

## First record of occurrence of the tree species *Nothopegia racemosa* (Dalz.) Ramamurthy (Anacardiaceae) from Eastern Ghats of India

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### Abstract

*Nothopegia racemosa* (Dalz.) Ramamurthy (Anacardiaceae), so far thought to be endemic to Western Ghats, is reported from the Eastern Ghat region of India in Odisha. Occurrence of this species is of phytogeographical significance extending the range of distribution of the species to eastern part of the country and forming a new plant record to the flora of Odisha state. Nomenclature, botanical description, phenology, distribution, ecology and nomenclatural notes on the species are provided along with a colour photo-plate.

**Keywords:** *Nothopegia racemosa*, new record, Eastern Ghats, Odisha

### Introduction

*Nothopegia* Blume is a small genus of the family Anacardiaceae represented by only 11 species and distributed mainly in India and Sri Lanka. Only 8 species are reported to occur in India (Chandra & Mukerjee, 2000, Murugan & Manickam, 2008) [2, 3]. The genus is characterized by small dioecious trees with simple petiolate leaves, axillary or extra-axillary racemose inflorescence, unisexual 4-merous flowers, free, twisted petals, 4 stamens inserted on margins of fleshy disc, 3 carpels, superior, 1-loculed ovary, terminal style and drupaceous fruit. Except *Nothopegia heyneana* (Hook. f.) Gamble, all other species are restricted to the Western Ghats and SW India.

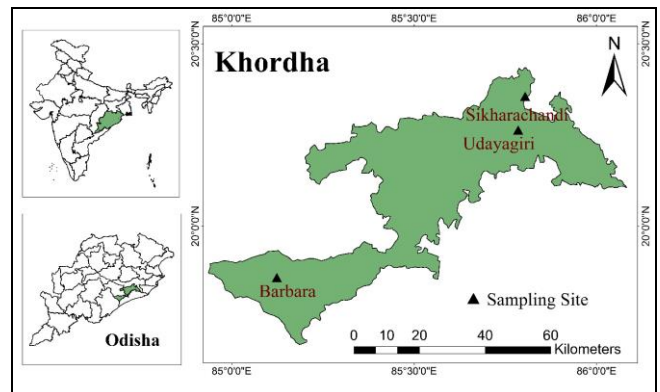
### Materials and methods

During inventory of forest trees of Eastern Ghats of India, we collected fruiting specimens of an interesting tree species from Barbara RF of Khurda Forest Division and two hillocks located in Bhubaneswar, the capital city of Odisha (Fig. 1), which, after, critical examination could be identified as *Nothopegia racemosa* (Dalz.) Ramamurthy (Anacardiaceae).

The species is not reported from Odisha by Haines (1921) [5], Saxena & Brahmam (1994) [6] and any other worker till date.

Though it resembled with *N. heyneana* (Hook. f.) Gamble in certain morphological characters, both the species can be morphologically distinguished from each other by the following key diagnostic characters.

1. Leaves linear to lanceolate, acute at apex. Pericarp of the drupe thick, black resin-cells inside, ovoid in shape, acute at apex; branches puberulous.....  
.....*Nothopegia heyneana*
2. Leaves oblong, acuminate. Pericarp of the drupe very thi, transversely oblong, striate, depressed at apex; branches glabrous.....*Nothopegia racemose*



**Fig 1:** Map showing the collection locality of *N. racemosa* in Eastern Ghats of India

Nomenclature, botanical description, phenology, distribution, ecology and note on taxonomy and nomenclature of the species are provided below with a colour photo-plate for easy identification.

### Taxonomic description

*Nothopegia racemosa* (Dalz.) Ramamurthy in Saldanha & Nicolson, Fl. Hassan Dist. 377. 1976; Deepu *et al.*, Phytotaxa 376 (3): 151. 2018; Chandra & Mukherjee in Fl. India 5: 476. 2000. *Glycyarpus racemosus* Dalz., J. Asiat. Soc. Bombay 3: 69. 1849. *Nothopegia dalzellii* Gamble, Fl. Pres. Madras 265(189). 1918. *Nothopegia colebrookeana sensu* Hook. f., Fl. Brit. India 2:40.1876, *pro parte*, non (Wight) Blume, 1850.

*Type:* INDIA. Mumbai (Bombay), s.d., Dalzell s.n. (lectotype K!, first-step designated by Matthew [1991: 543]; second-step K000695601!, designated by Deepu *et al.*, 2018; isolectotypes K000695602!, K000695603! and NY00050775!)

Moderate-sized dioecious trees, up to 8 m tall, bark greyish, finely fissured; blaze deep red, latex black and scanty;

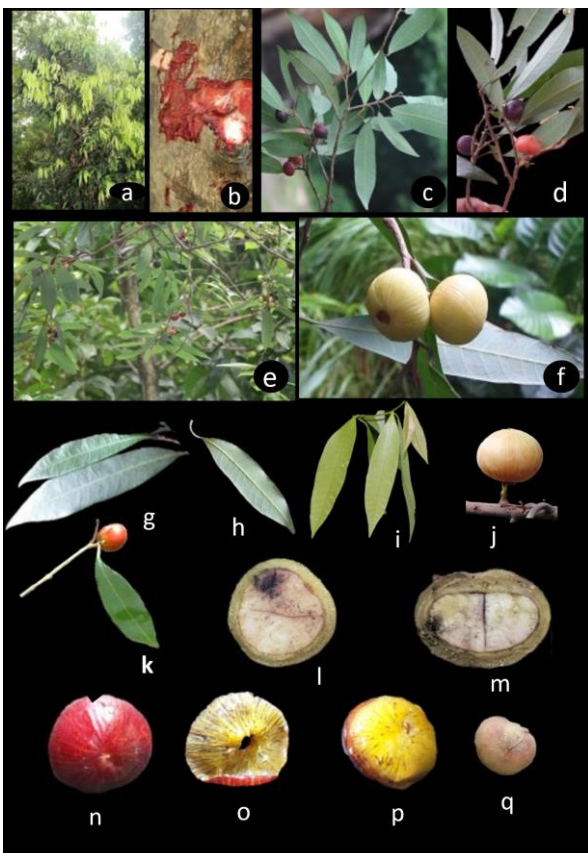
branchlets glabrous. Leaves simple, alternate; petiole 10-15 mm long, slightly twisted, stout, glabrous; leaf blade 12-20 x 3.5-6.5 cm, elliptic-oblong or oblanceolate, glaucous beneath, base acute, apex acuminate, margin entire, coriaceous; lateral veins 16-20, prominent; intercostal veins scalariform. Flowers very small, polygamous, creamish-white in colour, borne in axillary, pubescent racemes; sepals 4, broadly ovate, pubescent, persistent, imbricate; petals 4, oblong, glabrous except ciliate hairs on the mid vein, inwardly curved; disc annular, fleshy, 4-lobed; stamens 4; filaments puberulous; anthers introrse; ovary sessile, ovoid, single-celled; style short; stigma obscurely 3-lobed. Fruit a drupe, fleshy, globose, light-green when immature, purple-violet when ripe, transversely oblong, striate, depressed at apex; pericarp thin; seed pendulous (Fig. 2).

**Flowering:** May-June;

**Fruiting:** July-August.

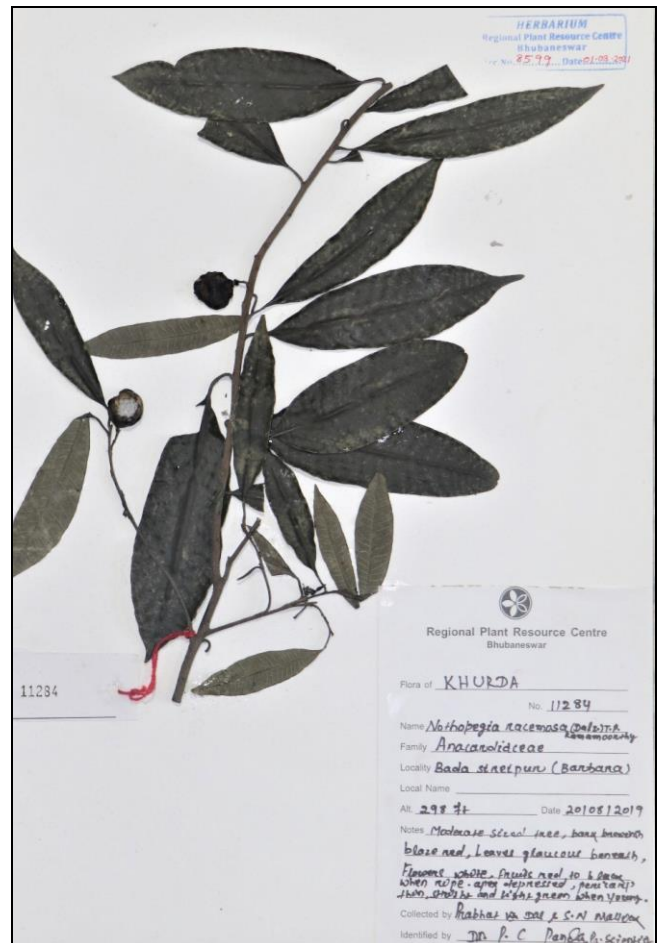
**Distribution:** India (Maharashtra, Goa, Karnataka, Tamil Nadu and Kerala; mostly Western Ghats; Odisha in Eastern Ghats- present report) and Sri Lanka.

**Specimens examined:** India: Odisha: Khurda district, Barbara RF, Badasireipur (N 19° 51'34.707" and E 85° 07'25.147"), 298 ft msl, 20.08.2019, P. K. Das & S. N. Mallick 11284 (RPRC); Sikharchandi hill, Bhubaneswar (N 20° 21'20.772" and E 85° 48'14.965"), 305 ft msl, 19.07.2020, P. K. Das & S. N. Mallick 11404 (RPRC); Udaygiri hills, Bhubaneswar (N 20° 15'48.798" and E 85° 47'05.694"), 194 ft msl, 12.08.2020, P. K. Das 11444 (RPRC). (Fig. 3)



**Fig 2:** (a) Whole tree, (b) Red colour blaze, (c-e) Fruiting branches, (f) Immature striated fruit, (g-i) Tender and mature leaves, (j) Maturing fruit, (l) L. S. of fruit, (m) T. S. of fruit, (n-o) Thin pericarp, (p) Fleshy mesocarp and (q) Seed.

**Notes:** Almeida (1996) considered *Nothopegia racemosa* (Dalz.) Ramam. as a synonym of *Nothopegia castaneaefolia* (Roth) Ding Hou. While global databases like "The Plant List" (<http://www.theplantlist.org>) and "World Flora Online" (<http://www.worldfloraonline.org>) maintain *N. racemosa* (Dalz.) Ramam. as an unresolved/ambiguous name, others like "Global Biodiversity Information Facility" ([www.gbif.org](http://www.gbif.org)) and "Plants of the World Online" (<https://powo.science.kew.org>) treat this as a synonym of *N. castaneaefolia* (Roth) Ding Hou. However, in view of the morphological differences between the two, we are inclined to consider *N. racemosa* as a distinct species as done by Deepu *et al.* (2018).



**Fig 3:** Herbarium specimen of *Nothopegia racemosa*

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