

AN ADDITIONAL SPECIES OF *GNAPHALIOTHAMNUS* (ASTERACEAE:
INULEAE) AND FURTHER EVIDENCE FOR THE INTEGRITY OF THE GENUS

Guy L. Nesom

Department of Botany, University of Texas, Austin, Texas 78713 U.S.A.

ABSTRACT

Gnaphaliothamnus durangensis spec. nov. is described from southeastern Durango, México, bringing to 10 the number of species in the genus. The new species is most similar to *G. concinnus* (A. Gray) Nesom of San Luis Potosí and related to other species with eglandular leaf surfaces. The occurrence in central Oaxaca of putative hybrids between the strongly divergent species *G. eleagnoides* (Klatt) Nesom and *G. aecidiocephalus* (Grierson) Nesom strengthens the hypothesis that the genus is monophyletic.

KEY WORDS: *Gnaphaliothamnus*, Asteraceae, Inuleae, México.

Shortly after completion of a systematic study of *Gnaphaliothamnus* (Nesom 1990), a new species has come to light in the course of a study of Mexican Inuleae at MEXU. The new species is known from only a single collection in southeastern Durango.

Gnaphaliothamnus durangensis Nesom, spec. nov. TYPE: MÉXICO. Durango: Mpio. Durango, 65-75 km SW of Durango City on road to La Flor, high ridge with meadows and forests of *Pinus*, *Quercus*, and *Pseudotsuga*, 2620 m, 17 Sep 1979, D.E. Breedlove 44285 (HOLOTYPE: MEXU!; Isotype: CAS).

Gnaphaliothamnus concinno (A. Gray) Nesom similis sed phyllariis ovatis apicibus rotundatis subroseis differt.

Suffrutescent herbs 1.5-2.5 cm tall, stems and leaves densely woolly tomentose. Leaves bicolored, glabrescent above, but remaining pubescent to a degree, eglandular, the upper spreading at right angles to the stem, senescent and deflexed on the lower half of the stem, elliptic-obovate, 1-2 cm long, 3-5 mm wide, with a terminal mucro, slightly decurrent, the margins very slightly revolute. Heads campanulate, short pedicellate in compact clusters of 8-12,

barely raised above the leaves; phyllaries 24-28, ovate to broadly ovate, the distal 1/3 pinkish and not narrowed-elongated or strongly opaque, strongly graduated in 5-6 series, the inner 4.0-4.5 mm long, the outer loosely and persistently woolly on the proximal 2/3. Mature corollas and fruits not seen; pappus bristles of hermaphroditic flowers with swollen clavellate apices.

The eglandular leaves of *Gnaphaliothamnus durangensis* ally it with *G. salicifolius* (Bertol.) Nesom and its relatives, as opposed to those with glandular upper surfaces. The new species is similar in leaf shape to *G. concinnus* (A. Gray) Nesom and *G. eleagnoides* (Klatt) Nesom. It is most similar to the former in its persistently pubescent upper leaf surfaces and outer phyllaries, and its relatively few heads barely lifted above the leaves. It differs from both of these species in its ovate phyllaries with pinkish apices that are not indurated opaque and not narrowed into an appendagelike apical extension. The only other species of *Gnaphaliothamnus* in western México is *G. salicifolius*, which has longer (2-8 cm long) leaves with strongly glabrate upper surfaces, more numerous heads in dense corymbs held above the leaves, longer phyllaries with thicker and narrowed apices, and pappus bristles with only slightly dimorphic apices. Heads on plants of the type collection of *G. durangensis* are not mature enough to enable a count of hermaphroditic and pistillate flowers, but both types apparently are present.

Evidence for the generic integrity of *Gnaphaliothamnus*.

The woody, "central-sterile," gnaphalioid plants of México and Central America with red corollas and petaloid phyllary apices have been considered by Anderberg & Freire (1989) to be in two genera, *Chionolaena* and *Gnaphaliothamnus*. In contrast, a rationale for including all 9 (now 10) species of these taxa in *Gnaphaliothamnus* was recently presented (Nesom 1990). The occurrence of morphological intermediates between two strongly divergent species of this group, *G. aecidiocephalus* (Grierson) Nesom (a member of *Chionolaena* fide Anderberg & Freire) and *G. eleagnoides*, strengthens the hypothesis that they are congeneric.

Both *Gnaphaliothamnus aecidiocephalus* and *G. eleagnoides* are endemic to central Oaxaca. The former is known only from the Cerro del Humo (the type locality) and the Sierra de Juárez; the latter has only a slightly wider range and is at least partially sympatric with the former. The only other species of *Gnaphaliothamnus* that occurs in the same area is *G. salicifolius*. I recently considered the closest relative of *G. aecidiocephalus* to be *G. concinnus* on the basis of its similarity in leaf morphology and incipient dioecism (Nesom 1990). *Gnaphaliothamnus eleagnoides* was hypothesized to be most closely related to *G. salicifolius* (the type of the genus), and all these species were considered to be more closely related among themselves than to a group of four species within the genus that have glandular leaf surfaces.

Gnaphaliothamnus aecidiocephalus is strictly dioecious and the plants have densely crowded, overlapping, strongly deflexed, obovate leaves 2.5-4.5 mm long and densely close tomentose above, sessile heads in terminal clusters of 2-3, and phyllaries with a distinctly purplish red medial area. Plants of *G. eleagnoides* have strictly heterogamous heads, spreading, oblanceolate leaves 15-42 mm long and glabrous above, distinctly pedicellate heads in corymboid clusters of 15-40, held well above the leaves, and phyllaries with white apices but without any red coloration.

Two duplicate sheets of a collection made in the Cerro del Humo bear branches of plants that appear to represent two separate taxa (27 Jan 1963, 3000 m, MacDougal s.n. [MEXU]). Several of these branches have heterogamous heads and can be clearly identified as *Gnaphaliothamnus eleagnoides*, although they have relatively shorter leaves (10-15 mm long), a slightly reduced number of pistillate flowers (11-13), and close to a 1:1 ratio of pistillate:hermaphroditic flowers. The other branches on these two sheets appear to be intermediate between *G. eleagnoides* and *G. aecidiocephalus* in a number of features, prominently including leaf size (5-8 mm long), shape (obovate-oblanceolate), arrangement (spreading-deflexed, not so densely overlapping as in *G. aecidiocephalus*), and vestiture (tomentose above but not densely so). The heads are sessile in compact, terminal clusters of 8-12. Some heads are all staminate, but some have 1-3 filiform-tubular flowers in the outermost series. These flowers are without anthers and have pappus bristles with barely expanded apices, as is characteristic of pistillate flowers in the group, but they are immature and it is not possible to tell if they are producing fertile ovaries. The phyllaries have white apices but are faintly pink below that.

The evidence strongly suggests that these flowering branches of intermediate morphology represent hybrid plants and that the parental taxa should be considered congeneric.

ACKNOWLEDGMENTS

I thank Drs. Billie Turner and Andrew McDonald for their review and comments on the manuscript and the staff at MEXU for their help during a recent visit there.

LITERATURE CITED

- Anderberg, A.A. & S.E. Freire. 1989. Transfer of two species of *Anaphalis* to *Chionolaena*. Notes Royal Bot. Gard. Edinburgh 46:37-41.
- Nesom, G.L. 1990. Taxonomy of *Gnaphaliothamnus* (Asteraceae: Inuleae). Phytologia 68:366-381.



Nesom, Guy L. 1990. "An additional species of *Gnaphaliothamnus* (Asteraceae: Inuleae) and further evidence for the integrity of the genus." *Phytologia* 69, 1–3. <https://doi.org/10.5962/bhl.part.19643>.

View This Item Online: <https://www.biodiversitylibrary.org/item/46835>

DOI: <https://doi.org/10.5962/bhl.part.19643>

Permalink: <https://www.biodiversitylibrary.org/partpdf/19643>

Holding Institution

New York Botanical Garden, LuEsther T. Mertz Library

Sponsored by

The LuEsther T Mertz Library, the New York Botanical Garden

Copyright & Reuse

Copyright Status: In copyright. Digitized with the permission of the rights holder.

Rights Holder: Phytologia

License: <http://creativecommons.org/licenses/by-nc-sa/3.0/>

Rights: <https://biodiversitylibrary.org/permissions>

This document was created from content at the **Biodiversity Heritage Library**, the world's largest open access digital library for biodiversity literature and archives. Visit BHL at <https://www.biodiversitylibrary.org>.