

A NEW SPECIES OF *SCHISTOCARPHA* (ASTERACEAE:
HELIANTHEAE) FROM NORTHWESTERN OAXACA
AND CLOSELY ADJACENT GUERRERO, MEXICO

B.L. Turner

*Plant Resources Center
The University of Texas
Austin, TX 78713, U.S.A.*

ABSTRACT

Schistocarpha calzadana B.L. Turner, sp. nov., is described from south-central Oaxaca (Mpio. Santiago Juchitahuaca) and south-central Guerrero, Mexico. It is closely similar to *S. bicolor* but can be distinguished by a number of features including those of the leaf, size and congestion of the capitulescence, and number and size of ray florets. A re-evaluation of the Mexican taxa has resulted in the submergence of *S. longiligula* into *S. platyphylla*. A revised key to the Mexican species is provided, along with maps showing their distribution.

KEY WORDS: *Schistocarpha*, Asteraceae, Mexico, Guerrero, Oaxaca

RESUMEN

Se describe ***Schistocarpha calzadana*** B.L. Turner, sp. nov., del centro-sur de Oaxaca (Mpio. Santiago Juchitahuaca) y centro-sur de Guerrero, México. Es muy semejante a *S. bicolor* pero puede diferenciarse por varios caracteres de la hoja, tamaño y aglomeración de la capitulescencia, así como el número y tamaño de las lígulas. Una re-evaluación de los taxa mexicanos ha dado como resultado la inclusión de *S. longiligula* en *S. platyphylla*. Se ofrece una clave revisada para las especies mexicanas, junto con mapas de su distribución.

Schistocarpha is a mostly Mexican genus of ten closely related species (sensu Turner 1986 and the present paper). These have been variously interpreted (e.g. Rydberg 1927; Robinson 1979; Turner 1996), the most recent appraisal of the Mexican taxa, albeit for the state of Chiapas, being that of Strother (1999). With the exception of *S. eupatorioides* (Fenzl) O. Kuntze and *S. pedicellata* Klatt, Strother placed most of the Mexican species recognized by previous workers under the fabric of *S. bicolor* Less. Because of Strother's treatment I have looked again at the Mexican taxa and have concluded that one can reasonably sink the widespread, highly variable *S. longiligula* Rydb. into the earlier *S. platyphylla* Greenm., but the remainder of Strother's dispositions under a widespread *S. bicolor* is moot. Indeed, having gone over this taxonomic landscape anew I would still recognize six species as occurring in Mexico, including *S. liebmanni* Klatt, *S. matudinae* H. Rob., and the newly described *S. calzadana*, proposed below.

Schistocarpha calzadana B.L. Turner, sp. nov. (**Figs. 1, 2**). TYPE: MEXICO. OAXACA: Mpio. Santiago Juchitahuaca, 17 km al SW de Santa Rosa sobre la carretera a San Miguel Cuevas

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The University of Texas Herbarium (LL, TEX)
Schistocarpha calzadana
 B. L. Turner, sp. nov.
 Det: B. L. Turner, 20 Jun 2001

ISOTYPE OF: *Schistocarpha calzadana* B. L. Turner sp. nov.

FLORA DE OAXACA

ASTERACEAE

Schistocarpha bicolor Less.

SANTIAGO JUXTLAHUACA: Santiago Juxtahuaca, 17 km al SW de Santa Rosa sobre la carretera a San Miguel Cuevas y Manzanares, 17° 13' 31.9" N, 98° 03' 24.4" W. Hierbas perennes de 1.5-2.5 m de alto, ligulas blancas, corolas del disco amarillas. Bosque mesófilo de montaña, 2150 m.

José L. Panero, 5524
 con Ismael Calzada

28 Feb 1995

Herbario Nacional de México (MEXU)
 Michigan State University Herbarium (MSC)

Bajo el patrocinio de Grupo Bacardi, México.
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FIG. 1. *Schistocarpha calzadana*; isotype (TEX).

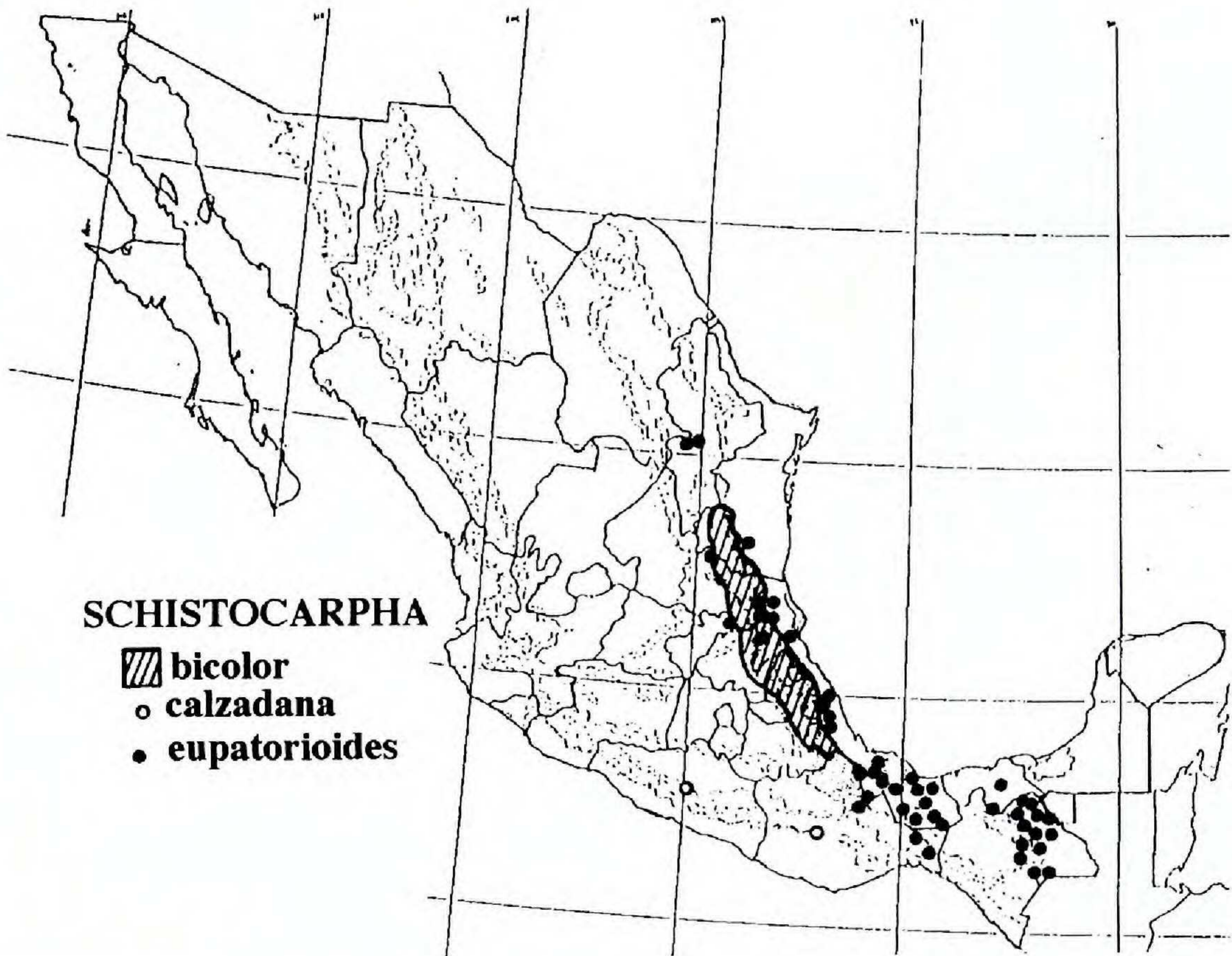


Fig. 2. Distributions of Mexican species of *Schistocarpa*.

y Manzanares (17° 13' 31.9 N, 98° 03' 24.4 W), 2150 m, 28 Feb 1995, J.L. Panero 5524 (con Ismael Calzada) (HOLOTYPE: MEXU; ISOTYPES: TEX, UC).

Similis *S. bicolori* sed petioliis foliorum non articulatis basi, capitulescentia congestiore cum capitulis numerosis, et flosculis radii cum ligulis 1.5–2.5 mm longis (vice 3–6 mm).

Perennial, suffruticose herbs 1.5–2.5 m high. **Stems** moderately to densely pilose, glabrate with age. Larger **leaves** 20–30 cm long, 14–16 cm wide; petioles 6–8 cm long, winged throughout but much tapered below into a distinct petiole; blades broadly subcordate, markedly serrate, their apices rounded or obtuse. **Primary capitulescences** 14–20 cm across, ca. 10 cm high; ultimate peduncles mostly 3–9 mm long, pubescent like the stems. **Involucres** 4–5 mm high and about as wide, having imbricate 3–4 seriate bracts, the inner bracts scarious with mostly rounded ciliate apices. Receptacle plane or somewhat convex, paleate, the pales shorter than the subtended florets. **Ray florets** ca. 13 in a single series; tubes ca. 3 mm long; ligules white, 1.5–2.5(–3.0) mm long, ca. 0.8 mm wide, 2–4 nervate. **Disk florets** 30–40; corollas ca. 4 mm long, tubes ca. 2 mm long, glabrous or nearly so, the lobes 5, ca. 0.5 mm long, hispidulous without. **Achenes** of ray and disk similar, ca. 1.5 mm long, glabrous; pappus of numerous white bristles 3–4 mm long.

Additional collections examined: **MEXICO. GUERRERO:** "Along road between El Paraiso and Puerto del Gallo, 6.0–8.7 mi NE of El Paraiso. Moist tropical evergreen forest," 3500 ft, 9 Mar 1987, *Daniel & Bartholomew 4936* (CAS, TEX). **OAXACA:** Mpio. Santiago Juxtlahuaca, Km 14 de San Miguel Cuavas a El Manzal, desviacion en Santa Rosa (17 13 N, 98 03 W), 2300 m, 18 Feb 1995, *Calzada 19761C* (MEXU, TEX); 0.4 km del poblado El Manzanal, carretera a Infiernillo (17 13 N, 98 03 W), 2185 m, 8 Mar 1996, *Calzada 20784* (MEXU, TEX).

In the account of *Schistocarpha* by Robinson (1979), the present taxon will key to *S. matudae*, a species of southern Chiapas. In my treatment of the genus (Turner 1986), it will key to or near *S. liebmannii*, to which I originally referred the collections from Guerrero. With the newly collected Oaxacan material in hand, it seems likely that the several sheets relate better to *S. bicolor*, the latter from the Gulf Coast sierras, the former from the Pacific sierras. *Schistocarpha calzadana* differs from its more eastern cohort in characters as noted above.

It should be noted that Strother's (1999) treatment of *Schistocarpha* for the Asteraceae of Chiapas would reduce nearly all of the Mexican taxa of that genus (other than *S. eupatorioides* and *S. pedicellata*) to but a single widespread *S. bicolor*, including the present novelty. His comments to justify such reduction, "I have seen intermediate specimens that link all of the named extremes." seem exceedingly strained to me, especially since his examination of a wide range of collections at LL-TEX resulted in no annotations to that effect. I had no great difficulty in placing 'segregate' species names on the holdings at CAS, LL-TEX, and UC, most of which served as the basis for Strother's remarks. I have, however, accepted the likelihood that *S. longiligula* and *S. platyphlla* are synonymous, the two being largely sympatric and separated by relatively trivial features (ligule length and floret number). I also freely admit that *S. matudae*, *S. liebmannii*, and *S. calzadana* might be swept under *S. platyphylla*, as interpreted here (the earliest name for the complex then being *S. liebmannii*), but such tidying should take place only after more detailed field studies of the populations concerned. Regardless, *S. bicolor* (with its markedly winged petioles) does not extend so far south in Mexico so as to include the state of Chiapas.

Etymology.—The species is named for J.T. Calzada, a Mexican botanist who was the second worker to garner the taxon and who participated in all subsequent collections.

I include below a revised key to the Mexican species of *Schistocarpha*, which includes the present novelty. Figures two and three show the distributions of these taxa. The revised key and up-to-date distribution maps should prove helpful to future workers interested in the group.

KEY TO MEXICAN TAXA OF *SCHISTOCARPHA*

1. Pistillate florets (21–)30–80 in 2–4 series _____ ***S. eupatorioides*** (Fig 2)
1. Pistillate florets (3–)5–21 in a single series.
 2. Petioles conspicuously winged throughout, often expanding at the base and extending across the node; northeastern Mexico _____ ***S. bicolor*** (Fig 2)

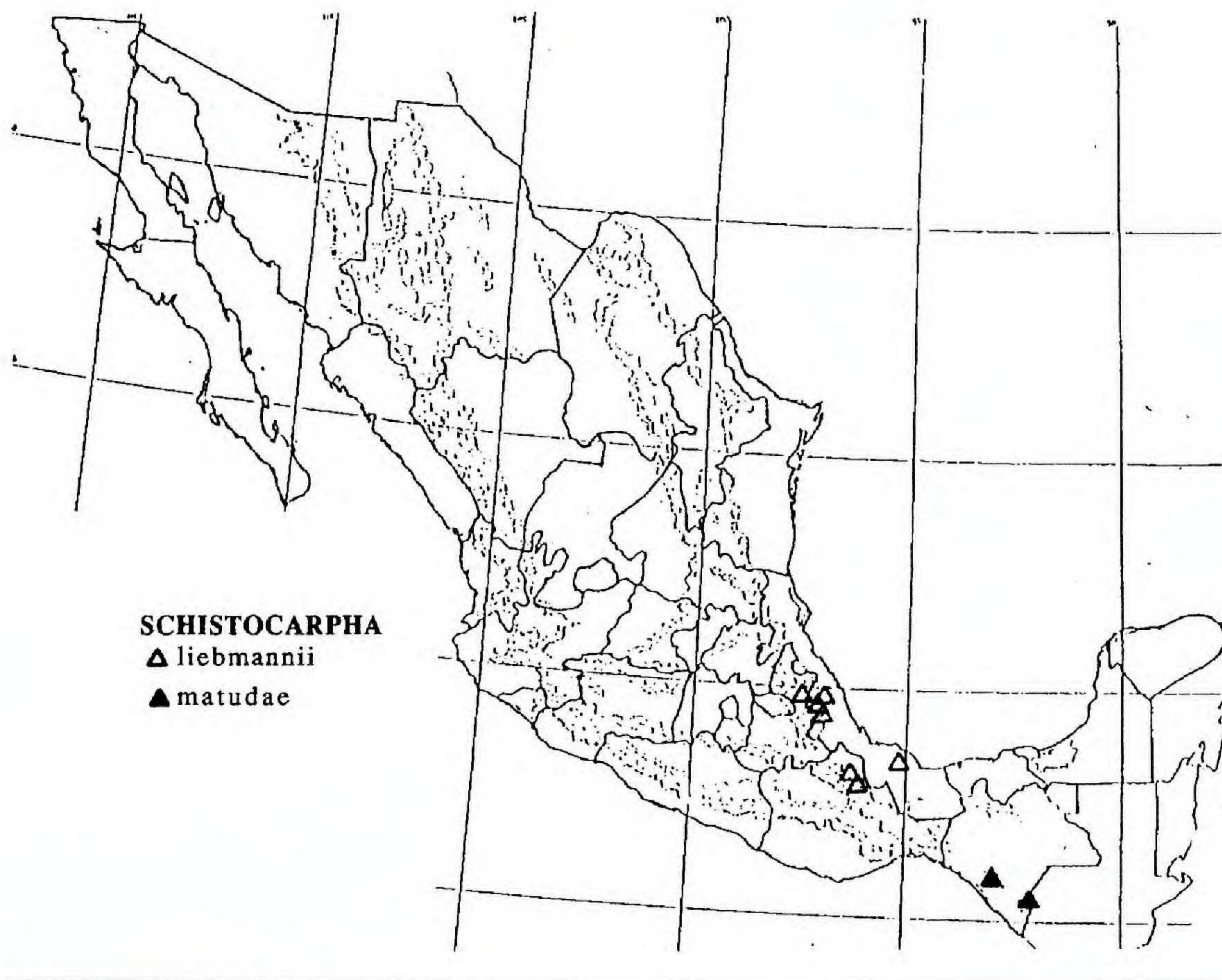


Fig. 3. Distributions of Mexican species of *Schistocarpa*.

2. Petioles not broadly winged throughout, nearly always tapering onto a distinct cylindrical petiole; western and southern Mexico.
3. Capitulescence lax, containing 8–12 heads on ultimate peduncles 2–5 cm long at maturity _____ ***S. pedicellata*** (Fig. 4)
3. Capitulescence strict, congested, containing 30 or more heads on ultimate peduncles mostly 1.5–2.0(–2.5) cm long or less.
4. Stems glabrate or nearly so at maturity; lower surface of blade (except for veins) glabrous, the upper surface somewhat darker than lower; disk florets 10–12, their corollas sparsely pubescent; montane cloud forests of north-central Oaxaca and adjacent Veracruz _____ ***S. liebmannii*** (Fig. 3)
4. Plants without the above combination of characters and distribution.
5. Ray florets 5–12; ligules mostly 4–8 mm long _____ ***S. platyphylla*** (Fig. 4)
5. Ray florets 12–21; ligules mostly 1–4 mm long.
6. Involucral bracts with acute apices; southern Chiapas _____ ***S. matudae*** (Fig. 3)
6. Involucral bracts with rounded apices; western Guerrero and Oaxaca _____ ***S. calzadana*** (Fig. 2)

With the exception of *S. calzadana*, all of the above-keyed taxa are treated in more detail by Turner (1986).

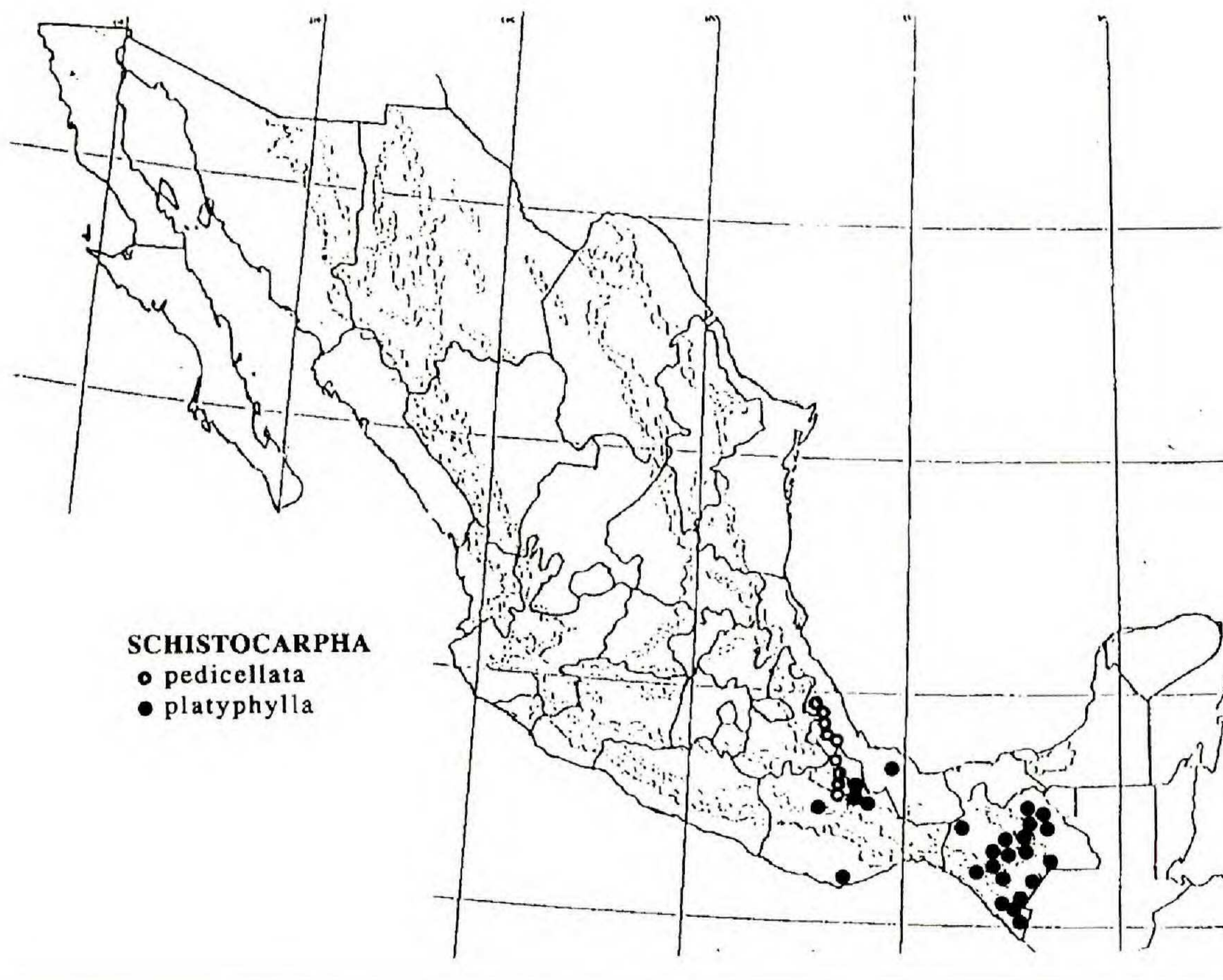


Fig 4. Distributions of Mexican species of *Schistocarpha*.

ACKNOWLEDGMENTS

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