

**REVISION OF *KYRSTENIOPSIS* (ASTERACEAE:
EUPATORIEAE) AND DESCRIPTION OF A NEW SPECIES
FROM OAXACA, MEXICO**

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ABSTRACT

A revision of the Mexican species of *Kyrsteniopsis* is rendered. Nine species are recognized, including the newly described ***K. chiapasana*** B.L. Turner, **sp. nov.** A key to the species is provided, along with maps showing their distributions.

KEY WORDS: Asteraceae, Eupatorieae, *Kyrsteniopsis*, *Pseudokyrsteniopsis*, Mexico. Oaxaca

King and Robinson (1971) established the genus *Kyrsteniopsis* as monotypic, typified by *Eupatorium nelsonii* B.L. Rob. The genus was largely erected on a syndrome of characters: partly deciduous involucre bracts; large ungrooved anther appendages; style branches not enlarged apically; and thickened ribs of the achenes, among other characters. King and Robinson (1972, 1987) subsequently expanded the genus to four species with the addition of three additional taxa: *K. congesta* King & H. Rob., *K. cymulifera* (B.L. Rob.) King & H. Rob., and *K. dibollii* King & H. Rob.

The present author (Turner 1998) further expanded the genus to include five additional taxa: *K. eriocarpa* (B.L. Rob.) B.L. Turner, *K. heathiae* (B.L. Turner) B.L. Turner, *K. iltisii* (King & H. Rob.) B.L. Turner, *K. perpetiolata* (King & H. Rob.) B.L. Turner, and *K. spinaciifolia* (DC.) B.L. Turner. Description of the present species, *K. chiapasana*, brings to nine the number currently recognized for the genus.

Turner (1997) provided a key to the complex (including *Pseudokyrsteniopsis*) in his treatment of the group for his Comps of Mexico, and this has been modified below to accommodate the species described herein.

Artificial key to species of the genus *Kyrsteniopsis*

[Modified from Turner, 1997, Comps of Mexico, Phytologia Memoirs 11: 111-112.]

- 1. Petioles glabrate to variously pubescent, but not glandular-pubescent(3)
- 1. Petioles densely and uniformly glandular-pubescent.....(2)
- 2. Base of petiole enlarged, markedly perpetiolate; Guatemala**K. perpetiolata**
- 2. Base of petiole scarcely enlarged, if at all; Chiapas, Mexico**K. chiapasana**
- 3. Heads with 9-20 florets(6)
- 3. Heads with 4-6 florets(4)
- 4. Petioles 4-8 mm long; Oaxaca**K. eriocarpa**
- 4. Petioles 10-40 mm long; Chiapas(5)
- 5. Involucres 10-12 mm high; achenes densely pubescent throughout**K. iltisii**
- 5. Involucres 5-6 mm high; achenes sparsely pubescent, mainly along ribs.....**K. heathiae**
- 6. Leaves trullate-hastate, glabrous, except for the major veins beneath.....**K. spinaciifolia**
- 6. Leaves otherwise, clearly pubescent or glandular-punctate beneath(7)
- 7. Achenes without atomiferous glands; pappus of 25-30 bristles.....**K. nelsonii**
- 7. Achenes with atomiferous glands; pappus of 35-50 bristles.....(8)

8. Heads few, borne on ultimate peduncles 6-20 mm long
**K. cymulifera**
8. Heads numerous, borne on ultimate peduncles 3-6 mm long
**K. dibollii**

KYRSTENIOPSIS CHIAPASANA B.L. Turner, **sp. nov.** Fig. 1

Kyrsteniopsis perpetiolatae (King & H. Rob.) B.L. Turner similis sed differt petiolis longioribus (5-7 cm vs. 2-3 cm) non perpetiolatis ad basim, flosculis per capitulum numerosioribus (25-30 vs. 12-20), et pedunculis ultimis longioribus (capitulis in pedunculis 3-10 mm longis vs. sessilis vel paene sessilis).

Resembling *Kyrsteniopsis perpetiolata* (King & H. Rob.) B.L. Turner but the petioles longer (5-7 cm long vs 2-3 cm), not noticeably perpetiolate at the base, florets more numerous per head (25-30 vs 12-20), and ultimate peduncles longer (heads on peduncles 3-10 mm long vs sessile or nearly so).

Sprawling "over shrub," 1-2(?) m high. **Stems** terete, densely glandular-pubescent, the vestiture 0.2-0.3 mm high. **Leaves** opposite, 7-14 cm long, 5-12 cm wide; petioles 3-5 cm long, weakly perpetiolate at the base, if at all; blades cordate to hastate-deltoid, 3-nervate from the very base, the margins irregularly dentate. **Capitulescence** with 7-11 heads at apex of leafy stems or lateral branches. **Heads** ca 8 mm high, the bracts linear-lanceolate, arranged in 3-4 imbricate series, pubescent externally with multiseptate hairs. **Receptacles** plane, ca 1 mm across, epaleate. **Florets** reportedly "white," "greenish," or greenish-yellow," ca 20 per head; corollas slender, ca 4 mm long, the 5 lobes ca 0.15 mm long. **Anther appendages** ovate, ca 0.5 mm long, 0.25 mm wide. **Stylar shaft** not enlarged at base, the style branches becoming somewhat enlarged apically. **Achenes** carbonized, 5-ribbed, sparsely pubescent; pappus of 20-30 slender bristles ca 4 mm long, arranged in a single series.

TYPE: MEXICO. CHIAPAS: Mpio. Tuxtla Gutierrez, "S of Tuxtla Gutierrez on Hwy 195 (to Villaflores), on limestone escarpment; alt. 830 m. Scattered on steep brushy slope" 1 Nov 1980, *Paul A. Fryxell & Emily Lott 3253* (holotype: TEX).

ADDITIONAL SPECIMENS EXAMINED: **MEXICO. CHIAPAS:** Mpio. Trinitaria, "along small dirt road to Boqueron & Ejido Mujica west of Mexican Highway 190 at point 18 km southwest of La Trinitaria." Tropical Deciduous Forest, 900 m, 5 Dec 1976, *Breedlove 42148* (LL); Mpio. Socoltenango, Seasonal Evergreen Forest along stream and large waterfall, 30 km ESE of Pugiltic on road to Comitán, 760 m, 8 Jan 1982 *Breedlove & Almeda 56869* (TEX).

The present novelty is clearly closely related to *K. perpetiolata* and was treated as belonging to that taxon in my treatment of the *Kyrsteniopsis* complex for the Comps of Mexico (Turner 1997). It differs from that species in several characters, as noted in the above diagnosis, most notably in lacking clearly perpetiolate leaves. According to Williams (1976), *K. perpetiolata* is known only from dry mountain slopes in Guatemala near Rio Blanco, El Quiche.

The species is named for the state of Chiapas, Mexico, where seemingly confined.

KYRSTENIOPSIS CYMULIFERA (B.L. Rob.) King & H. Rob., *Phytologia* 24: 58. 1972.

Brickellia cymulifera B.L. Rob.

Eupatorium cymuliferum (B.L. Rob.) B.L. Turner

This is a relatively distinct taxon, known to me only by collections from the Mexican states of San Luis Potosi, Guanajuato, and Queretaro (Fig 2).

KYRSTENIOPSIS DIBOLLII King & H. Rob., *Phytologia* 24: 58. 1972.

Eupatorium dibollii (King & H. Rob.) B.L. Turner

This species is known to me only by collections from southeastern Puebla and closely adjacent states (Fig. 2).

KYRSTENIOPSIS ERIOCARPA (B.L. Rob. & Greenm.) B.L. Turner, *Phytologia* 82: 387. 1998.

Critonia eriocarpa (B.L. Rob. & Greenm.) King & H. Rob.

Eupatorium eriocarpum B.L. Rob. & Greenm.

This relatively rare taxon is known by only a few collections from Oaxaca (Fig. 2). My treatment of the species within the *Kyrsteniopsis* complex follows the suggestion of Alan Whittemore (pers. comm).

KYRSTENIOPSIS HEATHIAE (B.L. Turner) B.L. Turner,
Phytologia 82: 387. 1998.

Adenocritonia heathiae (B.L. Turner) H. Rob.

Eupatorium heathiae B.L. Turner

This Chiapas taxon (Fig. 3) is not accounted for in the exceptional treatment of the tribe Eupatorieae by King and Robinson (1987), not having been described at the time. Robinson (1991) subsequently treated *K. heathiae* as belonging to the subtribe Critonieae as a member of the small genus *Adenocritonia*, retaining *Kyrsteniopsis* in the subtribe Alomiinae. Regardless, as I conceive *Kyrsteniopsis* it is a heterogeneous assemblage of species having characters of both of the aforementioned subtribes and is perhaps a catch-all category for those taxa having a *Koanophyllon*-type habit, *Brickellia*-like corollas, and *Critonia*-like heads and achenes.

KYRSTENIOPSIS ILTISII (King & H. Rob.) B.L. Turner,
Phytologia 82: 387. 1997.

Critonia iltisii King & H. Rob.

My treatment of this taxon within the *Kyrsteniopsis* complex follows the suggestions of Whittemore (pers comm. and annotations), this not mentioned in my formal transfer. So far as known, the species is confined to Guatemala and Chiapas, Mexico (Fig. 3).

KYRSTENIOPSIS NELSONII (B.L. Rob.) King & H. Rob.,
Phytologia 22: 146. 1971

Kyrsteniopsis congesta King & H. Rob.

Eupatorium nelsonii B.L. Rob.

This, the generitype, is the most widespread, commonly encountered, species of *Kyrsteniopsis* in Mexico (Fig.2). It superficially resembles a species of *Brickellia*, but the stylar characters and achenes rule out that genus, as well noted by King and Robinson (1987).

KYRSTENIOPSIS SPINACIIFOLIA (DC.) B.L. Turner, *Phytologia* 82: 387. 1997.

Bulbostylis spinaciifolia DC.

Critonia spinaciifolia (DC.) King & H. Rob.

Eupatorium spinaciifolium (DC.) A. Gray

Inclusion of this taxon in the *Kyrsteniopsis* complex follows the suggestions by Whittemore (pers. comm. and annotations), this not acknowledged in my formal transferal. The species is relatively common in northeastern Mexico (Fig. 3).

KYRSTENIOPSIS PERPETIOLATA (King & H. Rob.) B.L. Turner, *Phytologia* 82: 387. 1997.

Eupatorium perpetiolatum (King & H. Rob.) L. Williams

Pseudokyrsteniopsis perpetiolata King & H. Rob.

This Guatemalan species (Fig. 2) is closely related to *K. chiapasana*, as noted in the above account.

ACKNOWLEDGEMENTS

I am grateful to my colleague Guy Nesom for the Latin diagnosis and for helpful suggestions with the manuscript itself. Thanks also are extended to Alan Whittemore for his early discussions regarding the relationships of various taxa.

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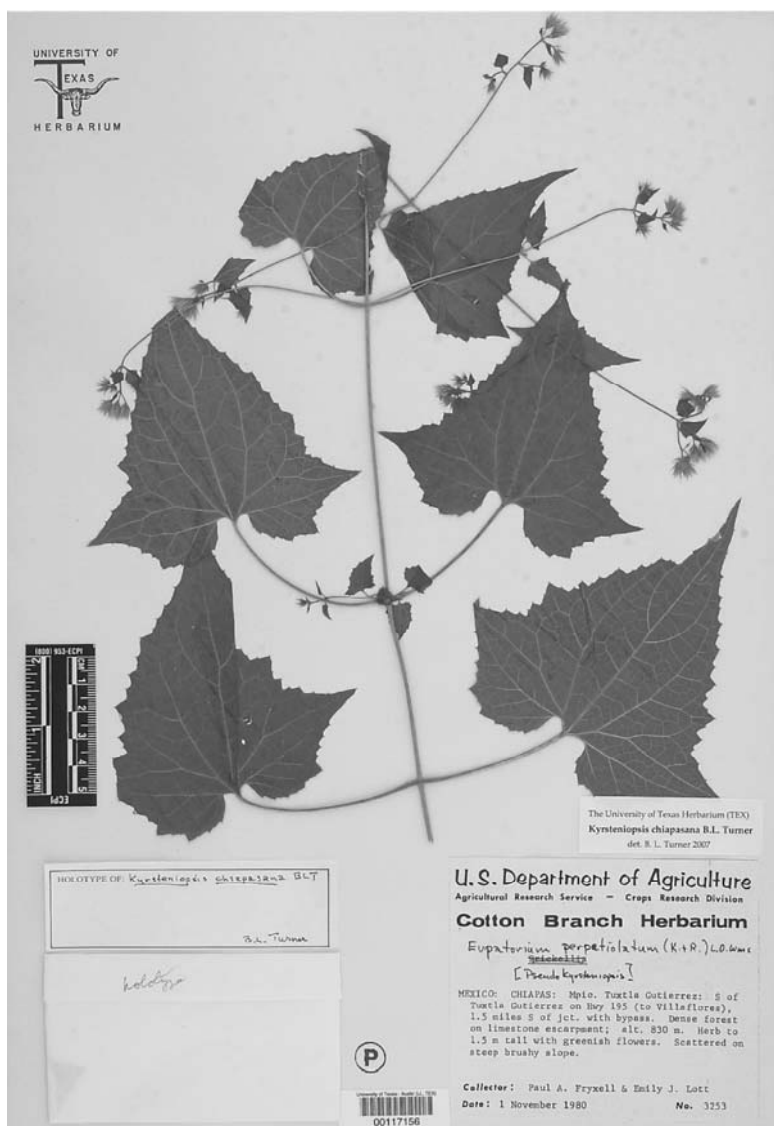


Fig. 1. *Kyrsteniopsis chiapasana* (Holotype).

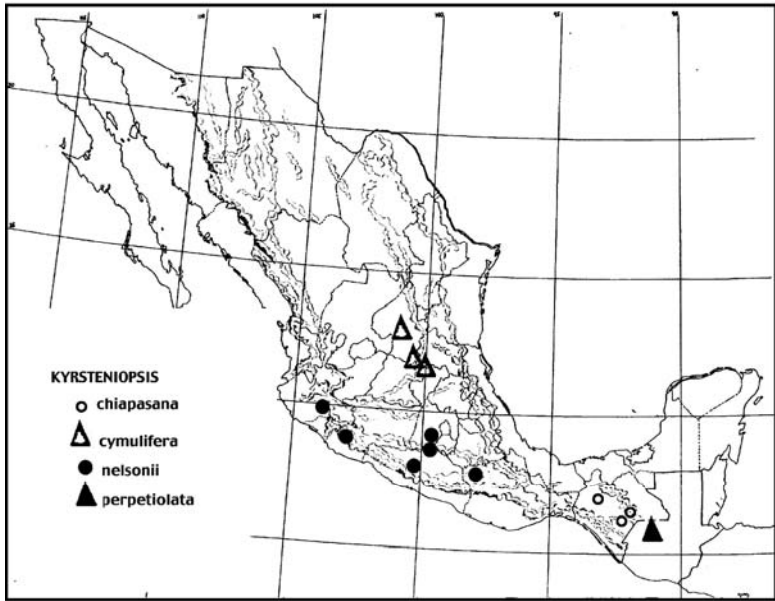


Fig. 2 Distributions of *Kyrsteniopsis chiapasana*, *K. cymulifera*, *K. nelsonii*, and *K. perpetiolata*.

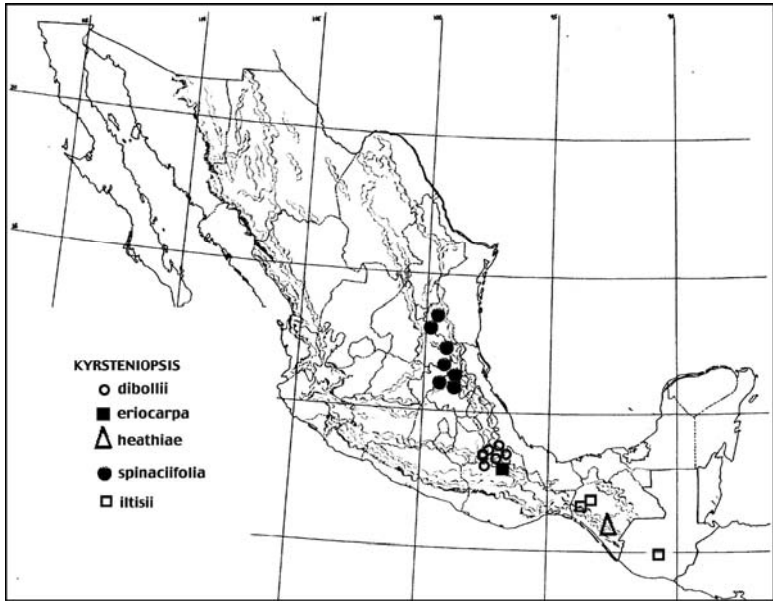


Fig 3. Distributions of *Kyrsteniopsis dibollii*, *K. eriocarpa*, *K. heathiae*, *K. spinaciifolia*, and *K. iltisii*.