A New Record of *Nyctocalos brunfelsiiflorum* (Bignoniaceae) from Northern Vietnam

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*Nyctocalos brunfelsiiflorum* Teijsm. & Binn. (Bignoniaceae) from Cuc Phuong National Park, Ninh Binh Province and Thach Thanh District, Thanh Hoa Province, Northern Vietnam, is newly recorded for the flora of Vietnam. This species is characterized by leaves pinnately 3–5-foliolate; corolla tube 3–6 cm long; stamens 5, equal or subequal, not exserted. An updated description with color photographs of this species is provided.

**Key words:** Bignoniaceae, new record, *Nyctocalos brunfelsiiflorum*, taxonomy, Vietnam.

The genus *Nyctocalos* Teijsm. & Binn. (Bignoniaceae) comprises three species distributed in SE. Asia and West Malesia (Santisuk 1987). The genus is characterized as generally woody lianas, without tendrils; inflorescences racemose, terminal; calyx campanulate, apex subtruncate, teeth 5; capsule dehiscing septicidally, long ellipsoid, compressed (Zhang and Santisuk 1998). In Vietnam, for the first time, the genus *Nyctocalos* was collected from Thach Thanh District, Thanh Hoa Province, Northern Vietnam by Nguyen Tien Hiep & al., but due to the absence of flowers they could not identify the specimens properly to the species (Nguyen et al. 2002), and it was published as a new record of the genus for the Flora of Vietnam.

In 2014–2015, we carried out field surveys to assess the family Bignoniaceae of the Cuc Phuong National Park (Fig. 1), specimens having full of flowers and fruits of *Nyctocalos* were collected. After detailed morphological comparisons with three species, including *N. brunfelsiiflorum* Teijsm. & Binn., *N. cuspidatum* (Blume) Miq. and *N. pinnatum* Steenis that had been reported by Steenis (1977), Santisuk (1987) and Zhang and Santisuk (1998), and also dry specimens from the herbaria HN, P and VNM, the unknown plants were identified as *N. brunfelsiiflorum*. Here, we report this species as a new record and addition to the flora of Vietnam.

**Taxonomic treatment**

subtruncate with 5 teeth about 2–3 mm long. Corolla white, basal tube 3–6 cm long, the dilated part 2–2.5 cm long; lobes rounded to ovate or truncate, subequal. Stamens 5, fertile, equal or subequal, not exserted; filaments 1.5 cm. Style filiform, glabrous, 6–7 cm long; stigma 2-lobed. Capsule dehiscing septicidally, long ellipsoid, compressed, 10–14 × 3–4 cm, stalked 1–1.5 cm long; dry valves thick leathery with brown outside and golden inside; dry septum blackish brown. Seeds subrounded, 3–4 × 2–3 cm, membranous winged.

Loc. class: Indonesia (Java).

Specimens examined: VIETNAM. Ninh Binh Province, Cuc Phuong National Park, in secondary forests, 20°14′41″N, 105°40′17″E, alt. 120 m, V. S. Dang 222, 27 Jan. 2015, VNM, the Herbarium of Cuc Phuong National Park. Thanh Hoa Province, Thach Thanh District, in secondary forests on schist, 20°17′11″N, 105°36′16″E, alt. 100 m, Nguyen Tien Hiep, Soejarto Djaja Djendoel and Phan Ke Loc NTH-5404, 11 Dec. 2001, HN.

Distribution: China (Yunnan), Indonesia (Java), Malaysia (Sabah, Sarawak), Myanmar, Thailand, Vietnam (Ninh Binh Province and Thanh Hoa Province).

Habitat and ecology: This species occurs on the edge of forests to secondary forests on schist at alt. 100–600 m in Cuc Phuong National Park and Thach Thanh District. Flowering specimens were collected in August and September, and fruiting specimens in October, November and December.

Note: Nyctocalos brunfelsiiiflorum is morphologically similar to N. cuspidatum and N. pinnatum but differs in having a shorter corolla tube, 3–6 cm long (vs. 9–19 cm long) and stamens 5, equal or subequal (vs. stamens 4, didynamous). In Vietnam, it often grows in association with Eupatorium odoratum L., Clausena excavata Burm. f., Urena lobata L., Stixis ovata (Korth.) Hall. f., Mimosa pudica L., Streptocaulon juventas (Lour.) Merr., Mussaenda glabra Vahl. and Rubus alceaefolius Poir.

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Fig. 2. *Nyctocalos brunfelsiiflorum*. A. Habit. B. Leaflet (abaxial view). C. Inflorescence. D. Flower and flowering buds. E. Corolla showing five subequal stamens. F. Young fruit. G. Mature fruit. H. Four winged seeds with one septum fragment.
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References