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# A NEW SPECIES OF *TRIGONOSPERMUM* (COMPOSITAE, HELIANTHEAE) FROM CENTRAL AMERICA

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In preparing treatments of Compositae for the *Flora de Nicaragua* project, an unusual specimen was discovered in the genus *Trigonospermum* that could not be placed with existing revisionary literature (McVaugh & Laskowski, 1972; Turner, 1978). Examination of material of the genus from other institutions revealed additional specimens and led us to treat these as a new taxon at the specific level.

***Trigonospermum stevensii*** Sundberg et Stuessy, sp. nov. TYPE: Nicaragua. Depto. Madriz: Cerro Quisuca, lower S and SW slopes, ca. 13°30'N, 86°31'W, 800–1,100 m, dry forest on rocky slopes, 23 Nov. 1979, *W. D. Stevens & A. Grijalva 16156* (holotype, OS; isotypes, MO, OS, OSH). Figure 1.

A *T. annuum* McVaugh & Laskowski et *T. melampodioides* DC. simile, sed paleis exteriores glabris, apice ciliatis, floribus radii 3–4, ramis styli 0.9–1.4 mm longis, ligulis 4.5–7 mm longis, achaeniis 2.5–3.2 mm longis, floribus disci 18–25, lobis corollae sparsim pubescentibus vel glabris, antheris 1.1–1.3 mm longis.

Annual herb, ca. 1 m tall. Stems hispidulous, stalked-glandular. Leaves opposite; blades rhombic-ovate, 5–15.5 cm long and 3–11 cm wide, hispidulous and occasionally glandular above, strigose and glandular below, acute at the apex, with margin serrulate; petiole winged, to 5.5 mm long. Peduncle slender, hispid, stalked-glandular. Capitula numerous; involucre 2.8–4 mm tall; outer phyllaries linear-elliptic, 2.4–4 mm long, 0.8–1.6 mm wide, hirtellous, glandular, grading into middle phyllaries; middle phyllaries rhombic to obovate, slightly keeled, 2.2–3.2 mm long, apex acute to apiculate, fimbriate-ciliate; inner phyllaries wrapping around achenes, obovate, scarious, white, 2.2–3 mm long, 10-nerved, glabrous except at the rounded, fimbriate-ciliate apex. Ray florets 3–4; corollas yellow; ligules 4.5–7 mm long, 3–6 mm wide, gland-dotted both sides, deeply trilobed, with lobes rounded, 2–4 mm long; tube pubescent, 0.3–0.5 mm long; style branches 0.5–1.4 mm long; achenes broadly elliptic to obovate, sometimes 3-

angled, broadest above the middle, 2.5–3.2 mm long, with terminal scar elevated 0.2 mm. Disk florets 18–25, with abortive ovaries; corollas 2.1–2.7 mm long; lobes 5, 0.1–0.3 mm long, glabrous to sparsely pubescent; styles fused (not bifid); anthers 1.1–1.3 mm long, exerted half their length at anthesis. Pales filiform-subulate to oblanceolate, fimbriate at apex, 1.8–2.6 mm long.

*Additional specimens examined.* GUATEMALA. DEPTO. CHIMALTENANGO: Chimaltenango Experimental Station, 2,000 m, 5 Nov. 1971, *A. Molina R. & A. R. Molina 26919* (MICH); DEPT. HUEHUETENANGO: ca. 5 mi. WNW of Huehuetenango, 23 Oct. 1976, *T. F. Stuessy & R. C. Gardner 4318* (TEX); DEPT. SACATEPÉQUEZ: slopes of Volcán de Agua, S of Santa María de Jesús, 1,800–2,100 m, 10 Dec. 1938, *P.C. Standley 59378* (MICH).

This new taxon is morphologically intermediate between *Trigonospermum annuum* McVaugh & Laskowski and *T. melampodioides* DC. (Table 1). Most importantly, it differs from *T. annuum* in ray corolla length, disk floret number, anther length, and achene length. It differs from *T. melampodioides* in pubescence of lobes of the disk corollas and outer pales.

The morphologically intermediate nature of *T. stevensii* could be due to interspecific hybridization, but two observations argue against this. First, pollen stainability of the specimens is high (99% of 500 grains in cotton-blue in lactophenol), and the pollen grains appear normal. Second, the possible parents, *T. melampodioides* and *T. annuum*, occur in Mexico reaching only as far south as Oaxaca, and therefore do not occur within the range of *T. stevensii*. This new species, in fact, is allopatric to all other taxa in the genus. These considerations further suggest specific recognition for *T. stevensii*. Additional fieldwork could alter this viewpoint, however, as well as concepts of other poorly collected taxa in the rest of the genus (e.g., *T. auriculatum* Turner).

The discovery of *Trigonospermum stevensii* in Nicaragua extends the range of the genus southward into Central America, previously known only from Mexico and Guatemala. The new species is named in honor of Dr. Warren Douglas Stevens,

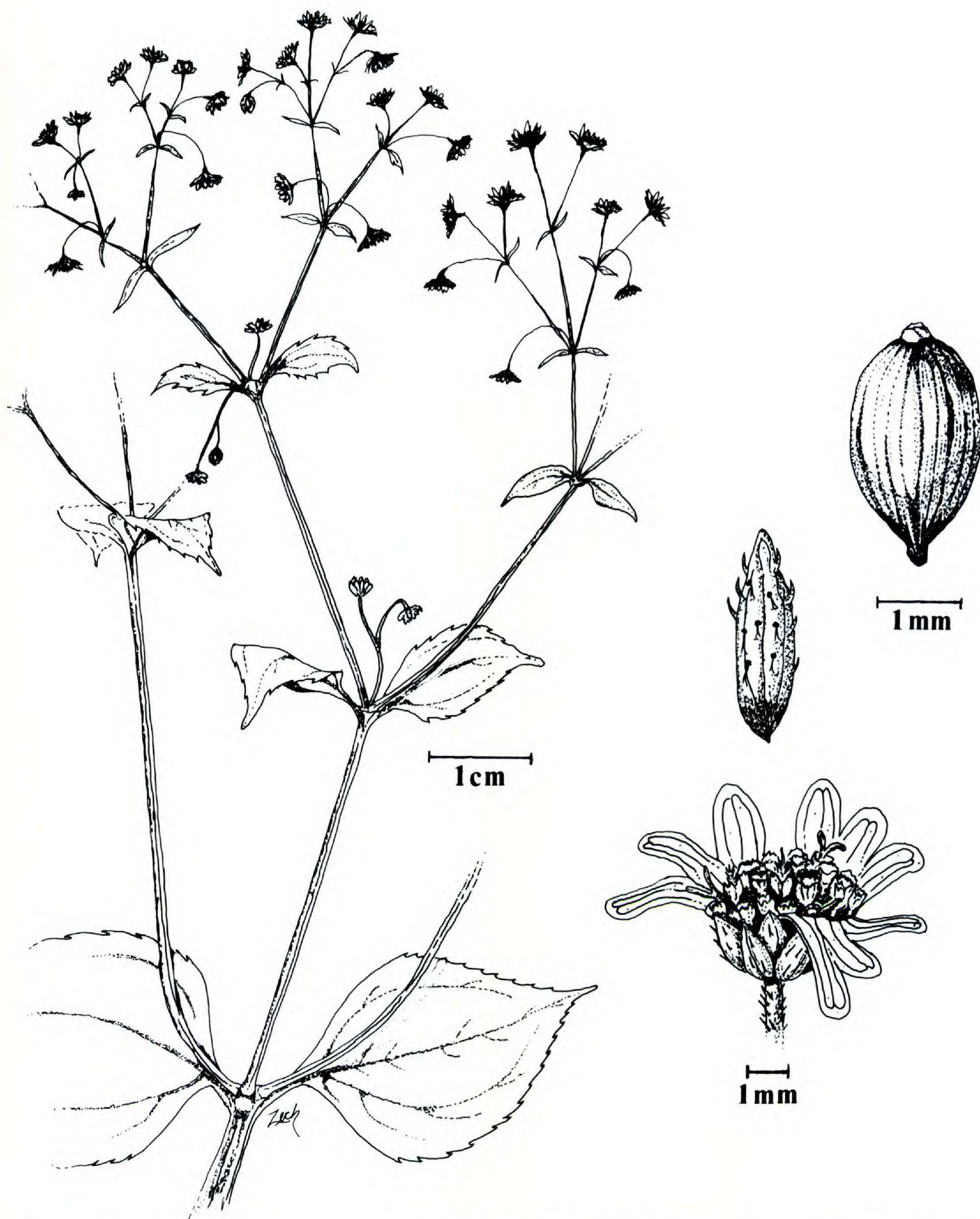


FIGURE 1. *Trigonospermum stevensii*, showing habit, capitulum (with facing ray floret removed), and outer phyllary and achene (same scale). All Stevens & Grijalva 16156 (holotype).

who is coordinating the *Flora de Nicaragua* project.

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TABLE 1. Comparison of *Trigonospermum stevensii* with *T. annuum* and *T. melampodioides*.

Character	<i>T. annuum</i>	<i>T. stevensii</i>	<i>T. melampodioides</i>
Duration	annual	annual	perennial
Inner phyllary			
Vestiture	glabrous	glabrous	strigose
Margin	apically ciliate	apically fimbriate-ciliate	apically erose
Ray floret			
Number	3-4	3-4	(4-)5(-10)
Style branch length (mm)	0.4-1	0.5-1.4	0.9-1.5
Ligule length (mm)	1.5-3.5	4.5-7	5-8.4
Achene length (mm)	2.8-3.8	2.5-3.2	1.8-3
Disk floret			
Number	8-13	18-25	19-50
Corolla lobe vestiture	sparsely pubescent	sparsely pubescent or glabrous	densely pubescent
Anther length (mm)	0.5-1	1.1-1.3	0.8-1.3

## LITERATURE CITED

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