

Near Victoria, 21 Apr 1885, *Fletcher s.n.* (GH, US); vicinity of Victoria, 31 May 1893, *J. Macoun 573* (GH, MO); Goldstream, Vancouver Island, 12 Jun 1939, *Eastham s.n.* (UBC); Maxwell Mt., Salt Spring Island, 7 Aug 1955, *Ashlee s.n.* (UBC). **Central Kootenay R.D.:** Longbeach, Nelson, 12 Jul 1937, *Eastham s.n.* (UBC); Gray Creek, Kootenay Lake, 12 Jul 1941, *Eastham s.n.* (UBC). **Cowichan Valley R.D.:** Cowichan Lake, 30 Jun 1939, *Buckland 44* (UBC). **Greater Vancouver R.D.:** South Face of Black Mt., 15 Jun 1912, *Davidson s.n.* (UBC). **Nanaimo R.D.:** Cameron Lake, 14 Jul 1917, *Carter s.n.* (GH); First Lake, Nanaimo River Valley, 25 Jul 1955, *Mueller-Dombois 61-3* (UBC); Parksville, 13 Jul 1961, *Taylor 3098* (UBC). **U.S.A. CALIFORNIA: Del Norte Co.:** On road to Bear Basin, 1 mi. W of Doe Flat, 2 Aug 1955, *Van Deventer 1003* (JEPS). **Humboldt Co.:** Mackay Prairie, Trinity Summit, 25 Jul 1935, *Tracy 14234* (UBC); Garberville, at N end of town, 18 Jul 1942, *Tracy 17275* (UBC); Gravelly place at summit of ridge near "Clear Lake," 31 Jul 1950, *Tracy 19233* (UC). **Mendocino Co.:** South Fork of Eel River, near the Mendocino Co. line, 6 Jul 1918, *Tracy 5074* (UC). **Trinity Co.:** Two mi W of Hayfork, 23 Jun 1943, *Pitelka 256* (UC); Trinity Centre, 27 Jun 1982, *Straley 2341* (UBC). **IDAHO: Clearwater Co.:** One mile S of Weipe, 26 Jun 1941, *Davis 3592* (UC). **Idaho Co.:** Above Little Granite Creek, 13-30 Jun 1937, *Packard 265* (UC). **Kootenai Co.:** Coeur d'Alene, E slope of Tubb's Hill, 28 Jun 1913, *Rust 316* (US). **Shoshone Co.:** Coeur d'Alene Mountains, between Old Mission and Wardner, 30 Jul 1895, *Leiberg 1413* (GH, US); Roundtop Ranger Station, on the road to Avery, 4 Aug 1941, *Wilson 488* (GH, UC). **OREGON: Benton Co.:** Corvallis, 12 Jun 1916, *Gilbert 26* (OSC). **Clackamas Co.:** Boring, 18 Aug 1918, *Diehm and Gorman 4339* (ORE). **Curry Co.:** Brookings, 11 Jul 1919, *Peck 8784* (WILLU); Trail above Agness, Rogue River, 8 Jul 1929, *Henderson 11386* (UC). **Douglas Co.:** Roseburg, 21 Jun 1916, *Peck 2447* (WILLU); Umpqua National Forest, Bear Creek Road No. 2735, 21 Sep 1975, *Williams s.n.* (ORE). **Hood River Co.:** Bonneville, 6 Aug 1895, *Canby s.n.* (US); Hood River, 23 Jun 1911, *Peck 2453* (WILLU). **Jackson Co.:** Ashland, 19 Jun 1927, *Peck 14999* (WILLU); 4 mi E of Central Point, 22 May 1948, *Peck 24856* (WILLU). **Jefferson Co.:** Bank of Suttle Lake, 19 Jul 1925, *Peck 14426* (WILLU). **Josephine Co.:** Grants Pass, 28 Jul 1913, *Peck 2457* (WILLU); Takilma, 24 Jun 1918, *Peck 7953* (WILLU). **Klamath Co.:** Klamath Falls, 28 Aug 1916, *Peck 2446* (WILLU). **Lane Co.:** Amazon Slough, W of Eugene, 31 May 1925, *Constance s.n.* (UC); Spencer's Butte, 11 Jul 1933, *Brown 229* (ORE). **Lincoln Co.:** Yachats, bluff above the sea, 25 Aug 1921, *Peck 10612* (WILLU). **Linn Co.:** Cascade Mtns., vicinity of Tombstone Pass, Iron Mtn., Cone Peak, Tombstone Prairie, by Hwy. 20, 16 Aug 1983, *Chambers and Ross 8378* (OSC). **Multnomah Co.:** Dry hills in Portland, 25 Jun 1886, *Henderson 584* (US); St. Johns, 28 Jul 1902, *Sheldon 11021* (US). **Tillamook Co.:** Neahkahnie, 3 Jul 1924, *Peck 13313* (WILLU). **Wasco Co.:** The Dalles, 7 Jun 1869, *Kellogg and Harford 604* (US). **WASHINGTON: Clallam Co.:** Mt. Angeles, 21 Jul 1931, *Howell 7429* (CAS). **Clark Co.:** East Mill Plain, 27 Jun 1925, *English 452* (US). **Chelan Co.:** Nason Creek, 30 Jul 1893, *Sandberg and Leiberg 612* (GH, UC, US). **Grays Harbor Co.:** near Montesano, 27 Jun 1898, *Heller and Heller 3964* (MO, NY, PH, US). **Island Co.:** Whidby Island, Deception Pass Park, Goose Rock, 8 Jul 1937, *Smith 2113* (DS). **Jefferson Co.:** Evergreen, 13 Jul 1902, *Conrad 326* (PH, US). **King Co.:** Seattle, 19 Jun 1889, *Smith s.n.* (US). **Klickitat Co.:** Bingen Mountain, 16 Jul 1907, *Suksdorf 6007* (GH). **Mason Co.:** Olympic National Park, Lincoln Ranger Station, road shoulder, 10 Jul 1941, *Rogers 860* (UC). **Pierce Co.:** Tacoma, edge of forest prairies, 13 Jun 1908, *Flett 3390* (UC). **San Juan Co.:** Friday Harbor, 25 Jun-1 Aug 1917, *Zeller and Zeller 857* (GH, US).

Agoseris heterophylla (Nutt.) Greene var. **quentinii** G.I. Baird, var. nov. TYPE: U.S.A. ARIZONA: Pima Co.: "On gravelly slopes in scrub oak - mesquite openings; altitude 4000 ft., Sawmill Canyon, near upper well, Santa Rita Mountains," 26 Mar 1945, *Gould and Haskell 3045* (HOLOTYPE: LL; ISOTYPES: ARIZ!, CAS!, DS!, GH!, NY!, UC!).

Varietas haec aliis differt forma valde acauli, foliis saepe decumbentibus lobatis et abaxialiter glabris sed adaxialiter pubescentibus, lobis rotundatis vel obtusatis raro foliis dentatis vel integris, scapis tomentosus prope apicem, involucris floriferis sessilibus vel his aliquanto longioribus sed foliis scapum superantibus, acheniis costatis vel porcatis, sine variatione varietatum ceterarum.

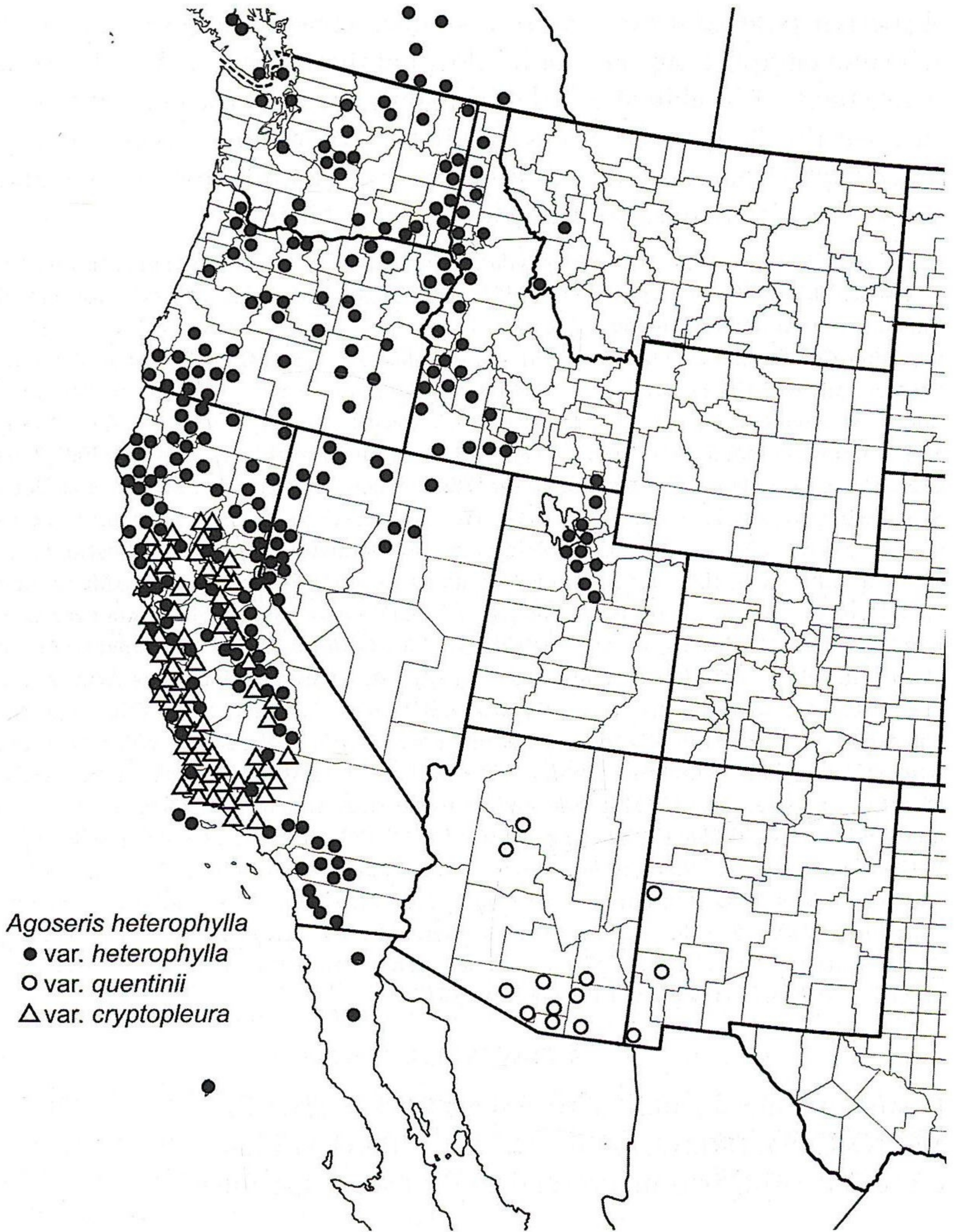
Annual (winter annual?) herbs, acaulescent; **leaves** oblanceolate to spatulate, 2–12 cm × 3–9(–12) mm, spreading to prostrate, adaxially pubescent, abaxially glabrous, mostly lobed, rarely toothed; lobes in 2–3 pairs, rounded to blunt, lacking secondary denticulations; **heads** borne singly, erect, ± sessile to scapiform; peduncles to 26 mm tall at maturity, mostly less than 0.5 leaf lengths at anthesis (rarely longer), 0.5–3 leaf lengths at maturity, villous to tomentose, proximally ± glabrate, distally tomentose; **involucre**s campanulate to hemispheric, 1–2 cm tall at maturity, sometimes proximally pubescent, hairs yellowish-translucent, glandular; phyllaries lanceolate, in 2–3 series, subequal at anthesis, unequal at maturity, entire, herbaceous, often with a purplish medial stripe, adaxially lanate, hairs whitish-opaque, abaxially ± glandular-villous, hairs purple-septate, translucent (intermixed with whitish-opaque hairs), marginally ± ciliate to lanate; outer phyllaries erect to squarrose, not elongating at maturity; inner phyllaries erect, ± elongating at maturity; receptacles naked; **corollas** ± equal to phyllaries at anthesis, yellow, outermost often with an abaxial purplish stripe; tubes 2–3 mm; ligules 2–3 × 0.8–1.5 mm; anthers 1 mm or less; **cypselae** pale brown to whitish, 9–10 mm, ca. 10-ribbed, beaked, ± glabrous, ± homogenous; bodies fusiform, 3–4 mm, gradually tapering to abruptly narrowing to their beaks; ribs ridged, straight, not diminishing proximally; beaks 5.0–6.5 mm long, 1.5–2.5 lengths of cypselae bodies; **pappi** of capillary bristles in 2–3 series, 4–9 mm, whitish.

Common name.—Arizona agoseris.

Agoseris heterophylla var. *quentinii* is known from Arizona and New Mexico (see Fig. 2). It most commonly occurs in desert grasslands, scrublands, and open woodlands between 1200 and 2000 m. It is found on various mountain ranges from the vicinity of the San Francisco Peaks southeastward to southeastern Arizona and southwestern New Mexico. It has not yet been reported from Mexico, although it has been found not far from the border in the Baboquivari and Huachuca mountains of Arizona and the Peloncillo Mountains of New Mexico.

The principle features that distinguish var. *quentinii* from the other two varieties of *A. heterophylla* are its strongly acaulescent form, leaves adaxially pubescent and abaxially glabrous, peduncles apically tomentose and typically much shorter than the leaves at anthesis, and homogenous cypselae that lack the morphological variation and heterogeneity typical of this species. The three varieties of *A. heterophylla* accepted here may be separated using the following key:

1. Corolla ligules 2–4 mm long, ± equaling phyllaries; anthers less than 1.5 mm long; leaves entire, toothed, or lobed, the lobes mostly 2–3 paired; found in California and/or elsewhere.
2. Peduncles mostly 1.5–4.5 leaf lengths at anthesis, proximally glabrous or glabrate, distally glabrous or ± pubescent; leaves glabrous or uniformly pubescent; wide-



Agoseris heterophylla
 ● var. *heterophylla*
 ○ var. *quentinii*
 △ var. *cryptopleura*

FIG. 2. Approximate distribution of *Agoseris heterophylla* in western North America.

spread in western North America but not known from Arizona or New Mexico

_____ var. **heterophylla**

2. Peduncles 0–1 leaf length at anthesis, proximally glabrous or glabrate, distally tomentose; leaves adaxially pubescent, abaxially glabrous; desert regions of southern Arizona and New Mexico _____ var. **quentinii**

1. Corolla ligules 10–15 mm long, much exceeding phyllaries; anthers 2–4 mm long; leaves toothed to lobed, the lobes mostly 3–5 paired; coast ranges and foothills of central California _____ var. **cryptopleura**

Agoseris heterophylla var. *quentinii* is named in honor of Quentin Jones, Ph.D., who monographed *Agoseris* for his doctoral thesis (Jones 1954). His work was instrumental in stabilizing and establishing much of the current nomenclature within the genus. He was the first to recognize that specimens of *A. heterophylla* from Arizona and New Mexico are distinct from the remainder of the species. His manuscript name was never published.

Observed collections of *Agoseris heterophylla* var. *quentinii*: **U.S.A. ARIZONA: Cochise Co.:** Three mi N of Mescal, 17 Mar 1945, *Pultz and Phillips* 1571 (ARIZ); Galiuro Mountains, Bass Canyon on Muleshoe Ranch, ca. 25 mi NW of Willcox, T12S, R21E, 14 May 1983, *Daniel and Butterwick* 2863 (ASU, NY). **Coconino Co.:** Sedona, 25 May 1941, *Stitt and McLellan* s.n. (ASU). **Gila Co.:** Pinal Mountains, Six Shooter Canyon, 2 May 1968, *Pase* 1797 (ASU); Pinal Mountains, Russell Gulch, 2.7 mi below intersection of forest roads 55 and 55A, 24 Apr 1970, *Keil, McLeod, Lamb, and Lehto* 16792 (ASU). **Navajo Co.:** White Mountain Indian Reservation, on grassy flats around Kinishba Ruin, 31 Apr 1947, *Lane* 1946 (ASU). **Pima Co.:** Plains near Arivaca, 6 Apr 1884, *Pringle* s.n. (PH-2, NY-2); Santa Rita Mountains, Stone Cabin Canyon, 17 Apr 1903, *Thornber* 374 (ARIZ-2, NY); Santa Rita Mountains, Stone Cabin Canyon, 5 May 1905, *Thornber* s.n. (ARIZ-2); Santa Rita Mountains, "Rozemont" (Rosemont?), 12 Apr 1907, *Thornber* s.n. (ARIZ); Santa Catalina Mountains, 16.1 mi S of Oracle on road to Mt. Lemmon and 0.4 mi E on ranch road, 27 Apr 1973, *Lehto, Hansel, and Pinkava* 10848 (ASU). **Santa Cruz Co.:** Santa Rita Mountains, McCleary's, base of Old Baldy, Apr 1901, *Griffiths* 2671 (NY). **Yavapai Co.:** 1.6 mi N of Skull Valley, 8 May 1967, *Keil, Pinkava, and Lehto* 8147 (ASU); Weaver Mountains, Arrastre Creek, 18 May 1980, *Butterwick and Hillyard* 6439 (ARIZ, ASU); Finch Wash, E of Skull Valley, near National Forest boundary, 2 Jun 1980, *Butterwick and Hillyard* 6697 (ASU); Woodchute Wilderness Area, NW base of Woodchute Mountain, ca. 9 km WNW of Jerome, 12 May 1992, *Baker* 9086 (ASU). **NEW MEXICO: Catron Co.:** Base of Mogollon Mountains, Sheridan Gulch trail ca. 6 mi SE of Glenwood, 4 mi from Hwy. 180, 21 May 1983, *Soreng and Ward* 2130C (NMC). **Grant Co.:** Mangas Spring, 27 May 1941, without collector (NMC). **Hidalgo Co.:** Peloncillo Mountains, Coronado National Forest, about one mile NW of Pendleton Ranch House along Cloverdale Creek, T33S, R21W, S5, 20 Apr 1986, *Worthington* 14026.5 (NMC, NY). **Location Uncertain:** Mexican Boundary Survey (without location, date, or collector; NY); *Griffiths* 2671 (without location or date; ARIZ); Arizona, "Toros Canyon," 28 Mar 1927, *Peebles, Harrison, and Kearney* 3769 (ARIZ).

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