

RESEARCH ARTICLE

***Leea aequata* L. (vitaceae) and *Litsea monopetala* (roxb.) Pers. (Lauraceae) new records to flora of Telangana, India**

Ravi Gollamandala¹, Anjaneyulu Paradesi², Charan Y.V.B³ and Veeranjaneyulu Dasari⁴

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Abstract: The current paper discusses the detailed morphological description, distribution, habitat, and associated species of two new additions to the flora of Telangana state, namely *Leea aequata* L. (Vitaceae) and *Litsea monopetala* (Roxb.) Pers (Lauraceae).

Keywords: Bhadradi Kothagudem district, Lauraceae New additions, Telangana state, Vitaceae.

Introduction

Bhadradi Kothagudem district is a part of Telangana state. It is carved out of erstwhile Khammam district. The district lies between 18° 13' and 17° 13' of Northern Latitude and 80° 12' and 81° 18' of the Eastern Longitude and spread over an area of 7,483 Sq.kms. It is bounded by Jayashankar Bhupalapalli, Mahabubabad and Khammam districts and states by Chhattisgarh and Andhra Pradesh. Majority of the area in the district is covered with forest. The forest is of moist deciduous and tropical dry deciduous type, occupying an area of 4334.83 Sq.km, i.e., 7089.89 Sq.km of the total geographical area (TSFD 2021). The dominated trees in the forest are *Givotia moluccana* (L.) Sreem., *Lannea coromandelica* (Houtt.) Merr. *Madhuca longifolia* var. *latifolia* (Roxb.) A.Chev., *Wrightia tinctoria* (Roxb.) R.Br., *Bombax ceiba* L. and *Sterculia urens* Roxb. etc., dominated shrubs are *Helicteres isora* L., *Tarenna asiatica* (L.) Kuntze ex K.Schum., *Catunaregam spinosa* (Thunb.) Tirveng. and *Lantana camara* L.

etc., dominated climbers are *Dioscorea bulbifera* L., *Asparagus racemosus* Willd., and *Cissampelos pareira* L. etc., dominated herbs are *Andrographis paniculata* (Burm.f.) Nees, *Anisochilus carnosus* (L.f.) Wall., and *Hemigraphis latebrosa* (Roth) Nees, etc.

Materials and methods

The extensive floristic surveys were conducted for the last 2 years in Bhadradi Kothagudem District of Telangana state. Specimens of the newly recorded species were collected from Chinnaravigudem and Olvachalaka Reserve Forests of the district (Figure 1). Voucher herbarium sheets were prepared by standard herbarium methods (Jain and Rao 1977) and deposited in Kakatiya University Warangal (KUW), Telangana state, India. The specimens were identified using relevant floras (Gamble and Fischer 1915-1935) and publications (Sushanta, 2018 and Krishna kumar, 2000). The habitat, associated species, geographical coordinates, elevation and phenology of the species were noted. The photographs of fresh specimens were taken using Nikon camera and microscopic observations were carried out for critical studies using Olympus stereo microscope.

Results

1. *Leea aequata* Linnaeus, Systema Naturae, ed.

✉ Ravi Gollamandala
gollamandalaravi2@gmail.com

¹Bharatiya Engineering Science and Technology Innovation University, Anantapur, Andhra Pradesh-515731, India.

²Department of Botany, Sri Krishnadevaraya University, Ananthapuramu, Andhra Pradesh-515003, India.

³All India Network Project on Vertebrate Pest Management, Professor Jayashankar Telangana state, Agricultural University, Rajendranagar, Hyderabad-500030, India

⁴ENVIS Division, EPTRI, Hyderabad, Telangana-500032, India.

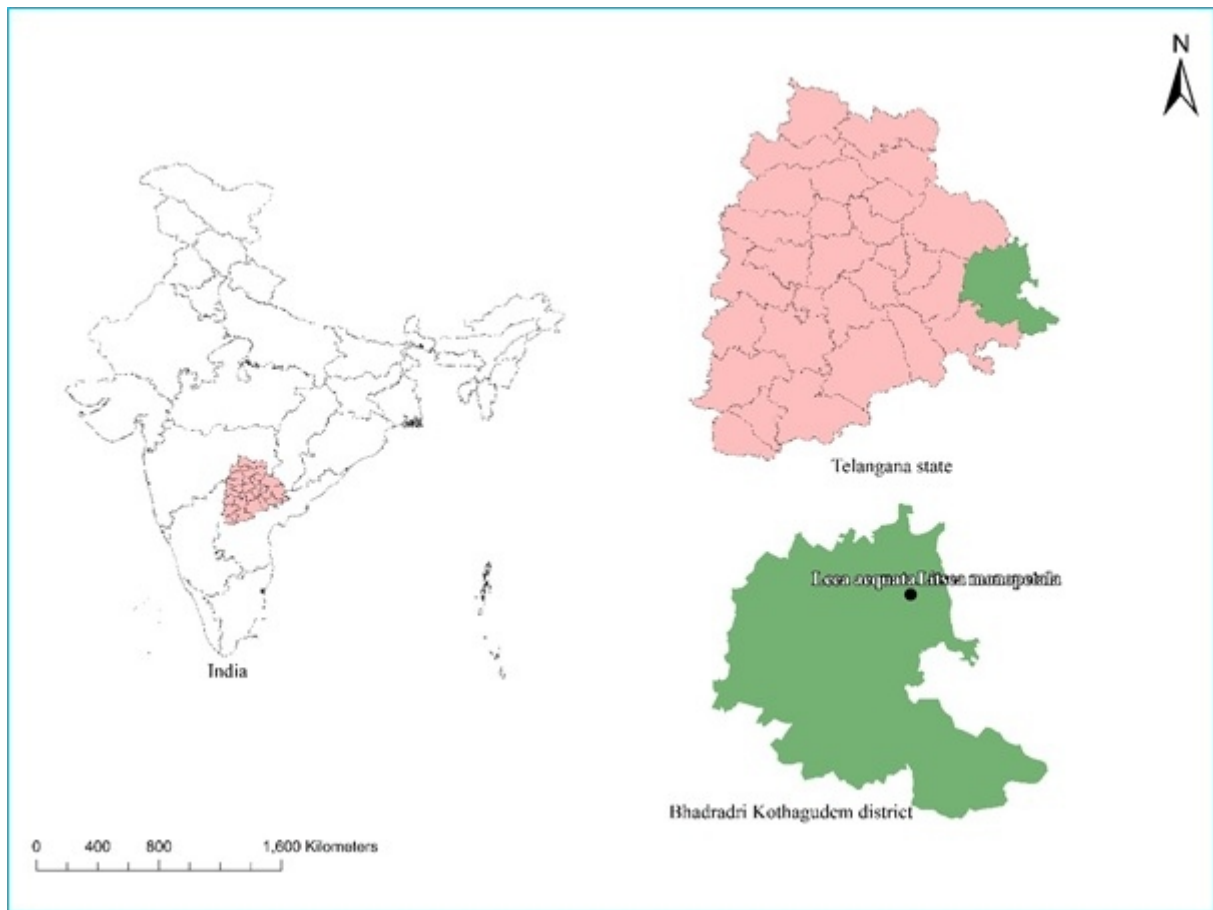


Figure 1: Map showing Location of the new Additions in Bhadradi Kothagudem district

12, 2: 627; Mantissa Plantarum: 124. 1767, typ. cons., Lectotype (Ridsdale in Blumea 22: 90. 1974): Kleynhoff, Herb. Linn. No. 1118.1 (LINN).

The genus *Leea* has about 36 species distributed in the Old-World tropics (Mabberley, 1997). Out of the 36 species, India has 11 species distributed in different states, as mentioned in the database of the Botanical Survey of India. Out of 11 species, the genus *Leea* is represented by 3 species in Telangana state, i.e., *Leea asiatica* (L.) Ridsdale, *Leea indica* (Burm.f.) Merr. and *Leea macrophylla* Roxb. ex Hornem. (Pullaiah 2015; Reddy and Reddy 2016).

Large shrub, up to 4 m height; young branches villous. Leaves alternate one, two or three pinnate 21.5 to 35.2 cm, 7.2 cm to 13.0 cm. Veins prominent 12- 14 pairs; rachises 7-20 cm long, angled, pubescent; petioles 6-15 cm long; stipules oblong-obovate, 3-8 to 3-6 cm, pubescent to densely hairy, caducous; leaflets 5 -many, oblong-lanceolate,

ovate to lanceolate, elliptic to lanceolate, cuneate to truncate, sometimes subcordate or rounded at base, sharply serrate at margin, acuminate to caudate at apex, membranous, hispid with scattered grey hairs above, hirsute on nerves. Inflorescence leaf opposed, 6-10 cm long, more or less glandular-hairy; peduncles 1-4 cm long; bracts conspicuous, ovate to oblong, 6-8 to ca 5 mm. Flowers in corymbs, 5-merous, greenish white. Calyx lobed glabrous to densely pubescent. Corolla lobes 2-3 x 1-1.5 mm. Staminal tube 1-2.5 mm long; filaments 1-1.2 mm long; anthers 1-1.2 mm long. Ovary 4-7 loculed; style 1-2 mm long. Fruits globose, 5-7 mm, orange-red, black when ripe; seeds 3-6. **(Fig-2)**

Distribution: India, East Himalaya, Bangladesh, Myanmar, Nepal Borneo, Cambodia, China South-Central. In India, it is distributed to Andhra Pradesh, Uttar Pradesh, Bihar, West Bengal, Sikkim, Assam, Arunachal Pradesh, Odisha, Madhya Pradesh, Maharashtra, Karnataka, Tamil

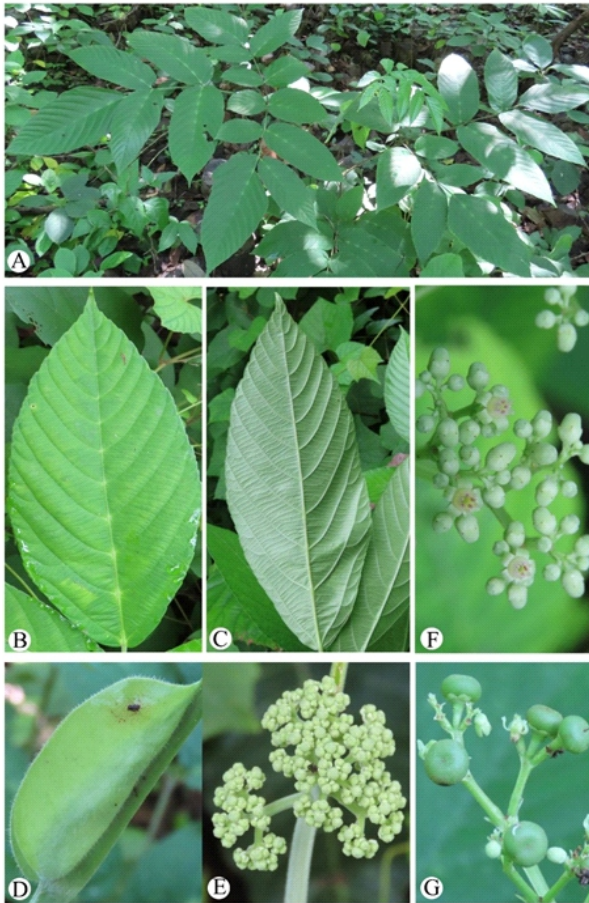


Figure 2: *Leea aequata* L. A- Habitat, B & C- Upper and Lower surface of the leaves, D- Stipule, E- Flower buds, F, Inflorescence, G. Fruits.

Nadu and Andaman Islands (Amisha Nehru *et al* 2021). The present record from Telangana state: Bhadradi Kothagudem district.

Flowering and fruiting: July to December

Habitat and ecology: Six well established individuals were located near Chinnaravigudem Reserve Forest and three individuals were located near Olvachelaka Reserve Forest of Bhadradi Kothagudem district, growing in rocky soil and near small water streams up to 103 m elevation in association with *Baliospermum solanifolium* (Burm.) Suresh, *Leea asiatica* (L.) Ridsdale, *Bridelia montana* (Roxb.) Willd., *Ficus hispida* L.f., *Hellenia speciosa* (J.Koenig) S.R.Dutta, and *Ampelocissus latifolia* (Roxb.) Planch.

Specimens examined: INDIA. Telangana state. Bhadradi Kothagudem district, Manuguru

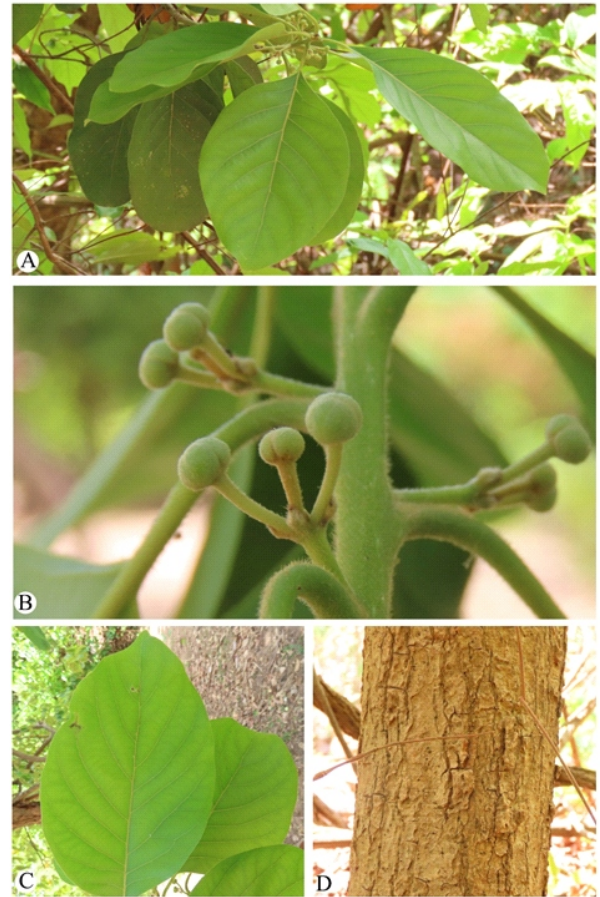


Figure 3: A- Small twig, B- Fruits, C- Leaf Upper surface, D. Bark.

Mandal, Chinnaravigudem and Olvachelaka, 16 July 2021, G. Ravi 602 (Bharatiya Engineering Science and Technology Innovation University, Anantapur, Andhra Pradesh-515731, India).

2. *Litsea monopetala* (Roxb. ex Baker) Pers. In: Syn. Pl. 2: 4. (1807).; *Tetranthera monopetala* Roxb. Pl. Cor. 2: 26. F. 148. 1798; *Litsea polyantha* Juss. In Ann. Mus. Hist. Paris 6: 211. 1805; FB1: 162. 1886; Gamble 2: 1237 (866). 1925.

The genus *Litsea* consists of about 400 species which is largest genus in the family Lauraceae distributed in tropical and subtropical Asia, Australia, New Zealand, North America and subtropical South America (Chaing *et al.* 2012). In India about 45 species are distributed in evergreen and semi evergreen forests of peninsular India, 40 of which are endemic to peninsular India (Bhuniya *et al.* 2010). The genus *Litsea* has represented by only one species in Telangana state, i.e., *Litsea*

glutinosa (Lour.) C.B.Rob. (Pullaiah 2015, Reddy and Reddy 2016).

Medium sized evergreen tree, up to 6 m high, bark brown colour branchlets densely pubescent. Leaves alternate; petiole 1-3 cm, densely hairy; leaf blade elliptic-oblong, broadly ovate or obovate to ovate-oblong, 8-20 × 4-12 cm, base acute to shortly acuminate, sub-coriaceous, entire margin, base rounded or acute, apex obtuse or rounded, rarely acute, ferruginous pubescent abaxially, along midrib ferruginous pubescent adaxially when young, penni nerved, lateral veins 8-12 pairs, Umbels clustered on shortest branchlets, 4-6-flowered or more; peduncle 4-6 mm. Fruit long ovoid, 7 × 5 mm, seated on shallowly discoid perianth tube; fruiting pedicel 1 cm. (Fig-3)

Distribution: India, Myanmar, Pakistan, and China. In India it is distributed throughout the Maharashtra, Tamil Nadu and Andhra Pradesh, and the present record from Telangana state Bhadradi Kothagudem district.

Flowering and fruiting: February to May.

Habitat and ecology: One well established individual tree species were located near Chinnaravigudem reserve forest of Bhadradi Kothagudem district, found in shady places in ravines up to 98 m elevation in association with *Mallotus philippensis* (Lam.) Müll.Arg. *Wrightia arborea* (Dennst.) Mabb. *Baliospermum solanifolium* (Burm.) Suresh, *Leea asiatica* (L.) Ridsdale, *Ficus hispida* L.f. and *Allophylus serratus* (Roxb.) Kurz.

Specimens examined: INDIA. Telangana state. Bhadradi Kothagudem district, Manuguru mandal, Chinnaravigudem, 18 July 2021, G. Ravi 618 (Bharatiya Engineering Science and Technology Innovation University, Anantapur, Andhra Pradesh-515731, India).

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