
A NEW BRAZILIAN SPECIES OF *DALECHAMPIA* SUBSECT. *TRIPHYLLAE* (EUPHORBIACEAE)

Dalechampia allemii is described as a new species in sect. *Dalechampia* subsect. *Triphyllae*. This new species from Bahia, Brazil, is isolated within subsect. *Triphyllae* because of its unguiculate involucre bracts, suppressed adstaminate pistillate bractlets, and sparsely lobed pistillate sepals. A key is provided to the Brazilian species of subsect. *Triphyllae*.

During a field trip to Brazil in 1978 with Antonio Allem of EMBRAPA/CENARGEN, Brasilia, I encountered an interesting species of *Dalechampia* in the scrubby vegetation in the interior of the state of Bahia. This plant clearly has not been described, and indeed does not appear to have any very close relatives.

Dalechampia allemii Webster, sp. nov., sect. *Dalechampia* subsect. *Triphyllae*. TYPE: Brazil. Bahia: Mun. Andaraí, scrub at edge of forest, 50 km NW of Andaraí, 15 Nov. 1984, A. C. Allem, G. L. Webster & W. L. Werneck 2980 (holotype, CEN; isotype, DAV). Figure 1.

Habitu *D. clauseniana* et *D. olfersiana* similis, sed differt bracteis involucreatis unguiculatis, involucello subtrifido, sepalis ♀ lobis paucis.

Twining vine; flowering stems terete, puberulent near tips with retrorsely recurved hairs 0.1–0.2 mm long and sparse, spreading hairs 0.3–0.5 mm long. Leaves: stipules reflexed, deciduous, lanceolate, strigose (hairs mostly 0.3–0.6 mm long), 3–3.5 × 0.7–1 mm; petiole puberulent as the stems, 2.5–5 cm long; stipels at base of blade lanceolate, 0.8–1.7 mm long; lamina chartaceous, 3-foliolate, sparsely hirtellous on veins and margins; middle leaflet elliptic-lanceolate, apiculate or shortly acuminate at the tip, pinnately veined (major laterals 5 or 6 on a side), 4.5–6.5 × 1.7–4 cm; lateral leaflets asymmetrically elliptic, apiculate, with 2 veins from base, 3–4 × 1.5–2.2 cm; veinlets somewhat prominulous beneath; margins entire. Inflorescences solitary on axillary shoots 0.3–0.7 cm long, with a single reduced or obsolete leaf (blade < 0.5 cm long) at the single node; peduncle becoming 1.8–2.5 cm long; involucre bracts pale yellowish green at anthesis, 1–1.3 × 0.7–1 cm,

distinctly unguiculate (claw about ½ length of bract), deeply 3-lobed; lobes entire, with stimulose and simple hairs proximally; middle lobe elliptic-lanceolate, 0.6–1 × 0.15–2 cm; lateral lobes somewhat falcate, 0.5–0.7 × 0.2–0.3 cm; bracteal stipules lanceolate, slightly unequal, 1.8–2.2 × 0.9–1.2 mm. Pistillate cymule: absterminate bract ovate, eglandular, 1.2–2.2 × 2 mm; adsterminate bractlets suppressed. Pistillate flowers subsessile or with pedicels up to 1.5 mm at anthesis; sepals generally 6, usually with 1 or 2 lateral lobes below the middle, sometimes with minute intercalary sepaloid projections; lobes minutely apiculate but not glandular-capitate; ovary minutely hispidulous; stylar column cylindrical, glabrous or sparsely hispidulous below, ca. 5 × 0.5 mm, with stigmatic bands extending ⅔ the length; stylar apex excavated, eccentric, 0.4–0.6 × 0.6–0.8 mm. Staminate cymule with densely hispidulous peduncle up to ca. 2 mm long; involucre 2-lipped, rather deeply 4-lobed (but middle adpistillate lobe reduced or suppressed); lateral adpistillate lobes ovate, 2.5–5 × 3.5–7 mm, margins entire or sometimes remotely and minutely glandular; adpistillate central lobe elliptic, small (1–1.5 mm long) or obsolete; abpistillate lobe 1.5–2.5 × 3 mm, enclosing the resiniferous gland; gland ca. 2 × 3.5 mm, of 1 or 2 rows of entire laminar ceriferous bractlets; resinous secretion pale, whitish. Staminate flowers subsessile; mature buds angled, 2.3–2.8 mm across, glabrous or nearly so; calyx splitting into 3 or 4 recurving segments 1.8–2.5 × 1.3–1.8 mm; staminal column very short (0.5 mm or less), glabrous; stamens 50–80; filaments glabrous, 0.2–0.3 mm long; anthers ca. 0.4 mm long. Middle fruiting pedicel 8–10 mm long, lateral fruiting pedicels 2.5–4 mm long; fruiting sepals 3–4 × 0.4–0.8 mm, flattened, mostly with a pair of medial lateral lobes ca. 0.2–0.5 mm long; columella ca. 4 mm long; capsule valves ca. 5.5 mm long, inconspicuously strigose-hispidulous; seeds not seen.

Additional specimens examined. BRAZIL. BAHIA: Mun. Andaraí, Km 39, Andaraí, BR 242, 4 Mar. 1978, Allem & Vieira 1801, 1802 (CEN, DAV).

Dalechampia allemii appears outstanding among all known species of sect. *Dalechampia* subsect. *Triphyllae* (Webster & Armbruster, 1990)

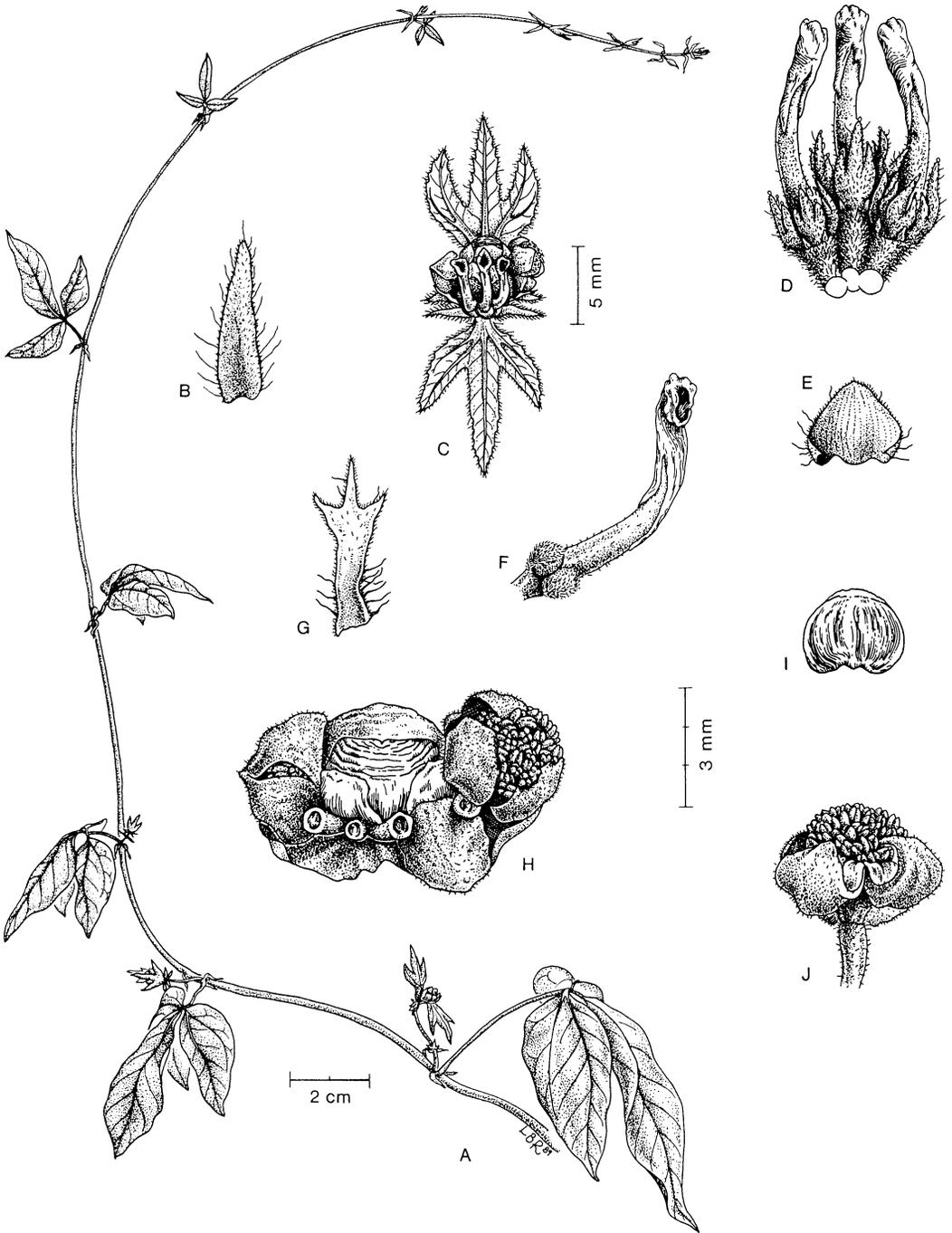


FIGURE 1. *Dalechampia alleonii*.—A. Flowering branch.—B. Stipule.—C. Inflorescence at anthesis.—D. Pistillate cymule.—E. Abstaminate pistillate bract.—F. Pistillate flower (calyx removed).—G. Fruiting sepal.—H. Staminate subinflorescence.—I. Resiniferous bractlet.—J. Staminate flower.

in its small unguiculate involucre bracts, suppressed adstaminate pistillate bractlets, staminal involucre with only 3 well-developed segments, and pistillate sepals with usually a single pair of lateral lobes. The small size of the involucre bracts is reminiscent of *D. micromeria* Baillon of southern Brazil, but in that species the bracts are differently shaped, the stamens fewer (10–25), and styles shorter (2–4 mm). In the treatment by Pax & Hoffmann (1919), *D. allemii* would key down near *D. olfersiana* Muell. Arg.; however, that species is more heavily pubescent and has nonunguiculate bracts and clavate styles. Somewhat more similar in appearance to *D. allemii* is *D. clauseniana* Baillon, which also has nonglandular pistillate sepals; however, that species differs in its larger nonunguiculate involucre bracts, well-developed adstaminate pistillate bractlets, staminate involucre with 2 entire lips, and pistillate sepals with 4–7 pairs of lateral lobes.

It is a great pleasure to dedicate this distinct new species of *Dalechampia* to Antonio Allem, of EMBRAPA/CENARGEN in Brasília. Dr. Allem has made substantial contributions to the systematics of Brazilian Euphorbiaceae and is the leading authority on the taxonomy of the genus *Manihot*. The dedication is also especially appropriate because Dr. Allem was the first collector of the species

in 1978 and has published the first critical reassessment of the taxa of subsect. *Triphyllae* since the treatment of Pax & Hoffmann (Allem & Waechter, 1977).

Relationships among the species of *Dalechampia* subsect. *Triphyllae* as defined by Webster & Armbruster (1990) require further study; such species as *D. clauseniana*, *D. cissifolia*, and *D. heteromorpha* are highly variable, and species limits are uncertain. The following key to the Brazilian species of subsect. *Triphyllae* should aid in locating *D. allemii* as far as gross morphological characters are concerned. Morphological terminology follows the treatment of Webster & Armbruster (1990).

Dalechampia subsect. **Triphyllae** (Pax & Hoffm.) Webster & Armbruster, Bot. J. Linn. Soc. (in press). *Dalechampia* sect. *Triphyllae* Pax & Hoffm., Das Pflanzenreich IV. 147. XII(Heft 68): 13. 1919. TYPE: *Dalechampia triphylla* Lam.

Twining vines, indumentum often sparse; leaves 3-foliolate (rarely 5-foliolate), sometimes also with simple leaves; floriferous shoots axillary; bracts greenish, unlobed or 3-lobed; staminate involucre with 7–11 flowers; stamens 10–100; pistillate sepals 6–12, entire to deeply pinnatifid; seeds smooth.

TENTATIVE KEY TO THE BRAZILIAN SPECIES OF SUBSECT. *TRIPHYLLAE*

- 1a. Leaves 3-foliolate; seeds 2.8–3.5 mm long.
 - 2a. Pistillate sepals oblong or obovate, with broad rachis (3–3.5 mm) in fruit, rachis much broader than lateral teeth (mostly 0.5–1 mm); foliage and involucre bracts nearly glabrous *D. triphylla* Lam.
 - 2b. Pistillate sepals linear-lanceolate, with narrow rachis (not broader than 1.5 mm) in fruit, lateral teeth mostly broader than rachis.
 - 3a. Pistillate bractlets not glandular-capitate on margins.
 - 4a. Pistillate sepals without glandular-capitate lobes.
 - 5a. Involucre bracts unguiculate; adstaminate pistillate bractlets suppressed; pistillate sepals mostly with only 1 pair of lateral lobes; staminate involucre 3-lobed; stamens 50–80 *D. allemii* Webster
 - 5b. Involucre bracts rounded or cordate at base; adstaminate pistillate bractlets developed; pistillate sepals mostly with 4 or more pairs of lateral lobes; staminate involucre 2-lipped, scarcely lobed.
 - 6a. Styler column slender, not clavate; ovary strigose; stipules 3–4 mm long *D. clauseniana* Baillon
 - 6b. Styler column clavate; ovary villose; stipules 6–8 mm long ... *D. olfersiana* Muell. Arg.
 - 4b. Pistillate sepals with glandular-capitate lobes.
 - 7a. Fruiting sepals 12–15 mm long; fruiting peduncle mostly not longer than 1 cm *D. cissifolia* Poeppig
 - 7b. Fruiting sepals shorter; peduncle generally longer.
 - 8a. Involucre bracts usually longer than 1 cm; stamens mostly more than 25 per flower.
 - 9a. Leaves monomorphic, all tripartite; involucre bracts 3-lobed; stamens 30–60.
 - 10a. Involucre bracts 3-lobed; fruiting sepals 3.5–5 mm long *D. meridionalis* Muell. Arg.
 - 10b. Involucre bracts unlobed or trifid at tip; fruiting sepals 7–8 mm long ... *D. bangii* Pax & K. Hoffm.
 - 9b. Leaves dimorphic, both tripartite and unlobed; bracts unlobed or 3-lobed; stamens less than 30; fruiting sepals 5–6 mm long *D. burchellii* Muell. Arg.
 - 8b. Involucre bracts mostly \leq 1 cm long, 3-lobed; stamens 10–25; styles 2–4 mm long, glabrous; leaves all tripartite *D. micromeria* Baillon

- 3b. Pistillate bractlets glandular-capitate on margins; stamens 30 or more; leaves pubescent beneath, all tripartite; involucre bracts 3-lobed *D. stenosepala* Muell. Arg.
 1b. Leaves 5-foliolate; seeds longer than 4 mm *D. regnellii* Muell. Arg.

Fieldwork in Bahia was made possible through a grant from the National Science Foundation and the collaboration of Dr. Allem and personnel of EMBRAPA/CENARGEN, Brasília. The illustrations were drawn by Leslie Randall.

PAX, F. & K. HOFFMANN. 1919. Euphorbiaceae–Dalechampiaeae. Das Pflanzenreich. IV. 147. XII(Heft 68): 1–59.

WEBSTER, G. L. & W. S. ARMBRUSTER. 1990. A synopsis of the neotropical species of *Dalechampia*. Bot. J. Linn. Soc. (in press).

LITERATURE CITED

ALLEM, A. C. & J. L. WAECHTER. 1977. Notas sistemáticas y nuevos sinónimos en Euphorbiaceae de America del Sur—II. Rev. Brasil. Biol. 37: 91–101.

—Grady L. Webster, *Department of Botany, University of California, Davis, California 95616, U.S.A.*