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Amorphophallus coudercii (Araceae), a new record for Thailand

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ABSTRACT

Amorphophallus coudercii is reported as a new record from Nakhon Phanom Province, North-Eastern Thailand. The species is characterized by having a long tuber, a male floral zone contiguous to the female zone, the absence of an appendix, and the presence of warts on the adaxial side near the base of the spathe. Detailed descriptions based on recently collected plant materials, as well as notes on the distribution and ecology, and photographs are presented.

KEYWORDS: Aroid, South-East Asia, taxonomy, North-Eastern Thailand.

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INTRODUCTION

Amorphophallus Blume ex Decne. is a moderately sized genus in the aroid family (Araceae). About 200–240 species of this genus (Hetterscheid, 2012; Claudel *et al.*, 2017; POWO, 2022) are recognised, which are distributed from tropical west Africa, Madagascar, subtropical eastern Himalayas throughout subtropical and tropical Asia into the tropical western Pacific and north-eastern Australia (Hetterscheid & Ittenbach, 1996; Hetterscheid, 2012), and currently, 61 species are recorded for Thailand (POWO, 2022). In June 2021 and June 2022, the second author collected unknown *Amorphophallus* specimen from Nakhon Phanom Province, North-Eastern Thailand, and this specimen differed from previously known Thai species. We then carefully consulted the first protologue of *A. coudercii* (Bogner) Bogner (Bogner, 1980), and the relevant taxonomic literature including Gagnepain (1942), Hetterscheid (1994), Hetterscheid & Ittenbach (1996), Hetterscheid (2006), Li & Hetterscheid (2010), Hetterscheid (2012), Hetterscheid & Claudel (2013), and the image of the holotype of *A. coudercii* (Bogner) Bogner (*P. Couderc s.n.* (**P**), P00124757)(available online from Muséum National d'Histoire Naturelle, Paris, France). *Amorphophallus coudercii* was proposed as a new species by Bogner (1980), and was previously found in Cambodia, Laos and Vietnam (Hetterscheid & Ittenbach, 1996; POWO, 2022). The authors conclude that the unknown *Amorphophallus* specimen is *A. coudercii*, and that is a new species record for Thailand. This new discovery in Thailand has extended the occurrence area of this species, and an updated description and illustration are presented here.

DESCRIPTION

Amorphophallus coudercii (Bogner) Bogner, Aroideana 8(3): 75.1986.— *Plesmonium coudercii* Bogner, Adansonia sér. 2, 20(3): 305. 1980. *P. Couderc s.n.* (holotype **P** [P00124757], photo seen). Figs. 1–3.

Tuber elongate, few-branched or unbranched at maturity, 8–15 cm long, white or dirty whitish or brown or black-brown, apically 1.0–1.5 cm in diam. *Leaf* solitary; petiole 30–50 cm long, 5–8 mm diam. (base), ground color pale creamy-brown, extensively spotted with black or blackish green or pale green or various extents with dark grey or dark blackish green oval or narrowly elongate spots or stripes, base white; lamina 40–50 cm in diam., highly dissected or moderately dissected; rachis color the same as in the petiole but mostly pale green, winged all over; central main segment without major branching;

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leaflets 2–18 × 1.5–6 cm, elliptic, oblong, ovate or obovate, short to long acuminate apex, adaxial side bright green and abaxial side whitish green; veins distinct on both surfaces, impressed on adaxial side, raised on abaxial surface. *Inflorescence* long peduncled; peduncle 30–50 cm long, 5–8 mm diam. (base), color the same as in the petiole. *Spathe* broadly ovate, erect to slightly curved when young, 8–12 × 4–4.5 cm, 15.5 cm broad, apex acute and hood-shaped or nearly so, base convolute, widening at staminate anthesis; adaxial side whitish green, except for the base with numerous, small, very shallow warts; abaxial side whitish green, smooth all surface. *Spadix* sessile or with 1–2 mm long stipe, slightly or distinctly shorter than spathe, 6–7 cm long, apex obtuse. *Pistillate flower zone* cylindrical or slightly obconical, 1–1.2 by 0.7–0.9 cm; flowers slightly distant; ovary depressed globose to slightly depressed globose with 2–3-lobed, slightly circular or 2–3-lobed in cross-section, 2.5–3 × 2–2.5 mm, pale green, 2- or 3-locular, one basal ovule in each locule; style 1–1.3 mm long, pale green base and very pale dull yellow to light yellowish-brown in upper part; stigma distinctly 3-lobed, oval, pale dull yellow to light yellowish-brown, ca 1.5 mm in diam., apex often reflexed, surface minutely echinate. *Staminate flower* zone slightly or distinctly cylindrical, 4–5 × 0.9–1.1 cm; flowers congested, fused to one basal layer with anthers upwards; staminate flowers consisting of 1–5 stamens; stamens 3–3.5 mm long, very pale dull yellow to light yellowish-brown; filaments 1.5–2 mm long, entirely connate forming a thick column; anthers slightly globose to irregular shape, 1.2–1.5 × 1.5–1.7 mm, occasionally reduced in the lowermost flowers, connective large, massive. *Sterile appendix* lacking. *Infructescence* slightly globose to slightly cylindrical, 3–9 × 2.5–3 cm, with many to numerous berries. *Berries* globose to slightly globose, 9–10 cm in diam., 2- or 3-seeded, young ones green, ripe ones red. *Seeds* ca 7 × 5 mm, testa pale brown with small, dark grey or black spots or narrowly elongate spots or stripes.

Thailand.— NORTH-EASTERN: Nakhon Phanom [Phu Pha Yon National Park, *Chatan 3521* (**BKF**)].

Distribution.— Cambodia, Laos, Vietnam.

Ecology.— This species generally occurs in heavy loam soils. It is found in shade areas in the rainy season from June to July.

Vernacular.— Buk lon (บุกโล้น)(General).



Figure 1. Habit and habitat of *Amorphophallus coudercii* (Bogner) Bogner. Photo by W. Chatan.

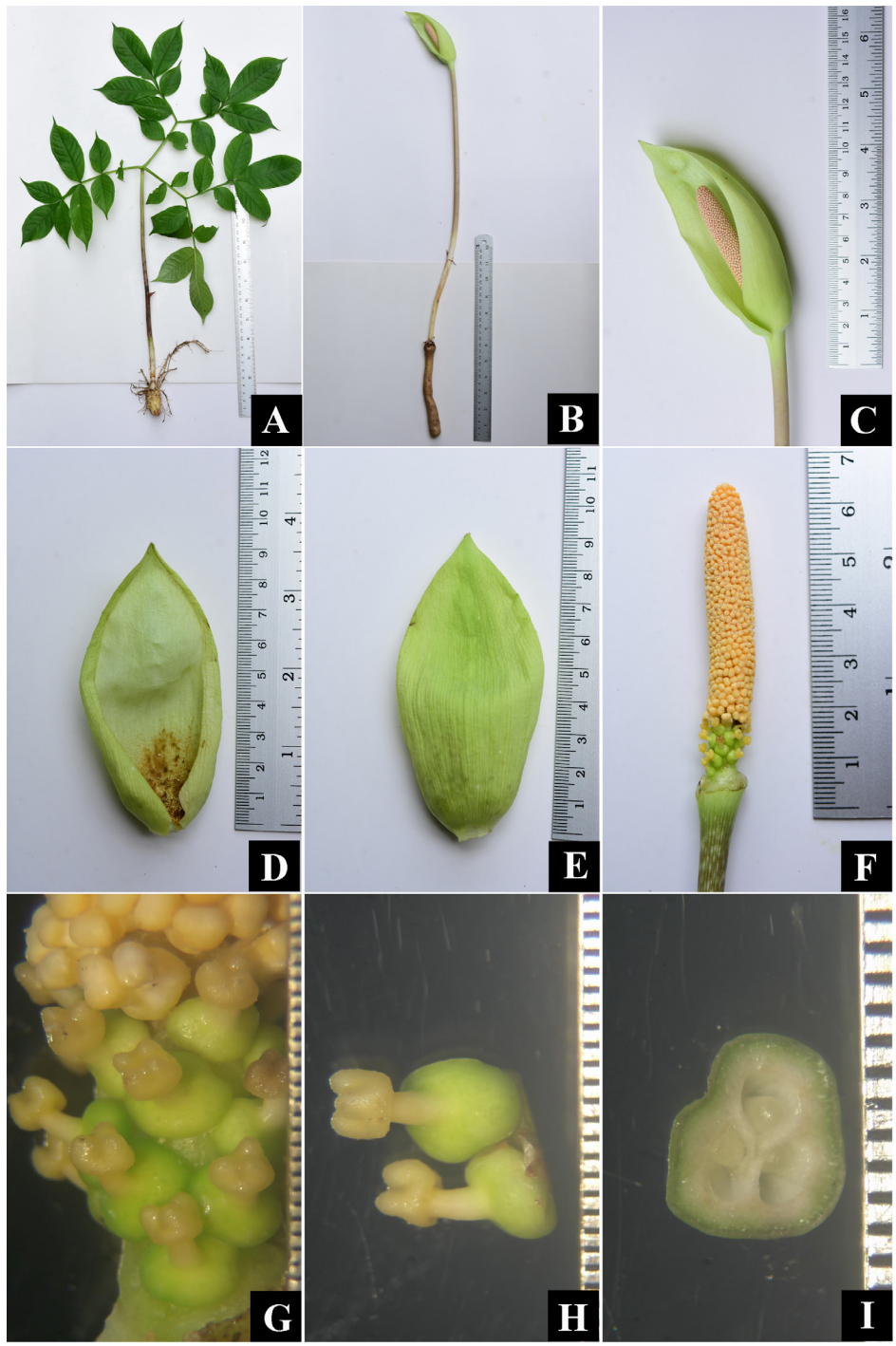


Figure 2. *Amorphophallus coudercii* (Bogner) Bogner: A. whole plant with a leaf; B. whole plant with an inflorescence; C. spadix with spathe; D. adaxial side of spathe; E. abaxial side of spathe; F. spadix (spathe removed); G. female zone; H. pistillate flowers; I. ovary (cross-section). Photos by W. Chatan.

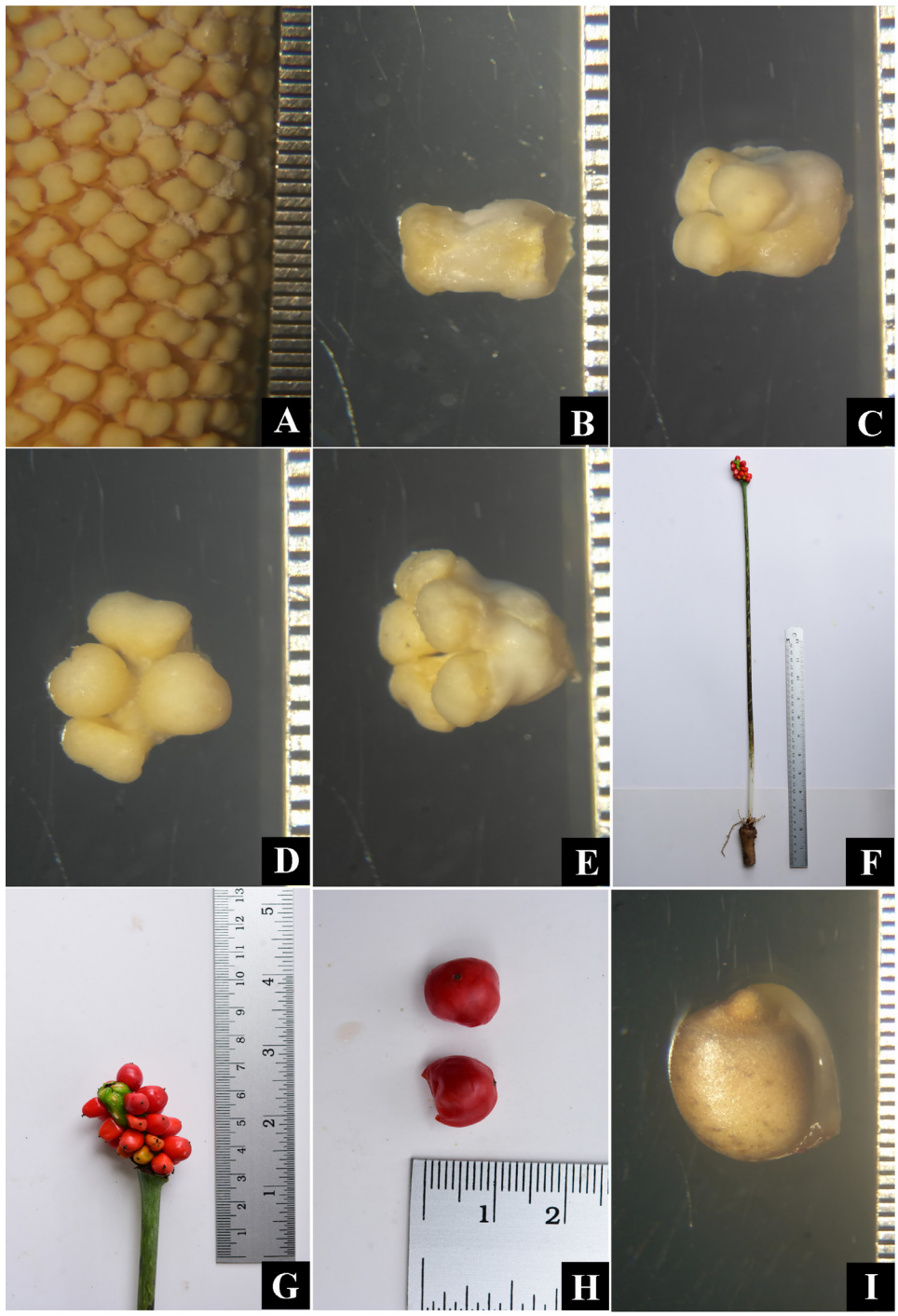


Figure 3. *Amorphophallus coudercii* (Bogner) Bogner: A. part of male zone; B.–E. staminate flowers with 1, 3, 4, and 5 stamens, respectively; F. whole plant with an infructescence; G. infructescence; H. berries; I. seed. Photos by W. Chatan.

Notes.— So far, in Thailand, *Amorphophallus coudercii* is only found in one locality. They occur within an area of about 2 km^2 with ca 50 individuals. Distribution information on this species in nearby provinces in Thailand are still lacking, thus more field surveys are needed to complete these data for a formal conservation assessment.

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