

A NEW SPECIES OF *ASPLUNDIA* (CYCLANTHACEAE) FROM PANAMA

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ABSTRACT

In preparation for the forthcoming Flora Mesoamericana treatment of Cyclanthaceae, *Asplundia crassifolia* Hammel, **sp. nov.**, is described from Panama.

RESUMEN

En preparación para el tratamiento de Cyclanthaceae en un próximo volumen de Flora Mesoamericana, se describe una nueva especie de *Asplundia* de Panamá.

The genus *Asplundia* (Cyclanthaceae) comprises approximately 105 species of terrestrial herbs and root-climbing lianas of the wet tropics. The landmark familial monograph of Harling (1958) accepted 82 *Asplundia* species, and 23 have been described as new—with very few synonymized—in the intervening years. Most Cyclanthaceae are large herbs with relatively large leaves, making the gathering and preparation of specimens difficult. In cases where care is not taken throughout the process (see Hammel 1987), resulting specimens can be little more than mummified junk that would have better served the world left to grow a while longer on the plant. Even when carefully pressed, the often broadly cupped leaf segments must lose their three-dimensionality, which is sacrificed to splitting. Even the two-dimensional shape of the leaves (especially of very broad ones) can be difficult to recover without photos of live plants. The species here described is a case in point.

The taxonomy of the family in most cases is complicated further by being dependent upon the availability of both good flowering and fruiting material, problematic because of the very small and ephemeral (falling at anthesis), yet critically important, staminate flowers. Following Harling (1958), in the Mesoamerican region *Asplundia* is most likely to be confused with *Dicranopygium*; both are terrestrial and sometimes climbing, with spirally attached leaves with shallowly to deeply bifid blades, but the latter can often be distinguished merely by where many species grow — on rocks in and along streams, a habitat almost unique to that genus within Cyclanthaceae. Morphologically, the two genera are distinguished by *Asplundia* having the spathes dispersed on the distal portion of the peduncle (vs. clustered right at the base of the spadix in *Dicranopygium*), and mature fruits usually dehiscent by the stigmatic caps falling off, and with flattened seeds (vs. mature fruits remaining intact, with the seeds released under pressure through a thin window at the base of each tepal, and with subterete seeds).

ASPLUNDIA CRASSIFOLIA Hammel, **sp. nov.** **TYPE: PANAMA.** Panamá: Along El Llano-Cartí road, 9.5 km N of Pan-American highway, along trail W of road, 9°15'N, 79°00'W, 200–300 m, 9 Apr 1987 (fl), *McPherson 10815* (holotype: MO – single specimen mounted on five sheets: MO-5704574, MO-5704575, MO-5704576, MO-5704577, MO-5704578!). Figures 1–4.

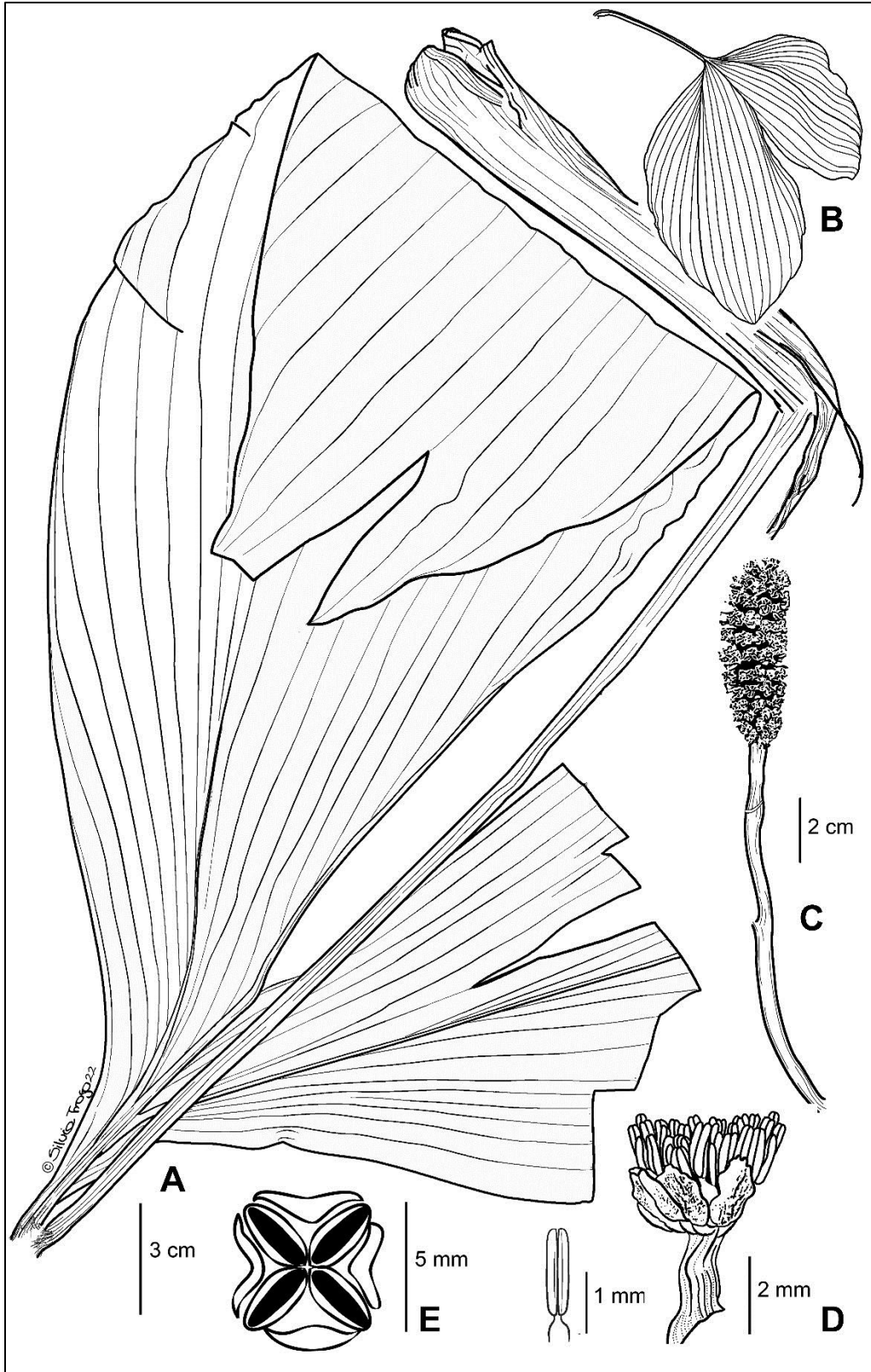


Figure 1. *Asplundia crassifolia*. A. Leaf (from Hammel 13531). B. Sketch of live leaf from photo. C. Young infructescence (from Croat 15201). D. Stamen and staminate flower (from McPherson 10815). E. Stigmata and tepals of young fruit, seen from above (from Croat 15201).

Asplundia crassifolia is most similar to the mainly South American (Colombia, Ecuador) *A. platyphylla* Harling but differs from that species by its slightly longer anthers (1–1.5 mm vs. 0.8–1.2 mm) and, especially, by its tepals about the same height as the narrowly ovate-lanceolate stigmata (vs. overtopping the broadly ovate stigmata).

Terrestrial plant or (more often) **root-climbing liana** with the stem to 4 m, to at least 3 cm wide. **Leaves** with the petiole (13–)38.5–74 cm, the base shiny green (live), with tan, slightly exfoliating epidermis (live), drying dull and not cracking, usually with scattered light brown scales, the sheath more or less intact or tardily split into fibers; mature blade 36–58 cm, noticeably paler below, glossy both surfaces (live), succulent (live), tricostate, the lateral costae thick and running well inside the margins (the blade sometimes decurrent on the petiole up to ca. 3.5 cm below the attachment of the lateral costae), bifid 1/2–2/3 its length, the segments 7.9–22 cm broad, the outer margin broadly rounded (convex). **Peduncle** 11–13 cm at anthesis, 12–17 cm in later stages, erect. Spathes 3(?) or 4(5), 9.5–13 × 2–3.5 cm, white, the upper 2 or 3 approximate. Spadix 6.2–7.2 × 1.9–2.5 cm at anthesis, 5.8–6 × ca. 2.1 cm in later stages. **Staminate flowers** ca. 5–6 mm, asymmetrical; receptacle ca. 3 mm wide, flat, with 5–7 perianth lobes 1.5–2 × 0.7–1 mm; stamens 45–83, the basal bulbs medium-sized (relative to the overall distance between base of anther and receptacle), the filaments ca. 0.15–0.2 mm, the anthers 1–1.5 × 0.2–0.3 mm. **Pistillate flowers** during anthesis 4–5 mm broad, in fruit to at least 6 mm broad; tepals free, 2–2.3 × 2–3 mm at anthesis, to ca. 4 × 3.5–4 in young fruit, about the same height as the stigmata, entire, subacute to truncate apically; styles 1.5–2 mm high, connate; stigmata seen from above narrowly ovate-lanceolate, flat, slightly projecting between tepals (not erect) in fruit; staminodes 1.5–2.5+ cm, pale yellow. Seeds not seen.



Figure 2. Mock-up of live leaf blade (modified from unvouchered photo by Jerry Harrison, vicinity of Cerro Jefe).



Figure 3. *Asplundia crassifolia*. Live plant from vicinity of Cerro Jefe (unvouchered photo by Jerry Harrison).

Additional specimens examined. PANAMA. Panamá: 6 mi above Goofy Lake on road to Cerro Jefe, 3 Jul 1971 (young fr), *Croat 15201* (MO); Cartí road. 9.7 mi from turnoff at El Llano, in frst along road, 9°15'N, 78°58'W, 320 m, 16–17 Apr 1985 (st), *Hammel 13531* (MO); Cerro Jefe, in forest along side road N off of road to tower, 9°15'N, 79°25'W, 820 m, 24 Feb 1986 (st), *Hammel & McPherson 14542* (MO); Cerro Jefe, in *Clusia* and *Colpothrinax* dominated elfin forest near radio tower and in forest ca. 1 mi N of turn-off to summit, 9°15'N, 79°25'W, ca. 700 m, 7 Apr 1986 (fl & young fr), *Hammel & Trainer 15038* (MO—single specimen, two sheets; MO-6990479, MO-6990480). **Panamá to Guna Yala** (until 1998 known as San Blas): Trail from end of road past Los Altos de Pacora region of Cerro Jefe, on to Cerro Brewster, 9°17'N, 79°17'W, 600–800 m, 20–25 Apr 1985 (st), *Hammel & de Nevers 13631* (MO). **Panamá & Guna Yala:** Valle de Madroño, ca. 10 road mi N of La Margarita (by Chepo), 9°19'N, 79°8'W, 350–450 m, 21 Feb 1986 (st), *Hammel & McPherson 14523* (MO).

Distribution and phenology. *Asplundia crassifolia* is presently known from seven specimens from central Panama, just east of the Canal, in forested hills between 300–800 m elevation. Flowering has been recorded in April, and young fruits in April and July.

Etymology. The epithet refers to the relative and slight succulence (relative to other locally sympatric Cyclanthaceae) noticed in leaves of live material.

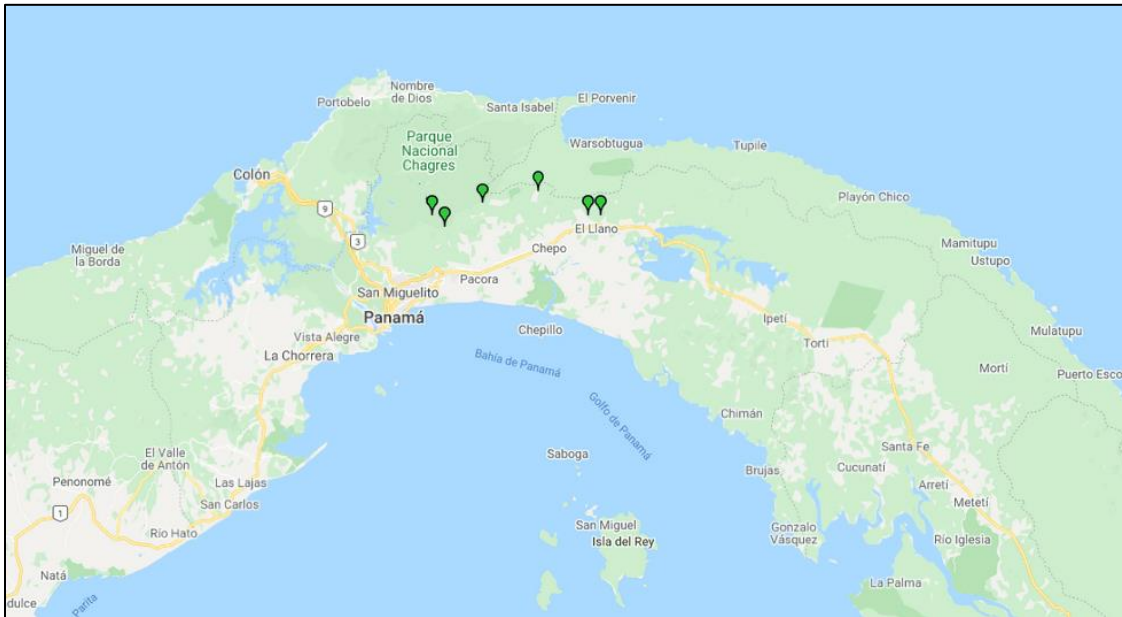


Figure 4. Distribution of *Asplundia crassifolia*. Generated by Google Maps on Tropicos.

By virtue of its tricostate leaf-blades and asymmetrical staminate flowers (with the perianth lobes developed on one side only), *Asplundia crassifolia* may be assigned unequivocally to *Asplundia* subg. *Asplundia*, the larger of the two subgenera recognized by Harling (1958). The new species is most similar to the mainly South American (Colombia, Ecuador) *A. platyphylla* Harling, with which it shares broad leaf segments with broadly rounded margins. The last-mentioned species is rarely also described as having (somewhat) succulent leaves. *Asplundia crassifolia* differs from *A. platyphylla* by its slightly longer anthers (1–1.5 mm, vs. 0.8–1.2 mm) and, especially, by its tepals about the same height as the narrowly ovate-lanceolate stigmata (vs. overtopping the broadly ovate stigmata). On the basis of leaf shape it might be confused with the locally sympatric *A. peruviana* Harling or *A. utilis* (Oerst.) Harling, but both of those species are easily distinguished by their petiole sheaths with a yellowish and cracking epidermis.

Based on one fertile specimen (*Kirkbride & Duke 1348*, MO), we have determined that the otherwise South American *Asplundia platyphylla* Harling also occurs in Panama, near the Parque Nacional Darién. Two other specimens from Prov. Darién, *Hammel et al. 14838* (MO) and *16351* (MO), may also represent *A. platyphylla*, but both are sterile and cannot be identified with certainty. Although Harling's (1958) original description of *Asplundia platyphylla* was based on just the type specimen, which lacks staminate flowers, additional material that we are confident also belongs to that species allows us to determine at least the length of the anthers, ca. 0.8–1.1 mm. We also amend the description of the stigmata (lanceolate, according to Harling's protologue) to broadly ovate, based not only on subsequent collections but also images of the holotype.

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