

RECENSION OF THE MEXICAN SPECIES OF *SALVIA* (LAMIACEAE), SECTION *SCORODONIA*

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ABSTRACT

A recension of the Mexican species of *Salvia* belonging to the sect. *Scorodonia* is rendered. Fourteen species are recognized, two of these described as new: **S. periconia**, a white-flowered taxon, from Oaxaca, and **S. tenorioi**, a yellow-flowered taxon from Puebla. A key to the various taxa is provided as well as photographs of the holotypes. Maps showing distribution of the taxa are provided. *Phytologia* 91(2): 256-269 (August, 2009).

KEY WORDS: *Salvia*, Lamiaceae, sect. *Scorodonia*, Mexico

43. Sect. *Scorodonia*

Sect. *Atratae* Epling

Perennial herbs, shrubs or subshrubs, mostly 1-5 m high. Leaves ovate to deltoid, rarely cordate; petioles mostly short with a well-defined abscission line near the base, rarely not; blades often bullate, variously pubescent, the margins crenate. Spikes various, usually terminal, interrupted or not, rarely spicate-paniculate. Floral bracts lanceolate to broadly ovate, early deciduous. Calyx with upper lip 5-7 veined. Corollas mostly purple to blue, sometimes white, rarely yellow. Stamens arising from near corolla throat, the anthers not exerted. Style branches pilose, the upper lobe 2-3 times as long as lower. Nutlets glabrous.

Type species: *S. melissodora* Lag.

Epling (1939) notes that sect. *Scorodonia* is "A group of closely related forms difficult to distinguish save on the summation of

minutiae in habit, yet the range both in structure and in distribution is such as to support the [treatment rendered]." So introduced, he recognized 11 species as occurring in Mexico. Ramamoorthy (1984) added to the assemblage *S. boegeri*; this, along with the two species described below bring to 14 the number of Mexican taxa currently recognized in the section.

Epling (1941) subsequently combined sect. *Urica* with sect. *Scorodonia*, but I have opted to retain the two, mainly because of the lack of a clearly defined abscission line at the base of the petiole in species of the sect. *Urica*.

Key to Mexican species

1. Corollas yellow; Hid.....**S. tenorioi**
1. Corollas not yellow...(2)
2. Corollas variously blue to purple...(4)
2. Corollas white or creamy white...(3)
3. Petioles 2-3 cm long; Sierra Pericon, Oax.....**S. periconia**
3. Petioles 0.5-1.0 cm long; Pue, Oax**S. ramosa**
- 4(2). Upper stems pubescent with branched hairs**S. melissodora**
4. Upper stems variously pubescent but w/o branched hairs (5)
- 5(3). Corolla tubes 3-5 mm long.....**S. ramosa**
5. Corolla tubes 5-13 mm long...(6)
6. Corolla tubes 7-13 mm long...(13)
6. Corolla tubes 5-7 mm long, or leaves 1.0-1.5 times as long as wide...(7)
7. Calyx densely glandular-pubescent.....**S. melissodora**
7. Calyx not glandular-pubescent...(8)
8. Larger leaves 12-15 cm long; Oax.....**S. occidua**
8. Larger leaves 1-5 cm long...(9)

9. Petioles 5-10 mm long; blades 3-5 cm long...(11)
 9. Petioles 1-5 mm long; blades 1-2 cm long; Pue...(10)
10. Calyx glandular-pubescent.....**S. paupercula**
 10. Calyx densely white-woolly.....**S. boegei**
- 11(9). Leaves 1-2 times as long as wide; Nue, Tam to Hid.....**S. keerlii**
 11. Leaves 2-3 times as long as wide; Mex to Gue.....(12)
12. Calyx densely ivory-white pubescent.....**S. breviflora**
 12. Calyx not as described in the above.....**S. melissodora**
- 13(6). Corolla tubes white, 10-13 mm long.....**S. semiatrata**
 13. Corolla tubes purple, 7-9 mm long.....(14)
14. Foliage eglandular-pubescent.....(17)
 14. Foliage glandular-pubescent.....(15)
15. Calyx 5-6 mm long; corolla tube 7-9 mm long.....**S. rupicola**
 15. Calyx 6-7 mm long; corolla tube 6-7 mm long.....(16)
16. Plants of Nayarit.....**S. tepecensis**
 16. Plants of Sinaloa.....**S. aequidistans**
- 17(14). Calyx minutely glandular; Pue.....**S. pannosa**
 17. Calyx white-villous; Nue, Tam, Dur, San, Hid.....**S. keerlii**

SALVIA AEQUIDISTANS Fernald, Proc. Amer. Acad. Arts 35: 512.
 1900. **Map 1**

S Sin, between Rosario and Colomas (type material) and San Ignacio, ca 400 m; Jul.

As indicated by its author, the species "Scarcely differs from *S. tepicensis* save in the more lax habit, longer petioles, less dense pubescence and thinner leaves."

SALVIA BOEGEI Ramamoorthy, J. Arnold Arb. 65:138. 1984.

Map 2

Known only from Puente de Dios Molcaxac, Pue, 1800 m;
Sep.

According to its creator, the species “can be recognized immediately by its articulated petiole, almost capitate verticels [of flowers], and woolly white calyx.” The relatively small leaves with short petioles also distinguish the species, the latter characters suggesting a close relationship with *S. pauperula*, which is readily distinguished from *S. boegei* by its glandular vestiture.

SALVIA BREVIFLORA Moc. & Sesse ex Benth., Lab. Gen. Sp. 274. 1833. **Map 2**

Salvia albicans Fernald

Salvia nelsonii Fernald

Mic, Mex, Mor, Pue and Gue, calcareous hillsides with juniper, 1000-1500 m; Aug-Oct.

This is an attractive blue-flowered shrub 1-3 m high having white-woolly compacted spikes

My synonymy follows that of Epling (1939).

SALVIA KEERLII Benth., Lab. Gen. Sp. 263. 1833. **Map 3**

Nue, Tam, San, Gua, Que?, Mic, Mex and Hid, pine-oak forests, 2400-3000 m, Aug-Oct.

Salvia keerlii in northeastern Mexico is a relatively common blue-flowered shrub 1-2 m high; I have not seen specimens from the state of Durango, as reported by Epling (1939).

SALVIA MELISSODORA Lag., Gen. et Sp. 2. 1816. **Map 4**

Salvia dugesii Fernald

Salvia scorodoniifolia Poir.

Salvia scordoniifolia var. *crenaea* Fernald

A widespread highly variable species distributed throughout most of central Mexico in relatively dry bushy habitats, 500-2500 m; Aug-Mar.

As well noted by Epling, this taxon has two pubescent forms: plants with glandular hairs, and those with branched hairs. The name *S. dugesii* has been applied to the latter.

SALVIA OCCIDUA Epling, Repert. Spec. Nov. Regni Veg. Beih. 110: 173. 1939. **Map 2**

Oax, coastal areas near San Miguel del Puerto, known to me only from Liebmann collections cited by Epling.

A poorly collected taxon, readily distinguished from closely related taxa by its large foliage.

SALVIA PANNOSA Fernald, Proc. Amer. Acad. Arts 40: 54. 1905. **Map 3**

Southern Pue and closely adjacent Oax, xeric shrub lands with *Juniperus*, 1200-3000 m; Jul-Oct.

Said to be a locally abundant purple-flowered subshrub 1-2 m high, relatively distinctive because of its bicolored leaves, the blades of which are rather lanceolate and truncate to subcordate at the base.

SALVIA PAUPERCULA Epling, Repert. Sp. Nov. Regni Veg., Beih. 110: 173. **Map 4**

This is a poorly known taxon, reportedly from near Fort de Guadalupe and Rancho Posada, Pue, the type (US) collected by F. Arsene in 1909.

Except for its vestiture this taxon appears closely related to *S. boegeri*, so noted under the latter.

SALVIA PERICONA B.L. Turner, *sp. nov.* **Fig. 1 Map 5**

Salvia ramosa Brandegeesimiles sed differt foliis multo majoribus valde bicoloribus ac plerumque cordatis, petioles longioribus (2-3 cm longis vs 0.5-1.0 cm), et corollis majoribus albis (vs. azureis).

Perennial herbs or subshrubs to at least 0.5 m high. **Stems** purplish, pubescent with peculiar erect scattered 2-3 celled trichomes 0.2-0.3 mm high, beneath these an understory of minute glandular hairs. **Leaves** (the larger) 5-8 cm long, 2-5 cm wide; petioles 2-3 cm long, having a distinct disarticulation scar at the base; blades deltoid to cordate, bicolored, the lower surface densely white-tomentose, the upper dark green and rugose, beset with small hairs throughout, the margins irregularly serrulate. **Spikes** terminal, 5-15 cm long, the flowers arranged 4-10 at interrupted nodes. **Floral bracts** (uppermost) broadly ovate, 6-8 mm long, 4-5 mm wide, soon deciduous. **Flowering calyces** 8-9 mm long, pubescent like the stems, the upper lip ca 3 mm long; pedicels 2-4 mm long. **Corollas** white, smooth within; tube 8-9 mm long; upper lip ca 4 mm long; lower lip 4-5 mm long, reflexed. Anthers not excurrent; filaments ca 3 mm long; anthers ca 1.5 mm long. Style pilose, the upper branch recurved, 2-3 times as long as the lower.

TYPE: MEXICO. OAXACA: Mpio. Tamazulapan, Cerro Pericon, 5 km al N de San Pedro Nopala, "Suelo obscuro derivido de roca ignea." 2000 m, 6 Jul 1986, *Abisai Garcia M. 2342* (with D. Frame, P. Tenorio and A. Salinas) (holotype: TEX).

ADDITIONAL SPECIMEN EXAMINED: Same locality as Type, "Bosque de Encino con elementos de Matorral xerofilo, 2350 m, 13 Nov 1985, *Ramamoorthy 4778* (TEX).

The label of *Ramamoorthy 4778* describes the plant as a white-flowered herb 0.5 m high; the species name is taken from the Sierra to which it is possibly confined. *Ramamoorthy* apparently also recognized the taxon as new when collected, to judge from his annotation on the sheet concerned.

SALVIA RAMOSA Brandegee, Zoe 5: 255. 1908. **Map 4**

Salvia lantanifolia Mart. & Gal. ?

Salvia variana Epling

Southern Pue and closely adjacent Pue in dry shrublands with *Juniperus*, 1800-3000 m; Sep-Nov.

As pointed out in detail by Epling (1939), *S. ramosa* is a highly variable taxon, especially in pubescence, possessing calyces

with only branched hairs, or else pubescent throughout with multiseptate glandular trichomes. He also noted that *S. ramosa* was "Scarcely to be distinguished from *S. mellissodora* save in the smaller leaves, smaller flowers and finer pubescence." I am unable to distinguish Epling's *S. variana*, the latter reportedly having somewhat larger corollas and longer petioles than typical *S. ramosa*. Finally, it should be noted that the earlier name *S. lantanifolia* Mart. & Gal. might be better tagged upon the present, since its distribution and general habit, as judged by phototypes at TEX appear very similar to *S. ramosa*. Indeed, Brandege assigned the name *S. lantanifolia* to the type of *S. variana*.

SALVIA RUPICOLA Fernald, Proc. Amer. Acad. Arts 45: 420. 1910.
Map 1

Hid, vicinity of Ixmiquilpan, rocky hillsides; ca 2500 m; Jul-Aug.

Epling (1939) thought this taxon perhaps but a variety of his concept of *S. scordoniifolia*, but subsequently retained the species (Epling 1944).

SALVIA SEMIATRATA Zucc. in Abhandl. Akad. Muench. 1. 298. 1832. **Map 5**

Oax, where relatively common in pine-oak forests, 200-2500 m; Jun-Oct.

A very distinctive blue-flowered shrub 1-2 m high having mostly cordate, markedly rugose, leaves and relatively large flowers.

Epling (1939) treated this species as the sole member of his sect. *Atratae*. I think it better positioned within the sect. *Scorodonia*.

SALVIA TENORIOI Ramamoorthy ex B.L. Turner, **sp. nov.** **Fig. 2**
Map 5

Salvia ramosa Brandege similes sed differt corollas flavis (vs azureis vel purpuratis), floribus in paniculis spicatis dispositis, et vestimento calycini trichomatum glandulosorum (vs trichomatum ramosorum).

Shrubs 2-3 m high. **Stems** mostly pubescent with white, recurved hairs ca 0.3 mm high. **Leaves** (newly produced among the upper nodes) ovate to deltoid, markedly rugose, their margins crenulate; petioles 1-2 mm long. **Flowers** arranged in paniculate interrupted spikes, the latter mostly 4-6 cm long, the terminal panicle ca 30 cm high, 25 cm wide. **Floral bracts** (uppermost) lanceolate, 2-4 mm long, glandular-pubescent, soon deciduous. **Flowering calyces** 6-7 mm long, glandular-pubescent with viscid hairs ca 0.5 mm high; upper lip ca 1.5 mm long, 5-nerved; lower lip ca 1 mm long. **Corollas** yellow; tube more or less straight, 7-8 mm long, papillose and/or rugose within; upper lip ca 3 mm long; lower lip flabellate, reflexed, 3-4 mm long. **Anthers** not excurrent, attached near the throat of the tube; filaments 3-4 mm long, markedly flattened and recurved or twisting at maturity. **Style** sparingly pilose, more so below, the upper branch 2-3 times as long as the lower. **Nutlets** ovoid, glabrous, ca 2.5 mm long, 1.5 mm wide.

TYPE: MEXICO. PUEBLA: Mpio. Teontepec, "14 km al NW de Teontepec, brecha a Nopala...Matorral calcicola mixta...Suelo negro sobre roca caliza." 16 Nov 1985, *P. Tenorio L. & G. Dieringer 10648* (holotype TEX).

According to label data the flowers are yellow, and the plants are said to be abundant shrubs 2-3 m high. The species is named for its collector, Pedro Tenorio, this suggested on the type itself by Ramamoorthy soon after its collection. According to Dr. Fernando Chiang, Pedro is a diligent collector and photographer of the Mexican flora who formerly worked at MEXU. He assembled over 20,000 numbers from throughout Mexico, and is well known for his collections from the area of Caltepec, Puebla where he was born and raised.

Yellow-flowered *Salvias* are quite rare in Mexico, as noted by Ramamoorthy (!984). In his description of the yellow-flowered *S. tuxtensis* he stated, "Of the estimated 275 species in Mexico only three have yellow flowers." Actually, including *S. tuxtensis* and the present novelty, five yellow-flowered species are known, Ramamoorthy having been unaware of the lovely *S. madrensis* of Sinaloa. Epling (1939) placed the yellow-flowered species known to him (*S. aspera* Kunth, *S. madrensis*, *S. subhastata*, and *S. hidalgensis* Mir.) in four Sections.

Ramamoorthy did not assign his novelty to a Section but allowed as to how it might belong to yet another monotypic Section. By implication, in my Latin diagnosis I have tentatively assigned *S. tenorioi* to the sect. *Scordonia*, the plant concerned having the general habit and vegetative features of that assemblage.

SALVIA TEPICENSIS Fernald, Proc. Amer. Acad. Arts 45: 420.

1910. **Map 1**

Salvia scordoniifolia var. *subsessilis* Benth.

Nay and Col, mixed mesophytic forests along the Pacific coast, 300-900 m, Jun-Aug.

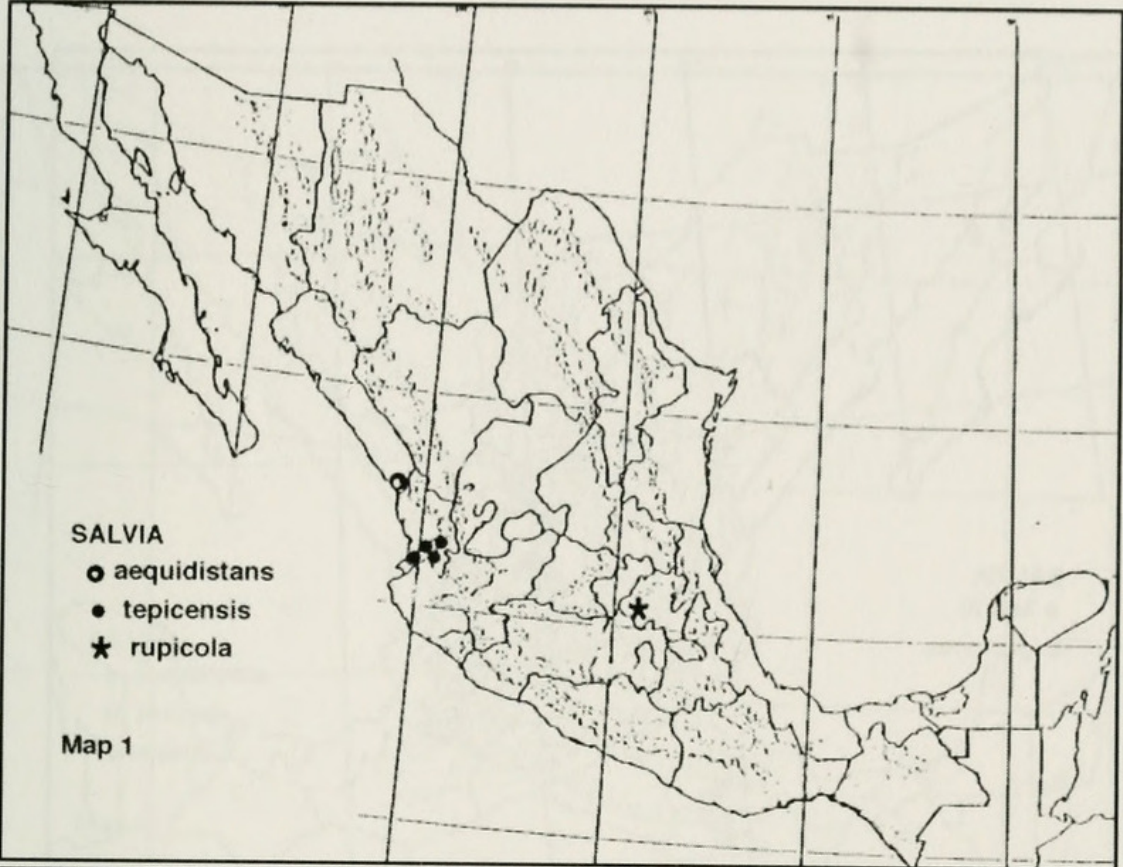
This species is doubtfully placed in the sect. *Scordonia*, although maintained by Epling (1939); at least it appears to lack the distinctive disarticulation scar at the base of petioles found in most of the other taxa of the complex. Regardless, Epling positioned *S. tepicensis* in sect. *Scorodonia*, along with *S. aequidistans*, the two scarcely distinguishable

ACKNOWLEDGEMENTS

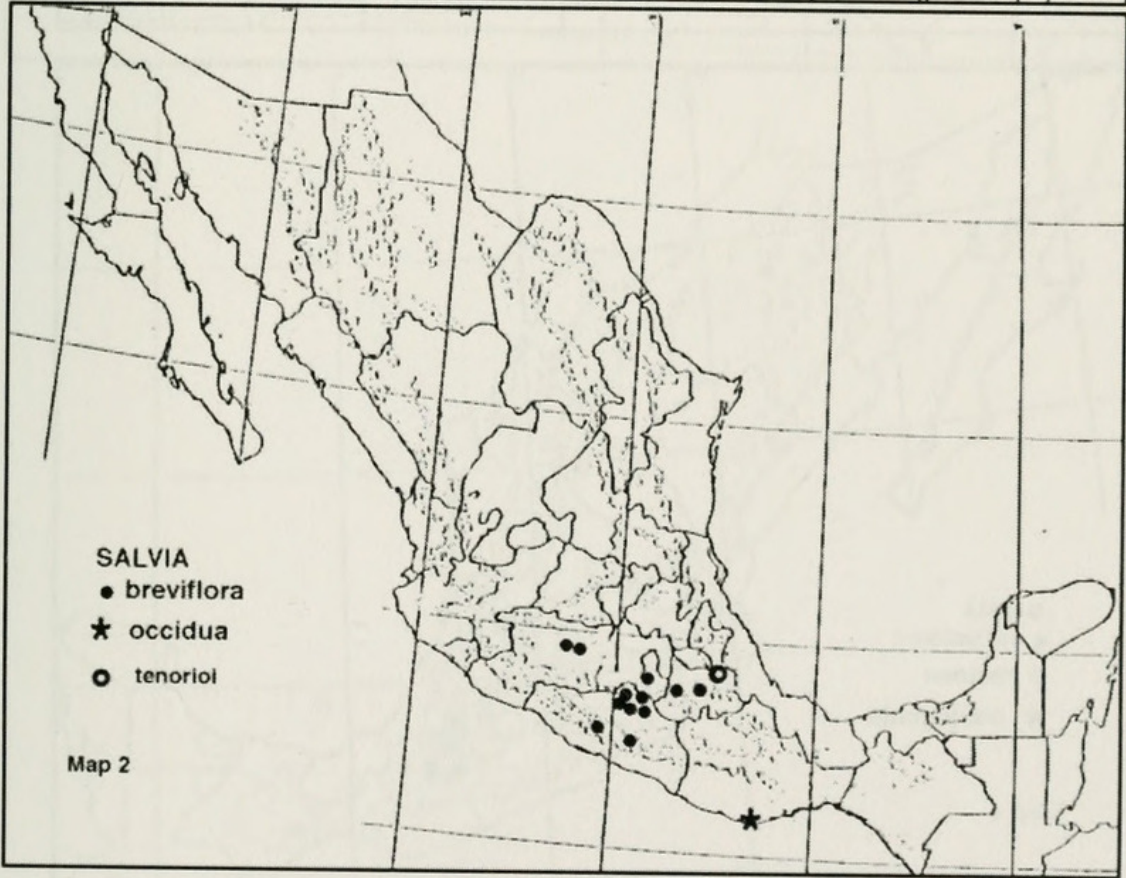
I am grateful to Guy Nesom for the Latin diagnosis, and for helpful comments following his review of the article.

LITERATURE CITED

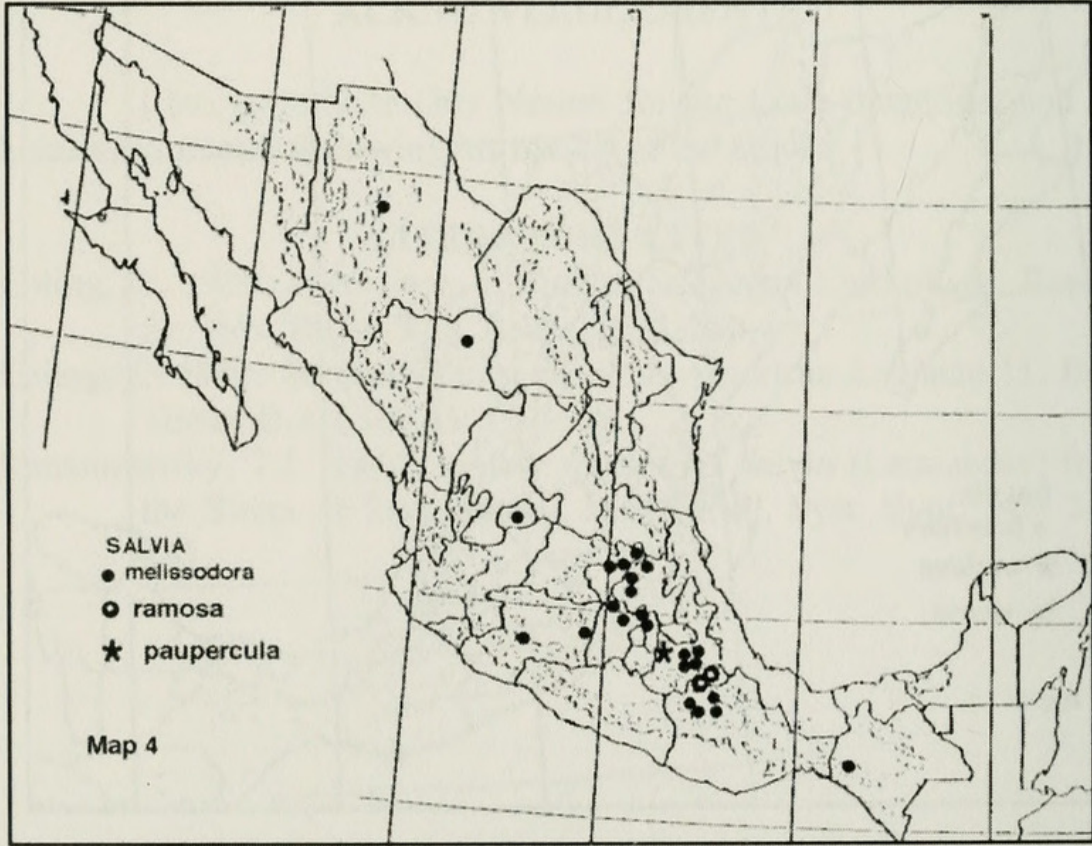
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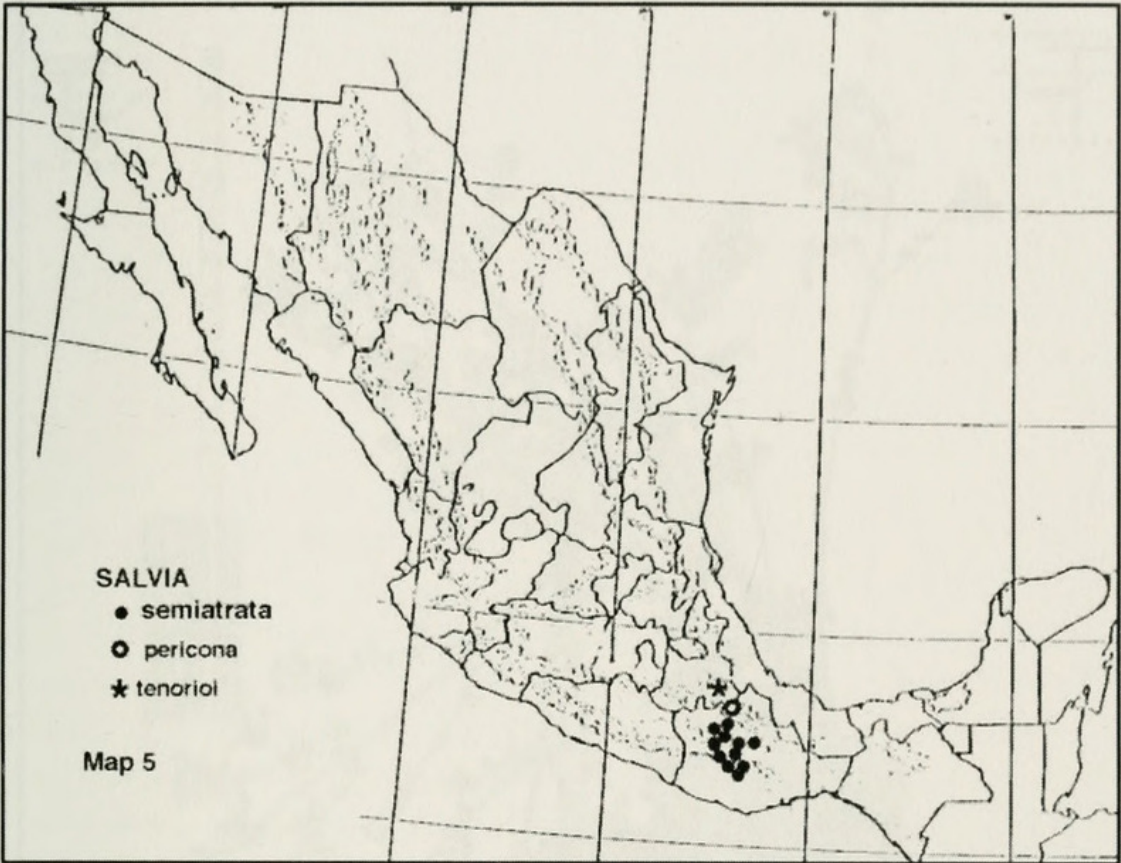


Map 1



Map 2





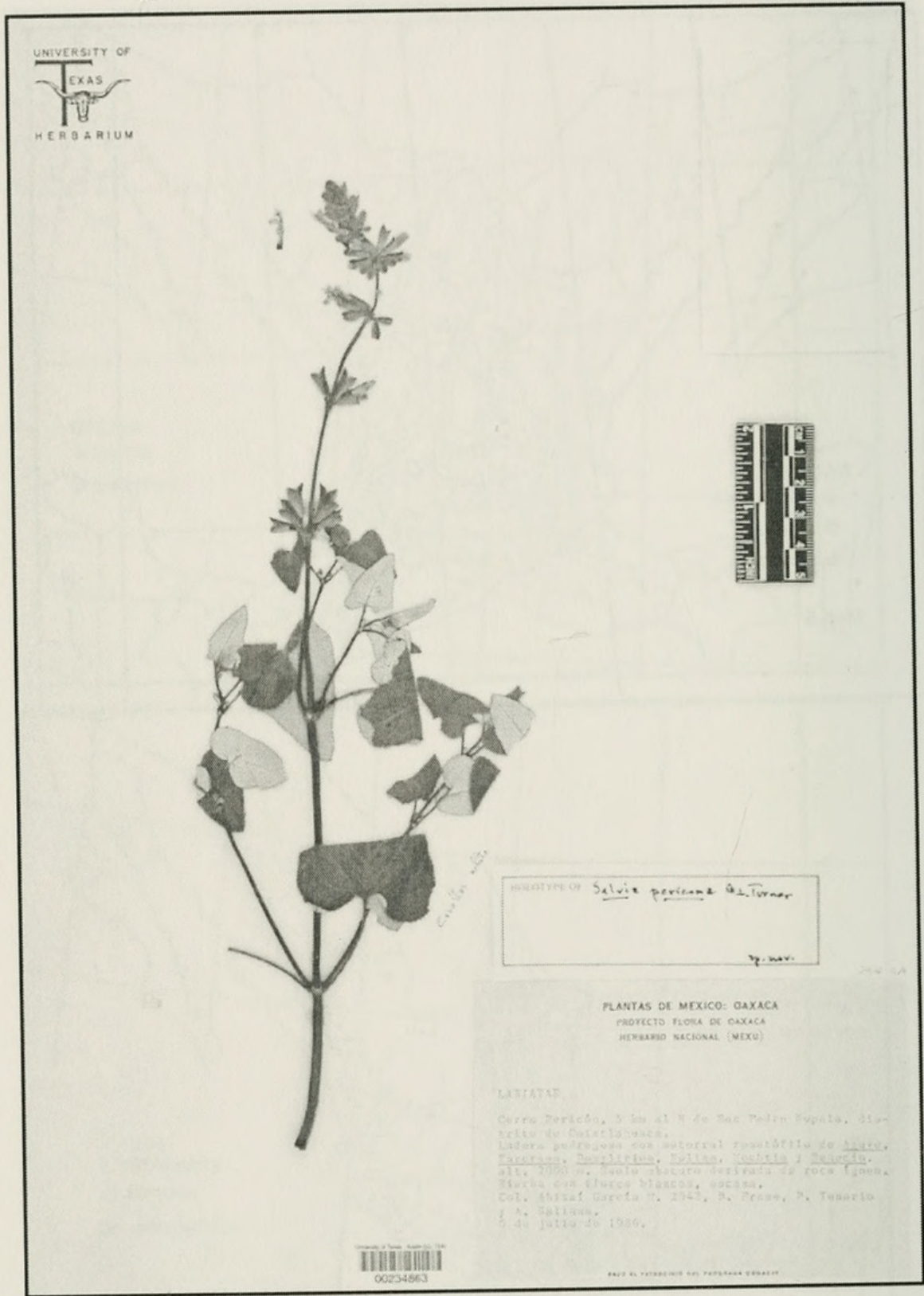


Fig. 1. Holotype of *Salvia periconia*.

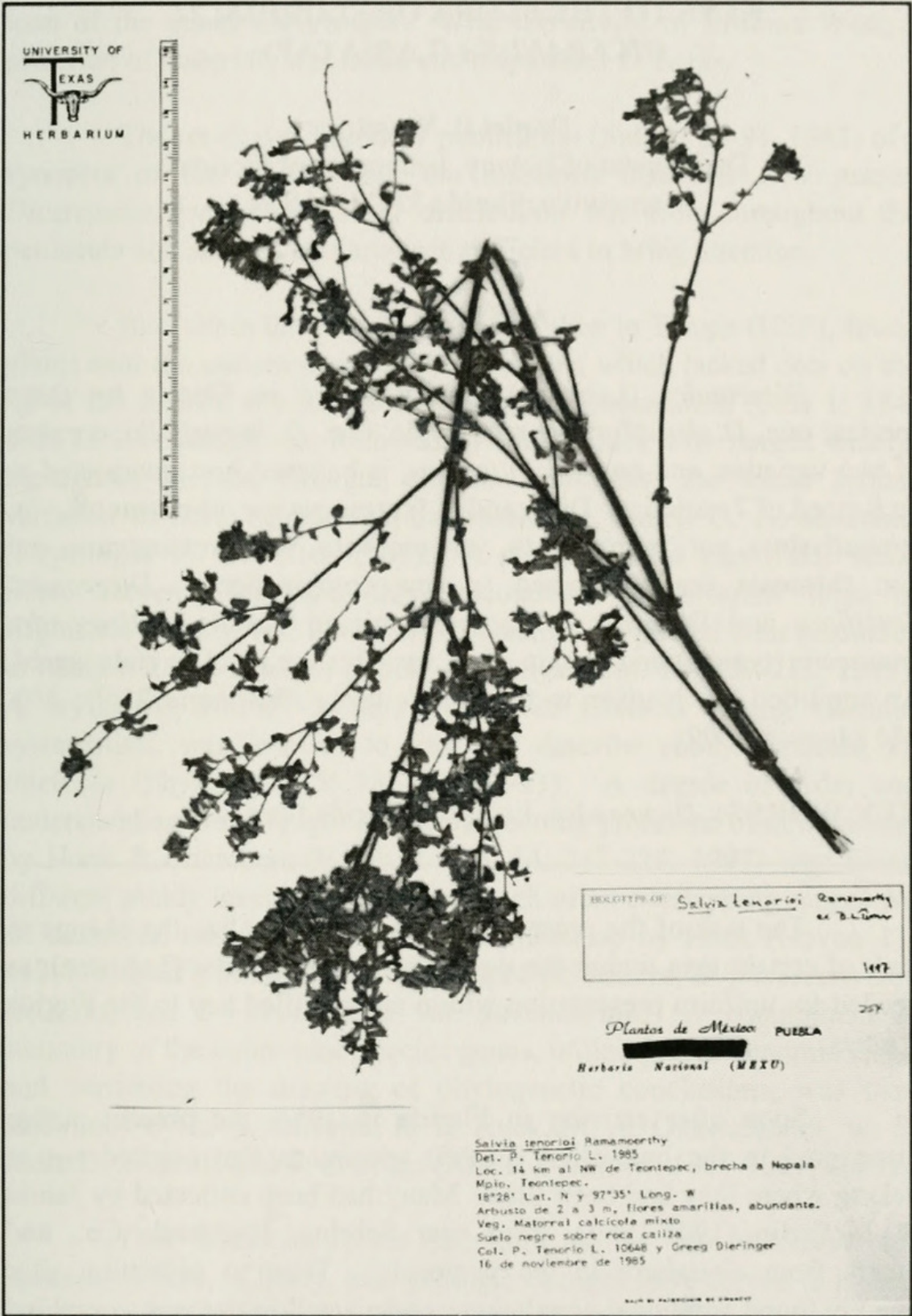


Fig. 2. Holotype of *Salvia tenorioi*.



Turner, B. L. 2009. "Recension of the Mexican species of *Salvia* (Lamiaceae), section *Scorodonia*." *Phytologia* 91(2), 256–269.

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