

Selected Southeast Colorado Peripherals: Updates, Additions, and Subtractions

Dina Clark

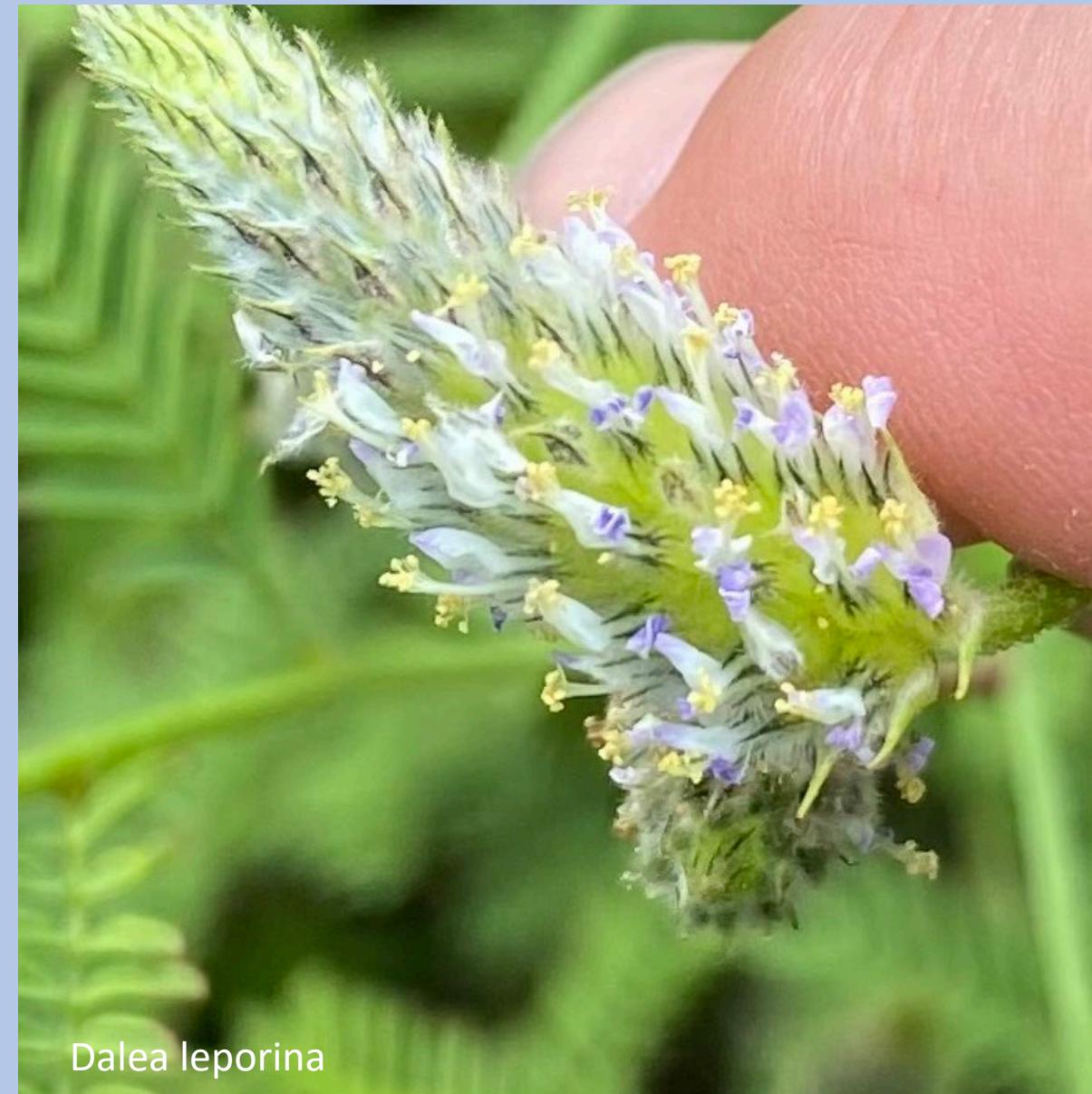
University of Colorado Museum of Natural History
Herbarium COLO



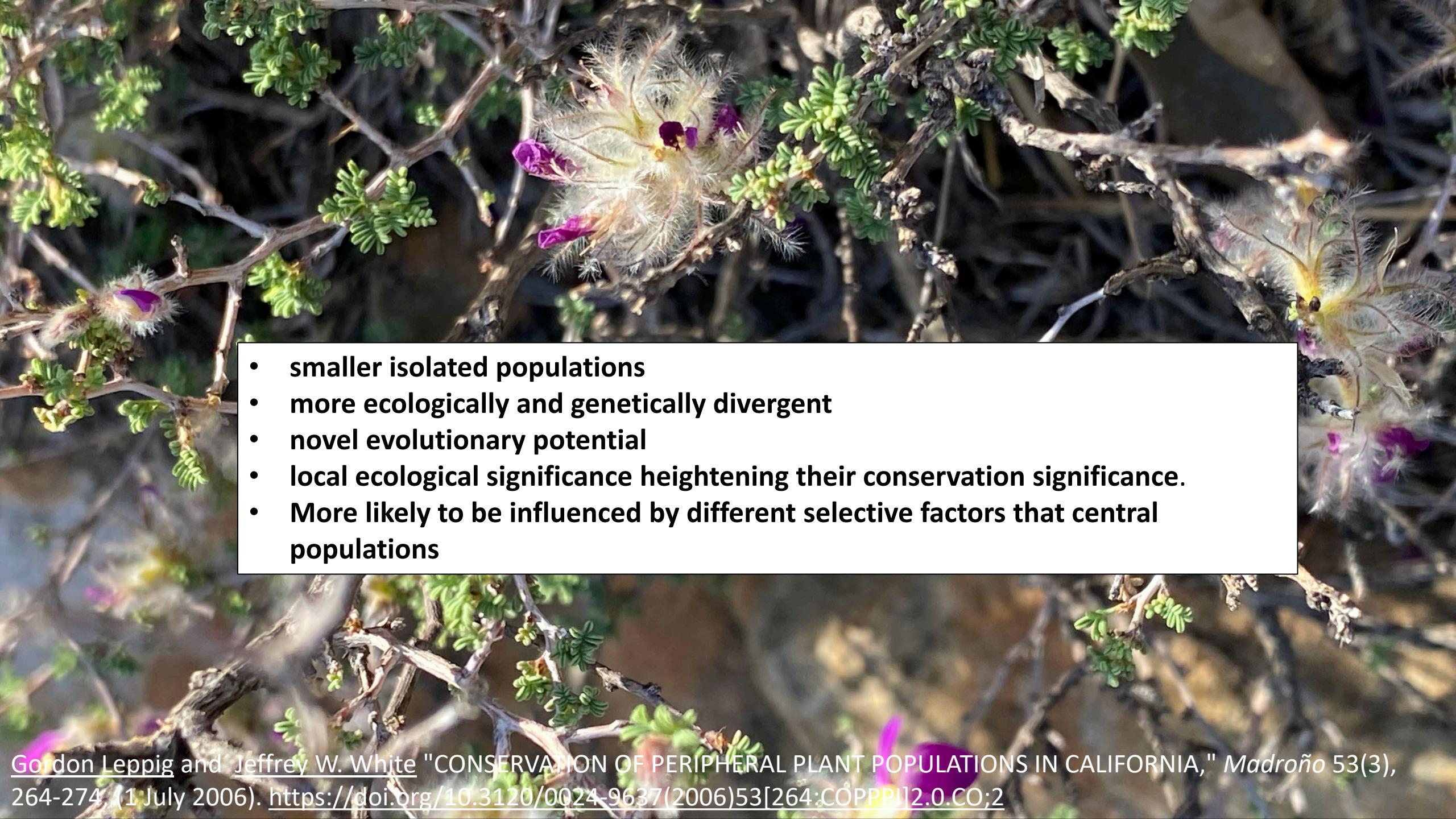
Peripheral Species: Populations occurring on the edge of a species' range



Desmanthus cooleyii



Dalea leporina

- 
- smaller isolated populations
 - more ecologically and genetically divergent
 - novel evolutionary potential
 - local ecological significance heightening their conservation significance.
 - More likely to be influenced by different selective factors than central populations



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ABERRANT PLANT DIVERSITY IN THE PURGATORY WATERSHED OF SOUTHEASTERN COLORADO AND NORTHEASTERN NEW MEXICO

Joseph A. Kleinkopf^{1,2,3}, Dina A. Clark², and Erin A. Tripp^{1,2,4}

ABSTRACT—Despite a dearth of biological study in the area, the Purgatory Watershed concentrated in southeastern Colorado and northeastern New Mexico is home to a number of unique land formations and endemic organisms. At one time notable land where Dust Bowl storms of the 1930s originated, the Purgatory Watershed is presently home to the Comanche National Grasslands, the Picketwire Canyonlands, and the expansive Pilon Canyon Maneuver Site. The Purgatory River flows through the area, and the Purgatory River Watershed is considered a biodiversity hotspot located at a crossroads of the biodiversity of the Southern Rocky Mountains, Great Plains, and Chihuahuan Desert. Here we describe 2 anomalous populations of 2 plant species, prompted by observations of these and several additional, unrelated plants in the Purgatory River Watershed. Specifically, we used plastid and nuclear DNA sequence data to generate phylogenetic sequence data for *Amorpha nana* (Fabaceae) and *Tetradymia aculeata* (Asteraceae) to assess potential differences between Purgatory populations of these plants and populations from elsewhere across their ranges. Morphometric data from Purgatory and non-Purgatory populations of these 2 plant species were collected. Specimens from each of the herbarium and molecular data from Purgatory and non-Purgatory populations of these 2 species, plus near outgroups, were generated from herbarium collections to reconstruct phylogenetic relationships within each species complex. Maximum likelihood bootstrap analyses provide moderate support for a clade of aberrant *A. nana*, suggesting the presence of a Purgatory lineage, in some what was interpreted as a lack of support for the clade due to either insufficient phylogenetic signal and morphological analysis or moderate support for a clade of aberrant *A. nana*, indicating the presence of a Purgatory lineage. In some what was interpreted as a lack of support for the clade due to either insufficient phylogenetic signal and morphological analysis or moderate support for a clade of aberrant forms. The Purgatory Watershed is a biologically unique region hosting marked biodiversity in numerous groups, despite having been the focus of little prior research.

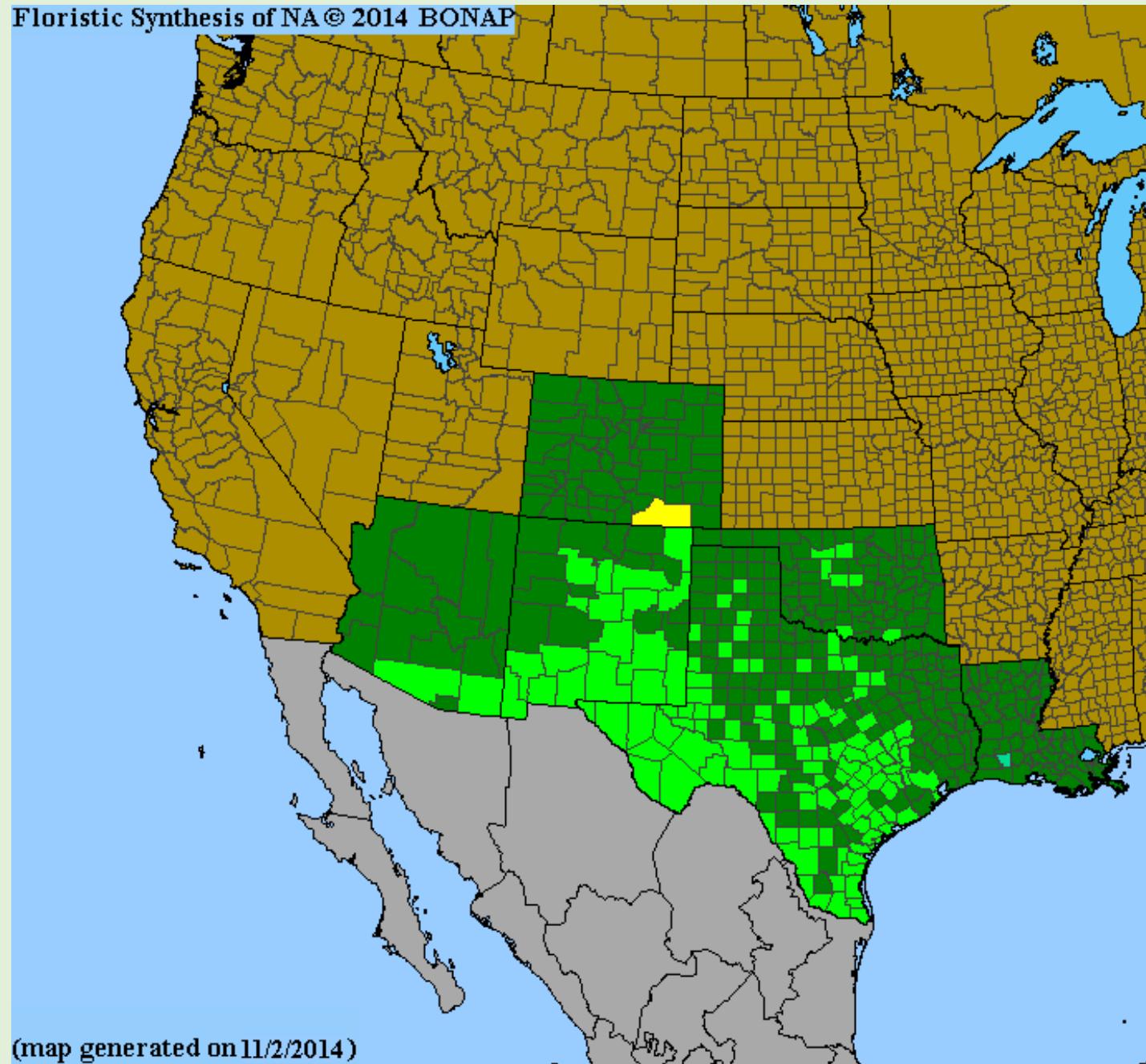
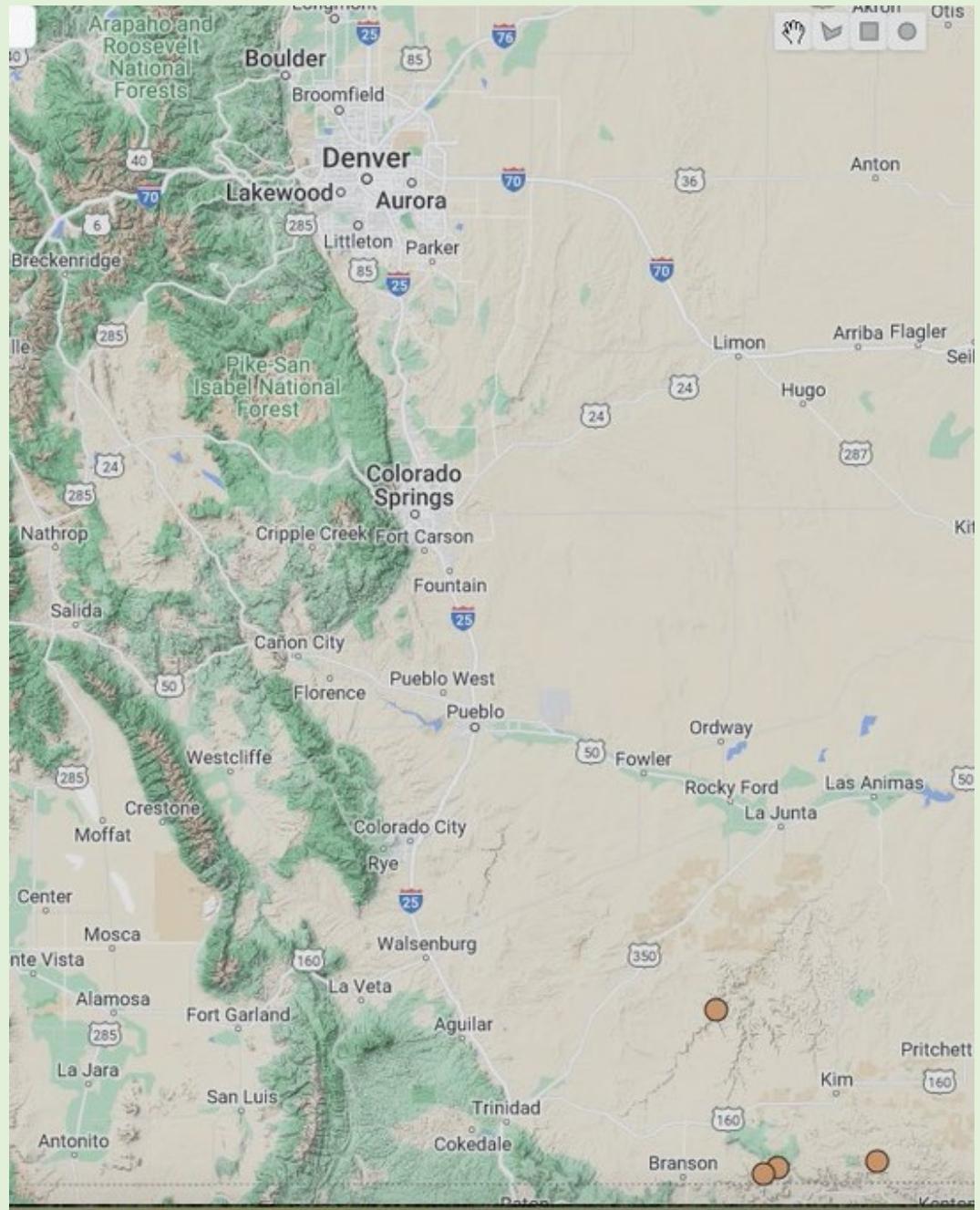


Notholaena standleyi

Asclepias oenotheroides







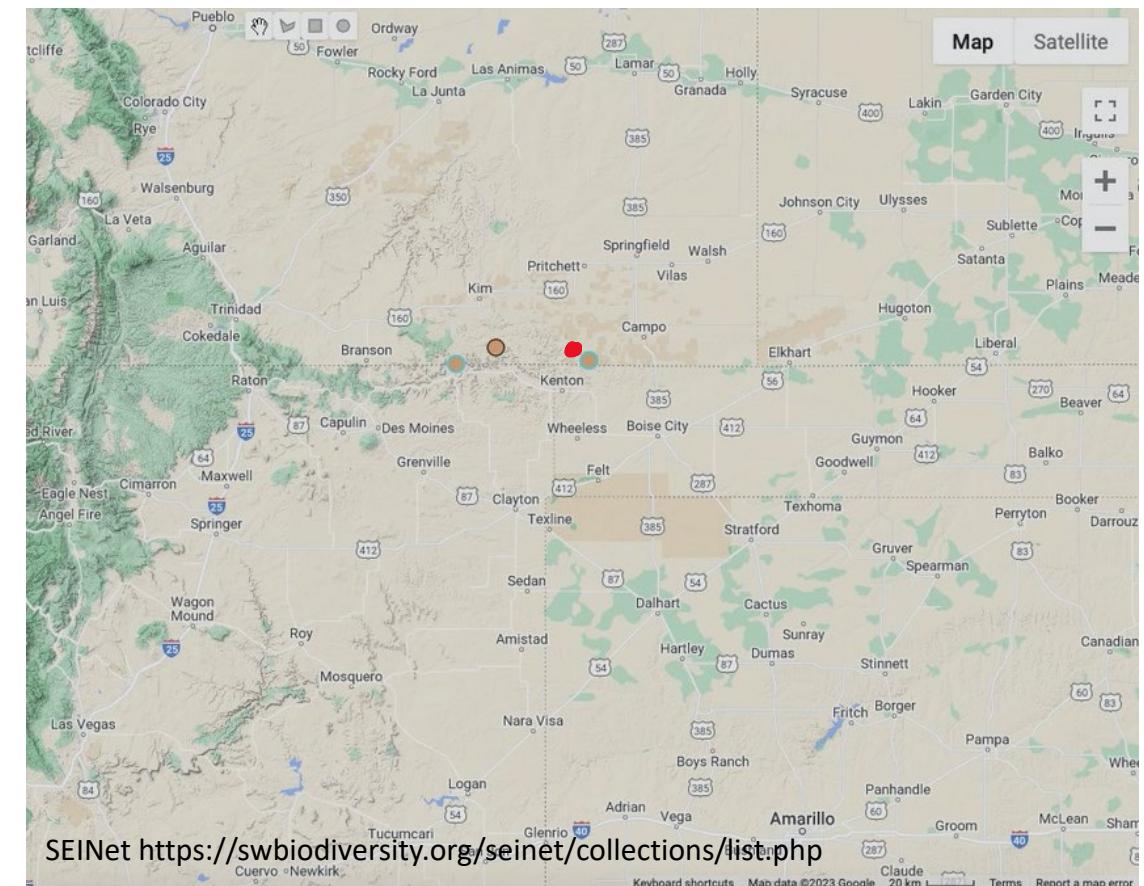
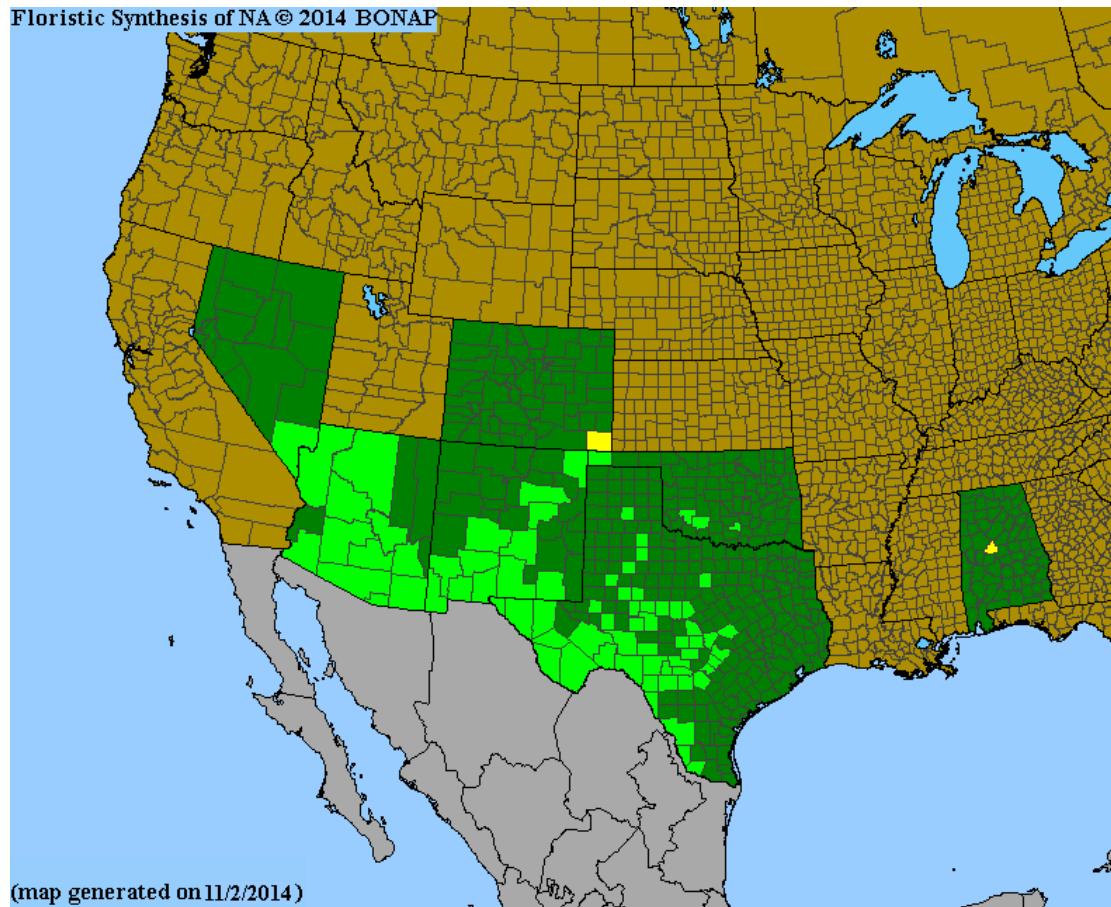
Astroblepis integerrima



Astroplepis integerrima



Floristic Synthesis of NA © 2014 BONAP





Astrolepis integerrima (Hook.) Benham & Windham

32 spores per sporangium

James B. Beck (Wichita State Univ.) 2011

Annotation Label
Astrolepis cochisensis (Gooding) D. M.
Benham & Windham subsp. *cochisensis*

T. A. Ranker & A. R. Orthner September 2000

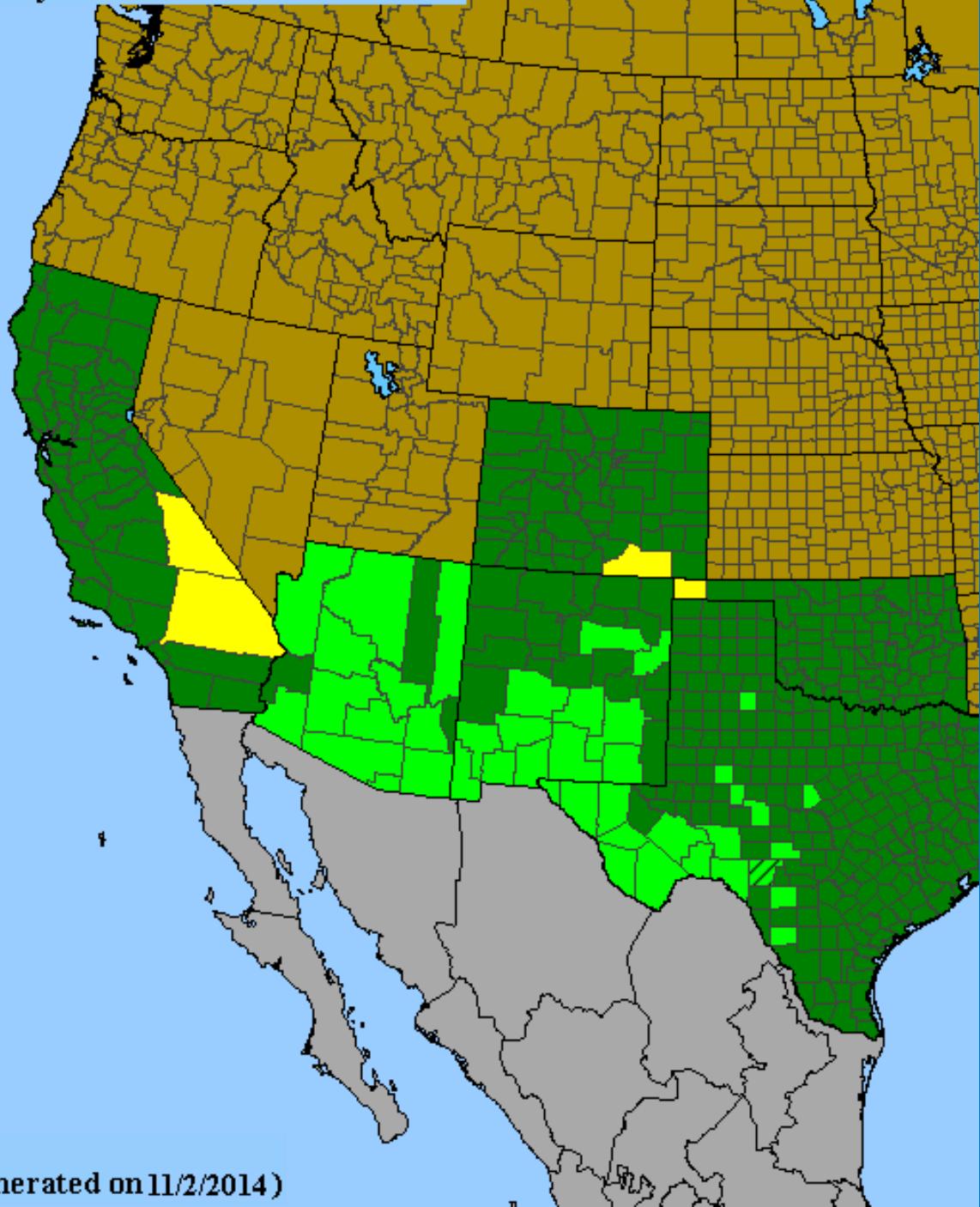
Annotation Label
Astrolepis integerrima (Hooker) Benham & Windham
Det. W. A. Weber, January 14, 1995
Herbarium COLO (Boulder)

Flora of the Mesa de Maya Region
Colorado, U.S.A.

Astrolepis cochisensis (Gooding) Benham & Windham subsp.
integrifolia Hooker

LAS ANIMAS CO: Mesa de Maya Region of southeastern
Colorado, T35S R54W, NE 1/4 of SEC. 16, Jesus Canyon Quad.

Floristic Synthesis of NA © 2014 BONAP



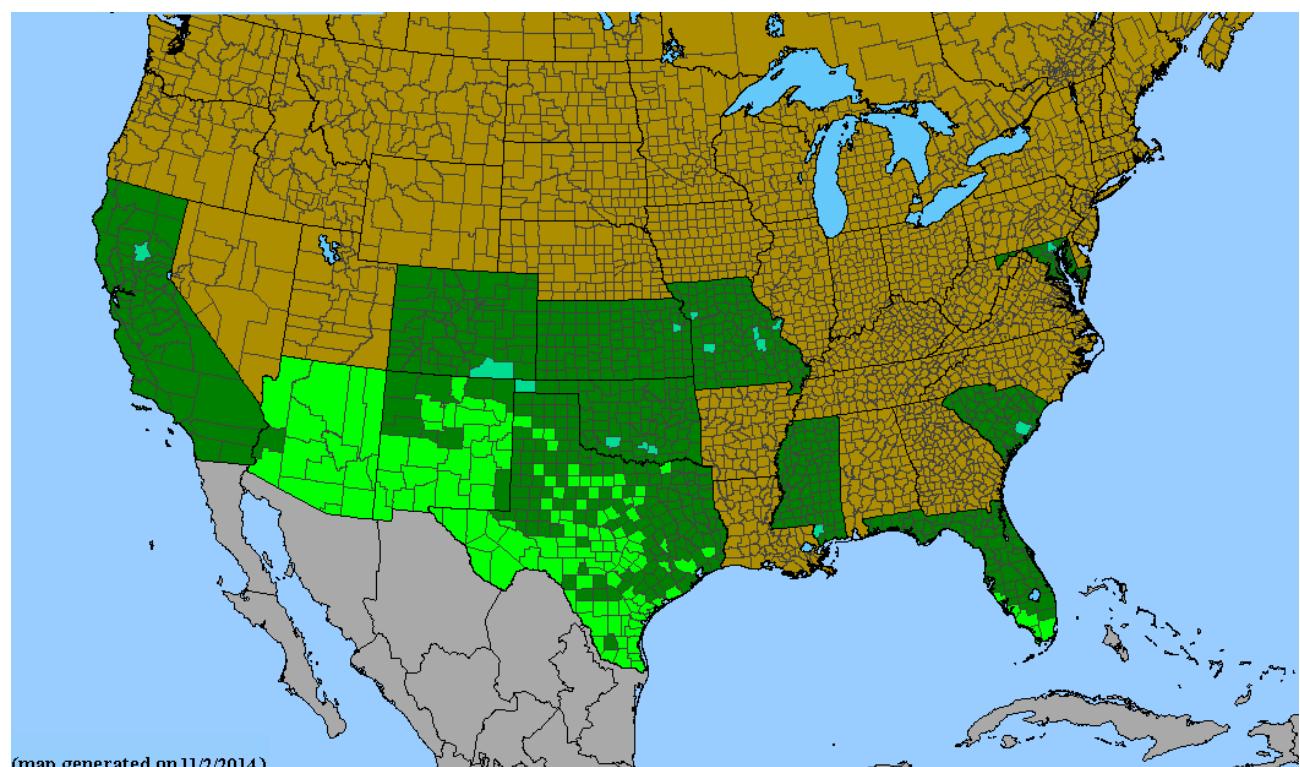
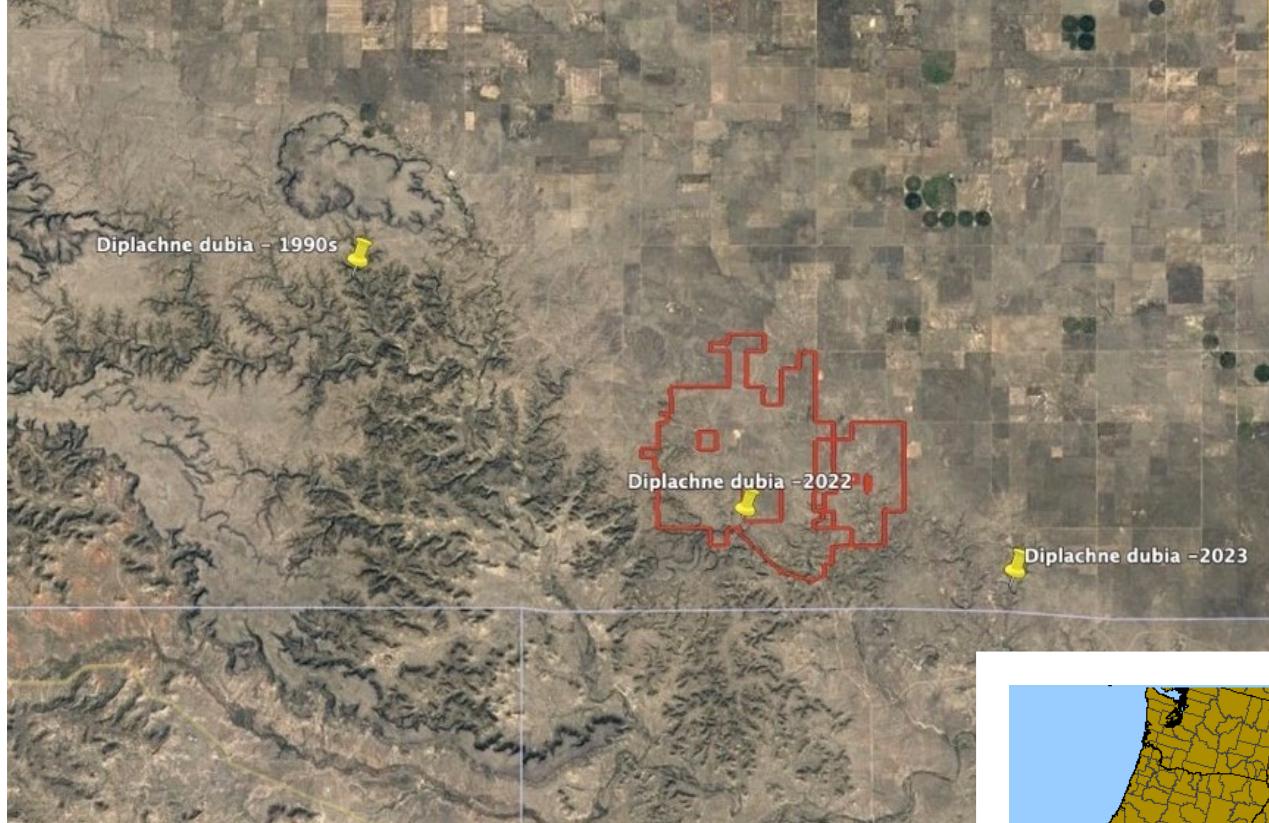
(map generated on 11/2/2014)





Disakisperma (Diplachne) dubia

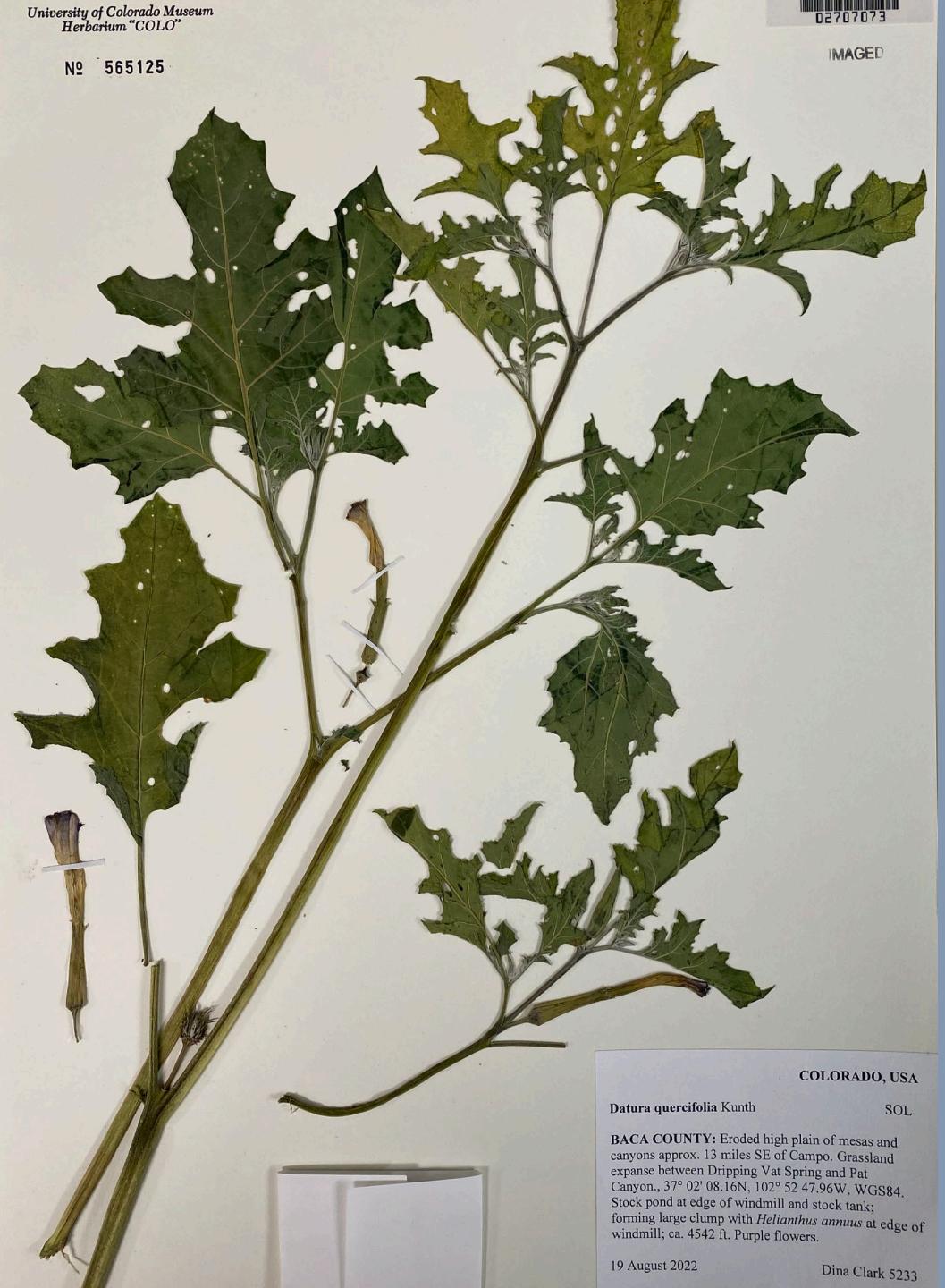




No 565125

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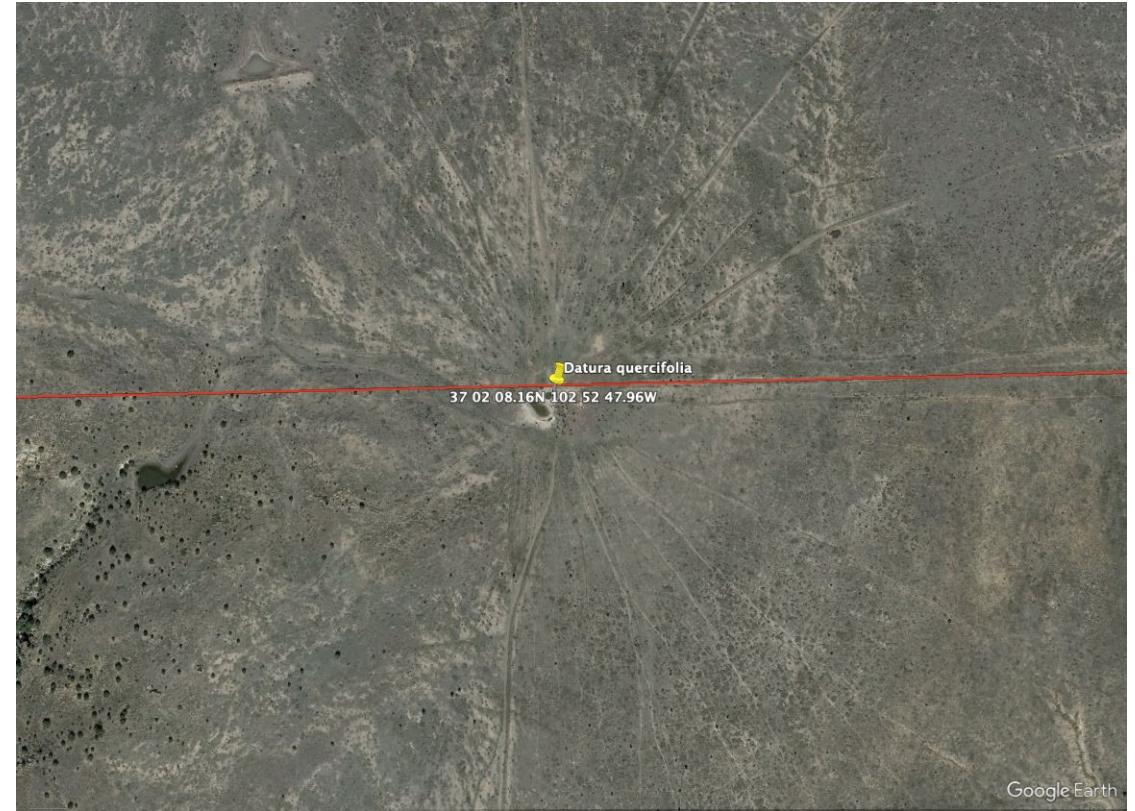
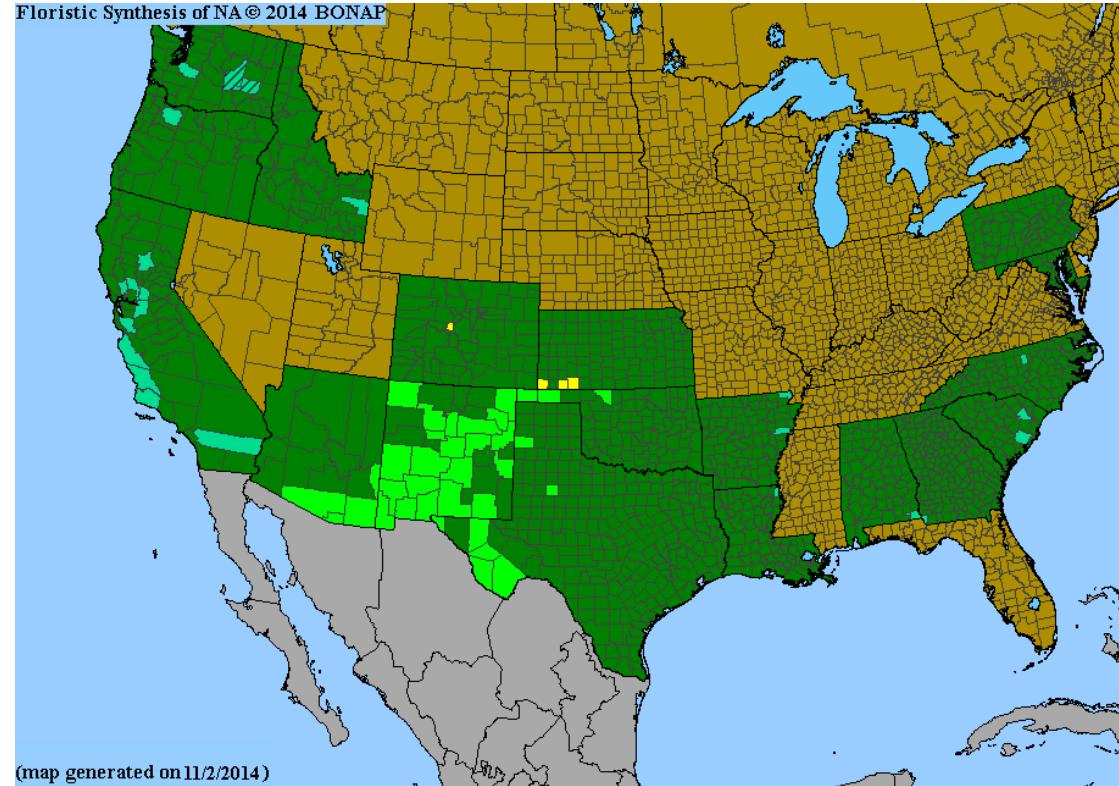


**Datura
quercifolia**



<https://wildflowersearch.org/search?&tsn=30519>

Floristic Synthesis of NA @ 2014 BONAP



Enneapogon desvauxii



University of Colorado Museum
Herbarium "COLO"

02705026

IMAGED

No. 565155



COLORADO, US

Enneapogon desvauxii P. Beauv.

PO

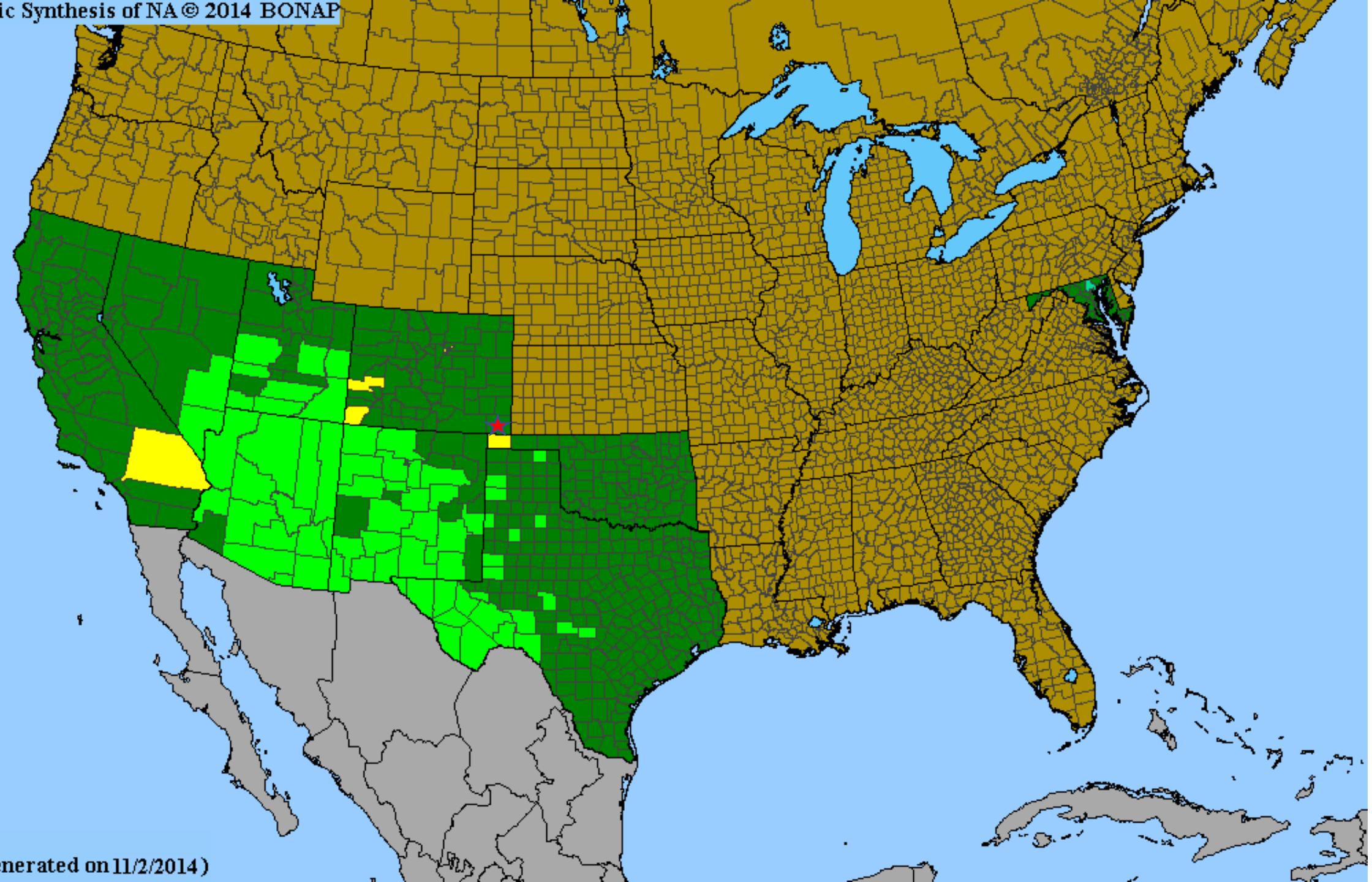
BACA COUNTY: Eroded high plain of mesas and canyons approx. 13 miles SE of Campo; sandstone hoodooes and escarpment on north side of Galinas Canyon., 37° 01'.2322N, 102° 51.1468W, WGS84. Thin, gravelly soils of juniper savanna; with *Dalea formosa*, *D. aurea*, *Bouteloua eriopoda*, *B. gracilis*, *Kallstroemia parviflora*, *Tetraneurus scaposus*, *Echinocereus reichenbachii*, and *Euphorbia hexagona* ca. 4429 ft.

21 August 2022

Dina Clark 52

Herbarium (COLO)









Wildflower.org

University of Colorado Museum
Herbarium "COLO"

N2 565251

University of Colorado Museum (Colo)
02705305



COLORADO, USA

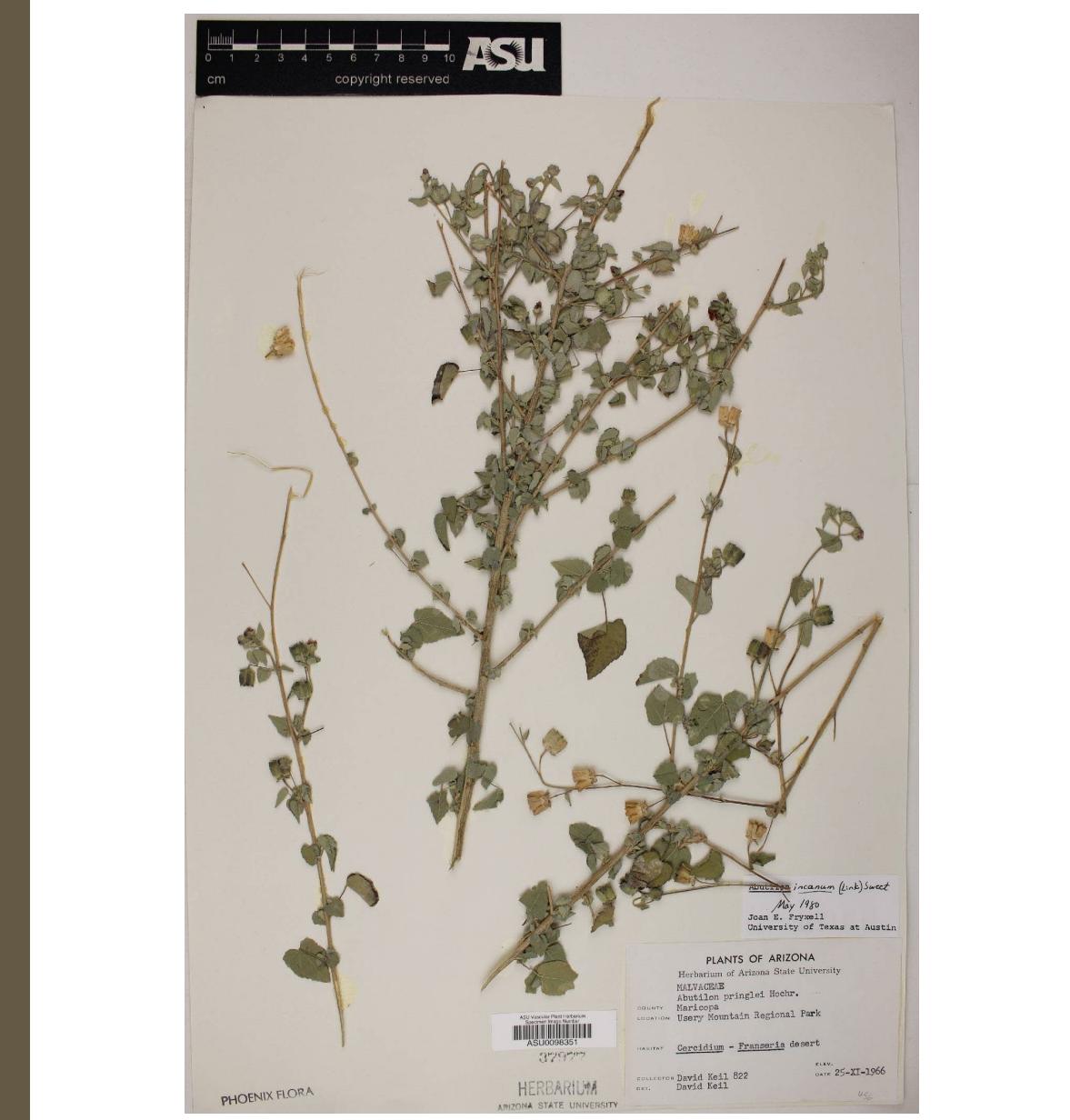
Abutilon fruticosum Guill. & Perr.

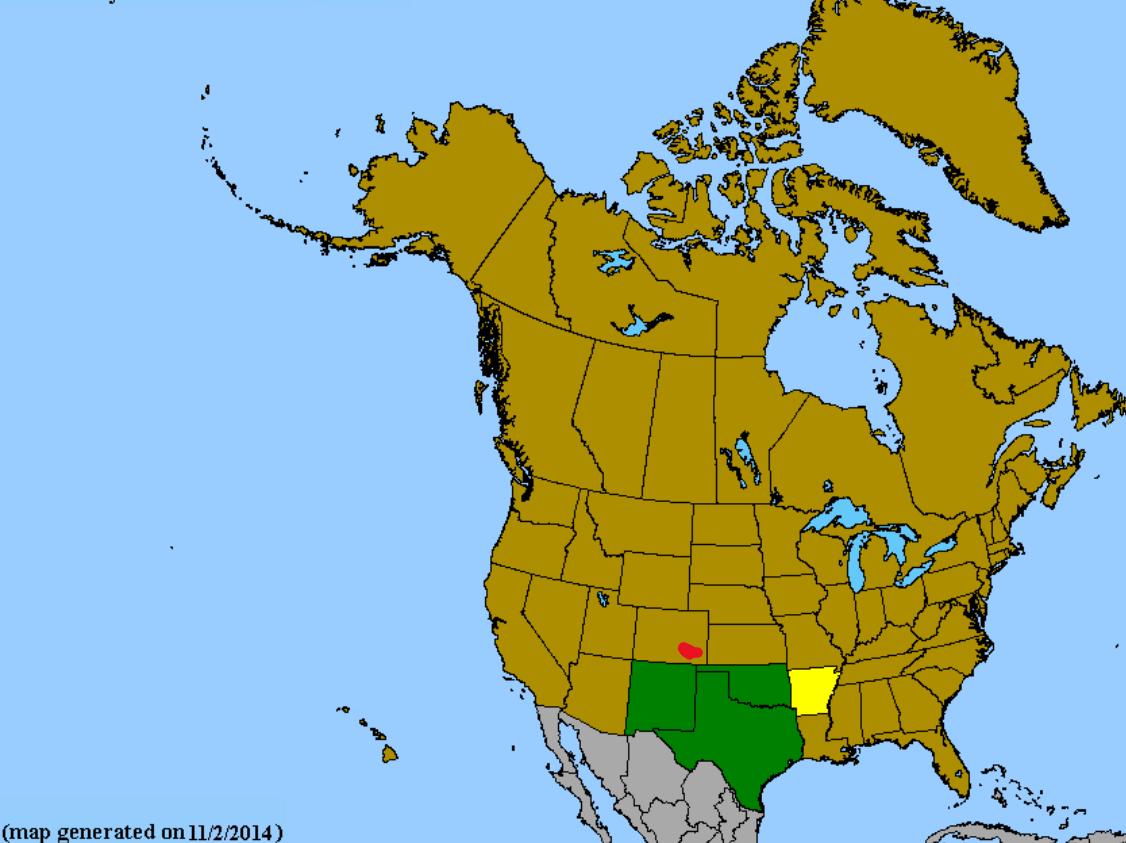
MLV

BACA COUNTY: Eroded high plain of mesas and canyons approx. 13 miles SE of Campo; small branch of Pat Canyon, 37° 02.0090N, 102° 53.4158W, WGS84. West-facing slope of canyon in thick vegetation of *Panicum virgatum*, *Bouteloua gracilis*, *Opuntia imbricata*, and *Sporobolus* with scattered overstory of *Juniperus scopulorum*, *Celtis reticulata* and *Sapindus saponaria* var. *drummondii*; ca. 4464 ft.

19 August 2022

Dina Clark 5250





Abutilon fruticosum

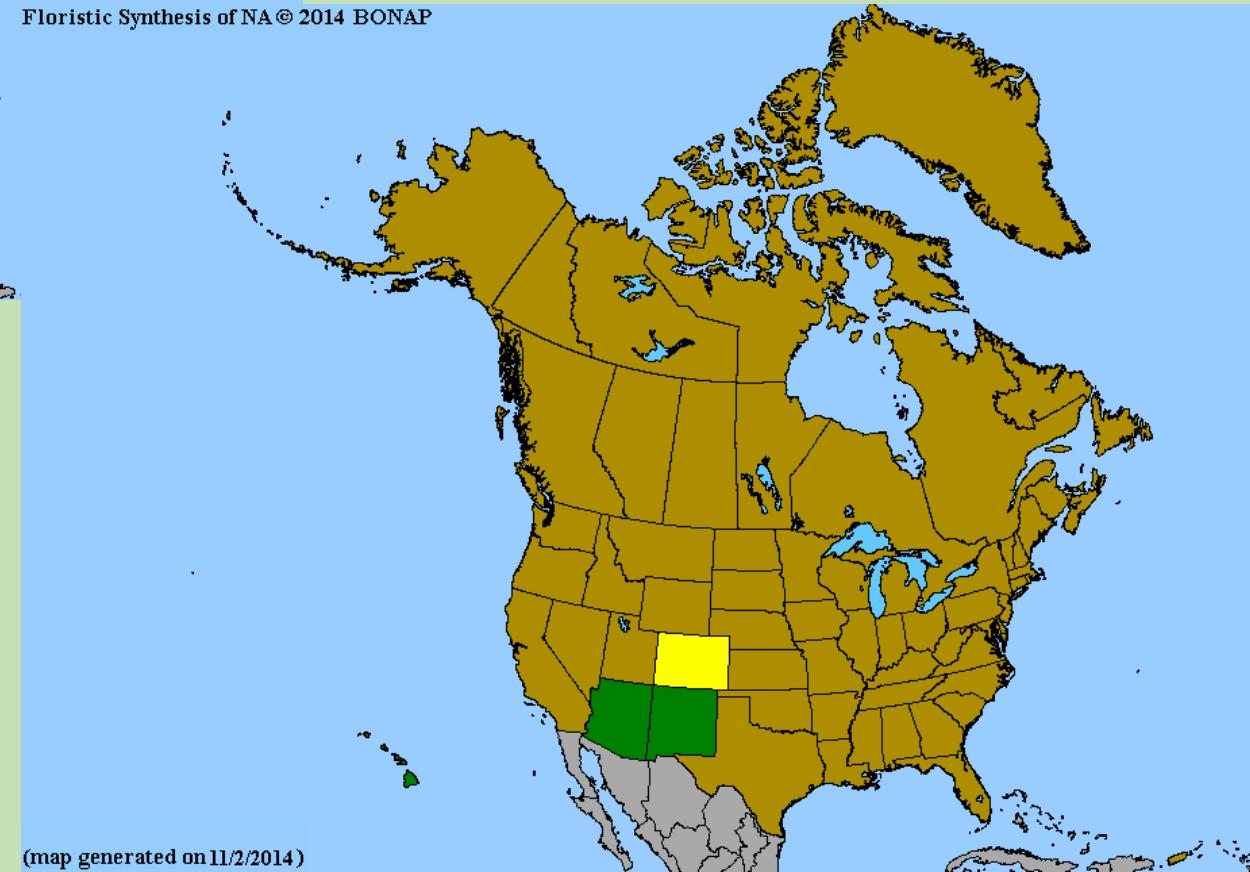
thought to be native to the New World; occurs disjunctly in northern Africa and the Levant countries. Widespread in southwestern Texas, scarce in Oklahoma and Arkansas, known from Chaves and Lincoln counties, New Mexico

Floristic Synthesis of NA © 2014 BONAP

(map generated on 11/2/2014)

Abutilon incanum

Baja California, Sinaloa, Sonora, adjacent Arizona, and disjunctly in Hawaii,





Asclepias asperula

FIELD FOLKS

Tim Hogan
Rick Brune
Jan Wingate
Chris Pague
Carolyn Crawford
Mike Figgs
Christian Nunes
Terri Schulz
Keith Schultz
Jennifer Ackerfield
Alissa Iverson

COLO STAFF and STUDENTS

Erin Manzitto-Tripp
Adele Preusser
Brendan Norman
James Ryan Allen
Alex Henrie

THANK YOU!