



## A new variety of *Eugenia codyensis* Munro ex Wight (Myrtaceae) from lateritic plateaus of north Kerala, India.

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**Abstract:** A new variety of *Eugenia codyensis* Munro ex Wight is described and illustrated from lateritic plateaus of north Kerala, India. It is closely allied but differs from the type variety *Eugenia codyensis* Munro ex Wight var. *codyensis* in having thinly coriaceous and narrowly elliptic to elliptic-oblong leaves with attenuate bases and narrowly acuminate apices and slightly revolute leaf margins, small oblong bracts and ovate-deltoid bracteoles, sessile to subsessile, small flowers with orbicular sepals and obovate petals, rounded disc, shallowly cup-shaped hypanthium and ovary cell with 3 ovules, and small depressed - globose fruits.

**Keywords:** Taxonomy; Myrtales; pantropical; *var.nov.*

### Introduction

The pantropical genus *Eugenia* L. (Myrtaceae) is distributed in the tropical regions of the world with about 1200 species, 8 subspecies and 7 varieties (WCSP. 2020). In India, the genus represents 24 species, one subspecies and one variety (Duthie 1879; Shareef *et al.* 2019; Murugesan *et al.* 2019; Murugan & Arumugam 2019) and 12 species in Sri Lanka (Ashton 1981). The Western Ghats of Peninsular India harbors a rich diversity of the genus with 26 taxa (24 species, 1 subspecies and 1 variety); of which 18 taxa are endemic to this region (Nayar *et al.*, 2014; E.S.S. Kumar *et al.* 2014; Shareef *et al.* 2019; Murugesan *et al.* 2019; Murugan & Arumugam 2019). Kerala region of the Western Ghats represents 19 taxa, of which *Eugenia kalamii* Shareef *et al.* and *E. terpnophylla* var. *keralensis* Shareef *et al.* are strict endemics to Kerala.

During the floristic studies on the lateritic plateaus of north Kerala, interesting specimens belong to the genus *Eugenia* have been collected

from Ananthapura (near Sri Anantha Padmanabha Swamy Temple) of Kasaragod district in Kerala state. The specimens were apparently similar to *Eugenia codyensis* Munro ex Wight, an Asiatic floral element distributed in India, Sri Lanka, and Mauritius and differed in having thinly coriaceous and narrowly elliptic to elliptic-oblong leaves with attenuate bases and narrowly acuminate apices and slightly revolute leaf margins, small oblong bracts and ovate-deltoid bracteoles, sessile to subsessile, small flowers with orbicular sepals and obovate petals, rounded disc, shallowly cup-shaped hypanthium and ovary cell with 3 ovules, and small depressed globose fruits (Table 1).

On critical studies with protologue and other (Fl. Brit. Ind., 1879; Fl. Pres. Madras, 1919; Ill. Ind. Bot, 1841) and type specimen (K000821511, herb. image!), it turned out to be a variety new to science. Hence it is described and illustrated here as new variety based on living specimens.

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**Taxonomic treatment**

*Eugenia codyensis* Munro ex Wight var. *obovata* Rijuraj, Rajendraprasad, Shareef & Shaju var. *nov.*

*Eugenia codyensis* Munro ex Wight var. *obovata* Rijuraj, Rajendraprasad Shareef and Shaju var. *nov.* is similar to the type variety but differs in having young branches with sparsely pubescent tips, thinly coriaceous and narrowly elliptic to elliptic-oblong leaves with attenuate bases and narrowly acuminate apices and slightly revolute leaf margins, small oblong bracts and ovate-deltoid bracteoles, sessile to subsessile, small flowers with orbicular sepals and obovate petals, rounded disc, shallowly cup-shaped hypanthium and ovary cell with 3 ovules, and small depressed-globose fruits.

**Type:** INDIA. Kerala State: Kasaragod district, Ananthapura, 12° 35.027' N, 74° 59.175' E, ± 103m, January 2019. *Shaju and Rijuraj 93849* (holotype TBGT!; isotype TBGT!, MH!)

Bushy shrub/ small tree, to 3 m tall; bark grayish-white, rough; branchlets many terete, younger brownish, sparsely pubescent towards tip, glabrous when mature. Leaves petiolate; petioles 0.8-1 cm long, canaliculate above; lamina narrowly elliptic to elliptic-oblong, 7-9 x 2.5- 3.5 cm, thinly coriaceous, punctate on both surfaces, attenuate at base and narrowly acuminate at apex, margin slightly revolute, nerves 10-14 pairs, very slender, faint, intra marginal nerve 1-tired, slender, ca.1mm from the margin, midveins prominent, channeled above, raised beneath; Flowers creamy-white, ca. 1.2 cm, brownish when dry, usually 3-5 and rarely solitary, axillary and terminal; sessile or subsessile, pedicels to 0.5 cm long, golden pubescent; bracts 2, oblong, ca.1.5 x 0.5mm, obtuse at apex, ciliate at the margin; bracteoles 2, ovate-deltoid, 1.5x 2mm, pubescent. Sepals 4, glandulate; lobes orbicular, rounded at apex, margin sparsely ciliate, persistent. Petals 4, obovate, 5x3 mm,

free, creamy-white, pubescent along margins, glandulate, reflexed, caducous after anthesis. Stamens many, unequal, white, glabrous, 3-3.5 mm long; anther lobe 2-celled, parallel, ovate, minute, versatile, latrorse; disc slightly enlarged, rounded, pubescent. Hypanthium shallowly cup-shaped, 1-2 x 2-2.5 mm, silvery or tawny tomentose, bilocular; ovules 3 in each locule on axile placentation; style slender, glabrous; stigma simple. Fruit depressed globose, ca. 0.8-0.9 x 0.9-1.2 cm, green, pubescent at base and apex, sparsely at the center, crowned with persistent calyx lobes. Seeds 2, rarely solitary, planoconvex.

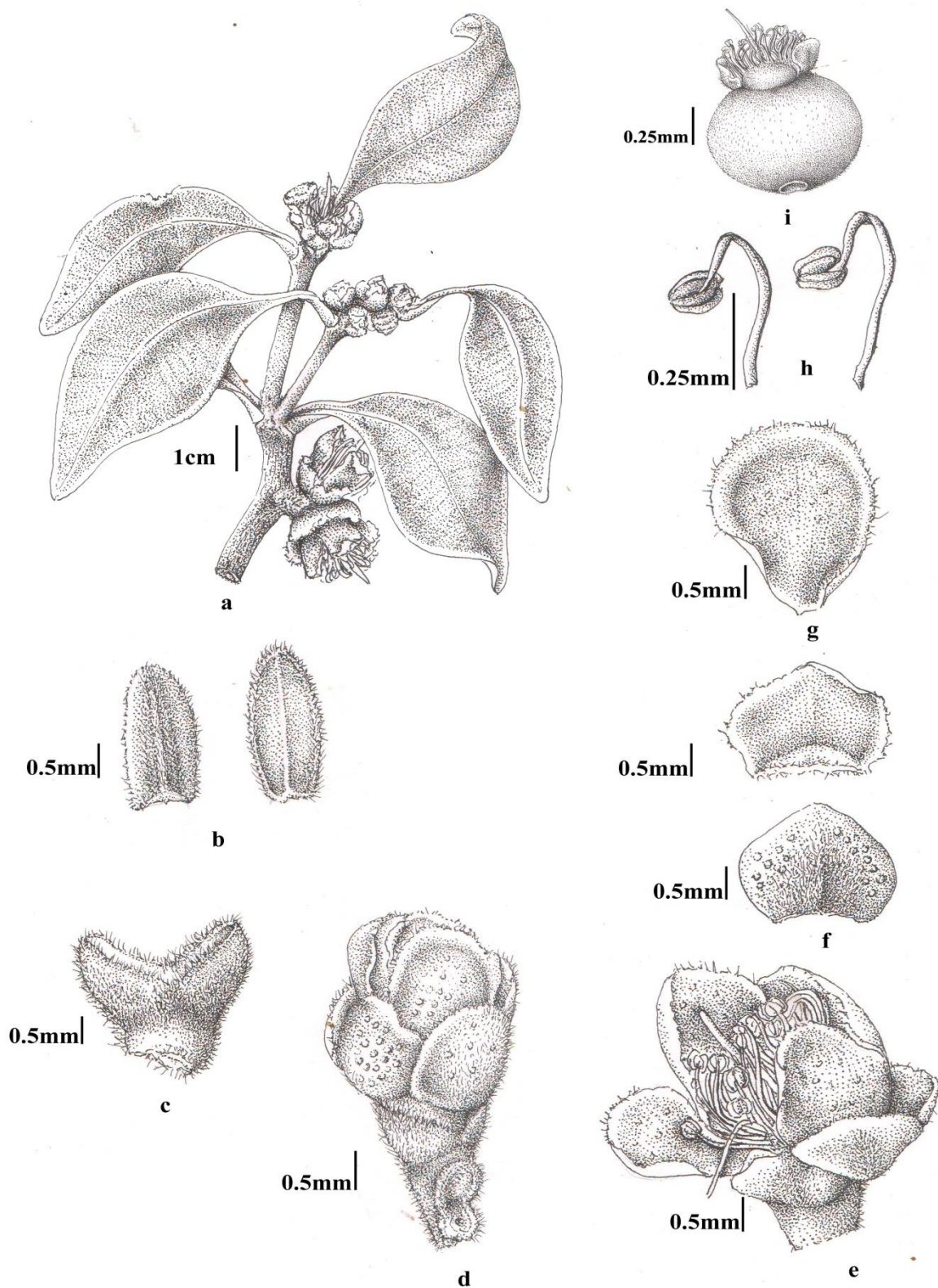
**Flowering and fruiting:** January - February

**Ecology & Distribution:** *Eugenia codyensis* Munro ex Wight is usually found in the evergreen forests, above 900m from mean sea level. But the occurrence and distribution of the new variety have been restricted in the scrub vegetations or eco groves on lateritic plateau of north Kerala at an altitude of 103 m. The new variety is associated with native species like *Asparagus racemosus* Willd., *Briedelia stipularis* (L.) Blume, *Getonia floribunda* Roxb., *Canthium coromandel-icum* (Burm. f.) Alston, *C. rheedei* DC., *Olea dioica* Roxb., *Wattakaka volubilis* (L. f.) Stapf, *Kammetia caryophyllata* (Roxb.) Nicolson & Suresh, *Flacourtia indica* (Burm.f.) Merr., *Falconeria insignis* Royle, *Lannea coromandelica* (Houtt.) Merr., *Macaranga peltate* (Roxb.) Muell. -Arg., *Loeseneriella arnottiana* (Wight) A.C. Smith, *Ziziphus oenoplia* (L.) Mill., *Acacia caesia* (L.) Willd., *Memecylon umbellatum* Burm.f., and *Syzygium caryo-phyllatum* (L.) Alston, etc. in the type locality, there exist a limited number of mature individuals and a few different aged seedlings, which indicates the need of protecting the present habitat of its occurrence.

**Etymology:** The new variety is named after the distinct floral character *i.e.*, obovate petal.



**Figure 1.** *Eugenia codyensis* Munro ex Wight var. *obovata* Rijuraj, Rajendraprasad Shareef & Shaju var. nov. **a:** Habitat. **b:** Habit (inset). **c:** Flowering twig. **d:** Fruiting twig. **e:** Flower bud. **f:** Inflorescence. **g:** Single flower. **h:** Flower L.S. **i:** Fruit. **j:** Fruit L.S. **k:** Hypanthium L.S. showing ovary.



**Figure 2.** *Eugenia codyensis* Munro ex Wight var. *obovata* Rijuraj, Rajendraprasad Shareef & Shaju var. nov. **a:** Habit. **b:** Bract. **c:** Bracteole. **d:** Flower bud. **e:** Single flower. **f:** Sepal (ventral & dorsal view). **g:** Petal. **h:** Stamens. **i:** Fruit.

**Table 1:** Comparison of morphological differences of *E. codyensis* var. *codyensis* with var. *nov.*

| Characters   | <i>Eugenia codyensis</i>                  | var. <i>nov.</i>  |
|--------------|---|---|
| Young shoots | Clothed with white pubescent              | Sparsely pubescent towards tip  |
| Texture      | Thickly coriaceous                        | Thinly coriaceous   |
| Shape        | Ovate-oblong to obovate                   | Narrowly elliptic to elliptic- oblong   |
| Leaves       | Base                                      | Broadly cuneate   |
|              | Apex                                      | Bluntly acuminate   |
|              | Margin                                    | Prominently revolute  |
|              | Pedicele                                  | Subsessile to pedicellate, to 3.5cm long  |
| Bract        | Broadly deltoid, acute at apex, 3 x 3mm   | Oblong, obtuse at apex, 1.5x 0.5mm  |
| Bracteole    | Oblong, 6x 3mm, rounded at apex           | Ovate deltoid, 1.5 x 2mm,   |
| Size         | 2-2.5 cm across                           | Ca. 1.2 cm across   |
| Flower       | Sepals                                    | broadly ovate, lobes unequal, obtuse at apex, ciliate at the margins                          |
|              | Petals                                    | elliptic-spathulate, 15 x 10mm  |
|              | Hypanthium                                | Globose, 8 x 7mm, fulvous pubescent   |
|              | Disc                                      | Quadrangular  |
| Ovules       | many                                      | 3 in each cell  |
| Fruit        | Globose, to 2.5cm diam. fulvous pubescent | Depressed- globose, ca. 0. 8-0.9 x 0.9-1.2 cm, pubescent at base and apex, sparsely at center |

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