

**FIRST RECORDS OF *CALATHEA VINOSA* (MARANTACEAE)
AND *DRACONTIUM PITTIERI* (ARACEAE)
FROM PANAMA**

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ABSTRACT

Calathea vinosa and *Dracontium pittieri* are reported from Panama (Reserva Natural Privada Audubon-El Chorogo). *Calathea vinosa* is the second species of *Calathea* from Panama with hook-like hairs in the undersurface of the leaf. In Panamá, *D. pittieri* is similar to *D. spruceanum* in size and coloring of the inflorescence and in peduncle length.

Forty-nine (49) species of *Calathea* are recognized from Panama (forty-seven (47) in Kennedy 2012, one (1) in Kennedy 2014 and one (1) in Kennedy & Flores 2015) and three (3) *Dracontium* species (Zhu & Croat 2004). Here we report one more species for each genus, both discovered in the Reserva Natural Privada Audubon-El Chorogo. The El Chorogo forest extends for approximately 10 km in a narrow strip on the Burica Peninsula along the Panamanian side of the border with Costa Rica. It is in an isolated hilly area (elevation 150 to 689 masl) and contains the largest remnant (800 ha) of the forests that once covered all the lowlands of the Pacific slope in extreme western Panama (Angehr 2003) (Figure 1).

***Calathea vinosa* H. Kenn.**

Voucher: **Panamá. Provincia de Chiriquí.** Distrito de Barú, Corregimiento de Puerto Armuelles, Reserva Natural Privada Audubon-El Chorogo, N8° 17' 29.1" W82° 59' 46.7", 582 msnm, 30 Abr 2016, (fl), Flores *et. al.* 3823 RF (PMA, SCZ). Figure 2.

Calathea vinosa is distinct from other Panamanian and Costa Rican Marantaceae (Kennedy 1973) in its dark red-purple underleaf, pulvinus, petiole, and stem, leaf blade undersurface covered with retrorsely barbed, hook-like hairs, and its appressed-pilose, cream to faint greenish coriaceous recurved bracts. It is the second *Calathea* species from Panama with hook-like hairs on the undersurface of the leaf. The other species is *C. gymnocarpa* H. Kenn., which differs from *C. vinosa* in its green pulvini and inflorescence with thin membranaceous bracts that melt during fruiting (Kennedy 2003).

Calathea vinosa was previously known only from Costa Rica. In Panama, it was always seen in understory shade within a true wet forest. Flowering in Panama March-April.

***Dracontium pittieri* Engler**

Voucher: **Panamá. Prov. de Chiriquí.** Distrito de Barú, Corregimiento de Puerto Armuelles, Reserva Natural Privada Audubon-El Chorogo, N8° 17' 26.4" W82° 59' 52.4", 547 msnm, 1 Mar 2016, *Flores et al.* 3854 RF (fl.) (PMA); *Flores et al.* 3853 RF (fr.) (PMA, SCZ). Figure 3.

Dracontium pittieri is characterized by leaves solitary; blade of 1–2 m diameter; petioles 1.8–4 m long above ground with protuberances, dark green or brownish green blotched and forming a reptilian pattern; spathe 30–70 cm, inner surface semiglossy, maroon or red-purple, with whitish area obvious (5–10–17 cm high, 1.5 times longer than spadix, outer surface maroon matte; inflorescence with spadix exposed, sessile, cylindrical, brown-purple; infructescence with spadix 10–20 cm long; berries 2-seeded, young berries medium green; seeds reniform or triangular. Also it has the longest peduncle (1.5–2.5 m) within the genus *Dracontium* (Zhu & Croat 2004).

In Panama, *Dracontium pittieri* is similar to *D. spruceanum* (Schott) G.H. Zhu in size and coloring of the inflorescence and length of the peduncle but differs in its cymbiform spathe and in having laminar tissue in the axes of the three divisions of the leaf decurrent up to near the petiole apex (Grayum 2003; Zhu & Croat 2004).

We collected the inflorescence in hours of the afternoon. In the night there was a fetid odor in the campsite, similar to animal decomposition, and in the morning of the next day, the inflorescence was full of flies. Zhu and Croat (2004) explained that the spathe of *Dracontium* gives off fetid odor, reminiscent of rotten meat. Time and duration of the odor emission differs between species and the most similar is *D. croatii* G.H. Zhu, which smells intensely from afternoon to evening. The pollinators of *Dracontium* remain unknown (Zhu & Croat 2004), although Croat (1975) mentioned that *Dracontium* probably has a fly-pollination syndrome (sapromyophily) because of trap-like nature of the spathe of some species and the foul scent during anthesis, which is also typical of other fly-pollinated species in the Araceae.

Dracontium pittieri previously was considered endemic to the Pacific slope in the province of Puntarenas, Costa Rica. It had not been collected in adjacent Panama (Zhu & Croat 2004) until now. It was collected in the Audubon-El Chorogo Private Nature Reserve on the edge of a creek in a very humid place, in an area more or less exposed to the light.

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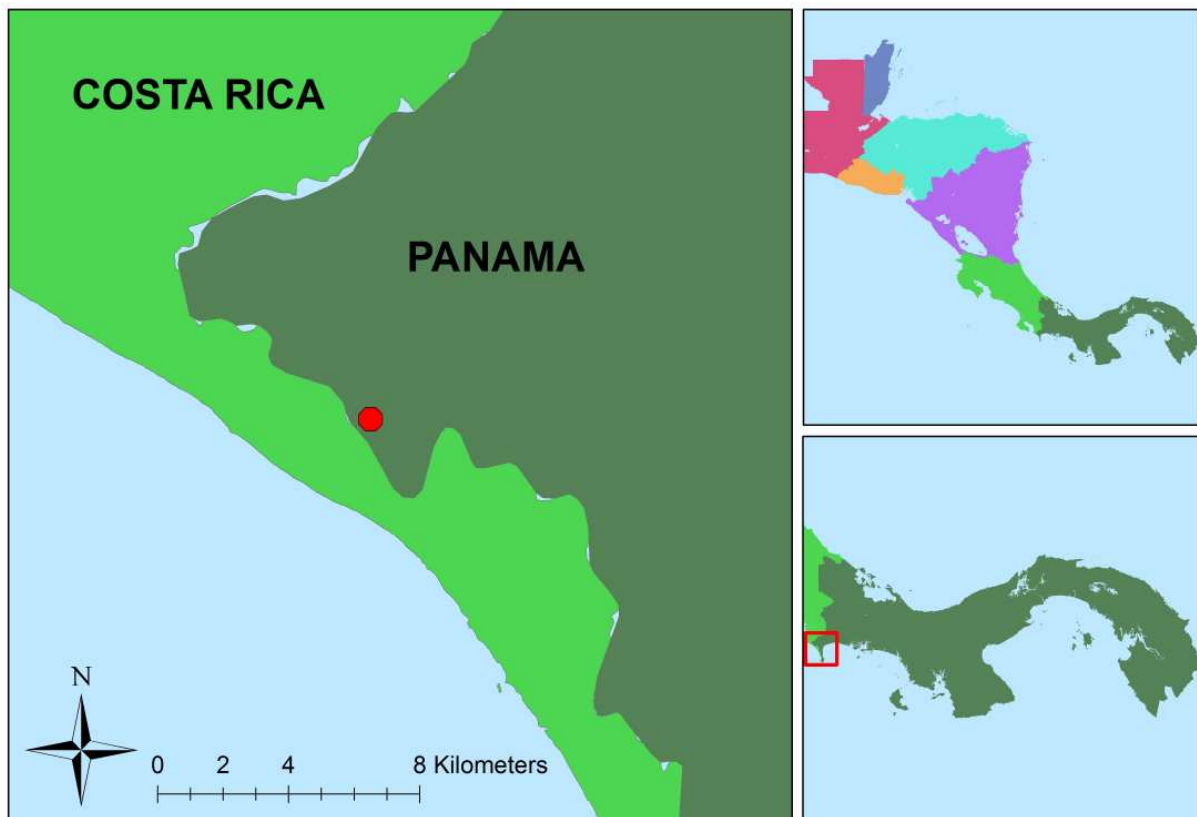


Figure 1. Location of the Reserva Natural Privada Audubon-El Chorogo in Panama. The collections of *Calathea vinosa* and *Dracontium pittieri* were made in the Reserve.

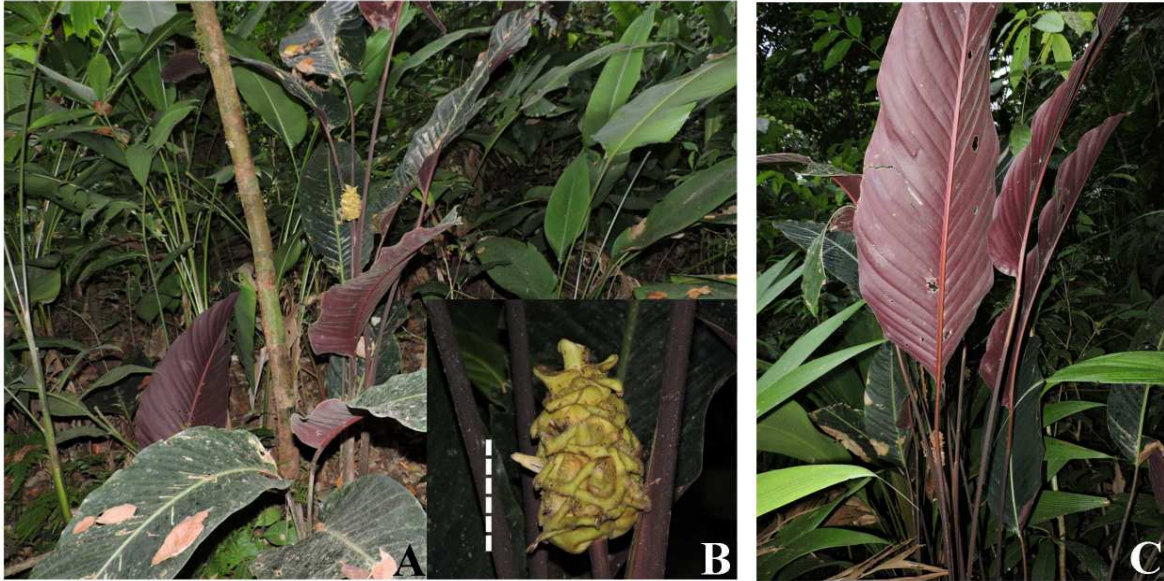


Figure 2. *Calathea vinosa*. (A) Habit. (B) Inflorescence, showing coriaceous, recurved bracts (scale= 6.5 cm). (C) Underleaf, pulvinus, and petiole.



Figure 3. *Dracontium pittieri*. (A) Habit. (B) Inflorescence (scale= 11 cm). (C) Infructescence (scale= 15 cm).