

A new species of *Wrightia* (Apocynaceae: Apocynoideae) from Thailand

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ABSTRACT. *Wrightia sirikitiae* D.J. Middleton & Santisuk is described as a new species.

INTRODUCTION

The Apocynaceae for the Flora of Thailand was published recently (Middleton, 1999) and included 10 species of *Wrightia*, of which one species was referred to simply as *Wrightia* sp. 1. The species, collected by Thawatchai Santisuk and Tem Smitinand on 27th April 1972, was not formally described prior to this publication due to the lack of good material. After several visits to the original collection site the species was eventually refound in February 2001 and a collection made on which this description is based.

Wrightia sirikitiae D.J. Middleton & Santisuk, sp. nov.

Type: Thailand, Saraburi, Phra Phutthabat. Limestone hill behind Phra Phutthabat temple, 14° 43' N, 100° 47' E, 90 m altitude, dry limestone hill in thorny scrub, 27th February 2001, D.J. Middleton & T. Wongprasert 579 (A holotype; AAU, BKF, E, K, L, MO, NY, TCD isotypes). Figs. 1–4.

Frutex truncis tuberculatis. Folia elliptica, apice breviter acuminata, basi late cuneata vel obtusa, 2.6–8.3 cm longa, 1.7–3.9 cm lata. Inflorescentia ut videtur terminalis, 4–8-flora, 3.9–5.1 cm longa, breviter puberula. Calyx lobis late deltoideis, 1.6–1.7 mm longis, 2–2.1 mm latis. Corolla albida; tubus 14–17 mm longus, extra glaber; lobi 17–22 mm longi, 6.5–11 mm lati, alabastro sinistrosum obtegentes; coronae filamenta 3-seriata. Stamina ad apicem tubi affixa, filamentis crassis, 2 mm longis; antherae exsertae, anguste sagittatae, 9 mm longis, 2.6 mm latis. Ovarium pubescens, 2 mm altum. Fructus 8.5–14 cm longus, 1–1.5 cm latus.

Tree to 6 m tall, 20 cm dbh. Bark pale brown with frequent tubercles, inner bark green, producing copious white latex when cut. Twig bark pale brown, pale lenticellate, densely pubescent when young. Leaves: petiole 0.4–0.8 cm long, puberulent; blade 2.6–8.3 by 1.7–3.9 cm, 1.5–2.8 × as long as wide, elliptic, apex shortly acuminate, base cuneate to obtuse, mid-green above and beneath; midrib sunken above, prominent beneath, secondary veins slightly sunken above, slightly prominent beneath, 8–14 pairs,

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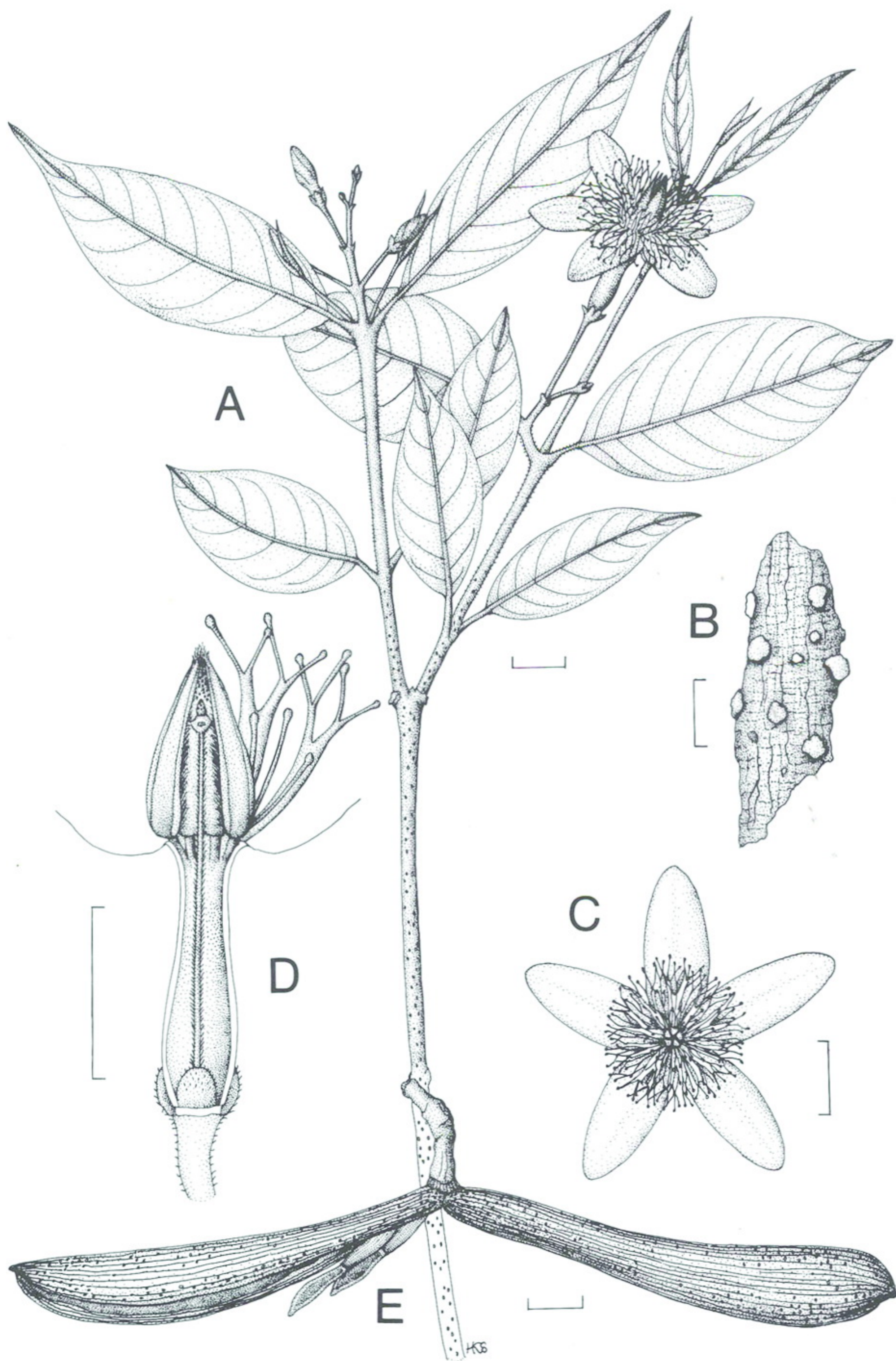


Figure 1. *Wrightia sirikitiae* D.J. Middleton & Santisuk: A. habit; B. bark; C. flower; D. dissected flower; E. fruit. Scale bars all 1 cm.

tertiary venation reticulate; puberulent only on midrib and some veins above, densely puberulent all over beneath, somewhat more so on the midrib and veins. Inflorescence terminal, dichasial, 3.9–5.1 cm long, 4–8-flowered, bracts deciduous; peduncle 0.2–0.6 cm long, densely and minutely white puberulent; pedicels 5–12.5 mm long, densely and minutely white puberulent. Flowers quite variable in size and shape even on a single tree. Calyx lobes deltoid, apex obtuse to rounded, 1.6–1.7 by 2–2.1 mm, 0.8–0.9 \times as long as wide; sparsely puberulent outside, glabrous inside, ciliate; with two broad collectors inside each lobe, 0.9–1.2 mm high, 0.9–1 mm wide, irregularly dentate on top. Corolla greenish-white, salverform; tube 14–17 mm long, 2–2.8 mm wide, broadest at base, narrower near apex, glabrous outside, glabrous inside except for the stamens; lobes sinistorse in bud, ovate to oblong, apex obtuse to rounded, 14–22 mm by 6.5–11 mm, 1.4–3.4 \times as long as wide, puberulent outside and inside. Corona consisting of antepetalous, alternipetalous and alternate lobes (following the terminology of Ngan (1965)), sparsely puberulent; antepetalous lobes adnate to the corolla lobes for about 0.4 of corona lobe length, fused for lower half then irregularly breaking up into filaments each with a slightly swollen tip, 11–12 mm long; alternipetalous lobes fused to the corolla only at base, irregularly breaking up into filaments with a slightly swollen tip, 8–10 mm long; alternate lobes consisting of free single filaments 1.7–6 mm long. Stamens inserted at corolla throat; filaments pubescent, 2 mm long, almost as wide as anthers; anthers 9 mm long, 2.6 mm wide, apex acuminate, base sagittate, pubescent at tip on outer surface, pubescent all over on inner surface, adnate to the top of the pistil head and then again to the base of the pistil head. Ovary 2 mm high, pubescent; style 17.5 mm long, pubescent, pistil head 1.9 mm long of which basal collar is 0.7 mm. Fruit of paired follicles, pendulous, fusiform but somewhat wider towards the apex and slightly curved upwards, greenish-brown and densely pale brown lenticellate, 8.5–14 cm long, 1–1.5 cm across. Seeds with a coma pointing towards the base of the follicle; grain narrowly ellipsoid, 14–16.5 by 2.4–2.8 mm; coma 26–29 mm long.

Distribution.— THAILAND: Saraburi, Phra Phutthabat, *Middleton & Wongprasert* 579 (A, AAU, BKF, E, K, L, MO, NY, TCD), *Santisuk & Smitinand s.n.* (BKF), *Wongprasert* 012-02 (BKF).

Habitat.— Known only from one site growing in fissures and on thin soil on limestone mountain.

Notes.— The genus *Wrightia* was last monographed by Ngan (1965) who recognised 23 species in four sections. *Wrightia sirikitiae* is similar in its relative flower part lengths to *W. antidysenterica* (L.) R.Br. although no analyses have been done to establish relationships within the genus. Pichon (1951) had raised de Candolle's section *Wallida* to generic status, with the single species *W. antidysenterica*, based on the possession of a long corolla tube with lobes that are somewhat shorter, a tube sparsely pubescent inside and various characters to do with the pubescence of the anthers and minor differences in relative lengths of the stamen parts. Ngan (1965) rightly suggested that these characters were insufficient to maintain a separate genus but did maintain *Wallida* as a section within *Wrightia*. *W. sirikitiae* could not be placed in any section based on the key given by Ngan but does combine features such as the long corolla tube typical of *W. antidysenterica* with the more robust flower and fruit typical of many other species placed in section *Wrightia*.

The limestone range in Phra Phutthabat, Saraburi, assigned to the Triassic, harbours quite a few endemic taxa, i.e. *Bauhinia winitii* Craib (Leguminosae), *Burretiodendron umbellatum* Kosterm. (Tiliaceae), *Capparis echinocarpa* Pierre ex Gagnep. (Capparaceae), *Combretum procursum* Craib (Combretaceae), *Stephania suberosa* Forman (Menispermaceae), and *Spondias bipinnata* Airy Shaw & Forman (Anacardiaceae). The trees of *Wrightia sirikitiae* known grow beside an endemic genus and species, *Santisukia kerrii* (Barnett & Sandwith) Brummitt (Bignoniaceae) in fissures of dry limestone hill covered with dry mixed deciduous scrub.

During the past three decades the Phra Phutthabat limestone mountains have been heavily subject to cement and marble quarrying. As a consequence, the limestone vegetation and flora are very much deteriorated. Fortunately, the type locality of *Wrightia sirikitiae* has been secured from ruthless quarrying due to its proximity to Wat Phra Phutthabat, one of the most sacred Buddhist temples in Thailand.

The specific epithet is given in honour of Her Majesty Queen Sirikit of Thailand who has long been interested in the diversity and complexity of natural ecological systems. She has initiated a number of projects related to the conservation of biological diversity.

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Figure 2. *Wrightia sirikitiae* D.J. Middleton & Santisuk: Saraburi (a) profusely branched stem in mixed deciduous scrub of dry limestone hill; (b) bark with dense tubercles.

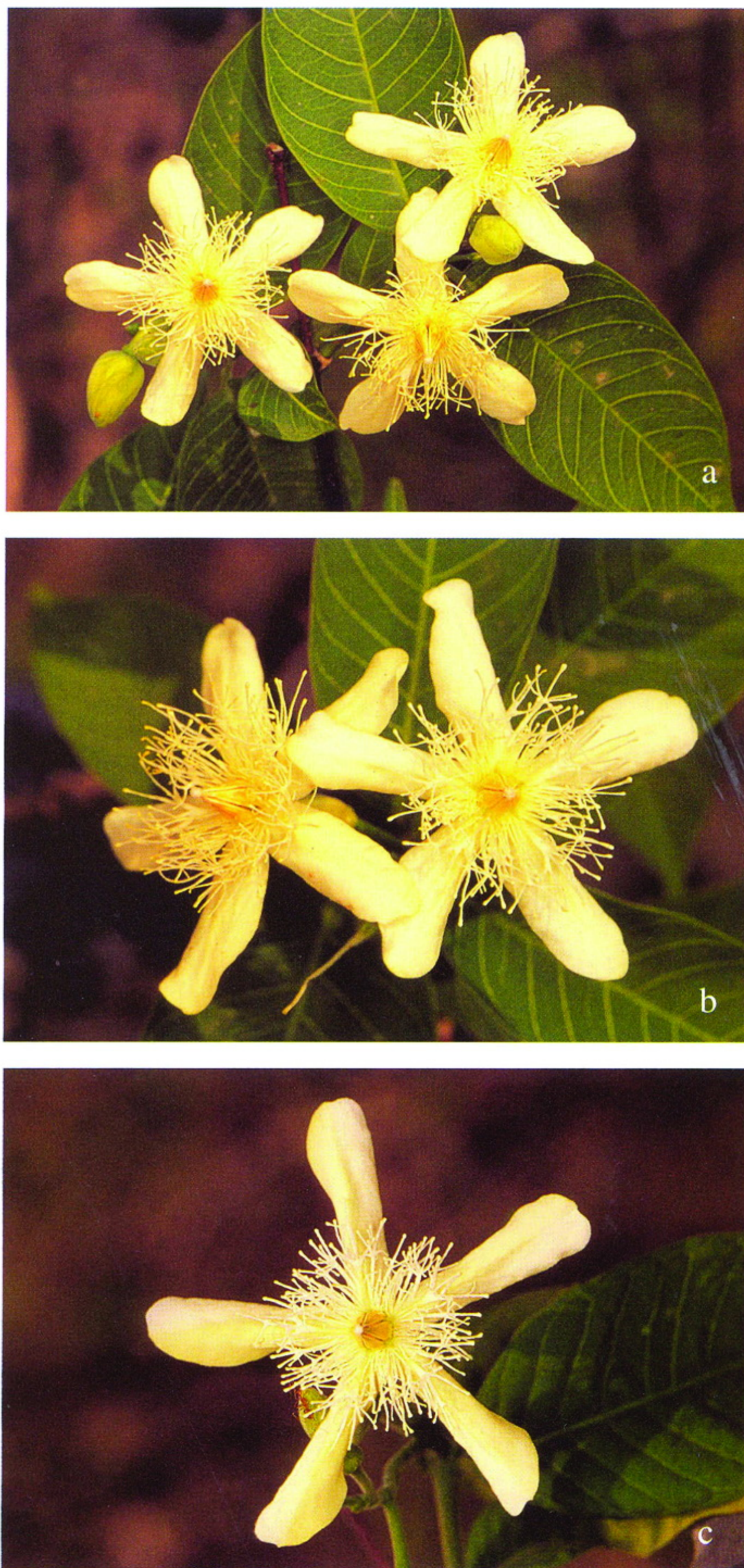


Figure 3. *Wrightia sirikitiae* D.J. Middleton & Santisuk: Saraburi (a), (b), & (c) flowering branch.



Figure 4. *Wrightia sirikitiae* D.J. Middleton & Santisuk: Saraburi (a) flowering and fruiting branches; (b) pendulous, divaricate follicles.