

## A new record of *Pseudelephantopus spicatus* (Juss. ex Aubl.) C.F.Baker (Asteraceae) from Thailand

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ABSTRACT. *Pseudelephantopus spicatus* (Juss. ex Aubl.) C.F.Baker is presented as a new record from Thailand. This taxon is described and illustrated. A key to the subtribe Elephantopinae Less. of Thailand is provided.

KEY WORDS: Asteraceae, new record, *Pseudelephantopus*, Thailand.

### INTRODUCTION

Asteraceae tribe Vernonieae in Thailand were revised by Koyama (1984, 1993, 1997, 1998, 2003, 2004 and 2005), who recognized 44 species in five genera: six in *Camchaya* Gagnep., two in *Elephantopus* L., 34 in *Vernonia* Schreb. and one each in *Ethulia* L.f. and *Struchium* P.Browne. In the course of our revision of this tribe, recently collected specimens were identified as *Pseudelephantopus spicatus* (Juss. ex Aubl.) C.F.Baker. The occurrence of this species in Thailand represents a new record because they were not included in the papers cited above.

### TAXONOMIC NOTES

***Pseudelephantopus*** Rohr, Skrifl. Nat. Selsk. Kiobenh. 2: 214. 1792, nom. cons.—*Pseudelephantopus* C.F.Baker, Trans. Acad. Sci. St. Louis 12: 55. 1902.—*Pseudo-Elephantopus* Rohr, Skrifl. Nat. Selsk. Kiobenh. 2: 214. 1792, nom. rej. Type: *Pseudelephantopus spicatus* (Juss. ex Aubl.) C.F.Baker.

Perennial herbs. Stem caulescent or acaulescent. Leaves simple, mostly basal, sessile or petiolate; subcoriaceous. Capitulescences spiciform. Capitula discoid, clusters supported by foliaceous bracts, homogamous. Florets bisexual and fertile. Phyllaries 8, in 2 series, decussate, persistent,

oblong, outer surface puberulous. Corolla white, glabrous; lobes 5, zygomorphic. Anthers 5, syngenesious. Style 2-branched, inner surface covered with stigmatic papillae, outer surface covered with sweeping hairs. Achenes 10-ribbed, setuliferous; pappus bristles with broadened base.

A genus of 2 species distributed in tropical America (Mabberley, 2008; Robinson, 1999).

One species is recognized in Thailand.

***Pseudelephantopus spicatus*** (Juss. ex Aubl.) C.F.Baker, Trans. Acad. Sci. St. Louis 12: 45, 55, 56. 1902.—*Elephantopus spicatus* Juss. ex Aubl., Hist. Pl. Guiane 2: 808. 1775. Type: not ascertained. Figs. 1, 2E–F.

Perennial herbs, 10–40 cm tall. Stem acaulescent, erect, inconspicuously ribbed, puberulous. Leaves rosulate or alternate at base, 5–15 by 1.5–5 cm, obovate or oblanceolate, margin slightly serrate to entire, apex obtuse or rounded, base cuneate or attenuate; upper surface puberulous, eglandular, lower surface puberulous with filiform hairs and capitate glands; lateral veins 9- to 15-paired; petioles up to 2 cm long. Capitulescences terminal and axillary, 1–4 capitula aggregated in clusters supported by narrowly linear foliaceous bracts, clusters arranged in spikes. Capitula tubular, 1.4–1.7 cm long. Receptacle flat, 1–1.5 mm in

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diameter, glabrous. Phyllaries light green, 6–12 mm long, margin entire or filiferous, outer surface pilose, eglandular; the outer lanceolate, apex acute; the inner obovate-lanceolate or oblong, apex acute. Florets 4, salverform, white, zygomorphic, glabrous. Corolla tube 5–9 mm long; lobes 2.5–2.8 mm long. Anthers 1.5–2 mm long, apical appendages acute, bases acute. Style white, 5–9 mm long, branches ca. 2 mm long. Achene clavate, 4–5 mm long, pubescent covered with dense twin hairs, 10-ribbed; carpodium present. Pappus bristles 6–9, with 2 longer ones, these N-shaped at apex, 2–6 mm long, 1-series, persistent. Pollen lophate, 3-porate, without micropunctae.

Thailand.— NORTHERN: Chiang Rai [Khun Kon Waterfall Forest Park, 24 Dec. 2003, *Norsaengsri* 2314 (KKU)]; Mae Kok riverbank, Mueang District, 11 Nov. 2007, *Bunwong* 352 (KKU)]; NORTH-EASTERN: Mukdahan [Phu Mu Forest Park, Nikom Kham Soi District, 5 Nov. 2002, *Bunwong* 42 (KKU)]; EASTERN: Ubon Ratchathani [Mae-Khong riverbank, Khemarat District, 6 Nov. 2002, *Bunwong* 80 (KKU)]; Phu Chong Na Yoi National Park, 25 Nov. 2003; Chong

Mek, 27 Oct. 2007, *Bunwong* 342 (KKU, US)].

Distribution.—Tropical America, Africa, India, China, Taiwan, Philippines, Malay Archipelago, Australia, naturalized in Thailand.

Ecology.— Open areas in deciduous dipterocarp and evergreen forests and open riverbanks; 100–400 m altitude. Flowering: October–December.

Vernacular.— Do la do (โด้ลาโด้), ton tai din (ต๋นไต้ดิน).

Notes.— Elephantopinae are characterized by having 4 florets in the head, zygomorphic corollas with a deeper sinus toward the center of the head, and anthers with short spurs. Koyama (1984) recognized *Elephantopus mollis* Kunth and *E. scaber* L. in Thailand (Fig. 2A–D). *Pseudelephantopus spicatus* is distinguished from them in that the pappus is N-shaped at the apex of the two longest bristles and the capitulum or capitula is/are not surrounded by three broadly foliaceous bracts. There are also differences in the chromosome number,  $n = 11$  in *Elephantopus* and  $n = 13$  in *Pseudelephantopus*.

#### KEY TO SUBTRIBE ELEPHANTOPINAE OF THAILAND

1. Capitulescences not spicate; pappus of uniformly straight scales or bristles; bract broadly foliaceous
  2. Plant subscapose, the lower leaves rosette-forming; pappus bristles gradually dilated in lower half to one-third **E. scaber**
  2. Plant with leafy stems; pappus bristles abruptly dilated at the base **E. mollis**
1. Capitulescences spicate; pappus bristles with two longer bristles, these with apex N-shaped **P. spicatus**

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#### REFERENCES

- Koyama, H. (1984). Taxonomic Studies in the Compositae of Thailand 3. Acta Phytotaxonomica Geobotanica 35: 49–58.
- Koyama, H. (1993). Taxonomic Studies in the Compositae of Thailand 10. *Vernonia* Schreb. sect. *Decaneurum* (DC.) Oliv. Acta Phytotaxonomica Geobotanica 44: 29–34.
- \_\_\_\_\_. (1997). Taxonomic Studies in the Compositae of Thailand 11. *Vernonia* Schreb. sect. *Strobocalyx* Bl. Bulletin of the Science Museum Series B (Botany) 23: 159–166.
- \_\_\_\_\_. (1998). Taxonomic Studies in the Compositae of Thailand 12. *Vernonia* Schreb. sect. *Tephrodes* DC. and sect. *Cyanopsis* Bl. Bulletin of the Science Museum Series B (Botany) 24: 109–115.
- \_\_\_\_\_. (2003). Taxonomic studies in the Compositae of Thailand 15. *Vernonia* sect. *Calcaria* comb. nov. Bulletin of the Science Museum Series B (Botany) 29: 15–22.

Koyama, H. (2004). Taxonomic studies in the Compositae of Thailand 16. *Vernonia* sect. *Xipholepis* and *Claotrachelus*. Bulletin of the Science Museum Series B (Botany) 30: 21–34.

\_\_\_\_\_. (2005). Taxonomic studies in the Compositae of Thailand 17. *Vernonia* sect. *Lepidaploa* subsect. *Paniculatae*. Bulletin of the Science Museum Series B (Botany) 31: 67–78.

Mabberley, D. J. (2008). Mabberley's Plant-book: a portable dictionary of plants, their classification and uses. 3<sup>rd</sup> ed., completely rev. Cambridge University Press, England, UK.

Robinson, H. (1999). Generic and Subtribal Classification of American Vernonieae. Smithsonian Contributions to Botany 89. Smithsonian Institution Press, Washington, D.C., USA.

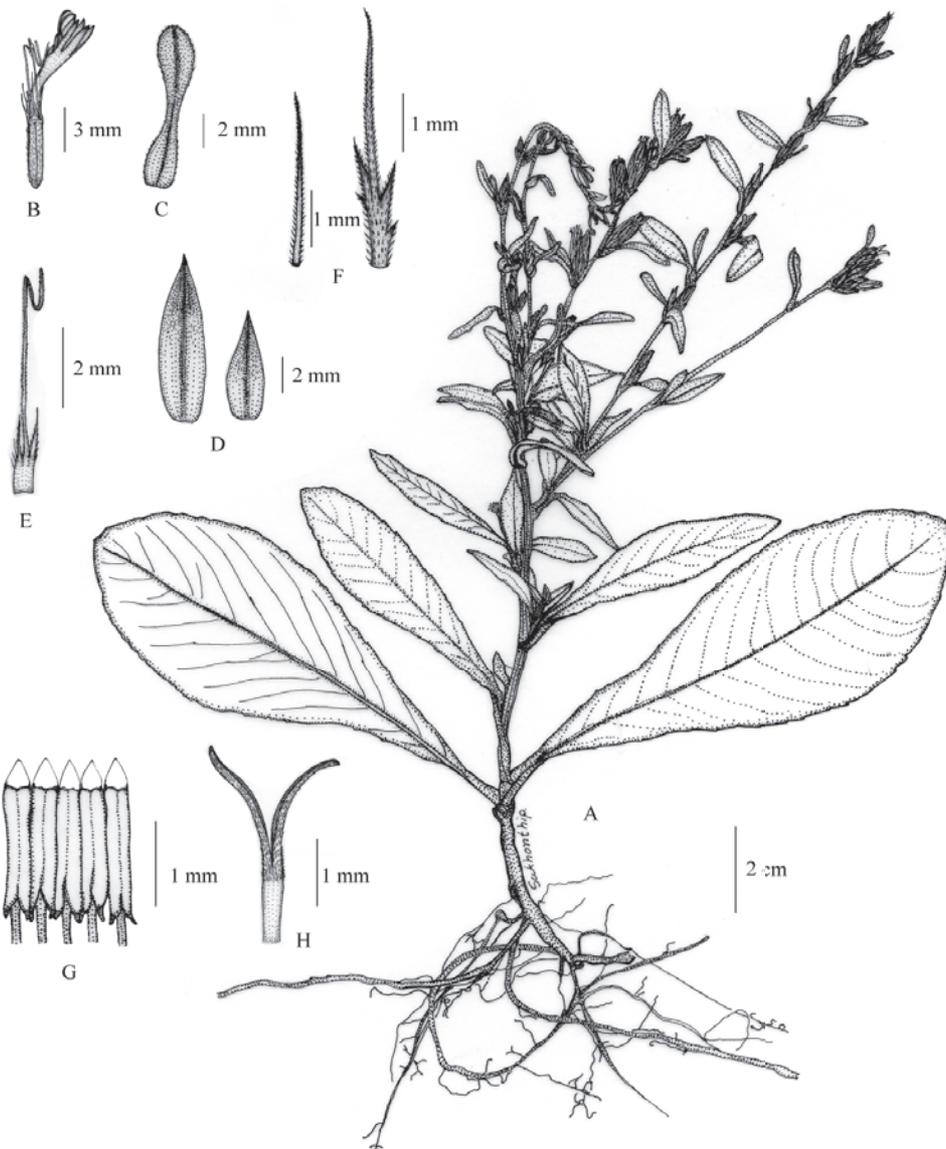


Figure 1. *Pseudelephantopus spicatus* (Juss. ex Aubl.) C.F.Baker: A. habit; B. floret; C. foliaceous bract; D. phyllaries (involucral bracts); E. pappus, apex N-shaped; F. pappus, apex bristle; G. anthers; H. stigma. Drawn by S. Bunwong, all from Bunwong 42.



Figure 2. A.–B. *Elephantopus mollis* Kunth (Bunwong 340); C.–D. *E. scaber* L. (Bunwong 325); E.–F. *Pseudelephantopus spicatus* (Juss. ex Aubl.) C.F.Baker (Bunwong 42).