The Status of the Genus *Asclepias* in New Mexico

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The genus *Asclepias* contains about 120 species, most of which are native to the Americas. A recent summary of the genus in New Mexico lists 31 taxa. There have been several additions to the group since the publication of Martin and Hutchins *A Flora of New Mexico.* Below are a few comments on the group, and updated key to the species, and distribution maps for each taxon.

Since the late nineteenth century New Mexico has been carrying a phantom taxon in its flora, *Asclepias scaposa.* No specimens exist in local herbaria. Its presence in New Mexico depends on a single sheet at the Missouri Botanical Garden. R.E. Woodson, in his 1954 monograph of the genus *Asclepias*, describes the problem:

> *Asclepias scaposa* has been rather an enigma since its description from a single fruiting specimen by Miss Vail in 1898. This, which remains the only specimen recorded from the United States [no longer the case] as well as the only fruiting specimen of the species, was found duplicated in both the Gray Herbarium and the herbarium of the New York botanical Garden without a number; in the herbarium of he Missouri Botanical Garden a third duplicate bears the number 7, which probably is an arbitrary number assigned by Engelmann and not a field number in the true sense. Without a field number, the actual place of collection of Wright's specimen cannot be ascertained; it appears more than possible that it may have been actually in Coahuila, considerably south of the present boundary of New Mexico.

The label on the sheet in question at MO shows: *Asclepias scaposa* Vail, New Mexico, Coll. C. Wright, and 1851. In the upper left corner appears No. 7, in quotes. It is on this basis that New Mexico is credited with this taxon. The herbarium database from the University of Arizona shows no specimens of *A. scaposa*. The herbarium database from the University of Texas at Austin shows one specimen from Brewster County (Big Bend) and one from Terrell County (immediately east of Brewster). These counties border the Mexican State of Coahuila, where a number of specimens of *A. scaposa* have been collected. Both are remote from New Mexico. The likelihood of *A. scaposa* occurring in the state is small, yet the possibility cannot really be eliminated.

Another taxon of question in New Mexico is *A. emoryi.* No specimens are listed in the New Mexico Biodiversity database or the SEINet database. Several collections originally designated as *A. emoryi* have been determined to be *A. oenotheroides* (Robert Sivinski, personal communication). Two specimens impinge on this taxon's presence in the state. The holotype (as *Podostemma emoryi*, US) was collected by C.C. Parry during the Mexican Boundary Survey, but the location given; "Rio Grande Valley below Dona Ana" is quite indefinite. In fact, the location shown on the sheet is "Texas or New Mexico." Wooton and Standley in their 1915 *Flora of New Mexico* state, "It is impossible to tell where the type was collected…" Wooton and Standley also indicate an incidence of *A. emoryi* at Mangas Springs in Grant County. It is interesting that

Woodson shows *A. emoryi* only in Texas and the Mexican States of Nuevo Leon and Tamaulipas. It is also of note that Wooton and Standley's description of the hoods as 3.5 mm or less is significantly at variance with Woodson's description of "about 5 mm". Regardless of how these two collections are evaluated, they do not seem to define a viable collection within the state. The typical range of this species is from central Texas southward into Coahuila and Nuevo Leon in Mexico, but the herbarium database at the University of Texas at Austin shows a specimen from Ector County, Texas, whose western boundary is a mere 15 miles from Lea County, New Mexico. So, as with *A. scaposa* the presence of *A. emoryi* is unclear, but cannot be discounted, particularly in the light of the proximity of known collections.

A. hallii is another taxon for which no specimens appear in local herbarium databases. Two specimens are known from Conejos County, Colorado (Antonito), which were gathered about 5 miles north of the New Mexico border. Other Colorado collections have been made from Montezuma County (Cortez) and Costilla County (San Luis) both of which border New Mexico. *A. hallii* has also been collected in San Juan County, Utah (SE corner). There is no record of this taxon having been collected in New Mexico, but due to the collections quite nearby, it is retained in the key below.

The range maps included here were prepared using online databases and through communications with individuals collecting around the state.

Key to the Species

1 Corolla lobes erect or spreading at anthesis…***A. asperula*** (Decaisne) Woodson. We have two subspecies:
- a Inflorescences pedunculate; hoods dark purple; leaves linear-lanceolate… subsp. ***asperula*** (Decaisne) Woodson SPIDER MILKWEED. Desert swales, sandy and rocky hillsides; oak and juniper communities.
- a Inflorescences sessile or subsessile; hoods greenish-cream to pinkish; leaves more broadly lanceolate… subsp. ***capricornu*** (Woodson) Woodson ANTELOPE-HORNS. Prairies, plains, limestone or clay hills; occasionally openings in pine forests.

1 Corolla lobes reflexed at anthesis
- 2 Horn absent from hoods or reduced to a small crest
  - 3 Leaves linear or filiform
    - 4 Hoods containing a small (sometimes horn-like) crest; anther wings with a spur at the base…***A. rusbyi*** (Vail) Woodson RUSBY'S MILKWEED. Rocky soil in pine/oak, piñon/juniper communities, open pine forests.
    - 4 Hoods lacking horn or crest; anther wings without a spur at the base…***A. engelmanniana*** Woodson ENGELMANN MILKWEED. Prairies and swales, open sandy hillsides, draws, washes.
  - 3 Leaves narrowly lanceolate or broader
    - 5 Leaves opposite, ovate to oval; flowers dark red…***A. hypoleuca*** (Gray) Woodson MAHOGANY MILKWEED. Open pine forests. Southwestern.
    - 5 Leaves opposite to irregularly approximate; oval to narrowly lanceolate; flowers pale green…***A. viridiflora*** Rafinesque GREEN COMET. Glades, prairies, rocky or sandy hillsides.
- 2 Horn well developed
  - 6 Hoods or apical portion widespread from anther head
    - 7 Leaves filiform; hoods narrowly acuminate, 3-6 mm long…***A. macrotis*** Torrey LONG-HOOD MILKWEED. Dry hills and mesas, limestone ridges.
    - 7 Leaves ovate to ovate-lanceolate or oval; hoods narrowly attenuate, 10-14 mm long…***A. speciosa*** Torrey SHOWY MILKWEED. Moist meadows, riparian areas, roadsides, open coniferous forests.
  - 6 Hoods erect to suberect, not spreading away from anther head
    - 8 Corolla lobes and hoods orange, rarely reddish or yellow…***A. tuberosa*** Linnaeus subsp. ***interior*** Woodson BUTTERFLY MILKWEED. Prairies, thickets, open woods, canyons.
    - 8 Corolla lobes whitish, pinkish, greenish or purplish
      - 9 Hoods not longer than 2.5 mm
        - 10 Leaves filiform or linear
          - 11 Leaves whorled, occasionally opposite above

12 Stem leaves (4) 6 – 13 cm long, often with opposite-leafed dwarf branches in axils; roots well-developed, woody…***A. subverticillata*** (Gray) Vail HORSETAIL MILKWEED. Plains, mesas, moist areas, piñon/juniper or ponderosa communities, roadsides, sandy soils. Widespread.

12 Stem leaves 1.5 – 6 cm long, without dwarf axillary branches; roots fibrous, numerous ***…A. verticillata*** Linnaeus WHORLED MILKWEED. Dry soils of prairies, thickets, open woods; sand dunes.

11 Leaves approximate to alternate or spiral, occasionally verticillate below

13 Horn subequal to hood…***A. cutleri*** Woodson CUTLER'S MILKWEED. Dry sandy areas, dunes, gravelly areas of the northwesternmost portion of the state..

13 Horn approximately 1.5 – 2 times as long as hood…***A. pumila*** (Gray) Vail LOW MILKWEED. Sandy soil, plains and low hills, mesquite prairies.

10 Leaves narrowly lanceolate or broader (distal cauline leaves sometimes linear in *A. uncialis*)

14 Plants low, mostly below 10 cm, prostrate to somewhat ascending

15 Hoods pale

16 Corolla lobes purple or purplish rose; hoods white…***A. uncialis*** Greene WHEEL MILKWEED. Sandy or rocky prairies.

16 Corolla lobes pale yellow or yellowish green; hoods yellowish…***A. macrosperma*** Eastwood EASTWOOD'S MILKWEED. Dry sandy places in the northwesternmost portion of the state.

15 Hoods reddish-violet

17 Leaves tomentulose on leaf margins and midrib of abaxial leaf surface only…***A. sanjuanensis*** Heil, Porter, & Welsh SAN JUAN MILKWEED. Sandy or sandy loam soils, usually in disturbed areas. San Juan River Valley endemic.

17 Leaves densely white-tomentulose…***A. ruthiae*** Maguire RUTH'S MILKWEED. Sandy and hard-packed loamy soils, desert scrub and gullies of the northwestern portion of the state.

14 Plants taller, erect or strongly ascending

18 Stems (branches) 10 – 30 cm tall

19 Corolla lobes 4 – 6 mm long, reddish-purple or violet…***A. brachystephana*** Engelmann ex Torrey SHORTCROWN MILKWEED. Sandy or rocky plains, dry flats, gullies. Southern half of the state.

19 Corolla lobes 3 – 4 mm long, bright pink or rarely white…***A. scaposa*** Vail BEAR MOUNTAIN MILKWEED. Dry gravelly openings in oak scrub, mountainsides and flats.

18 Stems (branches) 40 – 150 cm tall…***A. incarnata*** Linnaeus SWAMP MILKWEED. Wetlands and marshes.

9 Hoods longer than 2.5 mm

20 Hoods longer than 7 mm

21 Horn reduced to an apiculate winglike crest adnate for its entire length to hood…***A. nyctaginifolia*** Gray MOJAVE MILKWEED. Plains and mesas, swales, arroyos. Southwest corner and eastern plains.

21 Horn adnate to near the hood tip, free portion falciform, arching over anther head…***A. oenotheroides*** Chamisso & Schlectendal ZIZOTES MILKWEED. Mesas, hills, thickets, roadsides in chiefly rocky clay soils, or sandy or rocky calcareous soils.

20 Hoods shorter than 7 mm

22 Leaves linear to filiform, plants suffrutescent to shrubby

23 Stems (branches) 10 – 30 cm tall, hoods erose, dentate or 2-lobed…***A. quinquedentata*** Gray SLIMPOD MILKWEED. Rocky hills and arroyos. Southwestern.

23 Stems (branches) 50 – 200 cm tall…***A. linaria*** Cavanilles PINE NEEDLE MILKWEED. Open oak, pine, juniper woodlands; canyons and arroyos; dry rocky hills and slopes. Known only from Hidalgo County.

22 Leaves narrowly lanceolate or broader

24 Leaves sessile or subsessile

25 Leaves narrowly lanceolate, somewhat conduplicate…***A. involucrata*** Engelmann ex Torrey DWARF MILKWEED. Dry plains, mesas, gravelly hills; chaparral and arroyos.

25 Leaves oblong, oval, ovate-lanceolate or suborbicular

26 Stems 4 – 10 cm long…***A. nummularia*** Torrey TUFTED MILKWEED. Dry mesas and slopes, rocky hillsides, arid grassland, dry ravines in gravel or clay. Grant and Hidalgo counties.

26 Stems 30 – 70 cm long…***A. glaucescens*** Kunth NODDING MILKWEED. Dry, rocky slopes in open pine, juniper, or oak woods; roadsides and washes. Southern third of the state.

24 Leaves with petioles at least 1.5 mm long

27 Corollas pale green, pale yellow, or greenish yellow

28 Stems stoutly erect, longer than 25 cm

29 Herbage densely tomentulose; horns adnate to hoods for approximately half their length, narrowly falciform…***A. arenaria*** Torrey SAND MILKWEED. Sandy areas. Eastern plains.

29 Herbage minutely puberulent; horns adnate to hoods for almost entire length, broadly falciform…***A. latifolia*** (Torrey) Rafinesque BROAD-LEAF MILKWEED. Mixed prairies, high plains, roadsides. Widespread.

28 Stems ascending to decumbent or prostrate, generally less than 20 cm long

30 Leaf petioles 10 – 15 mm; hoods approximately 5 mm long…***A. emoryi*** (Greene) Vail EMORY'S COMET. Sandy prairies and dry plains.

30 Leaf petioles 1.5 – 5 mm; hoods 2.5 – 3 mm long…***A. macrosperma*** Eastwood EASTWOOD'S MILKWEED. Dry sandy places in the northwestrnmost portion of the state.

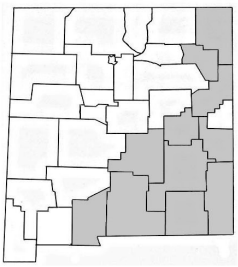
27 Corollas pink, rose, or purplish

31 Hoods 5 – 6 mm long…***A. hallii*** Gray HALL'S MILKWEED. Canyons and mountainsides of piñon, yellow pine, and aspen belts.

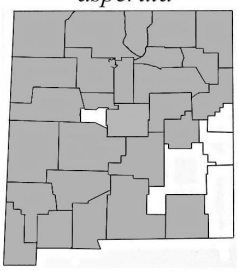
31 Hoods 2 – 3 mm long…***A. scaposa*** Vail BEAR MOUNTAIN MILKWEED. Dry, gravelly openings in oak scrub, mountain sides and flats.

Range Maps

A. arenaria



A. asperula subsp. *asperula*



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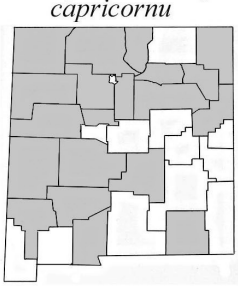

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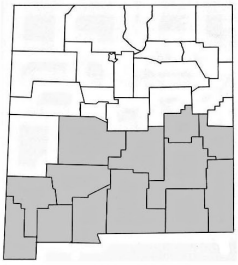
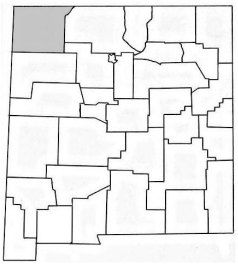
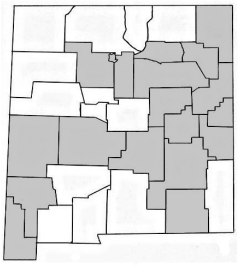


A. cutleri



A. engelmanniana



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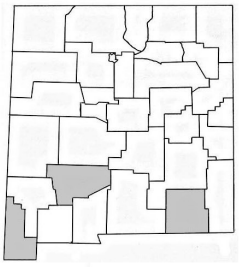
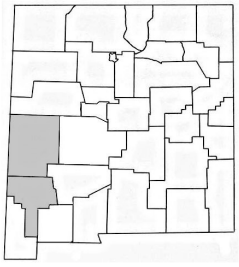
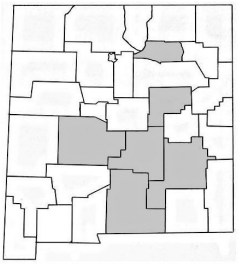


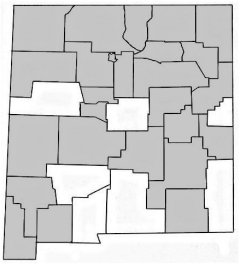
A. hypoleuca



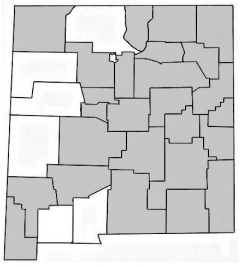
A. incarnata



A. involucrata



A. latifolia



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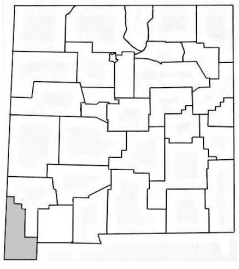
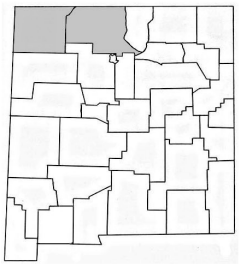
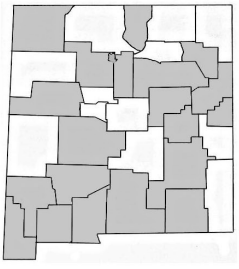


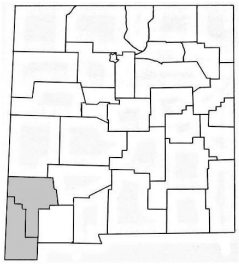
A. macrosperma



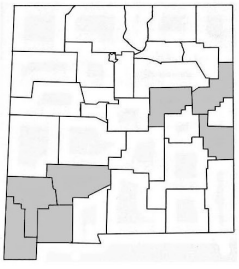
A. macrotis

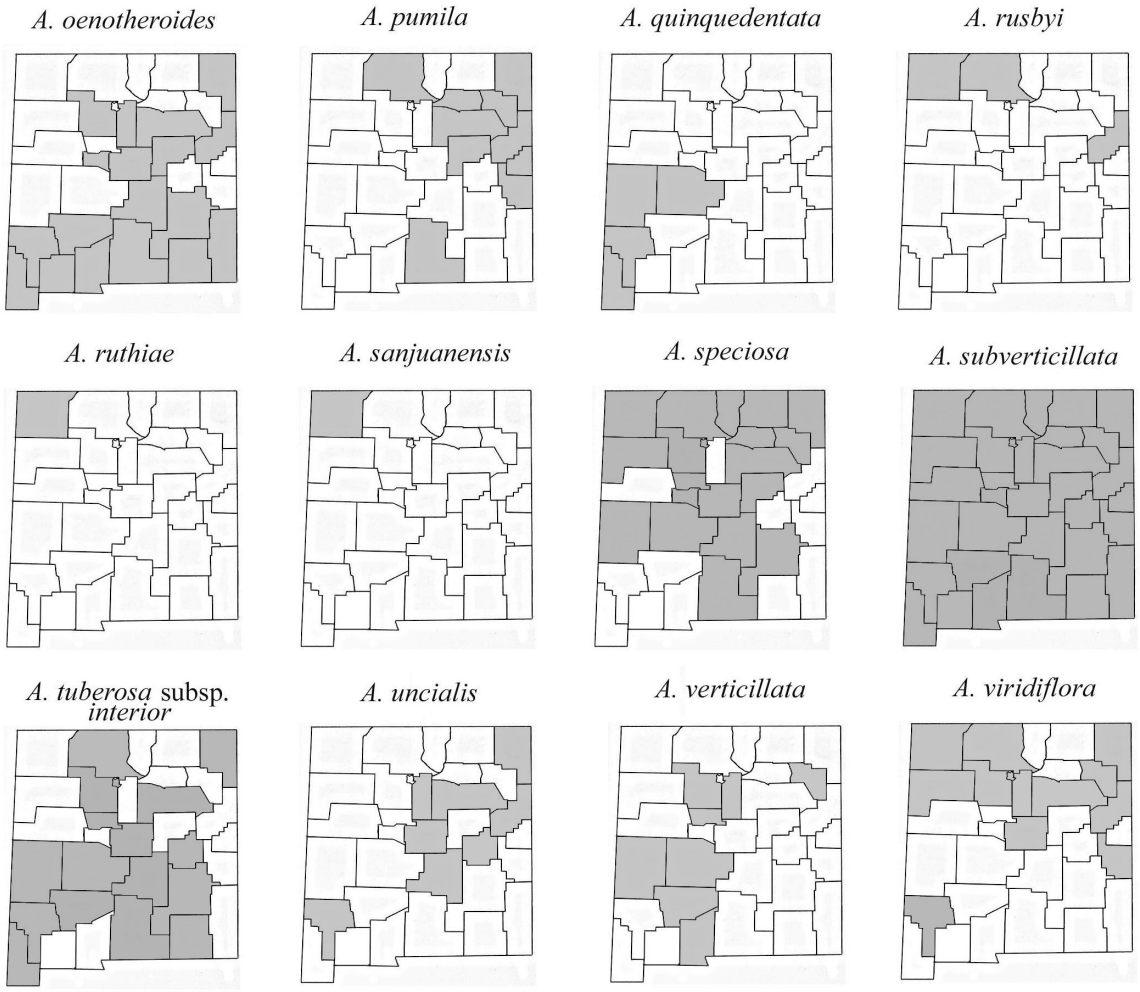


A. nummularia



A. nyctaginifolia





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UA http://ag.arizona.edu/herbarium/

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