



Amorphophallus adamsensis (Araceae), a new species from Ilocos Norte, Philippines

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Key words

Amorphophallus
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Abstract There are ten known species of *Amorphophallus* in the Philippines, and an eleventh is herein described and named as *Amorphophallus adamsensis*. It resembles *A. dactylifer* and *A. rostratus*. Diagnostic characters of this new species are provided.

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INTRODUCTION

There are 213 known species of *Amorphophallus* Blume ex Decne. (Hetterscheid 1996–2013) distributed in Asia, Africa, Madagascar, Malay Archipelago, Australia and Melanesia (Mayo et al. 1997). Ten species are known in the Philippines, viz. *A. dactylifer* Hett., *A. declinatus* Hett., *A. longispathaceus* Engl. & Gehrm., *A. luzoniensis* Merr., *A. merrillii* Hett., *A. paeonifolius* (Dennst.) Nicolson, *A. palawanensis* Bogner & Hett., *A. rostratus* Hett., *A. salmoneus* Hett., and *A. natolii* Hett., Wistuba, V.B. Amoroso, Medecilo & Claudel (Pelser et al. 2011 onwards, Hetterscheid et al. 2012). Of these, only *A. paeonifolius* is non-endemic (Hetterscheid 1994, 1996–2013, Hetterscheid et al. 2012).

A new species is hereby presented as *Amorphophallus adamsensis* L.M. Magtoto, D.G. Mones, K.A. Ballada, C.M. Austria, R.M. Dizon, W.V. Alangui, A.A. Reginaldo, W.M. Galvan, K.T. Dizon & Hett. This was seen from the locality of Adams, Ilocos Norte, Philippines. Photos of the plant were initially identified by colleagues as *A. dactylifer*, but it was found to be different after a closer examination of its inflorescence. The species description is based on single specimen of leaf, inflorescence, and infructescence.

Amorphophallus adamsensis L.M. Magtoto, D.G. Mones, K.A. Ballada, C.M. Austria, R.M. Dizon, W.V. Alangui, A.A. Reginaldo, W.M. Galvan, K.T. Dizon & Hett., *sp. nov.* — Plate 1, 2

Type: LKD 130 (holo University of the Philippines Baguio Northern Luzon Herbarium), Philippines, Adams, Ilocos Norte, elevation 303 ± 3 m, 27 May 2013.

Etymology. The species epithet refers to the locality where this species was found.

Tuber depressed globose, 17 cm diam and 10 cm high, fusiform offsets numerous on upper half close to peduncle/petiole base.

Leaf solitary; petiole 123 cm long, 3 cm diam, background colour dark greyish to purple green, with numerous elliptical light greyish to purple markings with slightly raised to raised margins at lower half and diamond-shaped markings on upper part; lamina 139 cm diam, rachises winged distal from the basal branching, basal parts naked with few petiolulate leaflets; leaflets oval to elongate elliptic, 9.5–24 cm long, 3.5–6 cm in width, long acuminate (acumen 2.5–5 cm long), glossy green above. **Inflorescence** solitary, long peduncled; peduncle 158 cm long, 3.5 cm diam, green to purplish brown background, having generally elliptic whitish green to whitish purple markings with lighter raised margins; **spathe** narrow triangular, 53 cm long, 28 cm diam; base strongly convolute, subglobose, with distinct constriction from the lateral-ventral sides distinguishing it from the limb; base outside light green with purplish hue, with scattered irregularly shaped slightly raised whitish green spots; base inside light green with white spots, lower part clothed with purple to brown unbranched finger-like projections; limb 3 times longer than base, adpressed against the appendix, strongly costate at the centre, pale green costa and veins; limb inside purple to brown with white spots, limb outside the same; limb auriculate; **spadix** sessile, much longer than spathe, 99 cm long; female zone cylindric, 9 cm long, c. 3.5 cm diam, flowers slightly distant; male zone cylindric, 12 cm long, 3 cm diam at the top, flowers distant; appendix narrowly fusiform to narrowly elongate, top subacute, 79 cm long, base with few short shallow ridges, dark reddish purple; ovaries depressed globose, 4 mm diam, 3 mm high, unilocular, basal placentation; style 3 mm long, 1 mm diam, slightly curvate, dark purple; stigma large, deeply 3-lobed, surface white, with numerous thin finger-like projections; fruit with globular base and conical tip, 4 mm high, 3.5 mm diam; pollen bright orange.

Notes — *Amorphophallus adamsensis* resembles *A. dactylifer* and *A. rostratus* (Table 1) but can be distinguished from both by having much longer leaflets with longer acumen; narrow triangular and much longer spathe, the base of which is clothed inside with purple to brown unbranched finger-like projections; lobed or auriculate limb; and much longer male zone with distant flowers.

In addition, *A. adamsensis* differs from *A. dactylifer* by having a longer peduncle, narrower spathe, and a much longer spadix

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Table 1 Comparison of the morphology of *A. adamsensis* with *A. dactylifer* and *A. rostratus*.

Characters	<i>A. adamsensis</i>	<i>A. dactylifer</i>	<i>A. rostratus</i>
Tuber diam	17 cm	7–16 cm	c. 10 cm
Tuber height	10 cm	3–9 cm	c. 8 cm
Petiole length	123 cm	to c. 140 cm	30–100 cm
Petiole diam	3.5 cm	to c. 6 cm	1–2 cm
Petiole colour	dark greyish to purple green	background colour greyish green (reddish when young)	pale green or olive green
Petiole markings	elliptic, light greyish to purple markings with slightly raised to raised margins at lower half	elliptic to elongate-elliptic, whitish or green spots, the latter with a whitish margin, those at the base of the petiole strongly raised, crust-like, upper part of petiole with obscure, dark reddish brown, narrowly elliptic to near-linear spots	larger and smaller, orbicular, whitish greenish spots and tiny, blackish green dots, not raised
Lamina diam	139 cm	to c. 180 cm	50–100 cm
Rachis	winged distal from the basal branching; basal part naked with a few petiolulate leaflets	winged distal from the basal branchings, basal part naked with a few petiolulate leaflets	rachises narrowly winged all over
Leaflet shape	oval to elongate elliptic	elliptic or elliptic-lanceolate	lanceolate
Leaflet length	9.5–24 cm	to c. 18 cm	3–7 cm
Leaflet width	3.5–6 cm	to c. 6 cm	0.5–2 cm
Acumen length	2.5–5 cm	up to 3 cm	3–4 cm
Peduncle length	158 cm	60–130 cm	150 cm
Peduncle diam	3.5 cm	1–3.5 cm	2.5 cm
Peduncle colour	green to purplish brown	as petiole	pale olive green with very faint spots
Spathe shape	narrow triangular (limb is three times longer than wide)	elongate triangular, acute	elongate triangular
Spathe base outside	light green with purplish hue and with scattered irregularly shaped whitish green spots	pale dirty greenish with scattered white, slightly raised spots	uniformly pale green
Spathe base inside	light green with white spots; clothed with purple to brown, unbranched finger-like projections	dark purple with pale upper part; densely clothed with short and long, conic warts, these sometimes branched or flaky, purple	inside uniformly green, with numerous, large, irregular warts, aligned into vertical ridges
Spathe limb position	arching over	arching over	erect, helically twisted
Spathe limb outside	colour and marking same as inside; lobed or auriculate; strongly costate with light green veins outside	brown with white spots, strongly costate along the centre, margins sometimes slightly involute	pale dull purple
Spathe limb inside	purple to brown with white spots	dull dark reddish purple with scattered, distinct or faint, pale purple dots to whitish purple spots	slightly darker than outside
Spathe length	53 cm	30–42 cm	20–45 cm
Spathe diam	28 cm	32–36 cm	12–30 cm
Spadix length	c. 99 cm	42–60 cm	35–90 cm
Female zone shape	cylindric	cylindric	cylindric or slightly conic
Female zone length	9 cm	4–8.5 cm	4–5 cm
Female zone diam	3.5 cm	2.5–4 cm	c. 1.5 cm
Male zone	cylindric	elongate obconic or cylindric	cylindric
Male zone length	12 cm	4.5–6.5 cm	4–5 cm
Male zone diam	3 cm	1.5–3 cm	1.5–3 cm
Male flowers	distant	congested	congested
Appendix shape	narrowly fusiform to narrowly elongate, top subacute	elongate conic, top obtuse or subacute	narrowly elongate conic, top subacute
Appendix length	79 cm	31–46 cm	27–75 cm
Appendix base and colour	with few shallow, short ridges; dark reddish purple	ridged; dark purple	with some scattered, shallowly conic staminodes; dark purple
Ovary shape	depressed globose	subglobose or depressed globose	ovoid, circular in cross section
Ovary diam	4 mm	2–3 mm	2 mm
Ovary height	3 mm	2–2.5 mm	2.5 mm
Style length	3 mm	2–5 mm	0.8 mm
Style diam	1 mm	0.8–1 mm	c. 0.5 mm
Stigma	deeply 3-lobed	shallowly or deeply 2- or 3-lobed	mostly 3; one lobe very long, conical, the others shorter
Fruit	globular base with conical tip	ovoid	unknown
Fruit size	4 mm high; 3.5 mm diam	unknown	unknown

and appendix; from *A. rostratus* by having a longer and larger petiole with elliptic markings, a larger lamina with naked basal rachis, much longer and larger oval to elongate elliptic leaflets, arching over limb, a longer and larger female zone, depressed globose ovaries, and longer and larger styles.

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Plate 1 *Amorphophallus adamsensis* L.M.Magtoto, D.G.Mones, K.A.Ballada, C.M.Austria, R.M.Dizon, W.V.Alanguai, A.A.Reginaldo, W.M.Galvan, K.T.Dizon & Hett. a. Habit of inflorescence; b. habit of leaf; c. habit of spathe; d. tuber; e–g. peduncle. — Scale bars: a = 10 cm; b–d = 5 cm; e–g = 1 cm. — Photos: a, b, d–g: L.M. Magtoto; c: D.G. Mones.



Plate 2 *Amorphophallus adamsensis* L.M.Magtoto, D.G.Mones, K.A.Ballada, C.M.Austria, R.M.Dizon, W.V.Alangui, A.A.Reginaldo, W.M.Galvan, K.T.Dizon & Hett. a. Open spathe; b. spathe base; c. male and female flowers; d. infructescence; e. fruit (l.s.); f. fruit (c.s.); g. female zone (l.s.). — Scale bars: a = 5 cm; b = 1 cm; c, d, g = 5 mm; e, f = 1 mm. — Photos: a: D.G. Mones; b–g: L.M. Magtoto.