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COMPOSITAE OF CENTRAL AMERICA–III. *FLEISCHMANNIA PINNATIFIDA* (EUPATORIEAE), A PINNATIFID-LEAVED NEW SPECIES FROM NICARAGUA

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ABSTRACT

The pinnatifid-leaved new species **Fleischmannia pinnatifida** Pruski (Compositae: Eupatorieae) from Nicaragua is described. *Fleischmannia pinnatifida* and *F. carletonii* are the only pinnatifid-leaved species of the approximately 100 Fleischmannias. *Fleischmanniopsis leucocephala* is vouchered in Nicaragua and *Fleischmanniopsis* is reported as a new generic record for the country.

Recent general identifications of neotropical Compositae include that of a pinnatifid-leaved herbaceous eupatorioid from Nicaragua that has strongly costate-tubed funnelform corollas, low clinanthia, slender anther collars with transversally annulated cell walls, simple glabrous style bases, and stopper-shaped carpopodia. By these technical characters the Nicaraguan plant is positioned within *Fleischmannia* Sch. Bip., where it does not match any previously described species. Nevertheless, the Nicaraguan species has a moderately similar congener in pinnatifid-leaved Honduras-centered *F. carletonii* (B.L. Rob) R.M. King & H. Rob. Although Pruski and Clase (2012) stated that pedate-leaved *F. mayana* Pruski from Belize also "vaguely recalls *F. carletonii*," they acknowledged that the characters in *F. mayana* of obviously campanulate corollas and broad-tipped short anther appendages (viz Pruski & Clase 2012 Figs. 5C, 6A) stretched "the limits of *Fleischmannia*." Subsequently, Robinson and Pruski (2013) excluded *F. mayana* from *Fleischmannia* to *Zyzyura* H. Rob. & Pruski (Eupatorieae). Robinson and Pruski (2013) accepted into *Fleischmannia* only taxa with funnelform corollas and narrower anther appendages, thus returning to the earlier generic concept of *Fleischmannia* used by King and Robinson (1970, 1974, 1975, 1987), Pruski (1997, 2010), Robinson (2001), Robinson and Holmes (2008), and Turner (1997, albeit there as "*Fleischmannia* group of *Eupatorium*"). It is to this more natural concept of *Fleischmannia* that the new species from Nicaragua corresponds, and the plant is described herein as *Fleischmannia pinnatifida* Pruski.

A recent collection of *Fleischmanniopsis leucocephala* (Benth.) R.M. King & H. Rob. (Eupatorieae) marks a new generic record for Nicaragua, and the voucher, typology, and synonymy are given for this species. *Fleischmannia pinnatifida* and *Fleischmanniopsis leucocephala* key in Williams (1976) and Dillon et al. (2001) to a broadly circumscribed *Eupatorium* L.

FLEISCHMANNIA PINNATIFIDA Pruski, **sp. nov. TYPE**: **NICARAGUA. Matagalpa.** 5.2 km NE of Matiguás (N edge) along road to El Congo, Puente Agua Fria, moist forest along stream, 12° 52' 44" N, 85° 25' 43" W, 515 m, 2 Jan 2013, *W.D. Stevens & O.M. Montiel 33819* (holotype: MO: isotype: HULE). Figures 1–4.

Herbae perennes circiter 1 m altae, ramis sparse puberulis; folia opposita petiolata pinnatifida, lamina usque 4 × 2.3 cm supra et subtus glandulosa et sparse puberula, petiolo 0.3–1.8 cm longo; capitulescentia laxe cymosa vel late corymbiforma; capitula discoidea 3.5–4.5 mm longa; flosculi disci 18–23, corollis (2–)2.5–2.7 mm longis infundibuliformis tubo valde costato lobis deltoidea 0.3–0.4 mm longis; styli rami lineari; cypselae 1.4–1.9 mm longae; setae pappo 1.5–2 mm longae.

Figure 1. Holotype of *Fleischmannia pinnatifida* (*Stevens & Montiel 33819*, MO).

Figure 2. *Fleischmannia pinnatifida*. A. Pinnatifid leaves. B. Capitulum showing bracteolate peduncle, green phyllaries with narrow tips, pale lavender-blue corollas slightly exserted from the involucre, and linear pale lavender-blue style branches. Photographs taken by Olga Martha Montiel; *Stevens & Montiel 33819*.

Erect perennial herbs ca. 1 m tall; stems subterete to subhexagonal, sparsely and finely puberulent distally with trichomes ca. 0.1 mm long, also sometimes sparsely sessile-glandular in the capitulescence, terminal branchlets filiform. **Leaves** opposite, petiolate, pinnatifid to subbipinnatifid; blade incised to near midrib, triangular-ovate in outline, longer than broad, to 4 × 2.3 cm, primary lobes opposite, usually 2 per side, spreading laterally, lanceolate, to 1–1.5 cm long, well-spaced, sinuses sometimes broad, each lobe often with a single or a pair of lateral lobules or incisions at about midpoint of lobes, lateral lobules usually triangular, mostly 1–3 × 1–2 mm, terminal lobules commonly much longer than lateral lobules, surfaces sessile-glandular and also finely appressed puberulent, blade base mostly cuneate, lobe and lobule margins not serrate, lobes and lobules mostly sharp-tipped; petiole 0.3–1.8 cm long, basically exalate albeit lined with extremely narrow foliar tissue. **Capitulescence** diffusely cymose to openly and broadly corymbiform, 1.5–8 cm diam., held above subtending leaves, branching alternate, branchlets 3–9-capitulate, finely puberulent and sometimes sparsely glandular especially proximally near nodes; peduncles filiform, (3–)6–30 mm long, sparsely puberulent, bracteolate; bracteoles 1–4, spreading or the distal ones subappressed, linear, 0.5–1.5 mm long, setulose or the distal ones subglabrous. **Capitula** discoid, 3.5–4.5 mm long; involucre turbinate to narrowly campanulate, 2–3 mm diam., appearing much broader when pressed; phyllaries lanceolate or the outer most narrowly pyriform, 1.6–4 × 0.3–0.5 mm, weakly subimbricate, ca. 3-seriate, merely moderately graduated with the outer few about half as long as the inner, mostly green, outer phyllaries loosely inserted and sometimes excurrent onto extreme apex of peduncle,

persistent and fully reflexed post fruit, the inner ca. 2 series subequal, subglabrous to puberulent, sometimes glandular, bicostate proximally, margins hyaline or sometimes pinkish, apices acuminate to attenuate; clinanthium flat to weakly convex, epaleate. **Disk florets** 18–23; corolla funnelform, 2.5–2.7 mm long (2–2.5 mm long when dried), slightly exserted from the involucre, pale lavender-blue (as pink on collection label), tube strongly 5-costate, shorter than throat, glabrous, throat only gradually broader than tube, minutely setulose distally, lobes deltate, 0.3–0.4 mm long, setulose and sparsely glandular, the inner surface finely papillose, veins intramarginal; anthers ca. 0.9 mm long, pale, theca base obtuse to rounded and not at all sagittate, apical appendage ovate, ca. 0.17 mm long, longer than wide, apex acute to obtuse, anther collar slender, ca. 0.3 mm long, not wider than filaments, cell walls transversely annular-thickened, endothecial tissue polarized; nectary annular, ca. 0.1 mm tall; style pale lavender-blue, base simple without thickened enlarged node, glabrous, trunk eglandular, glabrous, branches linear, 1.5–1.7 mm long, apical appendage and proximal fertile portions subequal, appendage cylindrical and not at all broadened. **Cypselae** markedly prismatic, 1.4–1.9 mm long, body constricted apically, base gradually narrowed and in the outer florets sometimes curved, faces and costae discolorous, faces concave, black, glabrous to sparsely setulose or pauciglandular apically, costae stramineous, setulose throughout, carpopodium stopper-shaped with well-delineated upper margins obviously broader than narrowed cypselar base, ca. 0.1 mm long, never procurrent onto costate, stramineous; pappus bristles ca. 22, 1.5–2 mm long, usually reaching to near top of corolla throat, capillary, stramineous, scabridulous, nearly contiguous basally, bristle base narrow or only very slightly broadened.

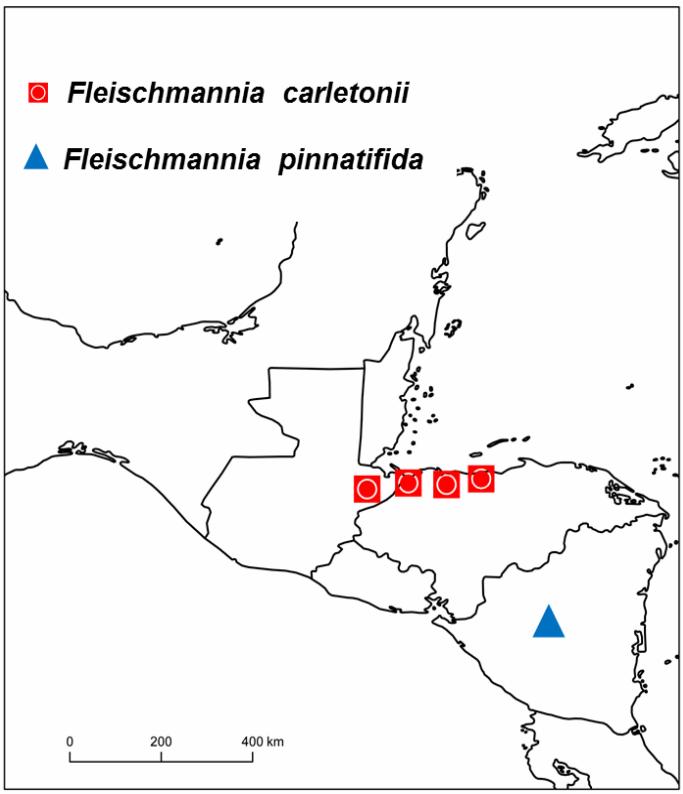

Figure 3. Distributions of *Fleischmannia carletonii* and *Fleischmannia pinnatifida*.

Distribution and ecology. The epipetric rhyacophilous *Fleischmannia pinnatifida* is known only from the type locality near Matiguás, Matagalpa (Fig. 3), which lies in the center of Nicaragua about 130 kilometers northeast of Managua. The type locality is in moist forests along rocky streams at about 515 meters elevation, and this herb is known in bud, flower, and fruit in January.

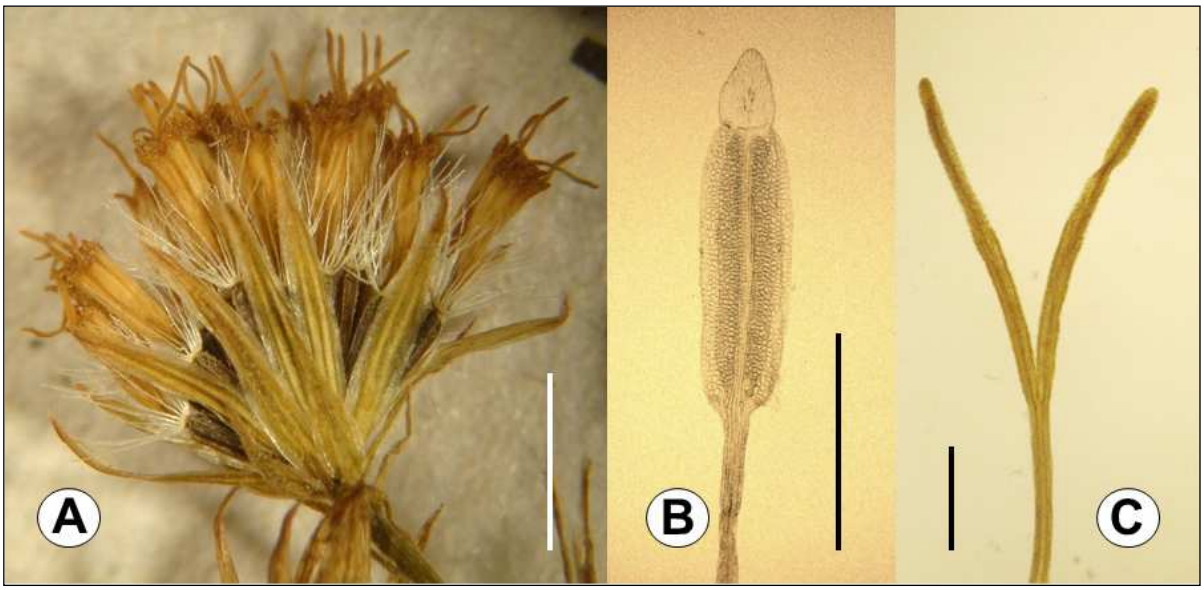

Figure 4. *Fleischmannia pinnatifida*. A. Pressed capitulum showing apically narrowed phyllaries, inner ca. 2 series of phyllaries subequal and bicostate, and funnelform corollas. B. Adaxial view of post-anthesis anther showing ovate appendage, polarized endothecial tissue, and the slender collar. C. Style showing linear branches with narrow appendages. (*Stevens & Montiel 33819*, MO). [Scale bars A 2 mm, B–C 0.5 mm].

Fleischmannia pinnatifida, by its divided leaves (whence the epithet), apically narrowed phyllaries, and few small capitula in laxly cymose to openly and broadly corymbiform capitulescences, immediately brings to mind Honduras-centered *F. carletonii*, with these species being the only known pinnatifid-leaved species of *Fleischmannia*, an American genus of about 100 species. Moreover, *F. pinnatifida* and the similar *F. carletonii* share the rhyacophilous habitat preference. Although a few other species from Central America (e.g., *F. capillipes* (Benth.) R.M. King & H. Rob., *F. hammelii* H. Rob., *F. imitans* (B.L. Rob.) R.M. King & H. Rob., *F. sideritidis* (Benth.) R.M. King & H. Rob.) are typically epipetric rhyacophilous herbs having similar diffuse capitulescences, none of these other Fleischmannias have pinnatifid leaves. *Fleischmannia pinnatifida*, as set forth in the key below, differs from *F. carletonii* in foliar details, by sometimes glandular phyllaries, and also by linear (vs. very narrowly clavate) style branches.

Key to *Fleischmannia carletonii* and *Fleischmannia pinnatifida*

1. Herbs 0.2–0.3 m tall; leaves 2–3-pinnatifid, blade about as long as broad, lobes direct forward, distal-most lateral lobules subterminal and mostly subequal to terminal lobule, lobules lanceolate to oblanceolate, 0.5–1.2 mm diam.; phyllaries eglandular; style branches very narrowly clavate; plants of Caribbean drainage Guatemala and northern Honduras ..... **Fleischmannia carletonii**

1. Herbs ca. 1 m tall; leaves pinnatifid to subbipinnatifid, blade longer than broad, lobes spreading laterally, lobules at about midpoint of lobes, terminal lobule commonly much longer than lateral lobules, some lobules triangular, to ca. 2 mm diam.; phyllaries sometimes glandular; style branches linear; plants of central Nicaragua ..... **Fleischmannia pinnatifida**

The report below marks the first occurrence of the *Eupatorium* segregate *Fleischmanniopsis* R.M. King & H. Rob. and of *F. leucocephala* in Nicaragua.

FLEISCHMANNIOPSIS LEUCOCEPHALA (Benth.) R.M. King & H. Rob., Phytologia 21: 403. 1971. *Eupatorium leucocephalum* Benth., Pl. Hartw. 86. 1841. **TYPE: GUATEMALA. Chimaltenango**. In aggeribus, Acatenango, 1840, *Hartweg 588* (isotypes: NY-2).

Eupatorium leucocephalum var. *anodontum* B.L. Rob., *Fleischmanniopsis leucocephala* var. *anodonta* (B.L. Rob.) R.M. King & H. Rob.

Voucher. **NICARAGUA. Nueva Segovia.** Cerro Mogotón, SE slope, along Caño El Cipresal, 13° 44' 52" N, 86° 23' 09" W, 1475 m, 16 Apr 2013, *Stevens & Montiel 34244* (MO).

Although *Fleischmanniopsis*, a genus of about five mid-elevational neotropical species, was named for its similarity in some technical features to *Fleischmannia* (King & Robinson 1971), *Fleischmanniopsis* lacks prominent costae on their corolla tubes that are so characteristic of *Fleischmannia*. A very striking character of showy white phyllaries, however, occurs in three species of *Fleischmanniopsis*, and of these species the widespread *F. leucocephala* is often used in floral displays.

Fleischmanniopsis leucocephala occurs from Veracruz southeastwards into El Salvador and Honduras (King & Robinson 1987; Turner 1997), and is vouchered here from a single station in Nicaragua. The locality on Cerro Mogotón lies within two kilometers of the Honduran border and is only about 35 kilometers southeast of Danlí, Honduras. *Fleischmanniopsis leucocephala* is a moderately common shrub with subscandent stems to three meters long and may be recognized by its serrate trinerved leaves, large pluricapitulate and nearly columnar-paniculate capitulescences, straight (never contorted) pappus bristles that are more or less noncontiguous basally, broadly rounded anther appendage apices, obviously clavate style branches, stopper-shaped carpopodia, and most obviously by the characteristic, very showy, white phyllaries.

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