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Gardenia duerrii (Gardenieae : Rubiaceae), a new species from India and a note on *Gardenia resinifera* Roth

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Abstract

Gardenia duerrii sp. nov. is described and illustrated from regions of the Central Peninsular Plateau, India. The new species resembles *Gardenia resinifera* Roth in habit, flowers and stipules, but can be distinguished by its apical bud, leaf texture, venation, and the nature of the calyx and fruit. The new species is found under the canopy of dry deciduous forests in the states of Telangana, Andhra Pradesh, Odisha, Maharashtra and Karnataka. The allied species *Gardenia resinifera* had long been misidentified; however, the designation of a neotype by Turner in 2021 clarified its identity, thereby facilitating an accurate identification. We provide illustrations and colour photographs of both species to aid in understanding.

Keywords: *Gardenia duerrii*, small tree, dry deciduous forests, new species, India

Introduction

The genus *Gardenia* (Rubiaceae) was named by J. Ellis in 1760 after botanist Dr. Alexander Gardener, a physician from Charlestown, South Carolina, USA. Ellis described the genus based on specimens from the Cape of Good Hope, South Africa, using the common name ‘Cape Jasmine’. This genus was introduced with *Gardenia jasminoides* Ellis (1761: 935, t. 23) for which the type specimen was from the above collection. The genus belongs to the tribe *Gardenieae* Hooker (1882: 19) with opposite, decussate or whorled leaves, corolla lobes twisted in the bud and usually terminal white or yellow flowers, fruit berried, fleshy or dry, seeds usually large, cotyledons often foliaceous, seeds many in each cell. Many *Gardenia* species are famous for their sweet, attractive scent and decorative flowering. They are widely cultivated in landscapes for their ornamental qualities, especially so *Gardenia jasminoides* J.Ellis (1761: 935) [=*G. augusta* Merr. (Merrill 1917: 485), *G. florida* Linn. (1762: 305)], *G. angustifolia* G.Lodd. (Loddiges 1821: t. 512) and *G. tannaensis* Guillaumin (1932: 5).

About 140 species are distributed throughout the tropical and subtropical regions of the old world (Mabberley 2017: 378). POWO has listed 140 taxa (123 species, 12 subspecies and 5 varieties) (POWO 2026), predominantly shrubs and small trees. In The Flora of British India, Hooker divided the species covering all of British India (South and Southeast Asia) into three sections: 1. *Eugardenia* Hooker (1882: 115) (unarmed shrubs; flowers large, axillary, solitary; calyx-limb tubular, teeth 5–9, ovate-lanceolate/linear/short; corolla salver-shaped, tube long, slender, appendages 4–9), 2. *Ceriscus* Hooker (1882: 118) (armed or unarmed shrubs, flowers dimorphic, monoecious/dioecious, calyx-teeth in the female large, subfoliaceous, in the male usually minute, corolla small, cylindric/campanulate) and 3. *Rothmannia* Hooker (1882: 119) (unarmed shrubs; flowers axillary/terminal, solitary/fascicled; calyx-teeth linear; corolla inflated). Subsequently, however, Hooker’s three sectional divisions were reclassified under the three genera viz. 1. *Gardenia*, 2. *Ceriscoides* and 3. *Kailarsenia* respectively (POWO 2026). Within section *Eugardenia*, Hooker had listed five species from India (*G. resinifera* Roth = *G. lucida* Roxb., *G. gummifera* L., *G. latifolia* Ait., *G. coronaria* Banks and *G. jasminoides* J.Ellis) (Hooker 1882: 115–119). Following Hooker’s Flora of British India, no new species have been described under this section till now. All other species reported from India have been introduced in parks and botanic gardens.

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A molecular phylogenetic study using chloroplast sequences and a Maximum-likelihood (ML) phylogenetic tree revealed that *Gardenia* is a sister genus to *Coffea* (Zhaoa & Zhoub 2020). Kainulainen *et al.* (2017) studied on biogeographical alignment using four markers (Matk, ndhF,-trnL, rps16 intron and trnT-trnF). Their result indicated that the Asian and Pacific species of Gardenia form a sister clade to the African species. Four species of *Gardenia* are known from Madagascar, where the sampled Malagasy species form a monophyletic group nested within the African clade. The biogeographical analyses supported an African origin for this Malagasy lineage.

Although botanists had recognized that two distinct taxa were being treated under *Gardenia resinifera*, the matter remained unresolved for a considerable period, leading to persistent taxonomic confusion due to the absence of a critical comparative study. A detailed examination of the nomenclatural history by the authors has revealed the underlying cause of this misapplication.

A.G. Roth described *Gardenia resinifera* for the first time in Linnaeus's *Systema Vegetabilium Secundum* edited by J.J.Roemer & J.A.Schultes (1819: 239). Prior to this, Roxburgh (1814: 15) initially published *Gardenia lucida* Roxb. in *Hortus Bengalensis*, with a table indicating: "Native—Chittagone; Donor—Dr. F. Buchanan in 1798; Habit—small tree; Flowering—hot season; Fruiting—The cool season" which thus became invalid. Later, in 1824, *G. lucida* was again published in "*Flora Indica*" by William Carey (1824: 553) but treated as a synonym for *Gardenia resinifera* Roth published previously in *Systema Vegetabilium Secundum* (1819: 239) and in Novae Plantarum Species Indiae Orientalis (Roth 1821: 150).

Saxena & Brahmam (1995: 824) developed a description in the Flora of Orissa based on their specimen that exactly matches the present novel species (leaf and fruit characters), but they used the name *G. resinifera* Roth. These authors did not realise that the protologues of *G. resinifera* Roth (=*G. lucida* Roxb.) did not match with their specimen description. The same misidentification was previously made in floras such as 'The Flora of the presidency of Bombay' by Cooke (1903: 602) and 'Forest Flora of the Bombay Presicency & Sind' by Talbot (1911: 101). This error was continued due to having an apical bud with a resin drop and shining leaves by Seshagiri Rao *et al.* (1999: 400) in 'Flora of East Godavari District', Fernandez (1999: 167, t. 118) in 'Trees of Mumbai (Bombay)', Pullaiah *et al.* (2000: 191) in 'Flora of Guntur District', Singh *et al.* (2001: 126) in 'Flora of Maharashtra State', Ingalhalikar (2007: 232) in 'Flowers of Sahyadri', Neginhal (2011: 183, t. 35) in 'Forest Trees of the Western Ghats includes Eastern Ghats and Deccan Plateau', Pullaiah (2015: 453) in 'Flora of Telangana', Pullaiah & Karuppusamy (2018: 852) in 'Flora of Andhra Pradesh', Ingalhalikar (2021: 214) in 'Leaf based identification for Trees of Sahyadri', Pullaiah & Sadasivaiah (2024: 530) in 'Flora of Telangana 2nd Revised & Enlarged Edition', as well as Indian online floral databases (*l.c*).

On the other hand, D.D. Tirvengadum in 1978 examined herbarium specimens of *Gardenia resinifera* Roth that included the presently described new species as preserved in several herbaria (BR, CAL, K, and P) and identified all of them as *G. resinifera* regardless of their original identity. However, the two species clearly can be distinguished by characters of the fruiting calyx, pericarp, and leaf shape and texture. The misidentification likely resulted from certain overlapping features, such as shiny leaves, a resinous apical bud and tubular flowers.

The present study differentiates the new species of *Gardenia* from *G. resinifera* by clearly defining their diagnostic characters. The original type material of *G. resinifera* was destroyed during World War II, and a Neotype (K001125097) and lectotype (K001125089) were subsequently designated by Turner (2021: 389). Careful examination of these type specimens, along with observations of mature plants, enabled us to recognize and formally describe the present new species.

Material and methods

Specimens were collected from the Dharmavana Nature Ark's conservation gardens during 2023, treated with 70% ethanol to sterilise and stop abscission, and dried them between blotting sheets to make herbarium specimens following standard methods (Santapau 1958, Jain & Rao 1977, Davies *et al.* 2023). Flowers were fixed in 70% ethanol and fruits were dried and kept in airtight jars for future reference. Morphological and microscopic characters were studied under Olympus SZ61 with Magnus (Magcam DC 5) camera attached.

Protologues of *Gardenia resinifera* Roth and *Gardenia lucida* Roxb. were referred (Roemer & Schultes 1819: 239, Roxburgh 1814: 15, Roth 1821: 150, Sprengel 1825: 763, Kurz, 1877: 42, Roxburgh 1824: 553, Roxburgh 1832: 707). Other publications related to these two names also were referred to know taxonomists' treatment of these two species (De Candolle 1830: 381, Wight & Arnott 1834: 395, Wight 1842: 6, Hooker 1882: 115, Gamble 1921: 618, Matthew 1982: 705. t. 332, Saxena & Brahmam 1995: 824, Pullaiah & Sandhya Rani 1999: 294, Sasidharan 2004: 212, Raja Kullayiswamy *et al.* 2017: 213, Pullaiah & Karuppusamy 2018: 852, Britto 2019: 1690, t. 1319, Pullaiah & Sadasivaiah, 2024: 530).

We searched online databases, the virtual herbaria of the Botanical Survey of India (CAL, BSID, and MH), and the herbaria of Paris (P), Kew (K), Berlin (B), and Belgium (BR). We also visited RHT, Tiruchirappalli, Tamil Nadu, to examine specimens of both *Gardenia resinifera* and *G. duerrii* species to identify any misidentified specimens. The results of specimens examined from different herbaria are listed in **Supplementary 1 & 2**.

Taxonomy

Artificial key to *Gardenia* species recorded from India (including cultivated exotic species)

1. Flowers with multi-whorled petals; fruit ellipsoid with six prominent ribs ..... *G. jasminoides*
- Flowers in single whorled petals; fruit globose or sub-globose or ellipsoid without ribs ..... 2.
2. Corolla lobes more than six; leaves three at each node; calyx lobes more than five on the fruit ..... *G. latifolia*
- Corolla lobes five; leaves two at each node; calyx lobes five ..... 3.
3. Corolla yellow, lobes more than five, leaves oblanceolate ..... *G. coronaria*
- Corolla white, lobes five, leaves not as above (obovate-oblong or elliptic or elliptic-oblong) ..... 4.
4. Leaf 2–5 cm long, sessile, fruit with beaked persistent calyx to 0.5 cm long ..... *G. gummifera*
- Leaf more than 5 cm long, sub-sessile, fruit with persistent calyx more than 1 cm long ..... 5.
5. Leaf obovate, coriaceous, rugose, hairy, pericarp is hard bony, persistent calyx beaked at the tip of the fruit, to 1.3 cm (incl. tube), lobs compacted ..... *G. resinifera*
- Leaf elliptic, oblong, thin, not rugose (smooth), glabrous, pericarp is thin, persistent calyx spread out at the tip of the fruit, to 1.5 cm (incl. tube), lobes spreading ..... *G. duerrii*

***Gardenia duerrii* sp. nov.** Raja Kullayisw. & Sarojin. *Gardenia resinifera* sensu Saxena & Brahmam Fl. Ori.1995, vol. ii, p.824. (**Fig. 1–4**)

Type: INDIA. Telangana State: Yadadri Bhuvanagiri District, Dharmavana Nature Ark, 17.534221N, 78.896925E; 505 m, 14 November 2023, Raja Kullayiswamy and Sarojini Devi 436 (holotype BSID, isotypes MH, CAL, B) **Suppl. 2.**

Paratype: INDIA. Andhra Pradesh: Nandyal district, roadway to Sri Sailam, 16.051906N, 78.898403E, 535 m, 30 January 2024, Raja Kullayiswamy & Ajith Kumar 488 (BSID, MH). INDIA. Telangana State: Yadadri Bhuvanagiri District, Dharmavana Nature Ark, 17.534N, 78.896E; 505 m, 29 July 2024, Raja Kullayiswamy and Sarojini Devi 690 (BSID, MH, CAL, B). Other specimens referred from different herbaria are given in **Suppl. 1.**

Diagnosis: *Gardenia duerrii* sp. nov. resembles *Gardenia resinifera* Roth. in habit, partially apical bud with yellow resin drop, flower and stipule. Young leaves are covered with resin to protect from browsing. Average lateral veins 20, stipule annular surrounding the stem. Flower sub-solverform, petals pure white, obovate, oblique. Anthers elongate, sessile, halfway inside the corolla tube. Style glabrous, stigma swollen and two lobed, light yellow. Seeds light red, flattened, rugose. *Gardenia duerrii*, however, differs from the latter in several morphological characters, especially the leaf texture shiny glabrous (*versus* shiny rugose in *G. resinifera*), apical bud glabrous with resin drop (*versus* hairy with resin drop that remains intact through the dry season), calyx tube 0.2–0.3 cm long (*versus* 0.7–0.8 cm long), calyx lobes spread out (*versus* compact and close to each other forming a tubular structure), and fruit layer thin (*versus* thick and bony), and other characters tabulated in **Table 1** and **Suppl. 1**.

Description: Sub-arborescent, deciduous, unarmed small trees to 4 m high, trunk short, branched from base. *Bark* grey at young, inside green, irregular scaly at mature, blaze faded orange to yellow, branches dichotomous, branchlets terete, corky, fragile. *Leaves* simple, opposite, decussate; stipules annular, surrounding the stem, thin, transparent, mouth divided into two lobed, segments obtuse, split open stipule 1.0 × 0.7 cm at young, 1.3 × 1.0 cm at maturity, base dark brown, hairy within at base, glabrous without. Petiole 0.5–1.1 cm, stout, glabrous, sub-terete; lamina 7.2–15 × 2.5–6 cm, elliptic-oblong, obovate-oblong, ends narrowed to acute, base obtusely acute (obliquely attenuate), shortly cuneate on the petiole, margin entire, apex obtusely acute; glabrous, dark green and shiny above, pale green above; lateral nerves 19–24 pairs, 52 to 59˚ angle between mid-vein and lateral, prominent beneath; intercostal scalariform, slender; hairy domatia at the angles between midvein and lateral veins on lower surface; apical bud terete with yellow resin drop, young leaves covered by a resinous coating. *Flowers* solitary, fragrant, white turns to brown with age, axillary, bisexual; pedicel clavate, 0.5–1.0 cm long, terete. *Calyx* tubular, glabrous, tube 0.2–0.3 × 0.32 cm; lobes 5, spread out, glabrous without, pubescent within, obspatulate, base of the lobe (¼th part) 0.2–0.3 cm wide and remainder (¾th part) towards apex linear-lanceolate, subulate, 1.5–1.7 cm long, margin incurve. *Corolla* 9–10 cm long in total; tube light green, 4.5–5 × 0.5 cm, terete, glabrous; lobes 5, 3–3.8 × 2.4–2.5 cm, white, glabrous, obliquely obovate-

oblong, pale yellow to brown at later stage. *Stamens* 5, epipetalous; anthers oblong, 2.2 × 0.2 mm, halfway inside the corolla tube, longitudinal in dehiscence, twisted at maturity. *Ovary* inferior, clavate, bi-locular, 3.2 × 0.6–0.7 mm, terete, hispid at young; ovules many, axile placentation. Style 5.4 cm long, glabrous, terete, 0.2 cm thick; stigma club shaped, 1.6 × 0.3 cm, yellow, papillate. *Fruit* a berry, glabrous, ellipsoid or ovoid, 2.3 × 1.5 cm, slightly 5 ribbed, crowned with slightly enlarged calyx, tube of crown 0.6 × 0.6–0.7 cm, lobes 5, 1.1–1.2 × 0.2 cm, base 0.4 cm across, fruit stalk 1.4 cm long, pericarp thin, glabrous. *Seeds* many in pulp, light red, rugose, flattened, slightly triangular to elliptic, hard, 3.2–4.5 mm long.

Flowering and Fruiting: Flowering from December to April and fruiting from March to May. Flowers are pleasantly fragrant and an attractive pure white.

Habitat: Dry deciduous forest of the Nallamala Hills of Andhra Pradesh, Telangana, Maharashtra, Karnataka and Odisha states (**Fig. 1**).

Local Names: Commonly called Dink, the gum tree, Cumbi/Cambi resin tree; *Dikamali kayam* (Gujarati), *Dekamali* (Hindi), *Dikemal* (Marathi).

Distribution: Distributed throughout the Deccan Plateau, Nallamalas of Telangana and Andhra Pradesh, Odisha, Maharashtra, Karnataka as marked in the **figure 1** (list of forests, districts and states are mentioned in **Suppl. 1**).

Cultivation: Cultivated in local gardens and nurseries for beautification.

Etymology: The epithet is named after Mr. William Frederick Dürr who moved his family to Hyderabad, India in the year 2000 and has enjoyed the flora and wildlife of the region. Mr. Dürr brought this taxon to the notice of the authors.

Gardenia resinifera Roth, Syst. Veg., ed 15 bis [Roemer & Schultes] 1819, 5: 239; Nov. Pl. Sp. Ind. Ori. 150 (1821); C.P.J. Sprengel, Sys. Veg. 1: 763 (1825); S. Kurz, Fore. Fl. Brit. Bur. 2: 42. (1877); Pullaiah & Sandhya Rani, Tree. Andh. Prad. 294 (1999); Pullaiah *et al.* Fl. East. Ghat. 3: 156 (2007). **Neotype**: B. Heyne s.n. [EIC 8270F] (K001125097!). *Gardenia lucida* Roxb. Fl. Ind. 2: 553 (1824); Hort. Bengal. 15 (1814); Fl. Ind. 1: 707 (1832); De. Candolle, Prod. Sys. Nat. Reg. Veg. 4: 381 (1830); R.Wight & G.A.Walker-Arnott, Prod. Fl. Penin. Ind. Ori. 1: 395, t.1219 (1834); R.Wight, Icon. Plant. Ind. Ori. 2: 6, t.575 (1834); J.D. Hooker, Fl. Brit. Ind. 3: 115 (1882); J.S. Gamble, Fl. Pres. Mad. 2: 618 (1921) (**Fig. 5–7**) **Lectotype**: W. Roxburgh s.n. [EIC 8270A] (K001125089!). Specimens referred are given in **Suppl. 1.**

Note by B. Heyne—"Stipules obtuse with a short point, not subulate as in the *Gardenia gummifera*. Calyx segments/lobes linear and bristle-like at least three times longer than the calyx itself, not ovate, very short, and hairy as in *Gardenia gummifera* L.f. (Suppl. Pl. 164 (1782)) Habitat in East India."

Description: Sub-orboreous, deciduous, unarmed, small trees to 6 m height, trunk short, straight. *Bark* yellowish-grey at young, ash-coloured scaly at mature, inside olive green, blaze light yellow to slightly desaturated orange. *Branches* numerous, dichotomously branched, branchlets terete, corcky, smooth. Young shoots round, smooth, covered with resin, apical bud generally incrusted with a bright yellow resin drop which is often found as bud-shaped resin in the dry season (dead apical bud becomes resinous and remains bud-shape). *Leaves* opposite, decussate, unequal, short-petioled, petiole up to 0.5 cm long, resinous and hairy; leaf bald rugose, elliptic, oblong-obovate, 6.5–18 × 2.5–9.5 cm (occasionally 23 × 13 cm), both surfaces polished, shining/lucid, coriaceous, rugose, margins revolute, base and apex rather obtuse-pointed, nerves numerous,14–30, 50–70° angle with midvein, each parallel, intercostal reticulate, hairy domatia at the angles between midvein and lateral veins on lower surface. Stipules annular, within the leaves; apex divided into unequal, obtuse segments, 1.2 × 1 cm, hard when old, persistant. Flowers solitary, large, pure white, fragrant, solitary, terminal and above the axils; pedicel round, clavate, pubescent, 1.5–2 cm long. Calyx 1.6 × 0.8 cm, five-claft, base tubular, hairy, tube 0.8 × 0.5 cm; segments ensiform with thin layered hyaline margins, persistant, each lobe 0.8 × 0.2 cm. Corolla tube cylindric, smooth, light green, 4.7 × 0.5 cm (three times longer than the calyx), lobes five-parted, each obliquely obovate-oblong, 3 × 1.5 cm, less the length of the tube, glabrous, turning brown when drying. Anthers five sessile, dorsifixed, 2.8 × 1.5 mm, white, slender, acute, half hidden in the tube of the corolla, dithecous. Style length of the tube of the corolla, 4.8–5 cm long, glabrous; stigma clavate, lobed, exert, light yellow, 0.8–1 × 0.2 cm. Ovary elliptic oblong, cylindric, 1.5 × 0.5 cm, hairy, two locular; ovules many, axile placentation. Fruit obovoid, 4 × 2.5 cm, two-valved, smooth, slightly 7 ribbed, crowned with the permanent calyx; fruiting calyx tube 0.5 × 0.6 cm, remaining sepal lobes 1.2 × 0.4 cm, hairy, compacting each other and providing shelter for ants. Pericarp bony, hard, 0.2 cm thick. Seeds numerous, attached to the receptacles, flattened, elliptic or ovate, 4–4.3 × 2.7–3.4 mm, rugulose, reddish orange. Perisperm conforming to the seed (**Fig. 5–7**).

Flowering and fruiting: Flowering from October to April, fruiting from March to June.

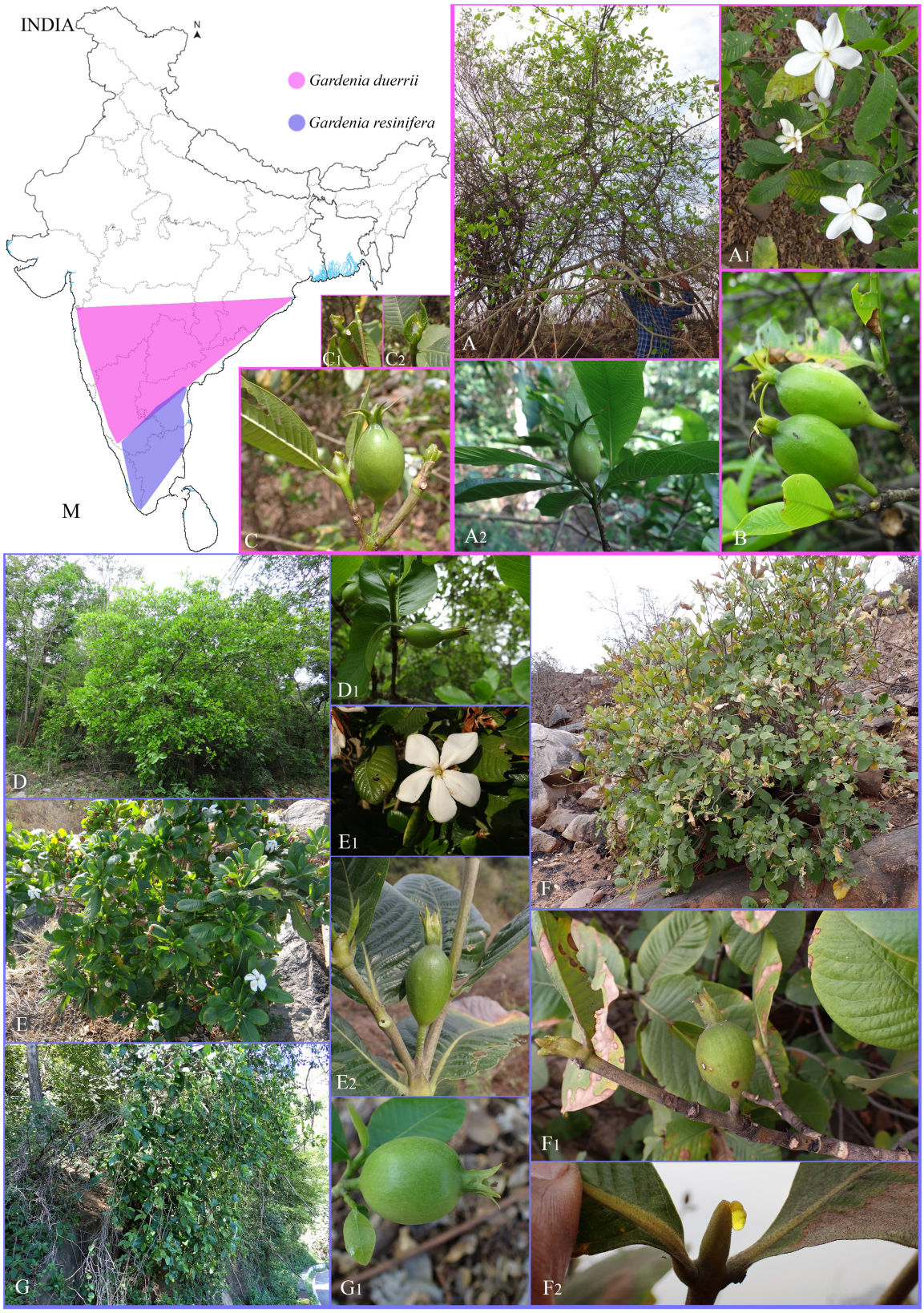


FIGURE 1. Distribution of *Gardenia* species: **(A–C)** ***Gardenia duerrii***—(A) Habit, (A1) Flower, (A2) Fruit & (B) Fruit, (C, C1 & C2) Fruit & Resin drop; **(D–G)** ***Gardenia resinifera***—(D & D1) Habit & Fruit, (E, E1 & E2) Habit, Flower & Fruit, (F, F1 & F2) Habit, Fruit & Resin drop, (G & G1) Habit & Fruit, (M) Distributional map of *Gardenia resinifera* and *G. duerrii*. Note: Photography locations: A2—Manhalli, North Karnataka. B—Vikarabad. C, C1 & C2—Dharmavana Nature Ark, Bhuvanagiri District, Telangana, grown from mother tree of Nallamala forest of Telangana. D & D1—Sadasicakona, Chittoor District, Andhra Pradesh. E, E1 & E2—Dharmavana Nature Ark, grown from mother tree of Nigidi forest of Anantapuramu District, Andhra Pradesh. G & G1—Palani Ghat road, Dindigul District, Tamil Nadu.

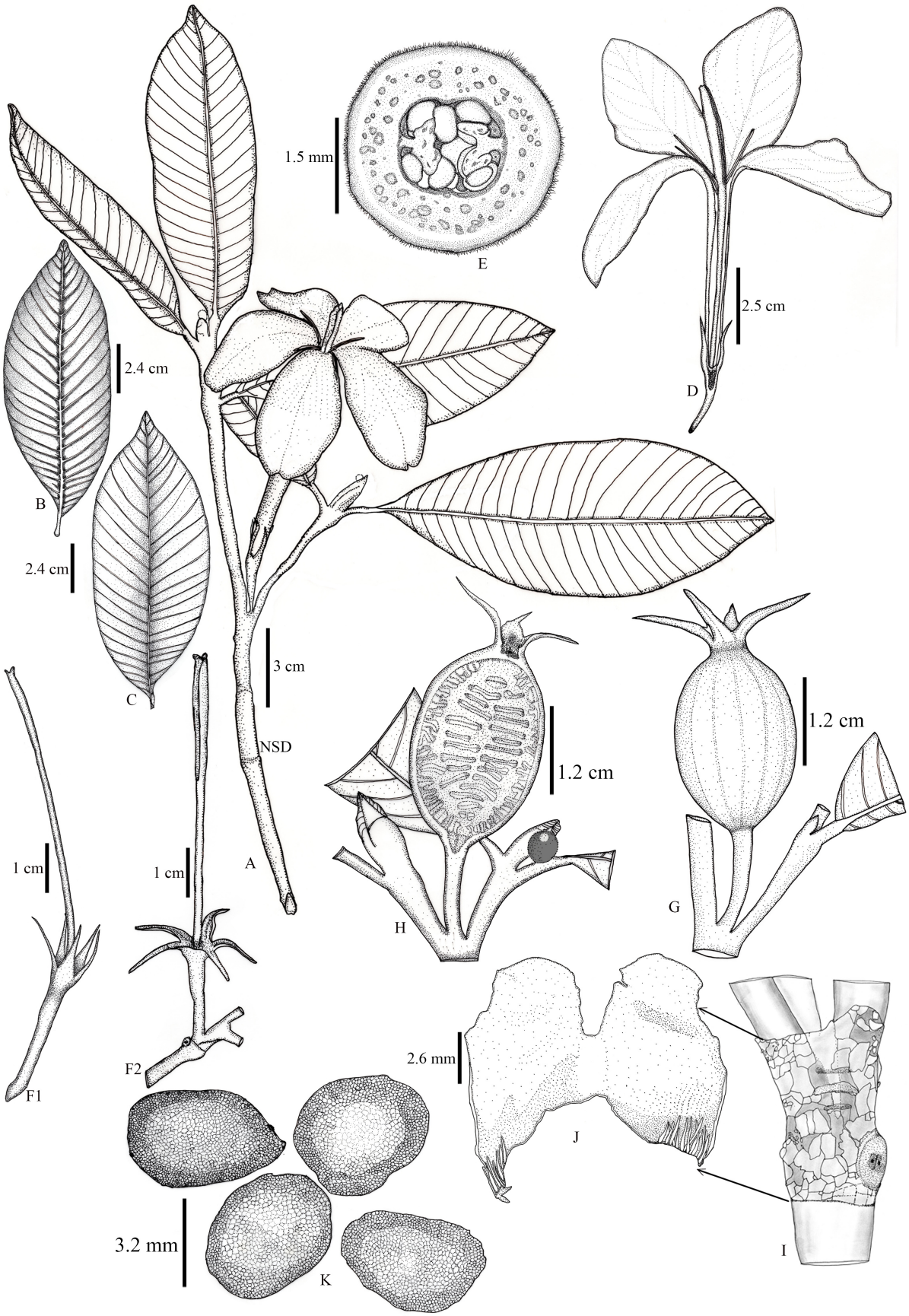


FIGURE 2. *Gardenia duerrii* illustration: (A) Twig, (B) Leaf abaxial portion, (C) Leaf Adaxial portion, (D) L.S. of flower, (E) T.S. of ovary, (F1 & F2) Young and mature stages of stigma and calyx, (G) Fruit, (H) L.S. of fruit, (I) Stipule, (J) Stipule split opened, (K) Seeds.



FIGURE 3. *Gardenia duerrii* sp. nov. (A) Habit, (B) Flowering branch, (C) Leaf adaxial portion, (D) Leaf abaxial portion, (E) Stem bark, (F) Bark blaze, (G) Stipule, (H) Stipule split opened, (I) L.S. of flowers, (J) Flower top view, (K) Resin drop at apical bud.



FIGURE 4. *Gardenia duerrii* sp. nov. (A) Ovary & stipule, (A[1]) T.S. of ovary, (B) Young fruit, (C) Mature fruit, (D) Mature fruit top view, (E) L.S. of fruit, (F) L.S. of dried fruit, (G) Seed alignment in fruit, (H) Seeds.

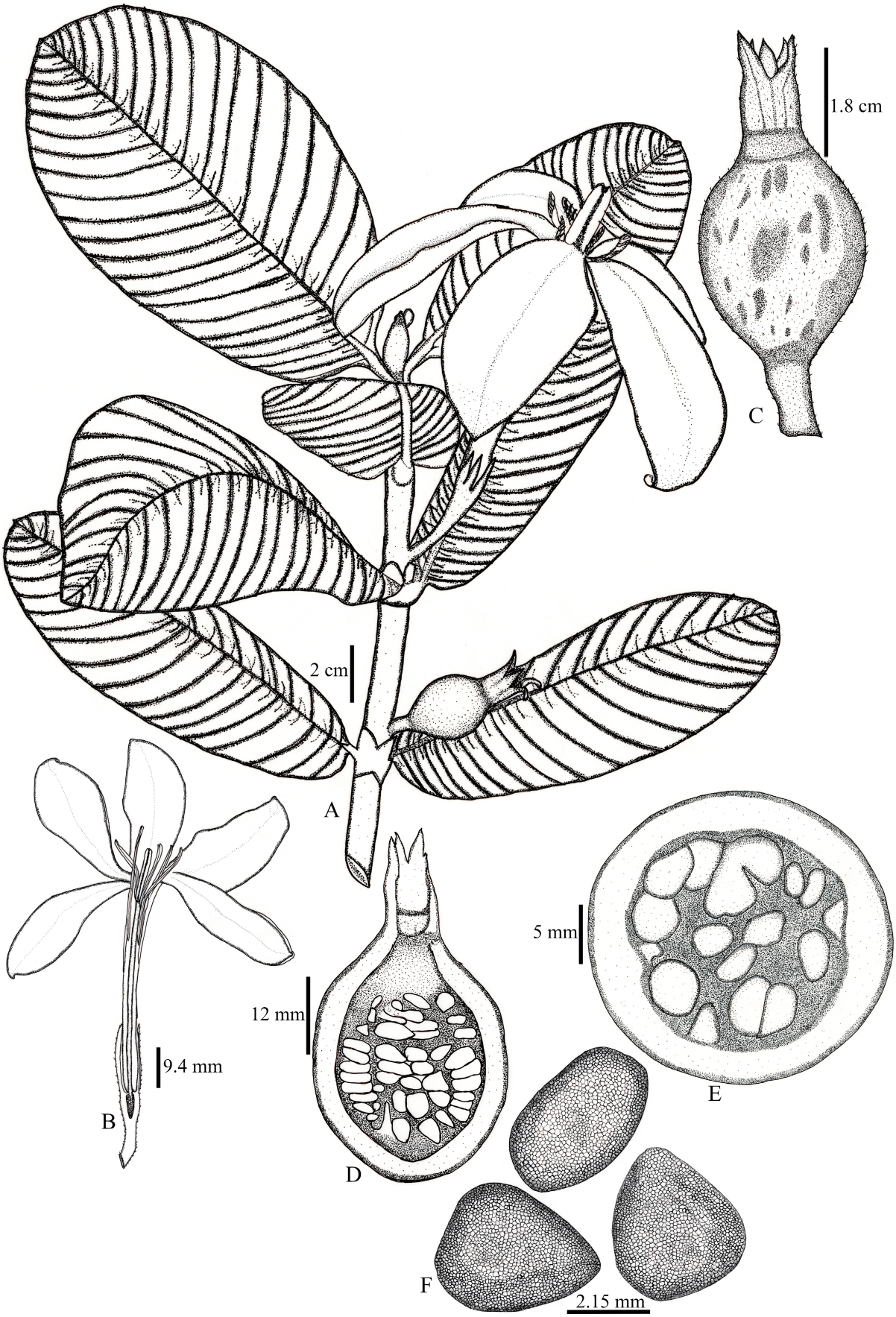


FIGURE 5. *Gardenia resinifera* illustration. (A) Twig, (B) L.S. Flower, (C) Fruit, (D) L.S. of fruit, (E) Cross section of fruit, (F) Seeds.



FIGURE 6. *Gardenia resinifera* from Tamil Nadu. (A) Habit, (B) Flowering branch, (C) Bark, (D) Flower front view, (E) Flower side view, (F) Flower bud and resin drop, (G) Fruit, (H) Leaves in size variation from one plant, (J) L.S. and T.S. of fruit.



FIGURE 7. *Gardenia resinifera* from Dharmavana Nature Ark that was collected from Kadiri, Anantapuramu Dist., Andhra Pradesh. (A) Habit, (B) Flowering branch, (C) Bark, (D) Apical bud with resin drop, (E) Flowering twig, (F) Young fruit, (G) Flower section side view. H. Flower top view, (J) L.S. of fruit, (K) Seeds.



FIGURE 8. Comparative characters between allied species. ***Gardenis duerrii* sp. nov.** (**A–H**)—(A) Leaf sizes variations, (B) Leaf abaxial side showing domatia, (C) Resin drop at apical bud, (D) T.S. of ovary, (E) Fruit. (F) L.S. of fruit, (F1) L.S. of fruit showing seed arrangement, (G) Seeds, (H) Calyx split open; ***Gardenia resinifera*** (**J–R**)—(J) Leaf size variations, (K) Leaf abaxial showing domatia and hairy nature, (L) Resin drop at apical bud, (M) T.S. of ovary, (N) Fruit, (O) L.S. of fruit and seed arrangement, (P) L.S. of fruit showing bony pericarp, (Q) Seeds, (R) Calyx split open.

Note: The authors attempted to locate the original material of *Gardenia resinifera* Roth that had been used for the description. Unfortunately, it is missing from the Berlin-Dehlem (B) herbarium where Heyne had originally planned to present the collection of specimens used by Roth in his Nov. Pl. Sp. to Willdenow, but due to the latter's demise, Heyne gave them to Roth, who, in turn, deposited them in B (Garten Berlin), where they were destroyed by Allied bombing on March 1, 1943 during World War II. Since no original material was available, we considered the Neotype of *Gardenia resinifera* Roth as designated by Turner (Turner 2021) based on Kew herbarium col. No. 8270F (K001125097 @ K!) that he also designated as a Lectotype of *G. lucida* Roxb. based on Kew herbarium col. No. 8270A (K001125089 @ K!) (**Suppl. 3**).

Habitat: Dry deciduous forest of the Nigidi forest, southern Andhra Pradesh, Tamil Nadu, Karnataka and Kerala **(Fig. 1)**.

Local Names: Commonly called *Konda manga, Karinga, Chinna karinga, Verri bikki* (Telugu), *Kabimaram* (Malyalam).

Distribution: Distributed throughout the southern parts of the Deccan Plateau, Palakonda Hills, Seshachalam Hills, Penchalakona of Andhra Pradesh; Coimbatore, Kodaikanal, Sirimalai, Kanyakumari, Madurai, Nilgiris of Tamil Nadu and lower elevation deciduous forests of Kerala and Karnataka (list of forests, districts and states are mentioned in **Suppl. 1 & figure 1**.

Cultivation: Cultivation of this species is not observed.

TABLE 1. Morphological differences between *Gardenia duerrii* and *G. resinifera* Roth (**Fig. 1 & 8**).

Character	***Gardenia duerrii* sp. nov.**	***Gardenia resinifera* Roth**
Young shoots	Not resinous, apical bud terete with yellow drop of resin	Resinous, apical bud elliptic-oblong
Apical bud	Apical bud has resin drop, but it does not remain intact for a lengthy time	Apical bud has resin drop that remains intact through the dry season
Young leaves	Only young leaves are covered with resin, middle age leaves are glabrous, smooth to touch	Young and middle age leaves covered with resin layer and small hairs, rough to touch
Leaf	Oblong to obovate, tip obtusely pointed	Elliptic-oblong to obovate, tip rounded and blunt, coriaceous, hard, rough to touch
Veins	Lateral veins up to 24, 52–59° angle with midvein	Lateral veins up to 30, 50–70° angle with midvein
Stipule	Stipule mouth divided into two lobes, papery, not persistent	Stipule mouth variously divided, hard when old, persistent
Calyx	Segments subulate incurved margin, calyx tube 0.3 cm long, lobes 1.7 cm long. Lobes spread out	Segments ensiform with thin layered hyaline margin, calyx tube 0.8 cm long, lobes 0.8 cm long. Lobes compact and close to each other forming a tubular structure
Corolla	Corolla tube 2 times longer than calyx	Corolla tube 3 times longer than calyx
Corolla lobes	Drying yellow-brown	Drying brown
Fruit pericarp	Pericarp thin, not hard	Pericarp thick, hard, bony
Crown of calyx on fruit	Calyx remains spread out and does not provide shelter	Calyx remains tubular and provides shelter to black ants (*Crematogaster* sp.)

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