

Terminalia santisukiana (Combretaceae), a new species from North-Eastern Thailand

NANNAPAT PATTHARAHIRANTRICIN^{1,*} & MANOP POOPATH¹

ABSTRACT

A new species of *Terminalia*, *T. santisukiana* (Combretaceae) from fresh water swamp forest in North-Eastern Thailand is described and illustrated. The new species is similar to *Terminalia nigrovenulosa*, having similar leaves with glands on the leaf margin near the base and paniculate inflorescences, but it is mainly distinguished by the loose panicles with dense indumentum on the flowers and the 4–5-winged fruits. It is also similar to *Terminalia polyantha*, having 4–5-winged fruits, but differs by the dense indumentum on the flowers and asymmetrical fruits.

KEYWORDS: Fresh water swamp forest, Sakon Nakhon, *Terminalia nigrovenulosa*, *Terminalia polyantha*.

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INTRODUCTION

The genus *Terminalia* L. is the second largest genus of Combretaceae, belonging to subfamily Combretoideae Engl. & Diels, tribe Combreteae DC., subtribe Terminaliinae (DC.) Exell & Stace (Stace, 2007). It comprises about 190 species and is widely distributed pantropically with a centre in Asia (Stace, 2007, 2010). The genus is characterised by having spiral, alternate and opposite to subopposite leaves, or crowded into pseudowhorls at the apices of branchlets; flowers having a receptacle without bracteoles, and petals are absent; and by showing a notable variation of fruit types, ranging from fleshy and drupe-like, to dry and leathery or corky, and often longitudinally 2–5-winged or ridged.

Recently, as part of a recent study on the phylogeny of the subtribe Terminaliinae, *Anogeissus* (DC.) Wall., *Buchenavia* Eichler and *Pteleopsis* Engl. were transferred to *Terminalia* (Maurin *et al.*, 2017). Consequently, one of the two Thai species of *Anogeissus*, *A. acuminata* (Roxb. ex DC.) Guill. & Perr. was included as a synonym under *Terminalia phillyreifolia* (Van Heurck & Müll.Arg.) Gere & Boatwr., and *A. rivularis* (Gagnep.) O.Lecompte was recombined as *T. rivularis* (Gagnep.) Gere & Boatwr. (Maurin *et al.*, 2017).

In Thailand, the genus *Terminalia* was enumerated by Craib (1931) and Nanakorn (1984, 1985) with 21 species and 17 species (3 varieties; 1 introduced species) included, respectively. Gardner *et al.* (2015) additionally recorded *Terminalia phellocarpa* King from Peninsular Thailand.

In the study of Combretaceae for the Flora of Thailand by the first author, specimens collected from fresh water swamp forest, along the Nam Un River, a branch of the Songkhram River in Sakon Nakhon, North-Eastern Thailand, by the second author could not be matched with any previously known *Terminalia*. We here describe it as a new species, *Terminalia santisukiana* Patthar. & Poopath.

TAXONOMY

***Terminalia santisukiana* Patthar. & Poopath, sp. nov.**

Similar to *Terminalia nigrovenulosa* Pierre by similar leaves with glands on their margin near the base and paniculate inflorescences, but differing in its outer bark being smooth or scaly outside, inner bark yellowish brown, loose panicles with a dense indumentum, whitish flowers that are densely pubescent on the outside at the base of the receptacle (lower receptacle) and pubescent inside towards the

¹ Forest Herbarium, Department of National Parks, Wildlife and Plant Conservation, Chatuchak, Bangkok, 10900 Thailand.

* Corresponding author: nannapat@dnp.mail.go.th

apex of the receptacle (upper receptacle), and ovoid to broadly ellipsoid (4–)5-winged fruits (versus smooth outer bark with shallow longitudinal streaks, bright orange-red inner bark, compact panicles, pale yellow flowers that are glabrous outside at the base of the receptacle, and oblong, (2–)3-winged fruits in *T. nigrovenulosa*). It is also similar to *Terminalia polyantha* C.Presl, from the Philippines, in having 4–5-winged fruits, but it differs in flowers with a dense indumentum on the apex of the receptacle, asymmetrical fruits, and growing in fresh water swamp forest (versus flowers glabrous at the apex of the receptacle, symmetrical fruits, and growing in dry thickets and secondary forests). Type: Thailand, Sakon Nakhon, Phanna Nihom, Ban Non Sai Kham, 165 m alt., 25 Apr. 2017, *Poopath, Karaket, Khammongkol & Jirakorn FP160* (holotype **BKF!**; isotypes **BKF!**, **K!**). Figs. 1–2.

Trees 5–10 m tall; bark smooth or scaly, greyish brown; inner bark yellowish brown. *Leaves* opposite or subopposite, coriaceous, obovate-oblong, oblong, or obovate to narrowly elliptic, 2–7 × 1.2–2.8 cm, glabrous or slightly pubescent on the midrib of the upper surface towards the base, glabrous, ± glaucous on the lower surface; base obtuse or ± cuneate, symmetrical or obscurely oblique, with glands on margins near the base; apex obtuse, acute to acuminate, margin entire or slightly undulate, midrib prominent on the lower surface; secondary veins 6–11 on each side; petioles 5–8(–10) mm long, sometimes persistent and thorn-like, sparsely pubescent to glabrous. *Inflorescences* paniculate, axillary to terminal, loose, 2–8 cm long; peduncle 0.8–1.5 cm long, pubescent. *Flowers* (4–)5-merous, whitish; ca 6.5 mm long (length of the receptacle, also including stamens), ca 3 mm in diam.; lower receptacle 1–1.5 mm long, densely pubescent outside, base densely tomentose inside; upper receptacle campanulate, 2–3 mm long, glabrous outside, pubescent inside; calyx lobes triangular, ca 0.5 mm long, apex acute, puberulous inside; bracts caducous, oblong, ca 1.5 mm long, margins ciliate. *Stamens* (8–)10, exerted at base and near middle of upper receptacle, arranged into 2 rows; filaments white, 3.4–4 mm long; anthers pale yellow, versatile. *Ovules* 2. *Style* white, 4–4.5 mm long. *Fruits* (4–)5-winged, unequal, ovoid to broadly ellipsoid, 2.5–3 cm long; wings 5–8 mm wide, coriaceous, glabrous; young fruits light green, tinted reddish purple, turning reddish brown with age.

Thailand.— NORTH-EASTERN: Sakon Nakhon [Phanna Nihom, *Poopath et al. FP160* (**BKF, K**)].

Distribution.— Known from the type locality only.

Ecology.— Fresh water swamp forest, along the Nam Un River, branch of the Songkhram River, a tributary of the Mekong River; ca 150 m alt. Flowering and fruiting April–May.

Vernacular.— Khi ai nam (ขี้ไต้หน้ำ), saeng kham tham (แสงคำทาม), saen kham tham (แสนคำทาม) (General).

Etymology.— The species is named in honour of the late Prof. Dr Thawatchai Santisuk (1944–2020), who was an editor of the Thai Forest Bulletin (Botany) (1991–2013) and Editor-in-Chief of the Flora of Thailand (1997–2013).

Proposed IUCN conservation status.— Data Deficient (DD), this species is only known from one locality and its population size is unknown.

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Figure 1. *Terminalia santisukiana* Patthar. & Poopath: A. habit; B. gland on margin near base ($\times 20$); C. inflorescence; D. flower bud and bract; E. flower, side view (a. lower receptacle, b. upper receptacle); F. dissected flower; G. 4- and 5-winged fruits, top view. All from Poopath *et al.* *FP160* (BKF). Drawn by Mahsaraha Rungkrjang.

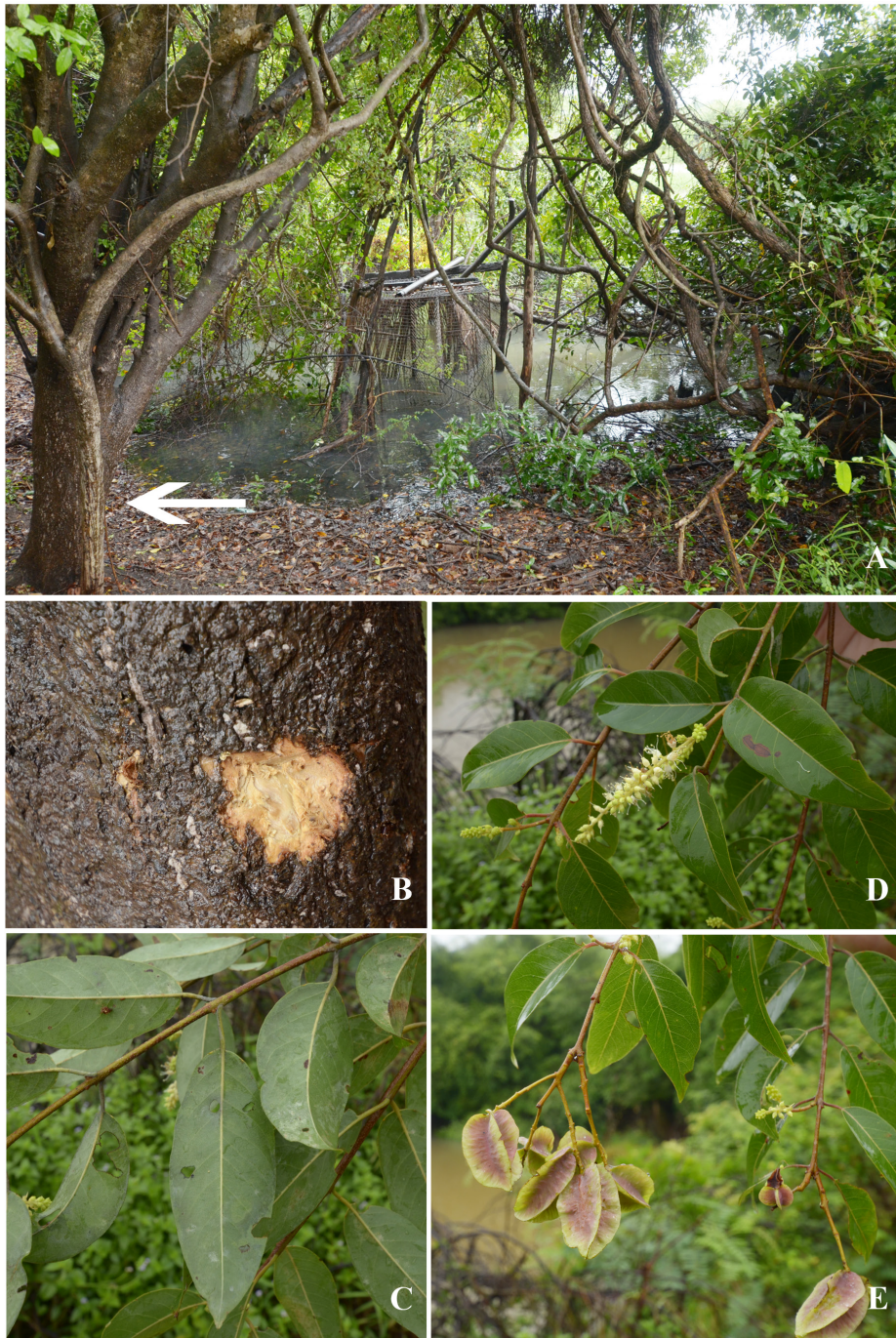


Figure 2. *Terminalia santisukiana* Patthar. & Poopath: A. habitat, the tree is the largest trunk (arrow); B. bark; C. lower surface of glaucous leaves; D. inflorescences; E. infructescences. Photos by Manop Poopath.

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