ISSN: **2229-7359** Vol. 11 No. 7s, 2025

https://www.theaspd.com/ijes.php

Reassessment And Status Quo Of Monotypic Angiosperm Genera In India

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Abstract

Angiosperms are the largest and highly diversified groups of plants dominating the earth's vegetation. In India, about 20,000 species are recorded within 213 Dicot and 44 Monocot families covering 4300 endemic species (15% of world population) and 1240 species under various threatened categories. A taxon is considered monotypic when it represents a single lower taxon within it. About 38% of the monotypic taxa are endemic to India and restricted to different bio-geographic regions of the country. As per the existing record, Indian flora has 236 Monotypic genera within 63 families. In recent time, enormous works have been carried out for up gradation of the world checklist of plants, and the need for re-visit to the Monotypic taxa of India is felt and for this reason, status evaluation of Monotypic Angiosperm taxa are conducted and severe changes in the results of the enumeration of Monotypic taxa is noticed. On the basis of results of the present study, it can be concluded that at present, there is no any monotypic Angiosperm plant family in India and Indian Angiosperm flora consists of 166 Monotypic genera represented by 61 families where members of Poaceae (26) are dominant followed by Bignoniaceae (10); Rubiaceae (9); Fabaceae and Asteraceae (8 each) and others with varying numbers covering 88 herbs, 4 epiphytes, 4 climbers, 22 shrubs, 2 under shrubs, 8 woody climbers, 8 short trees and 30 tree genera. The results of the present communication clearly signified the need for rectification of records in all botanical forum and public portals with regard to the enumeration of Monotypic Angiosperm taxa in India. The results of the present study may be considered by IUCN for evaluation of the monotypic genera as threatened taxa in general and the endemic ones in particular for framing future conservation policy.

Key words: Angiosperm; Monotypic genera; present status; endemism; India.

Introduction

Angiosperms occupy almost every habitat on earth, from deserts to high mountain peaks and from freshwater ecosystems to marine estuaries. Angiosperms are comparatively recent group of seed plants, and considered to be young, evolved about 130 million years ago, and flourished from the Jurassic Period to early the Cretaceous Period. Based on the number of cotyledons developed upon germination, the angiosperms have traditionally been divided into the monocotyledons and the dicotyledons (Angiosperm Phylogeny Group, 2016). In India, about 20,000 flowering plants are recorded so far including cultivated and naturalized ones with approximately 15% endemic species. Total 257 families are listed with currently accepted genera, of which 213 families belong to dicotyledons and 44 to monocotyledons (Botanical Survey of India, 2020). Among these, more than 4300 species are endemic and more than 1240 species are in threatened categories (Botanical Survey of India, 2018).

A taxa is said to be monotypic if it represents a single taxa within it, i.e., a family is monotypic if represented by a single genus with a single species and a genus is monotypic if represented by the 'type species' only. Many monotypic genera have been described, as they possess a number of distinct autapomorphies, i.e., character unique to that species, making it easily distinguishable from other related species having divergence with synapomorphies (Schrire & Lewis, 1996). Monotypic taxa are different from endemic plants in the sense that all monotypic taxa are likely to be endemic to a region, but all endemic plants are not monotypic taxa (Rana & Ranade, 2009). About 38% of the monotypic taxa are endemic to India and restricted to different bio-geographic regions of the country (Rana & Ranade, 2009). Geographical isolation of the species is a barrier to complete circumscription of the plants. Though the Himalayan range acts as a geographical barrier, it also functions as a crucible for the evolution of new species complexes in the ecological niches and habitats offered by the Himalayan mountain systems (Nayar, 1996).

India, due to its geographical variations, is rich in all the three levels of biodiversity (species diversity, genetic diversity and habitat diversity). The total number of flowering plant species although only 18,000, the intraspecific variability found in them make it one of the highest in the world. Previously it was reported that 38% of the

ISSN: **2229-7359** Vol. 11 No. 7s, 2025

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flowering plants and 18% of the total flora are endemic to this country (Nayar, 1977). Detailed studies by Irwin and Narasimhan (2011) reported 49 genera and later, Singh et al. (2015) have reported 58 endemic genera for India. These studies were again reassessed by Irwin et al. (2021) and presented 46 genera as endemic to the political boundary of India. The wide range of plant diversity is also reflected within each taxonomic level in the total flora. Amongst the flowering plants, several families show great diversity and are represented by more than 100 species. On the other end of the spectrum, enumeration of monotypic Angiosperms of India was first attempted by Uniyal & Mathur, 1994 who reported 189 such genera with 32 members of Poaceae in the list as dominant family. The same was again rectified by Rana & Ranade, 2009 stating 236 monotypic genera representing 63 monotypic families in the Indian flora including 176 genera of dicotyledons and 60 of monocotyledon genera where Leguminosae and Poaceae are the dominant families with 15 and 32 genera respectively (Rana & Ranade, 2009). Among all, four monotypic families were also recognized in India having only one genus and one species within it which are Circaesteraceae, Plagiopteraceae, Tetracentraceae and Trichopodaceae (Rana & Ranade, 2009; BSI, 2020). Further Contribution to the monotypic genera of Angiosperms in Indian flora was done by Khanna & Kumar in 2016 where they analyse the status and added 39 more to the list of 189 previously reported by Uniyal & Mathur and make the list to 228 in total. These datasets are available in all major botanical forums in India, including the Botanical Survey of India and all databases in the world is following the same outdated data from India.

Monotypic taxa are important not only in floristic studies, but also in phytogeography and phylogenetic studies. They have the most important role in identifying the origin and route of migration of those taxa with the help of the distribution pattern. It helps in tracing the evolutionary line among the lower taxa. They represent species that could be lost forever and their related genomes do not exist anywhere else in the region, which opens up further attention to the study of molecular biology and cytogenetics to tap into the information as they are threatened in terms of related taxa and from conservational point of view. Likewise, the region harbours numerous plant species having medicinal, aromatic and other economic uses that deserve immediate attention for conservation and sustainable use. As the evolutionary processes are directional, it is important to establish the phylogenetic status of monotypic taxa to determine the evolutionary direction of a particular taxon, its higher levels have going through. It is difficult to imagine that in the same higher taxonomic unit, different subunits are subjected to different or opposing evolutionary directions and pressures. Some effort is also required to trace the distribution limits for a monotypic taxon and to then explain how this distribution is linked to geographic and geological factors. Further, time to take up studies in this interesting group of taxa in a comprehensive and holistic way was also felt (Rana & Ranade, 2009).

In the present communication, a study is undertaken to re-visit and evaluate the present status of Monotypic taxa under different families, having different life forms (herbs, shrubs and trees, etc.) in India. The study is aimed for evaluating the present status of Monotypic Angiosperm taxa in India to clarify the enigma with its enumeration.

Materials and Methods

The status evaluation of Monotypic taxa in India for the first instance, all the previously reported monotypic genera in India (Rana & Ranade, 2009; Botanical Survey of India, 2020) are taken into consideration. The earlier report on the respective species under the genus and family concerned was taken as reference material and studied their present taxonomic status with respect to monotypic status and distribution in India. Further, all the other families and genera reported after 2009 until 2023 in different literatures (Angiosperm Phylogeny Group, 2016; BSI, 2021; Plants of the World Online, 2024; The Plant List, 2020; World Flora Online, 2023) were also consulted for the purpose of meeting the objective of the present study. The International Legume Database and Information Service (ILDIS) is a long-term program of cooperation among legume specialists worldwide to create a biodiversity database for the Leguminosae family (the dominant family having the highest monotypic genus) providing a taxonomic checklist with basic factual data on distribution, common names, life-forms, uses, literature references to descriptions, illustrations and maps (Roskov et al. 2006). More than 40,000 records derived from ILDIS are included in The Plant List (The Plant List, 2020), which is the recent updated worldwide taxonomic database of Taxonomic Expert Networks recognized by Kew Botanic Garden, Missouri Botanical Garden, Royal Botanic Garden, etc. and most of the leading taxonomic institutions of the world and discussing the newly reported plant species and other taxa from India after 2007 till date (BSI, 2007-2020). All the materials are scrutinized in Plants of the World online, 2024. Previous reports and new status are enumerated and monotypic status is critically analyzed.

Results and Discussion

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The results of the present study are enumerated in **Table-1** where name of monotypic taxa at the genus level are recorded, followed by their family (APG IV, 2016), distribution in India and other parts of the world (Barooah & Ahmed, 2014; Khanna & Kumar, 2016; Rana & Ranade, 2009, BSI, 2021) and original publication references. Distributional records were also verified with records of Plants of the World Online database along with the original publication record (POWO, 2024) maintained by Royal Botanic Garden, Kew.

The results of the present study provide a different scenario than those reported earlier. Previously, there were four Monotypic families reported from India having only one genus and species within it, viz, Circaesteraceae, Plagiopteraceae, Tetracentraceae and Trichopodaceae (Rana & Ranade, 2009; BSI, 2020). But, now Circaesteraceae bear two monotypic genera; Circaeaster agrestis Maxim. and Kingdonia uniflora Balf. f. & W.W. Sm. where only the previous one is distributed in India. Interestingly Nicobariodendron sleumeri Vasudeva Rao & Chakrab., a tree species earlier endemic to Nicobar Islands (Katchal Island) in India is presently extinct (POWO, 2024). Plagiopteraceae is now merged with Celastraceae along with Flacourtiaceae; and Celastraceae is bearing Plagiopteron genus with Plagiopteron suaveolens Griff. as a monotypic species. The family, Tetracentraceae, is now changed to Trochodendraceae two Tetracentron sinense Oliv. having monotypic genera; Trochodendron aralioides Siebold & Zucc. Again, the previous one is only distributed in India. The family, Trichopodaceae is merged with Dioscoreaceae along with Avetraceae, and thereby loosing monotypic family status as Dioscoreaceae has 4 accepted genera that are not monotypic at all.

Earlier, within the dominant Dicot family, Leguminosae, 15 genera were enlisted. But even after merging the same with Fabaceae along with other families and after careful scrutiny, only eight genera retain the status of monotypic taxa within Fabaceae, securing the third dominant family within Dicots and Rubiaceae having 9 members of monotypic taxa secures the second position in dominant family of monotypic genera. At the same time, Bignoniaceae with 10 members, secure the most dominant position among dicotyledons. Poaceae has retained its overall dominance with 26 members of monocot genera. Similarly, in many cases, in due course, second or number of species of the previously reported monotypic genus are discovered and reported from India and other parts of the world as well and hence, as a consequence they lose monotypic status.

Conclusion

The Indian Angiosperm flora consists of 166 monotypic Angiosperm genera represented by 61 families including some recently introduced plants where members of Poaceae (26) are dominant, followed by Bignoniaceae (10); Rubiaceae [9]; Fabaceae and Asteraceae (8 each) and others with varying numbers covering 88 herbs, 4 epiphytes, 4 climbers, 22 shrubs, 2 under shrubs, 8 woody climbers, 8 short trees and 30 tree genera. At present there is no any monotypic family in India. It is worth mentioning that most of the less reported and rarely distributed species are not evaluated by the IUCN (IUCN, 2020) for their conservation status. It is found that among 29 endemic monotypic genera of India, only 50% genera were evaluated by IUCN so far, which signifies the need to access the conservation status of these monotypic genera in general in India and endemic ones in particular, in different geographical regions. At the same time, the results of the present study clearly signify the need for a rectification of records in all botanical forum and portals from the present enumeration of monotypic Angiosperm taxa in India.

Acknowledgement

The authors are thankful to the Vice Chancellor, Assam Don Bosco University (ADBU) and the Director of Research, ADBU (India) for their encouragement during preparation of the manuscript; and the Assistant Director In-charge, CARI, Guwahati (Assam), for providing necessary facilities during the study. The authors are also thankful to anonymous reviewers for their critical comments and suggestions during finalization of the manuscript.

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Table-1: Monotypic Angiosperm taxa of India

| Sl. | Name of monotypic | Family | Н | Distribution (PC | WO, 2024; Khanna | Original |
|-----|-------------------|------------|----|------------------|-------------------------------|---------------------|
| No | taxa | (APG IV, | ab | & Kumar, 2016 | & Kumar, 2016; Rana & Ranade, | |
| | | 2016) | it | 2009; Irwi | n et al., 2021) | (POWO, 2024) |
| | | | | World | India | |
| 1 | Adenoon indicum | Asteraceae | Н | India | Western Ghats | Hooker's J. Bot. |
| | Dalzell | | | | | Kew Gard. Misc. 2 |
| | | | | | | 344 (1850) |
| 2 | Aldrovanda | Droseracea | Н | India, Central | West Bengal, | Sp. Pl.: 281 (1753) |
| | vesiculosa L. | e | | Europe, | Manipur | |
| | | | | Australia | | |
| 3 | Anamirta cocculus | Menisperm | W | India, Sri | Uttar Pradesh, | Prodr. Fl. Ind. |
| | (L.) Wight & Arn. | aceae | С | Lanka, | Maharashtra, | Orient. 1: 446 |
| | | | | Bangladesh, | Karnataka, Tamil | (1834) |
| | | | | Myanmar, | Nadu, Kerala, and | |
| | | | | Indonesia, | Andaman and | |
| | | | | Thailand | Nicobar Islands | |
| | | | | to Malaysia | | |

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|---------|--|---------------------|--------|--|---|--|
| 4 | Anthogonium gracile Wall. ex Lindl. | Orchidacea e | E H | India, China, Thailand | Sikkim, Nagaland and Meghalaya | Intr. Nat. Syst. Bot. 2: 341 (1836) |
| 5 | Arcyosperma primulifolium (Thomson) O.E.Schulz | Brassicaeae | Н | India, Pakistan, Bhutan and Nepal | Jammu & Kashmir, Himachal Pradesh, Uttarakhand and Sikkim | H.G.A.Engler (ed.), Pflanzenr., IV, 105(86): 182 (1924) |
| 6 | Aspidocarya uvifera Hook. f. & Thomson | Menisperm aceae | W C | India, Bhutan, Myanmar and SW China | Eastern Himalayan region | Fl. Ind. 1: 180 (1855) |
| 7 | Atelanthera perpusilla Hook. f. & Thomson | Brassicacea e | Н | India, Pakistan, Afghanistan and China | Jammu & Kashmir | J. Proc. Linn. Soc., Bot. 5: 138 (1861) |
| 8 | Blepharistemma me mbranifolium (Miq.) Ding Hou | Rhizophora ceae | T | India | Western Peninsula | Fl. Males. 5: 489 (1958) |
| 9 | Boenninghausenia albiflora (Hook.) Rchb. ex Meisn. | Rutaceae | Н | India, Japan | Himalayas in Jammu & Kashmir, Himachal Pradesh, Uttar Pradesh, and W. Bengal, Sikkim, Arunachal Pradesh, Nagaland and Meghalaya | Pl. Vasc. Gen.: 44 (1837) |
| 10 | Brachycaulos simplicifolius Dixit & Panigrahi | Rosaceae | S | India (East Himalaya) | Sikkim, Arunachal Pradesh | Bull. Mus. Natl. Hist. Nat., B, Adansonia 3: 58 (1981) |
| 11 | Brachystemma calycinum D. Don | Caryophylla ceae | Н | India, Nepal, Bhutan, Myanmar, China and Indo-China | Uttarakhand, North East India including Assam | Prodr. Fl. Nepal.: 216 (1825) |
| 12 | Brasenia schreberi J.F. Gmel. | Cabombace ae | Н | India, Bhutan, North America, East Australia, East Africa | Meghalaya | Syst. Nat., ed. 13[bis].: 853 (1791) |
| 13 | Bryocarpum himalaicum Hook. f. &Thomson | Primulacea e | Н | India (East Himalaya), Nepal, Tibet | Eastern Himalaya | Hooker's J. Bot. Kew Gard. Misc. 9: 200 (1857) |
| 14 | Butomopsis latifolia (D. Don) Kunth | Alismatacea e | Н | India, Tropics of the Old World | Plains, Assam and the Deccan | Enum. Pl. 3: 165 (1841) |
| 15 | Butomus umbellatus L. | Butomacea e | Н | Temperate Europe and Asia including India, North West Africa | Jammu Kashmir, Uttarakhand | Sp. Pl.: 372 (1753) |

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|--------|--|----------------------|---|---|---|---|
| 16 | Bythophyton indicum (Hook.f. & Thomson) Hook.f. | Plantaginac eae | Н | India (NE region) | Assam, Meghalaya | Fl. Brit. India 4: 286 (1884) |
| 17 | Caesulia axillaris Roxb. | Asteraceae | Н | India, Pakistan, Nepal, Bangladesh and Myanmar | North India and Deccan | Pl. Coromandel 1 (1798) |
| 18 | Calacanthus grandiflorus (Dalzel l) Radlk. | Acanthacea e | S | India | Maharashtra and Karnataka | Sitzungsber. MathPhys. Cl. Königl. Bayer. Akad. Wiss. München 13: 279 (1884 publ. 1883) |
| 19 | Cannabis sativa L. | Cannabace ae | Н | India, Central Asia | Throughout India | Sp. Pl.: 1027 (1753) |
| 20 | Catamixis baccharoides Thomson | Asteraceae | S | India, Nepal, West Himalaya | Uttarakhand – Siwalik & Tehri Garhwal | J. Linn. Soc., Bot. 9: 343 (1866) |
| 21 | Centrostachys aquatica (R.Br.) Moq. | Amarantha ceae | Н | India, Bangladesh, Nepal, Burma, Tropical Africa | Assam, Eastern coastal areas | A.P.de Candolle, Prodr. 13(2): 321 (1849) |
| 22 | Chandrasekharania keralensis V.J.Nair, V.S.Ramach. & Sreek. | Poaceae | Н | India | Kerala | Proc. Indian Acad. Sci., Pl. Sci. 91: 80 (1982) |
| 23 | Chionocharis hookeri (C.B.Clarke) I.M.Johnst. | Boraginace ae | S | India, Bhutan, China, Nepal, Tibet | Eastern Himalayan region | Contr. Gray Herb. 73: 66 (1924) |
| 24 | Chloroxylon swietenia DC. | Rutaceae | S | India, Sri Lanka | Madhya Pradesh, Orissa, Andhra Pradesh, Karnataka, Tamil Nadu and Kerala | Prodr. 1: 625 (1824) |
| 25 | Chukrasia tabularis A.Juss. | Meliaceae | Т | India, Bangladesh, Bhutan, Myanmar, Nepal, Sri Lanka | Andaman Islands, North-eastern India | Bull. Sci. Nat. Geol. 23: 241 |
| 26 | Chydenanthus excelsus (Blume) Miers | Lecythidace ae | T | India, Burma, Indonesia | Andaman & Nicobar Islands | Trans. Linn. Soc. London, Bot. 1: 112 (1875) |
| 27 | Circaeaster agrestis Maxim. | Circaeaster aceae | Н | India, Bhutan, China, Tibet | Western Himalayan region | Bull. Acad. Imp. Sci. Saint- Pétersbourg, sér. 3, 27: 557 (1882) |
| 28 | Cocos nucifera L. | Arecaceae | Т | India, East Malesia | Cultivated in most of the regions but | Sp. Pl.: 1188 (1753) |

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| | | | | | wild in Andaman and Nicobar islands | |
| 29 | Coldenia procumbens L. | Boraginace ae | Н | India, Subtropical and Tropical regions of the Old world | Throughout India | Sp. Pl.: 125 (1753) |
| 30 | Colebrookea oppositifolia Sm. | Lamiaceae | S | India, Burma | Subtropical Himalaya, Madhya Pradesh and Deccan Peninsula | Exot. Bot. 2: 111 (1806) |
| 31 | Cottonia peduncularis (Lindl.) Rchb.f. | Orchidacea e | E H | India, Sri Lanka | Deccan Peninsula | Cat. Orch. Samml. Schiller, ed. 3: 22 (1857) |
| 32 | Craniotome furcata (Link) Kuntze | Lamiaceae | Н | India, Bhutan | Temperate Himalaya and Meghalaya | Revis. Gen. Pl. 2: 516 (1891) |
| 33 | Cyathopus sikkimensis Stapf | Poaceae | Н | India (East & West Himalaya), China South- Central | Sikkim, Arunachal Pradesh, Uttarakhand, Jammu & Kashmir | Hooker's Icon. Pl. 25: t. 2395 (1895) |
| 34 | Cydonia oblonga M ill. | Rosaceae | S | India (NW), China, East and South Europe | North Western region of India | Gard. Dict., ed. 8.: n.° 1 (1768) |
| 35 | Danthonidium gammiei (Bhide) C.E. Hubb. | Poaceae | Н | India | Maharashtra and Karnataka | Hooker's Icon. Pl. 34: t. 3331 (1937) |
| 36 | Deccania pubescens (Roth) Tirveng. | Rubiaceae | Н | India (Deccan) | Deccan region | Nordic J. Bot. 3: 456 (1983) |
| 37 | Desmostachya bipinnata (L.) Stapf | Poaceae | Н | India, Indo- China, South Asia, Africa (Sahara to Tanzania) | Cosmopolitan in India | W.H.Harvey & auct. suc. (eds.), Fl. Cap. 7: 632 (1900) |
| 38 | Digera muricata (L.) Mart. | Amarantha ceae | Н | Throughout the plains, Tropical regions of Old world | Throughout India | Nova Acta Phys Med. Acad. Caes. LeopCarol. Nat. Cur. 13: 285 (1826) |
| 39 | Eleutharrhena macrocarpa (Diels) Ecrman | Menisperm aceae | W C | India, China | Meghalaya | Kew Bull. 30: 99 (1975) |
| 40 | Ellisiophyllum pinnatum (Wall. ex Benth.) Makino | Plantaginac eae | Н | India, Bhutan, China, Nepal, Japan, New Guinea, Philippines | Nagaland, Sikkim, West Bengal | Bot. Mag. (Tokyo) 20: 91 (1906) |
| 41 | Enhalus acoroides (L.f.) Royle | Hydrochari taceae | Н | India, Australia | South India and Andaman & Nicobar Islands | Ill. Bot. Himal. Mts. 1: 377 (1839) |

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| 42 | Erinocarpus nimmonii J.Graham | Malvaceae | T | India | Western Peninsula and Deccan | Cat. Pl. Bombay: 21 (1839) |
| 43 | Eriodes barbata (Lindl.) Rolfe | Orchidacea e | E H | India, Burma, China, Vietnam | Meghalaya | Orchid Rev. 23: 326 (1915) Orchid Rev. 23: 326 (1915) |
| 44 | Euryale ferox Salisb. | Nymphaeac eae | Н | India, Bangladesh, China, Japan, Russia, Taiwan | Wild or cultivated in most of the regions | Ann. Bot. (König & Sims) 2: 74 (1805) |
| 45 | Fergusonia zeylanica Hook. f. | Rubiaceae | Н | India, Sri Lanka | Karnataka | Hooker's Icon. Pl. 12: t. 1124 (1872) |
| 46 | Getonia floribunda Roxb. | Combretac eae | S | India, China (West Yunan), Singapore, Peninsula Malaysia | Deccan, Andaman and North-eastern region | Pl. Coromandel 1: 61 (1795) |
| 47 | Goniocaulon indicum (J.G.Klein ex Willd.) C.B.Clarke | Asteraceae | Н | India, Ethiopia, Myanmar, Sudan | Uttar Pradesh, Madhya Pradesh, Bihar, Central India, Deccan and West Bengal | Compos. Ind.: 236 (1876) |
| 48 | Gontscharovia popovii (B.Fedtsch. & Gontsch.) Boriss. | Lamiaceae | Н | India, Central Asia | Jammu & Kashmir | Bot. Mater. Gerb. Bot. Inst. Komarova Akad. Nauk S.S.S.R. 15: 324 (1953) |
| 49 | Gynocardia odorata R. Br. | Achariaceae | S | India, Bangladesh, Burma | Sikkim , Assam and Meghalaya | W.Roxburgh, Pl. Coromandel 3: 95 (1820) |
| 50 | Halopyrum mucronatum (L.) Stapf | Poaceae | Н | India, NE Africa, Southern Arabia, Pakistan, Sri Lanka | Maharashtra and Tamil Nadu | Hooker's Icon. Pl. 25: t. 2448 (1896) |
| 51 | Haplothismia exannulata Airy Shaw | Burmannia ceae | Н | India | Kerala | Kew Bull. 7: 277 (1952) |
| 52 | Hedinia tibetica (Thomson) Ostenf. | Brassicacea e | Н | India, Pakistan, Nepal, Bhutan, China (Tibet) and Central Asia | Jammu & Kashmir and Sikkim | S.Hedin, S. Tibet 6(3): 77 (1922) |
| 53 | Helicanthes elastica (Desr.) Danser | Loranthace ae | S | India | South India | Verh. Kon. Akad. Wetensch., Afd. Natuurk., Sect. 2, 29(6): 55 (1933) |

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|-----------|----------------------------|-------------|----|----------------------------|-----------------------|---------------------|
| 54 | Hemidesmus | Apocynacea | W | India, | North India, | W.T.Aiton, |
| | indicus (L.) R. Br. | e | С | SE Asia | Sikkim, | Hortus Kew., ed. |
| | ex Schult. | | | | southwards to | 2, 2: 75 (1811) |
| | | | | | Kerala | |
| 55 | Hemiphragma | Plantaginac | Н | India, Bhutan, | Temperate | Trans. Linn. Soc. |
| | heterophyllum | eae | | China, | Himalaya in | London 13: 612 |
| | Wall. | | | Myanmar, | Assam, Meghalaya | (1822) |
| | | | | Taiwan, | | |
| | | | | Central | | |
| | | | | Malesia | | |
| 56 | Hippobroma | Campanula | S | India, | Cultivated, also | Gen. Hist. 3: 717 |
| | longiflora (L.) | ceae | | America, | found as weed | (1834) |
| | G.Don | | | Hawaii islands, | | |
| | | | | Madagascar, | | |
| | | | | Mauritius, | | |
| | | | | South East | | |
| <i>E7</i> | I I in marata a salamata I | D1 | ŢŢ | Asia, Sri Lanka | Window | C., Dl 4 (1752) |
| 57 | Hippuris vulgaris L. | Plantaginac | Н | Subarctic and Temperate | Western to Eastern | Sp. Pl.: 4 (1753) |
| | | eae | | region of the | Himalayan region | |
| | | | | world | Tillialayan region | |
| 58 | Holmskioldia | Lamiaceae | S | India, | North East India, | Observ. Bot. 6: 31 |
|)0 | sanguinea Retz. | Lailliaceae | 3 | Myanmar, | West Himalaya | (1791) |
| | Sanguinea Retz. | | | Nepal, West | w est i iiiiaiaya | (1771) |
| | | | | Himalaya | | |
| 59 | Houttuynia | Saururaceae | Н | Himalaya to | North East India | Kongl. Vetensk. |
| | cordata Thunb. | | | Temp. E. Asia | | Acad. Nya Handl. |
| | | | | and Indo- | | 4: 149 (1783) |
| | | | | China | | , , |
| 60 | Hydrilla | Hydrochari | Н | India, Old | Throughout India | Ill. Bot. Himal. |
| | verticillata (L.f.) | taceae | | World | _ | Mts.: t. 376 (1839) |
| | Royle | | | | | |
| 61 | Hydrocera triflora | Balsaminac | Н | India, | Throughout | R.Wight, Cat. Ind. |
| | (L.) Wight & Arn. | eae | | Sri Lanka, | Bengal, Deccan | Pl.: 28 (1833) |
| | | | | Burma | Peninsula | |
| 62 | Hygroryza | Poaceae | Н | India, Sri | Throughout India | Edinburgh New |
| | aristata (Retz.) Nees | | | Lanka | | Philos. J. 15: 380 |
| | ex Wight & Arn. | | | | | (1833) |
| 63 | Indobanalia | A marar +1 | Н | In dia | Tamil Nadu | Bull. Bot. Surv. |
| 03 | thyrsiflora (Moq.) | Amarantha | п | India | rainii Nadu | India 10: 274 |
| | A.N.Henry& | ceae | | | | (1969) |
| | B.Roy. | | | | | (1707) |
| 64 | Indopiptadenia | Fabaceae | Т | India, West | Uttar Pradesh | Kew Bull. 10: 179 |
| | oudhensis (Brandis) | 1 abaccac | 1 | Nepal | Cear Francon | (1955) |
| | Brenan | | | тери | | (1/33) |
| 65 | Indopoa | Poaceae | Н | India | Western Ghats | Fl. Hassan Dist.: |
| | paupercula (Stapf) | 1 ouccae | ** | 111010 | Western Onats | 735 (1976) |
| | Bor ex | | | | | 100 (1710) |
| | Ramamoorthy | | | | | |
| 66 | Ivanjohnstonia | Boraginace | S | India | North West | Sultania 1: 1 |
| | jaunsariensis Kazmi | ae | | | Himalaya | (1975) |
| | | | | | , | |

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| 67 | Jerdonia indica Wight | Gesneriacea e | Н | India | South West region | Icon. Pl. Ind. Orient. 4: t. 1352 (1848) |
| 68 | Karnataka benthamii (C.B.Cla rke) P.K.Mukh. & Constance | Apiaceae | Н | India | Maharashtra, Karnataka | Brittonia 38: 145 (1986) |
| 69 | Kashmiria himalaica (Hook. f.) D.Y. Hong | Plantaginac eae | Н | India | Western Himalayan region | Bot. Not. 133: 565 (1980) |
| 70 | Kendrickia walkeri Hook. f. | Melastomac eae | С | India, Sri Lanka | Tamil Nadu | G.Bentham & J.D.Hooker, Gen. Pl. 1: 752 (1867) |
| 71 | Khasiaclunea oligocephala (Havil.) Ridsdale | Rubiaceae | Т | India, Burma, China | Assam, Manipur and Meghalaya | Blumea 24: 347 (1978) |
| 72 | Kigelia africana (Lam.) Benth. | Bignoniace ae | T | India, Tropical Africa | Planted in different regions | W.J.Hooker, Niger Fl.: 463 (1849) |
| 73 | Kleinhovia hospita L. | Malvaceae | Т | India, Singapore, Sri Lanka, Java, Philippines | Karnataka, Kerala and Tamil Nadu | Sp. Pl., ed. 2.: 1365 (1763) |
| 74 | Lamarckia aurea (L.) Moench | Poaceae | Н | India, Mediterranean, Middle East | North West and North India | Methodus: 201 (1794) |
| 75 | Lasiurus scindicus Henrard | Poaceae | Н | India, Iraq, Ethiopia, Egypt, Mali, Somalia, tropical Arabia | North West region | Blumea 4: 514 (1941) |
| 76 | Lawsonia inermis L. | Lythraceae | S | India, Afghanistan, Iran | Throughout India | Sp. Pl.: 340 (1753) |
| 77 | Lepionurus sylvestris Blume | Opiliaceae | ST | India, Nepal, Myanmar, S. China, Thailand, Vietnam, Malay Peninsula, Sumatra, Java and Borneo | Eastern Himalaya in Sikkim, West Bengal, Assam, Arunachal Pradesh and Meghalaya | Bijdr. Fl. Ned. Ind.: 1148 (1827) |
| 78 | Leucoblepharis subsessilis Arn. | Asteraceae | Н | India | South India | Mag. Zool. Bot. 2: 422 (1838) |
| 79 | Limnopoa meeboldii (C.E.C.F isch.) C.E.Hubb. | Poaceae | Н | India | Kerala | Hooker's Icon. Pl. 35: t. 3432 (1943) |

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|----|---|---------------------|--------|---|--|---|
| 80 | Limonia acidissima L. | Rutaceae | Т | India, Bangladesh, Pakistan, Sri Lanka | Punjab, Uttar Pradesh, West Bengal, Northeastern region, Maharashtra, Andhra Pradesh, Karnataka, Tamil Nadu, Kerala, Andaman | Sp. Pl., ed. 2.: 554 (1762) |
| 81 | Litchi chinensis Sonn. | Sapindacea e | ST | India, Borneo, Southeast China, Hainan, Jawa, Laos, Malaya, Myanmar, New Guinea, Philippines, Thailand, Vietnam | East Himalayan region including North East India and Assam, Introduced in Andaman & Nicobar islands | Voy. Indes Orient., ed. 2, 3: 255 (1782) |
| 82 | Lygeum spartum Loefl. ex L. | Poaceae | Н | India, Mediterranean | Jammu & Kashmir | Gen. Pl., ed. 5.: 522 (1754) |
| 83 | Manisuris myurus L. | Poaceae | Н | India | Southern region | Mant. Pl. 2: 300 (1771) |
| 84 | Martynia annua L. | Martyniace ae | Н | India, Mexico | Tropical and Sub tropical regions | Sp. Pl.: 618 (1753) |
| 85 | Mecopus nidulans Benn. | Fabaceae | Н | India, South China, Malaysia | Andaman islands, Himalayan regions | Pl. Jav. Rar.: 154 (1840) |
| 86 | Millingtonia hortensis L.f. | Bignoniace ae | T | India, Malesia, South East Asia | Cultivated throughout India | Suppl. Pl.: 291 (1782) |
| 87 | Mischodon zeylanicus Thwaites | Picrodendr aceae | Т | India, Sri Lanka | Southern region, Andaman | Hooker's J. Bot. Kew Gard. Misc. 6: 300 (1854) |
| 88 | Modiola caroliniana (L.) G.Don | Malvaceae | Н | W. & S. South America to S. Brazil, Introduced in India | Introduced in India | Gen. Hist. 1: 466 (1831) |
| 89 | Muntingia calabura L. | Muntingiac eae | Т | Mexico to S. Tropical America, Introduced into India | Introduced into India | Sp. Pl.: 509 (1753) |
| 90 | Myagrum perfoliatum L. | Brassicacea e | Н | India, Europe, Mediterranean | Uttar Pradesh and West Bengal | Sp. Pl.: 640 (1753) |
| 91 | Myriopteron extens um (Wight &Arn.) K. Schum. | Apocynacea e | W C | India, Bangladesh, Burma, Indonesia | Assam, NE India | H.G.A.Engler&K. A.E.Prantl, Nat. Pflanzenfam. 4(2): 215 (1895) |

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|--------|---|-------------------|----|---|---|--|
| 92 | Myriostachya wightiana (Nees ex Steud.) Hook.f. | Poaceae | Н | India, Sri Lanka, Burma, Malay Peninsula, Indo-China | Tamil Nadu | Fl. Brit. India 7: 327 (1896) |
| 93 | Nandina domestica Thunb. | Berberidace ae | S | Central & S. China, Introduced into India | Introduced in parts of North East India | Nov. Gen. Pl. 1: 14 (1781) |
| 94 | Naringi crenulata (Roxb.) Nicolson | Rutaceae | ST | India, Sri Lanka, Pakistan, Myanmar, Bangladesh, SW China, Thailand and Java | North West Himalaya, Bihar, Assam and western Peninsula | C.J.Saldanha&D. H.Nicolson, Fl. Hassan Distr.: 387 (1976) |
| 95 | Natsiatum herpeticum Buch Ham. ex Arn. | Icacinaceae | С | Bangladesh, China South- Central, East Himalaya, India, Laos, Myanmar, Nepal, Thailand, Vietnam | North East India | Edinburgh New Philos. J. 16: 314 (1834) |
| 96 | Nayariophyton zizyphifolium (Griff .) D.G.Long & A.G.Mill. | Malvaceae | Т | India, Bhutan, China | Manipur, Meghalaya, Mizoram, Sikkim and West Bengal | Edinburgh J. Bot. 47: 357 (1990) |
| 97 | Neodistemon indicus (Wedd.) Babu & A.N.Henry | Urticaceae | S | India, Burma, Indonesia | Assam and Uttarakhand | Taxon 19: 651 (1970) |
| 98 | Nicobariodendron sleumeri Vasudeva Rao & Chakrab. | Celastracea e | T | India | Nicobar Islands | J. Econ. Taxon. Bot. 7: 514 (1985 publ. 1986) |
| 99 | Nothosaerva brachiata (L.) Wight | Amarantha ceae | Н | India, Sri Lanka, Burma | Upper Gangetic Plain, Punjab, Maharashtra and Tamil Nadu | Icon. Pl. Ind. Orient. 6: 1 (1853) |
| 10 0 | Nypa fruticans Wurmb | Arecaceae | Н | India, Sri Lanka, Malay Peninsula, Australia | West Bengal | Verh. Batav. Genootsch. Kunsten 1: 349 (1779) |
| 10 | Oroxylum indicum (L.) Kurz | Bignoniace ae | Т | India, Indo- Malesia | Throughout India | Forest Fl. Burma 2: 237 (1877) |
| 10 2 | Otonephelium stipulaceum (Bedd.) Radlk. | Sapindacea e | Т | India | Peninsular India | H.G.A.Engler & K.A.E.Prantl, Nat. |

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| | | | | | | Pflanzenfam. 3(5): 329 (1895) |
|---------|--|-------------------|----|---|---|---|
| 10 3 | Pachystylidium hirsutum (Blume) Pax & K.Hoffm. | Euphorbiac eae | Н | India, Indo- China, Indonesia, Thailand | Peninsular India | H.G.A.Engler (ed.), Pflanzenr., IV, 147, IX: 108 (1919) |
| 10 4 | Pajanelia longifolia (Willd.) K.Schum. | Bignoniace ae | Т | India, Bangladesh, Burma | Meghalaya and Andaman & Nicobar Islands | H.G.A.Engler & K.A.E.Prantl, Nat. Pflanzenfam. 4(3b): 244 (1895) |
| 10 5 | Pamburus missionis (Wall. ex Wight) Swingle | Rutaceae | ST | India, Sri Lanka | Peninsular region and West Bengal | J. Washington Acad. Sci. 6: 338 (1916) J. Washington Acad. Sci. 6: 338 (1916) |
| 10 6 | Pangium edule Reinw. | Achariaceae | Т | India, Malaysia and Micronesia | Great Nicobar Islands | Syll. Pl. Nov. 2: 12 (1825) |
| 10 7 | Parakaempferia synantha A.S.Rao &D.M.Verma | Zingiberace ae | Н | India | Assam | Bull. Bot. Surv. India 11: 206 (1968 publ. 1971) |
| 10 8 | Paroxygraphis sikkimensis W.W.Sm. | Ranunculac eae | Н | India, Nepal and Bhutan | Sikkim | Rec. Bot. Surv. India 4: 344 (1913) |
| 10 9 | Pauldopia ghorta (BuchHam. ex G.Don) Steenis | Bignoniace ae | С | India, China, SE Asia | North-eastern region | Acta Bot. Neerl. 18: 427 (1969) |
| 11 0 | Pedalium murex L. | Pedaliaceae | Н | India, Sri Lanka, tropical Africa | Deccan peninsular region | Syst. Nat., ed. 10. 2: 1123 (1759) |
| 11 1 | Pentapetes phoenicea L. | Malvaceae | Н | India, Burma | Throughout the hotter parts and western Peninsula | Sp. Pl.: 698 (1753) |
| 11 2 | Peracarpa carnosa (Wall.) Hook. f. & Thomson | Campanula ceae | Н | India, Myanmar, South China, Indo-China, Thailand to Malaysia | Eastern and Western Himalaya, NE region in hills, and Andaman & Nicobar Islands | J. Proc. Linn. Soc., Bot. 2: 26 (1857) |
| 11 3 | Perilla frutescens (L.) Britton | Lamiaceae | Н | S. Russian Far East to India, Pakistan, Bangladesh | Throughout India | Mem. Torrey Bot. Club 5: 277 (1894) |
| 11 4 | Phaenosperma globosum Munro ex Benth. | Poaceae | Н | India, China, Bhutan, South Tibet | North-eastern region, Eastern Himalaya | J. Linn. Soc., Bot. 19: 59 (1881) |
| 11 5 | Philydrum lanuginosum Banks & Sol. ex Gaertn. | Philydracea e | Н | India, Australia, China, Burma, Malay Peninsula | Andaman & Nicobar Islands | Fruct. Sem. Pl. 1: 62 (1788) |

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| 11 6 | Pistia stratiotes L. | Araceae | Н | India, Sri Lanka, tropics of the world | Throughout India | Sp. Pl.: 963 (1753) |
| 11 7 | Plagiopteron suaveo lens Griff. | Celastracea e | W C | India, South- West China | North-eastern region | Calcutta J. Nat. Hist. 4: 244 (1843) |
| 11 8 | Platystemma violoides Wall. | Gesneriacea e | Н | India, China, Laos, Malaya, Myanmar, Nepal, Thailand, Tibet, Vietnam | Throughout India | Pl. Asiat. Rar. 2: 42 (1831) |
| 11 9 | Pogonachne racemosa Bor | Poaceae | Н | India | Maharashtra | Kew Bull. 4: 176 (1949) |
| 12 0 | Polytrias indica (Houtt.) Veldkamp | Poaceae | Н | India, SE Asia | West Bengal, Assam | Blumea 36: 180 (1991) |
| 12 | Polyura geminata (Wall. ex G.Don) Hook.f. | Rubiaceae | Н | India, Bhutan | Meghalaya and Arunachal Pradesh | Hooker's Icon. Pl. 11: t. 1049 (1868) |
| 12 2 | Pommereulla cornucopiae L.f. | Poaceae | Н | India, Sri Lanka | South Indian region | Suppl. Pl.: 105 (1782) |
| 12 3 | Pongamia pinnata (L.) Pierre | Fabaceae | T | Tropical & Subtropical Asia to West Pacific | Throughout India | Fl. Forest. Cochinch. 4: t. 385 (1898) |
| 12 4 | Pseudodichanthiu m serrafalcoides (Coo ke & Stapf) Bor | Poaceae | Н | India, Oman | Maharashtra | Indian Forester 66: 272 (1940) |
| 12 5 | Pseudodiplospora andamanica (N.P.Balakr. & N.G.Nair) Deb | Rubiaceae | Т | India | Andaman Islands | Phytotaxonomy 1: 53 (2001) |
| 12 6 | Pseudostachyum polymorphum Munro | Poaceae | Н | India, Burma | Assam, Eastern Himalayan region | Trans. Linn. Soc. London 26: 142 (1868) |
| 12 7 | Pubistylus andamanensis Thoth. | Rubiaceae | ST | India | Andaman & Nicobar Islands | Reinwardtia 7: 283 (1966) |
| 12 8 | Pycnoplinthus uniflora (Hook. f. & Thomson) O.E. Schulz. | Brassicacea e | Н | India (Himalaya), Pakistan and China (Tibet) | Himalayan region | H.G.A.Engler (ed.), Pflanzenr., IV, 105(86): 199 (1924) |
| 12 9 | Pycnospora lutescens (Poir.) Schindl. | Fabaceae | Н | India, Tropics of the Old World | Throughout India | J. Bot. 64: 145 (1926) |
| 13 0 | Quassia amara L. | Simaroubac eae | S | India (Introduced), Central Mexico to S. | Introduced into India as ornamental | Sp. Pl., ed. 2.: 553 (1762) |

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| | | | | Tropical America | | |
| 13 1 | Ricinus communis L. | Euphorbiac eae | S | India (Cultivated and Naturalized), Asia, Tropical Africa | Cultivated and Naturalized in India | Sp. Pl.: 1007 (1753) |
| 13 2 | Risleya atropurpurea King &Prantl. | Orchidacea e | E H | India (East Himalaya), China, Myanmar, Tibet | East Himalaya, Sikkim | Ann. Roy. Bot. Gard. (Calcutta) 8: 247 (1898) |
| 13 | Rivina humilis L. | Petiveriacea e | S | India, Asia, Tropical America | Cultivated and Naturalized in India | Sp. Pl.: 121 (1753) |
| 13 4 | Roylea cinerea (D.Don) Baill. | Lamiaceae | U S | India, Nepal | Western Himalayan region | Hist. Pl. 11: 26 (1891) |
| 13 5 | Sanjappa cynometroides (Bedd.) E.R.Souza & Krishnaraj | Fabaceae | S | India | Kerala | Rheedea 26: 6 (2016) |
| 13 6 | Sarcochlamys pulcherrima (Roxb.) Gaudich. | Urticaceae | S | India, Bangladesh, Burma, Sumatra | Assam and Meghalaya | Voy. Bonite, Bot. 3: t. 89 (1844) |
| 13 7 | Schizolobium parahyba (Vell.) S.F.Blake | Fabaceae | Т | India (Introduced), South American countries | Introduced in India | Contr. U.S. Natl. Herb. 20: 240 (1919) |
| 13 8 | Schleichera oleosa (Lour.) Oken | Sapindacea e | Т | Indian Subcontinent to Indo-China, Central & S. Malesia | Sub Himalayan, central and peninsular India | Allg. Naturgesch. 3(2): 1341 (1841) |
| 13 9 | Scyphiphora hydrophylacea C.F.Gaertn. | Rubiaceae | T | India, Australia, Caledonia | Andaman islands and Karnataka | Suppl. Carp.: 91 (1806) |
| 14 0 | Soymida febrifuga (Roxb.) A.Juss. | Meliaceae | T | India, Tropical Asia | Central, North West and South India | Mém. Mus. Hist. Nat. 19: 251 (1832) |
| 14 1 | Spartium junceum L. | Fabaceae | S | Azores, South Europe to East Medit. region | Introduced in India | Sp. Pl.: 708 (1753) |
| 14 2 | Spathodea campanulata P.Bea uv. | Bignoniace ae | T | India, Tropical Africa | Cultivated in India | Fl. Oware 1: 47 (1805) |
| 14 3 | Spermadictyon suaveolens Roxb. | Rubiaceae | U S | India, Bhutan, China, Pakistan | Tropical and subtropical Himalaya, Madhya Pradesh, western | Pl. Coromandel 3: 32 (1815) |

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| | | | | | Peninsula, Bihar and Karnataka | |
| 14 | Sphaerocaryum malaccense (Trin.) Pilg. | Poaceae | Н | India, Sri Lanka, Burma, SE Asia, China | Assam and Manipur | Repert. Spec. Nov. Regni Veg. 45: 2 (1938) |
| 14 5 | Sphaerosacme decandra (Wall.) T.D.Penn. | Meliaceae | Т | India, Bhutan, Nepal | Sikkim | Blumea 22: 489 (1975) |
| 14 6 | Stilbanthus scandens Hook. f. | Amarantha ceae | С | India, Bangladesh | Eastern Himalayan region | Hooker's Icon. Pl. 13: t. 1286 (1879) |
| 14 7 | Struchium sparganophorum (L.) Kuntze | Asteraceae | Н | India, Africa, Mexico, South America, West Indies | Nicobar Islands and Kerala | Revis. Gen. Pl. 1: 366 (1891) |
| 14 8 | Sumbaviopsis albicans (Blume) J.J.Sm. | Euphorbiac eae | Н | India, China (S. Yunnan), Malesia,Thaila nd | Assam, Arunachal Pradesh, Nagaland, Tripura, West Bengal | Meded. Dept. Landb. NedIndië 10: 357 (1910) |
| 14 9 | Suriana maritima L. | Surianaceae | ST | India, Pakistan, Sri Lanka | Andaman & Nicobar Islands, Lakshadweep and Tamil Nadu | Sp. Pl.: 284 (1753) |
| 15 | Tamarindus indica L. | Fabaceae | Т | India, Tropical Africa | Throughout India | Sp. Pl.: 34 (1753) |
| 15 1 | Tamilnadia uliginosa (Retz.) Tirveng. & Sastre | Rubiaceae | ST | Indian Subcontinent to Indo-China | Throughout India | Mauritius Inst. Bull. 8(4): 85 (1979) |
| 15 2 | Tecomella undulata (Sm.) Seem. | Bignoniace ae | ST | India, Pakistan, SW Asia | West, Punjab, Gujarat and Rajasthan | Ann. Mag. Nat. Hist., ser. 3, 10: 30 (1862) |
| 15 3 | Tetracentron sinense Oliv. | Trochoden draceae | Т | India, Bhutan, Burma, SW China | Eastern Himalayan region | Hooker's Icon. Pl. 19: t. 1892 (1889) |
| 15 4 | Tetrameles nudiflora R.Br. | Tetrameliac eae | Т | China (S. Yunnan) to Tropical Asia including India and N. Queensland | East Himalayan region including Assam and Andaman Nicobar Islands | J.J.Bennett, Pl. Jav. Rar.: 79 (1838) |
| 15 5 | Thelepogon elegans Roth | Poaceae | Н | India, Tropical Africa | Madhya Pradesh, Maharashtra and Tamil Nadu | J.J.Roemer & J.A.Schultes, Syst. Veg., ed. 15[bis]. 2: 788 (1817) |
| 15 6 | Theropogon pallidus (Wall. ex Kunth) Maxim. | Asparagace ae | Н | India, China, Myanmar, Nepal, Tibet | Temperate Himalaya, Meghalaya and Sikkim | Bull. Acad. Imp. Sci. Saint- Pétersbourg, sér. 3, 15: 90 (1870) |

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| 15 7 | Thysanolaena latifolia (Roxb. ex Hornem.) Honda | Poaceae | Н | India, tropical Asia | Throughout India | J. Fac. Sci. Univ. Tokyo, Sect. 3, Bot. 3: 312 (1930) |
|---------|---|--------------------|--------|--|--|---|
| 15 8 | Tinomiscium petiolare Miers ex Hook.f. & Thomson | Menisperm aceae | W C | India, China, Myanmar, Vietnam, Thailand, Malaysia, Indonesia, Philippines to New Guinea | Assam and Andaman & Nicobar Islands | Fl. Ind. 1: 205 (1855) |
| 15 9 | Treutlera insignis Hook.f. | Apocynacea e | W C | India, Nepal | Eastern Himalayan region | Hooker's Icon. Pl. 15: t. 1425 (1883) |
| 16 0 | Trichuriella monsoniae (L.f.) Bennet | Amarantha ceae | Н | India, Burma | Orissa, West Bengal and the Deccan Peninsula | Indian J. Forest. 8: 86 (1985) |
| 16 1 | Trilobachne cookei (Stapf) Schenck ex Henrard | Poaceae | Н | India, Myanmar | Maharashtra and Karnataka | Meded. Rijks- Herb. 67: 4 (1931) |
| 16 2 | Triplopogon ramosissimus (Hack.) Bor | Poaceae | Н | India | Maharashtra | Kew Bull. 9: 501 (1954) |
| 16 | Tussilago farfara L. | Asteraceae | Н | India, Africa, Mexico, South America, West Indies | Nicobar Islands and Kerala | Sp. Pl.: 865 (1753) |
| 16 4 | Urochondra setulosa (Trin.) C.E.Hubb. | Poaceae | Н | India, Pakistan, NE tropical Africa | Gujarat | Hooker's Icon. Pl. 35: t. 3457 (1947) |
| 16 5 | Vanasushava pedata (Wight) P.K.Mukh. & Constance | Apiaceae | Н | India | Southern India | Kew Bull. 29: 595 (1974) |
| 16 6 | Vossia cuspidata (Roxb.) Griff. | Poaceae | Н | India, Burma, tropical Africa | Assam and West Bengal | Ic. Pl. Asiat.: t. 153 (1851) |

N.B.: H: Herb; EH: Epiphytic herb; S: Shrub; US: under shrub; T: Tree; ST: Short tree; C: Climber; WC: Woody climber