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# *Heterocentron chimalapanum* (MELASTOMATACEAE): A NEW SPECIES FROM OAXACA, MEXICO

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**Abstract:** *Heterocentron chimalapanum*, an unusual species from the dense cloud scrub forest of the Chimalapa region of the Isthmus of Tehuantepec in Oaxaca, Mexico, is described and illustrated. Most closely related to *H. elegans*, *H. chimalapanum* differs from that species in its bright pink petals, smaller leaves, and strigose hypanthia.

**Resumen:** Se describe e ilustra la inusual especie *Heterocentron chimalapanum* nativa al matorral denso nublado de la región de Chimalapa en el Istmo de Tehuantepec de Oaxaca, México. Se considera que esta nueva especie está estrechamente relacionada a *H. elegans*, mas difiere de ésta por tener pétalos rosados brillantes y hojas e hipantos de menor tamaño.

**Key Words:** *Heterocentron*, Melastomataceae, Mexico, Oaxaca, Chimalapa.

*Heterocentron* comprises approximately 27 species in Mexico and Central America and was most recently revised by Whiffin (1972). The genus is most closely related to *Tibouchina*. Both are characterized by capsular fruits, the ovary free from the hypanthium, ventral stamen appendages, cochleate seeds, and a neotropical distribution. *Heterocentron* differs from *Tibouchina* by its exclusively four-merous flowers, sometimes penninerved leaves, and anther morphology (the smaller stamens lack a prolonged anther connective).

The new species described below is from the elfin forests of the Chimalapa region of Oaxaca on the Isthmus of Tehuantepec in southern Mexico, an area described in detail by Wendt (1997).

***Heterocentron chimalapanum* Todzia, sp. nov.** (Fig. 1).

TYPE: MEXICO. Oaxaca: Mpio. Santa María Chimalapa, Cerro Piicotzuc, highest peak in central Sierra de Tres Picos (ca. 18 straight-line km SSE of La Laguna, Ver.); top of western (slightly lower) peak, 1400 m, 17°07'25"N, 94°27'15"W, 5 April 1996,

T. Wendt, Heriberto Hernández G., P. Tenorio, E. Torres, G. Salazar, M. A. Soto, O. Rocha 6807 (holotype: MEXU; isotypes: CAS, CHAPA, LSU, TEX).

Frutices prostrati et humifusi ramis lateralibus usque 10 cm longis; petiolis 1–2 mm longis sparse strigosis; laminis foliorum ellipticis 5–9 mm longis 3–4 mm latis, utrinque moderate strigosis; flores solitariis, terminalibus in ramis lateralibus; pedunculis 2.2–2.9 cm longis; lobis calycis 4 glabris; petalis 4 valde erubescens ca. 9 mm longis; staminibus 8 dimorphis; ovario ca. 2 mm longi in apice pilis glandularibus erectis.

Scrambling prostrate SUBSHRUBS with lateral erect branches extending from main stem to 10 cm long; lower (main) stem terete or quadrangular, with peeling reddish brown epidermis; distal branches mostly quadrangular, the internodes sparsely to moderately strigose with hairs to 1 mm long, the nodes swollen, strigose. Petioles 1–2(–4) mm long, sparsely strigose, slightly canaliculate. LEAF BLADES coriaceous, elliptic, 5–10 mm long, 3–6 mm wide, the base truncate to rounded, the apex acute, obscurely trinerved with an additional 2–3 subopposite pairs of lateral veins, these darkened on the lower

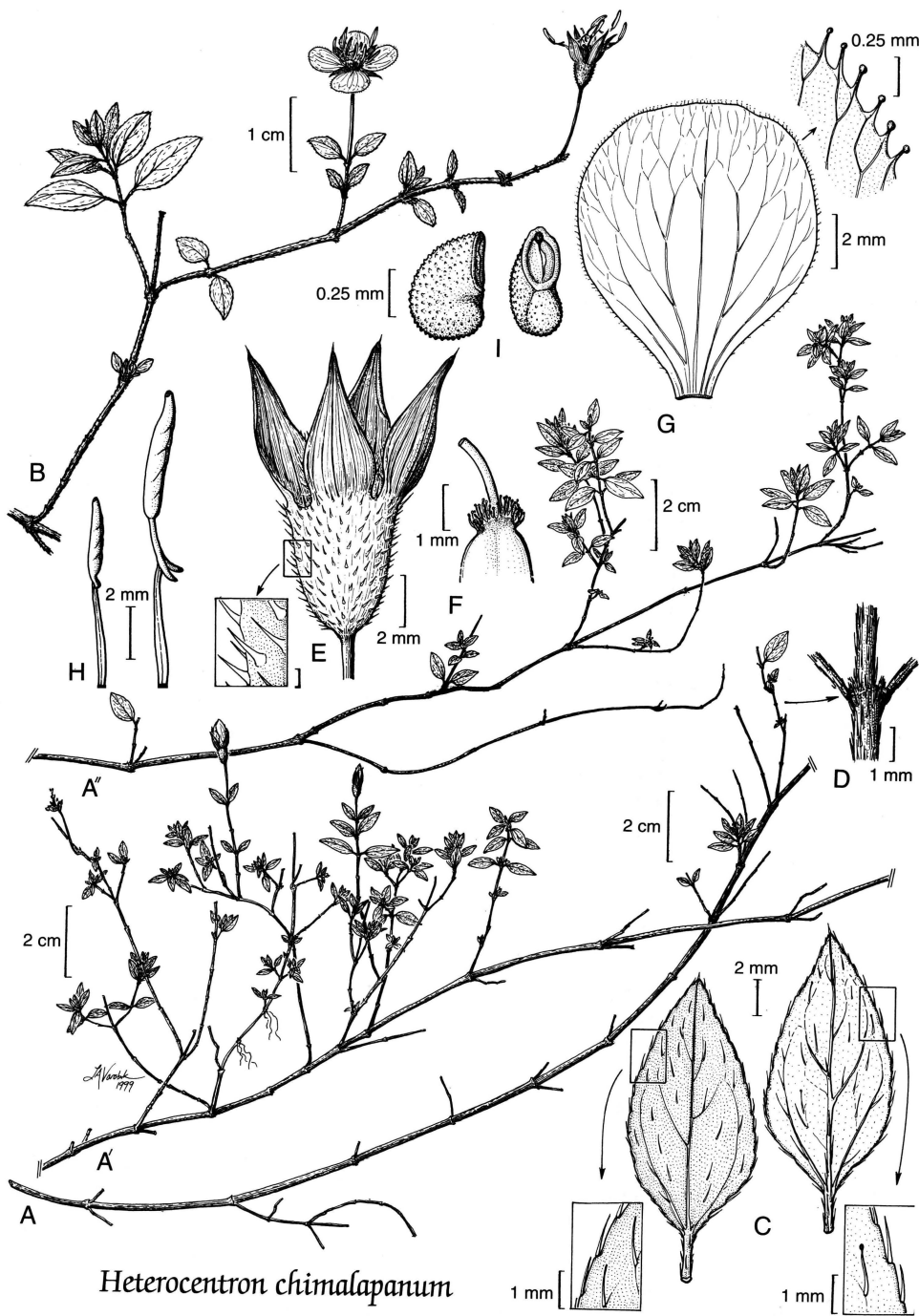
surface of the younger leaves, not raised above, the margin beset with overlapping setae to ca. 1 mm long and 0.5–1 mm distant, the upper and lower surfaces moderately strigose, the lower surface frequently with interspersed gland-tipped hairs. FLOWERS solitary, terminal on lateral branches; peduncles terete, slender, 2.2–2.9 cm long, usually glabrous, sometimes very sparsely strigose. Hypanthia urceolate, 3.5–4 mm long, ca. 3 mm wide, with sparse strigose hairs ca. 0.3 mm long, these with swollen bases. Calyx lobes 4, narrowly triangular, ca. 4 mm long, ca. 2 mm broad at base, glabrous on both sides, ciliate with a terminal seta. Petals 4, bright pink, obovate, 9–10 mm long, 7–9 mm broad, the margins glandular ciliolate, otherwise glabrous. Stamens 8, all yellow, dimorphic in anther size and shape; larger stamens with filaments flattened, 5–6 mm long, anther thecae 4.0–4.5 mm long, the basal connective ca. 3 mm long including two appendages ca. 1.5 mm long; smaller stamens with flattened filaments 3–4 mm long, anther thecae ca. 3 mm long, the basal connective ca. 0.3 mm long including two minute appendages. Ovary ovoid, ca. 2 mm long, with glandular, erect hairs at apex; style 2–6 mm long, sigmoid; stigma punctiform. Capsules ca. 7 mm long, ca. 4 mm broad, with the persistent sepals bright red, often with tuberculate hair bases; seeds tuberculate, ca. 0.5 mm long.

**Habitat and distribution.** Known only from the type in south-eastern Mexico in dense cloud scrub on granitic mountain ridgetop with very high precipitation. Plants growing in beds of *Sphagnum* moss exposed to wind and fog in association with species of *Ugni*, *Cavendishia*, *Gaultheria*, *Lasiacis*, *Clusia*, *Markea*, *Chamaedorea*, and *Sobralia*.

**Etymology.** Named for the Chimalapa area on the Isthmus of Tehuantepec in Mexico, which includes the Municipios of Santa María and San Miguel Chimalapa in Oaxaca (Wendt, 1997).

*Heterocentron chimalapanum* is unique in the genus by the combination of its scrambling habit, small leaves (5–9 mm long), and solitary flowers with bright pink petals. It is most similar to *H. elegans* with which it shares a similar habit (low prostrate subshrub with trailing main stems and upright leafy branches), and solitary flowers on long peduncles. *Heterocentron chimalapanum* differs from *H. elegans* by its hypanthium (sparsely strigose with hairs ca. 0.3 mm long versus densely pubescent with long glandular hairs 1–2 mm long), smaller, narrower leaves (elliptic, 5–9 mm long, 3–4 mm wide versus ovate to oblong-ovate, 5–20 mm long (typically), 4–13 mm wide), and petal color (bright pink versus magenta). *Heterocentron elegans* ranges from the central Mexican states of Hidalgo, Puebla and Veracruz to Chiapas, Mexico (Breedlove, 1986) and Guatemala and Honduras in wet tropical forest (1300–1850 m), but no collections have been made in the Uxpanapa-Chimalapa region of the Isthmus of Tehuantepec (Wendt, pers. comm.).

In the latest yet unpublished revision of the genus, Whiffin (1972) recognized two subgenera in *Heterocentron*: *Heterocentron* subgenus *Schizocentron* (Meisn.) Whiffin (not yet published) characterized by a procumbent to suberect habit, solitary flowers, purple (magenta) corollas and distinctly trinerved leaves, and *H.* subgenus *Heterocentron* characterized by an erect habit, few to many-flowered, paniculate inflorescences, white, pink, or rarely magenta corollas, and penninerved leaves. Although *H. chimalapanum* seems to fit comfortably within *H.* subgenus *Schizocentron* due to its procumbent habit, solitary flowers, and trinerved leaves, pink corollas have heretofore been known only in *H.* subgenus *Heterocentron*. Five additional species belong to subgenus *Schizocentron*. *Heterocentron elegans*, ranging from central Mexico to Honduras, is the most widespread, while the other four species (*H. hirtellum* (Cogniaux) L. O. Williams from



*Heterocentron chimalapanum*

FIG. 1. *Heterocentron chimalapanum* (T. Wendt et al. 6807). A, A', A''. Habit. B. Branch detail with flower. C. Upper and lower (right) leaf views with close-up of vestiture. D. Closeup of branch-let node. E. Hypanthium. F. Apex of ovary. G. Petal close-up. H. Stamens. I. Seed.

Guatemala, *H. purpureum* S. Winkler from El Salvador, *H. suffruticosum* Brandegee from the southeast corner of Chiapas, Mexico and adjacent San Marcos, Guatemala and recently described *H. evansii* Almeda from Pico Bonito, Honduras (Almeda, 1999)) have limited distributions on isolated mountain peaks, not unlike *H. chimalapanum*.

*Heterocentron chimalapanum* occurs in a very restricted habitat of dense cloud

scrub on granitic mountain ridges in the Uxpanapa-Chimalapa region of Veracruz and Oaxaca. The area is estimated to have about 6000 mm of precipitation per year (T. Wendt, pers. comm.), with much wind and fog. Two other new species have been described recently from this same habitat: *Ocotea corrugata* van der Werff (Lauraceae) (van der Werff, 1999) and *Podachenium chimalapanum* B. L. Turner (Asteraceae) (Turner, 1998).

### A key to the species of the *Schizocentron* group of *Heterocentron*

1. Calyx with spreading, glandular hairs 1–2 mm long; southern Mexico (Hidalgo, Puebla, Veracruz and Chiapas), Guatemala and Honduras *H. elegans*
1. Calyx appressed strigose or moderately spreading non-glandular hairs 0.5–1 mm long; Mexico (Oaxaca, Chiapas), Guatemala, El Salvador.
  2. Petals 9–10 mm long, hypanthia 4–4.5 mm long; leaf blades 5–10 mm long; Mexico (Oaxaca). *H. chimalapanum*
  2. Petals 12–14 mm long, hypanthia 5–7 mm long; leaf blades 14–50 mm long; Mexico (Chiapas); Guatemala, El Salvador.
    3. Calyx lobes distinctly glandular-ciliate; El Salvador. *H. purpureum*
    3. Calyx lobes glabrous or ciliate but not glandular; Mexico, Guatemala.
      4. Filaments of large anthers 6.5–8 mm long; anthers 5.5–7 mm long; ovary scales ciliate, non-glandular. *H. suffruticosum*
      4. Filaments of large anthers ca. 5 mm long; anthers ca. 4 mm long; ovary scales glandular ciliate. *H. hirtellum*

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