

A new species of *Adenophyllum* (Asteraceae: Tageteae) from northwestern Mexico

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ABSTRACT

A new taxon of *Adenophyllum* from near Yecora, Sonora, ***A. yecoranum*** B.L. Turner, **sp. nov.** is described. It belongs to the *A. porophyllum* complex, as treated by Strother (1969, 1986), where it relates to *A. cancellatum*. A photograph of the holotype is presented, and distribution maps of the complex in Mexico are provided. Published on-line: www.phytologia.org *Phytologia* 95(1): 18-22 (Feb. 1, 2013).

KEY WORDS: Asteraceae, Tageteae, *Adenophyllum*, *Dyssodia*, Mexico, Sonora

Preoccupation with the identification of Mexico Asteraceae has occasioned the present paper.

ADENOPHYLLUM YECORANUM B.L. Turner, **sp. nov.** **Fig.1**

Superficially resembling ***A. cancellatum***, but having smaller, yellow (vs orange) ray florets, smaller heads with fewer disc florets, and achenes w/o an outer pappus of short erose scales.

Annual, stiffly erect, herbs to 1 m high. **Leaves** alternate, glabrous, 5-9 pinnatisect, mostly 4-7 cm long, 2-3 cm wide, their apices terminated by slender flagella, 4-7 mm long. **Heads**, ca 1.5 cm high, 1cm wide (rays excluded), borne upon bracteate peduncles 5-10 cm long. **Calyculum** of relatively few, pectinate, bracts, 3-7 mm long, the pustulate glands 0.5-1.5 mm long. **Involucral bracts** (innermost) usually ca 15, ca 1 cm long, united for ca ½ their length, bearing 3-6 glands near their apices, the upper most usually keeled. **Receptacle**, convex, alveolate-ciliate (rarely not). **Ray florets**, 8-11, pistillate, fertile; ligules yellow, 6-8 mm long, 2-3 mm wide. **Disc florets** 30-40 per head; corollas 5-6 mm long; tube ca 1.5 mm long, grading into the throat, the lobes narrowly lanceolate, ca 1.5 mm long, their apices purplish. **Achenes** ca 4 mm long, 4-sided, black, sparsely pubescent to glabrous; pappus of ca 16 squamellae dissected into 5-10 bristles, an outer series absent.

TYPE: MEXICO. SONORA: “Rio Maycoba at Mex. 16 (20.5 km west of Maycoba, 28.6 km east of Yecora), 28 22 15 N, 108 45 30 W, 1220 m, 26 Sep 1998, *A.L. Reina G. 98-1732* [with T.R. Van Devender] (Holotype, TEX).

According to its collectors (pers. comm.), the holotype was collected in a grassland/oak woodland transition at the Río Maycoba.

ADDITIONAL SPECIMENS EXAMINED: MEXICO. CHIHUAHUA: Guasaremos, Rio Mayo, “oak swales and slopes,” 26 Sep 1935, *Gentry 1863* (TEX); Nabogame, 28 30 N, 108 30 W, 1800 m, Sep 1988, *Laferriere 1975* (TEX). **SONORA:** “north slopes of Mesa del Campanero, 4.8 km west of Puerto de la Cruz, 1640 m, 8 Sep 1996, *Van Devender 96-558* (TEX). **Map 1**

Strother (1969), to judge from his citations, distribution maps and annotations (at TEX), did not examine material of this novelty.

Label data on the type itself list the rays as “orange yellow,” but they appear to be yellow, not a hint of orangeness. The general area of Yécora, Mexico, and closely adjacent Chihuahua, harbor a number of rather localized endemics such as *Ageratina yecorana* B.L. Turner, *Arceuthobium yecorense* Hawksworth & Wiens, *Brickellia enigmatica* B.L. Turner, *Erigeron reinana* G.L. Nesom, *Lepechinia*

yecorana Henrickson, Fishbein, & Van Devender, *Menodora yecorana* Van Devender & Turner, *Pectis vandevenderi* B.L. Turner, *Pinus yecorensis* Debreczy & Rácz, *Portulaca yecorensis* Henrickson & Van Devender and *Tridax yecorana* B.L. Turner, to mention but a few.

Adenophyllum yecoranum is a very distinctive species, though clearly relating to the *A. porophyllum* complex as conceived by Strother (1969). In the latter's seminal treatment of *Dyssodia porophylla* (= **Adenophyllum porophyllum**), the novelty will not key to any of his infraspecific taxa, having a unique combination of characters, as noted in the above diagnosis. In my treatment of *Dyssodia* of Mexico (Turner 1996), it will key to *D. cancellata* (= **Adenophyllum cancellatum**), this recognized as but a variety of **A. porophyllum** by Strother (1986).

The following key should serve to identify species within the **A. porophyllum** complex, as currently understood:

- 1. Heads discoid..... **A. porophyllum**
- 1. Heads radiate.....(2)
- 2. Ray florets yellow; ligules 6-8 mm long, 2-3 mm wide; pappus w/o an outer series of short scales; Son, nw Chi..... **A. yecoranum**
- 2. Ray florets orange; ligules 8-10 mm long, 6-7 mm wide; pappus with an outer series of short scales; wide spread.....**A. cancellatum**

ADENOPHYLLUM CANCELLATUM (Cass.) Villarreal, Acta Bot. Mex. 56: 10. 2001.

Adenophyllum porophyllum var. *cancellatum* (Cass.) Strother

Dyssodia cancellata (Cass.) A. Gray

Dyssodia fimbriata M.E. Jones

Dyssodia porophylla Willd., not *Dyssodia porophylla* (Cav.) Cav.

Dyssodia porophyllum var. *cancellata* (Cass.) Strother

Lebetina cancellata Cass.

Tagetes cancellatus (Cass.) Maza

Chi, Tam, Sin, Dur, Zac, Agu, San, Gua, Que, Hid, Nay, Jal and Mic, Central Plateau, mostly 1500-2000 m; Aug-Dec. **Map 1**

Strother (1969) included this taxon within his concept of **A. porophyllum** but, as noted under the latter, I do not accept such treatment, nor did Villarreal, who also accepted its specific status.

ADENOPHYLLUM POROPHYLLUM (Cav.) Hemsl., Biol. Cen. Amer. Bot. 2: 218. 1881.

Adenophyllum porophyllum var. *radiatum* (DC.) Strother

Boebera alternifolia Moc. & Sesse ex DC.

Dyssodia porophylla (Cav.) Cav.

Dyssodia porophylla var. *discoidea* DC.

Dyssodia porophylla var. *radiata* (DC.) Strother

Pteronia porophyllum Cav.

Son, Sin, Col, Gua, Jal, Nay, Mic, Mex, Mor, Pue, Ver, Gue, Oax, Cps, Yuc and Guatemala southwards, also the Caribbean regions, mostly tropical deciduous forests, 10-1500 m; Aug-Nov. **Map 2**

This species occurs mostly along the Pacific slopes and occasionally somewhat inland where perhaps introduced; it is also found along the Gulf slopes from s Ver to Cam. Strother (1969, 1986) distinguished a var. *radiatum* but I believe this to be but a form of var. *porophyllum* with reduced ray florets, this also suggested, indirectly, by Williams (1976).

McVaugh (1984) notes that in Jal, **Adenophyllum porophyllum** and **A. cancellatum** (treated by him as varieties) "sometimes occur together" but adds, "they differ rather strikingly" by a number "of subtle features of flowers and involucre." In addition to the eradiate heads in **A. porophyllum**, he notes that in young heads of the latter the disk florets are hidden by the pappus bristles and that the reverse condition holds for **A. cancellatum**. This appears to be a valid observation, and their co-occurrence without clear intermediates suggests that 2 species are involved, consequently I treat these as good, partially sympatric, taxa which do not interbreed, or rarely so.

Adenophyllum porophyllum also occurs near **A. yecoranum** in Sonora (ca 15 km N of Yecora, *Van Devender 98-1662* [TEX]), but there is no suggestion that the two taxa might hybridize.

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Figure 1. Holotype of *Adenophyllum yecoranum*.

