

## *Sterculia euosma* (Malvaceae), an addition to the flora of India from Arunachal Pradesh

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**Abstract:** *Sterculia euosma* W.W.Sm. is a little-known species recently collected in Seijosa, Pakke-Kessang district of Arunachal Pradesh and represents a new report in India. The native range of this species is southeast Tibet to south China, and now India. A taxonomic description along with colour photographs, line drawing, ecological notes and distribution are provided here.

**Keywords:** Geographic distribution, India, New Record, Pakke-Kessang district, *Sterculia*.

### Introduction

The genus *Sterculia* L. (Malvaceae) is represented by c. 200 species in the world, which are largely distributed in the tropics and subtropics (Mabberley, 2017; POWO, 2022) and includes 15 species in India (Malick, 1993). Masters (1874) reported 31 species in the *Flora of British India*. Long and Rae (1991) reported four species of *Sterculia* from Bhutan. Kanjilal *et al.* (1934) recorded eight species from the greater Assam comprising of Arunachal Pradesh and other North-eastern states. Materials for the *Flora of Arunachal Pradesh* (Hajra *et al.*, 1996) recorded nine species of this genus for the state. During floristic explorations in Arunachal Pradesh (India), authors have spotted some population of a tree species of *Sterculia* from the forest of Seijosa Circle in the Pakke-Kessang district at an elevation

of 450 m in 2018 and 2019. A perusal of the relevant literature (Masters, 1874; Long & Rae, 1991; Ya *et al.*, 2007), and comparison with the type specimen [K000671643 digital image!], it was identified as *Sterculia euosma* W.W.Sm., a species hitherto not reported from India. A description with colour photographs and a line drawing to facilitate easy identification have been provided. The herbarium sheets were deposited in the Patanjali Research Foundation Herbarium (PRFH), Haridwar, Uttarakhand. Additionally, notes on phenology, ecology, distribution and a comparison with morphologically most similar species, *S. guttata* Roxb., have been provided.

### Taxonomic Treatment

*Sterculia euosma* W.W.Sm., Notes Roy. Bot. Gard. Edinburgh. 10: 72. 1917; Ya *et al.* in Wu *et al.* (eds.), Fl. China 12: 306. 2007. **Figs. 1 & 2**

Deciduous, branched trees up to 15 m tall, bark rusty velutinous; young branchlets densely yellowish brown villous, glabrescent. Leaves simple, clustered at branch tips, elliptic-obovate, 15–25 × 8–13 cm, obliquely cordate at base, shortly acuminate at apex, margins entire, upper surface glabrous, lower surface densely yellowish-brown stellate villous, basal nerves 5; petioles up to 5 cm long, terete, rusty stellate-velutinous. Racemes clustered sub-apically on branchlets, produced simultaneously with new leaves, minutely yellowish-brown villous. Flowers

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Fig. 1. *Sterculia euosma* W.W.Sm.: a. Branch with inflorescences; b. Close-up of fruiting branch (photos by Anupam Srivastava).

fragrant; pedicels 1–1.5 cm long. Calyx dark red, c. 1 cm long, conniving at tip, divided nearly to base; lobes linear-lanceolate, pubescent below, glabrous above. Petals absent. Androgynophore c. 2 mm long. Stamens 10. Ovary ovoid, densely hairy; style curved, villous. Fruit c. 10 × 3 cm, red when mature, woody; seeds ovoid, c. 2 cm long, black.

*Flowering & fruiting:* Flowering in February to April, and fruiting from March to July.

*Habitat:* Rare, found on hill slopes in mixed deciduous broad-leaved forests in association with *Aralia armata* (Wall. ex G.Don) Seem. (Araliaceae), *Castanopsis tribuloides* (Sm.) A.DC. (Fagaceae), *Dillenia indica* L. (Dilleniaceae), *Entada rheedei* Spreng., *Senegalia pennata* (L.) Maslin (both Fabaceae), *Garcinia pedunculata* Roxb. ex Buch.-Ham. (Clusiaceae), *Hodgsonia macrocarpa* (Blume) Cogn. (Cucurbitaceae) and others, in sandy loam soil in a moist humid climate.

*Distribution:* Southeast Tibet to South China and now in India.

*Specimen examined:* INDIA, Arunachal Pradesh,

Pakke-Kessang district, Seijosa, 450 m, 17.04.2018, Acharya Balkrishna 2264 (PRFH).



Fig. 2. Line diagram of *Sterculia euosma* W.W.Sm. (drawn by Prashant Vats).

**Table 1.** A morphological comparison of *S. euosma* with *S. guttata*

Characters	<i>S. euosma</i> W.W.Sm.	<i>S. guttata</i> Roxb.
Leaves	Elliptic-obovate, base obliquely cordate, apex shortly acuminate	Ovate-oblong, ovate-elliptic or obovate, base sub-cordate, rounded or sub-truncate, apex acute or abruptly shortly acuminate
Petioles	Rusty stellate-velutinous	Stellate-pubescent
Flowers	Fragrant	Foetid
Calyx colour	Dark red	Creamy yellow outside and maroon inside
Calyx lobes	Conniving at tip, c. 1 cm, divided nearly to base; lobes linear-lanceolate, glabrous above, pubescent below	Spreading, c. 7 × 4 mm, campanulate; lobes broadly ovate, densely pubescent above, glandular below

*Notes:* *Sterculia euosma* resembles *S. guttata* Roxb., but differs in having creamy yellow flowers with maroon inside and spreading calyx lobes, while *S. euosma* has red flowers and a calyx conniving at the tip. This species shares with *S. parviflora* Roxb. ex G.Don and *S. rubiginosa* Vent. a calyx conniving at the tip. The latter two species have a rounded leaf base as well as white (*S. rubiginosa*) and yellowish-brown (*S. parviflora*) flowers. Additionally, the petiole length of *S. parviflora* is 2–3 cm while in *S. rubiginosa* it ranges between 0.5–1.5 cm. Hajra *et al.* (1996) mentioned insufficiently known materials from Arunachal Pradesh. After consulting relevant literature (Masters, 1874; Long & Rae, 1991; Ya *et al.*, 2007), we conclude these to represent a new distributional record of *S. euosma* for India. Its habitat needs special attention for conservation in this region because the occurrence density of this tree is very low and only a few patches of this species were found around this area.

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