

The monotypic genus *Zippelia* Blume (Piperaceae): a new record for Thailand

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ABSTRACT. *Zippelia begoniifolia* Blume is a new record for Peninsular Thailand from Khao Luang National Park, Nakhon Si Thammarat. A description, line drawing and photographs are provided.

INTRODUCTION

During preparation of a revision of the family Piperaceae for the Flora of Thailand Project, it has become evident that three specimens from Krung Ching waterfall, Khao Luang National Park, Nakhon Si Thammarat, represent *Zippelia begoniifolia* Blume. Thus this new record is described below.

Generic limits of the poorly known genus *Zippelia* have long been obscure and sometimes it has been placed in the family Saururaceae or Piperaceae (Wu & Wang, 1957; 1958). Its floral organization closely resembles that of *Saururus* (Saururaceae) except for a syncarpous ovary, a single basal ovule, and a different order of stamen initiation than that in the rest of Piperaceae (Tucker *et al.*, 1993). *Zippelia* is sometimes treated under *Piper* L., but we retain as a separate taxon (as did Tebbs 1993), because of its unique fruit with glochidiate hairs and because it has a different basic chromosome number; $x = 19$ in *Zippelia*, but $x = 13$ in *Piper*.

Zippelia is a monotypic genus, the smallest in terms of numbers of species in Piperaceae. It is widely distributed in Southern China and SE Asia (Yongqian *et al.*, 1999).

ZIPPELIA

Blume in Roem. & Schultes, Syst. Veg. 7: 1614. 1830; Benth. & Hook.f., Gen. Pl. 3(1): 128. 1880. Ridl., Fl. Malay Penins. 3: 25. 1924; C.Y.Wu, Acta Phytotax. Sin. 7(2): 193. 1958; Backer & Bakh.f., Fl. Java 1: 167. 1963; Yongqian, Nianhe & M.G.Gilbert, Fl. China 4: 110. 1999.— *Circaeocarpus* C.Y. Wu, Acta Phytotax. Sin. 6: 253. 1957.

Perennial erect herbs or subshrubs, flowers bisexual, monoecious. *Stem* glabrous, node swollen, fleshy, densely pellucid-punctate, with a ring-like stipule scar at each node. *Leaves* alternate, membranous, glabrous, caducous, with palmate veins, glabrous or puberulous. *Inflorescence* terminal, leaf-opposed, racemose, solitary, erect. *Flower* lax on rachis, pedicellate; floral bracts 6, conchiform or ovate-lanceolate; stamens 6, anther on short filament; ovary globose, muricate; stigmas 3–4. *Infructescence* terminal or almost so, erect. *Fruit* drupaceous, with dense glochidiate hairs.

One species in tropical Asia.

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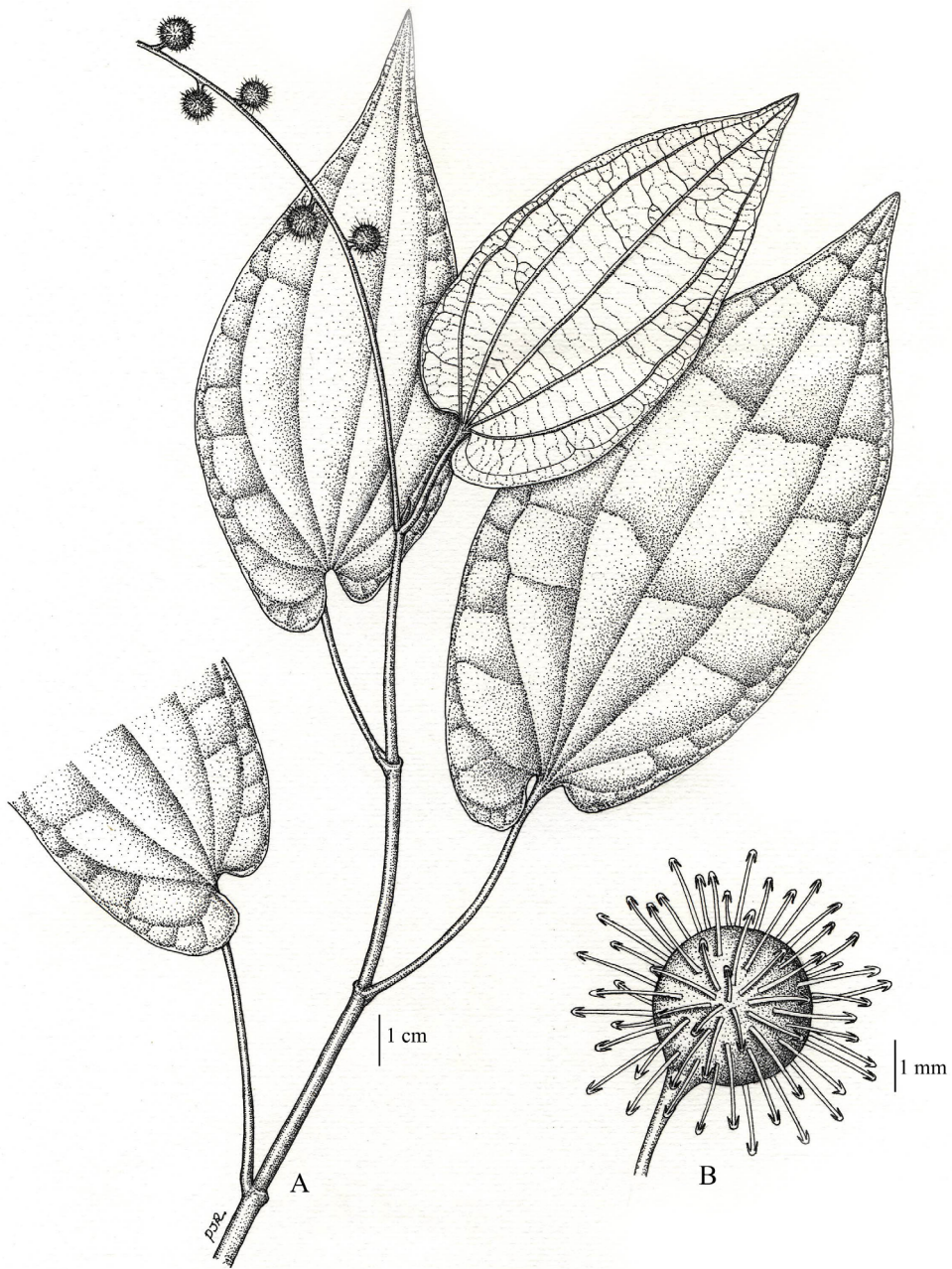


Figure 1. *Zippelia begoniifolia* Blume: A. branch with infructescence; B. glochidiate hairs on fruit. (from Maxwell 85-1129). Drawn by Pajaree Inthachub.

Zippelia begoniifolia Blume in Roem. & Schultes, Syst. Veg. 7: 1651. 1830; C.DC. ex Winkler, Bot. Jahrb. Syst 49: 352. 1913; Ridl., J. Straits Branch Roy. Asiat Soc. special number: 209. 1921; Yongqian, Nianhe & M.G.Gilbert, Fl. China 4: 110. 1999. Type: Indonesia, Borneo, *Winkler* 2743 (not located).— *Z. lappacea* Benn., Pl. Jav. Rar.: 76, t. 16. 1838.— *Z. begoniaefolia* Blume in Miq., Syst. Piperac. 2: 548. 1844 & in Fl. Ind. Bat. 1(2): 456. 1859; C.Y.Wu & W.T.Wang, Acta Phytotax. Sin. 7: 193. 1958; Backer & Bakh.f., Fl. Java 1: 167. 1963.— *Piper zippelia* C.DC. in A.P. de Candolle, Prodr. 16(2): 256. 1869. Type: Indonesia, *Zollinger* 2847 (**G-DC!**, **K**).— *P. lappaceum* C.DC. in H.Lecomte, Fl. Indo-Chine 1: 68. 1910; King, J. Proc. Asiat. Soc. Bengal 35: 339. 1912.— *P. begoniaefolia* (Blume) Quisumbing, Philipp. J. Sci. 43: 189. 1930.— *Zippelia lappacea* Blume, Ridl., Fl. Malay Penins. 3: 25. 1924.— *Circaeocarpus saururoides* C.Y.Wu, Acta Phytotax. Sin. 6: 253. 1957.

Perennial herb 40–80 cm high, glabrous. *Stem* rooting at basal nodes, roughly striate; petioles 2–5 cm long. *Leaves* membranous, dark green above and green below, ovate, cordate or obliquely cordate, symmetric or asymmetric, 5–14 by 7–16 cm, densely pellucid dotted, apex acuminate or acute, base auriculate, oblique, cordate, glabrous, venation palmately 5–7-nerved, whitish when dry. *Inflorescence* 15–30 cm long. *Flowers* lax on rachis; peduncle much longer than rachis, floral bract 1.2–1.5 mm wide, stalk as long as or slightly shorter than bract; stamens white-yellowish; ovary greenish-white, 1–2 mm wide. *Infructescence* cylindric, 4–8 by 1–2 cm; peduncle 7–11 cm long. *Fruit* ± globose ca 5 mm in diam, with glochidiate hairs 2–5 mm long; fruit stalk 1–3 mm long. Figs. 1 & 2.

Thailand.— PENINSULAR: Nakhon Si Thammarat [Krung Ching waterfall, Khao Luang National Park, 15 Dec. 1985, *Maxwell* 85-1129 (**BKF**, **PSU**); same locality, 1 June 1986, *Maxwell* 86-324 (**BKF**, **CMU**); same locality, 24 March 2008, *Suwanphakdee* 224 (**BK**, **BKF**, **KKU**)], Yala [Khao Pi Sat, 1 May 1998, *Niyomdham & Puudja* 5495 (**BKF**), Khao Han Kut, 27 March 1998, *Niyomdham* 5346 (**BKF**).

Distribution.— China, Vietnam, Cambodia, Laos, Malaysia, Indonesia, Philippines.

Vernacular.— Cha plu phon nam (ชะพลูผลหนาม).

Ecology.— Shaded area along streams in primary evergreen forest, limestone bedrock, alt. ca 325 m; flowering and fruiting May–July.

Notes.— *Zippelia begoniifolia* has distinct glochidiate hairs on its fruit. The leaves appear similar to those of *Begonia*.

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Figure 2. *Zippelia begoniifolia* Blume: A. branch with inflorescence and infructescences; B. inflorescence; C. infructescence; D. fruits. (Photographed by C. Suwanphakdee).

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