

**FOUR NEW SPECIES OF *AGERATINA* (ASTERACEAE:
EUPATORIEAE) FROM OAXACA, MEXICO**

Billie L. Turner

Plant Resources Center
The University of Texas
Austin, TX 78712
billie@uts.cc.utexas.edu

ABSTRACT

Routine identification of Mexican Asteraceae has revealed the following novelties in the genus *Ageratina*: **A. hasegawana** B.L. Turner **sp. nov.**, **A. huahuapana** B.L. Turner, **sp. nov.**, **A. megacephala** B.L. Turner, **sp. nov.** and **A. ozolotepecana** B.L. Turner, **sp. nov.** All of the taxa are from the state of Oaxaca, and all belong to the subgenus *Neogreenella*. Phototypes are provided, along with maps showing their distribution. *Phytologia* 92(3): 388-399 (December 1, 2010).

KEY WORDS: Asteraceae, *Ageratina*, Mexico, Oaxaca

Ageratina is perhaps the most speciose genus of the Asteraceae in Mexico, at last count (Turner 2008) possessing some 149 species; the present contribution brings the total to 153.

AGERATINA HASEGAWANA B.L. Turner, **sp. nov.**, **Fig. 1**

Ageratinae deltoideae (Jacq.) King & H. Rob. similis sed differt foliis plerumque minoribus (5-8 cm in latitudine vs 8-14 cm) subter dense villosis secus venas majores (vs. non villosis), capitulescentiis minus congestis, capitulis minoribus flosculis paucioribus (ca. 25 vs. 30 vel plus), et bracteis involueralibus 12-14 (vs 21 vel plus).

Resembling *Ageratina deltoidea* but the leaves mostly smaller (5-8 cm wide vs 8-14 cm), densely villous beneath along the major veins (vs not so), capitulescence less congested, the heads smaller with fewer florets (ca 25 vs 30 or more), and the involueral bracts 12-14 (vs 21 or more).

Perennial herbs to 1 m (?) high. **Mid-stems** minutely glandular-pubescent. **Leaves** 6-10 cm long, 5-8 cm wide; petioles 2-3 cm long; blades triangular, equilateral, sparsely pubescent above, villous below with matted hairs along the larger veins, the margins crenulate. **Capitulescence** an open cymose panicle, the ultimate, minutely glandular, peduncles 1-2 cm long. **Heads** more or less turbinate, ca 12 mm high, 2-5 mm across, containing 23-25 florets. **Receptacle** glabrous, ca 1.5 mm across. **Involucral bracts** 12-15, narrowly lanceolate, pubescent like the pedicels. **Corollas** white, ca 8 mm long, glabrous, except for occasional long trichomes upon the lobes. **Achenes** black, sparsely hispid, ca 4 mm long; pappus of ca 30 ciliate bristles, 5-6 mm long.

TYPE: **MEXICO. OAXACA:** "155.3 km S of 135/150 junction on Hwy 135 Cuota." 2360 m, 17 36 57 N, 97 19 33 W, 26 Nov 2003, Yahara T., Ohnishi W., Hasegawa M., Nakazawa M., & Hiramatsu M. 2783 (Holotype: TEX).

In my treatment of *Ageratina* for Mexico (Turner 1997), *A. hasegawana* will key directly to *A. deltoidea*, to which it is surely closely related; it differs from the latter in numerous characters, as noted in the above diagnosis. It is also well-removed from the distribution of *A. deltoidea* proper, as shown in Fig 5.

The novelty is named for T. Hasegawa of Japan, who participated in its discovery; I have named two other species of *Ageratina* for yet other Japanese workers, *A. soejimana* and *A. yaharana* (Turner 2008), thus honoring the Asian team that has collected a plethora of comps in Mexico over the past decade, mostly in the genus *Stevia*.

AGERATINA HUAHUAPANA B.L. Turner, **sp. nov.**, Fig. 2

Ageratinae viburnoides (DC.) King & H. Rob. similis sed differt foliis subter valde pubescentibus (vs. celeriter glabratibus) supra epunctatis (vs. valde punctatis) petiolis majoribus (2-3[4] cm in longitudine vs 0.5-1.5 cm).

Resembling *Ageratina viburnoides* but the leaves markedly pubescent below (vs soon glabrate), epunctate above (vs markedly punctate), with smaller petioles (0.5-1.5 cm long vs 2-3[4] cm).

Perennial suffruticose herbs or subshrubs, 0.5-1.5 m high. **Mid-stems** densely appressed-pubescent. **Leaves** thickened, mostly 5-9 cm long, 4-5 cm wide; petioles 2-3 cm long; blades broadly ovate to deltoid, penninervate, rarely auriculate at base, minutely and densely glandular-pubescent below, markedly glandular-punctate above, the margins entire, or nearly so. **Heads** arranged in terminal congested, cymose-panicles, 4-8 cm high and about as wide. **Involucres** hemispheric, 4-5 mm high, densely pubescent; bracts sub-equal, 10-12 in 2-3 series, the apices often purplish. **Receptacles** plane, ca 1 mm across, glabrous. **Florets** 10-12 per head, the corollas pinkish-white, glabrous. **Achenes** (immature) ca 1.5 mm long; pappus of ca 20 bristles, ca 3 mm long.

TYPE: MEXICO. OAXACA: Distrito Huahuapan, Mpio. Santo Domingo Tonola, Paraje "La Taberna en la Canada." Bosque de encino. ca 1962 m, 17 38 14.3 N, 97 56 42.2 W, 18 Oct 2008, Luis Angel Hernandez Perez 548 [con A. Torres] (Holotype: TEX).

Additional Collection: same Mpio. as above: Paraje "La Canada del Rocio." ca 1870 m, 17 43 29.6 N, 97 55 52.4 W, 24 Oct 2008, Perez 637 (TEX).

In my treatment of *Ageratina* in the Comps of Mexico (Turner 1997), *A. huahuapana* will key to, or near, *A. viburnoides* a thick-leaved, more oval-leafed, penninervate. species of northeastern Mexico. The two taxa are easily differentiated, as noted in the above diagnosis.

AGERATINA MEGACEPHALA B.L. Turner, *sp. nov.*, **Fig. 1**

Ageratinae aegiophyllae (B.L. Rob.) King & H. Rob. similes sed differt statura breviori (usque ad 0.4 m in altudine vs 1-3 m), capitulis multo majoribus, bracteis involueralibus longioribus, et flosculis numerosioribus (80+ vs 10-30).

Resembling *A. aegiophylla* but an herb to 0.4 m high (vs 1-3 m) having much larger heads and more numerous involueral bracts and florets per head.

Perennial herbs to 40 cm high. **Stems** densely glandular-pubescent, the vestiture ca 0.5 mm high. **Leaves** opposite, 15-20 cm long, 4-6 cm wide; petioles 3-5 cm long, more or less clasping at very base; blades broadly lanceolate to ovate-elliptic, 3-nervate ca 1-2 cm from the base; grading into the petioles, glandular-pubescent below, mostly along the veins. **Capitulescence** a terminal corymbose panicle ca 8 cm high, and as wide, the ultimate peduncles 1-3 cm long, pubescent like the stems. **Heads** ca 15 mm high, 20 mm across, the involueral bracts ca 10 mm long, glandular-pubescent, linear-lanceolate, numerous, in 2-3 equal series; receptacle plane, sparsely pubescent, 5-6 mm across. **Disk florets** numerous; corollas white, glabrous, or nearly so, ca 8 mm long; tube ca 5 mm long; throat 2-3 mm long, grading into the tube, the lobes ca 0.4 mm long, glabrous or nearly so. **Anthers** yellow, ca 2.5 mm long, the appendages longer than wide. **Style branches** linear, exerted for 5-7 mm. **Achenes** black, 5-ribbed, pubescent with upwardly-projected, stiff hairs; pappus of ca 20 barbellate bristles, 6-7 mm long.

TYPE: MEXICO. OAXACA: Distrito Putla. Mpio. Santa Cruz Itundujia, "Rio Tigre, a 5 km al NE en LR de la Agencia de Zaragoza." Selva mediana subcaducifolia. ca 1021 m, 16 41 10.5 N, 97 45 10 W, 16 Apr 2008, *Kenia V. Gutierrez 2617* [con Sr. Elias].

This is a very distinct species of *Ageratina*. In my treatment of *Ageratina* for Mexico (Turner 1997), this novelty will key directly to *A. aegiophylla*, which it scarcely resembles, differing especially in its much larger heads (whence the name), and larger, more lanceolate, leaves.

AGERATINA OZOLOTEPECANA B.L. Turner, **sp. nov.**, Fig. 3

Ageratinae havanensis (H.B.K.) King & H. Rob. similis sed differt capitulis majoribus (10-12 mm in altitudine vs 5-6 mm), floribus numerosioribus (ca 25 vs 5-20) et bracteis involucribus longioribus numerosioribus glandulosi-pubescentibus.

Resembling *Ageratina havanensis* (H.B.K.) King & H. Rob. but having larger heads (10-12 mm high vs 5-6 mm), more numerous florets (ca 30 vs 5-20), and longer, more numerous, glandular-pubescent involucrial bracts.

Shrub 2 m high. **Stems** minutely puberulent to glabrate. **Leaves** mostly 3-4 cm long, 1.5-2.5 cm wide; petioles 5-10 mm long; blades ovate, glabrous, without glandular-punctations beneath, the margins serrate. **Capitulescence** cymose paniculate, terminal, ca 5 cm high, 3 cm across, the ultimate peduncles 6-10 mm long. **Heads** 10-12 mm high; involucrial bracts 8-9 mm long, linear-lanceolate, purplish, minutely glandular-pubescent, **Receptacles** plane, glabrous, ca 2 mm across. **Florets** ca 25 per head; corollas white, glabrous, ca 6 mm long, the lobes glabrous. **Achenes** black, ca 3 mm long, sparsely pilose; pappus of ca 30, rosy-white, persistent, bristles ca 6 mm long.

TYPE: MEXICO. OAXACA: Distrito Miahuatlan. Mpio. San Juan Ozolotepec, "Bosque de pino.. sobre cerro." ca 3408 m, 16 11 37 N, 96 16 3.4 W, 3 Dec 2009, *Silvia H. Salas M 6618* [con A. Sanchez, F. Maldonado & J. Lucas] (Holotype: TEX).

In my treatment of *Ageratina* for Mexico (Turner 1997) *A. ozolotepecana* will key directly to *A. havanensis*, to which it is surely closely related. It differs from the latter in numerous characters, as noted in the above diagnosis.

The distribution of *A. havanensis* in Mexico is shown in Fig.6; it occurs largely along the more eastern sierras of Mexico, mostly from 700-1400 m. *A. ozolotepecana* reportedly occurs in pine forests above 3000 m, presumably in cloud forests, to judge from the lichens that enwrap some of the stems on the type specimen.

Named, in part, for the Mpio. San Juan Ozolotepec, whence the type.

ACKNOWLEDGEMENTS

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LITERATURE CITED

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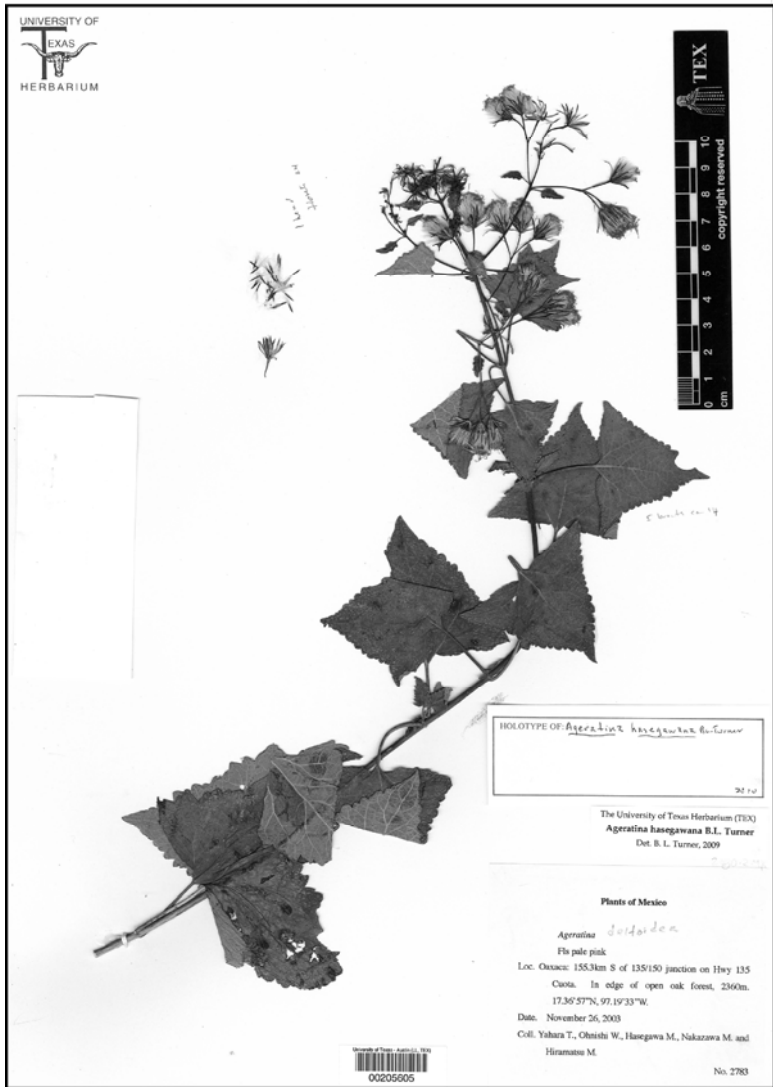


Fig. 1. *Ageratina hasegawana* (Holotype).



Fig. 2. *Ageratina huahuapana* (Holotype).



Fig. 3. *Ageratina megacephala* (Holotype)



Fig. 4. *Ageratina ozolotepecana* (Holotype).

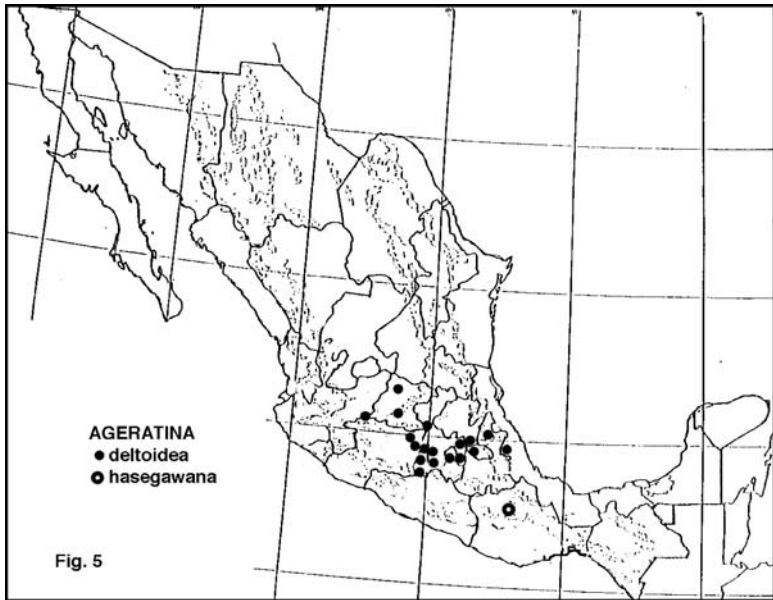


Fig. 5. Distribution of *Ageratina hasegawana* and *A. deltoidea*.

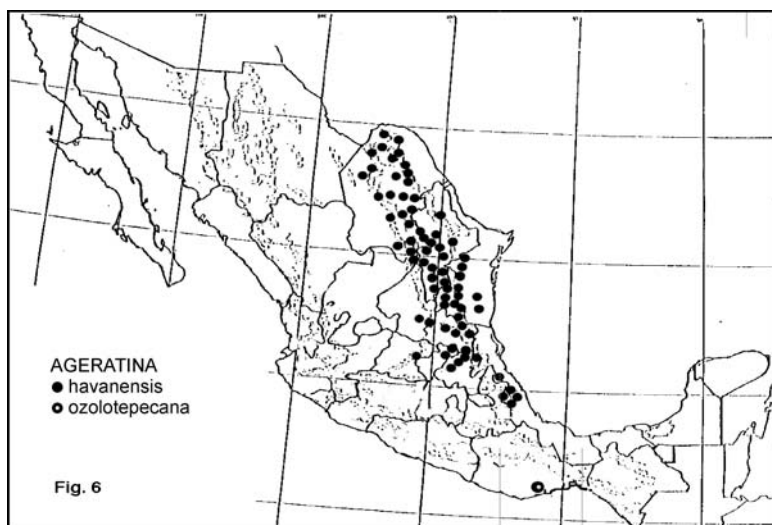


Fig. 6. Distribution of *Ageratina havanensis* (in Mexico) and *A. ozolotepecana*.