

**OVERVIEW OF THE GENUS *ASTEROHYPTIS* (LAMIACEAE)
AND DESCRIPTION OF A NEW SPECIES FROM NORTHERN MEXICO**

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ABSTRACT

Asterohyptis is treated as comprising four species, one of these newly described: ***Asterohyptis nayarana*** B.L. Turner, sp. nov., from Nayarit and southern Durango. A key to the species, distribution maps, and a photo of the type specimen of *A. nayarana* are provided.

KEY WORDS: *Hyptis*, *Asterohyptis*, Lamiaceae, Mexico, Nayarit, Durango

Asterohyptis Epling is a segregate from the genus *Hyptis*, first proposed by Epling (1932) and retained by Harley et al. (2004) in their compendium of the Lamiaceae. As presented here, it is a genus of four species, which are confined to Mexico and Central America. The genus is typified by *A. stellulata* and is distinguished from the large genus *Hyptis* by its numerous small flowers which are arranged in axillary clusters, corolla lobes not thickened, and non-explosive anthers (cf. key characters of Harley et al. 2004, p. 254).

Key to species

1. Mouth of mature calyx tube with a dense annulus of white erect hairs that obscure the throat, the lobes 0.5–0.7 mm long.

2. Leaves ovate to broadly lanceolate, mostly 3–4 times as long as wide, markedly rugose above, the lower surfaces to some degree velutinous; stems densely hirsute with spreading hairs; calyx tube and lobes densely white-tomentose throughout, the lobes obscured; s Durango, ne Nayarit

..... ***Asterohyptis nayarana***

2. Leaves linear-lanceolate, mostly 4–6 times as long as wide (rarely not), not noticeably rugose, if at all, the lower surfaces variously hispidulous to puberulent but scarcely velutinous; stems hispidulous with upswept hairs; calyx tube variously white-pilose but the lobes always less so and easily discernible; Sonora, Chihuahua, Sinaloa

Asterohyptis seemanii

1. Mouth of mature calyx tube loosely pubescent, without a well-defined thick annulus that obscures the throat, the lobes 1.0–3.2 mm long.

3. Mature calyx lobes 2.4–3.0 mm long; mostly 0–1000 m along coastal ranges, Sonora, Sinaloa, Michoacan, Veracruz, Oaxaca, Chiapas, south to Costa Rica

Asterohyptis mociniana

3. Mature calyx lobes 1.5–2.5 mm long; 1000–2000 m, central highland regions, Nayarit, Jalisco, Michoacan, Morelos, Veracruz, Oaxaca, Chiapas

Asterohyptis stellulata

ASTEROHYPTIS MOCINIANA (Benth.) Epling, Bull. Torrey Bot. Club 60: 19. 1932. Map 3.

Hyptis mociniana Benth. **TYPE: MEXICO. Veracruz.**

Hyptis spinulosa Benth. **TYPE: MEXICO.** “In Nova Hispania.”

Hyptis stellulata var. *sinclairi* Benth. **TYPE: MEXICO. Guerrero.**

Son, Sin, Mic, Ver, Gue, Oax, Cps and Central America. Dry forests and along shore lines, mostly 0-1000 m; flowering: Dec–Jun (rarely later).

Asterohyptis mociniana is known by numerous collections, as indicated in Map 3.

This taxon is essentially similar to *Asterohyptis stellulata* except for calyx size, as indicated in the key. In my first evaluation of the genus, I was inclined to treat *A. mociniana* and *A. stellulata* as synonymous, the characters concerned (those used by Epling to separate the two) not making much biogeographical sense, this largely occasioned by Epling's confusing descriptions, his species accounts contradicting some of the key characters, namely those of the calyces. I restudied all of the taxa and ascertained there was an interesting pattern to the distributions: *A. mociniana*, in Mexico, is largely confined to near coastal habitats (Map 3), *A. stellulata* to more montane, interior habitats (Map 2). Occasional intermediates between the taxa are found, especially along the Pacific coastal regions (e.g., Michoacan, Huizontla, 560 m, 16 Nov 1938, *Hinton et al.* 12582 (TEX).

The type of *Asterohyptis mociniana* was reportedly collected by Mocino and Sesse at some unnamed site in the state of Veracruz, Mexico, presumably from or near the port city of Veracruz (McVaugh 1977), to judge from its calyx morphology, this matched by recent near sea level collections, while *Hyptis stellulata* var. *sinclairii* was collected by Sinclair near the port city of Acapulco in Guerrero (KEW!).

ASTEROHYPTIS NAYARANA B.L. Turner, sp. nov. Fig. 1, Maps 2 and 3. **TYPE: MEXICO.**
Nayarit. Mpio. Nayar, 10 km al NW de la Mesa del Nayar, camino al Cerro Cangrejo, en canada, 22° 15' N, 104° 40' W, ca 1300 m, 21 Oct 1989, *Gabriel Flores F. 1694* con O. Tellez V., P. Tenorio L. y A. Cadena (holotype: TEX).

Asterohyptis seemannii similis sed differt caulibus dense hirsutis trichomatibus patentibus (vs. hispidulis trichomatibus antrorsis), foliis ovatis vel late lanceolatis 2–4plo longioribus quam latioribus (vs. anguste lanceolatis 4–6plo longioribus quam latioribus) valde rugosis in superficiebus ambabus (vs non rugosis).

Suffruticose herbs or shrublets 1–2 m high. Stems densely villous with spreading hairs, the vestiture ca 0.5 mm high. Leaves ovate to broadly lanceolate, mostly 5–7 cm long, 1.5–2.3 cm wide, markedly rugulose on both surfaces, the margins serrulate; petioles 10–15 mm long. Flowering spikes mostly axillary, interrupted, 6–10 cm long, the glomerules 6–10 mm across, basal bracts linear-lanceolate. Calyces at anthesis ca 2 mm long, densely villous, the lobes ca 0.5 mm long. Corollas white, ca 2.5 mm long, the tube ca 2 mm long. Nutlets glabrous, ca 1 mm long.

Additional specimen examined: **MEXICO. Durango.** Mpio. Mezquital, 10 km al SW de Mezquital, ca 1840 m, selva baja caducifolia, alterada, suelo café rojizo, 11 Sep 1985, *P. Tenorio L.* 9593 (TEX).

The novelty is obviously closely related to *Asterohyptis seemannii* but distinct by the set of characters noted in the key. The name derives from the Municipio Nayar, whence the type.

ASTEROHYPTIS SEEMANNII (A. Gray) Epling, Bull. Torrey Bot. Club 60: 20. 1933. Map 2.
Hyptis seemannii A. Gray **TYPE: MEXICO. Sinaloa.**
Hyptis seemannii var. *stenophylla* B.L. Rob. **TYPE: MEXICO. Sonora.**

Son, Chi, Sin and Dur. Mostly oak forests and savanna, 500–1800 m; flowering Sep–Dec.

The species is typified by a Seemann collection from Cerro de Pinal in southern Sinaloa, where it occurs along the Mazatlan-Durango highway. Epling (1933) provided an excellent description of the taxon.

Occasional plants produce more nearly ovate or linear-ovate leaves (Sonora. Alamos, *Palmer 398*, UC) but otherwise differ little from typical *A. seemannii*.

Representative specimens: **MEXICO. Chihuahua.** Mpio. Moris, Moris, 700-1050 m, 29 Sep 1985, *Davila 10069* (TEX, UA); Mpio. Uruachic, Rio Mayo, Batopilillas, 8 Sep 1936, *Gentry 2608* (UA). **Durango.** Mpio. Tamazula, Tamazula, oak forest, 2500 ft, 16 Dec 1939, *Gentry 5224* (UCLA). **Sinaloa.** Mpio. Concordia, Mazatlan-Durango highway, 4 km SW of Liberas, 1540 m, shrub on a steep rocky cliff, ca. 3 m tall, 2 Oct 1985, *Bartholomew 2582* (ASU). **Sonora.** Mpio. Nacore Chico, Pie de la Cuesta, 6 Oct 1939, *Muller 3668* (LL).

This species is closely related to the more northern *Asterohyptis nayarana*, as noted under the latter.

ASTEROHYPTIS STELLULATA (Benth.) Epling, Bull. Torrey Bot. Club 60: 18. 1933. Map 1.

Hyptis stellulata Benth. **TYPE: MEXICO. Morelos.**

Hyptis pubescens Benth. **TYPE: MEXICO.** Sessé and Mociño, without locality.

Nay, Jal, Col, Mic, Mex, Mor, Ver, Pue, Gue, Oax, (Cps?) and Central America. Mostly open areas of pine-oak forests, 1000–2000 m; flowering Sep–Nov.

Suffruticose perennial herbs or shrubs 1–4 m high. Leaves broadly ovate to lanceolate, rarely cordate, 2–3 times as long as wide; petioles mostly 1–20 mm long. Spikes both terminal and axillary, interrupted, the floral glomerules 8–12 mm across, basally bracteate with small, leaf-like bracts. Calyces at anthesis with tubes 1.5–2.0 mm long, the teeth 1.5–2.5 mm long. Corollas white, the tubes 1.5–2.0 mm long. Nutlets 1.0–1.3 mm long.

Like *Asterohyptis mociniana*, this taxon is represented in herbaria by numerous collections (Map 1). The type of *A. stellulata* was reportedly collected in the state of Morelos near Cuernavaca by Berlandier (Epling 1933). It is closely related to *A. mociniana* and is largely distinguished by its smaller flowering calyces with shorter lobes. The latter might be treated by some as but a weakly differentiated member of the present complex (cf. comments under *A. mociniana*, above).

ACKNOWLEDGEMENTS

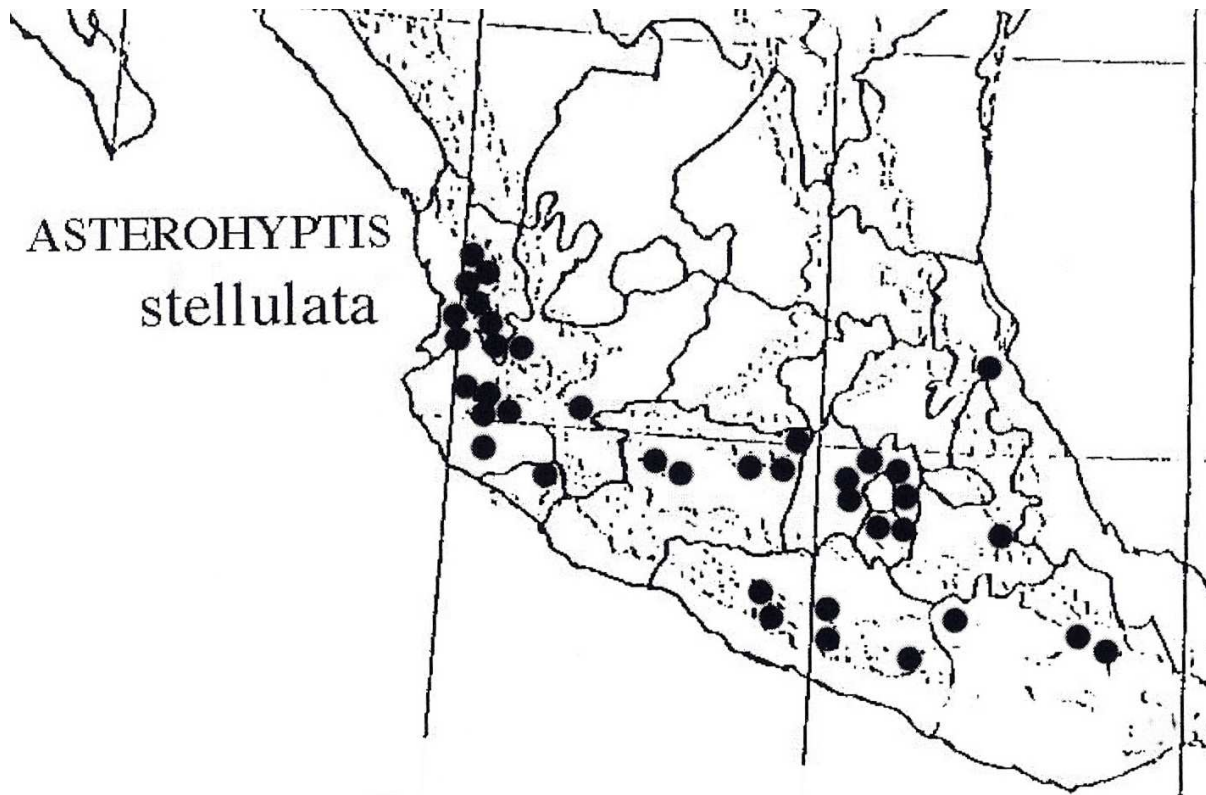
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LITERATURE CITED

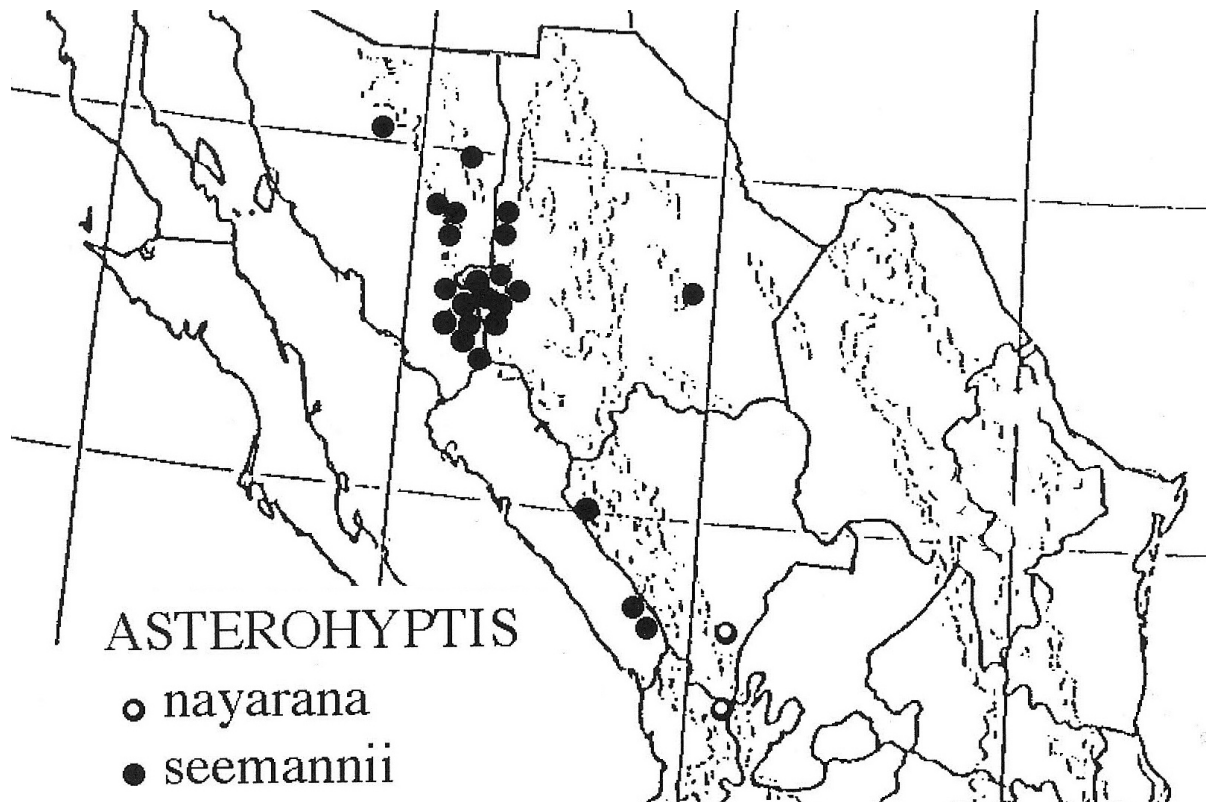
- Epling, C. 1933. *Asterohyptis*: a newly proposed genus of Mexico and Central America. Bull. Torrey Bot. Club 60: 17–21.
- Harley, R.M., S. Atkins, A. Budantsev, P.D. Cantino, B. Conn, R. Grayer, M.M. Harley, R. de Kok, T. Krestovskaja, A. Morales, A.J. Paton, O. Ryding, and T. Upton. 2004. Labiatae. In J.W. Kadereit (ed.), *The Families and Genera of Vascular Plants 7*: 167–275.
- McVaugh, R. 1977. Botanical results of the Sessé & Mociño expedition (1787-1803). Contr. Univ. Michigan Herb. 11: 97–195.



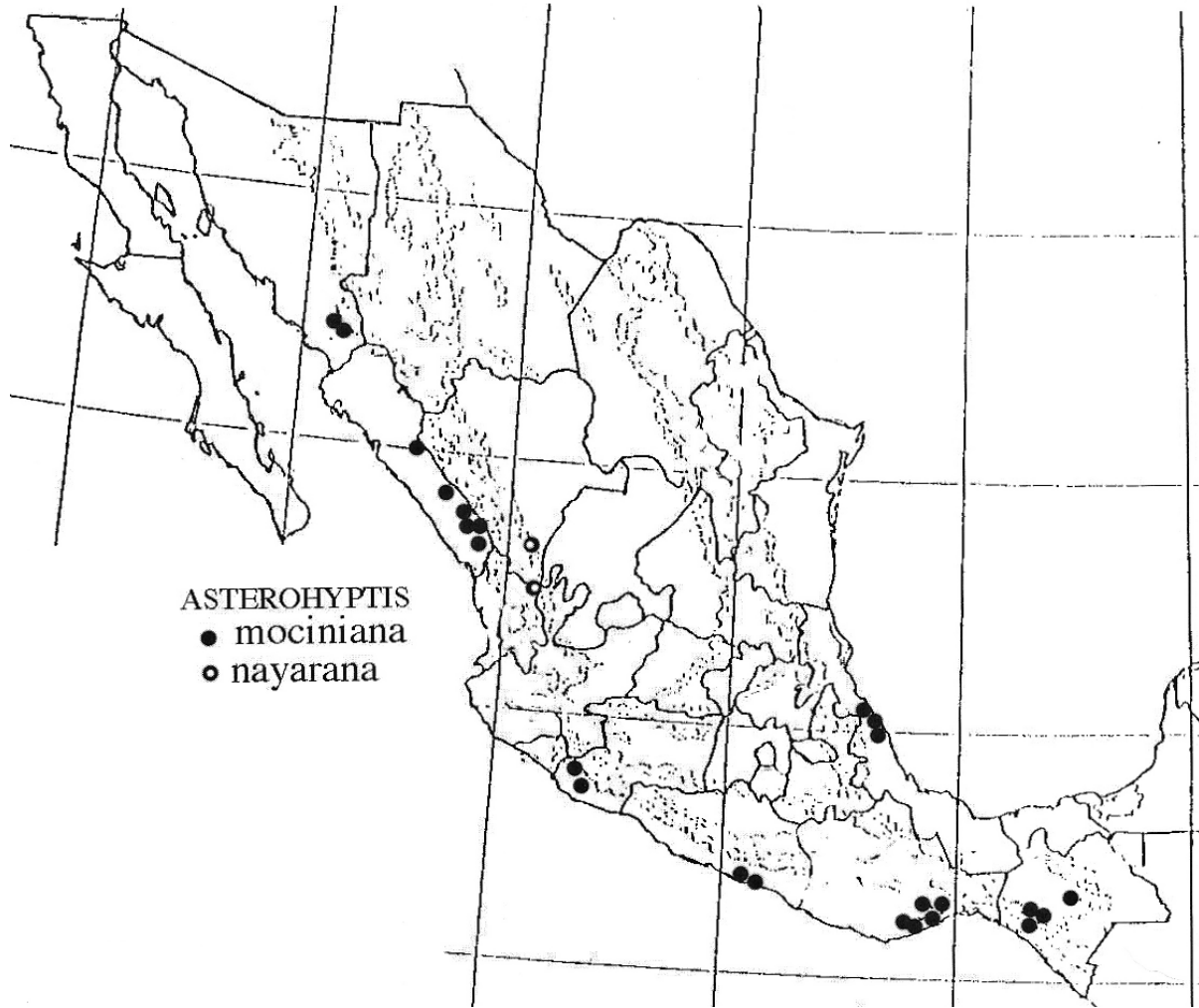
Figure 1. *Asterohyptis nayarana* (holotype).



Map 1. Distribution of *Asterohyptis stellulata*.



Map 2. Distribution of *Asterohyptis seemannii* and *A. nayarana*.



Map 3. Distribution of *Asterohyptis mociniana* and *A. nayarana*.