

**ARIZONA GAME AND FISH DEPARTMENT  
HERITAGE DATA MANAGEMENT SYSTEM**

**Plant Abstract**

**Element Code:** PDASTE7010

**Data Sensitivity:** No

**CLASSIFICATION, NOMENCLATURE, DESCRIPTION, RANGE**

**NAME:** *Psilactis gentryi* (Standl.) D. Morgan

**COMMON NAME:** Mexican bare-ray-aster, Gentry's bare-ray-aster, Mexican saber daisy, Mexican tansyaster

**SYNONYMS:** *Aster gentryi* (Standl.) Morgan, *Machaeranthera gentryi* (Standl.) R. C. Jacks. Ex B. L. Turner, *Machaeranthera mexicana* B.L. Turner & D.B. Horne.

**FAMILY:** Asteraceae (Compositae)

**AUTHOR, PLACE OF PUBLICATION:** *Psilactis gentryi* (Standl.) D. Morgan, Systematic Botany 18(2): 302. 1993. *Aster gentryi* Standley, Publ. Field Mus. Nat. Hist., Bot. Ser. 22(1): 60. 1940.

**TYPE LOCALITY:** Memelichi, Rio Mayo, Chihuahua, Mexico. 15 September 1936.

**TYPE SPECIMEN:** HT: F. Gentry 2728, 15 September 1936. IT: ARIZ, GH, MO, UC, US.

**TAXONOMIC UNIQUENESS:** The genus *Psilactis* contains 6 species (Morgan 1993), five of which occur in the southwestern United States. Two of the six species occur in Arizona: *P. asteroides* A. Gray, and *P. gentryi* (Standl.) Morgan. According to NatureServe (2004), "D.R. Morgan (1993) re-established *Psilactis* as a genus distinct from *Machaeranthera*, and placed *M. mexicana* in synonymy under *P. gentryi*; Kartesz (1999) agrees."

**DESCRIPTION:** Herbaceous annual, 20-120 cm (8-47 in) tall, with a taproot, and erect stems up to 9 mm in diameter. Stems and branches are pubescent, more densely above, with glandular and sparse appressed and spreading non-glandular trichomes; occasionally glabrate below. The basal leaves are oblanceolate to linear-oblanceolate, 12-30 mm wide, 4-10 cm (1.6-4 in) long, entire, coarsely toothed or rarely lobed, and appressed-pubescent. The lowermost stem leaves are linear-oblanceolate to narrowly elliptic, 4-15 mm wide, 2-8 cm (0.8-3 in) long, entire or coarsely toothed, rarely lobed, pubescent with glandular and non-glandular trichomes. Upper stem and branch leaves are lanceolate to ovate-lanceolate, reduced, the smallest 2-6 mm wide, 6-12 mm long; bases often cordate, expanded and clasping the stem, pubescent with glandular and sparse non-glandular trichomes. Flower heads 4-100 per plant; involucre hemispheric, 8-18 mm wide, and 5-9 mm tall. The phyllaries are in 2-3 imbricate series, equal or very slightly graduated in length, with the herbaceous portions densely glandular-pubescent. The outer phyllaries are lanceolate to

linear-lanceolate, herbaceous except for short scarios bases, 1-1.2 mm wide, 4-6 mm long; while the inner phyllaries are linear-lanceolate, herbaceous, bases and margins scarios, 0.7-1.2 (1.5) mm wide, 5-7 mm long. The receptacle is 4-6 mm wide, flat to convex. Purple ray florets 30-70; with 1-1.5 mm wide, and 7-14 mm long ligules. Disc florets 50-150; pappus of 40-50 white to tawny bristles, 2.5-4 mm long. The corollas are 2.5-4.5 mm long; lobes glandular, often purple. Achenes with 8-10 indistinct ribs, thinly to thickly appressed-pubescent. The ray achenes are narrowly obovate, slightly curved, and 1.5-2 mm long, while the disc achenes are elliptic to clavate, and 2-3 mm long. (Morgan 1993).

**AIDS TO IDENTIFICATION:** All species of *Psilactis* lack a pappus on the ray florets, are glandular-pubescent, are very similar vegetatively and in morphology of achenes and phyllaries and, with one exception, are all tap-rooted.

In the northern part of the range of *P. gentryi* (Chihuahua and Durango), rays are blue or purple and leaf bases are obviously expanded, often cordate. In the southern part of the range (in Estado de Mexico and Hidalgo), plants have white rays and vegetatively are more similar to *P. asteroides*, with less expanded leaf bases. They are assignable to *P. gentryi* because of the size of the heads, which are larger than on nearby collections of *P. asteroides* in Michoacan, Queretaro and Estado de Mexico. (Morgan 1993).

**ILLUSTRATIONS:** Color photo of Isotype collection (Gentry 2728, in MBG at <http://digitalis.mobot.org/mrsid/bin/mosid/mosid.pl>)  
Color photo of Isotype collection of synonym *Machaeranthera mexicana* (King 214949 in NYBG at [http://scisun.nybg.org:8890/searchdb/owa/wwwcatalog.detail\\_list?this\\_id=4408298](http://scisun.nybg.org:8890/searchdb/owa/wwwcatalog.detail_list?this_id=4408298))  
Color photo of Isotype collection of synonym *Machaeranthera mexicana* (King 214950 in NYBG at [http://scisun.nybg.org:8890/searchdb/owa/wwwcatalog.detail\\_list?this\\_id=4408299](http://scisun.nybg.org:8890/searchdb/owa/wwwcatalog.detail_list?this_id=4408299))

**TOTAL RANGE:** Southern Arizona and central Mexico to Chihuahua in Mexico's Sierra Madre Occidental.

**RANGE WITHIN ARIZONA:** Huachuca Mountains of Cochise County.

## **SPECIES BIOLOGY AND POPULATION TRENDS**

**GROWTH FORM:** Herbaceous annual.

**PHENOLOGY:** Flowering in June to October.

**BIOLOGY:** Chromosome number,  $n = 4$ .

**HABITAT:** Moist habitats, highland meadows, fields, roadsides, and stream and lake margins.

**ELEVATION:** 5,900 to 9,180 feet (1800 - 2800 meters). NatureServe (2004) reports elevation range from 6,885-9,180 ft. (2100-2800 m). Based on two unpublished records in the Heritage Data Management System (AGFD, accessed 2004), elevation is around 6,000 feet (1830 m).

**EXPOSURE:**

**SUBSTRATE:**

**PLANT COMMUNITY:** Woodlands. Associated genera in Arizona include: *Alnus glutinosa* (Alder), *Baccharis* (false-willow), *Juglans* (Walnut), and *Platanus* (Sycamore).

**POPULATION TRENDS:** “According to Gentry, this was a common, weedy plant in the meadows of Memelichic (in 1936), but it has not been collected there in recent times, nor found anywhere else in the region” (Martin, et al. 1998). It is rare in the Huachuca Mountains where it grows in moist habitats (which in desert regions is rare in itself).

## **SPECIES PROTECTION AND CONSERVATION**

**ENDANGERED SPECIES ACT STATUS:**

None

**STATE STATUS:**

None

**OTHER STATUS:**

Forest Service Sensitive (USDA, FS Region 3 1999).

**MANAGEMENT FACTORS:**

**PROTECTIVE MEASURES TAKEN:**

**SUGGESTED PROJECTS:** Updated biology, habitat, and distribution studies needed.

**LAND MANAGEMENT/OWNERSHIP:** USFS - Coronado National Forest; Private.

## **SOURCES OF FURTHER INFORMATION**

**LITERATURE CITATIONS:**

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- USDA, Forest Service Region 3. 1999. Regional Forester's Sensitive Species List.
- USDA, NRCS. 2002. The PLANTS Database, Version 3.5 (<http://plants.usda.gov>). National Plant Data Center, Baton Rouge, LA 70874-4490 USA.

**MAJOR KNOWLEDGEABLE INDIVIDUALS:****ADDITIONAL INFORMATION:**

**Revised:** 1999-11-24 (JCP)  
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