

A new variety of *Buchanania lanzan* (Anacardiaceae) from Kerala, India.

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Abstract

Buchanania lanzan var. *palodensis*, a new variety is described and illustrated from Kerala (India). It differs from the typical variety by the smooth or slightly fissured bark, obovate to narrowly obovate leaves, faintly visible secondary and tertiary nerves, pedicellate flowers, broadly ovate bracts, suborbicular bracteoles and the depressed globose pinkish fruits at maturity.

Introduction

The genus *Buchanania* Sprengel belongs to the family Anacardiaceae comprises about 25-30 species distributed in tropical Asia, Malesia, Australia, Micronesia, Melanesia and Samoa (Jessup, 1985; Chandrasekaran, 2005; Harrea et al., 2018). In India, the genus is represented by 8 species, of which 4 species viz. *Buchanania axillaris* (Desr.) Ramamoorthy, *B. barberi* Gamble, *B. lanceolata* Wight, *B. lanzan* Sprengel are recorded for Kerala (Dali & Mukherjee, 2000; Chandrasekaran, 2005; Nayar et al., 2006). Among them, *B. barberi* is a critically endangered and endemic species of Kerala (IUCN, 2019).

During the floristic surveys in connection with the ex-situ conservation of endemic and threatened plants of the Western Ghats, the authors came across an interesting specimen of a *Buchanania* closely similar to *B. lanzan*, first from the dry deciduous forests near Palode and later from a lone tree growing in a private property near Peringamala in the same district of the state. On critical study with pertinent literature and type material it is found quite different from the typical variety by several respects. Hence it is proposed here as a new variety named after the type locality Palode.

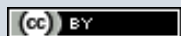
Materials and Methods

The specimens were collected from Palode, Nanniyode and Peringamala of Thiruvananthapuram district in Kerala state in 2019. These specimens were extensively compared with the related literature and with specimens at K, MH, TBGT. The specimens kept at K was examined through

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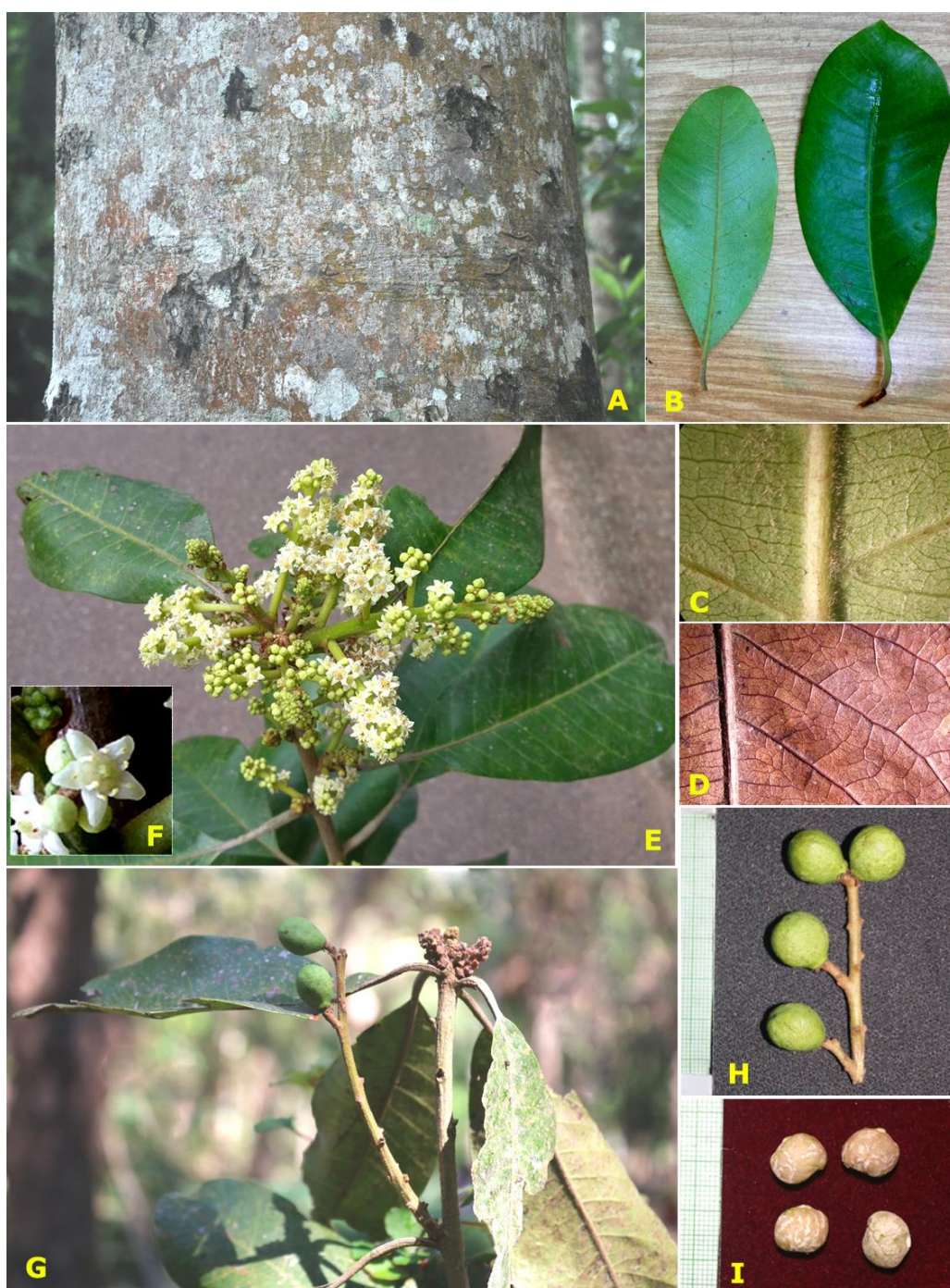


Figure 1. *Buchanania lanzan* var. *palodensis* E.S.S. Kumar et al., var. nov.

A: Bark, B: Leaves, C: Young leaf-adaxial surface, D: Mature leaf-adaxial surface, E: Twig showing inflorescence, F: Flower, G: Twig showing fruits, H: Fruits, I: Seeds.

high resolution images accessed at <https://jstor.org>. The vegetative parts were measured using a ruler with 0.5 mm precision. Photographs were taken with a Nikon Coolpix B700 digital camera.

Taxonomy

Buchanania lanzan* var. *palodensis E.S.S. Kumar et al., var. nov. (Figure 1).

Type: INDIA, Kerala, Thiruvananthapuram District, Palode, 80 m., 20.11.2019, *E.S.Santhoshkumar & S.M.Shareef* 79289 (holotype TBGT!, isotype TBGT!MH!). Figure 1.

Diagnosis: *Buchanania lanzan* var. *palodensis* differs from the typical variety by the smooth or slightly fissured bark, obovate to narrowly obovate leaves, faintly visible secondary and tertiary nerves, pedicellate flowers, broadly ovate bracts, suborbicular bracteoles and the depressed globose fruits, pink at maturity. See Table 1 for further details.

Trees, to 16 m tall; young shoots densely tomentose; bark smooth or slightly fissured, greyish, blaze flesh coloured. Leaves simple, alternate, crowded at apex, 11–17 × 6.5–9.5 cm, thinly coriaceous, obovate or narrowly obovate, cuneate or obliquely cuneate at base, obtuse or retuse or emarginate at apex, sparsely hairy above and densely hairy beneath; lateral nerves 10–16 pairs, conspicuous above and raised beneath, at 60° angle to midrib; petiole 2.5–3 cm long, subterete, tomentose. Inflorescence axillary and terminal, panicle branched, pubescent, 3–5 cm long. Flowers creamy-white, to 5 mm across at anthesis, scented; pedicel c. 1–2 mm long, slightly puberulent; bracts broadly ovate, c. 0.8 mm long, rufous hairy; bracteoles suborbicular, c. 0.5 mm across, hairy. Cayx lobes 5, pale green, deltoid, c. 1 × 1 mm, hairy without, glabrous within. Petals 5, creamy-white, broadly ovate-deltoid, 2–2.5 × 1.5 mm, obtuse at apex, glabrous. Stamens 10, 2-seriate; filaments 1–1.5 mm long, glabrous; anthers triangular-ovate, 0.7–0.8 mm, obtuse at apex, pale brown, dehiscing laterally. Disc cupular, ridged, pilose. Carpels 5–7, free, immersed in the disc, ellipsoid, one carpel developed, others suppressed; ovary pilose; ovule 1-per cell, pendulous; style lateral, short; stigma truncate. Fruits drupe, depressed globose, 1.4–1.6 × 1.4–1.5 cm, smooth, 2-valved, pink when ripe. Seed stony, depressed globose, 0.9–1 × 0.9–1.1 cm, smooth.

Flowering and Fruiting: November–April.

Distribution: Endemic to Kerala.

Additional Specimens examined: INDIA, Kerala, Thiruvananthapuram, Peringammala, 70 m, 15.02.2020, *E.S. Santhoshkumar & S.M. Shareef* 79290 (TBGT); Palode, 80 m, 24.03.2020, *E.S. Santhoshkumar & S.M. Shareef* 79291 (TBGT).

Etymology: The varietal epithet *palodensis* is after the type locality Palode.

Habitat and ecology: This species occurs in dry deciduous forest and in association with *Buchanania lanzan* Spreng, *Terminalia paniculata* Roth, *Macaranga peltata* (Roxb.) Müll.Arg., *Artocarpus hirsutus* Lam., *Lannea coromandelica* (Houtt.) Merr., *Mangifera indica* L., *Calycotris flaribunda*(Roxb.) Lam. ex Poir., *Aporosa cardiosperma* (Gaertn.) Merr., *Tabernaemontana heyneana* Wall., *Holarrhena pubescens* Wall., *Olea dioica* Roxb., etc.

Key to the taxa distributed in the Western Ghats:

1. Leaves scarcely coriaceous, inflorescence glabrous.....*B. axillaris*
1. Leaves coriaceous, inflorescence pubescent.....2
2. Leaves rusty villous/rusty tomentose beneath.....3
2. Leaves never as above.....*B. lanceolata*
3. Bark rough, tessellate in prominent squares.....*B. lanzan*
3. Bark smooth or slightly fissured,4
4. Pedicels 1-2mm long, petals broadly ovate-deltoid.....*B. lanzan* var. *palodensis*
4. Pedicels 2.5mm long, petals oblong.....*B. barberi*

Notes: The seed kernels of the new variety are eaten raw by the local people can be used as a substitute for Chirongi nuts.

Table 1. Morphological differences between *Buchanania lanzan* var. *palodensis* from its typical variety.


Characters	<i>Buchanania lanzan</i> var. <i>lanzan</i>	<i>Buchanania lanzan</i> var. <i>palodensis</i>
Bark	Rough, tessellate, the cracks being deep and narrow, resembling crocodile hides	Smooth or slightly fissured
Leaves	Broadly oblong, thickly coriaceous	Obovate or narrowly obovate, thinly coriaceous
Secondary and tertiary nerves	Very prominent	Less prominent
Pedicel	Sessile	1-2mm long
Bracts	Ovate-deltoid, 2 mm long	Broadly ovate,c. 0.8 mm long
Bracteoles	Deltoid	Suborbicular
Petals	Oblong	Broadly ovate-deltoid
Fruit	Oblong, black when ripe	Depressed globose, pink when ripe

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