

TWO NEW SPECIES OF *GNAPHALIUM* (ASTERACEAE: INULEAE) FROM
THE HIGH PEAKS OF NORTHEASTERN MÉXICO

Guy L. Nesom

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

ABSTRACT

Two new species of *Gnaphalium* from the high peaks of northeastern México are described: *G. flavocephalum* and *G. hintoniorum*. The first is most closely related to the species centered around *G. oxyphyllum* DC., the second to species of the *G. elegans* group.

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

The Mexican species of Inuleae-Gnaphaliinae are numerous, and despite seminal regional studies of Mexican taxa by McVaugh (1972; 1984) and Espinosa (1985), the taxonomy remains difficult, with portions of the variability unaccounted for. The forthcoming treatment of Compositae for México (Turner & Nesom, in prep.) will be the first to include all the species from that country. The species of *Gamochaeta*, *Mezerion* and *Gnaphaliothamnus* have been treated as separate genera (Nesom 1990a; 1990b; 1990c), segregated from what has traditionally been referred to as *Gnaphalium* sensu lato. Remaining in *Gnaphalium* in México, are a few species of *Gnaphalium* sensu stricto and a much larger group that includes most of the North and Central American species, as traditionally construed. At least the majority of the latter belong with the group that has been segregated as *Pseudognaphalium* Kirpichn. (Hilliard & Burt 1981). A number of new species closely related to *Gnaphalium elegans* Kunth and *G. chartaceum* Greenm. are being described in a separate paper (Nesom, in prep.) and other studies of other species complexes from México are nearly completed. The whole group of Mexican taxa apart from *Gnaphalium* sensu stricto, however, is complex in both its nomenclature and patterns of variation and is presently under study by Dr. Michael Dillon and myself. Until our study is complete, we will treat these species as *Gnaphalium*.

Gnaphalium flavocephalum Nesom, *spec. nov.* TYPE: México. Coahuila: Mpio. Arteaga, Sierra del Coahuilon, open limestone hillsides, 3200 m, 28 Jul 1985, Hinton, *et al.* 18902 (HOLOTYPE: TEX!).

Ex affinitate *Gnaphalium ozyphylli* DC. et specierum affinium sed inter illis caulibus folisque dense glandulosis, foliis superis inferisque leniter vel non bicoloribus triangulis-lanceolatis longi-decurrentibusque, phyllariis flavis, floribus pistillatis 60-74, et floribus hermaphroditicis 9-14 dignoscenda.

Perennial or biennial herbs from a woody taproot. Stems 3-5 dm tall. unbranched until the capitulescence, glandular and thinly villous. Leaves weakly or not at all bicolored, densely short stipitate or sessile glandular, thinly villous, narrowly triangular-lanceolate. 4-6 cm long, 3-5 mm wide, not basally ampliate, the upper and lower decurrent 7-20 mm. Heads in a dense, terminal glomerule; phyllaries ovate, distinctly yellowish, hyaline-translucent, weakly graduated to subequal, the inner 5.0-5.5 mm long, the outer with a dark, basomedial spot, the middle and inner with distally glandular stereomes. Pistillate flowers 60-74. Hermaphroditic flowers 9-14, the corollas 2.5-2.8 mm long, the lobes sessile-glandular. Achenes 0.8 mm long, papillate; pappus bristles basally caducous.

Coahuila (Sierras La Viga and Coahuilon) and Nuevo León (Cerro Potosí); pine to pine-fir woods; 2600-3600 m: July-October.

Additional collections examined: México. Coahuila: Mpio. Arteaga, Las Vigas, Cañon de la Carbonera, 15 Sep 1988, *Villarreal, et al. 4573* (TEX). Nuevo León: Mpio. Galeana. Cerro Potosí, Las Canoas, 17 Jul 1935, *Mueller 2193* (F, mixed with *G. hintoniorum* Nesom, GH); near microwave station on Cerro Potosí, Sep 1970, *Norris 17652* (LL).

Gnaphalium flavocephalum is recognized by its glandular stems and leaves, weakly or nonbicolored, long decurrent leaves, prominently yellow hyaline phyllaries, and high elevation habitats. It occurs in the same geographical area and habitats as *G. hintoniorum* Nesom and is similar to it in its primarily unbranched stems, glandular, sharply ascending leaves and outer phyllaries with a dark basal spot. *Gnaphalium flavocephalum*, however, has nondecurrent leaves, larger heads with white opaque phyllaries, a larger number of hermaphroditic flowers and ridged achenes with smooth epidermal surfaces. The evolutionary relationship of *G. flavocephalum* is with those species centered around *G. ozyphyllum* DC.

***Gnaphalium hintoniorum* Nesom, spec. nov.** TYPE: México. Nuevo León: Mpio. Galeana, Cerro Potosí, pine forest, 3350 m, 15 Oct 1969, *Hinton, et al. 17263* (HOLOTYPE: TEX!).

Ex affinitate *Gnaphalium chartacei* Greenm. et specierum affinium, sed duratione perenni, vestimento caulium et foliorum dense stipitati-glandulosi, foliis ad bases amplectentibus non decurrentibusque, phyllariis distincte signatis, floribus pistillatus 54-73, et habitationibus ad altitudines altas dignoscenda.

Perennial herbs from a woody taproot. Stems densely stipitate glandular, (0.2-)0.4-1.5 m tall, unbranched until the capitulescence. Leaves mostly lanceolate, strictly ascending, clasping, ampliate but not strongly so, not decurrent or the lower decurrent 1-3 mm, green on both surfaces or slightly bicolored, densely stipitate glandular above and beneath, sometimes with a slight amount of tomentum, the margins often prominently sinuate. Heads in one a few, dense, terminal clusters; phyllaries creamy white to tawny, strongly to weakly graduated, the inner 7.0-7.5 mm long, the outer with a distinct, brownish black, stipitate glandular, mediobasal spot, stereome of the middle and inner obovate-lanceolate, distally glandular with a distinctive, brown, lateral band at the apex. Pistillate flowers 54-73. Hermaphroditic flowers 16-28(-36), the corollas 3.5-3.8 mm long, with glandular lobes. Achenes 1.2-1.5 mm long, shallowly ridged, the epidermis smooth; pappus bristles basally caducous.

Coahuila, Nuevo León, Tamaulipas; rocky outcrops or talus of limestone, grassy, subalpine meadows, commonly near timberline at 3350-3650 m, rarely lower (to 2400 m) in pine forests of surrounding valleys; July-November. Known primarily from the ranges of La Marta, La Viga, Coahuilón, Cerro Potosí and Cerro Peña Nevada. One collection of typical plants is apparently long disjunct in the Sierra Jimulco of southwestern Coahuila, where it occurs at 2800 m on steep limestone slopes in vegetation of matorral.

Additional collections examined: México. Coahuila. Mpio. Torreón or Matamoros: Sierra de Jimulco and up to 3 km N of Mina San José, 8 km NE of Estación "OTTO", 1800-3138 m, 27 Sep 1972, *Chiang, et al. 9551o* (LL). Mpio. Arteaga: Sierra La Marta, 4 Aug 1980, *Hinton, et al. 17917* (GH,TEX) and 5 Jul 1981, *Hinton, et al. 18312* (GH,TEX); Sierra La Marta, 1st peak E of Cerro Morro, 21 Jul 1985, *McDonald 1702* (TEX); Sierra La Viga, 24 Oct 1984, *McDonald & Gomez 1150* (TEX); Sierra Coahuilón, 22 Jul 1985, *McDonald 1732* (TEX); Sierra Madre, 12 leagues S of Saltillo, Jul 1880, *Palmer 551* (GH).

Nuevo León. Mpio. Dr. Arroyo: area of Peña Nevada, NW of Picacho Onofre, 25 Jul 1977, *Wells & Nesom 403* (LL); Peña Nevada, W side of Picacho Onofre, 4 Jul 1959, *Beaman 2696* (GH). Mpio. Galeana: just below NE summit of Cerro Potosí, 19 Sep 1961, *Beaman 4508* (GH,TEX); subalpine forest on Cerro Potosí, 27 Aug 1987, *Bogler & Atkins 180* (TEX); 8 mi on microwave road from 18 de Marzo up Cerro Potosí, at pine/oak transition, 24 Aug 1984, *Lavin 4829* (TEX); below microwave station on Cerro Potosí, 2 Aug 1975, *Lewis 162* (LL); top of Cerro Potosí, treeline on S side, 26 Oct 1984, *McDonald & Gomez 1278* (TEX); subalpine zone at top of Cerro Potosí, 26 Jul 1985, *McDonald & Gomez 1803* (TEX); Cerro Potosí, at timberline and above, 21 Jul 1935, *Mueller 2265* (F,GH); Cerro Potosí, Las Canoas, 17 Jul 1935, *Mueller 2193* (F, mixed with *G. flavocephalum* Nesom); Cerro Potosí, open, rocky slopes below timberline, 20 Jul 1938, *Schneider 1035* (F); 15 mi E of San

Rafael, 23 Jul 1977, *Wells & Nesom 74* (LL) and *164* (LL).

Tamaulipas. Mpio. Miquihuana: E and S slopes and summit of Peña Nevada, 19 Jul 1949, *Stanford, et al. 2583* (TEX).

Gnaphalium hintoniorum is distinguished by its perennial duration, densely stipitate glandular stems and leaves, basally clasping ampliate but mostly nondecurrent leaves, distinctively marked phyllaries, large number of pistillate flowers, and high elevation habitats in northeastern México. *Lavin 4829*, at the lower limit of elevation for *G. hintoniorum*, is atypical in its more densely tomentose vestiture mostly obscuring the glands and its only slightly ampliate leaves. *Gnaphalium hintoniorum* is superficially similar to *G. flavocephalum*, which occurs in the same habitats, but the latter has decurrent upper and lower leaves, yellow hyaline phyllaries, fewer flowers, and papillate achenes.

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BOOK REVIEWS

Michael J. Warnock

Department of Biological Sciences, Sam Houston State University,
Huntsville, Texas 77341 U.S.A.

Native Shrubs and Woody Vines of the Southeast, Landscaping Uses and Identification. Leonard E. Foote & Samuel B. Jones, Jr. Timber Press, 9999 SW Wilshire, Portland, OR 97225, USA. 1989, 199 pp., \$32.95, hardcover. ISBN 0-88192-128-9.

This book is apparently intended to be used by persons wishing to locate, identify and propagate native woody shrubs and vines from the southeastern United States. However, because of the manner in which the book is organized and the types of information that it contains, it may actually be more useful to practicing field collectors than to horticulturalists, for identifying the smaller woody plants from this region. While the book contains some introductory material on garden design and lists of various species that may prosper in certain soils, will grow to a certain size and flower at a particular time of year, etc., these materials are brief and somewhat haphazardly organized (*e.g.*, the list of native vines is surrounded by lists of shrubs for various uses). On the positive side, the information on planting for wildlife is something not normally found in these types of books. The descriptions of the included taxa are good, including summaries of the range and habitats of the plants. However, most of these have little to offer a horticulturalist interested in propagating the plants. While the title specifies "Native . . .," several nonnative plants (*e.g.*, *Buddleia*, *Cytisus*, *Pueraria* and *Sapium*) are included. Species descriptions are organized under a putative phylogenetic system and the keys do not reference page numbers.

On the other hand, none of the negatives cited above would interfere with identification of the woody plants included in this book. The keys are workable and stress vegetative characters where possible, making them useful during a greater part of the season and to larger numbers of people. The glossary adequately explains the technical terms used, and the photographs to illustrate many of the species are excellent. The book contains an abundance of information and could be quite useful, but it seems to be targeted at the wrong audience.