SYSTEMATIC STUDY OF THE KOANOPYLLON PALMERI
COMPLEX (ASTERACEAE: EUPATORIEAE)

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ABSTRACT

The Koanophyllon palmeri complex is treated as consisting of three
taxa: K. palmeri (A. Gray) King & H. Rob. var. palmeri; K. palmeri
var. tonsa (B.L. Rob.) B.L. Turner, comb. nov.; and Koanophyllon
pochutlana B.L. Turner, sp. nov. A phototype of the latter is
provided, along with distribution maps, and a key to the taxa

KEY WORDS: Eupatorium, Koanophyllon, K. palmeri, Asteraceae,
Eupatorieae, Mexico

Routine identification of Mexican comps has occasioned the
present paper.

In my seminal treatment of the tribe Eupatorieae for Mexico, I
treated Koanophyllon within the broad fabric of Eupatorium (Turner
1997). I have subsequently come to accept the fragmentation of that
genus, as espoused by King and Robinson (1987).

Key to the Koanophyllon palmeri complex:
1. Heads with 10-11 florets; inner bracts broadly ovate, ca twice as long
   as wide; Oax…………………………………………………K. pochutlana
1. Heads with 4-6(7) florets; inner bracts narrowly ovate, ca 3 times as
   long as wide; Son to Gue……………………………………K. palmeri (2)

2. Involucral bracts mostly 1-2 mm long; pappus bristles ca 1.5 mm
   long …………………………………………………………var. tonsa
2. Involucral bracts mostly 2.6-4.0 mm long; pappus bristles 2.5-3.5
   mm long …………………………………………………………var. palmeri

TYPE: MEXICO. CHIHUAHUA: Mpio. Batopilas, mountains above Batopilas, Aug-Nov 1885, Palmer 144, 260 (Lectotype: Palmer 144, GH!)

Son, Chi, Sin, Dur, Jal, Col and closely adjacent USA, barrancas, in mostly pine-oak forests, 10-1700 m; Sep-Nov. Fig. 2

Slender arching shrub or shrublets 1-3 m high. Stems striate, puberulent. Leaves thin, opposite, 5-12 cm long, ca 2.5 cm wide; petioles 5-20 mm long; blades ovate-lanceolate, 3-nerved from or near the base, puberulent and glandular-punctate beneath, the margins crenulate to serrulate, the apices attenuate. Capitulescence, a terminal, congested corymbose-panicle, the ultimate peduncles mostly 0-1 mm long. Heads, 5-6 mm high; corollas, cream, whitish, yellowish or reddish-brown, ca 3.5 mm long. Receptacles ca 0.3 mm across, glabrous. Involucres mostly 3-4 mm high; inner bracts 3-4 mm long, ca 0.6 mm wide, mostly 3-nerved. Florets, 4-7 per head. Achenes 2.0-2.5 mm long, hispidulous; pappus of 40-50 bristles, 2.5-3.5 mm long.

McVaugh (1984) placed this taxon in synonymy under his broad concept of Eupatorium solidaginifolium A. Gray [= Koanophyllon solidaginifolium (A. Gray) King & H. Rob.], a decidedly different species of more eastern distribution. He also neglected to account for the var. tonsa.

var. TONSA (B.L. Rob.) B.L. Turner, comb. nov.  

TYPE: MEXICO. GUERRERO: “El Ocote,” 300 m, 10 Nov 1998, E. Langlasse 616 (Lectotype GH!, selected here; photolectotype, TEX!)

Pacific slopes, s Sin, Nay, Jal, Col, Mic, Gue, tropical deciduous forests, 10-800 m; Oct-Dec. Fig. 2
Suffruticose herbs or shrublets 1-3 m high. **Stems** sparsely pubescent with upwardly appressed, white, hairs. **Leaves** 5-7 cm long, 2-5 cm wide, opposite throughout; petioles 1-2 cm long, pubescent like the stems; blades narrowly to broadly ovate, pubescent beneath, mainly along the ribs, the surfaces markedly glandular-punctate; margins weakly crenulate to entire. **Capitulescence** a pyramidal, corymbose, panicle ca 10 cm long, 4-6 cm wide, the ultimate peduncles 1-2 mm long. **Involucres** composed of 5-7 lanceolate bracts, mostly 3-nervate, 1.5-2.0 mm long, ca 0.4 mm wide in 2-3 series, their apices sharply acute. **Receptacles** ca 0.2 mm across, glabrous. **Florets** 4-5 to a head; corollas glabrous, white, ca 1.5 mm long, the 5 lobes markedly beset with amber globules. **Style branches** clavate apically. **Anthers** included, ca 1 mm long, the appendages minute, ca as long as wide. **Achenes** hispid, 4-5 sided, ca 2 mm long; pappus of 20-30 persistent bristles ca 1.5 mm long.

This is a weakly differentiated taxon, largely distinguished from the typical variety by its smaller heads, smaller inner involucral bracts and shorter pappus. Most collections of var. *tonsa* have been gathered from relatively low elevations along the Pacific slopes; when occurring in close geographical proximity, the var. *palmeri* usually is found in more interior locations at higher sites. Intergradation appears to occur between the two taxa in regions of near contact.

**KOANOPHYLLON POCHUTLANA** B.L. Turner, sp. nov. Fig. 1

Resembling *Koanophyllon palmeri* (A. Gray) King & Rob. but the florets more numerous (10-11 per head vs 4-7), involucral bracts shorter (ca 2 mm long vs 3-4 mm), smaller achenes (ca 1.5 mm long vs 2.5-3.5 mm) and the pappus shorter (ca 1.5 mm long vs 2.5-3.5 mm).


Known only by the type collection. **Fig. 2**
Scandent shrubs to 3 m high. Stems densely to sparsely pubescent with short, mostly up-curved, hairs. Leaves opposite, 6-9 cm long, 3-4 cm wide; petioles 1.0-1.5 cm long; blades ovate, 3-nerved from or near the base or nearly so. Capitulescence a terminal cymose panicle ca 11 cm high, 8 cm wide, the ultimate peduncles ca 1 mm long. Heads ca 5 mm high, the inner bracts ovate, ca 2 mm long, 0.8 mm wide, the apices mostly broadly acute and mostly 1-nerved. Florets 10-11 per head; corollas white, ca 5 mm long, glabrous, the 5 lobes atomiferous-glandular. Achenes black, ca 1.5 mm long, moderately pubescent with short, appressed, hairs; pappus of 30-40 tawny-white bristles ca 1.5 mm long.

Named for the Distrito Pochutla, where first collected.

The novelty appears to stand somewhere between Koanophyllon palmeri var. tonsa and K. solidaginifolia, having the more numerous florets and apically broad inner bracts of the latter, but the smaller heads and achenes of the former.

ACKNOWLEDGEMENTS

Distribution maps are based upon specimens on file at LL-TEX, those cited by McVaugh (1987), and USDA records available on web sites.

LITERATURE CITED

Fig. 1. Koanophyllon pochutlana (holotype).
Fig. 2. Distribution of the *Koanophyllon palmeri* complex