



The New Mexico Botanist

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A Newsletter for the flora of New Mexico, from the Range Science Herbarium and Cooperative Extension Service, College of Agriculture and Home Economics, New Mexico State University.

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Artificial Key to the Orchids of New Mexico

Thomas Todsen
2000 Rose Lane, Las Cruces, NM 88005

- 1 Lip pouch- or slipper-like
 - 2 Lip pouch-like, yellow..... *Cypripedium parviflora* Salib. var. *pubescens* (Willd.) Knight
 - 2 Lip slipper-like, white to pink.... *Calypso bulbosa* (L.) Oakes var. *americana* (R. Brown) Luer
- 1 Lip otherwise
 - 3 Plants leafless at flowering time
 - 4 Flowers white to pink
 - 5 Flowers few, not in a dense twisted spike; lip with cinnabar blotch *Schiedeella parasitica* (A. Rich & Gal.) Schlt.
 - 5 Flowers many, in a dense twisted spike; lip whitish, lacking a cinnabar blotch..... *Spiranthes magnicamporum* Sheviak
 - 4 Flowers colored otherwise
 - 6 Flowers green *Piperia unalascensis* (Spreng.) Rydb.
 - 6 Flowers other than green
 - 7 Lip with 3 or more fleshy calluses; pollinia 8
 - 8 Lip deeply 3-lobed, the sinuses 3 mm or more long *Hexalectris revoluta* Correll
 - 8 Lip not deeply lobed, the sinuses 2 mm or less long
 - 9 Lip less than 1 cm long *Hexalectris nitida* L.O. Wms.
 - 9 Lip more than 1.2 cm long
 - 10 Flowers open, out-crossing *Hexalectris spicata* (Walt.) Barnh. var. *spicata*
 - 10 Flowers closed, selfing *Hexalectris spicata* (Walt.) Barnh. var. *arizonica* Catling & Engel
 - 7 Lip with 2 or fewer calluses; pollinia 4
 - 11 Lip 3-lobed or at least with small lobes or teeth
 - 12 Plant small, 10-15 cm tall; lip 3-5 mm long *Corallorhiza trifida* Chat.
 - 12 Plant taller, over 15 cm tall; lip 5-9 mm long
 - 13 Lip little expanded; bracts less than 1 mm long..... *Corallorhiza maculata* Raf. var. *maculata*
 - 13 Lip distinctly expanded; bracts more than 1 mm long *Corallorhiza maculata* Raf. var. *occidentalis* (Lindl.) Ames
 - 11 Lip entire, without lateral lobes or teeth
 - 14 Lip with involute margin; tepals striped..... *Corallorhiza striata* Lindl. var. *vreelandii* (Rydb.) L.O. Wms.
 - 14 Lip not involute; tepals not striped *Corallorhiza wisteriana* Conrad
- 3 Plants with leaves at flowering time
 - 15 Leaves basal only
 - 16 Plants more than 20 cm tall *Goodyera oblongifolia* Raf.
 - 16 Plants less than 15 cm tall..... *Goodyera repens* (L.) R. Brown
 - 15 Leaves cauline or appearing so
 - 17 Leaves plicate, thin
 - 18 Lip 3-lobed *Epipactis gigantea* Dougl.

(Continued on page 2, Orchids)

Botanice est Scientia Naturalis quae Vegetabilium cognitiorem tradit.
— Linnaeus



(Orchids, Continued from page 1)

- 18 Lip not 3-lobed *Epipactis helleborine* (L.) Crantz
- 17 Leaves not plicate, smooth
- 19 Leaf one, at mid-stem
- 20 Flowers red-purple..... *Malaxis porphyrea* (Ridley) Kuntze
- 20 Flowers green
- 21 Flowers appressed to the rachis *Malaxis soulei* L.O. Wms.
- 21 Flowers not appressed to the rachis *Malaxis tenuis* (Wats.) Ames
- 19 Leaves more than one
- 22 Leaves 2 at mid-stem *Listera cordata* (L.) R. Brown var. *nephrophylla* (Rydb.) Hultén
- 22 Leaves more than 2, borne along the stem
- 23 Flowers white, arranged in a dense spike; lip lacking a spur..... *Spiranthes romanzoffiana* Cham.
- 23 Flowers mostly green, or if white, then arranged in a loose spike with lax flowers; lip prolonged backward into an evident spur
- 24 Orifice of the spur minute; base of lip with accessory nectarines.....
..... *Coeloglossum viride* (L.) Hartman var. *virescens* (Muhl. ex Willd.) Luer
- 24 Orifice of the spur obvious; base of lip without accessory nectarines
- 25 Flowers white..... *Platanthera dilatata* (Pursh) Lindl. ex Beck
- 25 Flowers green
- 26 Leaves short, almost bract-like..... *Platanthera brevifolia* (Greene) Kranzlin
- 26 Leaves longer, not at all bract-like
- 27 Column comparatively large, ½ or more the length of the dorsal sepal.....
..... *Platanthera sparsiflora* (Wats.) Schl.
- 27 Column comparatively small, less than ½ the length of the dorsal sepal
- 28 Lip with a small basal protuberance *Platanthera limosa* Lindl.
- 28 Lip without a protuberance
- 29 Spike densely flowered *Platanthera huronensis*
- 29 Spike not densely flowered
- 30 Spur about equal to the lip..... *Platanthera hyperborea* (L.) Lindl.
- 30 Spur about ½ or less the length of the lip *Platanthera purpurascens*



Citing Use of Herbaria

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Recently, there have been several articles in scientific journals, regional reports and newsletters written by New Mexico botanists who regularly use our local herbaria. Many authors are not citing use of herbaria in their acknowledgements. Walk-in visitors/botanists are expected to follow the same protocol and agreements as "off-site" researchers at institutions who formally borrow herbarium specimens.

In general, the agreement for using or borrowing herbarium specimens is: 1) the researcher will cite use of the collections (using the appropriate acronym) in any publication they author or presentation they give; 2) the researcher will provide the herbar-

ium with a copy of any publication in which the specimens are mentioned.

Funding opportunities for herbaria are very competitive and smaller regional collections often are not viewed as a high priority. For the UNM Herbarium the budgetary allocations are, in part, apportioned by a show of how productive and well used the collections are. Part of this productivity is measured by documenting the research and publications of faculty, staff, research associates and the regional botanical community.

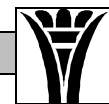
Botanists need to show support for our state-funded resources by citing use of the collections facilities or specimens in the acknowledgment section of any published article or presentation.



[Ed. Note: Thanks to Jane Mygatt for this very appropriate and timely reminder of our responsibilities as publishing authors.]

Botany is the natural science that transmits the knowledge of plants.

— Linnaeus



Botanical Literature of Interest

TAXONOMY AND FLORISTICS:

Allred, K.W. 1999. **Eponymy of New Mexico grass names.** *Desert Plants* 15(1):3-10.

Barkley, T.M. 1999. **The segregates of *Senecio*, s.l., and *Cacalia*, s.l., in the flora of North America north of Mexico.** *Sida* 18(3):661-672.

Barlow-Irick, P. 1999. ***Cirsium ochrocentrum* subsp. *martinii* (Asteraceae), a new subspecies of the Santa Fe thistle from the Gila River region of Arizona and New Mexico.** *Novon* 9:318-322.

Clevering, O.A. & J. Lissner. 1999. **Taxonomy, chromosome numbers, clonal diversity and population dynamics of *Phragmites australis*.** *Aquatic Botany* 64:185-208.

Darke, R. 1999. **The Color Encyclopedia of Ornamental Grasses.** Timber Press, Portland, Oregon. 325 pp.

Flora of North America Editorial Committee. 1999. **Flora of North America, vol. 22 (Butomaceae-Haemadoraceae).** Oxford Univ. Press. 384 pp.

Fox, W.E. III & S.L. Hatch. 1999. **New combinations in *Setaria* Poaceae: Paniceae.** *Sida* 18(4):1037-1047. [*Setaria reverchonii* subsp. *ramiseta*]

Harriman, N.A. 1999. **Synopsis of New World *Commicarpus* (Nyctaginaceae).** *Sida* 18(3):679-684.

Henrickson, J. 1999. **Studies in New World *Amaranthus* (Amaranthaceae).** *Sida* 18(3):783-807.

Hoshizaki, B.J. & K.A. Wilson. 1999. **The cultivated species of the fern genus *Dryopteris* in the United States.** *Amer. Fern J.* 89(1):1-98.

Judziwicz, E.J., L.G. Clark, X. Londoño, & M.J. Stern. **American Bamboos.** Smithsonian Institution Press. 392 pp.

Lammers, T.G. 1999. **Plant systematics today: All our eggs in one basket?** *Syst. Bot.* 24(3):494-496.

Liggio, J. & A.O. Liggio. 1999. **Wild Orchids of Texas.** Univ. Texas Press, Austin. 228 pp. [magnificent photos]

Mohlenbrock, R.H. 1999. **The Illustrated Flora of Illinois, Sedges: *Carex*.** Carbondale, IL: Southern Illinois University Press.

Nesom, G. 1999. **Review of early nomenclature in *Euthamia* (Asteraceae: Astereae).** *Sida* 18(4):1009-1018.

Nesom, G. & R.D. Noyes. 1999. **Notes on sectional delimitations in *Erigeron* (Asteraceae: Astereae).** *Sida* 18(4):1161-1165. [*Erigeron rhizomatus*]

O'Kane, S.L., Jr. 1999. ***Lesquerella navajoensis* (Brassicaceae), a new species of the *L. hitchcockii* complex from New Mexico.** *Madroño* 46:88-91.

Peterson, R.S. & I.L. David. 1998 [1999]. **Plants of Bitter Lake National Wildlife Refuge, Chaves County, New Mexico.** *New Mexico Naturalist's Notes* 1(2):1-23.

Phipps, J.B. 1999. **The relationships of the American black-fruited hawthorns *Crataegus erythropoda*, *C. rivularis*, *C. saligna* and *C. brachyacantha* to *C. ser. Douglasianae* (Rosaceae).** *Sida* 18(3):647-660.

Pridgeon, A.M., P.J. Cribb, M.W. Chase, & F.N. Rasmussen. 1999. **Genera Orchidacearum.** Oxford Univ. Press. 224 pp.

Sheley, R.L. & J.K. Petroff (eds.). **Biology and Management of Noxious Rangeland Weeds.** Oregon State University Press. 438 pp.

Sivinski, R.C. 1998. **A note on *Amsonia longiflora* (Apocynaceae).** *New Mexico Naturalist's Notes* 1(2):32-33.

Sivinski, R.C. 1998. **Review and resurrection of *Mentzelia springeri* (Loasaceae).** *New Mexico Naturalist's Notes* 1(2):43-45.

Sivinski, R.C. 1999. **A new variety of *Physaria newberryi* (Brassicaceae) from New Mexico.** *Sida* 18(3):673-677.

Spellenberg, R. & T. Wootten. 1999. **Vascular plants on a gypsum outcrop in southern New Mexico: A listing, a new variety**

and taxonomic realignments in the *Anulocaulis leiosolenus* complex (Nyctaginaceae), and a new variety of *Mentzelia humilis* (Loasaceae). *Sida* 18(4):987-999.

Therrien, J.P. 1999. **Genetic diversity in two rare milkweeds from the southwestern United States.** *Southwestern Naturalist* 44(3):247-255. [*Asclepias sanjuanensis*]

Todsen, T.K. 1999. **A new endemic species of *Mentzelia* sect. *Bartonia* (Loasaceae) from New Mexico.** *Sida* 18(3):819-822.

Torrell, M., N. Garcia-Jacas, A. Susann, & J. Valles. 1999. **Phylogeny in *Artemisia* (Asteraceae, Anthemideae) inferred from nuclear ribosomal DNA (ITS) sequences.** *Taxon* 48(4):721-736.

Wipff, J.K. & J.F. Veldkamp. 1999. ***Pennisetum advena* sp. nov. (Poaceae: Paniceae): A common ornamental grass throughout the southern United States.** *Sida* 18(4):1031-1036.

Yatskievych, G. **Steyermark's Flora of Missouri.** Rev. ed. Vol. 1 [pteridophytes, gymnosperms, monocots]. The Missouri Department of Conservation in cooperation with The Missouri Botanical Garden Press. 991 pp.

MISCELLANEOUS:

Al-Shehbaz, I.A. 1999. **Reed Clark Rollins (7 December 1911 - 28 April 1998).** *Taxon* 48(2):225-256.

Carlson, S. 1999. **Expert secrets for preserving plants.** *Scientific American* (June):90, 92.

Judd, W.S., C.S. Campbell, E.A. Kellogg, and P.F. Stevens. 1999. **Plant Systematics: A Phylogenetic Approach.** Sunderland, MA: Sinauer Associates, Inc. [introductory textbook]

Lee, R.D. 1999. **New Mexico's Invasive Weeds.** New Mex. St. Univ. Coop. Ext. Serv. [photo, descriptions, maps of 25 species; contact Cooperative Extension Service at MSC Box 3AE, Las Cruces, NM 88003]

Ruzin, S.E. 1999. **Plant Microtechnique and Microscopy.** Oxford University Press. 322 pp.

White, J.J., R. McVaugh, & R.W. Kiger. 1998. **The Torner Collection of Sessé & Mociño Biological Illustrations.** [CD-ROM] Carnegie Mellon CD Press, Pittsburgh, Pennsylvania. [Contains 1,989 full-color digital reproductions of water color drawings from the 1787-1803 Spanish Royal Expedition to New Spain]

Wiersema, J.H. & B. León. 1999. **World Economic Plants: A Standard Reference.** Boca Raton, FL: CRC Press. 749 pp.

RARE, THREATENED, AND ENDANGERED PLANTS:

[There are numerous reports and discussions concerning rare New Mexico plants on the New Mexico Rare Plant Technical Council web site: <http://biology.unm.edu/~chelo/nmrptc1.html>]

Anonymous. 1998. **Endangered, Threatened and Sensitive Plant Field Guide.** Bureau of Land Management (Albuquerque & Taos Field Office) & Ecosphere Environmental Services (Farmington). [line drawings, descriptions, & photos; contact BLM at 761-8700]

WEB SITES OF INTEREST:

Angelo, R.: **Botanical Index to the Journal of Henry David Thoreau.** <http://www.herbaria.harvard.edu/~rangelo/BotIndex/WebIntro.html> -- Revised: May 15, 1998

Peterson, R.H. **A Guide to Botanical Nomenclature: A Tennessee Tutorial.** <http://fp.bio.utk.edu/mycology/nom-index.htm>

R. J. Soreng, G. Davidse, P. M. Peterson, F. O. Zuloaga, E. J. Judziwicz & T. S. Filgueiras: **Catalogue of New World Grasses (Poaceae).** <http://mobot.mobot.org/Pick/Search/nwgc.html>

Miscellaneous maps: [www.lib.utexas.edu/Libs/PCL/Map_collection/Topographic maps online](http://www.lib.utexas.edu/Libs/PCL/Map_collection/Topographic_maps_online): www.topozone.com

Native Plant Society of New Mexico: <http://npsnm.unm.edu/> 



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Kelly Allred
Range Plant Specialist

New Plant Distribution Records

New records for New Mexico are documented by the county of occurrence and the disposition of a specimen (herbarium).

- Richard Spellenberg & Tom Wootten (see Botanical Literature of Interest: Spellenberg & Wootten 1999)
Anulocaulis leiosolenus (Torr.) Standl. Var. *howardii* Spellenb. & T. Wootten (Nyctaginaceae): Otero Co. (ARIZ, NMC, UNM).
- Mentzelia humilus* (A. Gray) Darl. Var. *guadalupensis* Spellenb. (Loasaceae): Otero Co. (NMC, UNM).
- Richard Worthington (P.O. Box 13331, El Paso, TX 79913)
Lechea tenuifolia Michx. (Cistaceae): Eddy Co. (NMCR, UTEP).
- Kelly Allred (MSC Box 3-I, New Mexico State University, Las Cruces, NM 88003)
Carex planostachya Kuntze (Cyperaceae): Eddy Co. (MICH).
- Robert Sivinski (P.O. Box 1948, Santa Fe, NM 87504)
Eriogonum longifolium Nutt. var. *lindheimeri* Gand. (Polygonaceae): Eddy Co. (UNM).
Physaria newberryi A. Gray var. *yesicola* Sivinski (Brassicaceae): Valencia & Cibola Cos. (NMC, UNM). [see also Botanical Literature of Interest, Sivinski 1999]
- Thomas Todsens (2000 Rose Lane, Las Cruces, NM 88005)
Hexalectrix revoluta Correll (Orchidaceae): Eddy Co. (photo & map on file at Guadalupe Mt. National Park Headquarters and verified by T. Todsens).
Mentzelia conspicua T.K. Todsens (Loasaceae): Rio Arriba Co. (NMC, UNM).
- Patricia Barlow-Irick (see Botanical Literature of Interest: Barlow-Irick 1999)
Cirsium ochrocentrum subsp. *martinii* P. Barlow (Asteraceae): Catron, Grant, & Hidalgo Cos. (NMC, UNM).
- Bill Hess (The Morton Arboretum, Lisle, IL 60532)
Forestiera shrevei Standl. (Oleaceae): Hidalgo Co. (NMC).
- S.L. O'Kane (see Botanical Literature of Interest: O'Kane 1999)
Lesquerella navajoensis O'Kane (Brassicaceae): McKinley Co. (NMC, UNM).



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