

***PSEUDOGNAPHALIUM VISCOSUM* (ASTERACEAE: GNAPHALIEAE)
IN SOUTH AMERICA**

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ABSTRACT

Plants from Andean localities in Ecuador, Colombia, and Venezuela are identified here as *Pseudognaphalium viscosum* (Kunth) Anderb., the same species that occurs from southwestern Texas through Mexico and into northern Central America (Guatemala, western Honduras). No records have been seen or reported from the remainder of Central America, showing a disjunction of more than 1000 miles to the South American localities. Distribution maps and photos of types and representative collections are provided and comparison of *P. viscosum* is made with the South American *P. gaudichaudianum*.

In a preliminary review of South American *Pseudognaphalium* at herbarium US, some collections from Venezuela, Colombia, and Ecuador have been identified/annotated as *P. viscosum* (Kunth) Anderb., but the species apparently has not been recorded from South America. The type is from Chapultepec in Mexico City, Mexico (Figs. 3-5; representative North and Central American specimens, Figs. 9-11), and a detailed distribution map (Nesom 2024, here as Fig. 2) shows it as occurring from southwestern Texas through Mexico into Guatemala, barely into Honduras, but no further south. A Caribbean species previously identified as *P. viscosum* proved to be a different species (Nesom 2024).

South American collections at US identified as *Pseudognaphalium viscosum* are variable in morphology and represent more than a single species, but some of them are so similar to typical *P. viscosum* that they are justifiably considered conspecific (representative specimens, Figs. 12-20). Morphological comparisons with descriptions by Nesom (2006) and Freire et al. (2022) do not contradict a hypothesis that they are the same species.

Pseudognaphalium viscosum (Kunth) Anderb., Opera Bot. 104: 148. 1991. *Gnaphalium viscosum* Kunth, Nov. Gen. Sp. 4 [folio ed.]: 64. 1818. **TYPE: MEXICO.** [Distr. Federal], "Crescit in radicibus montis Chapoltepec juxta urbem Mexici," *Humboldt & Bonpland 4153* (holotype: P-00322308; isotypes: HAL, P). Figures 3-5.

Synonyms:

Gnaphalium hirtum Kunth (1818) - type from Mexico City

Gnaphalium gracile Kunth (1818) - type from Guanajuato, Mexico

Gnaphalium tenue Kunth (1818) - type from "Nova Hispania"

Gnaphalium leptophyllum DC. (1838) - type from "Mexico" (by L. Alaman in 1831, Guanajuato)

Taprooted annuals, viscid and unpleasantly aromatic. **Stems** 30–100 cm tall, simple or branched from the base, persistently white-tomentose and stipitate-glandular. **Leaves** often crowded on internodes mostly 1–3 or sometimes to 10 mm, bicolor, densely white-tomentose abaxially, green and densely stipitate-glandular adaxially, linear-lanceolate, (2–)4–8 cm long, 3–10 mm wide, apex long-attenuate-acute, margins revolute to revolute-undulate, base abruptly rounded, subclasping, not decurrent or the proximal decurrent 3–10 mm. **Involucres** 5–6 mm high; phyllaries in 5–6 series, tawny-silvery to silvery-white, shiny, ovate-lanceolate. **Pistillate florets** 200–270(–400). **Bisexual florets** (13–)16–30, corollas mostly 2–2.5 mm long. **Achenes** papillate-roughened with overlapping epidermal cells.

South American collections. **COLOMBIA.** Cundimarca, Sabana de Bogotá, entre Sibaté y San Miguel, prado, 2750 m, 15 Aug 1939, *Cuatrecasas 6642* (US); Antioquía, Los Alpes, Jul 1934, *Bro. Daniel 382* (US); Cundimarca, Vereda de Roza, 4 km S of Cota, Sabana de Bogotá, 30 km NW of Bogotá, 8430 ft, 27 Aug 1944, *Fassett 25674* (US); Cundinamarca, Mosquera, cerros de Fute, al S de la laguna de La Herrera, 2500-2800 m, 31 Dec 1962, *García-Barriga 17728* (US); Cundimarca, vicinity of Bogotá, no date, *Guevara-Amórtegui 97* (US); Cundimarca, Tequendama, roadside, 2500 m, 25 Sep 1949, *Haught 6624* (US); without locality or date (see notes at Madrid), *Mutis 210* (US); Caldas, "Alaska," above Salento, wayside, 2900-3200 m, 21 Aug 1922, *Pennell 10096* (US); Boyacá, Mpio. Paipa, Piscinas Municipales de Aguas Termales, 5 Aug 1989, *Silverstone-Sopkin 5426* (US); Penasco(?), N. Grenada," no date, *Triana 1437* (US). **ECUADOR.** Cañar, near El Tambo (ca. 69 km by railroad S of Sibambe), dry chaparral scrub and paramo with occasional moist valleys, 9500-10,000 ft, 4 May 1945, *Camp E-2919* [Giler & Prieto] (NY, US); Napo, Cerro Conga, Cordillera de Chalupas, 78° 16' W, 00° 52' S, elfin forest with extremely thick moss cover on steep N-exposed slopes, 3800 m, 10 Aug 1979, *Holm-Nielsen 19052* (US); Prov. Azuay, Cuenca, ca. 25 km on the road to Cajas, 79° 08' W, 02° 48' S, páramo, ca. 3500 m, 20 Nov 1981, *Madsen et al. 36578* (US); Pichincha, near Quito, 1904, *Mille s.n.* (US); Chimborazo, ad Riobamba, in altiplanitie, 2800 m, 1919, *Mille 509* (US); Azuay, roadside of Cuenca, 9 Jun 1974, *Odom 78* (US); Tungurahua, alrededores del Pueblo, 78° 40' W, 01° 27' S, bosque seco montano, en los bordes de los cultivos, 2900 m, 27 Aug 1995, *Villacres 210* (US). **VENEZUELA.** Mérida, Sierra Nevada de Mérida, 10,000-16,000 ft, Dec 1923, *Bellard 223* (US) and *Bellard 227* (US); Mérida, Mucurubá, quebrada del pueblo, in la orilla y vegas de un riachuelo, cerca de las casas, 2500 m, 18 Jun 1930, *Gehriger 186* (US); Mérida, Mucurubá, 2500 m, Apr 1952, *Gines 4799* (US); Mérida, Páramo de la Sal, 3300 m, 1 Sep 1921, *Jahn 594* (US); Mérida, Páramo de Timotes, 2900 m, 21 Jan 1922, *Jahn 819* (US); Mérida, 2500 m, 1893-94, *Mocquerys 1192* (US-2 sheets); Mérida, Distr. Arzobispo Chacón, Páramo de Canagua, 2187 m, 06-04 1956, *Ruiz Teran 2992* (US).

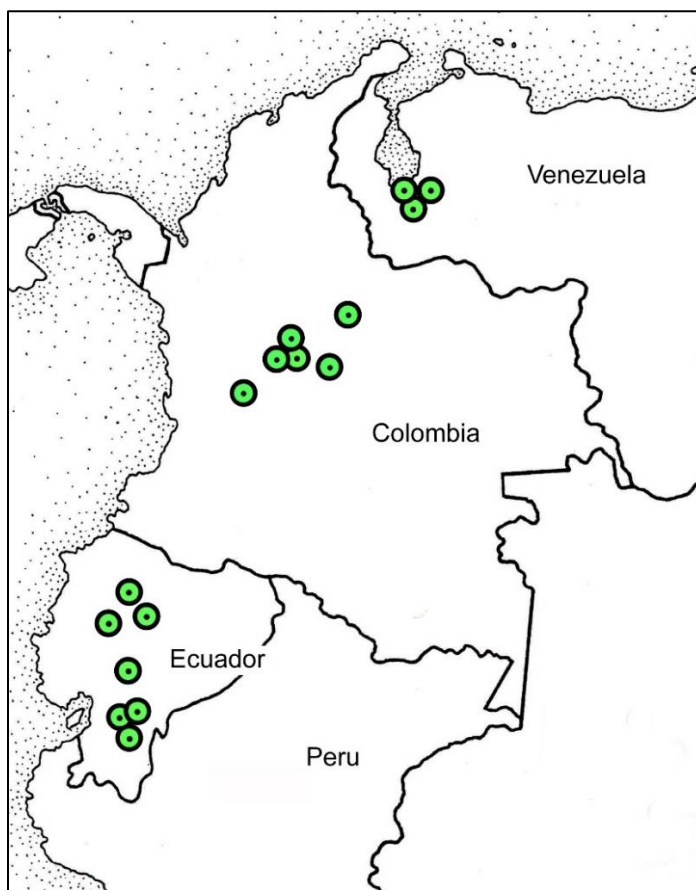


Figure 1. Distribution of *Pseudognaphalium viscosum* in South America. Records for these localities are cited in the text. Elevations of (2200-) 2600-3500 (-3800) meters.

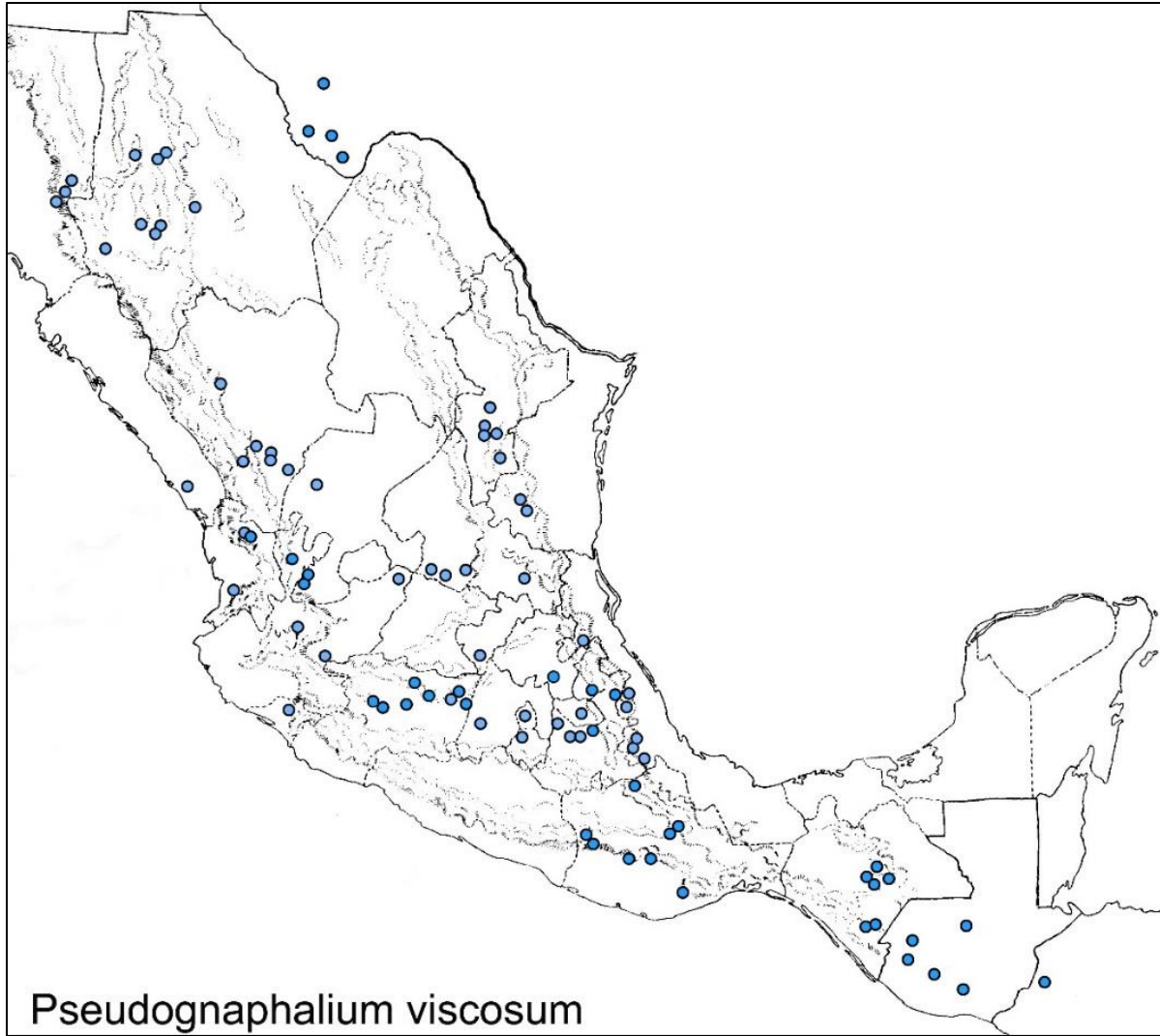


Figure 2. Distribution of *Pseudognaphalium viscosum* in North America and Central America. Elevations of (700-) 1400-2700 (-3000, 3200) meters.

Judging from inconsistencies and difficulties in identification of the US collections, taxonomy of South American *Pseudognaphalium* is highly unsettled. Relatively recent regional treatments are available for Argentina (Freire 1995; Freire et al. 2014a), Brazil (Deble and Marchiori 2006), Chile (Freire et al. 2014b), Peru (Freire et al. 2018), and Venezuela (Aristeguieta 1964). The considerable diversity in the Northern Andes is yet to be studied in detail.

In Aristeguieta's key to Venezuelan species, *Pseudognaphalium viscosum* would be among the species under heading **6a** ("hojas pilosas por la cara superior or por ambas caras: pelos por lo general glandulosos en el ápice") — *P. elegans* (Kunth) Kartesz, *P. gaudichaudianum* (DC.) Anderb., and *P. graveolens* (Kunth) Anderb. Among these, *P. gaudichaudianum* (the type from Rio de Janeiro, Brazil, Figs. 6-8) is the only species with a general resemblance in leaf morphology and vestiture (narrow, discolor, glandular adaxially) to *P. viscosum*, although it seems improbable that the Venezuelan plants identified as *P. gaudichaudianum* by Aristeguieta are the same species. Freire et al. (2018) noted that the geographic range of *P. gaudichaudianum* includes Venezuela, Colombia, and Ecuador, but I have not seen a collection from those countries that could be unambiguously identified as such.

In synonymy of *Pseudognaphalium gaudichaudianum*, Freire et al. (2018) cited *Gnaphalium sodiroi* Hieron. 1900 and *Gnaphalium imbaburense* Hieron. 1895, both of which are typified by collections from Ecuador. The former (fide the QPLS isotype) has leaves with persistently tomentose adaxial surfaces and very small heads with brownish phyllaries; the latter (from the protologue and a F-photo of the type) has broad (3-6 mm) leaves, clasping leaves with persistently tomentose adaxial surfaces and relatively small heads — neither should be identified as *P. gaudichaudianum* or as *P. viscosum*.

In Brazil, pistillate florets of *Pseudognaphalium gaudichaudianum* are reported to number 350-400 (Deble and Marchiori 2006), but in Venezuela the number is reported only as "numerosas" (Aristeguieta 1964), in Peru as "50-88(120, 198)" (Freire et al. 2018). As seen from the detail of the HAL isotype of *P. gaudichaudianum* (Figs. 6-8), the leaves at base are not rounded but gradually attenuate into a decurrent portion.

The only two species of *Pseudognaphalium* that occur in South America and North America are *P. elegans* and *P. viscosum*. *Pseudognaphalium elegans* occurs continuously from Chile northward through Venezuela and into Central America, the Caribbean, and Mexico. Although the two geographic segments of *P. viscosum* are perhaps different in ecology, morphology supports recognition of the South American plants as conspecific.

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Figure 3. *Pseudognaphalium viscosum*. Mexico. Humboldt & Bonpland 4153 (P). Holotype.



Figure 4. *Pseudognaphalium viscosum*. Detail from isotype (HAL).



Figure 5. *Pseudognaphalium viscosum*. Detail from isotype (HAL).



Figure 6. *Gnaphalium gaudichaudianum*. Isotype (HAL).



Figure 7. *Gnaphalium gaudichaudianum*. Detail from isotype (HAL). Compare with the leaves of *P. viscosum* in Figure 4.



Figure 8. *Gnaphalium gaudichaudianum*. Detail from isotype (HAL).



Figure 9. *Pseudognaphalium viscosum*. USA, Jeff Davis Co., Texas, Warnock 20717 (SRSC).



Figure 10. *Pseudognaphalium viscosum*. Mexico, Edo. Mexico, Fisher 35227 (US).



Figure 11. *Pseudognaphalium viscosum*. Guatemala, King 3186 (US).



Figure 12. *Pseudognaphalium viscosum*. Venezuela, Ruiz Teran 2992 (US).



Figure 13. *Pseudognaphalium viscosum*. Venezuela, Jahn 819 (US).



Figure 14. *Pseudognaphalium viscosum*. Venezuela, Gehriger 186 (US).

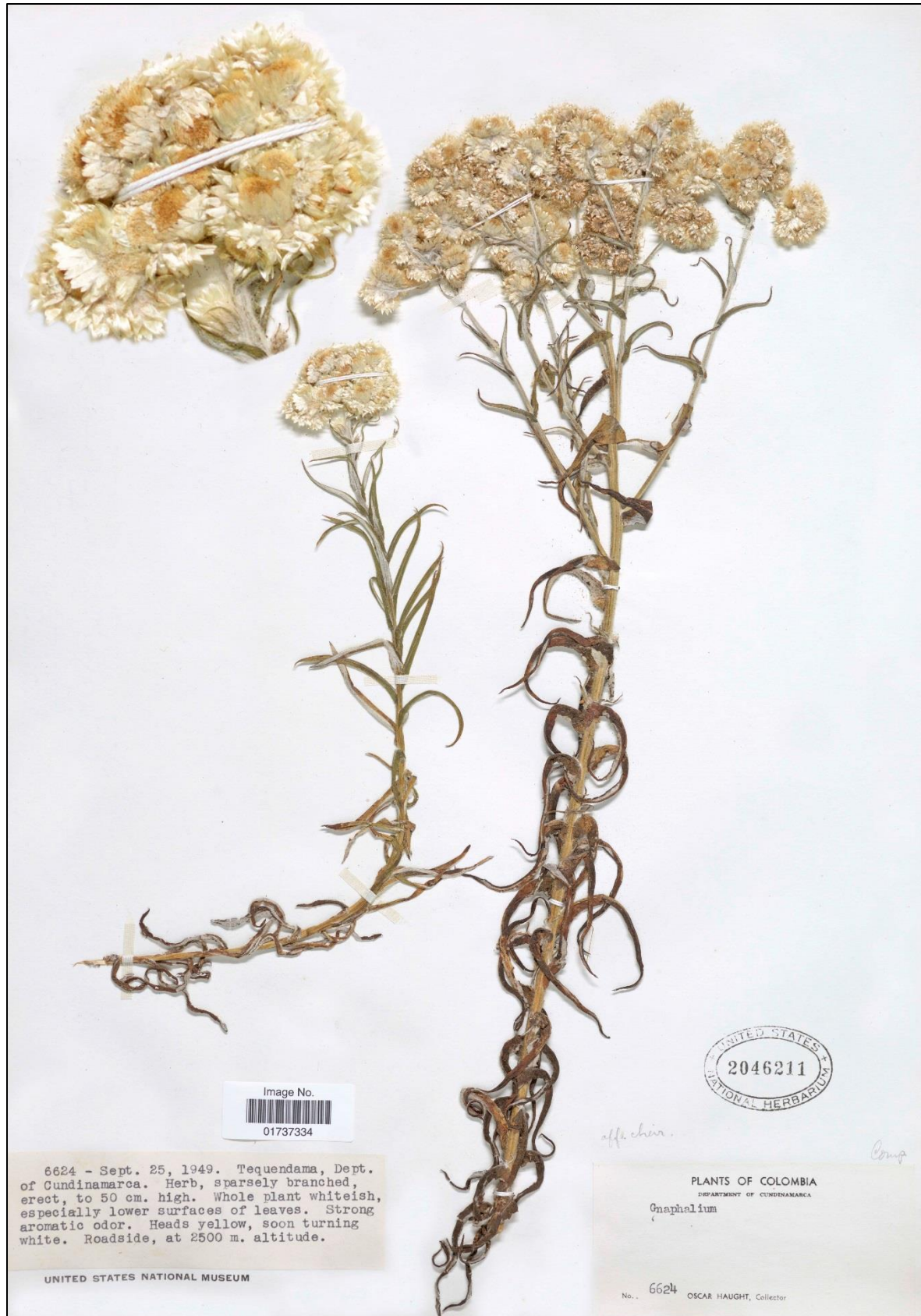


Figure 15. *Pseudognaphalium viscosum*. Colombia, Haught 6624 (US).



Figure 16. *Pseudognaphalium viscosum*. Colombia, Garcia-Barriga 17728 (US).



Figure 17. *Pseudognaphalium viscosum*. Ecuador, Odom 78 (US).



Figure 18. *Pseudognaphalium viscosum*. Ecuador, Miller s.n. (US).



Figure 19. *Pseudognaphalium viscosum*. Ecuador, Mille 509 (US).



Figure 20. *Pseudognaphalium viscosum*. Ecuador, Camp E-2919 (US).