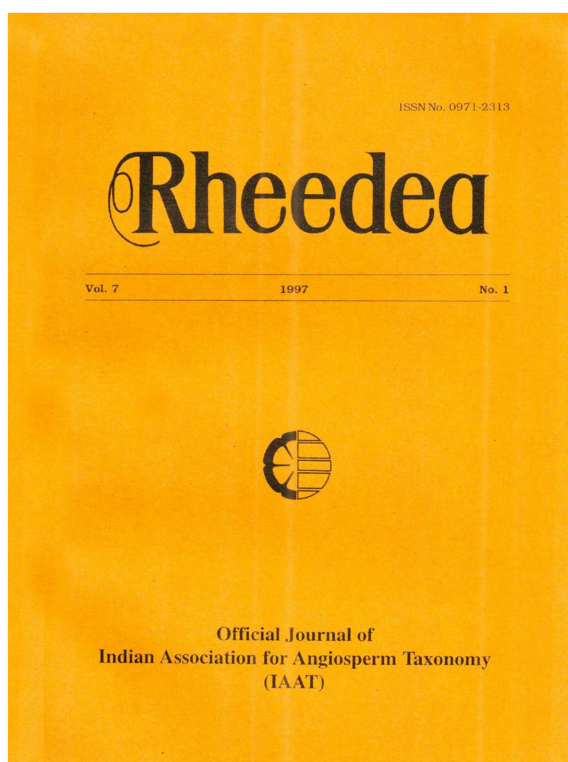




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Identity, nomenclature and distribution of some rare flowering plants of Orissa and its adjoining states in India

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Abstract

Nomenclature and distribution of *Aglaia haslettiana* Haines, *Weihea ceylanica* (Gardn.) Baill., *Indochloa clarkei* (Hack.) Bor, *Lasiococca comberi* Haines, *Mucuna minima* Haines, *Tragia gagei* Haines, *Pomatocalpa decipiens* (Lindl.) J.J. Sm., *Cedrela brevipetiolulata* Haines and *Uvaria eucineta* Bedd. ex Dunn which are rare and so far considered as endemic to Orissa and the adjoining states of Andhra Pradesh, Madhya Pradesh and Bihar have been discussed.

INTRODUCTION

Nayar *et al.* (1984) published an account of the endemic and rare plants of Eastern Ghats comprising the states of Orissa, Andhra Pradesh, Karnataka and Tamilnadu on the basis of survey of floristic and pytogeographical literature, and study of herbarium specimens housed in the Central National Herbarium (CAL). Saxena and Brahman (1983) also brought out a list of endemic and rare plants of Orissa state with notes on their occurrence and distribution; and classified them into conservation status categories defined by IUCN. In connection with a study of the conservation status of some selected rare/endangered and endemic flowering plants of Orissa, the authors observed that while nomenclatural changes have been effected to some of the plant species, others have been reduced to taxonomic synonyms of taxa wide-spread in other parts of the world; and the range of distribution of some species have been found to be extended to greater geographical areas than reported earlier. Correct name, synonym(s), notes on nomenclature, distribution, abundance, rarity etc. in respect of nine such selected rare and endangered flowering plants of Orissa and its adjoining states of Andhra Pradesh, Madhya Pradesh and Bihar are presented in this paper. Of these, four species namely, *Aglaia haslettiana* Haines, *Cedrela brevipetiolulata* Haines, *Mucuna minima* Haines and *Tragia gagei* Haines have been reduced to taxonomic synonyms of taxa widely distributed in the tropics. These information may be useful to assess the present status of these rare plant species in the wild and to formulate appropriate conservation strategies in future. In the enumeration, these nine taxa have been arranged alphabetically by their correct botanical names.

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Aglaia lawii (Wt.) Sald. & Ramam. in Sald. & Nicols. Fl. Hassan Dist. 392. 1976; Pannell, Tax. Monogr. *Aglaia* 97. 1992. *Nimmoia lawii* Wight, Calc. Jour. Nat. Hist. 7: 13. 1847. *Epicharis exarillata* Nimmo in J. Graham, Cat. Pl. Bombay 31: 227. 1839, *non* Arn. (1834). *nom. superfl. illegit.* *Aglaia haslettiana* Haines, J. Asiat. Soc. Beng. (N.S.) 15:312. 1919 & Bot. Bihar & Orissa 1:187. 1921; Panigrahi & Mishra, Ind. J. For. 11(2): 134. 1988; Saxena & Brahmam, Fl. Orissa 1:1994. *Amoora lawii* (Wt.) Bedd., Fl. Sylv. t. 133. 1871; Hiern in Hook. f., Fl. Brit. India 1: 561. 1875. *Aglaia jainii* Viswanathan & Ramachandran, Bull. Bot. Surv. India 24: 212. 1982. *Aglaia tamilnadensis* Nair & Rajan in Nair & Henry, Fl. Tamilnadu 1:66. 1983. *Aphanamixis chittagonga* sensu Haridasan & Rao For. Fl. Meghalaya 1:205. 1985. (MELIACEAE)

Haines (1919) described *Aglaia haslettiana* as a new species based on his own collections from Puri and Angul in Orissa which were without fruits. Few of his specimens including types are available at CAL, DD and K. This has never been collected from Orissa state during the last 70 years. Pannell (1992) studied the type specimens available at Kew Herbarium (Orissa, Puri, Selangpara to Barbara, 21.4.1917. *H.H. Haines 5546-b*) and reduced it to a taxonomic synonym of *Aglaia lawii* (Wt.) Sald. et Ramam. Therefore, the species is no more endemic to Orissa as stated by Saxena and Brahmam (1994), and Panigrahi and Mishra (1988), and is a wide-spread taxon occurring in India, Indo-China and South-East Asia.

Distribution: India, Bhutan, Burma, Laos, Vietnam, China, Taiwan, Thailand, Malaysia, Sumatra, Borneo, Philippines, Java, New Guinea.

Cassipourea ceylanica (Gardn.) Alston, Kew Bull. 1925: 251. 1925; Macnae & Fosberg in Dassan. & Fosberg, Rev. Handb. Fl. Ceylon 2:498. 1981. *Anstrutheria ceylanica* Gardn., Calcutta J. Nat. Hist. 6:345, t. 4. 1846. *Weihea ceylanica* (Gardn.) Baill., Adansonia 1, 3:38 1862. 'zeylanica'; Haines, Bot. Bihar & Orissa 2:350. 1922; Gamble, Fl. Pres. Madras 1: 460. 1919. *Richiaea zeylanica* O. Kuntze, Rev. Gen. 1:235. 1891. (RHIZOPHORACEAE).

In India, *Cassipourea ceylanica* (Gardn.) Alston is reported to occur in the hills of Travancore and Tinnevely in Western Ghats at low elevations (Gamble, 1915), and in the rocky islands of Chilka lake in Orissa (Haines, 1922). There are few old collections of the species from Chilka lake, Courtallam, Madras coast and Tinnevely at K, CAL and MH and it is poorly represented in Indian herbaria. Very little information is available on the size and structure of the population of the species in the Western Ghats.

From the specimens cited by Macnae and Fosberg (1981) and those available at CAL and K, it appears that the species is common in most parts of Sri Lanka. The wild population of this species occurring in the rocky margins of Chilka lake has been depleted substantially due to habitat loss and biotic interferences of several categories and magnitudes, and is now restricted to few localities in Ghantasila, Badakuda and Sanakuda islands. The plants found in the islands of Chilka lake have always 5-merous flowers and narrow thick leaves. A critical study is needed especially

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on the population biology of the taxon to assess its conservation value and take appropriate conservation measures.

Distribution: India (Tamil Nadu and Orissa) and Sri Lanka.

Euclasta clarkei (Hack.) Cope, Kew Bull. 35(3): 704. 1980; Panda *et al.*, J. Econ. Tax. Bot. 12(2): 381. 1988. *Andropogon clarkei* Hack., Obs. Bot. Zeit. 41: 49. 1891. *Dichanthium clarkei* (Hack.) Haines, Bot. Bihar and Orissa 3:1040. 1924. *Indochloa clarkei* (Hack.) Bor, Kew Bull. 1954: 76. 1954 & Grass. Burm. Ceyl. Ind. & Pak. 171. 1960. (POACEAE)

Bor (1960) stated that this grass occurs in Bihar and Rajasthan states of India and cited a specimen of C.B. Clarke (*No.33780-K!*) collected from Parasnath hills of Bihar. Karthikeyan (1983) listed it as an endemic and rare species of Indian grass. Occurrence of the taxon in Orissa (Panda *et al.*, 1988) is a record of its extended range of distribution in eastern part of India and is of considerable phytogeographical importance.

Distribution: Endemic to India (Bihar, Orissa & Rajasthan).

Lasiococca comberi Haines, Bull. Misc. Inf. Kew 1920: 70. 1920 & Bot. Bihar & Orissa 110. 1925; Gamble, Fl. Pres. Madras 2: 1334. 1925 var. **comberi** (EUPHORBIACEAE)

Airy-Shaw (1963) treated *Mallotus pseudoverticillatus* Merr. as a synonym of *Lasiococca comberi* Haines and reported the extended distributional range of the latter to Taiwan and China. However, Kiu (1982) reduced *M. pseudoverticillatus* Merr. to a new variety of *Lasiococca comberi* Haines. In his opinion, *L. comberi* Haines var. *pseudoverticillata* (Merr.) Kiu is restricted to Taiwan and *L. comberi* Haines var. *comberi* is endemic to the states of Orissa and Andhra Pradesh in India. This species has earlier been reported to occur in Vishakhapatnam district of Andhra Pradesh (Gamble, 1925) and hilly forests of Puri, Angul and Mayurbhanj of Orissa (Haines, 1921-25). There are many recent collections from Barbara - Dhuanali - Sankhajari forests of Puri forest division of Orissa by the authors.

Distribution: Endemic to India (Orissa & Andhra Pradesh)

Mucuna pruriens (L.) DC., Prodr. 2:405. 1825; Wilmot- Dear, Kew Bull.42(1): 46. 1987; Rudd in Dassan. & Fosberg, Rev. Handb. Fl. Ceylon 7: 262. 1991. *Dolichos pruriens* L. in Stickman, Dis. Herb. Amboin. 23. 1754. *Mucuna minima* Haines, J. Asiat. Soc. Beng. (N.S.) 15: 313. 1919; Saxena & Brahmam, Fl. Orissa 1:561. 1994. *M. nivea* (Roxb.) DC., Prodr. 2:406. 1825; Bairiganjan *et al.*, J. Econ. Tax. Bot. 7(2): 267. 1985; Saxena & Brahmam, Fl. Orissa 1:562. 1994. *M. pruriens* (L.) DC. var. *utilis* (Wt.) Burck, Ann. Jard. Buitenzorg 11: 187. 1893. (FABACEAE)

According to Rudd (1991), *Mucuna nivea* (Roxb.) DC. and *M. pruriens* (L.) DC. var. *utilis* (Wt.) Burck are the cultivated forms of *M. pruriens* (L.) DC. differing only in the length of

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inflorescences, pubescence on leaves and colour of flowers. The description provided for *M. pruriens* (L.) DC. covers fairly well the morphological differences found among the cultivated varieties and the wild species. Haines (1923) was also of the same opinion on taxonomic treatment of *M. pruriens* complex. While describing *M. minima* as a new species collected from forest near Larasara in Sambalpur district of Orissa, Haines (*l.c.*) observed.. "very exceptional unfortunately no time to collect more than a single specimen. This solitary one has been deposited in CAL with specimens of the other plants here described. The fruit is still unknown and the plant should be looked for in grass glades in the Sambalpur, Bambra and Rairakhol forests. It possibly extends its distribution to Madras."

The description provided by Haines (*l.c.*) was, therefore, based on vegetative characters, and the plant has never been collected from the type locality or elsewhere during the last 70 years or so. According to Wilmot-Dear (1987), *Mucuna minima* Haines almost certainly belongs to *M. pruriens* (L.) DC. and is a small-leaved and small-flowered form of *M. pruriens* (L.) DC. var. *utilis* (Wt.) Burck. Attempts should be made to collect flowering and fruiting specimens of this taxon for its correct identification. Until then, we prefer to keep this as a taxonomic synonym of *Mucuna pruriens* (L.) DC.

Distribution: Throughout the tropics and sub-tropics of the world.

Pachystylidium hirsutum (Bl.) Pax & Hoffm. in Engl., Pflanzenfam. ix-xi: 108. 1919; Airy-Shaw, Kew Bull. 23(1): 115. 1969; Backer & Bakh. f., Fl. Java 491. 1965. *Tragia hirsuta* Bl., Bijdr. 630. 1825. *Tragia gagei* Haines, J. Asiat. Soc. Beng. (N.S.) 15: 317. 1919 & Bot. Bihar & Orissa 116. 1921. (EUPHORBIACEAE)

Airy-Shaw (1963) reduced *Tragia gagei* Haines to a taxonomic synonym of a wide-spread species of *Pachystylidium* Pax & Hoffm. which is closely related to *Tragia* L. but only differing in the very short thick styles connate into a short conical column below and shortly divergent above, and in the widely-expanded subconvex male perianth, with only 2 stamens having sub-sessile anthers. The species has never been collected from the region for quite long.

Distribution: Eastern Peninsular India (Orissa, Madhya Pradesh & Andhra Pradesh), Laos, Cambodia, Cochinchina, Philippines and China.

Pomatocalpa decipiens (Lindl.) J.J. Sm., Naturw. Tijdschr. Ned. Indie 72: 33. 1912; Jayaweera in Dassan. & Fosberg, Rev. Handb. Fl. Ceylon 2: 235. 1985; Panda & Patnaik, J. Econ. Tax. Bot. 8(2): 475. 1986. *Cleisostoma decipiens* Lindl., Bot. Reg. 30. Misc. 11. 1844. *Saccolabium decipiens* Alston in Trimen, Handb. Fl. Ceylon 6: 278. 1931. *Cleisostoma thwaitesianum* Trimen, J. Bot. 23: 244. 1885. (ORCHIDACEAE)

This rare species of orchid was thought to be endemic to Sri Lanka for quite long (Jayaweera, 1981; Bandaranaike & Sultanbawa, 1991) and was reported to occur in Anuradhapura, Colombo,

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Kandy and Badulla districts of Sri Lanka. A single specimen collected in March, 1893 from Royal Botanic Gardens, Peradeniya growing wild on trees, is available at K. Its occurrence in Orissa (Panda & Patnaik, 1986) is a record of its extended range of distribution of the species in India and is of considerable phytogeographical significance.

Distribution: Sri Lanka and India (Orissa).

Toona sureni (Bl.) Merr. var. **celebica** (Koorders) Bahadur, Monogr. *Toona* 133. 1988. *Cedrela celebica* Koorders, Mededeel. Pl. 19: 384. 1898. *Cedrela brevipetiolulata* Haines, Bot. Bihar & Orissa 1:174. 1921. *Toona ciliata* M.J. Roem. var. *brevipetiolulata* (Haines) S.C. Mishra & Panigrahi, Ind. J. For. 11(2): 140. 1988. (MELIACEAE).

While describing *Cedrela brevipetiolulata*, Haines (1921) stated that "The flower and fruit have not been seen by me" and apprehended that the specimen *Barber 5774* from Anamalais (Tamil Nadu) without flowers and fruits is the same as this. In consideration of minor differences in vegetative characters, Panigrahi and Mishra (1988) reduced this to a subspecies of *Toona ciliata* Roem., a treatment followed by Saxena and Brahmam (1994). Bahadur (1988) studied the type material of *C. brevipetiolulata* Haines from Orissa (Puri, December, 1915. *H.H. Haines* 3886) available at K, relevant literature and reduced it to a synonym of *Toona sureni* (Bl.) Merr. var. *celebica* (Koorders) Bahadur.

Distribution: India, China, Philippines and Indonesia.

Uvaria eucineta Bedd. ex Dunn, Kew Bull. 1914: 182. 1914; Gamble, Fl. Pres. Madras 1: 13. 1915; Mitra, Fasc. Fl. India 10:15. 1982; Ramesh in Sald., Fl. Karnataka 1:50. 1984; Saxena & Brahmam, Fl. Orissa 1:28. 1994; Nayar & Sastry, Red Data Book Ind. Plants 2:17. 1988. (ANNONACEAE).

The species was collected from the sal forests of Bhanjanagar in Ganjam district of Orissa by R.H. Beddome in 1880 and was described in 1914. This has never been collected from the type locality during the last 100 years or more. *Uvaria eucineta* Bedd. ex Dunn is represented at CAL and MH by only two old collections from this locality and until recently the species was considered to be endemic to the hill forests of Russelkonda-Ghumsoor-Karchuli (Bhanjanagar) in Ganjam district of Orissa (Saxena & Brahmam, 1994; Nayar & Sastry, 1988). However, according to Ramesh (1984) it is common in moist-deciduous to semi-evergreen forests of Eastern and Western Ghats. He also cited several specimens collected from Chikmagalur, Hassan and Kodagu districts of Karnataka in the Flora. Therefore, the taxon is no more endemic to Orissa and extends its distributional range to the state of Karnataka also. Detailed field data is essential in respect of the species in Karnataka to assess its conservation status.

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