

# Species

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## *Acrocarpus fraxinifolius* Arn. (Leguminosae- Caesalpinioideae), a tree species new to flora of Odisha

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**ABSTRACT**

The wild occurrence of *Acrocarpus fraxinifolius* Arn., a leguminous tree, is reported for the first time for the flora of Odisha from Koraput district. Nomenclature, diagnostic morphological features, notes on phenology, habitat preference, pattern of distribution and colour field photograph of the species are provided here.

**Key words:** *Acrocarpus fraxinifolius*, Leguminous tree, New Record, Odisha.

**1. INTRODUCTION**

The genus *Acrocarpus* Wt. & Arn. is a monotypic genus of the family Fabaceae (Leguminosae -Caesalpinioideae) having a single species namely, *Acrocarpus fraxinifolius* Arn. (Mabberley, 2017). The species, also known as Pink Cedar, Indian ash or Shingle tree, is native to Bangladesh, Bhutan, China, India, Indonesia, Laos, Myanmar, Nepal and Thailand Sanjappa, 1992). Over the years, it has been introduced into several countries in Africa, North America and Asia. The tree is much utilized for its timber for making of furniture, cabinets and tea boxes. Though the wood is used for paper pulp, it is considered inferior for that purpose. Because of its colourful new foliage and beautiful display of flowers when the tree is leafless, it is quite often grown as an ornamental plant in the tropics. The species is considered as a good source of nectar and a bee forage. Being a fast-growing tree and a natural colonizer, the species is preferred for reclamation and revegetation of degraded sites and disturbed habitats. In addition, *A. fraxinifolius* tree is grown as a shade tree for coffee, tea and other plantations in tropical countries, especially in India (Nath *et al.*, 2011).

While making plant biodiversity inventory in Koraput District of Odisha during 2020-21, the authors came across an interesting tree with dense, axillary racemes, spectacular scarlet-coloured flowers and coral-red new foliage. On critical examination of the plant specimens and thorough scrutiny of literature, it could be identified as *Acrocarpus fraxinifolius* Arn. (Leguminosae -Caesalpinioideae). In India, the species is reported to occur in

the states of Assam, Meghalaya, Arunachal Pradesh, Sikkim, Uttarakhand, West Bengal, Tamilnadu, Karnataka, Andhra Pradesh and Kerala; also introduced in Punjab and Himachal Pradesh (Ghildyal, 1989; Ashwath et al., 2020). The present report on occurrence of *Acrocarpus fraxinifolius* Arn. in Odisha state is of special interest and forms a new distributional record for the state. With this, the range of species distribution is further extended to North-Eastern part of Eastern Ghats of India. The correct name, synonyms, diagnostic morphological characters, flowering and fruiting time, details of specimen studied and colour illustrations of the taxon are given below. The voucher specimens of the species have been deposited in the herbarium of Centre for Biotechnology (CBT), Siksha O Anusandhan University, Bhubaneswar, Odisha.

## 2. TAXONOMIC TREATMENT

*Acrocarpus fraxinifolius* Arn., Mag. Zool. Bot. 2: 547. 1838; Hook. f., Fl. Brit. India 2: 292. 1878; Gamble, Fl. Pres. Madras 397(281). 1919; Sanjappa, Legumes Ind. 1. 1992. *A. combretiflorus* Teism. & Binn. Natuurk. Tijdschr. Ned.-Indie 29:285.1867. *A. fraxinifolius* var. *guangxiensis* X. L. Mo & Y. Wei, Acta Phytotax. Sin. 18: 233. 1980. *A. grandis* (Miq.) Miq. in Ann. Mus. Bot. Lugduno-Batavi 3: 87.1867. *Mezoneuron grande* Miq. in Fl. Ned. Ind. Eerste Bijv.: 291. 1861 (Figure-1).

*Illustration:* Robert Wight, Icon. Plant. Ind. Orient. 2: no. 2466. 1840.

**Botanical description:** Large deciduous trees, up to 40 m tall; trunk buttressed, bark light-grey, blaze dull red. Leaves compound, bipinnate, very large (30-40 cm), bipinnate, paripinnate, with three to five pairs of pinnae; rachis up to 16 cm, with prominent pulvinus; each pinna having 5-6 pairs of leaflets; blade 5-14 X 2-5 cm, elliptical or oblong, apex acute to acuminate to acuminate, slightly oblique at base, margin entire, glabrous, sub-coriaceous; midrib raised; secondary nerves 8-12 pairs; new foliage coral-red giving the tree its characteristic appearance. Flowers bisexual, green, in dense, axillary, long racemes, erect at first, later deflexed. Calyx tube bell-shaped, lobes five, ovate or triangular, shortly-hairy outside. Petals five, free, oblong, unequal. Stamens five, alternating with petals, much exserted, crimson red in colour. Ovary long stalked, stipitate, compressed, with several ovules; style curved inwards; stigma very small. Pods purplish brown, dehiscent, ligulate, 8-15 × 1-2 cm, narrowly winged along ventral suture; seeds 8-12, light brown, obovate, compressed.

**Flowering:** January-February

**Fruiting:** April-June.

**Distribution:** The species is native to the tropical regions of Asia and distributed in countries like Bangladesh, Bhutan, China, India, Indonesia, Laos, Myanmar, Nepal and Thailand. In India, it grows Assam, Meghalaya, Arunachal Pradesh, Sikkim, Uttarakhand, West Bengal, Tamilnadu, Karnataka, Kerala and Odisha (present report); also introduced in Punjab and Andhra Pradesh.

**Ecology:** *Acrocarpus fraxinifolius* grows in moist deciduous forests at higher altitudes. It is a pioneer species and first colonizer in open spaces and hence demands light for better growth. The species is used as a shade tree in coffee and tea plantations, reforestation of degraded forests, reinforcing riverbanks, stabilizing terraces and for soil enrichment.

**Herbarium specimen studied:** India: Odisha: Koraput district, Jeera village (N 18°22'44.7" and E 82°46'45.2", 972 msl), 14.12.2019, Prabhat Kumar Das and Pradeep Kumar Kamila 2343 (CBT).



**Figure 1:** Vegetative and floral parts of *Acrocarpus fraxinifolius* Arn. a. Trunk and bark; b. Mature twig; c. New foliage; d. Inflorescence; e. Flowers; f. Pods.

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**Ethical approval**

*Acrocarpus fraxinifolius* Arn. (Leguminosae-Caesalpinioideae), a tree species from Odisha was reported in the study. Divisional Forest Officer, Koraput Forest Division, Koraput was given approval for field work. The ethical guidelines for plants & plant materials are followed in the study for sample collection & identification.

**Authors' contribution:**

All authors have contributed equally to manuscript.

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**Conflicts of interests**

The authors declare that there are no conflicts of interests.

**Data and materials availability**

All data associated with this study are present in the paper.

**REFERENCES AND NOTES**

1. Ashwath MN, Satish BN, Devagiri GM, Hegde RK and Hareesh TS. 2020. Variation in growth traits of *Acrocarpus fraxinifolius* Wight & Arn. populations in Southern Karnataka, India. *Int. J. Curr. Microbiol. App. Sci.* 9(08):1838-1843.
2. Ghildyal BN. 1989. Introduction to *Acrocarpus fraxinifolius* - A fast growing species for social forestry in Himachal Pradesh. *Indian Forester* 115(7):455-458.
3. Mabberley DJ. 2017. *Mabberley's Plant-Book: A portable dictionary of plants, their classification and uses.* 4th edition. Cambridge University Press. Cambridge, UK.
4. Nath CD, Pelissier R, Ramesh BR and Garcia C. 2011. Promoting native trees in shade coffee plantations of southern India: comparison of growth rates with the exotic *Grevillea robusta*. *Agroforest Syst.* 83:107-119.
5. Sanjappa M. 1992. *Legumes of India*, Bishen Singh Mahendra Pal Singh, Dehra Dun, pp.338.