, Dict. Sci. Nat. 6: 167. 1806. *Dolichos scarabaeoides* L.

Distribution: Arunachal Pradesh, Sikkim.

Cajanus villosus (Benth. ex Baker) Maesen, Agric. Univ. Wageningen Pap. 85(4): 205. 1986. *Atylosia villosa* Benth ex Baker.

Distribution: Sikkim, West Bengal (Darjeeling).

Campylotropis Bunge

Campylotropis drummondii Schind., Repert. Spec. Nov. Regni Veg. 11: 425. 1912.

Distribution: Sikkim, West Bengal (Darjeeling).

Campylotropis eriocarpa Schindl., Repert. Spec. Nov. Regni Veg. 11: 347. 1912.

Distribution: Arunachal Pradesh, Himachal Pradesh, Sikkim, West Bengal (Darjeeling). **(Plate 177c)**

Campylotropis griffithii Schind., Repert. Spec. Nov. Regni Veg. 11: 343. 1912.

Distribution: Arunachal Pradesh, Sikkim, West Bengal (Darjeeling).

Campylotropis macrostyla (D. Don) Lindl. ex Miq., Fl. Ned. Ind. 1(2): 230. 1855. *Crotalaria macrostyla* D. Don

Distribution: Sikkim, West Bengal (Darjeeling); 650–2350 m.

Campylotropis meeboldii Schind., Repert. Spec. Nov. Regni Veg. 11: 424. 1912.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand.

Campylotropis speciosa (Schindl.) Schindl., Fedde Rep. 11: 425. 1912. *Lespedeza speciosa* Schindl.

Distribution: Himachal Pradesh, Sikkim, Uttarakhand; 1000–3100 m.

Campylotropis stenocarpa Schindl., Repert. Spec. Nov. Regni Veg. 11: 345. 1912.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand.

Campylotropis thomsonii (Baker) Schindl., Repert. Spec. Nov. Regni Veg. 11: 427. 1912. *Lespedeza thomsonii* Baker

Distribution: Uttarakhand.

Canavalia Adans.

Canavalia ensiformis (L.) DC., Prodr. 2: 404. 1825. *Dolichos ensiformis* L.

Distribution: Arunachal Pradesh, Himachal Pradesh, Sikkim.

Canavalia gladiata (Jacq.) DC., Prodr. 2: 404. 1825. *Dolichos gladiatus* Jacq.
Distribution: Sikkim, Uttarakhand, West Bengal (Darjeeling).

Caragana Fabr.

Caragana beefensis S. Biswas, Indian J. Forest. 9(1): 70. 1986.
Distribution: Uttarakhand.

Caragana beefensis var. **auriculata** S. Biswas, Indian J. Forest. 9(1): 71. 1986.
Distribution: Uttarakhand.

Caragana brevifolia Kom., Trudy Imp. S.–Peterburgsk. Bot. Sada xxix. 211. 1909.
Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand.

Caragana brevispina Benth., Ill. Bot. Himal. Mts. 198. 1835.
Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand.

Caragana decorticans Hemsl., Icon. Pl. 18: t. 1725. 1887.
Distribution: Jammu & Kashmir.

Caragana gerardiana Benth., Ill. Bot. Himal. Mts. 198. 1835.
Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand; 2700–4400 m.

Caragana jubata Poir., Encycl. Suppl. 2. 89. 1811.
Distribution: Sikkim.

Caragana polyacantha Benth., Ill. Bot. Himal. Mts. 198. 1835.
Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand.

Caragana spinifera Kom., Trudy Imp. S.–Peterburgsk. Bot. Sada xxix. 267. 1909.
Distribution: Sikkim.

Caragana sukiensis C.K.Schneid., Ill. Handb. Laubholzk. ii. 99. 1907.
Distribution: Sikkim, Uttarakhand.

Caragana tragacanthoides (Pall.) Poir. var. **himalaica** Kom., Trudy Imp. S.–
Peterburgsk. Bot. Sada. 29: 272. 1918.
Distribution: Jammu & Kashmir.

Caragana versicolor Benth., Ill. Bot. Himal. 198. 1835.
Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand. (Plate 144b)

Ceratonia L.

Ceratonia siliqua L., Sp. Pl. 2: 1026. 1753.
Distribution: Uttarakhand.

Chaenomeles Lindl.

Chaenomeles sinensis (Dum.Cours.) Koehne, Gatt. Pomac. 9. 1890. *Cydonia
sinensis* Thouin
Distribution: Uttarakhand.

Chamaecrista L.

Chamaecrista absus (L.) H.S.Irwin & Barneby, Mem. New York Bot. Gard. 35: 664. 1982. *Cassia absus* L.

Distribution: Uttarakhand.

Chamaecrista kleinii (Wight & Arn.) K.M. Matthew, Kew Bull. 48(4): 760. 1993. *Cassia kleinii* Wight & Arn.

Distribution: Uttarakhand.

Chamaecrista wallichiana (DC.) V.Singh, J. Econ. Taxon. Bot. 16: 600. 1992. *Cassia wallichiana* DC.

Distribution: Uttarakhand.

Chesneya Lindl. ex Endl.

Chesneya cuneata (Benth.) Ali, Scientist 3(1): 3. 1959. *Gueldenstaedtia cuneata* Benth.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand; 2350–4350 m.

Chesneya depressa (Oliv.) Popov., Byull. Sredne–Aziatsk. Gosud. Univ. xv. Suppl. 10. 1927. *Calophaca depressa* Oliv.

Distribution: Himachal Pradesh, Jammu & Kashmir.

Cicer L.

Cicer arietinum L., Sp. Pl. 2: 738, 1753.

Distribution: Arunachal Pradesh, Sikkim.

Cicer macracanthum Popov, Byull. Sredne–Aziatsk. Gosud. Univ. xv. Suppl. 16. 1927.

Distribution: Himachal Pradesh, Jammu & Kashmir.

Cicer microphyllum Royle, Ill. Bot. Himal. Mts. 200. 1835.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand; 3000–5000 m.

Clitoria L.

Clitoria annua J.Graham, Cat. Pl. Bombay 47. 1839.

Distribution: Uttarakhand.

Clitoria mariana L., Sp. Pl. 753. 1753.

Distribution: Arunachal Pradesh, Sikkim.

Clitoria ternatea L., Sp. Pl. 2: 753. 1753.

Distribution: Arunachal Pradesh, Sikkim.

Codariocalyx Hassk.

Codariocalyx gyroides Hassk., Flora 25: 49. 1842.

Distribution: Arunachal Pradesh, Sikkim.

(Plate 144b)

Codariocalyx motorius H.Ohashi, J. Jap. Bot. 40(12): 367. 1965.

Distribution: Arunachal Pradesh, Sikkim.

(Plate 145a)

Colutea L.**Colutea arborescens** L., Sp. Pl. 2: 723. 1753.

Distribution: Uttarakhand.

Colutea nepalensis Sims, Bot. Mag. 53: t. 2622. 1826.

Distribution: Himachal Pradesh, Jammu & Kashmir; 2650–5500 m.

Colutea paulsenii Freyn ssp. **mesantha** (Shap. ex Ali) Ali, Nasir & Ali., Fl. W. Pakistan. 100: 93. 1977. *C. mesantha* Shap. ex Ali

Distribution: Jammu & Kashmir.

Colutea paulsenii Freyn, Bull. Herb. Boissier Ser. II. iv. 47. 1904. subsp. **paulsenii**

Distribution: Jammu & Kashmir.

Crotalaria L.**Crotalaria alata** Buch.-Ham., Prodr. Fl. Nepal. 241. 1825.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim.

Crotalaria albida B. Heyne ex Roth, Nov. Pl. Sp. 333. 1821.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim; upto 2400 m.

Crotalaria assamica Benth, London J. Bot. 2: 481. 1843.

Distribution: Uttarakhand.

Crotalaria bialata Schrank, Pl. Rar. Hort. Monac. 10: pl. 13. 1819.

Distribution: Uttarakhand.

Crotalaria burhia Buch.-Ham., Numer. List 5386. 1831.

Distribution: Uttarakhand.

Crotalaria calycina Schrank, Pl. Rar. Hort. Monac. , pl. 12. 1817.

Distribution: Uttarakhand.

Crotalaria capensis Jacq., Hort. Bot. Vindob. 3: 36. 1776.

Distribution: Uttarakhand.

Crotalaria ferruginea Graham ex Benth., London J. Bot. 2 (L 2): 476. 1843.

Distribution: Arunachal Pradesh, Sikkim, Uttarakhand; 400–2200 m.

Crotalaria hirsuta Willd., Sp. Pl., 3(2): 978. 1802.

Distribution: Himachal Pradesh, Uttarakhand.

Crotalaria humifusa Benth., London J. Bot. 2: 476. 1843.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim; upto 2400 m.

Crotalaria incana L., Sp. Pl. 2: 716. 1753.

Distribution: Himachal Pradesh, Uttarakhand.

Crotalaria juncea L., Sp. Pl. 753. 1753.

Distribution: Throughout Himalaya.

Crotalaria khasiana Baker ex Thoth. & Ansari, Bull. Bot. Surv. India 20: 180. 1979.

Distribution: Arunachal Pradesh, Sikkim.

Crotalaria laburnifolia L., Sp. Pl. 2: 715. 1753.

Distribution: Arunachal Pradesh.

Crotalaria linifolia L.f., Suppl. Pl. 322. 1782.

Distribution: Sikkim; 300–1300 m.

Crotalaria medicaginea Lam., Encycl. 2(1): 201. 1786.

Distribution: Throughout Himalaya.

Crotalaria micans Link, Enum. Hort. Berol. Alt. 2: 228. 1822.

Distribution: Arunachal Pradesh.

Crotalaria mysorensis Roth, Nov. Pl. Sp. 338. 1821.

Distribution: Arunachal Pradesh, Sikkim; upto 1300 m.

Crotalaria pallida Aiton, Hort. Kew. 3: 20. 1789.

Distribution: Arunachal Pradesh, Sikkim; upto 1300 m.

Crotalaria pallida Aiton var. **obovata** (G.Don) Polhill, Kew Bull. 22. 265. 1968.

C. obovata G.Don

Distribution: Sikkim.

Crotalaria prostrata Rottler, Enum. Pl 2: 747. 1809.

Distribution: Throughout Himalaya; upto 2000 m.

Crotalaria retusa L., Sp. Pl. 2: 715. 1753.

Distribution: Throughout Himalaya.

Crotalaria sessiliflora L., Sp. Pl. ed. 2. 1004. 1763.

Distribution: Arunachal Pradesh, Himachal Pradesh, Sikkim, Uttarakhand, West Bengal (Darjeeling).

Crotalaria sessiliflora L. f. **garhwalensis** A. Ansari & Thoth., J. Econ. Tax. Bot. 6: 744. 1985.

Distribution: Uttarakhand.

Crotalaria sessiliflora L. var. **anthylloides** (Lam.) A. Ansari & Thoth., J. Econ. Tax. Bot. 6: 745. 1985. *C. anthylloides* Lam.

Distribution: Himachal Pradesh, West Bengal (Darjeeling).

Crotalaria spectabilis Roth, Nov. Pl. Sp. 341. 1821. *C. sericea* Retz.

Distribution: Arunachal Pradesh, Sikkim, West Bengal (Darjeeling). (**Plate 145b**)

Crotalaria tetragona Roxb. ex Andrews, Bot. Repos. 9: 593. 1812.

Distribution: Arunachal Pradesh, Sikkim, West Bengal (Darjeeling); upto 1500 m.

Cyamopsis DC.

Cyamopsis tetragonoloba (L.) Taub., Nat. Pflanzenfam. 3(3): 259. 1894. *Psoralea tetragonoloba* L.

Distribution: Uttarakhand.

Cytisus Desf.

Cytisus scoparius (L.) Link, Enum. Hort. Berol. Alt. 2: 241. 1822. *Spartium scoparium* L.

Distribution: Uttarakhand.

Dalbergia L.f.

Dalbergia clarkei Thoth., J. Jap. Bot. 46(3): 73. 1971.

Distribution: Arunachal Pradesh.

Dalbergia confertiflora Benth., Pl. Jungh. 2: 255. 1852.

Distribution: Arunachal Pradesh.

Dalbergia assamica Benth. Pl. Jungh. 256. 1852.

Distribution: Arunachal Pradesh, Sikkim.

Dalbergia lanceolaria L.f. subsp. **paniculata** (Roxb.) Thoth., Bull. Bot. Surv. India 25(1–4): 171. 1983.

Distribution: Uttarakhand.

Dalbergia lanceolaria L.f., Suppl. Pl. 316. 1781.

Distribution: Uttarakhand.

Dalbergia latifolia Roxb., Pl. Coromandel 2: 7, pl. 113. 1798.

Distribution: Uttarakhand.

Dalbergia millettii Benth. var **mimosoides** (Franch.) Thoth., Bull. Bot. Survey. India 25: 170. 1983.

Distribution: Sikkim.

Dalbergia oliveri Gamble ex Prain, J. Asiat. Soc. Bengal, Pt. 2, Nat. Hist. 66: 451. 1897.

Distribution: Arunachal Pradesh.

Dalbergia pinnata Prain, Ann. Roy. Bot. Gard. 10: 48. 1904.

Distribution: Arunachal Pradesh, Sikkim, West Bengal (Darjeeling).

Dalbergia rimosa Roxb., Fl. Ind. 3: 233. 1832.

Distribution: Arunachal Pradesh, Sikkim, West Bengal (Darjeeling).

Dalbergia sericea G. Don, Gen. Hist. 2: 375. 1832.

Distribution: Arunachal Pradesh, Sikkim, Uttarakhand, West Bengal (Darjeeling).

Dalbergia sissoo Roxb. ex DC., Prodr. 2: 416. 1825.

Distribution: Throughout Himalaya; upto 2000 m.

Dalbergia stipulacea Roxb., Fl. Ind. 3: 233. 1832.

Distribution: Arunachal Pradesh, Sikkim, West Bengal (Darjeeling).

Dalbergia thomsonii Benth., J. Proc. Linn. Soc., Bot. 4(Suppl.): 33. 1860.

Distribution: Arunachal Pradesh, Sikkim, West Bengal (Darjeeling). (Plate 145c)

- Dalbergia volubilis** Roxb., Pl. Coromandel 2(4): 48, t. 191. 1805.
Distribution: Sikkim, West Bengal (Darjeeling).
- Dalhousiea** Wall. ex Benth.
- Dalhousiea bracteata** Graham, Numer. List n. 5339. 1831–32.
Distribution: Arunachal Pradesh, Sikkim. (Plate 145d)
- Dendrolobium** (Wight & Arn.) Benth.
- Dendrolobium triangulare** (Retz.) Schindl., Repert. Spec. Nov. Regni Veg. 20: 279. 1924. *Hedysarum triangulare* Retz.
Distribution: Arunachal Pradesh, Sikkim, West Bengal (Darjeeling).
- Derris** Lour.
- Derris acuminata** Benth., Pl. Jungh. 2: 252. 1852. var. **acuminata**
Distribution: Sikkim.
- Derris acuminata** Benth. var. **sikkimensis** Thoth., J. Jap. Bot. 51(5): 143. 1976.
Distribution: Arunachal Pradesh, Sikkim, West Bengal (Darjeeling).
- Derris cuneifolia** Benth., Miq., Pl. Jurngh. 253. 1825. var. **cuneifolia**
Distribution: Arunachal Pradesh, Sikkim, West Bengal (Darjeeling).
- Derris cuneifolia** Benth. var. **longipedicellata** Thoth., Bull. Bot. Surve. India 3: 191. 1962.
Distribution: Sikkim, West Bengal (Darjeeling).
- Derris elegans** Benth. var. **vestita** (Baker) Prain, J. Asiat. Soc. Beng. 66: 103. 1897.
D. vestita Baker
Distribution: Sikkim, West Bengal (Darjeeling).
- Derris ferruginea** (Roxb.) Benth., Pl. Jungh. 1: 252. 1825. *Robinia ferruginea* Roxb.
Distribution: Arunachal Pradesh, West Bengal (Darjeeling).
- Derris marginata** (Roxb.) Benth., Pl. Jungh. 252. 1825. *Dalbergia marginata* Roxb.
Distribution: Arunachal Pradesh, Sikkim, West Bengal (Darjeeling).
- Derris monticola** (Kurz) Prain, J. Asiat. Soc. Beng. 66: 361. 1897. *Millettia monticola* Kurz
Distribution: Sikkim, West Bengal (Darjeeling).
- Derris pseudorobusta** Thoth., Bull. Bot. Surv. India 3: 181. 1962.
Distribution: Arunachal Pradesh.
- Derris robusta** (Roxb. ex DC.) Benth., J. Linn. Soc. Bot. 4(Suppl.): 104. 1860.
Dalbergia robusta Roxb. ex DC.
Distribution: Arunachal Pradesh, Sikkim, West Bengal (Darjeeling).
- Derris scandens** (Roxb.) Benth., J. Linn. Soc. Bot. 4(Suppl.): 103. 1860. *Dalbergia scandens* Roxb.
Distribution: Throughout the Himalayas.

Derris secunda Baker, Fl. Brit. India 2(5): 247. 1878.

Distribution: Arunachal Pradesh, Sikkim.

Derris trifoliata Lour., R. Cochin. 433. 1790.

Distribution: Sikkim, West Bengal (Darjeeling).

Desmodium Desv.

Desmodium benthamii N.P.Balakr., J. Bombay Nat. Hist. Soc. 63: 328. 1967.

Distribution: Uttarakhand.

Desmodium concinnum DC., Ann. Sci. Nat. (Paris) 4: 101. 1825.

Distribution: Arunachal Pradesh, Sikkim, West Bengal (Darjeeling).

Desmodium confertum DC., Ann. Sci. Nat. (Paris) 4: 101. 1825.

Distribution: Arunachal Pradesh, Sikkim, West Bengal (Darjeeling).

Desmodium dichotomum (Willd.) DC., Prodr. 2: 336. 1825.

Distribution: Uttarakhand.

Desmodium elegans DC., Ann. Sci. Nat. (Paris) 4: 100. 1825.

Distribution: Arunachal Pradesh, Sikkim, West Bengal (Darjeeling); upto 3000 m.

(Plate 146a)

Desmodium elegans DC. var. **nutans** H.Ohashi, Univ. Mus. Univ. Tokyo Bull. 2: 297. 1971.

Distribution: Himachal Pradesh, Jammu & Kashmir.

Desmodium gangeticum (L.) DC., Prodr. 2: 327. 1825. *Hedysarum gangeticum* L.

Distribution: Throughout Himalaya; upto 3000 m.

Desmodium garhwalensis L.R.Dangwal & R.D.Gaur, J. Bombay Nat. Hist. Soc. 99(1): 96. 2002.

Distribution: Uttarakhand.

Desmodium heterocarpon (L.) DC. Prodr. 2: 337. 1825. var. **heterocarpon**. *Hedysarum heterocarpon* L..

Distribution: Throughout Eastern Himalaya; upto 3000 m.

Desmodium heterocarpon (L.) DC. var. **strigosum** Meeuwen, Reinwardtia 6: 95. 1962.

Distribution: Throughout Eastern Himalaya; upto 3000 m.

Desmodium heterophyllum (Willd.) DC., Prodr. 2: 334. 1825. *Hedysarum heterophyllum* Willd.

Distribution: Arunachal Pradesh, Sikkim.

Desmodium khasianum Prain, J. Asiat Soc. Beng. 66: 398. 1897.

Distribution: Arunachal Pradesh, Sikkim.

Desmodium kulhaitense C.B.Clarke ex Prain, J. Asiat Soc. Beng. 66: 395. 1897.

Distribution: Arunachal Pradesh, Sikkim, West Bengal (Darjeeling).

Desmodium laxiflorum DC., Ann. Sci. Nat. Paris 4: 100. 1825.

Distribution: Arunachal Pradesh, Sikkim; 200–2400 m.

Desmodium laxum DC., Ann. Sci. Nat. Paris ser. 1. 4: 102. 1825.

Distribution: Arunachal Pradesh, Sikkim.

Desmodium likabalium Bennet & Chandra, J. Econ. Tax. Bot. 3: 993. 1982.

Distribution: Arunachal Pradesh.

Desmodium megaphyllum Zoll. & Moritzi, Nat. Geneesk. Arch. Ned.–Indie 3: 77. 1846.

Distribution: Arunachal Pradesh, Sikkim.

Desmodium microphyllum (Thunb.) DC., Prodr. 2: 337. 1825. *Hedysarum microphyllum* Thunb.

Distribution: Throughout Himalaya; upto 2500 m.

Desmodium multiflorum DC., Ann. Sci. Nat. Par. Ser. 1. 4: 101. 1825.

Distribution: Arunachal Pradesh, Sikkim; upto 2400 m. (Plate 146b)

Desmodium neomexicanum A.Gray, Smithsonian Contr. Knowl. 3(5): 53. 1852.

Distribution: Uttarakhand.

Desmodium oblongum Wall., Numer. List n. 5714. 1831–32.

Distribution: Arunachal Pradesh, Sikkim; upto 2400 m.

Desmodium oojeinense (Roxb.) H. Ohashi, Ginkgoana 1: 117. 1973. *D. oojeinensis* Roxb.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand.

Desmodium podocarpum DC. subsp. **oxyphyllum** (DC.) H. Ohashi & R.R. Mill, Edinburgh J. Bot., 57(2): 183. 2000. *Desmodium oxyphyllum* DC.

Distribution: Arunachal Pradesh, Sikkim; upto 2400 m.

Desmodium renifolium (L.) Schindl., Repert. Spec. Nov. Regni Veg. 22: 262. 1926. *Hedysarum reniforme* L.

Distribution: Arunachal Pradesh, Sikkim.

Desmodium sequax Wall., Pl. Asiat. Rar. 2: 46. 1831.

Distribution: Arunachal Pradesh, Sikkim; upto 2400 m. (Plate 178a)

Desmodium styracifolium (Osbeck) Merr., Amer. J. Bot. 3: 580. 1916.

Distribution: Arunachal Pradesh, Sikkim.

Desmodium tortuosum (Sw.) DC., Prodr. 2: 332. 1825. *Hedysarum tortuosum* Sw.

Distribution: Uttarakhand.

Desmodium triflorum (L.) DC., Prodr. 2: 334. 1825. *Hedysarum triflorum* L.

Distribution: Arunachal Pradesh, Sikkim; upto 2600 m.

Desmodium velutinum (Willd.) DC., Prodr. 2: 328. 1825. *Hedysarum velutinum* Willd.

Distribution: Throughout Himalaya; upto 1500 m.

Desmodium velutinum (Willd.) DC var. **sikkimense** (Schindl.) Ohashi, Fl. E. Himal 155. 1966. *D. sikkimense* Schindl.

Distribution: Sikkim.

Desmodium velutinum DC. subsp. **longibracteatum** (Schindl.) H.Ohashi, Ginkgoana 1: 194. 1973.

Distribution: Sikkim, West Bengal (Darjeeling).

Desmodium zonatum Miq., Fl. Ned. Ind. i. I. 250. 1855.

Distribution: Arunachal Pradesh, Sikkim; upto 2600 m.

Dichrostachys (DC.) Wight & Arn.

Dichrostachys cinerea (L.) Wight & Arn., Prodr. Fl. Ind. Orient. 1: 271. 1834. *Mimosa cinerea* L.

Distribution: Uttarakhand.

Dolichos L.

Dolichos tenuicaulis (Baker) Craib, Contr. Fl. Siam, Dicot. 66. 1912. *Phaseolus tenuicaulis* Baker

Distribution: Uttarakhand.

Dolichos trilobus L., Sp. Pl. 2: 726. 1753.

Distribution: Uttarakhand.

Dumasia DC.

Dumasia villosa DC., Ann. Sci. Nat. 4: 97. 1825. var. **villosa**

Distribution: Arunachal Pradesh, Himachal Pradesh, Sikkim; 1500–2100 m.

Dumasia villosa DC. var. **leiocarpa** (Benth.) Baker, Fl. Brit. India. 2: 183. 1876. *D. leiocarpa* Benth.

Distribution: Arunachal Pradesh, Himachal Pradesh, Sikkim.

Dunbaria Wight & Arn.

Dunbaria glandulosa (Dalz.) Prain, J. Asiat. Soc. Bengal 66: 433. 1897.

Distribution: Uttarakhand.

Dunbaria punctata (Wight & Arn.) Benth., Pl. Jungh. 2: 242. 1852. *Atylosia punctata* Wight & Arn.

Distribution: Sikkim, West Bengal (Darjeeling).

Dysolobium (Benth.) Prain

Dysolobium grande (Wall. ex Benth.) Prain, J. Asiat. Soc. Bengal 66: 427. 1897. *Phaseolus grandis* Wall. ex Benth.

Distribution: Arunachal Pradesh, Sikkim, West Bengal (Darjeeling).

Dysolobium lucens (Wall. ex Benth.) Prain, J. Asiat. Soc. Bengal 66: 427. 1897. *Phaseolus leucens* Wall. ex Benth.

Distribution: Arunachal Pradesh, Sikkim, West Bengal (Darjeeling).

Dysolobium tetragonum Prain, J. Asiat. Soc. Beng. 66. 427. 1897.

Distribution: West Bengal (Darjeeling).

Ebenus L.

Ebenus stallata Boiss, Diagn. Pl. Orient. ser. 1, 2: 100. 1843.

Distribution: Throughout Western Himalaya; upto 2500 m.

Eriosema (DC.) Desv.

Eriosema himalaicum H. Ohashi, Journ. Jap. Bot. xli. 96. 1966.

Distribution: Arunachal Pradesh, Sikkim, Uttarakhand; upto 2000 m.

Eriosema psoraleoides (Lam.) G. Don, Gen. Hist. 2: 348. 1832. *Crotalaria psoraleoides* Lam.

Distribution: Arunachal Pradesh, Sikkim, West Bengal (Darjeeling); upto 2000 m.

Erythrina L.

Erythrina arborescence Roxb., Pl. Coromandel 3: 14. 1811.

Distribution: Arunachal Pradesh, Himachal Pradesh, Sikkim, Uttarakhand; upto 2000 m. **(Plate 145e)**

Erythrina crista-galli L., Syst. Nat. 2: 437–100. 1767.

Distribution: Uttarakhand.

Erythrina resupinata Roxb., Hort. Bengal. 53. 1814.

Distribution: Uttarakhand.

Erythrina stricta Roxb., Fl. Ind. 3: 251. 1832.

Distribution: Arunachal Pradesh, Sikkim, West Bengal (Darjeeling).

Erythrina suberosa Roxb., Fl. Ind. 3: 253. 1832.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand, West Bengal (Darjeeling).

Erythrina variegata L., Herb. Amboin. (Linn.) 10. 1754.

Distribution: Sikkim, Uttarakhand, West Bengal (Darjeeling).

Flemingia Roxb. ex W.T. Aiton

Flemingia chappar Buch.-Ham. ex Benth. Pl. Jungh. 2: 244. 1852.

Distribution: Uttarakhand.

Flemingia involucrata Benth., Pl. Jungh. 2: 246. 1852.

Distribution: Arunachal Pradesh, Sikkim, West Bengal (Darjeeling).

Flemingia lineata (L.) Roxb. ex Ait.f., Hort. Kew ed. 2, 4: 350. 1812.

Distribution: Uttarakhand.

Flemingia macrophylla (Willd.) Kuntze ex Merr., Philipp. J. Sci. Bot. 5: 130. 1910. *Crotalaria macrophylla* Willd.

Distribution: Arunachal Pradesh, Sikkim, West Bengal (Darjeeling); 200–2000 m.

Flemingia paniculata Wall. ex Benth., Pl. Jungh. 2: 245. 1852.

Distribution: Aruanchal Pradesh, Sikkim, Uttarakhand, West Bengal (Darjeeling).

Flemingia procumbens Roxb. Fl. Ind. 3: 338. 1832.

Distribution: Uttarakhand.

Flemingia semialata Roxb., Hort. Kew., ed. 2, 4: 349. 1812.

Distribution: Aruanchal Pradesh, Himachal Pradesh, Sikkim, Uttarakhand, West Bengal (Darjeeling).

Flemingia stricta Roxb., Hort. Kew., 4: 349. 1812.

Distribution: Aruanchal Pradesh, Sikkim, Uttarakhand, West Bengal (Darjeeling).

Flemingia strobilifera (L.) W.T.Aiton Hort. Kew. 4: 350. 1812. *Hedysarum strobiliferum* L.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand, West Bengal (Darjeeling).

Galactia P. Browne

Galactia tenuiflora (Willd.) Wight & Arn., Prodr. Fl. Ind. Orient. 1: 206. 1834.

Glycine tenuiflora Klein ex Willd.

Distribution: Uttarakhand.

Geissaspis Wight & Arn

Geissaspis cristata Wight & Arn., Prodr. Fl. Ind. Orient. 1: 218. 1834.

Distribution: West Bengal (Darjeeling).

Glycine Willd.

Glycine max (L.) Merr., Interpr. Rumph. Herb. Amboin. 274. 1917. *Phaseolus max* L.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand, West Bengal (Darjeeling).

Gueldenstaedtia Fisch.

Gueldenstaedtia multiflora Bunge, Enum. Pl. China Bor. 18. 1833.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand.

Gueldenstaedtia verna (Georgi) Boriss., Spisok Rast. Gerb. Fl. S.S.S.R. Bot. Inst. Vsesojuzn. Akad. Nauk 12: 122. 1953. *Astra-galus vernus* Georgi

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand.

Hedysarum L.

Hedysarum alpinum L. subsp. **laxiflorum** (Benth. ex Baker f.) H. Ohashi & Tateishi, Bull. Univ. Mus. Univ. Tokyo 8: 367. 1975. *H. laxiflorum* Benth. ex Baker f.

Distribution: Jammu & Kashmir.

Hedysarum astragaloides Benth. ex Baker, Fl. Brit. India 2(4): 146. 1876.

Distribution: Jammu & Kashmir.

- Hedysarum cachemirianum** Benth. ex Baker, Fl. Brit. India 2(4): 146. 1876.
Distribution: Jammu & Kashmir.
- Hedysarum falconeri** Baker, Fl. Brit. India 2(4): 146. 1876.
Distribution: Jammu & Kashmir.
- Hedysarum kumaonense** Benth. ex Baker, Fl. Brit. India 2(4): 145. 1876.
Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand.
- Hedysarum microcalyx** Baker, Fl. Brit. India 2(4): 147. 1876.
Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand.
- Hedysarum pseudomicrocalyx** H.Ohashi & Tateishi, Fl. E. Himalaya 3rd. Rep. 385. 1975.
Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand.
- Hedysarum sikkimense** Benth. ex Baker, Fl. Brit. India 2(4): 145. 1876.
Distribution: Sikkim; 3500–4500 m.
- Hedysarum tibeticum** (Benth.) B.H.Choi & H.Ohashi, Taxon 52(3): 574. 2003.
Distribution: Sikkim; 4000–4500 m.
- Hylodesmum** H.Ohashi & R.R.Mill
- Hylodesmum williamsii** (H.Ohashi) H.Ohashi & R.R.Mill, Edinburgh J. Bot. 57(2): 186. 2000. *Desmodium williamsii* H.Ohashi
Distribution: Arunachal Pradesh.
- Hylodesmum podocarpum** (DC.) H.Ohashi & R.R.Mill, Ann. Sci. Nat. (Paris) 4: 102. 1825. *Desmodium podocarpum* (Thunb.) DC.
Distribution: Arunachal Pradesh, Sikkim; upto 2400 m.
- Hylodesmum podocarpum** (DC.) H.Ohashi & R.R.Mill subsp. **oxyphyllum** (DC.) H.Ohashi & R.R.Mill, Edinburgh J. Bot. 57(2): 182. 2000. *Desmodium oxyphyllum* DC.
Distribution: Sikkim; 724–2200 m.
- Indigofera** L.
- Indigofera arrecta** Hochst. ex A. Rich., Tent. Fl. Abyss. 1: 184. 1847.
Distribution: Arunachal Pradesh, West Bengal (Darjeeling).
- Indigofera astragalina** DC., Prodr.2: 228. 1825.
Distribution: Uttarakhand.
- Indigofera atropurpurea** Buch.-Ham. ex Hornem., Hort. Bot. Hafn., Suppl.: 152. 1819.
Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 300–3200 m.
- Indigofera bracteata** Graham ex Baker, Fl. Brit. India 2(4): 100–101. 1876.
Distribution: Arunachal Pradesh, Jammu & Kashmir, Sikkim; 3400 m.

Indigofera bracteata Graham ex Baker var. **khasiana** Sanjappa, J. Bombay Nat. Hist. Soc. 81: 449. 1984.

Distribution: Arunachal Pradesh; 1600–2600 m.

Indigofera cassioides Rottler ex DC, Prodr. 2: 225. 1825.

Distribution: Himachal Pradesh, Uttarakhand; 1600–2600 m.

Indigofera cedrorum Dunn, Kew Bull. 10: 377. 1920.

Distribution: Himachal Pradesh, Uttarakhand.

Indigofera colutea (Burm.f.) Merr., Philipp. J. Sci. 19(3): 355. 1921. *Galega colutea* Burm. f.

Distribution: Uttarakhand.

Indigofera cordifolia Roth, Nov. Pl. Sp. 357. 1827.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand.

Indigofera cylindracea Graham ex Baker, Fl. Brit. India 2(4): 99. 1876.

Distribution: Arunachal Pradesh, Sikkim, Uttarakhand, West Bengal (Darjeeling).

Indigofera dosua Buch.-Ham. ex D.Don, Prodr. Fl. Nepal. 244. 1825.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand, West Bengal (Darjeeling).

Indigofera dosua Buch.-Ham. ex D.Don var **simlensis** (Ali) Sanjappa, Legumes of India 188. 1992. *I. simlensis* Ali

Distribution: Himachal Pradesh, Uttarakhand.

Indigofera exilis Grierson & D.G.Long, Notes Roy. Bot. Gard. Edinburgh 37(2): 342. 1979.

Distribution: Arunachal Pradesh, Himachal Pradesh, Sikkim, Uttarakhand, West Bengal (Darjeeling); 1400–2600 m.

Indigofera gangetica Sanjappa, Bull. Bot. Surv. Ind. 28 (1–4): 225. 1988.

Distribution: Himachal Pradesh, Uttarakhand; 1400–3000 m.

Indigofera hamiltonii Graham ex Duthie & Prain, Ann. Roy. Bot. Gard. Calcutta 9: 22. 1901.

Distribution: Himachal Pradesh, Uttarakhand; 400–1500 m.

Indigofera hebetata Benth. ex Baker, Fl. Brit. India 2(4): 101. 1876.

Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand.

Indigofera hebetata Benth. ex Baker var. **glabra** Ali, Bot. Not. 3: 572. 1958.

Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand.

Indigofera heterantha Wall. ex Brandis, Forest Fl. N.W. India, 135. 1874.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand, West Bengal (Darjeeling); upto 3000 m. **(Plate 146c)**

Indigofera himalayensis Ali, Bot. Not. 111: 574. 1958.

Distribution: Himachal Pradesh, Jammu & Kashmir; upto 3000 m.

Indigofera hirsuta L., Sp. Pl. 2: 751. 1753.

Distribution: Uttarakhand.

Indigofera linifolia (L.f.) Retz., Obs. Bot. 4: 29. 1786. *Hedysarum linifolium* L.f.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand, West Bengal (Darjeeling).

Indigofera linnaei Ali, Bot. Not. 111: 549. 1958.

Distribution: Himachal Pradesh, Uttarakhand.

Indigofera nigrescens Kurz ex King & Prain, J. Asiat. Soc. Bengal, Pt. 2, Nat. Hist. 67: 286. 1898.

Distribution: Arunachal Pradesh.

Indigofera oblongifolia Forssk., Fl. Aegypt.-Arab. 137. 1775.

Distribution: Uttarakhand.

Indigofera prostrata Willd., Sp. Pl. 3(2): 1226. 1802.

Distribution: Uttarakhand.

Indigofera pseudoreticulata Grierson & D.G. Long, Notes Roy. Bot. Gard. Edinburgh 37(2): 345. 1979.

Distribution: Arunachal Pradesh; 2300–3200 m.

Indigofera sesquipedalis C.B. Clarke ex Sanjappa, J. Bombay Nat. Hist. Soc. 81(2): 445. 1984.

Distribution: Arunachal Pradesh; 600–1500 m.

Indigofera silvestrii Pamp., Nuovo Giorn. Bot. Ital. xvii. 397. 1910.

Distribution: Himachal Pradesh; 2000–2500 m.

Indigofera silvestrii Pamp. var. **ali** Sanjappa, Fasc. Fl. India 21. 123. 1995.

Distribution: Himachal Pradesh, Jammu & Kashmir.

Indigofera stachyodes Lindl., Edwards's Bot. Reg. 29: t. 14. 1843.

Distribution: Arunachal Pradesh, Sikkim, West Bengal (Darjeeling); 724–2200 m.

Indigofera thothathri Sanjappa, J. Jap. Bot 59: 272. 1984.

Distribution: Uttarakhand.

Indigofera tinctoria L., Sp. Pl. 2: 751. 1753.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand, West Bengal (Darjeeling).

Indigofera trifoliata L., Cent. Pl. II. 29. 1756.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand, West Bengal (Darjeeling).

Indigofera trifoliata L. var. **duthei** (Naik) Sanjappa, Legumes India 196. 1992. *I. duthei* Naik

Distribution: Uttarakhand (cultivated)

Indopiptadenia Brenan

Indopiptadenia oudhensis (Brandis) Brenan, Kew Bull. 10(2): 179. 1955.

Piptadenia oudhensis Brandis

Distribution: Uttarakhand.

Kummerowia Schindl.

Kummerowia striata (Thunb.) Schindl., Repert. Spec. Nov. Regni Veg. 10: 403.

1912. *Hedysarum striatum* Thunb.

Distribution: Arunachal Pradesh.

Lablab Adans.

Lablab purpureus (L.) Sweet, Hort. Brit. 481. 1826. *Dolichos purpureus* L.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand, West Bengal (Darjeeling).

Lablab purpureus (L.) Sweet subsp. **bengalensis** Verde., Kew Bull. 24(3): 411.

1970. *Dolichos bengalensis* Jacq.

Distribution: Uttarakhand.

Laburnum Fabr.

Laburnum anagyroides Medik., Vorles. Churpfälz. Phys.-Ökon. Ges. 2: 363. 1787.

Distribution: Himachal Pradesh, Sikkim.

Lathyrus L.

Lathyrus aphaca L., Sp. Pl. 2: 729. 1753.

Distribution: Uttarakhand.

Lathyrus emodi (Wall. ex Fritsch) Ali., Biologia (Lahore) xi. no. 2: 4. 1965. *Orobus emodi* Wall. ex Fritsch.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand.

Lathyrus pratensis L., Sp. Pl. 2: 733. 1753.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand.

Lathyrus hirsutus L., Sp. Pl. 2: 732. 1753.

Distribution: Jammu & Kashmir.

Lathyrus humilis (Ser.) Spreng., Syst. Veg. 3: 363. 1826. *Orobus humilis* Seringe

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand; upto 3500 m.

Lathyrus inconspicuus L., Sp. Pl. 2: 730. 1753.

Distribution: Jammu & Kashmir.

Lathyrus odoratus L., Sp. Pl. 2: 732. 1753.

Distribution: Uttarakhand.

Lathyrus sativus L., Sp. Pl. 2: 730. 1753.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand, West Bengal (Darjeeling).

Lathyrus sphaericus Retz., Observ. Bot. (Retzius) 3: 39. 1783.

Distribution: Uttarakhand, West Bengal (Darjeeling).

Lens Mill.

Lens culinaris Medic., Vorles. Churpfälz. Phys.-Öcon. Ges. 2: 361. 1787.
Distribution: Arunachal Pradesh, Uttarakhand, West Bengal (Darjeeling).

Lespedeza Michx.

Lespedeza bicolor Turcz., Bull. Soc. Imp. Naturalistes Moscou 13(1): 69. 1840.
Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand.

Lespedeza elegans Cambess., Voy. Inde. 4 (Bot.): 43, t. 52. 1844.
Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand.

Lespedeza elliptica Benth. ex Maxim., Trudy Imp. S.-Peterburgsk. Bot. Sada 2: 353. 1873.
Distribution: Arunachal Pradesh.

Lespedeza floribunda Bunge, Uchen. Zap. Imp. Kazansk. Univ. 4: 164. 1835.
Distribution: Himachal Pradesh, Jammu & Kashmir.

Lespedeza gerardiana Wall., ex Maxim., Trudy Imp. S.-Peterburgsk. Bot. Sada 2: 373. 1873.
Distribution: Himachal Pradesh, Jammu & Kashmir.

Lespedeza juncea (L.f.) Pers., Syn. Pl. 2(2): 318. 1807. *Hedysarum junceum* L.f.
Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand.

Lespedeza juncea (L.f.) Pers. var. **sericea** F.B. Forbes & Hemsl., J. Linn. Soc., Bot. 23: 181. 1887.
Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand.

Lespedeza tomentosa (Thunb.) Sieb. ex Maxim., Trudy Imp. S.-Peterburgsk. Bot. Sada 2: 376. 1873. *Hedysarum tomentosum* Thunb.
Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand.

Lotus L.

Lotus corniculatus L., Sp. Pl. 2: 775. 1753.
Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand. (Plate 147a)

Lotus corniculatus L. subsp. **tenuifolis** (Waldst. & Kit. ex Willd.) Gams, Hegi Ill. Fl. Mitt.-Eur. 4(3): 1369. 1923.
Distribution: Uttarakhand.

Lotus corniculatus L. var. **japonicus** Regel, Index Seminum 23. 1864.
Distribution: Uttarakhand.

Lotus tenuis Waldst. & Kit. ex Willd., Enum. Pl. 2: 797. 1809.
Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand.

Macrotyloma (Wight & Arn.) Verdc.

Macrotyloma sar-garhwalensis R.D.Gaur & L.R.Dangwal, J. Bombay Nat. Hist. Soc. 94: 381. 1997.

Distribution: Uttarakhand.

Macrotyloma uniflorum (Lam.) Verdc., Kew Bull. 24(2): 322. 1970. *Dolichos uniflorus* Lam.

Distribution: Uttarakhand.

Mastersia Benth.

Mastersia assamica Benth., Trans. Linn. Soc. London 25: 300, t. 34. 1865.

Distribution: Arunachal Pradesh, Sikkim. (Plate 147b)

Medicago L.

Medicago edgeworthii Sirj., Oesterr. Bot. Z. 87: 123. 1938.

Distribution: Throughout Himalaya; upto 3500 m.

Medicago falcata L. Sp. Pl. 2: 779. 1753.

Distribution: Uttarakhand.

Medicago laciniata (L.) Mill., Gard. Dict. (ed. 8) Medicago no. 5. 1768. *Medicago polymorpha* var. *laciniata* L.

Distribution: Uttarakhand.

Medicago lupulina L., Sp. Pl. 2: 779. 1753.

Distribution: Himachal Pradesh, Sikkim, West Bengal (Darjeeling); upto 4000 m.

Medicago minima (L.) Bartal, Cat. Piante Siena 61. 1776. *M. polymorpha* L. var. *minima* L.

Distribution: Himachal Pradesh, Jammu & Kashmir; upto 4000 m.

Medicago monantha (C.A.Mey.) Trautv., Index Seminum 1840: vi, adnot. no. 4. 1841. *Trigonella monantha* C.A.Mey.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand.

Medicago orbicularis (L.) Bartal, Cat. Piante Siena 60. 1776. *M. polymorpha* L. var. *orbicularis* L.

Distribution: Jammu & Kashmir; upto 3000 m.

Medicago polymorpha L., Sp. Pl. 2: 779. 1753.

Distribution: Jammu & Kashmir; upto 2000 m.

Medicago sativa L., Sp. Pl. 778. 1753.

Distribution: Jammu & Kashmir.

Medicago x varia Martyn, Fl. Rust. 3: pl. 87. 1792.

Distribution: Himachal Pradesh, Jammu & Kashmir.

Meizotropis Voigt

Meizotropis buteiformis Voigt, Hort. Suburb. Calcutt. 239. 1845.

Distribution: Arunachal Pradesh, Sikkim; 1800–2200 m.

Meizotropis pellita (Prain) Sanjappa, Bull. Bot. Surv. India 29(1–4): 219. 1987.

Butea pellita Hook. f. ex Prain

Distribution: Uttarakhand.

Melilotus (L.) Mill.

Melilotus albus Medik., Vorles. Churpfälz. Phys.-Ökon. Ges. 2: 382. 1787.

Distribution: Uttarakhand.

Melilotus indica (L.) All., Fl. Pedem. 1: 308. 1785.

Distribution: Arunachal Pradesh, Jammu & Kashmir; upto 1700 m.

Malilotus officinalis (L.) Pall., Reise, Russ. Reich. 3: 537. 1776. *Trifolium officinalis* L.

Distribution: Himachal Pradesh, Jammu & Kashmir; upto 4500 m.

Melilotus suaveolens Ledeb., Index Sem. Hort. Dorpat, Suppl. 2: 5. 1824.

Distribution: Jammu & Kashmir.

Callerya Endl.

Callerya cinerea (Benth.) Schot, Blumea 39(1–2): 17. 1994. *Milletia cinerea* Benth.

Distribution: Aruanchal Pradesh, Sikkim.

Millettia Wight & Arn.

Millettia caudata Baker, Fl. Brit. India 2: 109. 1876.

Distribution: Aruanchal Pradesh.

Millettia extensa (Benth.) Baker, Fl. Brit. India 2: 109. 1876. *Otosema extensa* Benth.

Distribution: Aruanchal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim.

Millettia glaucescens Kurz, J. Asiat. Soc. Beng. 42: 67. 1873.

Distribution: Aruanchal Pradesh, Sikkim.

Millettia pachycarpa Benth., Pl. Jungh. 2: 250. 1852.

Distribution: Aruanchal Pradesh, Sikkim.

Millettia peguensis Ali, Kew Bull. 21(3): 489–490. 1968.

Distribution: Uttarakhand.

Millettia piscidia Wight & Arn., Prodr. Fl. Ind. Orient. 1: 263. 1834.

Distribution: Aruanchal Pradesh, Sikkim.

Millettia pulchra Kurz., J. Asiat. Soc. Bengal, Pt. 2, Nat. Hist. 42(2): 69. 1873.

Distribution: Aruanchal Pradesh, Sikkim.

Mucuna Adans.

Mucuna bracteata DC. ex Kurz, J. Asiat. Soc. Bengal 42: 231. 1873.

Distribution: Aruanchal Pradesh and Sikkim.

Mucuna gigantea DC., Prodr. 2: 405. 1825.

Distribution: Aruanchal Pradesh, Sikkim, West Bengal (Darjeeling).

Mucuna imbricata DC. ex Baker, Fl. Brit. India 2: 185. 1876.

Distribution: Aruanchal Pradesh, Sikkim, Uttarakhand, West Bengal (Darjeeling).

Mucuna laticifera Ingalhalikar, N. V. Page & Gaikwad, Phytotaxa 319 (1): 118. 2017.

Distribution: Sikkim.

Mucuna macrocarpa Wall., Numer. List n. 5618. 1831.

Distribution: Aruanchal Pradesh, Sikkim, West Bengal (Darjeeling); 300–1500 m.

Mucuna monesperma DC. ex Wight., Bot. Misc. 2: 346. 1831.

Distribution: Aruanchal Pradesh, Sikkim, West Bengal (Darjeeling).

Mucuna nigricans (Lour.), Steud. Nomencl. Bot. ed. 2(2): 163. 1841. *Citta nigricans* Lour.,

Distribution: Aruanchal Pradesh, Himachal Pradesh, Sikkim, Uttarakhand, West Bengal (Darjeeling).

Mucuna pruriens (L.) DC., Prodr. 2: 405. 1825. *Dolichos pruriens* L.

Distribution: Aruanchal Pradesh, Himachal Pradesh, Sikkim, Uttarakhand, West Bengal (Darjeeling).

Mucuna pruriens (L.) DC. var **utilis** (Wall. ex Wight) Baker ex Burck, Ann. Jard. Bot. Buitenzorg 11: 187. 1839. *M. utilis* Wall. ex Wight

Distribution: Aruanchal Pradesh, Himachal Pradesh, Sikkim, Uttarakhand, West Bengal (Darjeeling).

Mucuna sempervirens Hemsl. ex F.B. Forbes & Hemsl., J. Linn. Soc., Bot. 23: 190. 1887.

Distribution: Sikkim, West Bengal (Darjeeling).

Onobrychis Mill.

Onobrychis laxiflora Baker, J. Linn. Soc. Bot 19: 159. 1882.

Distribution: Jammu & Kashmir.

Onobrychis stewartii Baker, Fl. Brit. India 2: 141. 1876.

Distribution: Himachal Pradesh.

Ononis L.

Ononis spinosa L. subsp. **antiquorum** (L.) Briq., Prodr. Fl. Corse 2: 247. 1913. *O. aotiquorum* L.

Distribution: Jammu & Kashmir.

Ononis spinosa L. subsp. **hircina** Gams, Ill. Fl. Mitt.–Eur. 3: 1224. 1923.

Distribution: Himachal Pradesh, Jammu & Kashmir.

Ormosia Jacks.

Ormosia glauca Wall., Pl. Asiat. Rar. 2: 23, t. 125. 1831.

Distribution: Sikkim.

Ormosia robusta (Roxb. ex Wight) Baker, Fl. Brit. India 2(5): 252. 1878. *Sophora robusta* Roxb. ex Wight.

Distribution: Arunachal Pradesh, Sikkim.

Ohwia Thunb.

Ohwia caudata (Thunb.) H. Ohashi, Sci. Rep. Tohoku Imp. Univ., Ser. 4, Biol. 40(3): 243. 1999. *Desmodium caudatum* Thunb.

Distribution: Arunachal Pradesh, Sikkim, West Bengal (Darjeeling). (**Plate 147c**)

Oxytropis DC.

Oxytropis cachemiriana Cambess., Voy. Inde. 4(Bot.): 38, t. 44. 1835–1844.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand.

Oxytropis chiliophylla Royle, Ill. Bot. Himal. Mts. 198. 1835.

Distribution: Himachal Pradesh, Jammu & Kashmir.

Oxytropis densa Benth. ex Bunge, Mem. Acad. Imp. Sci. St.-Petersb. Ser. 7, 22. 1874.

Distribution: Himachal Pradesh, Jammu & Kashmir.

Oxytropis duthieana Ali, Phytol. 8: 58. 1959.

Distribution: Jammu & Kashmir, Uttarakhand.

Oxytropis glabra DC., Astrag. 95. 1802.

Distribution: Jammu & Kashmir.

Oxytropis humifusa Kar. & Kir., Bull. Soc. Nat. Mosc. 15: 535. 1842.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand.

Oxytropis lapponica (Wahlenb.) Gay, Fl. Helvet. 10: 30. 1827. *Phaca lapponica* Wahlenb.

Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 4000–5000 m.

Oxytropis meinshauseni Schrenk., Bull. Soc. Acad. St.-Petersb. 10: 254. 1842.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand.

Oxytropis microphylla (Pall.) DC., Prod. 2: 279. 1825. *Phaca microphylla* Pall.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand.

Oxytropis mollis Royle, Ill. Bot. Himal. Mts. 198. 1835.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand.

Oxytropis rautii L.R. Dangwal & R.D. Gaur, J. Econ. Taxon. Bot. 24: 358. 2000.

Distribution: Uttarakhand.

Oxytropis sanjappae Chaudhary, Phytotaxa 155(1): 52. 2013.

Distribution: Himachal Pradesh; 4073 m.

Oxytropis savellanica Bunge ex Boiss., Fl. Orient. 2: 503. 1872.

Distribution: Himachal Pradesh, Jammu & Kashmir.

Oxytropis sericopetala Prain ex C.E.C.Fisch., Bull. Misc. Inform. Kew 95. 1937.
Distribution: Himachal Pradesh, Sikkim.

Oxytropis stracheyana Bunge, Mem. Acad. Imp. Sci. St.–Petersb. 7, 22: 62. 1874.
Distribution: Himachal Pradesh, Uttarakhand.

Oxytropis sulphurea Ledeb., Fl. Altaic. 3: 285. 1831.
Distribution: Sikkim; 4000–4900 m.

Oxytropis tatarica Camb. ex Bunge, Mem. Acad. Imp. Sci. St.–Petersb. 7, 22: 16. 1874.
Distribution: Throughout Himalaya; upto 5000 m.

Pachyrhizus Rich. ex DC.

Pachyrhizus erosus (L.) Urb., Symb. Antill. (Urban). 4(2): 311. 1905. *Dolichos erosus* L.
Distribution: Uttarakhand (cultivated)

Parochetus Buch.–Ham. ex D.Don

Parochetus communis Buch.–Ham. ex D.Don, Prodr. Fl. Nep. 240. 1825.
Distribution: Throughout Himalaya; upto 3500 m.

Phaseolus L.

Phaseolus coccineus L., Sp. Pl. 2: 724. 1753.
Distribution: Himachal Pradesh, Sikkim, Uttarakhand.

Phaseolus lunatus L., Sp. Pl. 2: 724. 1753.
Distribution: Himachal Pradesh, Sikkim, Uttarakhand.

Phaseolus vulgaris L., Sp. Pl. 2: 723. 1753.
Distribution: Arunachal Pradesh, Sikkim, Uttarakhand.

Phyllodium Desv.

Phyllodium pulchellum (L.) Desv., J. Bot. Agric. 1: 124. 1813. *Hedysarum pulchellum* L.
Distribution: Throughout Himalaya; upto 3500 m.

Piptanthus Sweet

Piptanthus nepalensis (Hook.) Sweet, Brit. Fl. Gard. 3: 264. 1828. *Baptisia nepalensis* Hook.
Distribution: Arunachal Pradesh, Himachal Pradesh, Uttarakhand, Sikkim; 2000–3800 m. **(Plate 148a)**

Pisum L.

Pisum sativum L., Sp. Pl. 2: 727. 1753.
Distribution: Uttarakhand.

Pongamia Adans.

Pongamia pinnata (L.) Pierre, Fl. Forest. Cochinch. sub t. 385. 1899. *Cytisus pinnatus* L.

Distribution: Throughout the Himalaya.

Psophocarpus Neck. ex DC.

Psophocarpus tetragonolobus (L.) DC., Prodr. 2: 403. 1825. *Dolichos tetragonolobus* L.

Distribution: Uttarakhand.

Pterocarpus L.

Pterocarpus marsupium Roxb., Pl. Coromandel 2: 9–10, pl. 116. 1799.

Distribution: Uttarakhand.

Pterolobium R. Br. ex Wight & Arn.

Pterolobium hexapetalum (Roth) Santapau & Wagh, Bull. Bot. Surv. India 5: 108. 1964. *Reichardia hexapetala* Roth.

Distribution: Uttarakhand.

Pueraria DC.

Pueraria bella Prain., J. Asiat. Soc. Bengal, Pt. 2, Nat. Hist. 67: 288. 1898.

Distribution: Arunachal Pradesh. **(Plate 148b)**

Pueraria candollei Wall., Numer. List n. 5355. 1831–32.

Distribution: Arunachal Pradesh.

Pueraria edulis Pamp., Nuovo Giorn. Bot. Ital. xvii. 28. 1910.

Distribution: Sikkim.

Pueraria garhwalensis L.R.Dangwal & D.S.Rawat, J. Bombay Nat. Hist. Soc. 93: 570. 1996.

Distribution: Uttarakhand.

Pueraria montana (Lour.) Merr. var. **chinensis** (Benth.) Maesen & S.M. Almeida ex Sanjappa & Predeep, Legumes India 288. 1992. *Neustanthus chinensis* Benth.

Distribution: Arunachal Pradesh, Sikkim, West Bengal.

Pueraria montana (Lour.) Merr. var. **lobata** (Willd.) Sanjappa & Pradeep, Legumes India 288. 1992. *Dolichos lobatus* Willd.

Distribution: Uttarakhand.

Pueraria peduncularis (Benth.) Grah. ex Benth., J. Linn. Soc., Bot. 9: 124. 1867. *Neustanthus peduncularis* Benth.

Distribution: Arunachal Pradesh, Sikkim, West Bengal (Darjeeling), Uttarakhand; 2000–3000 m.

Pueraria phaseoloides (Roxb.) Benth., J. Linn. Soc. Bot. 9: 125. 1867. *Dolichos phaseoloides* Roxb.

Distribution: Arunachal Pradesh, Sikkim, Uttarakhand, West Bengal (Darjeeling).

Pueraria phaseoloides (Roxb.) Benth. var. **subspicata** (Benth.) Maesen, Agric. Univ. Wageningen Pap. 85(1): 84–88. 1985. *Nautanthus subspicata* Benth.
Distribution: Arunachal Pradesh, Sikkim, West Bengal (Darjeeling).

Pueraria sikkimensis Prain, J. Asiat. Soc. Bengal, Pt. 2, Nat. Hist. 66: 419. 1897.
Distribution: Himachal Pradesh, Sikkim, Uttarakhand, West Bengal (Darjeeling).

Pueraria stracheyi Baker, Fl. Brit. India 2(4): 198. 1876.
Distribution: Uttarakhand.

Pueraria tuberosa (Roxb. ex Willd.) DC., Ann. Sci. Nat., Bot. 4: 97. 1825.
Hedysarum tuberosum Roxb. ex Willd.
Distribution: Arunachal Pradesh, Sikkim, Uttarakhand, West Bengal (Darjeeling).

Pueraria wallichii DC., Ann. Sci. Nat. (Paris) 4: 97. 1825.
Distribution: Arunachal Pradesh, Sikkim, Uttarakhand, West Bengal (Darjeeling).

Rhynchosia Lour.

Rhynchosia bracteata Benth. ex Baker, Fl. Brit India 2(4): 225. 1876.
Distribution: Uttarakhand, West Bengal (Darjeeling).

Rhynchosia cana (Willd.) DC., Prod. 2: 386. 1825. *Glycine cana* Willd.
Distribution: Uttarakhand.

Rhynchosia capitata (B. Heyne ex Roth.) DC., Prod. 2: 386. 1825. *Glycine capitata*
B. Heyne ex Roth.
Distribution: Throughout Terai Himalaya; upto 2000 m.

Rhynchosia falconeri Baker, Fl. Brit. India 2(4): 224. 1876.
Distribution: Himachal Pradesh, Uttarakhand.

Rhynchosia harae H. Ohashi & Tateishi, Bot. Mag. (Tokyo) 90: 221. 1977.
Distribution: Sikkim.

Rhynchosia himalensis Benth. ex Baker, Fl. Brit. India 2(4): 225. 1876.
Distribution: Himachal Pradesh, Uttarakhand.

Rhynchosia hirta (Andrews) Meikle & Verdc., axon 16: 462. 1967. *Dolichos hirtus*
Andrews
Distribution: Uttarakhand.

Rhynchosia minima (L.) DC., Prod. 2: 385. 1825. *Dolichos minimus* L.
Distribution: Throughout Himalaya; upto 1500 m.

Rhynchosia pseudo-cajan Cambess., Voy. Inde 45, pl. 55. 1844.
Distribution: Himachal Pradesh, Uttarakhand; upto 3000 m.

Rhynchosia rothii Benth. ex Aitch., Cat. Pl. Punjab Sindh 50. 1869.
Distribution: Uttarakhand; upto 200 m.

Rhynchosia viscosa DC., Prodr. 2: 387. 1825.
Distribution: Arunachal Pradesh, Sikkim, Uttarakhand, West Bengal (Darjeeling).

Robinia L.**Robinia pseudoacacia** L., Sp. Pl. 2: 722. 1753.

Distribution: Uttarakhand.

Rothia Pers.**Rothia indica** (L.) Druce, Bot. Exch. Club Soc. Brit. Isles 3: 423. 1914. *Trigonella indica* L.

Distribution: Throughout Terai Himalaya.

Sesbania Adans.**Sesbania bispinosa** (Jacq.) W. Wight, Bull. Bur. Pl. Industr. U.S.D.A. 137: 15. 1909. *Aeschynomene bispinosa* Jacq.

Distribution: Throughout Terai Himalaya.

Sesbania sesban (L.) Merr., Philipp. J. Sci. 7: 235. 1912. *Aeschynomene sesban* L.

Distribution: Throughout Terai Himalaya.

Shuteria Wight & Arn.**Shuteria hirsuta** Baker, Ft. Brit India 2(4): 182. 1876.

Distribution: Sikkim, West Bengal; 250–1720 m.

Shuteria involucrata (Wall.) Wight & Arn., Prodr. Fl. Ind. Orient. 1: 207. 1834. *Glycine involucrata* Wall.Distribution: Arunachal Pradesh, Sikkim. **(Plate 178b)****Shuteria involucrata** (Wall.) Wight & Arn. var. **glabrata** (Wight & Arn.) Ohashi, J. Jap. Bot. 50(10): 305. 1975. *S. involucrata* (Wall.) Wight & Arn.

Distribution: Arunachal Pradesh, Himachal Pradesh, Sikkim, Uttarakhand.

Smithia Scop.**Smithia ciliata** Royle, Ill. Bot. Himal. Mts. 201, t. 35, f. 2. 1835.Distribution: Arunachal Pradesh, Himachal Pradesh, Sikkim, Uttarakhand; 1000–2800 m. **(Plate 179a)****Smithia conferta** Sm., Cycl. xxxiii. n. 2. 1816.

Distribution: Throughout Himalayas.

Smithia grandis Benth. ex Baker, Fl. Brit. India 2(4): 151. 1876.

Distribution: Arunachal Pradesh, Sikkim, West Bengal (Darjeeling).

Smithia sensitiva Aiton, Hort, Kew. 1, 3: 496. 1789.

Distribution: Throughout Himalayas.

Sophora L.**Sophora mollis** (Royle) Baker, Fl. Brit. India 2(5): 251. 1878. *Edwardsia mollis* RoyleDistribution: Jammu & Kashmir, Himachal Pradesh, Uttarakhand. **(Plate 148c)**

Sophora moorcroftiana Benth. ex Baker, Fl. Brit. India 2: 249. 1878.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand.

Sophora velutina Lindl., Bot. Reg. 14: t. 1185. 1828.

Distribution: Sikkim.

Sophora wightii Baker, Fl. Brit. India 2(5): 250. 1878.

Distribution: Uttarakhand (cultivated).

Spartium L.

Spartium junceum L., Sp. Pl. 2: 708. 1753.

Distribution: Uttarakhand.

Spatholobus Hassk.

Spatholobus parviflorus (Roxb.) Kuntze, Revis. Gen. Pl. 1: 205. 1891. *Butea parviflora* Roxb.

Distribution: Arunachal Pradesh, Sikkim; 200–2000 m.

Sphenoclea Gaertn.

Sphenoclea zeylanica Gaertn., Fruct. Sem. Pl. 1: 113. 1788.

Distribution: Uttarakhand.

Spongiocarpella Yakovlev & Ulziikhmag

Spongiocarpella nubigena (D.Don) Yakovlev, Bot. Zhurn. (Moscow & Leningrad) 72(2): 252. 1987. *Astragalus nubigenus* D.Don.

Distribution: Arunachal Pradesh, Sikkim, Uttarakhand; upto 4500 m.

Spongiocarpella nubigena (D.Don) Yakovlev subsp. **kumaensis** Yakovlev., Bot. Zhurn. (Moscow & Leningrad) 72(2): 252. 1987.

Distribution: Uttarakhand.

Spongiocarpella purpurea (P.C.Li) Yakovlev, Bot. Zhurn. (Moscow & Leningrad) 72(2): 253. 1987. *Chesneya purpurea* P.C.Li

Distribution: Sikkim; 3500–5500 m.

Spongiocarpella purpurea (P.C.Li) Yakovlev var. **lhonakia** D.Maity & A.S.Chauhan, J. Econ. Taxon. Bot. 28: 71–72. 2004.

Distribution: Sikkim; 3800–4200 m.

Stracheya Benth.

Stracheya tibetica Benth., J. Bot. Kew Gard. Misc. 5: 307. 1853.

Distribution: Sikkim, Uttarakhand; 4000–5500 m.

Tadehagi H.Ohashi

Tadehagi pseudotriquetrum (DC.) H. Ohashi, J. Jap. Bot. 70: 116. 1995. *Desmodium pseudotriquetrum* DC.

Distribution: Uttarakhand.

Tadehagi triquetrum (L.) H. Ohashi, Ginkgoana 1: 290. 1973. *Hedysarum triquetrum* L.

Distribution: Arunachal Pradesh, Himachal Pradesh, Sikkim, Uttarakhand.

Taverniera DC.

Taverniera cuniefolium (Roth) Arnott, Nov. Act. Nat. Cur. 18(1): 332. 1836.

Distribution: Himachal Pradesh; up to 600 m.

Tephrosia Pers.

Tephrosia candida DC., Prodr. 2: 249.

Distribution: Arunachal Pradesh, Himachal Pradesh, Sikkim, Uttarakhand.

(Plate 149b)

Tephrosia hookeriana Wight & Arn., Prodr. Fl. Ind. Orient. 1: 212. 1834.

Distribution: Throughout Terai Himalaya.

Tephrosia pumila (Lam.) Pers., Syn. Pl. 2(2): 330. 1807. *Galega pumila* Lam.

Distribution: Throughout terai Himalaya.

Tephrosia purpurea (L.) Pers., Syn. Pl. 2(2): 329. 1807. *Cracca purpurea* L.

Distribution: Throughout terrain Himalaya.

Tephrosia strigosa (Dalzell) Santapau & Maheshw., J. Bombay Nat. Hist. Soc. 54. 805. 1957. *Macronyx strigosus* Dalzell

Distribution: Terai Himalaya.

Tibetia (Ali) H.P. Tsui

Tibetia himalaica (Baker) H.P. Tsui, Bull. Bot. Lab. N. E. Forest. Inst., Harbin 5: 51. 1979. *Gueldenstaedtia himalaica* Baker

Distribution: Himachal Pradesh, Sikkim, Uttarakhand, West Bengal (Darjeeling); 25800–5000 m.

Teramnus P. Browne

Teramnus flexilis Benth., J. Linn. Soc., Bot. 8: 265. 1865.

Distribution: Sikkim, West Bengal (Darjeeling).

Teramnus hookerianus A. Sen, J. Bombay Nat. Hist. Soc. 73(1): 187. 1976.

Distribution: West Bengal (Darjeeling).

Teramnus labialis (L.f.) Spreng., Syst. Veg. 3: 235. 1826. *Glycine labialis* L.f.

Distribution: Himachal Pradesh, Uttarakhand.

Teramnus mollis Benth., J. Linn. Soc. Bot. 8: 265. 1865.

Distribution: Himachal Pradesh, Uttarakhand.

Thermopsis R.Br.

Thermopsis barbata Benth., Ill. Bot. Himal. Mts. 196, t. 32, f.1. 1835.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 2700–4600 m.

Thermopsis inflata Cambess., Voy. Inde. 4(Bot.): 35, t. 39. 1835–1844.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand.

Trifolium L.

Trifolium alexandrinum L., Cent. Pl. I. 25. 1755.

Distribution: Terai Himalaya.

Trifolium campestre Schreb., 1(4): 16, pl. 253. 1804.

Distribution: Jammu & Kashmir.

Trifolium dubium Sibth., Fl. Oxon. 231. 1794.

Distribution: Throughout terrain Himalaya; upto 3500 m.

Trifolium fragiferum L., Sp. Pl. 2: 772. 1753.

Distribution: Throughout Temperate Western Himalaya.

Trifolium hybridum L., Sp. Pl. 2: 766–767. 1753.

Distribution: Uttarakhand.

Trifolium pratense L., Sp. Pl. 2: 768. 1763.

Distribution: Throughout Himalaya.

Trifolium repens L., Sp. Pl. 2: 767. 1753.

Distribution: Throughout Himalaya; upto 4500 m.

Trifolium resupinatum L. Sp. Pl. 2: 771. 1753.

Distribution: Uttarakhand.

Trifolium tomentosum L. Sp. Pl. 2: 771–772. 1753.

Distribution: Uttarakhand.

Trigonella L.

Trigonella cachemiriana Cambess., Voy. Inde 4(Bot.): 36, t. 41. 1835–1844.

Distribution: Jammu & Kashmir.

Trigonella corniculata Sibth. & Sm., Fl. Graec. 8: 44, pl. 761. 1835.

Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand.

Trigonella emodi Benth., Ill. Bot. Himal. 197. 1835.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand. **(Plate 149a)**

Trigonella emodi Benth. var. **oblongifolia** Balodi & R.R.Rao, J. Econ. Taxon. Bot. 15(1): 188. 1991.

Distribution: Uttarakhand.

Trigonella fimbriata Benth., Ill. Bot. Himal. 197. 1835.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand.

Trigonella foenum-graecum L., Sp. Pl. 2: 777. 1753.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand.

Trigonella gracilis Benth., Ill. Bot. Himal. 197. 1835.

Distribution: Himachal Pradesh, Jammu & Kashmir.

Trigonella occulta Delile ex DC., Prodr. 2: 185. 1825.

Distribution: Uttarakhand.

Trigonella podperae (Širj.) Vassilcz., Trudy Bot. Inst. Akad. Nauk S.S.S.R., Ser. 1, Fl. Sist. Vyssh. Rast. 10: 163. 1953. *T. emodi* Benth. var. *podperae* Širj.

Distribution: Jammu & Kashmir.

Uraria Desv.

Uraria crinita (L.) DC., Prodr. 2: 324. 1825. *Hedysarum crinitum* L.

Distribution: Arunachal Pradesh, Sikkim.

Uraria lagopodoides (L.) DC., Prodr. 2: 324. 1825. *Hedysarum lagopodioides* L.

Distribution: Arunachal Pradesh, Himachal Pradesh, Sikkim, Uttarakhand.

Uraria lagopus DC., Ann. Sci. Nat. (Paris) 4: 100. 1825.

Distribution: Arunachal Pradesh, Himachal Pradesh, Sikkim, Uttarakhand, West Bengal (Darjeeling).

Uraria lagopus DC. var. **neglecta** (Prain) H. Ohashi, Fl. E. Himalaya 70. 1975. *U. neglecta* Prain

Distribution: Arunachal Pradesh, Sikkim, West Bengal (Darjeeling).

Uraria picta (Jacq.) DC., (Jacq.) Desv. ex DC., Prodr. 2: 324. 1825.

Distribution: Uttarakhand.

Uraria prunellifolia Baker, Fl. Brit. India 2(4): 157. 1876.

Distribution: Uttarakhand.

Uraria rufescens Schindl., Repert. Spec. Nov. Regni Veg. 21: 14. 1925.

Distribution: Arunachal Pradesh, Himachal Pradesh, Sikkim, Uttarakhand, West Bengal (Darjeeling).

Vicia L.

Vicia angustifolia L., Amoen. Acad. 4: 105. 1759.

Distribution: Himachal Pradesh, Jammu & Kashmir.

Vicia bakeri Ali, Bot. Not. 120: 52. 1967.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand. (Plate 149c)

Vicia benthamiana Ali, Bot. Not. 120: 51. 1967.

Distribution: Jammu & Kashmir.

Vicia hirsuta (L.) Gray, Nat. Arr. Brit. Pl. 2: 614–615. 1821. *Ervum hirsutum* L.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 200–2700 m.

Vicia monantha Retz., Observ. Bot. 3: 39. 1783.

Distribution: Himachal Pradesh, Jammu & Kashmir.

Vicia narbonensis L., Sp. Pl. 2: 737. 1753.

Distribution: Jammu & Kashmir.

Vicia rigidula Royle, Ill. Bot. Himal. 200. 1835.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand.

Vicia sativa L., Sp. Pl. 736.1753.

Distribution: Arunachal Pradesh, Himachal Pradesh, Sikkim, Uttarakhand, West Bengal (Darjeeling).

Vicia sepium L., Sp. Pl. 737. 1753.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand.

Vicia tenera Graham, Numer. List n. 5928. 1831.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand; 2400 m.

Vicia tenuifolia Roth, Tent. Fl. Germ. 1: 309. 1788.

Distribution: Himachal Pradesh, Jammu & Kashmir; upto 2400 m.

Vicia tetrasperma (L.) Schreb., Spic. Fl. Lips. 26. 1771. *Ervum tetraspermum* L.

Distribution: Himachal Pradesh, Jammu & Kashmir; upto 2400 m.

Vigna Savi

Vigna aconitifolia (Jacq.) Marechal, Bull. Jafd. Bot, Natl. Belg. 39(2): 160. 1969.

Phaseolus aconitifolius Jacq.

Distribution: Throughout Himalaya; upto 1500 m.

Vigna angularis (Willd.) Ohwi & H. Ohashi, J. Jap. Bot. 44(1): 29. 1969. *Dolichos angularis* Willd.

Distribution: Uttarakhand.

Vigna clarkei Prain, J. Asiat. Soc. Bengal, Pt. 2, Nat. Hist. 66: 429. 1897.

Distribution: Arunachal Pradesh, Sikkim, West Bengal (Darjeeling).

Vigna mukerjeanus Raizada, Indian J. Forest. 3: 133. 1980.

Distribution: Uttarakhand.

Vigna mungo (L.) Hepper, Kew Bull. 11(1): 128. 1956. *Phaseolus mungo* L.

Distribution: Throughout Himalaya.

Vigna pilosa (J.G.Klein ex Willd.) Baker, Fl. Brit. India 2(4): 207. 1876. *Dolichos pilosus* J.G. Klein ex Willd..

Distribution: Himachal Pradesh, Sikkim.

Vigna prainiana Babu & S.K.Sharma, Bull. Bot. Surv. India 27(1-4): 19. 1987.

Distribution: Himachal Pradesh, Sikkim, Uttarakhand.

Vigna radiata (L.) R. Wilczek, Fl. Congo Belge 6: 386. 1954.

Distribution: Uttarakhand.

Vigna radiata (L.) R. Wilczek var. **setulosa** (Dalzell) Ohwi & Ohashi, Jap. J. Bot. 44(1): 31. 1969. *Phaseolus setulosus* Dalzell

Distribution: Uttarakhand.

Vigna subramanianus (Babu ex Raizada) Raizada, Indian J. Forest. 3(2): 133. 1980. *Phaseolus subramanianus* Babu ex Raizada

Distribution: Uttarakhand.

Vigna trilobata (L.) Verdc., Taxon 17(2): 172. 1968. *Dolichos trilobatus* L.

Distribution: Sikkim; 2100–2500 m.

Vigna umbellata (Thunb.) Ohwi & H.Ohashi, J. Jap. Bot. 44(1): 31. 1969. *Dolichos umbellatus* Thunb.

Distribution: Arunachal Pradesh, Himachal Pradesh, Uttarakhand, Sikkim, West Bengal (Darjeeling).

Vigna unguiculata (L.) Walp. subsp. **cylindrica** (L.) Verdc., Kew Bulletin 24: 544. 1970. *Phaseolus cylindricus* L.

Distribution: Arunachal Pradesh, Himachal Pradesh, Sikkim, Uttarakhand, West Bengal (Darjeeling).

Vigna unguiculata (L.) Walp. subsp. **sesquipedalis** (L.) Verdc., Fl. Turkey & E. Aegean Isl. 3: 266. 1970. *Dolichos sesquipedalis* L.

Distribution: Arunachal Pradesh, West Bengal (Darjeeling).

Vigna vexillata (L.) A.Rich., Hist. Fís. Cuba, Bot. 10: 191. 1845. *Phaseolus vexillatus* L.

Distribution: Arunachal Pradesh.

Vigna vexillata (L.) A.Rich. var. **angustifolia** (Schumach & Thonn.) Baker, Oliver, Fl. Trop. Africa 2: 200. 1871. *Plecrotropis angustifolia* Schumach & Thonn.

Distribution: Himachal Pradesh.

Virgilia Bergius

Virgilia oroboides (Bergius) T.M.Salter, J. S. African Bot. 5: 58. 1939. *Sophora oroboides* Bergius

Distribution: Uttarakhand.

Wisteria Nutt.

Wisteria sinensis (Sims) Sweet Hort. Brit. 121. 1826. *Glycine sinensis* Sims

Distribution: Uttarakhand.

Zornia J.F. Gmel.

Zornia diphylla (L.) Pers. Syn. Pl 2(2): 318. 1807. *Hedysarum diphyllum* L.

Distribution: Arunachal Pradesh, Himachal Pradesh, Sikkim, West Bengal.

Zornia gibbosa Span., Linnaea 15: 192. 1841.

Distribution: Arunachal Pradesh, Sikkim, Uttarakhand.

LENTIBULARIACEAE

(2 genera; 22 taxa)

Pinguicula L.**Pinguicula alpina** L., Sp. Pl. 17. 1753.

Distribution: Arunachal Pradesh, Sikkim, Uttarakhand; 2500–4000 m.

Utricularia L.**Utricularia arenaria** A.DC., Prodr. 8: 20. 1844.

Distribution: Uttarakhand; 700–1500 m.

Utricularia aurea Lour., Fl. Cochinch. 26. 1790.

Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand, West Bengal (Darjeeling); 200–500 m.

Utricularia australis R.Br., Prodr. Fl. Nov. Holl. 430. 1810.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand; 800–1400 m.

Utricularia bifida L., Sp. Pl. 1: 18. 1753.

Distribution: Arunachal Pradesh, Sikkim, Uttarakhand, West Bengal (Darjeeling); 150–1500 m.

Utricularia brachiata Oliv., J. Proc. Linn. Soc., Bot. 3: 187. 1859.Distribution: Arunachal Pradesh, Sikkim, Uttarakhand, West Bengal (Darjeeling); 2500–4200 m. **(Plate 150a)****Utricularia caerulea** L., Sp. Pl. 1: 18. 1753.

Distribution: Uttarakhand; 800–1500 m.

Utricularia christopheri P.Taylor, Kew Bull. 41: 12. 1986.

Distribution: Sikkim; 2100–3900 m.

Utricularia furcellata Oliv., J. Proc. Linn. Soc., Bot. 3: 189. 1859.Distribution: Arunachal Pradesh, Sikkim, West Bengal (Darjeeling); 2100–2800 m. **(Plate 150b)****Utricularia gibba** L., Sp. Pl. 18. 1753.

Distribution: Uttarakhand; 500–1600 m.

Utricularia gibba L. subsp. **exoleta** (R.Br.) P.Taylor, Mitt. Bot. Staatssamml. München 4: 101 1961. *U. exoleta* R.Br.

Distribution: Jammu & Kashmir, Uttarakhand; 500–1500 m.

Utricularia hirta Klein ex Link, Jahrb. Gewächsk. 1(3): 55. 1820.

Distribution: Uttarakhand; 800–1400 m.

Utricularia kumaonensis Oliv., J. Proc. Linn. Soc., Bot. 3: 189. 1859.

Distribution: Sikkim, Uttarakhand; 1100–1900 m.

Utricularia minor L., Sp. Pl. 18. 1753.

Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 2700–3900 m.

Utricularia minutissima Vahl, Enum. Pl. 1: 204. 1804.

Distribution: Uttarakhand; 900–1500 m.

Utricularia multicaulis Oliv., J. Linn. Soc., Bot. 3: 188–189. 1859.

Distribution: Sikkim, Uttarakhand, West Bengal (Darjeeling); 3050–4115 m.

Utricularia pubescens Sm., Cycl. 37: no. 53. 1818.

Distribution: Uttarakhand; 1500–2200 m.

Utricularia scandens Benj., Linnaea 20: 309. 1847.

Distribution: Uttarakhand; 1200–1600 m.

(Plate 150c)

Utricularia scandens Benj. subsp. **firmula** (Oliv.) Z. Yu Li, Bull. Bot. Res., Harbin 8(2): 29–30 1988. *U. wallichiana* Wight var. *firmula* Oliv.

Distribution: Arunachal Pradesh, Sikkim, Uttarakhand; 1600–2200 m.

Utricularia stellaris L.f., Suppl. Pl. 86. 1782.

Distribution: Uttarakhand; 1100–1900 m.

Utricularia striatula Sm., Cycl. 37: no. 17. 1818.

Distribution: Bhutan, Jammu & Kashmir, Sikkim, Uttarakhand, West Bengal (Darjeeling); 200–2280 m.

Utricularia uliginosa Vahl, Enum. Pl. 1: 203. 1804.

Distribution: Uttarakhand; 1200–1800 m.

LINACEAE

(3 genera; 9 taxa)

Anisadenia Wall. ex C.F.W.Meissn.

Anisadenia pubescens Griff., Itin. Pl. Khasyah Mts. 54: 833. 1848.

Distribution: Arunachal Pradesh.

Anisadenia saxatilis Wall. ex Meissn., Pl. Vase. Gen. Comment. 2: 96. 1838. *A. khasyana* Griff.

Distribution: Arunachal Pradesh, Sikkim, Uttarakhand; 1600–2500 m. (Plate 151 a)

Linum L.

Linum corymbulosum Rchb., Fl. Germ. Excurs. 834. 1832.

Distribution: Jammu & Kashmir.

Linum grandiflorum Desf., Fl. Atlant. 1: 278. 1798.

Distribution: Uttarakhand.

Linum mysurense B. Heyne ex Benth., Edwards's Bot. Reg. 16: 1326. 1830.

Distribution: Himachal Pradesh, Uttarakhand.

Linum perenne L. Sp. Pl. 227. 1753.

Distribution: Himachal Pradesh, Jammu & Kashmir; 2500–4000 m.

Linum strictum L., Sp. Pl. 279. 1753.

Distribution: Jammu & Kashmir.

Linum usitatissimum L., Sp. Pl. 277. 1753.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; upto 2000 m.

Reinwardtia Dumort.

Reinwardtia indica Dumort., Comm. Bot. 19. 1822.

Distribution: Arunachal Pradesh, Himachal Pradesh Jammu & Kashmir, Sikkim, Uttarakhand; 1500–2500 m.

LOBELIACEAE

(1 genus; 12 taxa)

Lobelia L.

Lobelia alsinoides Lam., Encycl. 3: 588. 1792.

Distribution: Sikkim, Uttarakhand; 2100 m.

Lobelia davidii Franch., Nouv. Arch. Mus. Hist. Nat. ser. 2. 6: 82. 1883.

Distribution: Sikkim; 1600–2100 m.

Lobelia chinensis Lour., Fl. Cochinch. 514. 1790.

Distribution: Sikkim; 1200 m.

Lobelia erectiuscula H.Hara, J. Jap. Bot. 40: 328. 1965.

Distribution: Sikkim, West Bengal (Darjeeling); 2276–4234 m. **(Plate 151b)**

Lobelia heyneana Schult., Syst. Veg. 5: 50. 1819.

Distribution: Sikkim, Himachal Pradesh, Uttarakhand, West Bengal (Darjeeling); 500–2100 m.

Lobelia montana Reinw. ex Blume, Bijdr. 728. 1826.

Distribution: Arunachal Pradesh, Sikkim, West Bengal (Darjeeling); 300–3000 m. **(Plate 114)**

Lobelia nicotianifolia Roth ex. Schult, Syst. Veg. 5: 47. 1819.

Distribution: Arunachal Pradesh, Himachal Pradesh, Sikkim, West Bengal (Darjeeling); Uttarakhand; 600–3000 m. **(Plate 151c)**

Lobelia nubigena J.Anthony, Notes Roy. Bot. Gard. Edinburgh 19: 175. 1936.

Distribution: Sikkim.

Lobelia nummularia Lam., Encycl. 3: 589 1792.

Distribution: Arunachal Pradesh, Sikkim; 600–2100 m.

Lobelia seguinii H.Lév. & Vaniot, Repert. Spec. Nov. Regni Veg. 12: 186. 1913.

Distribution: Sikkim, West Bengal (Darjeeling); 1976–2534 m.

Lobelia terminalis C.B. Clarke, Fl. Brit. India 3: 424. 1881.

Distribution: Sikkim, West Bengal (Darjeeling). **(Plate 151d)**

Lobelia zeylanica L., Sp. Pl. 932. 1753.

Distribution: Arunachal Pradesh, Sikkim, West Bengal (Darjeeling); upto 1900 m.

LOGANIACEAE

(5 genera; 9 taxa)

Fagraea Thumb.**Fagraea ceilanica** Thunb., Kongl. Vetensk. Acad. Nya Handl. 3: 132. 1782.

Distribution: Arunachal Pradesh; 800–2500 m.

Gardneria Wall.**Gardneria angustifolia** Wall., Fl. Ind. 1: 318. 1820.

Distribution: Arunachal Pradesh, Sikkim, Uttarakhand, West Bengal (Darjeeling); 1600–2500 m.

Gardneria ovata Wall., Fl. Ind. 1: 400. 1820.

Distribution: Arunachal Pradesh; 1400–2000 m.

Mitrasacme Labill.**Mitrasacme pygmaea** R.Br., Prodr. 453. 1810.

Distribution: Sikkim, Uttarakhand.

Mitreola L.**Mitreola pedicellata** Benth., J. Linn. Soc., Bot. 1: 91. 1857.

Distribution: West Bengal (Darjeeling); 1220 m.

Mitreola petiolata (J.F.Gmel.) Torr. & A.Gray., Fl. N. Amer. 2: 45. 1841.*Cynoctonum petiolatum* J.F.Gmel.

Distribution: Uttarakhand, West Bengal (Darjeeling).

Strychnos L.**Strychnos axillararis** Colebr., Trans. Linn. Soc. London 12(2): 356–357, pl. 15. 1818.

Distribution: Arunachal Pradesh.

Strychnos nux-vomica L., Sp. Pl. 189. 1753.

Distribution: Arunachal Pradesh.

Strychnos wallichiana Steud. ex A. DC., Prodr. 9: 13. 1845.

Distribution: Arunachal Pradesh; 1000–1500 m.

LORANTHACEAE

(10 genera; 37 taxa)

Elytranthe Engl.**Elytranthe albida** (Blume) Blume, Syst. Veg. ed. 15 Bis [Roemer & Schultes] 7(2): 1730. 1830. *Loranthus albidus* Blume

Distribution: Arunachal Pradesh; 1200 m.

Elytranthe psilantha (Hook.f.) Danser, Bull. Jard. Bot. Buitenzorg, ser. 3, 10:315. 1929. *Loranthus psilanthus* Hook.f.

Distribution: Arunachal Pradesh, Sikkim.

Dendrophthoe Mart.

Dendrophthoe falcata (L.f.) Ettingsh., Denkschr, Fl. E. Himal. 64. 1966. *Loranthus fulcatus* L.f.

Distribution: Arunachal Pradesh, Himachal Pradesh, Sikkim, Jammu & Kashmir, Uttarakhand, West Bengal (Darjeeling); 800–1800 m.

Helixanthera Lour.

Helixanthera coccinea (Jack) Danser, Bull. Jard. Bot. Buitenz. ser. 3, 10: 317. 1929. *Loranthus coccineus* Jack

Distribution: Arunachal Pradesh; 1000–1500 m.

Helixanthera intermedia (Wight ex Hook.f.) Danser, Bull. Jard. Bot. Buitenz. ser. 3, 10: 317. 1929. *Loranthus intermedius* Wight ex Hook.f.

Distribution: Arunachal Pradesh; 600–1500 m.

Helixanthera lambertiana (Schult.f.) Rajasek., J. Econ. Taxon. Bot. 31(1): 183. 2007. *Loranthus lambertianus* Schult.f.

Distribution: Sikkim; 2000–2600 m.

Helixanthera ligustrina (Wall.) Danser, Bull. Jard. Bot. Buitenz. ser. 3, 10: 317. 1929. *Loranthus ligustrinus* Wall.

Distribution: Arunachal Pradesh, Sikkim, Uttarakhand; 600–1500 m. (Plate 152a)

Helixanthera odorata (Wall.) Rajasek., J. Econ. Taxon. Bot. 31: 184. 2007. *Loranthus odorata* Wall.

Distribution: Arunachal Pradesh, Sikkim; 1200–2500 m.

Helixanthera parasitica Lour., Fl. Cochinch. 142. 1790.

Distribution: Arunachal Pradesh, Sikkim, West Bengal (Darjeeling); 300–1500 m.

Helixanthera terrestris (Hook.f.) Danser, Bull. Jard. Bot. Buitenz. ser. 3, 10: 319. 1929. *Loranthus terrestris* Hook.f.

Distribution: Arunachal Pradesh.

Korthalsella Tiegh.

Korthalsella japonica (Thunb.) Engl., Nat. Pflanzenfam. 1: 138. 1897. *Viscum japonicum* Thunb.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 1000–2500 m.

Korthalsella opuntia (Thunb.) Merr., Bot. Mag. Tokyo 30: 68. 1916. *Viscum opuntia* Thunb.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand; up to 1400 m.

Loranthus Jacq.

Loranthus europaeus Jacq., Enum. Stirp. Vindob. 55. 1762.

Distribution: Sikkim, West Bengal (Darjeeling); 2300 m.

Loranthus hypoglaucus Kurz, J. As. Soc. Bengal 2: 309. 1872.

Distribution: Arunachal Pradesh.

Loranthus odoratus Wall., Fl. India 2: 215. 1824. *Hyphear odoratum* Danser
Distribution: Sikkim, West Bengal (Darjeeling); 2000–2500 m.

Macrosolen (Blume) Blume

Macrosolen cochinchinensis (Lour.) Tiegh., Bull. Soc. Bot. France 41: 122. 1895.
Loranthus cochinchinensis Lour.
Distribution: Arunachal Pradesh, Sikkim, Uttarakhand; 1500–1600 m.

Macrosolen globosus (Roxb.) Tiegh., Bull. Soc. Bot. France 42: 442. 1895.
Loranthus globosus Roxb.
Distribution: Arunachal Pradesh, Sikkim, West Bengal (Darjeeling).

Macrosolen psilanthus (Hook.f.) Danser, Blumea 2: 36. 1936. *Loranthus psilanthus*
Hook.f.
Distribution: Arunachal Pradesh, Sikkim; 1200–1600 m.

Scurrula L.

Scurrula atropurpurea (Blume) Danser, Bull. Jard. Bot. Buitenzorg, ser. 3, 10: 349. 1929. *Loranthus atropurpureus* Blume
Distribution: Arunachal Pradesh, Sikkim.

Scurrula cordifolia (Wall.) G.Don, Gen. Syst. 3: 421. 1834. *Loranthus cordifolius*
Wall.
Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand; upto 2500 m.

Scurrula elata (Edgew.) Danser, Bull. Jard. Bot. Buitenz. ser. 3, 10: 350. 1929.
Loranthus elatus Edgew.
Distribution: Arunachal Pradesh, Himachal Pradesh, Sikkim, Uttarakhand; 2100–3200 m. **(Plate 152b)**

Scurrula ferruginea (Jack) Danser, Bull. Jard. Bot. Buitenz. ser. 3, 10: 350. 1929.
Loranthus ferrugineus Jack
Distribution: Arunachal Pradesh.

Scurrula eglanulosa Rajasek., J. Swamy Bot. Club 3(3): 85, f. 1–2. 1986.
Distribution: Sikkim; 2000 m.

Scurrula gracilifolia (Schult.) Danser, Blumea 2:47.1936. *Loranthus gracilifolius*
Schult.
Distribution: Arunachal Pradesh, Sikkim; 600–1500 m.

Scurrula leenhoutsii Rajasek., J. Swamy Bot. Club 3(3): 86, ff. 3–4. 1986.
Distribution: Arunachal Pradesh, Sikkim, West Bengal (Darjeeling).

Scurrula parasitica L., Sp. Pl. 110. 1753.
Distribution: Arunachal Pradesh, Sikkim, Uttarakhand; 450–2400 m.

Scurrula pulverulenta (Wall.) G.Don, Gen. Syst. 3: 421. 1834. *Loranthus pulverulentus* Wall.
Distribution: Arunachal Pradesh, Himachal Pradesh, Sikkim, Jammu & Kashmir, Uttarakhand; 200–2000 m.

Taxillus Tiegh.

Taxillus reflexilobus Rajasek., J. Swamy Bot. Club 3(4): 162, ff. 7–8. 1986.

Distribution: Arunachal Pradesh; 1800 m.

Taxillus sericus Danser, Blumea 2(2): 50–51, f. 1, a–b. 1936.

Distribution: Arunachal Pradesh, Sikkim; 1200–2000 m.

Taxillus umbellifer (Schult.f.) Danser, Bull. Jard. Bot. Buitenz. ser. 3, 11: 445. 1931. *Loranthus umbellifer* Schultf.

Distribution: Arunachal Pradesh, Sikkim, Uttarakhand; 600–1500 m.

Taxillus vestitus (Wall.) Danser, Bull. Jard. Bot. Buitenz. ser. 3, 10: 349. 1929. *Loranthus vestitus* Wall.

Distribution: Arunachal Pradesh, Himachal Pradesh, Sikkim, Jammu & Kashmir, Uttarakhand; upto 2500 m.

Tolypanthus (Blume) Blume

Tolypanthus involucratus (Roxb.) Blume, Schult.f. Syst. 7(2): 1731. 1830. *Loranthus involucratus* Roxb.

Distribution: Arunachal Pradesh, Sikkim; 300–600 m.

Viscum L.

Viscum album L., Sp. Pl. 1023.1753.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 1000–2500 m. **(Plate 152c)**

Viscum articulatum Burm.f., Fl. Ind. 311.1768.

Distribution: Arunachal Pradesh, Himachal Pradesh, Sikkim, Uttarakhand; 1000–2600 m.

Viscum liquidambaricola Hayata, Icon. Pl. Formosan 5: 194. 1915.

Distribution: Arunachal Pradesh, Himachal Pradesh, Sikkim; 200–2200 m.

Viscum loranthi Almer, Leaflets Philipp. Bot. 3089. 1919.

Distribution: Uttarakhand; upto 2000 m.

Viscum monoicum Roxb. ex DC., Prodr. 4: 278. 1830.

Distribution: Arunachal Pradesh, Sikkim, Uttarakhand; 600–1200 m.

LYTHRACEAE
(7 genera; 19 taxa)

Ammannia L.

Ammannia auriculata Willd., Hort. Berol. 1: 7. 1806.

Distribution: Jammu & Kashmir, Uttarakhand.

Ammannia baccifera L., Sp. Pl. 120. 1753.

Distribution: Jammu & Kashmir, Uttarakhand.

Ammannia multiflora Roxb., Fl. Ind. 1: 447. 1820.

Distribution: Jammu & Kashmir, Uttarakhand.

Cuphea P. Browne

Cuphea carthagenensis (Jacq.) J.F.Macbr., Publ. Field Mus. Nat. Hist., Bot. Ser. 8: 124. 1930. *Lythrum carthagenense* Jacq.

Distribution: Arunachal Pradesh; 300–800 m.

Cuphea procumbens Ortega, Nov. Pl. Descr. Dec. 17. 1797.

Distribution: West Bengal (Darjeeling); Upto 1280 m.

Lagerstroemia L.

Lagerstroemia indica L., Syst. Nat. ed. 10. 2: 1076. 1759.

Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 2000–3500 m.

Lagerstroemia minuticarpa Debb. ex P.C.Kanjilal, Assam For. Rec. Bot. 1: 9. 1934.

Distribution: Arunachal Pradesh.

Lagerstroemia parviflora Roxb., Pl. Corom. 1: 47. t. 66. 1795.

Distribution: Arunachal Pradesh, Uttarakhand; 200–800 m.

Lagerstroemia speciosa (L.) Pers., Syn. Pl. 2: 72. 1806. *Munchausia speciosa* L.

Distribution: Arunachal Pradesh, Uttarakhand, West Bengal (Darjeeling); 300–1000 m.

Lawsonia L.

Lawsonia inermis L., Sp. Pl. 340. 1753. *L. alba* Lam.

Distribution: Sikkim, Uttarakhand, West Bengal (Darjeeling).

Lythrum L.

Lythrum salicaria L., Sp. Pl. 446. 1753.

Distribution: Himachal Pradesh, Jammu & Kashmir; 2000–3500 m.

Rotala L.

Rotala cordata Koehne, Bot. Jahrb. Syst. 1: 172. 1880.

Distribution: West Bengal (Darjeeling); Upto 330 m.

Rotala densiflora (Roth) Koehne, Bot. Jahrb. 1: 164. 1881. *Ammannia densiflora* Roth

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir; 2000–3500 m.

Rotala indica (Willd.) Koehne, Bot. Jahrb. 1: 172. 1880. *Peplis indica* Willd.

Distribution: Arunachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 200–1400 m.

Rotala macrandra Koehne, Bot. Jahrb. 1: 176. 1880.

Distribution: Arunachal Pradesh.

Rotala mexicana Schlttdl. & Cham., *Linnaea* 5: 67. 1830.

Distribution: Jammu & Kashmir, Uttarakhand.

Rotala rotundifolia (Buch.-Ham. ex Roxb.) Koehne, *Bot. Jahrb.* 1. 175. 1880.

Ammannia rotundifolia Buch.-Ham. ex Roxb.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 1500–2500 m.

Rotala serpyllifolia (Roth) Bremek., *Acta Bot. Neerl.* 3: 149. 1954. *Micranthus serpyllifolius* Roth.

Distribution: Uttarakhand.

Woodfordia Salisb.

Woodfordia fruticosa (L.) Kurz, *J. Asiat. Soc. Bengal* 40(2): 56. 1871. *Lythrum fruticosum* L.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 300–1400 m.

MAGNOLIACEAE

(2 genera; 25 taxa)

Liriodendron L.

Liriodendron tulipifera L., *Sp. Pl.* 535. 1753.

Distribution: Himachal Pradesh.

Magnolia L.

Magnolia baillonii Pierre, *Fl. Forest. Cochinch.* 2. 1880.

Distribution: Arunachal Pradesh; 600–1500 m.

Magnolia campbellii Hook.f. & Thomson, *Fl. Ind.* 1: 77. 1855.

Distribution: Arunachal Pradesh, Sikkim; 1600–2000 m.

Magnolia caveana (Hook.f. & Thomson) D.C.S.Raju & M.P.Nayar, *Indian J. Bot.* 3: 171. 1980. *Manglietia caveana* Hook.f. & Thomson

Distribution: Arunachal Pradesh; 400–800 m.

Magnolia cathcartii (Hook.f. & Thomson) Noot., *Blumea* 31: 88 1985. *Michelia cathcartii* Hook.f. & Thomson

Distribution: Sikkim.

Magnolia champaca (L.) Baill. ex Pierre, *Fl. Forest. Cochinch.* t. 3. 1880. *Michelia champaca* L.

Distribution: Arunachal Pradesh, Himachal Pradesh, Sikkim, Uttarakhand; 800–1800 m.

Magnolia doltsopa (Buch.-Ham. ex DC.) Figlar, *Proc. Int. Symp. Magnoliac.* 21. 2000. *Michelia doltsopa* Buch.-Ham. ex DC.

Distribution: Arunachal Pradesh, Sikkim, Uttarakhand; 1300–1700 m. (Plate 152d)

Magnolia globosa Hook.f. & Thomson, Fl. Ind. 1:77. 1855.

Distribution: Arunachal Pradesh, Sikkim; 1900–3400 m.

Magnolia grandiflora L., Syst. Nat. ed. 10. 2: 1082. 1759.

Distribution: Arunachal Pradesh, Uttarakhand; 1300–2500 m. (Plate 153a)

Magnolia griffithii Hook.f. & Thomson, Fl. Brit. Ind. 1: 41. 1872.

Distribution: Arunachal Pradesh; 1500–2000 m.

Magnolia gustavii King, Ann. Roy Bot. Gard. Calcutta 3(2): 209. 1891.

Distribution: Arunachal Pradesh; 300–1000 m.

Magnolia hodgsonii (Hook.f. & Thomson) H.Keng, Gard. Bull. Singapore 31: 129. 1978. *Talauma hodgsonii* Hook.f. & Thomson

Distribution: Arunachal Pradesh, Himachal Pradesh, Sikkim; 200–600 m.

(Plate 153b)

Magnolia hookeri (Cubitt & W.W.Sm.) D.C.S.Raju & M.P.Nayar, Ind. J. Bot. 3:171. 1980. *Manglietia hookeri* Cubitt & W.W.Sm.

Distribution: Arunachal Pradesh; 300–1000 m.

Magnolia insignis Wall., Tent. Fl. Nepal. 5. 1824.

Distribution: Arunachal Pradesh, Sikkim; 500–1500 m.

Magnolia kingii (Dandy) Figlar, Proc. Int. Symp. Magnoliac. 22. 2000. *Michelia kingii* Dandy

Distribution: Arunachal Pradesh, Sikkim; 300–1000 m.

Magnolia kisopa (Buch.-Ham. ex DC.) Figlar, Proc. Int. Symp. Magnoliac. 22. 2000. *Michelia kisopa* Buch.-Ham. ex DC.

Distribution: Arunachal Pradesh, Sikkim, Uttarakhand.

Magnolia lanuginosa (Wall.) Figlar & Noot., Blumea 49: 96. 2004. *Michelia lanuginosa* Wall.

Distribution: Arunachal Pradesh, Sikkim; 1500–2000 m.

Magnolia mannii (King) Figlar, Proc. Int. Symp. Magnoliac. 22. 2000. *Michelia mannii* King

Distribution: Arunachal Pradesh; 100–1000 m.

Magnolia oblonga (Wall. ex Hook.f. & Thomson) Figlar, Proc. Int. Symp. Magnoliac. 23. 2000. *Michelia oblonga* Wall. ex Hook.f. & Thomson

Distribution: Arunachal Pradesh; 1200–1800 m.

Magnolia obovata Thunb., Trans. Linn. Soc. London 2: 336. 1794.

Distribution: Himachal Pradesh.

Magnolia pealiana King, Ann. Roy. Bot. Gard. Calcutta 3(2): 210. 1891.

Distribution: Arunachal Pradesh; 100–1000 m.

Magnolia pleiocarpa (Dandy) Figlar & Noot., Blumea 49: 95. 2004. *Pachylarnax pleiocarpa* Dandy

Distribution: Arunachal Pradesh; 100–1000 m.

Magnolia pterocarpa Roxb., Pl. Coromandel. 3: 62. 1820.

Distribution: Arunachal Pradesh, Sikkim, Uttarakhand; 1500–2500 m.

Magnolia punduana (Hook.f. & Thomson) Figlar, Proc. Int. Symp. Magnoliac. 23. 2000. *Michelia punduana* Hook.f. & Thomson

Distribution: Arunachal Pradesh; 1000–1500 m.

Magnolia rabaniana (Hook.f. & Thomson) D.C.S. Raju & M.P. Nayar, Ind. J. Bot. 3: 171. 1980. *Talauma rabaniana* Hook.f. & Thomson

Distribution: Arunachal Pradesh; 200–1000 m.

MALPIGHIACEAE

(3 genera; 10 taxa)

Aspidopterys A.Juss. ex Endl.

Aspidopterys balakrishnanii R.C.Srivast., J. Econ. Taxon. Bot. 4(3): 1003. 1983.

Distribution: Uttarakhand.

Aspidopterys elliptica (Blume) A.Juss., Atm. Sci. Nat. ser. 2, 13: 266. 1840. *Hiraea elliptica* Blume

Distribution: Arunachal Pradesh; 100–500 m.

Aspidopterys glabriuscula A.Juss., Archiv. Mus. Hist. Nat. 3: 511. 1840.

Distribution: Arunachal Pradesh, Sikkim; 100–500 m.

(Plate 153c)

Aspidopterys indica (Willd.) W.Theob., Burmah ed. 3, 2: 599. 1883. *Triopteris indica* Willd.

Distribution: Arunachal Pradesh; 300–500 m.

Aspidopterys nutans (Roxb. ex DC.) A.Juss., Ann. Sci. ser. 2, 13: 267. 1840. *Hiraea nutans* Roxb. ex DC.

Distribution: Arunachal Pradesh, Himachal Pradesh, Sikkim, Uttarakhand; 400–800 m.

Aspidopterys orbiculata (Roxb. ex Wall.) Nied, Arbeitn. Bot. Inst. Koenigl. Leyceum Hosianum Braunsberg 6: 14. 1915. *Hiraea orbiculata* Roxb. ex Wall.

Distribution: Sikkim, Uttarakhand.

Aspidopterys wallichii Hook.f., Fl. Brit. India 1: 421. 1874.

Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand.

Galphimia Cav.

Galphimia glauca Cav., Anales Hist. Nat. 1: 37. 1799.

Distribution: Uttarakhand.

Hiptage Gaertn.

Hiptage benghalensis (L.) Kurz, J. Asiat. Soc. Bengal 43(2): 136. 1874. *Banisteria benghalensis* L.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 200–1500 m.

Hiptage sericea Hook.f., Fl. Brit. India 1(2): 419. 1874.

Distribution: Sikkim; 800–1200 m.

MALVACEAE
(20 genera; 73 taxa)

Abelmoschus Medik.

Abelmoschus crinitus Wall., Pl. Asiat. Rar. 1: 39. 1830.

Distribution: Himachal Pradesh, Sikkim, Uttarakhand.

Abelmoschus esculentus (L.) Moench, Methodus 617. 1794. *Hibiscus esculentus* L.

Distribution: Arunachal Pradesh, Himachal Pradesh, Sikkim, Uttarakhand; 300–1000 m.

Abelmoschus ficulneus (L.) Wight & Arn., Cat. Ind. Pl. 14. 1833. *Hibiscus ficulneus*

L. Distribution: Jammu & Kashmir, Uttarakhand.

Abelmoschus manihot (L.) Medik., Malvenfam. 46. 1787. *Hibiscus manihot* L.

Distribution: Arunachal Pradesh, Himachal Pradesh, Sikkim, Uttarakhand; 1500–1800 m.

Abelmoschus manihot (L.) Medik. var. **pungens** (Roxb.) Hochr., Annuaire Conserv.

Jard. Bot. Genève 4: 155. 1900. *Hibiscus pungens* Roxb.

Distribution: Sikkim, Uttarakhand.

Abelmoschus manihot subsp. **tetraphyllus** Borss. Waalk. Blumea 14: 97. 1966.

Distribution: Uttarakhand.

Abelmoschus moschatus subsp. **tuberosus** Borss. Waalk. Blumea 14(1): 93–95. 1966.

Distribution: Uttarakhand.

Abelmoschus moschatus Medik., Malvenfam. 46. 1787.

Distribution: Arunachal Pradesh, Himachal Pradesh, Sikkim, Uttarakhand, West Bengal (Darjeeling); 600–1500 m.

Abelmoschus rosa-sinensis L., Sp. Pl. 694. 1753.

Distribution: Uttarakhand

Abutilon Mill.

Abutilon bidentatum Hochst. ex A. Rich., Tent. Fl. Abyss. 1: 68. 1847.

Distribution: Himachal Pradesh, Jammu & Kashmir.

Abutilon grandifolium (Willd.) Sweet, Hort. Brit. 53. 1826.

Distribution: Himachal Pradesh.

Abutilon hirtum (Lam.) Sweet, Hort. Brit. 53. 1826. *Sida hirta* Lam.

Distribution: Uttarakhand.

Abutilon indicum (L.) Sweet, Hort. Brit. 54. 1826. *Sida indica* L.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 300–800 m.

Abutilon persicum (Burm.f.) Merr., Philipp J. Sci. 19: 364. 1921. *Sida persica* Burm.f.

Distribution: Sikkim, Uttarakhand.

(Plate 154a)

Abutilon ramosum (Cav.) Guill. & Perr., Fl. Seneg. Tent.68. 1830. *Sida ramosa* Cav.

Distribution: Arunachal Pradesh, Jammu & Kashmir, Uttarakhand; 500–1000 m.

Abutilon theophrasti Medik., Malvenfam. 28. 1787.

Distribution: Jammu & Kashmir.

Alcea L.

Alcea rosea L., Sp. Pl. 687. 1753.

Distribution: Himachal Pradesh, Sikkim, Uttarakhand.

Althaea L.

Althaea armeniaca Ten., Index Seminum (NAP) 1837: 1. 1837.

Distribution: Jammu & Kashmir.

Althaea officinalis L., Sp. Pl. 686. 1753.

Distribution: Himachal Pradesh, Jammu & Kashmir; 900–1800 m.

Gossypium L.

Gossypium arboreum L., Sp. Pl. 693. 1753.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 500–1200 m.

Gossypium barbadense L., Sp. Pl. 693. 1753.

Distribution: Sikkim.

Gossypium herbaceum L., Sp. Pl. 693. 1753.

Distribution: Uttarakhand.

Gossypium hirsutum L., Sp. Pl., ed. 2. 2: 975. 1763.

Distribution: Jammu & Kashmir, Uttarakhand.

Hibiscus L.

Hibiscus caesius Garcke, Bot. Zeitung (Berlin) 7: 850. 1849.

Distribution: Jammu & Kashmir.

Hibiscus cannabinus L., Syst. Nat. ed. 10. 2: 1149. 1759.

Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand.

Hibiscus fragrans Roxb., Fl. Ind., ed. 1832 3: 195. 1832.

Distribution: Arunachal Pradesh, Sikkim; 700–1400 m.

Hibiscus hirtus L., Sp. Pl. 694. 1753.

Distribution: Jammu & Kashmir, Uttarakhand.

Hibiscus hispidissimus Griff., Not. Pl. Asiat. 4: 521. 1854. *H. aculeatus* Roxb.

Distribution: Uttarakhand.

Hibiscus lobatus (Murray) Kuntze., Revis. Gen. Pl. 3(2): 19. 1898. *Solandra lobata* Murray

Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand.

Hibiscus macrophyllus Roxb. ex Hornem., Hort. Bot. Hafn. Suppl. 149.1819.

Distribution: Arunachal Pradesh; 100–1000 m.

Hibiscus micranthus L.f., Suppl. Pl. 308. 1782.

Distribution: Jammu & Kashmir, Uttarakhand.

Hibiscus mutabilis L., Sp. Pl. 694. 1753.

Distribution: Sikkim, Uttarakhand.

Hibiscus panduriformis Burm.f., Fl. Indica 151. 1768.

Distribution: Uttarakhand.

Hibiscus rosa-sinensis L., Sp. Pl. 694. 1753.

Distribution: Sikkim, Uttarakhand.

Hibiscus sabdariffa L. Sp. Pl. 695. 1753.

Distribution: Himachal Pradesh, Sikkim, Uttarakhand.

Hibiscus scandens Roxb., Fl. Ind. ed. 1832 3: 200. 1832.

Distribution: Sikkim; upto 1500 m.

Hibiscus schizopetalus (Dyer) Hook.f., Bot. Mag. 106: t. 6524. 1880. *H. rosa-sinensis* L. var. *schizopetalus* Dyer

Distribution: Sikkim, Uttarakhand.

Hibiscus surattensis L., Sp. Pl. 696. 1753.

Distribution: Arunachal Pradesh, Uttarakhand; 200–1000 m.

Hibiscus syriacus L., Sp. Pl. 695. 1753.

Distribution: Arunachal Pradesh, Himachal Pradesh, Uttarakhand; 1000–1500 m.

Hibiscus trionum L., Sp. Pl. 697. 1753.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand.

Hibiscus vitifolius L., Sp. Pl. 696.1753.

Distribution: Arunachal Pradesh, Jammu & Kashmir, Uttarakhand; 600–1200 m.

Kydia Roxb.

Kydia calycina Roxb., Pl. Coromandel 3: 11, pl. 215. 1819.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 600–1400 m.

Kydia glabrescens Mast., Fl. Brit. India 1(2): 348. 1874.

Distribution: Arunachal Pradesh; 800–1200 m.

Lavatera L.

Lavatera cachemiriana Cambess., Voy. Inde 4(Bot.): 29. 1841.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand; 2000–3300 m.

Lavatera kashmiriana Mast., Fl. Brit. India 1: 319. 1874.

Distribution: Himachal Pradesh, Uttarakhand.

Modiola Moench

Modiola caroliniana (L.) G.Don, Gen. Hist. 1: 466. 1831. *Malva caroliniana* L.

Distribution: Uttarakhand.

Malachra L.

Malachra capitata (L.) L, Syst. Nat. ed. 12. 2: 458. 1767. *Sida capitata* L.

Distribution: Himachal Pradesh, Uttarakhand.

Malva L.

Malva bucharica Iljin, Bot. Mater. Gerb. Glavn. Bot. Sada R.S.F.S.R. 5: 4. 1924.

Distribution: Jammu & Kashmir.

Malva neglecta Wallr., Syll. Pl. Nov. 1: 140. 1824.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand, West Bengal (Darjeeling); 2000–3000 m.

Malva parviflora L., Sp. Pl. 226. 1753.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 500–1000 m.

Malva parviflora L. var. **microcarpa** Loscos, Trat. Pl. Aragon 2: 203. 1877.

Distribution: Jammu & Kashmir.

Malva sylvestris L., Sp. Pl. 689. 1753.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand; 1200–3000 m.

Malva sylvestris L. var. **eriocarpa** Boiss., Fl. Orient. 1: 819. 1867.

Distribution: Uttarakhand.

Malva verticillata L., Sp. Pl. 689. 1753.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand. **(Plate 154b)**

Malva verticillata L. var. **rafiqii** Abedin, Fl. W. Pak. 130: 45. 1979.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand.

Malvastrum A.Gray

Malvastrum coromandelianum (L.) Garcke, Bonplandia (Hannover) 5: 297. 1857.

Malva coromandeliana L.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand.

Malvaviscus Cav.

Malvaviscus arboreus Cav., Diss. 3: t. 48, f. 1. 1787.

Distribution: Uttarakhand.

Nayariophyton T.K.Paul

Nayariophyton zizyphifolium (Griff.) D.G.Long & A.G.Mill., *Edinburgh J. Bot.* 47(3): 357. 1990. *Kydia zizyphifolia* Griff.

Distribution: Sikkim, West Bengal (Darjeeling); 300–2200 m.

Pavonia Cav.

Pavonia zeylanica (L.) Cav., *Diss.* 3: 134. 1787. *Hibiscus zeylanicus* L.

Distribution: Uttarakhand.

Sida L.

Sida acuta Burm.f., *Fl. Ind.* 147. 1768.

Distribution: Arunachal Pradesh, Sikkim, Uttarakhand; 700–1600 m.

Sida cordata (Burm.f.) Borss.Waalk., *Blumea* 14: 182. 1966. *Melochia cordata* Burm.f.

Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand.

Sida cordifolia L., *Sp. Pl.* 684. 1753.

Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand.

Sida rhombifolia L. subsp. **alnifolia** (L.) Ugbor., *Bol. Soc. Brot.*, ser. 2, 54. 70. 1980. *S. alnifolia* L.

Distribution: Uttarakhand.

Sida rhombifolia L., *Sp. Pl.* 684. 1753.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 800–2000 m.

Sida rhombifolia L. var. **scabrifa** Mast., *Fl. Brit. India* 1: 324. 1874.

Distribution: Uttarakhand.

Sida spinosa L., *Sp. Pl.* 683. 1753.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand.

Sida ovata Forssk., *Fl. Aegypt. – Arab.* 124. 1775.

Distribution: Arunachal Pradesh, Jammu & Kashmir, Uttarakhand.

Sidalcea A.Gray ex Benth.

Sidalcea neomexicana A.Gray subsp. **thurberi** (B.L.Rob.) C.L.Hitchc., *Perenn. Sp. Sidalcea Part 1: Taxonomy* 73. 1957.

Distribution: Jammu & Kashmir.

Thespesia Sol. ex Correa

Thespesia lampas (Cav.) Dalzell, *Bombay Fl.* 19. 1861. *Hibiscus lampas* Cav.

Distribution: Sikkim, Uttarakhand.

Thespesia populnea (L.) Sol. ex Correa, *Ann. Mus. Hist. Nat.* 9: 290. 1807. *Hibiscus populneus* L.

Distribution: Jammu & Kashmir, Uttarakhand.

Urena L.

Urena lobata L., Sp. Pl. 692. 1753.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 100–1800 m.

Urena repanda Roxb. ex Sm., Cycl. 37: Urena no. 6. 1819.

Distribution: Uttarakhand.

Wissadula Medik.

Wissadula periplocifolia (L.) Thwaites, Enum. Pl. Zeyl. 27.1858. *Sida periplocifolia* L.

Distribution: Arunachal Pradesh; 1000–1500 m.

MARTYNIACEAE

(1 genus; 1 taxon)

Martynia L.

Martynia annua L., Sp. Pl. 618. 1753.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand; 500–1500 m.

MELASTOMATACEAE

(8 genera; 26 taxa)

Blastus Lour.

Blastus cochinchinensis Lour., Fl. Cochinch. 527. 1790.

Distribution: Arunachal Pradesh; 300–800 m.

Medinilla Gaudich.

Medinilla assamica (C.B.Clarke) C.B.Clarke, Acta Phytotax. Sin. 21(4): 419 1983.
Anplectrum assamicum C.B.Clarke

Distribution: Arunachal Pradesh; 300–1500 m. **(Plate 155a)**

Medinilla himalayana Hook.f. ex Triana, Trans. Linn. Soc. London 28(1): 88. 1871.

Distribution: Arunachal Pradesh, Sikkim; 500–2000 m.

Medinilla pauciflora Hook.f. ex Triana, Trans. Linn. Soc. London 28(1): 88. 1872.

Distribution: Sikkim; 2000 m.

Medinilla rubicunda (Jack) Blume, Flora 14: 512 1831. *Melastoma rubicundum* Jack

Distribution: Arunachal Pradesh, Sikkim; 600–1500 m. **(Plate 155b)**

Melastoma Juss.

Melastoma imbricatum Wall. ex Triana, Trans. Linn. Soc. London 28: 60. 1871.

Distribution: Arunachal Pradesh.

Melastoma malabathricum L., Sp. Pl. 1. 390. 1753. *M. normale* D. Don

Distribution: Arunachal Pradesh, Sikkim, Uttarakhand; 400–2000 m. **(Plate 184a)**

Memecylon L.

Memecylon celastrinum Kurz, Prelim. Rep. Forest Pegu App. A. p. lxxvii.; App. B. 53, in clavi. 1875.

Distribution: Arunachal Pradesh.

Osbeckia L.

Osbeckia chinensis L., Sp. Pl. 345. 1753.

Distribution: Arunachal Pradesh, Himachal Pradesh, Sikkim, Uttarakhand.

Osbeckia crinita Benth. ex C.B. Clarke, Fl. Brit. India 2: 517. 1879.

Distribution: Arunachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 2000–2500 m.

Osbeckia glauca Benth. ex Naudin, Ann. Sci. Nat. ser. 3, 14: 68. 1850.

Distribution: Arunachal Pradesh.

Osbeckia muralis Naudin, Ann. Sci. Nat., Bot. sér. 3, 14: 56. 1850.

Distribution: Uttarakhand, West Bengal (Darjeeling).

Osbeckia nepalensis Hook.f., Exot. Fl. 1: t. 31. 1822.

Distribution: Arunachal Pradesh, Sikkim; 200–1500 m.

Osbeckia nutans Wall. ex C.B. Clarke, Fl. Brit. India 2: 521. 1879.

Distribution: Arunachal Pradesh, Sikkim; 300–2000 m.

Osbeckia stellata Buch. -Ham. ex Ker-Gawl., Bot. Reg. 8, t. 674. 1822.

Distribution: Arunachal Pradesh, Sikkim, Uttarakhand; 300–2500 m. (**Plate 155c**)

Osbeckia truncata D. Don ex Wight & Arn., Prodr. Fl. Ind. Orient. 1: 322. 1834.

Distribution: Uttarakhand.

Oxyspora DC.

Oxyspora cernua (Roxb.) Hook.f. & Thomson ex Triana, Trans. Linn. Soc. London 28(1): 73, t. 6. F. 62b. 1871. *Melastoma cernua* Roxb.

Distribution: Arunachal Pradesh.

Oxyspora paniculata (D. Don) DC., Prodr. 3: 123. 1828. *Arthrostemma paniculatum* D. Don.

Distribution: Arunachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 1000–2000 m.

Oxyspora paniculata (D. Don) DC. var. **bracteata** J.F. Maxwell, Gard. Bull. Singapore 35(2): 217. 1982.

Distribution: Arunachal Pradesh.

Oxyspora vagans (Roxb.) Wall., Pl. Asiat. Rar. 1: 78. 1830. *Melastoma vagans* Roxb.

Distribution: Arunachal Pradesh; 300–800 m.

Sarcopyramis Wall.

Sarcopyramis nepalensis Wall., Tent. Fl. Nep. 32, t. 23. 1824.

Distribution: Arunachal Pradesh, Sikkim, Uttarakhand; 450–2500 m. (Plate 155d)

Sonerila Roxb.

Sonerila arunachalensis G.S.Giri, A.Pramanik & H.J.Chowdhery, Ind. J. For. 15(1): 95. 1992.

Distribution: Arunachal Pradesh; 1400–1600 m.

Sonerila erecta Jack, Malayan Misc. 1(5): 7. 1820. *S. tenera* Royle

Distribution: Sikkim, Uttarakhand; 600–1500 m.

Sonerila khasiana C.B.Clarke, Kew Bull. 1932. 199. descr. ampl.

Distribution: Arunachal Pradesh, Sikkim; 500–1200 m.

Sonerila kurzii C.B.Clarke, Fl. Brit. India 2(6): 539. 1879.

Distribution: Sikkim., West Bengal (Darjeeling); 1220–2440 m.

Sonerila maculata Roxb., Fl. Ind. 1: 180. 1820.

Distribution: Arunachal Pradesh; 100–1100 m.

MELIACEAE

(13 genera; 34 taxa)

Aglaia Lour.

Aglaia chittagonga Miq., Ann. Mus. Bot. Lugduno–Batavi 4: 44. 1868.

Distribution: Arunachal Pradesh.

Aglaia edulis (Roxb.) Wall., Calc. Gard. Rep. 26. 1840. *Milnea edulis* Roxb.

Distribution: Arunachal Pradesh; 1200–1400 m.

Aglaia perviridis Hiern, Hook.f., Fl. Brit. India 1: 556. 1875.

Distribution: Arunachal Pradesh, Sikkim; 1200–1600 m.

Aglaia spectabilis (Miq.) S.S.Jain & Bennet, Indian J. Forest. 9: 271. 1986 (1987).

Distribution: Arunachal Pradesh, Sikkim.

Aphanamixis Blume

Aphanamixis chittagonga (Miq.) Harid & R.R.Rao, Fl. Meghalaya 1: 204. 1985.

Aglaia chittagonga Miq.

Distribution: Arunachal Pradesh; 600–1300 m.

Aphanamixis polystachya (Wall.) R.Parker, Ind. For. 57. 486. 1931. *Aglaia polystachya* Wall.

Distribution: Arunachal Pradesh, Sikkim; 900–1200 m.

Azadirachta A.Juss.

Azadirachta indica A.Juss., Mem. Mus. Hist. Nat. Par. 19: 220, t. 2. f. 5. 1830.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 300–700 m.

Chisocheton Blume

Chisocheton cumingianus (C.DC.) Harms subsp. **balansae** (C.DC.) Mabb., Taxon 26: 528. 1977. *C. balansae* C.DC.

Distribution: Arunachal Pradesh; 500–1200 m.

Chukrasia A.Juss.

Chukrasia tabularis A.Juss., Mem. Mus. Nat. Hist. Paris 19:251, t. 22. f. 27. 1830.

Distribution: Arunachal Pradesh, Sikkim, Uttarakhand; 500–1600 m.

Dysoxylum Blume

Dysoxylum excelsum Blume, Bijdr. 176. 1825.

Distribution: Arunachal Pradesh, Sikkim; 200–1100 m.

Dysoxylum gotadhora (Buch.-Ham.) Mabb., Fl. China 11: 127. 2008. *Guarea gotadhora* Buch.-Ham.

Distribution: Arunachal Pradesh, Sikkim, Uttarakhand; 500–1000 m. (Plate 156a)

Dysoxylum grande Hiem, Fl. Brit. India 1: 547. 1875.

Distribution: Arunachal Pradesh; 500–1200 m.

Dysoxylum mollissimum Blume, Bijdr. 175. 1825.

Distribution: Arunachal Pradesh, Sikkim; 200–600 m.

Dysoxylum pallens Hiern, Fl. Brit. India 1: 548. 1875.

Distribution: Arunachal Pradesh, Sikkim; 200–800 m.

Heynea Roxb.

Heynea trijuga Roxb. ex Sims, Curtis. Bot. Mag. 42. t. 1738. 1815.

Distribution: Arunachal Pradesh, Sikkim, Uttarakhand; 600–1500 m.

Melia L.

Melia azedarach L., Sp. Pl. 1: 384. 1753.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 700–1200 m.

Melia superba Roxb., Fl. Ind. 2: 396. 1832.

Distribution: Arunachal Pradesh; 200–800 m.

Munronia Wight

Munronia pinnata (Wall.) W.Theob., Burmah ed. 3, 2: 581. 1883. *Turraea pinnata* Wall.

Distribution: Sikkim.

Sphaerosacme Wall. ex M.J.Roemer

Sphaerosacme decandra (Wall.) T.D.Penn., Blumea 22: 489. 1975. *S. decandra* Wall.

Distribution: Arunachal Pradesh, Sikkim; 1400–1600 m.

Swietenia Jacq.

Swietenia chickerassa Roxb., Hort. Bengal. 33. 1814. *Chukrasia tabularis* A. Juss.
Distribution: Sikkim.

Toona (Endl.) M.Roem.

Toona ciliata M.Roem., Fam. Nat. Syn. Monogr. 1: 139. 1846. subsp. **ciliata** var. **ciliata**.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand.

Toona ciliata M.Roem. subsp. **ciliata** var. **hexandra** (Wall.) Bahadur, Monogr. Gen. Toona 93. 1988. *Cedrela hexandra* Wall.

Distribution: Himachal Pradesh, Uttarakhand.

Toona ciliata M.Roem. subsp. **ciliata** var. **pubinervis** (C.DC.) Bahadur, Monogr. Gen. Toona 96. 1988. *Cedrela toona* Roxb. ex Rottler var. *pubinervis* C.DC.

Distribution: Arunachal Pradesh, Sikkim, Uttarakhand; 100–1200 m.

Toona ciliata M.Roem. subsp. **velutina** (DC.) Bahadur var. **kingii** (C.DC.) Bahadur, Monogr. Gen. Toona 100. 1988. *Cedrela kingii* C. DC.

Distribution: Sikkim.

Toona hexandra M.Roem., Fam. Nat. Syn. Monogr. 1: 139. 1846.

Distribution: Uttarakhand.

Toona sinensis (A.Juss.) M.Roem., Fam. Nat. Syn. Monogr. 1: 138. 1846. var. **sinensis**. *Cedrela sinensis* A.Juss.

Distribution: Jammu & Kashmir, Himachal Pradesh, Uttarakhand.

Toona sinensis (A.Juss.) M.Roem. var. **grandifolia** (A.Chev.) Bahadur, Monogr. Gen. Toona 121. 1988. *T. microcarpa* (C.DC) Harms. var. *grandifolia* A.Chev.

Distribution: Jammu & Kashmir, Himachal Pradesh, Sikkim, Uttarakhand.

Toona sinensis (A.Juss.) M.Roem. var. **longifolia** (Wall. ex C.DC.) S.Almeida & Almeida, J. Bombay Nat. Hist. Soc. 91: 474. 1994. *Cedrela longifolia* Wall. ex C.DC.

Distribution: Himachal Pradesh & Uttarakhand.

Toona sinensis (A.Juss.) M.Roem. var. **puberula** (C.DC.) Bahadur, Monogr. Toona 122. 1988. *Cedrela serrata* Royle var. *puberula* C.DC.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand.

Toona sureni (Blume) Merr., Inter. Herb. Rumph. 305. 1917. var. **sureni**. *Swietenia sureni* Blume

Distribution: Arunachal Pradesh, Sikkim; 100–500 m.

Toona sureni (Blume) Merr. var. **celebica** (Koord.) Bahadur, Monogr. Toona 133. 1988. *Cedrela celebica* Koord.

Distribution: Arunachal Pradesh; 500–1200 m.

Toona ternatensis (Miq.) Bahadur, Monogr. Gen. Toona 144. 1988. *Cedrela febrifuga* Blume f. *ternatensis* Miq.

Distribution: Uttarakhand.

Walsura Roxb.**Walsura robusta** Roxb., Fl. Ind. 2: 386. 1832.

Distribution: Arunachal Pradesh; 100–1000 m.

Walsura tubulata Hiern, Fl. Brit. India 1: 563. 1875.

Distribution: Sikkim.

MELIANTHACEAE

(1 genus; 1 taxon)

Melianthus L.**Melianthus major** L., Sp. Pl. 2: 639. 1753.

Distribution: Uttarakhand.

MENISPERMACEAE

(14 genera; 28 taxa)

Aspidocarya Hook.f. & Thomson**Aspidocarya uvifera** Hook.f. & Thomson, Fl. Ind. 1: 180. 1855.

Distribution: Arunachal Pradesh, Sikkim; 1000–1400 m.

Cissampelos L.**Cissampelos pareira** L., Sp. Pl. 1031. 1753.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 500–1200 m.

Cocculus DC.**Cocculus hirsutus** (L.) W.Theob., Burmah ed. 3, 2: 657. 1860.

Distribution: Uttarakhand.

Cocculus laurifolius DC., Syst. Nat. 1: 520. 1817.

Distribution: Himachal Pradesh, Kashmir, Uttarakhand.

Cocculus orbiculatus (L.) DC., Syst. Nat 1: 523. 1817. *Menispermum orbiculatum* L.

Distribution: Arunachal Pradesh; 1500–2000 m.

Cocculus pendulus (J.R.Forst & G.Forest.) Diels, Pflanzenr. IV, 94: 237. 1910.*Epibaterium pendulum* J.R. Forst. & G.Forst.

Distribution: Himachal Pradesh, Jammu & Kashmir.

Cyclea Arn. ex Wight**Cyclea barbata** Miers., Ann. Mag. Nat. Hist. III, 18: 19. 1866.

Distribution: Sikkim.

Cyclea bicristata (Griff.) Diels, Pflanzenr. IV, 94: 317. 1910. *Claphophyllum bicristatum* Griff.

Distribution: Arunachal Pradesh, Sikkim; 300–400 m.

Cyclea peltata (Lam.) Hook.f. & Thomson, Fl. Ind. 1: 201. 1855. *Menispermum peltatum* Lam.

Distribution: Arunachal Pradesh; 300–1200 m.

Diploclisia Miers

Diploclisia glaucescens (Blume) Diels, Pflanzenr. IV, 94: 225. 1910. *Cocculus glaucescens* Blume

Distribution: Arunachal Pradesh; 500–700 m.

Haematocarpus Miers

Haematocarpus validus (Miers) Bakh.f. ex Forman, Kew Bull. 26:420. 1972. *Baterium validum* Miers

Distribution: Arunachal Pradesh, Sikkim; 500–1000 m.

Hypserpa Miers

Hypserpa nitida Miers ex Benth., Hooker's J. Bot. Kew Gard. Misc. 3: 258. 1851.

Distribution: Arunachal Pradesh; 100–500 m.

Limacia Lour.

Limacia oblonga Miers, Ann. Mag. Nat. Hist. II, 7: 43. 1851.

Distribution: Arunachal Pradesh; 1000–1300 m.

Parabaena Miers

Parabaena sagittata Miers, Ann. Mag. Nat. Hist., ser. 2, 7: 39. 1851.

Distribution: Arunachal Pradesh, Sikkim; 200–700 m.

Pericampylus Miers

Pericampylus aduncus Miers, Contr. Bot. 3: 119. 1871.

Distribution: Arunachal Pradesh; 800–1200 m.

Pericampylus glaucus (Lam.) Merr., Interpr. Herb. Amboin. 219. 1917. *Menispermum glaucum* Lam.

Distribution: Arunachal Pradesh, Sikkim; 400–1600 m.

Pycnarrhena Miers ex Hook.f. & Thomson

Pycnarrhena pleniflora Miers, Ann. Mag. Nat. Hist. III, 20: 12. 1867.

Distribution: Arunachal Pradesh; 300–1000 m.

Stephania Lour.

Stephania elegans Hook.f. & Thomson, Fl. Ind. 1: 195. 1855.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 200–1000 m.

Stephania glabra (Roxb.) Miers, Ann. Mag. Nat. Hist. ser. 3, 18: 14. 1866. *Cissampelos glabra* Roxb.

Distribution: Arunachal Pradesh, Himachal Pradesh, Sikkim, Uttarakhand; 300–1000 m.

Stephania glandulifera Miers, Ann. Mag. Nat. Hist. III, 18: 15. 1866.

Distribution: Arunachal Pradesh, Sikkim; 600–1400 m. (Plate 155b)

Stephania gracilentia Miers, Ann. Mag. Nat. Hist. 18: 15. 1866.

Distribution: Uttarakhand. (Plate 156c)

Stephania japonica (Thunb.) Miers, Ann. Mag. Nat. Hist., ser. 3. 18: 14. 1866.
Menispermum japonicum Thunb.

Distribution: Arunachal Pradesh; 800–1500 m.

Stephania japonica (Thunb.) Miers var. **discolor** (Blume) Forman, Kew Bull. 11: 49, 56. 1956. *Clypea discolor* Blume, Bijdr. Fl. Ned. Ind. 26. 1825.

Distribution: Arunachal Pradesh, Sikkim, Uttarakhand; 100–1000 m.

Tiliacora Colebr.

Tiliacora acuminata (Lam.) Miers, Ann. Mag. Nat. Hist. ser. 2, 7(37): 39. 1851.

Distribution: Uttarakhand.

Tinomiscium Miers ex Hook.f. & Thomson

Tinomiscium petiolare Hook.f. & Thomson, Fl. Ind. 1: 205. 1855.

Distribution: Arunachal Pradesh; 600–1100 m.

Tinospora Miers

Tinospora crispa (L.) Hook.f. & Thomson, Fl. Ind. 1: 183. 1855. *Menispermum crispum* L.

Distribution: Arunachal Pradesh; 100–1000 m.

Tinospora glabra (Burm.f.) Miers, J. Arnold Arbor 19: 340. 1938. *Menispermum glabrum* Burm.f.

Distribution: Uttarakhand.

Tinospora sinensis (Lour.) Merr., Sunyatsenia 1(4): 193. 1934. *Campylus sinensis* Lour.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 100–1000 m.

MENYANTHACEAE

(4 genera; 6 taxa)

Menyanthes L.

Menyanthes trifoliata L., Sp. Pl. 145. 1753.

Distribution: Himachal Pradesh, Jammu & Kashmir.

Mitreola L.

Mitreola petiolata (J.F.Gmel.) Torr. & A.Gray, Fl. N. Amer. 2: 45. 1841.
Cynoctonum petiolatum J.F.Gmel.

Distribution: Jammu & Kashmir.

Nymphoides Hill

Nymphoides cristata (Roxb.) O.Kuntze, Rev. Gen. Pl. 2 : 429. 1891. *Menyanthes cristata* Roxb.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand.

Nymphoides indica (L.) O.Kuntze, Rev. Gen. Pl. 2: 429. 1891. *Menyanthes indica* L.

Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand.

Nymphoides hydrophylla (Lour.) Kuntze, Revis. Gen. Pl. 2: 429. 1891. *Menyanthes hydrophylla* Lour.

Distribution: Sikkim, Uttarakhand, West Bengal (Darjeeling); 600 m.

Nymphoides peltata (S.G.Gmel.) Kuntze, Revis. Gen. Pl. 2: 429 1891. *Limnanthemum peltatum* S.G.Gmel.

Distribution: Himachal Pradesh, Jammu & Kashmir.

MOLLUGINACEAE

(2 genera; 5 taxa)

Glinus L.

Glinus lotoides L., Sp. Pl. 463. 1753.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand; 3000–4000 m.

Mollugo L.

Mollugo cerviana (L.) Ser., Prodr. 1: 392. 1824. *Pharnaceum cerviana* L.

Distribution: Jammu & Kashmir, Uttarakhand; 1000 m.

Mollugo nudicaulis Lam., Encycl. 4: 234. 1797.

Distribution: Arunachal Pradesh, Jammu & Kashmir, Uttarakhand; upto 500 m.

Mollugo pentaphylla L., Sp. Pl. 89. 1753.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 300–700 m.

Mollugo stricta L., Sp. Pl. 1: 131. 1762.

Distribution: Sikkim; 300–1600 m.

MONOTROPACEAE

(2 genera; 3 taxa)

Monotropa L.

Monotropa hypopitys L., Sp. Pl. 387. 1753.

Distribution: Himachal Pradesh, Uttarakhand.

Monotropa uniflora L., Sp. Pl. 387. 1753.

Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand, West Bengal (Darjeeling); 1830–2440 m. (Plate 156d)

Monotropastrum Andres

Monotropastrum humile (D.Don) H.Hara, J. Jap. Bot. 36: 78. 1961. *Monotropa humilis* D.Don

Distribution: Arunachal Pradesh, Uttarakhand, West Bengal (Darjeeling); 1800–2400 m. **(Plate 157a)**

MORACEAE

(8 genera; 81 taxa)

Aboriella Bennet

Aboriella myriantha (Dunn) Bennet, Ind. For. 107. 437. 1981. *Smithiella myriantha* Dunn

Distribution: Arunachal Pradesh; 274–305 m.

Artocarpus J.R.Forst & G.Forst

Artocarpus chama Buch.-Ham., Mem. Wem. Soc. 5: 331. 1826.

Distribution: Arunachal Pradesh, Sikkim; 300–1500 m.

Artocarpus gomezianus Wall. ex Trécul, Ann. Sci. Nat. Bot. ser. 3, 8: 118, 1847.

Distribution: Arunachal Pradesh.

Artocarpus heterophyllus Lam., Encycl. Meth. Bot. 3: 210. 1789.

Distribution: Arunachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; upto 700 m.

Artocarpus lacucha Buch.-Ham., Mem. Wern. Nat. Hist. Soc. 5: 333. 1826.

Distribution: Arunachal Pradesh, Sikkim, Uttarakhand, West Bengal (Darjeeling); upto 1000 m. **(Plate 157b)**

Broussonetia L'Hér. ex Vent.

Broussonetia kaempferi Sieb., Verh. Batav. Genootsch. Kunsten. 12: 28. 1830. *B. monoica* Hance

Distribution: Arunachal Pradesh; upto 1800 m.

Broussonetia kurzii (Hook.f.) Corner, Gard. Bull. Singapore 19: 234. 1962. *Allaeanthus kurzii* Hook.f.

Distribution: Sikkim; 270–600 m.

Broussonetia papyrifera (L.) L'Hér. ex Vent., Tabl. Reg. Veg. 3: 547. 1799. *Morus papyrifera* L.

Distribution: Arunachal Pradesh, Sikkim, Jammu & Kashmir, Uttarakhand; upto 1800 m.

Ficus L.

Ficus abelii Miq., Ann. Mus. Lugd.-Bat. 3: 281. 1867.

Distribution: Arunachal Pradesh, Sikkim; 600–1500 m.

Ficus alongensis Gagnep, Notul. Syst. (Paris) 4: 84. 1927.

Distribution: Arunachal Pradesh; 750 m.

Ficus altissima Blume, Bijdr. 444. 1825.

Distribution: Arunachal Pradesh, Sikkim; 400 m.

Ficus arnottiana (Miq.) Miq., Ann. Mus. Bot. Lugd. Bat. 3: 287. 1867. *Urostigma arnottia* Miq.

Distribution: Uttarakhand.

Ficus auriculata Lour., Fl. Cochinch. 666. 1790.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 400–2000 m. **(Plate 157c)**

Ficus benghalensis L., Sp. Pl. 1059. 1753.

Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand.

Ficus benjamina L., Mant. Pl. 129. 1767.

Distribution: Arunachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; upto 1000 m.

Ficus carica L., Sp. Pl. 1059. 1753. subsp. **carica**.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand.

Ficus carica L. subsp. **rupestris** (Hausskn.) Browicz, Fl. Iran. 183: 8. 1982. *F. carica* L. var. *rupestris* Hausskn.

Distribution: Jammu & Kashmir.

Ficus concinna (Miq.) Miq., Ann. Mus. Bot. Lugduno-Batavi 3: 286. 1867. *Urostigma concinnum* Miq.

Distribution: Sikkim; 1300–1400 m.

Ficus conglobata King, Ann. Roy. Bot. Gard. (Calcutta) 1: 99. 1888.

Distribution: Arunachal Pradesh, Sikkim; upto 900 m.

Ficus curtipes Corner, Gard. Bull. Singapore 17: 397. 1959. *F. obtusifolia* Roxb.

Distribution: Arunachal Pradesh, Sikkim, West Bengal (Darjeeling); upto 500 m.

Ficus cyrtophylla Wall. ex Miq., Ann. Mus. Bot. Lugd.-Bat. 3: 282, 296. 1867.

Distribution: Arunachal Pradesh, Sikkim; upto 1100 m.

Ficus drupacea Thunb., Ficus 11. 1786.

Distribution: Arunachal Pradesh, Sikkim, Uttarakhand; upto 1000 m.

Ficus elastica Roxb. ex Homem., H. Hafn. Suppl. 7. 1819.

Distribution: Arunachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 350–1500 m.

Ficus erecta Thunb., Ficus 9. 1786.

Distribution: Sikkim; upto 100 m.

Ficus fistulosa Reinw. ex Blume, Bijdr. 470. 1825.

Distribution: Arunachal Pradesh, Sikkim, West Bengal (Darjeeling); 400–1500 m.

Ficus filicauda Hand.-Mazz., Anz. Akad. Wiss. Wien. Math.-Nat. 1923, 60: 108. 1924.

Distribution: Arunachal Pradesh.

Ficus fulva Reinw. ex Blume, Bijdr. 578. 1826.

Distribution: Arunachal Pradesh.

Ficus gasparriniana Miq., Hook., London J. Bot. 7: 426. 1848. var. **gasparriniana**

Distribution: Arunachal Pradesh; upto 1500 m.

Ficus gasparriniana Miq. var. **laceratifolia** (H.Lév. & Vaniot) Corner, Gard. Bull. Singapore 17: 428. 1960. *F. laceratifolia* H. Lév. & Vaniot

Distribution: Arunachal Pradesh.

Ficus geniculata Kurz, For. Fl. Brit. Burma 2: 447. 1877.

Distribution: Arunachal Pradesh, Sikkim, West Bengal (Darjeeling); 400 m.

Ficus geocarpa Teijsm. ex Miq. Ann. Mus. Bot. Lugduno-Batavi 3: 231 1867.

Distribution: Arunachal Pradesh; 200 m.

Ficus glaberrima Blume, Bijdr. 451. 1825.

Distribution: Sikkim; 900–1400 m.

Ficus hederacea Roxb., Fl. Ind. 3: 538. 1832.

Distribution: Arunachal Pradesh, Himachal Pradesh, Sikkim, Uttarakhand; upto 1890 m.

Ficus heterophylla L.f., Suppl. Pl. 442. 1781.

Distribution: Arunachal Pradesh, Himachal Pradesh, Sikkim, Uttarakhand, West Bengal (Darjeeling).

Ficus heteropleura Blume, Bijdr. 466. 1825. *F. urophylla* Wall. ex King

Distribution: Arunachal Pradesh; upto 200 m.

Ficus hirta Vahl, Enum. Pl. 2: 201. 1806. var. **hirta**.

Distribution: Arunachal Pradesh, Sikkim; upto 1200 m. (Plate 157d)

Ficus hirta Vahl subsp. **roxburghii** (King) C.C.Berg, Blumea 48: 537. 2003. *F.*

hirta Vahl var. *roxburghii* King,

Distribution: Arunachal Pradesh; 400–800 m.

Ficus hispida L.f., Suppl. Pl. 442. 1781.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 300–1200 m. (Plate 158a)

Ficus hookeriana Comer, Gard. Bull. Singapore 17: 378. 1960.

Distribution: Arunachal Pradesh, Sikkim, West Bengal (Darjeeling); upto 1800 m.

Ficus ischnopoda Miq., Ann. Mus. Lugd.-Bat. 3: 229, 294. 1867.

Distribution: Arunachal Pradesh; 400 m.

Ficus lacor Buch.-Ham., Tran. Linn. Soc. London 15: 150. 1826.

Distribution: Arunachal Pradesh, Sikkim; 300–500 m.

Ficus laevis Blume, Bijdr. 437. 1825.

Distribution: Arunachal Pradesh, Sikkim, West Bengal (Darjeeling); 300–1500 m.

Ficus lamponga Miq., Fl. Ned. Ind., Earste Bijv. 431. 1861.

Distribution: Arunachal Pradesh, Sikkim, West Bengal (Darjeeling).

Ficus langkokensis Drake, J. de Botanique 1896: 215. 1896.

Distribution: Arunachal Pradesh.

Ficus maclellandii King, Ann. Roy. Bot. Gard. (Calcutta) 1: 52. 1887.

Distribution: Arunachal Pradesh, Sikkim; 1200–1800 m.

Ficus microcarpa L.f., Suppl. Pl. 442. 1781.

Distribution: Arunachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand, West Bengal (Darjeeling).

Ficus neriifolia Sm., Cyclop. 14: n. 21. 1810.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand, West Bengal (Darjeeling); 700–2400 m.

Ficus nervosa B. Heyne ex Roth., Nov. Sp. Pl. 388. 1817.

Distribution: Arunachal Pradesh, Sikkim, Uttarakhand, West Bengal (Darjeeling); upto 600 m.

Ficus palmata Forssk., Fl. Aeg. Arab. 179. 1775. subsp. **palmata**.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand; 1000–3000 m.

Ficus palmata Forssk. subsp. **virgata** Browicz, Fl. Iran. 153: 12. 1982.

Distribution: Uttarakhand.

Ficus prostrata (Miq.) Buch.-Ham ex Miq., Ann. Mus. Bot. Lugd.-Bat. 3: 297. 1867. *Covellia prostrata* Miq.

Distribution: Arunachal Pradesh, Sikkim; 600 m.

Ficus pubigera Brandis, Forest Fl. N.W. India 424. 1874. var. **pubigera**.

Distribution: Uttarakhand.

Ficus pubigera Brandis var. **maliformis** (King) Comer, Gard. Bull. Singapore 18: 6. 1960. *F. foveolata* Wall. ex Miq. var. *maliformis* King

Distribution: Arunachal Pradesh, Sikkim, Uttarakhand; 900–2100 m.

Ficus pumila L., Sp. Pl. 1060. 1753.

Distribution: Himachal Pradesh, Uttarakhand.

Ficus racemosa L., Sp. Pl. 1060. 1753.

Distribution: Arunachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 350 m.

Ficus religiosa L., Sp. Pl., 1059. 1753.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 300–500 m.

Ficus repens Roxb. ex Sm., Cycl. 14: 100. 1810.

Distribution: Arunachal Pradesh; upto 200 m.

Ficus rigida Jack, Mai. Misc. 2(7): 72. 1822.

Distribution: Arunachal Pradesh, Uttarakhand; upto 500 m.

Ficus rumphii Blume, Bijdr. 437. 1825.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 200–600 m.

Ficus sagittata Vahl, Symb. Bot. 1: 83. 1790.

Distribution: Sikkim, West Bengal (Darjeeling); 200–1200 m.

Ficus sarmentosa Buch.-Ham. ex Sm., Cyclop. 14: n. 45. 1810.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 500–2000 m.

Ficus semicordata Buch.-Ham. ex Sm., Cyclop. 14: n. 71. 1810.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 500–1700 m.

Ficus sinuata Thunb., Diss. Ficus 6: 12. 1786.

Distribution: Arunachal Pradesh.

Ficus squamosa Roxb., Fl. Ind. 3: 531. 1832.

Distribution: Arunachal Pradesh, Sikkim, Uttarakhand; upto 900 m.

Ficus subincisa Buch.-Ham. ex Sm., Cyclop. 14: n. 91. 1810.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 1000–2200 m.

Ficus subincisa Buch.-Ham. ex Sm. var. **trachycarpa** (Miq.) Corner ex Chater, Enum. Fl. Pl. Nepal 3: 211. 1982. *Ficus trachycarpa* Miq.

Distribution: Uttarakhand.

Ficus subulata Blume, Bijdr. 461. 1825.

Distribution: Arunachal Pradesh, Sikkim; 450–1500 m.

Ficus tinctoria G.Forst. subsp. **gibbosa** (Blume) Corner, Gard. Bull. Singapore 17: 476. 1960.

Distribution: Arunachal Pradesh, Sikkim, Uttarakhand, West Bengal (Darjeeling); 300–900 m.

Ficus virens Aiton, Hort. Kew 3: 451. 1789.

Distribution: Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand, West Bengal (Darjeeling); 300–100 m.

Ficus xiphias C.E.C.Fisch., Kew Bull. 1936: 282. 1937.

Distribution: Arunachal Pradesh.

Maclura Nutt.

Maclura cochinchinensis (Lour.) Comer, Gard. Bull. Singapore 19: 239. 1962. *Vanieria cochinchinensis* Lour.

Distribution: Arunachal Pradesh, Sikkim, Uttarakhand; upto 1700 m. (Plate 158b)

Maclura fruticosa (Roxb.) Comer, Gard. Bull. Singapore 19: 239. 1962. *Batis fruticosa* Roxb.

Distribution: Arunachal Pradesh. (Plate 159a)

Maclura pubescens (Trécul) Z.K.Zhou & M.G. Gilbert, Fl. China 5: 36. 2003. *Curdanea pubescens* Trécul

Distribution: Arunachal Pradesh.

Morus L.

Morus alba L., Sp. Pl. 986. 1753.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand; 2700 m.

Morus australis Poir., Encycl. Meth. Bot. 4: 380. 1797.

Distribution: Arunachal Pradesh, Himachal Pradesh, Sikkim, Uttarakhand; upto 2600 m.

Morus macroua Miq., Pl. Jungh. 42. 1851.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 400–2000 m.

Morus macroua Miq. var. **laxiflora** G.K.Upadhyay & A.A. Ansari, Rheedeia 20(1): 44. 2010.

Distribution: Arunachal Pradesh.

Morus nigra L., Sp. Pl. 986. 1753.

Distribution: Jammu & Kashmir.

Morus serrata Roxb., Fl. Ind. 3: 596. 1832.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand; 900–2000 m.

Plecosperrum C.T.White

Plecosperrum spinosum Trécul, Ann. Sci. Nat. Bot. III, 8: 124. 1847.

Distribution: Sikkim, Uttarakhand, West Bengal (Darjeeling); upto 1500 m.

Streblus Lour.

Streblus asper Lour., Fl. Cochinch. 1: 615. 1790.

Distribution: Sikkim, Uttarakhand. (Plate 159b)

Streblus zeylanicus (Thwaites) Kurz, Forest Fl. Burma 2: 464. 1877. *Taxotrophis zeylanicus* Thwaites

Distribution: West Bengal (Darjeeling).

MORINACEAE

(1 genus; 6 taxa)

Morina L.

Morina coulteriana Royle, III Bot. Himal. Mts. 1: 245. 1835.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand; 2000–3000 m.

(Plate 159c)

Morina longifolia Wall. ex DC., Prodr. 4: 644. 1830.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 2000–3000 m. **(Plate 160a)**

Morina nepalensis D.Don, Prodr. Fl. Nepal. 161. 1825.

Distribution: Sikkim; 3000–4800 m.

Morina polyphylla Wall. ex DC., Prodr. 4: 644. 1830.

Distribution: Himachal Pradesh, Sikkim; 3500–4500 m.

Morina persica L., Sp. Pl. 1. 28. 1753.

Distribution: Himachal Pradesh, Jammu & Kashmir; 2000–3000 m.

Morina wallichiana Royle, Ill. Bot. Himal. Mts. 245 t. 55, f. 1 1835.

Distribution: Jammu & Kashmir, Uttarakhand.

MORINGACEAE

(1 genus; 1 taxon)

Moringa Juss.

Moringa oleifera Lam., Encycl. 1(2): 398. 1785.

Distribution: Arunachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 100–300 m.

MYRICACEAE

(1 genus; 1 taxon)

Myrica L.

Myrica esculenta Buch. Ham. ex D.Don, Prodr. Fl. Nep. 56. 1825.

Distribution: Arunachal Pradesh, Himachal Pradesh, Sikkim, Uttarakhand; 1200–2100 m.

MYRISTICACEAE

(2 genera; 8 taxa)

Horsfieldia Willd.

Horsfieldia amygdalina (Wall.) Warb., Nova Acta Acad. Caes. Leop.-Carol. German. Nat. Cur. 68: 310. 1897. *Myristica amygdalina* Wall.

Distribution: Arunachal Pradesh.

Horsfieldia kingii (Hook.f.) Warb., Nova Acta Acad. Caes. Leop.-Carol. German. Nat. Cur. 68: 308 1897. *Myristica kingii* Hook.f.

Distribution: Arunachal Pradesh, Sikkim; 200–1200 m.

Knema Lour.

Knema cinerea Warb., Nova Acta Acad. Caes. Leop.-Carol. German. Nat. Cur. 68: 611. 1897.

Distribution: Arunachal Pradesh; 200–1500 m.

Knema cinerea Warb. var. **glauca** (Blume) Y.H.Li, Fl. Reipubl. Popularis Sin. 30(2): 187, pl. 85. 1979. *Myristica glauca* Blume
Distribution: Sikkim; 200–1500 m.

Knema erratica (Hook.f. & Thomson) J.Sinclair, Gard. Bull. Straits Settlm. 18: 205, f. 9. 1961. *Myristica erratica* Hook.f. & Thomson
Distribution: Sikkim; 150–300 m.

Knema globularia (Lam.) Warb., Monogr. Myrist. 601. 1897. *Myristica globularia* Lam.
Distribution: Arunachal Pradesh.

Knema linifolia (Roxb.) Warb., Monogr. Myristic. 558, pl. 24(1–3). 1897. *Myristica linifolia* Roxb.
Distribution: Arunachal Pradesh, Sikkim; 1000–1500 m.

Knema tenuinervia W.J.deWilde, Blumea 25: 405. 1979.
Distribution: Sikkim; 300–800 m.

MYRSINACEAE
(9 genera; 50 taxa)

Amblyanthopsis Mez

Amblyanthopsis membranacea (Wall. ex A.DC.) Mez, Pflanzenz. (Engler) IV. 236 (Heft 9): 211. 1902. *Ardisia membranacea* Wall. ex A.DC.
Distribution: Arunachal Pradesh.

Amblyanthus A.DC.

Amblyanthus glandulosus (Roxb.) A.DC., Ann. Sci. Nat., Bot. II, 16: 83. 1841. *Ardisia glandulosa* Roxb.
Distribution: Arunachal Pradesh.

Amblyanthus obovatus G.S.Giri, S.K.Das & H.J.Chowdhery, J. Bombay Nat. Hist. Soc. 99(3): 471. 2002.
Distribution: Arunachal Pradesh; about 250 m.

Ardisia Taton

Ardisia crispa (Thunb.) DC., Trans. Linn. Soc. London 17: 124. 1834. *Bladhia crispa* Thunb.
Distribution: Arunachal Pradesh. (Plate 160b)

Ardisia depressa C.B.Clarke, Fl. Brit. India 3: 522. 1882.
Distribution: Arunachal Pradesh; 800–1200 m.

Ardisia ensifolia E.Walker, Philipp. J. Sci. 73: 124. 1940.
Distribution: Arunachal Pradesh.

Ardisia griffithii C.B.Clarke, Fl. Brit. India 3: 523. 1882.
Distribution: Arunachal Pradesh; 1000–1500 m.

Ardisia humilis Vahl, Symb. Bot. 3: 40. 1794.

Distribution: Arunachal Pradesh; 600–1200 m.

Ardisia icara Wall. ex DC., Trans. Linn. Soc. London 17: 125. 1834.

Distribution: Arunachal Pradesh.

Ardisia japonica (Thunb.) Blume, Bijdr. 690. 1826. *Bladhia japonica* Thunb.

Distribution: Arunachal Pradesh.

Ardisia macrocarpa Wall., Fl. Ind. 2: 277. 1824.

Distribution: Arunachal Pradesh, Sikkim, Uttarakhand; 1500–2000 m.

Ardisia paniculata Roxb., Fl. Ind. 2: 270. 1824.

Distribution: Arunachal Pradesh.

Ardisia pedunculosa Wall., Fl. Ind. 2: 279. 1824.

Distribution: Arunachal Pradesh; 1500–2000 m.

Ardisia polysticta Miq., Fl. Ned. Ind., Eerste Bijv. 576. 1861.

Distribution: Arunachal Pradesh.

Ardisia rhynchophylla C.B. Clarke, Fl. Brit. India 3: 529. 1882.

Distribution: Arunachal Pradesh; 400–1000 m.

Ardisia sanguinolenta Blume, Bijdr. 685. 1826.

Distribution: Arunachal Pradesh.

Ardisia solanacea Roxb., Plants Coast of Coromandel 1: 27, pl. 27. 1795.

Distribution: Arunachal Pradesh, Himachal Pradesh, Sikkim, Uttarakhand; 400–1000 m.

Ardisia thomsonii Mez, Pflanzenr. IV, 236: 133. 1902.

Distribution: Arunachal Pradesh; 600–1000 m.

Ardisia thyrsiflora D. Don, Prodr. Fl. Nepal. 148. 1825.

Distribution: Arunachal Pradesh, Uttarakhand.

Embelia Burm.f.

Embelia arunachalensis R.K. Choudhary, R.C. Srivast. & Arup K. Das, J. Jap. Bot. 84: 338. 2009.

Distribution: Arunachal Pradesh.

Embelia floribunda Wall., Fl. Ind. 2: 291. 1824.

Distribution: Arunachal Pradesh, Uttarakhand; 1000–1200 m.

Embelia parviflora Wall. ex A. DC., Trans. Linn. Soc. London 17: 130. 1834.

Distribution: Arunachal Pradesh; 500–1800 m.

Embelia ribes Burm.f., Fl. Indica 62. 1768.

Distribution: Arunachal Pradesh; 400–1500 m.

Embelia subcoriacea (C.B. Clarke) Mez, Pflanzenr. 9, 4: 236: 329. 1902. *Embelia nagushia* var. *subcoriacea* C.B. Clarke

Distribution: Arunachal Pradesh.

Embelia tsjeriam-cottam (Roem. et Schult.) A.DC., Trans. Linn. Soc. London 17: 131. 1834. *Ardisia tsjeriam-cottam* Roem. & Schult.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Uttarakhand.

Embelia vestita Roxb., Fl. Ind. 2: 288. 1824

Distribution: Arunachal Pradesh; 1500–1800 m.

Hymenandra (A.DC.) Spach

Hymenandra wallichii A.DC., Ann. Sci. Nat. ser. 2, 16: 83, t. 5. 1841.

Distribution: Arunachal Pradesh. (Plate 160c)

Maesa Forssk.

Maesa argentea (Wall.) A.DC., Ann. Sci. Nat., Bot., sér. 2, 16: 96, pl. 5. 1841.

Baeobotrys argentea Wall.

Distribution: Uttarakhand.

Maesa angustifolia A.DC., Prodr. 8:L 81. 1844.

Distribution: Arunachal Pradesh; 400–1000 m.

Maesa arunachalensis G.S.Giri, S.K.Das & M.P.Nayar, J. Jap. Bot. 65(1): 21.

1990. Distribution: Arunachal Pradesh; 800–1200 m.

Maesa chisia Buch.–Ham. ex D.Don, Prodr. Fl. Nep. 148.

Distribution: Arunachal Pradesh; 1000–1500 m. (Plate 161a)

Maesa indica (Roxb.) Wall., Fl. Ind. 2: 230. 1824. *Baeobotrys indica* Roxb.

Distribution: Arunachal Pradesh, Uttarakhand; 500–800 m. (Plate 161b)

Maesa indica (Roxb.) Wall. var. **angustifolia** C.B.Clarke, Fl. Brit. India 3: 509. 1882.

Distribution: Arunachal Pradesh.

Maesa macrophylla C.B.Clarke, Fl. Brit. India 3: 510. 1882.

Distribution: Uttarakhand; 300–1800 m.

Maesa manipurensis Mez., Pflanzenr. 9, 4. 236: 30. 1902.

Distribution: Arunachal Pradesh; 1500–2000 m.

Maesa maxima Mez., Pflanzenr. 9, 4. 236: 44. 1902.

Distribution: Arunachal Pradesh.

Maesa montana A.DC., Prodr. 8: 79. 1844.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Uttarakhand.

Maesa nayarii G.S.Giri & S.K.Das, Bull. Bot. Surv. India 31: 178. 1989 (publ. 1992).

Distribution: Arunachal Pradesh. (Plate 161c)

Maesa permollis Kurz, J. Asiat. Soc. Bengal, Pt. 2, Nat. Hist. 40: 66. 1871.

Distribution: Arunachal Pradesh; 800–1000 m.

Maesa ramentacea (Roxb.) A.DC., Prodr. 8: 77. 1844. *Baeobotrys ramentacea* Roxb.

Distribution: Arunachal Pradesh; 500–1000 m.

Maesa rugosa C.B. Clarke, Fl. Brit. India 3(9): 508–509. 1882.

Distribution: Arunachal Pradesh, Sikkim; 1000–1500 m. (Plate 161d)

Maesa truncata Sastry, J. Sen Mem. 433. 1969.

Distribution: Arunachal Pradesh.

Maesa ziroensis G.S. Giri & G.D. Pal, J. Bombay Nat. Hist. Soc. 87(3): 435. 1990.

Distribution: Arunachal Pradesh; 1500–1700 m.

Myrsine L.

Myrsine africana L., Sp. Pl. 196. 1753.

Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand.

Myrsine semiserrata Wall., Fl. Ind., ed. 1820, 2: 293–295. 1824.

Distribution: Arunachal Pradesh, Himachal Pradesh, Uttarakhand; 1600–2000 m.

Rapanea Aubl.

Rapanea capitellata (Wall.) Mez, Pflanzenr. IV 236 (Heft 9): 356. 1902. *Myrsine capitellata* Wall.

Distribution: Arunachal Pradesh.

Sadiria Mez

Sadiria boweri Dunn, Bull. Misc. Inform. Kew 1920: 111. 1920.

Distribution: Arunachal Pradesh; 1800–2000 m.

Sadiria eugeniifolia (Wall. ex A.DC.) Mez, Pflanzenr. 236 (Heft 9): 182. 1902.

Ardisia eugeniifolia Wall. ex A.DC.

Distribution: Arunachal Pradesh.

Sadiria griffithii (C.B. Clarke) Mez, Pflanzenr. 236 (Heft 9): 183. 1902. *Pimelandra griffithii* C.B. Clarke

Distribution: Arunachal Pradesh; 1000–1500 m.

Sadiria subsessilifolia M.P. Nayar & G.S. Giri, Bull. Bot. Surv. India 16: 144. 1974 (publ. 1977).

Distribution: Arunachal Pradesh; 1100–1600 m.

MYRTACEAE

(7 genera; 58 taxa)

Callistemon R.Br.

Callistemon citrinus (Curtis) Skeels, U.S. Dept. Agri., Bur. Pl. Industr. Bull. 282: 49. 1913. *Metrosideros citrina* Curtis

Distribution: Arunachal Pradesh, Sikkim, Uttarakhand; 400–600 m.

Callistemon viminalis (Sol. ex Gaertn.) Cheel, Svensk. Vet. Akad. Handl. n. s. 52. 10: 16. 1919. *Metrosideros viminalis* Sol. ex Gaertn.

Distribution: Himachal Pradesh, Uttarakhand; 1000–2000 m.

Corymbia K.D.Hill & L.A.S.Johnson

Corymbia citriodora (Hook.f.) K.D.Hill & L.A.S.Johnson, Telopea 6: 388. 1995.
Eucalyptus citriodora Hook.f.

Distribution: Uttarakhand.

Corymbia eximia (Schauer) K.D.Hill & L.A.S.Johnson, Telopea 6: 383. 1995.
Eucalyptus eximia Schauer

Distribution: Himachal Pradesh; 1000–2000 m.

Corymbia maculata (Hook.) K.D.Hill & L.A.S.Johnson, Telopea 6: 393. 1995.
Eucalyptus maculata Hook.

Distribution: Himachal Pradesh; 1500–2500 m.

Decaspermum J.R.Forst. & G.Forst.

Decaspermum fruticosum J.R.Forst. & G.Forst., Char. Gen. 74. t. 37. 1776.

Distribution: Arunachal Pradesh.

Eucalyptus L'Hér.

Eucalyptus bicolor A.Cunn. ex Hook.f., Mitch. Journ. Trop. Austr. 390. 1848.

Distribution: Himachal Pradesh; 1000–2000 m.

Eucalyptus camaldulensis Dehnh., Cat. Pl. Hort. Camald. ed. 2. 20. 1832.

Distribution: Himachal Pradesh, Uttarakhand; 2000–3500 m.

Eucalyptus crebra F.Muell., J. Proc. Linn. Soc. 3: 87. 1859.

Distribution: Himachal Pradesh; 2000–3500 m.

Eucalyptus drepanophylla F.Muell. ex Benth., Fl. Austral. 3: 221. 1867.

Distribution: Himachal Pradesh, Uttarakhand; 2000–3500 m.

Eucalyptus eugenioides Sieber ex Spreng., Syst. Veg. 4(2): 195. 1827.

Distribution: Himachal Pradesh; 1000–1800 m.

Eucalyptus globulus Labill., Voy. 1: 153. t. 13. 1799.

Distribution: Himachal Pradesh, Uttarakhand; 1500–3000 m.

Eucalyptus goniocalyx F.Muell. ex Miq., Ned. Kruidk. Arch. 4: 134. 1856.

Distribution: Himachal Pradesh; 2000–3500 m.

Eucalyptus hemiphloia F.Muell. ex Benth., Fl. Australia 3: 216. 1867.

Distribution: Himachal Pradesh; 2000–3000 m.

Eucalyptus longifolia Link, Enum. Hort. Berol. 2: 29. 1822.

Distribution: Himachal Pradesh; 1500–2500 m.

Eucalyptus melanophloia F.Muell., J. Proc. Linn. Soc. 3: 93. 1859.

Distribution: Himachal Pradesh; 2000–3000 m.

Eucalyptus melliodora A.Cunn. ex Schau., Walp. Rep. 2: 924. 1843.

Distribution: Himachal Pradesh.

Eucalyptus obliqua L'Hér., Sert. Angl. 18. t. 20. 1788.

Distribution: Himachal Pradesh, Uttarakhand; 1000–2500 m.

Eucalyptus ovata Labill., Nov. Holl. Pl. 2: 13. t. 153. 1806.

Distribution: Himachal Pradesh; 2000–3000 m.

Eucalyptus pauciflora Sieber ex Spreng., Syst. Veg. 4(2): 195. 1827.

Distribution: Himachal Pradesh; 2000–3500 m.

Eucalyptus polyanthemus Schauer, Walp. Rep. 2: 924. 1858.

Distribution: Himachal Pradesh; 2000–3500 m.

Eucalyptus propinqua H.Deane & Maiden, Proc. Linn. Soc. N. S. Wales Ser. 2. 10: 541. 1896.

Distribution: Himachal Pradesh; 2000–3500 m.

Eucalyptus pulchella Desf., Tabl. École Bot. ed. 3: 408. 1829.

Distribution: Himachal Pradesh.

Eucalyptus punctata A.Cunn. ex DC., Prodr. 3: 217. 1827.

Distribution: Himachal Pradesh; 2000–3000 m.

Eucalyptus regnans F.Muell., Rep. Acclim. Soc. Viet. 20. 1870.

Distribution: Himachal Pradesh; 2000–3000 m.

Eucalyptus resinifera Sm., J. Voy. N. S. Wales 231. 1871.

Distribution: Himachal Pradesh; 2000–3000 m.

Eucalyptus risdonii Hook.f., Lond. J. Bot. 6: 477. 1847.

Distribution: Himachal Pradesh; 2000–3000 m.

Eucalyptus saligna Sm., Trans. Linn. Soc. London 3: 285. 1797.

Distribution: Himachal Pradesh, Uttarakhand; 2000–3000 m.

Eucalyptus sideroxylon A.Cunn. ex Woolls, Proc. Linn. Soc. New South Wales II, 1: 859. 1886.

Distribution: Himachal Pradesh; 2000–3000 m.

Eucalyptus staigeriana F.Muell. ex F.M.Bailey, Syn. Queensl. Fl. 176. 1883.

Distribution: Uttarakhand.

Eucalyptus tereticornis Sm., Spec. Bot. New Holland 4: 41. 1795.

Distribution: Arunachal Pradesh, Uttarakhand.

Eucalyptus viminalis Labill., Nov. Holl. Pl. 2: 12. t. 151. 1806.

Distribution: Himachal Pradesh; 2000–3000 m.

Eucalyptus × **virgata** Sieber ex DC., Prodr. 3: 217. 1827.

Distribution: Himachal Pradesh; 2000–3000 m.

Myrtus L.**Myrtus communis** L., Sp. Pl. 471. 1753.

Distribution: Uttarakhand.

Psidium L.**Psidium guajava** L., Sp. Pl. 470. 1753.

Distribution: Arunachal Pradesh, Himachal Pradesh, Sikkim, Uttarakhand; 2000–3000 m.

Syzygium P.Browne ex Gaertn.**Syzygium aborens** (Dunn) Rathakr. & N.C.Nair, J. Econ. Tax. Bot. 34(1): 287. 1983. *Eugenia aborensis* Dunn.

Distribution: Arunachal Pradesh; 640–762 m

Syzygium anisopetalum (R. Parker) N.P. Balakr., Bull. Bot. Surv. India 22:174. 1982. *Eugenia anisopetala* R. Parker

Distribution: Arunachal Pradesh.

Syzygium aqueum (Burm.f.) Alston, Ann. Roy. Bot. Gard. (Peradeniya) 11: 204. 1929. *Eugenia aquea* Burm.f.

Distribution: Sikkim; 300–600 m.

Syzygium assamicum (Biswas & Purkay.) Raizada, Ind. For. 74: 336. 1948. *Eugenia assamica* Biswas & Purkay.

Distribution: Arunachal Pradesh; upto 800 m.

(Plate 162a)**Syzygium balsameum** (Wight) Wall. ex Walp., Repert. Bot. Syst. 2: 179 1843. *Eugenia balsamea* Wight

Distribution: Arunachal Pradesh, Sikkim; upto 1000 m.

Syzygium claviflorum (Roxb.) Wall. ex A.M.Cowan & Cowan, Trees N. Bengal 67. 1929. *Eugenia claviflora* Roxb.

Distribution: Sikkim, West Bengal (Darjeeling); 300–600 m.

Syzygium cumini Skeels, U.S. Deptt. Agr. Bur. Pl. Industr. Bull. 248: 25. 1912. *Myrtus cumini* L.

Distribution: Arunachal Pradesh, Himachal Pradesh, Sikkim, Uttarakhand; 2000–3000 m.

(Plate 162b)**Syzygium cuneatum** (Blume) Masam., Enum. Phan. Born. 527. 1942. *Jambosa cuneata* Blume

Distribution: Arunachal Pradesh.

Syzygium formosum (Wall.) Masam., Enum. Pham. Born. 528. 1942. *Eugenia formosa* Wall.

Distribution: Arunachal Pradesh, Sikkim.

Syzygium fruticosum DC., Prodr. 3: 260. 1828.

Distribution: Arunachal Pradesh.

Syzygium jambos (L.) Alston, Trimen, Handb. Fl. Ceylon 6:115. 1931. *Eugenia jambos* L.

Distribution: Arunachal Pradesh, Sikkim.

Syzygium kurzii (Duthie) N.P.Balakr., Bull. Bot. Surv. India 22(1-4): 174. 1980. *Eugenia kurzii* Duthie

Distribution: Arunachal Pradesh, Sikkim; 1000 m. **(Plate 163a)**

Syzygium malaccense (L.) Merr. & L.M.Perry, J. Am. Arb. 19: 215. 1938. *Eugenia2c malaccensis* L.

Distribution: Arunachal Pradesh.

Syzygium megacarpum Rathakr. & Nair, J. Econ. Tax. Bot. 4: 487. 1983.

Distribution: Arunachal Pradesh.

Syzygium mishmiensis Chatterjee, Kew Bull. 1948: 61. 1948.

Distribution: Arunachal Pradesh.

Syzygium nervosum A.Cunn. ex DC., Prodr. 3: 260. 1828.

Distribution: Arunachal Pradesh, Sikkim, Uttarakhand, West Bengal (Darjeeling); 300-600 m.

Syzygium oblatum (Roxb.) Wall. ex A.M. Cowan & Cowan, Trees N. Bengal 68 1929. *Eugenia oblata* Roxb.

Distribution: Arunachal Pradesh.

Syzygium praecox (Roxb.) Rathakr. & N.C.Nair, J. Econ. Tax. Bot. 4(1): 288. 1983. *Eugenia praecox* Roxb.

Distribution: Arunachal Pradesh, Sikkim.

Syzygium ramosissimum (Blume) N.P.Balakr., Fl. Jowai 1: 200. 1981. *Clavimyrthus ramosissima* Blume

Distribution: Sikkim; 300-600 m.

Syzygium syzygioides (Miq.) Merr. & L.M.Perry, J. Am. Arb. 19: 109. 1938. *Jambosa syzygioides* Miq.

Distribution: Arunachal Pradesh.

Syzygium tetragonum (Wight) Wall. ex Walp., Repert. Bot. Syst. 2: 179. 1843. *Eugenia tetragona* Wight

Distribution: Arunachal Pradesh, Sikkim; upto 200 m.

Syzygium toddalioides (Wight) Walp., Repert. Bot. Syst. 2: 179 1843. *Eugenia toddalioides* Wight

Distribution: Sikkim.

Syzygium venosum DC., Prodr. 3: 260.1828.

Distribution: Sikkim, West Bengal (Darjeeling); 300-1400 m.

NELUMBONACEAE

(1 genus; 1 taxon)

Nelumbo Adans.**Nelumbo nucifera** Gaertn., Fruct. Sem. Pl. 1: 73. 1788.

Distribution: Jammu & Kashmir, Uttarakhand.

NITRARIACEAE

(2 genera; 3 taxa)

Nitraria L.**Nitraria schoberi** L., Syst. Nat. ed. 10. 1044. 1759.

Distribution: Jammu & Kashmir; 3480 m.

Peganum L.**Peganum harmala** L., Sp. Pl. 444. 1753.Distribution: Himachal Pradesh, Jammu & Kashmir, Uttarakhand. (**Plate 163b**)**Peganum harmala** L. var. **stenophyllum** Boiss., Fl. Orient. 1: 917. 1867.

Distribution: Jammu & Kashmir.

NYCTAGINACEAE

(4 genera; 8 taxa)

Boerhavia L.**Boerhavia chinensis** (L.) Rottb., Pl. Hort. Univ. Rar. Prog. 4. 1773. *Valeriana chinensis* L.

Distribution: Himachal Pradesh.

Boerhavia diffusa L., Sp. Pl. 3. 1753.

Distribution: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 200–1200 m.

Boerhavia erecta L., Sp. Pl. 3. 1753.

Distribution: Uttarakhand; 1200–3200 m.

Boerhavia procumbens Banks ex Roxb., Fl. Ind. 1: 148. 1820.

Distribution: Arunachal Pradesh, Jammu & Kashmir.

Bougainvillea Comm. ex Juss.**Bougainvillea glabra** Choisy, Prodr. 13(2): 437. 1849.

Distribution: Uttarakhand.

Bougainvillea spectabilis Willd., Sp. Pl. 2: 348. 1799.

Distribution: Uttarakhand.

Oxybaphus L'Hér. ex Willd.**Oxybaphus himalaicus** Edgew., Trans. Linn. Soc. London 20: 87. 1846.

Distribution: Himachal Pradesh, Uttarakhand; 2600–3350 m.

Mirabilis L.**Mirabilis jalapa** L., Sp. Pl. 177. 1753.

Distribution: Arunachal Pradesh, Jammu & Kashmir, Uttarakhand.

NYMPHAEACEAE

(2 genera; 9 taxa)

Euryale Salisb.**Euryale ferox** Salisb., Ann. Bot. (König & Sims) 2: 74. 1805.

Distribution: Jammu & Kashmir.

Nymphaea L.**Nymphaea alba** L., Sp. Pl. 510. 1753.

Distribution: Jammu & Kashmir, Uttarakhand; 1500–1800 m.

Nymphaea candida C. Presl, Delic. Prag. 224. 1822.

Distribution: Jammu & Kashmir.

Nymphaea mexicana Zucc., Abh. Math.-Phys. Cl. Königl. Bayer. Akad. Wiss. 1: 365. 1831.

Distribution: Jammu & Kashmir.

Nymphaea nouchali Burm.f., Fl. Indica 120. 1768.

Distribution: Arunachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; 1000–1600 m.

Nymphaea odorata Willd. subsp. **tuberosa** (Paine) Wiersema & Hellq., Rhodora 96(886): 170. 1994. *N. tuberosa* Paine

Distribution: Jammu & Kashmir.

Nymphaea pubescens Willd., Sp. Pl. 2: 1154. 1799.

Distribution: Uttarakhand.

Nymphaea rubra Roxb. ex Andrews, Bot. Repos. 8: t. 503. 1808.

Distribution: Arunachal Pradesh; 100–200 m.

(Plate 164)**Nymphaea tetragona** Georgi, Bemerk. Reise Russ. Reich. 1: 220. 1775.

Distribution: Jammu & Kashmir, Uttarakhand; 2600–2800 m.

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