

The New Mexico Botanist

Number 53

January 19, 2011

A Newsletter for the flora
of New Mexico, from the
Range Science Herbarium and
Cooperative Extension
Service, College of
Agricultural, Consumer, and
Environmental Sciences, New
Mexico State University.

In This Issue —

- Thomas Todsen and New Mexico Botany.. 1
- Botanical Literature... 3
- Plant Distribution Reports.....4

Orchids in the Desert: Thomas Kamp Todsen (1918-2010)

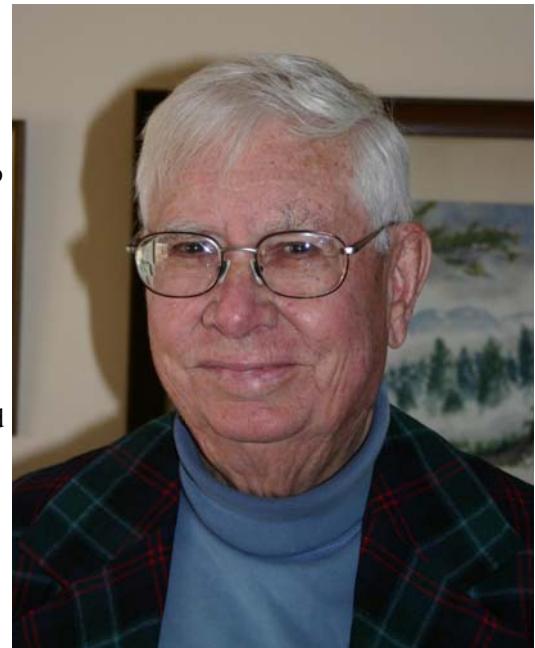
Eugene Jercinovic

6285 Algodon Road SW, Deming, NM 88030

Thomas Kamp Todsen was born on October 21, 1918, in Pittsfield, Massachusetts. His father, Lorenz K. Todsen, hailed from Norway although the family was from Denmark. Lorenz had a degree in engineering and immigrated to the United States in 1903, taking a job with General Electric in Pittsfield. There he met a Danish girl named Ellen Christensen. They married in 1910. The couple had three children. Tom was in the middle with an older brother Birger and a younger sister Erma.

In 1923 Lorenz died. Ellen and the children moved to Boston for two years and then settled in St. Petersburg, Florida. Tom attended public schools there, graduating the spring of 1935. He decided to enter the University of Florida at Gainesville that fall. His high school counselor was becoming a Dean there and got Tom a job working on a maintenance crew. Tom also got assistance from a wealthy uncle, the Norwegian Consul to Portugal, who provided the \$150 per semester. At that time, tuition each semester was \$34, including lab fees, so life was not uncomfortable for the undergrad. Early in his college career, Tom developed an interest in plants. Encouraged by a professor, he began collecting plants and became familiar with the herbarium on the third floor of the biological sciences building. On his trips up there, he took notice of a young clerk named Margaret Dorsey, who working in the School of Forestry on the fourth floor. Later he discovered that his roommate was dating a close friend of Margaret. They double dated and Tom and Margaret became close friends. Tom graduated in 1939 with a Bachelor of Science in chemistry. Margaret and Tom were married on August 4, 1939. The couple personally collected white and yellow orchids south of Lake Okeechobee for the ceremony.

Tom stayed at the University of Florida to pursue an advanced degree. He completed his Master of Science in December of 1941 in sanitary chemistry. Shortly thereafter he accepted a civil service job. With the fateful events of that December, It was inevitable that Tom would hear from the military. On February 1, 1942, he was ordered to report for training at Huntsville, Alabama. Although initially commissioned in the infantry, he was transferred to Army Chemical Warfare in March. He spent the remainder of WWII with Chemical Warfare Group. He was discharged from the service on August 16, 1947 with the rank of Captain, and continued in the Army Reserve until 1962. In the fall of 1947 he was back in Gainesville in a Ph.D. program. He received his doctorate in organic chemistry in the spring of 1950.



(Continued on page 2, Todsen)

Botanice est Scientia Naturalis quae Vegetabilium cognitorem tradit.
— Linnæus



(Todsen, continued from page 1)

That summer he accepted a nine month position in Las Cruces teaching at the New Mexico College of Agriculture and Mechanic Arts (now NMSU) starting in the fall of 1950. In June of 1951, he was offered a GS-9 job as a chemist at the White Sands Missile Range. He started work that summer. He rapidly advanced through the bureaucracy, becoming Chief Chemist, Chief of the Field Test Committee of the AEC/DOD, Deputy Director of the Army Material Test and Evaluation Center, and Chief of the Special Project on surface-to-surface missiles. He also co-authored the first test manual for the Honest John missile. By the mid-1970's the job "wasn't as pleasant" and he officially retired in 1978.

Tom's early interest in plants did not diminish during these years. He carried his fascination with orchids to New Mexico. In his few unoccupied moments he began to explore the mountains of New Mexico for orchids and other plants. After his retirement and the death of Margaret in 1987, his efforts intensified. He was the first to collect *Spiranthes parasitica* (now *Schiedeella arizonica*) in the state. He discovered *Hexalectris revoluta* in the Guadalupe Mountains, was the first to collect *Hexalectris spicata* in New Mexico and the only person to collect it in the Sacramento Mountains and the Black Range, found *Corallorrhiza wisteriana* in the Sacramentos, and described a yellow form of *Corallorrhiza striata* from Hyde Park. Tom was once contacted by Richard Worthington of the University of Texas at El Paso who had run across an odd orchid in the Sacramento. Richard gave Tom the location and indicated that he had flagged the bush under which the orchid could be found. Tom visited the area but the flag had disappeared. Tom contacted Richard who revisited the site and reflagged the bush. Tom returned, located the bush, and recognized the orchid. Richard Worthington and Tom have the only known collections of the dwarf rattlesnake orchid, *Goodyera repens*, from Otero County.

Tom also began taking two or three trips a year south of the Mexican border in search of orchids. He visited and collected in almost every Mexican state all the way to Chiapas and made forays into Guatemala, Costa Rica, and Belize. In Nuevo Leon he was involved in a bit of orchid intrigue. Tom's experience with orchids in Florida had left him with the knowledge of the green fly orchid, *Epidendrum magnoliae*, which grows on magnolia trees from North Carolina to Florida and across the Deep South to Louisiana. On one of his adventures near Monterrey he discovered green fly orchids growing on live oaks. His Mexican collections were placed at the Asociación Mexicana de Orquideología (AMO). In addition to his studies in Mexico and Central America, he was invited to perform an orchid survey of the island of Anguilla in the Leeward Islands of the Lesser Antilles. Tom has contributed much to the study of distributions and ranges of variation of New Mexico's orchids and wrote a key to the orchids of the state. (*The New Mexico Botanist* 14: 1-2)

Tom's botanical work was not restricted to orchids. His position with the White Sands Missile Range gave him unfettered access to restricted areas of the San Andres Mountains, which he investigated fully. He enjoyed exploring for plants all over the state and spent as much time as he could in the field. As a result, he collected a number of plants new to the state's flora which are listed below.

APIACEAE: *Eryngium lemmonii* Coulter & Rose, CHIHUAHUA MOUNTAIN ERYNGO, 1972, Hidalgo Co.

ASTERACEAE: *Erigeron scopulinus* Nesom & Roth, ROCKY MOUNTAIN FLEABANE, 1981, Sierra Co.; *Perityle lemmonii* (Gray) MacBride, LEMMON'S ROCK-DAISY, 1971, Hidalgo Co.; *Barkleyanthus salicifolius* (Kunth) H. Robinson & Bretell (as *Senecio salignus*), BARKLEY'S GROUNDSEL, 1969, Hidalgo Co.

CARYOPHYLLACEAE: *Silene plankii* C.L. Hitchcock & Macguire (first since original collection in 1895), PLANK'S CATCHFLY 1970, Doña Ana Co.

LILIACEAE: *Erythronium grandiflorum* Pursh subsp. *grandiflorum*, YELLOW AVALANCHE-LILY, 1996, Rio Arriba Co.

LYTHRACEAE: *Cuphea wrightii* Gray, WRIGHT'S WAX-WEED, 1969, Grant Co.

MALPIGHIACEAE: *Aspicarpa hirtella* L.C.M. Richard, CHAPARRAL ASP-HEAD, 1979, Hidalgo Co.

PLANTAGINACEAE: *Mecardonia procumbens* (P. Miller) Small, BABY-JUMP-UP, 1984, Hidalgo Co.

POLYGALACEAE: *Polygala rimulicola* Steyermark var. *rimulicola*, STEYERMARK'S MILKWORT, 1972, Otero Co.

RUBIACEAE: *Diodia teres* Walter var. *teres* (as *Diodia teres* Walter var. *setifera* Fernald), POOR JOE, 1982, Hidalgo Co.

SAXIFRAGIACEAE: *Heuchera glomerulata* Rosendahl, Butters & Lakela, CHIRICAHUA ALUMROOT, 1982, Hidalgo Co.; *Heuchera sanguinea* Engelmann, CORAL-BELLS, 1966, Hidalgo Co.

More significantly, Tom discovered and described three plants new to science:

ASTERACEAE, *Perityle staurophylla* (Barneby) Shinners var. *homoflora* Todsen, NEW MEXICO ROCK-DAISY, 1983, Sierra County, San Andres Mountains

ASTERACEAE, *Polygala rimulicola* Steyermark var. *mescalerorum* Wendt & Todsen, MESCALERO MILKWORT, 1982, Doña Ana County, San Andres Mountains

LOASACEAE, *Mentzelia conspicua* T.K. Todsen, CHAMA BLAZING STAR, 1999, Rio Arriba County, El Vado Dam

In addition, in 1978 he collected an unusual *Hedeoma* in the San Andres Mountains in Sierra County. It also turned out to be new to science, and in 1979 Robert S. Irving of the University of Nebraska named it for Tom as *Hedeoma todsonii* Irving, TODSEN'S FALSE-PENNYROYAL. His name will also remain attached to two land snails of his discovery, the Doña Ana talus snail, *Sonorella todsoni*, and the Maple Canyon woodland snail, *Ashmunella todsoni*, as well as the fossil snail, *Eleocaris todsoni*, which he discovered near Rincon. In 1978, he established *Scrophularia laevis*, the Organ Mountain figwort, as a legitimate species. In 1997, he established *Malaxis porphyrea*, as the correct name of Arizona and New Mexico purple malaxis (Cochise adder's-mouth) plants previously placed in *M. ehrenbergii* or *M. wendtii*. In 1998, he resurrected *Penstemon metcalfei* as a valid species.

His involvement with plants went beyond the scientific to the artistic with his photography. He also had interest in things

(Continued on page 3, Todsen)



(Todsen, continued from page 2)

other than biological. He spent considerable time studying New Mexico territorial postmarks working with Sheldon Dyke, a physicist at Sandia Corporation in Albuquerque. Tom authored the 10th edition of the New Mexico Territorial Postmark Catalog in 1994.

Tom died on December 22, 2010 at an Alzheimer's facility in Abilene, Texas, near his son, William (Larry) and family.

Another son, Thomas (Andy) resides in Las Cruces. Tom's 92 years were full. He had a valuable and very successful career at White Sands. His tireless persistence and energy in understanding and hunting plants, and his remarkable ability to notice new and unusual types allowed him to make important insights into the nature of New Mexico's orchids and to contribute much to the elucidation of many other groups and the botany of the state.



Botanical Literature of Interest

Adams, R.P., J.A. Bartel, D. Thornburg, & A. Allgood. 2010. **Geographic variation in the leaf essential oils of *Hesperocyparis arizonica* and *H. glabra*.** *Phytologia* 92 (3):366-387.

Alexander, P.J., M.D. Windham, R. Govindarajulu, I.A. Al-Shehbaz, & C.D. Bailey. 2010. Molecular Phylogenetics and Taxonomy of the Genus *Thysanocarpus* (Brassicaceae). *Syst. Bot.* 35(3):559-577.

Al-Shebaz, I.A. 2010. **A synopsis of the genus *Sibara* (Brassicaceae).** Harvard Papers in Botany 15(1):139-147. [none of this genus in NM]

Bessette, A.E., D.B. Harris, & A.R. Bessette. 2009. **Milk Mushrooms of North America: A Field Identification Guide to the Genus *Lactarius*.** Syracuse Univ. Press.

Brown, P.M. 2008. **Lady's-slippers in Your Pocket: A Guide to the Native Lady's-slippers Orchids, *Cypripedium*, of the United States and Canada.** Univ. Iowa Press

Cervantes, S.D., P. Tonne, R. Govindarajulu, P.J. Alexander, & C.D. Bailey. 2010. **Population genetic analysis of *Argemone pleiacantha* subsp. *pinnatisecta* (Sacramento prickly poppy, Papaveraceae) and re-evaluation of its taxonomic status.** *J. Bot. Res. Inst. Texas* 41(1):261-269. [=*Argemone pinnatisecta*]

Dorn, R.D. 2010. **The genus *Salix* in North America north of Mexico.** Mountain West Environmental Services, Lingle, Wyoming; pdf download at lulu.com

Henrickson, J. 2010. **Comments on a revision of *Celtis* subgenus *Mertensia* (Celtidaceae) and the recognition of *Celtis pallida*.** *J. Bot. Res. Inst. Texas* 4(1):287-293.

Heywood, V.H., R.K. Brummitt, A. Culham, & O. Seberg. 2007. **Flowering Plant Families of the World.** Royal Botanic Gardens, Kew. [lastest revision of a classic]

Jercinovic, E.M. 2009. **Noteworthy collections.** *Madroño* 56 (4):295. [*Boerhavia pterocarpa* in NM]

KaesukYoon, C. 2009. **Naming Nature: The Clash Between Instinct and Science.** W.W. Norton & Co.. ISBN 978-0-393-06197-0.

Legler, B.S. 2010. Additions to the vascular flora of New Mexico. *J. Bot. Res. Inst. Texas* 4(2):777-784.

Mao, K., G. Hao, J. Liu, R.P. Adams, & R.I. Milne. 2010. **Diversification and biogeography of *Juniperus* (Cupressaceae): variable diversification rates and multiple intercontinental dispersals.** *New Phytologist* 188:254-272.

Nesom, G.L. 2010. **Taxonomy of the *Glandularia bipinnatifida* group (Verbenaceae) in the USA.** *Phytoneuron* 2010-46:1-20.

O'Kane, S.L., K.D. Heil, & G.L. Nesom. 2010. **Variation in *Erigeron grandiflorus* (Asteraceae: Astereae) in southwestern Colorado.** *Phytoneuron* 2010-44:1-6.

Spellenberg, R. 2010. **A new varietal combination, typification, and nomenclatural comments in the Nyctaginaceae for the Intermountain flora.** *J. Bot. Res. Inst. Texas* 4(1):207-211.

Turner, B.L. 2010. **Taxonomy and distribution of *Dalea wrightii* (Fabaceae).** *Phytoneuron* 2010-45:1-5.

Van Ee, B.W. & P. E. Berry. 2010. Taxonomy and Phylogeny of *Croton* Section *Heptallon* (Euphorbiaceae). *Syst. Bot.* 35 (1):151-167.

Welsh, S.L. & M. Licher. 2010. ***Pediomelum* Rydberg (Leguminosae) in Arizona and two previously undescribed species.** *West. N. Amer. Natural.* 70(1):9-18.





Plant Distribution Reports

New records and significant distribution reports for New Mexico plants should be documented by complete collection information and disposition of a specimen (herbarium). Exotic taxa are indicated by an asterisk (*), endemic taxa by a cross (+). Comments [in brackets] are the editor's.

— Richard Worthington [P.O. Box 13331, El Paso, TX 79913]

Carex frankii Kunth (Cyperaceae, Frank's sedge): Eddy County: Guadalupe Mts, Lincoln National Forest, Sitting Bull Falls Recreation Area, T24S, R22E sec. 4, stream above the falls, 18 July 1998, R.D. Worthington 27693 (UTEP). Det: A.A. Reznicek. [first verified occurrence of this species in NM]

— Eugene Jercinovic [see Botanical Literature of Interest]

Boerhavia pterocarpa S. Watson (Nyctaginaceae, winged spiderling). [first report for NM]

— Michael Windham [Duke University, Biology Dept., Box 90338, Durham, NC 27708]

Cheilanthes horridula Maxon (Pteridaceae, horrid lipfern): Eddy County: NE of Whites City along rocky draw on high ridge overlooking US 180, ca. 2.67 km SE of Jurnigan Spring, T24S, R26E, Sec. 19, N32°12'28" W104°20'15" (WGS84 Datum), 3700 ft, 8 Aug 2007, M.D. Windham 3495 (DUKE, NMC, UNM). [re-establishes and confirms this species in NM]

— Robert Sivinski [NM Forestry Division, P.O. Box 1948, Santa Fe, NM 87504] and Phil Tonne [Natural Heritage New Mexico, University of New Mexico, Albuquerque, NM 87131]

Hypericum mutilum Linnaeus (Clusiaceae: dwarf St. John's-wort): Hidalgo County, Diamond A Ranch, south end of Animas Valley just north of Mexican border, Lang Cienega at Cienega Spring on wet organic soil, N31.33673 W108.81068 NAD83, 5150 ft, 16 Sep 2010, R.C. Sivinski with P. Tonne 7851 (UNM). [first report of this small-flowered annual species from New Mexico]

— Ben S. Legler [see Legler 2010, in Botanical Literature of Interest, for complete collection information]

Heterotheca pumila (Greene) Semple (Asteraceae, alpine golden-aster): Taos County. [first report]

Draba streptobrachia R.A. Price (Asteraceae, alpine whitlow-grass): Taos County. [first report]

Carex microglochin Wahlenberg subsp. **microglochin** (Cyperaceae, few-seeded sedge): Colfax County. [first report]

Carex nelsonii Mackenzie (Cyperaceae, Nelson's sedge): Taos County. [first report]

Eriophorum scheuchzeri Hoppe (Cyperaceae, Scheuchzer's cotton-grass): Taos County. [first report]

Kobresia simpliciuscula (Wahlenberg) Mackensie (Cyperaceae, simple kobresia): Colfax County. [first report]

Juncus alpinoarticulatus Chaix (Juncaceae, northern rush): Colfax County. [first report]

Juncus biglumis Linnaeus (Juncaceae, two-flowered rush): Taos County. [first report]

Juncus parryi Engelm. (Juncaceae, Parry's rush): Taos County. [first report]

Juncus triglumis Linnaeus var. **triglumis** (Juncaceae, three-flowered rush): Taos County. [first report]

Botrychium hesperium (Maxon & Clausen) W.H. Wagner & Lellinger (Ophioglossaceae, western moonwort): Colfax, Rio Arriba, Santa Fe, & Taos counties. [first report]

Botrychium lineare W.H. Wagner (Ophioglossaceae, slender moonwort): Taos County. [first report]

Botrychium minganense Victorin (Ophioglossaceae, Mingan moonwort): Cibola, Colfax, Lincoln, Rio Arriba, Santa Fe, & Taos counties. [first report]

Botrychium multifidum (S.G. Gmelin) Trevisan (Ophioglossaceae, leathery moonwort): Taos County. [first verified report]

Botrychium pinnatum H. St. John (Ophioglossaceae, northwestern moonwort): Colfax, Santa Fe, & Taos counties. [first report]

Botrychium tunux Stensvold & Farrar (Ophioglossaceae, moosewort): Taos County. [first report]

Listera borealis Morong (Orchidaceae, northern twayblade): Taos County. [first report]

***Bromus squarrosus** Linnaeus (Poaceae, corn brome): Colfax County. [first report]

Festuca hallii (Vasey) Piper (Poaceae, Hall's fescue): Taos County. [first report]

Ptilagrostis porteri (Rydberg) W.A. Weber (Poaceae, Porter's false-needlegrass): Colfax County. [first report]

Polemonium occidentale Greene var. **occidentale** (Polemoniaceae, western Jacob's-ladder): Colfax, Rio Arriba, & Taos counties. [first report]

Eriogonum arcuatum Greene var. **xanthum** (Small) Reveal (Polygonaceae, Baker's wild-buckwheat): Taos County. [first report]

Crataegus chrysocarpa Ashe var. **chrysocarpa** (Rosaceae, red hawthorn): Colfax County. [first report]

Potentilla nivea Linnaeus (Rosaceae, snow cinquefoil): Taos County. [first verified report]

***Rosa canina** Linnaeus (Rosaceae, dog rose): Colfax County. [first report]

— Robert Sivinski [NM Forestry Division, P.O. Box 1948, Santa Fe, NM 87504]

Ephedra coryi E.L. Reed (Ephedraceae, Cory's ephedra): Eddy County, County Road 217, 1.9 miles north of U.S. Hwy 82 and Loco Hills, in sand shinnery on BLM land, T17S R30E Sec 16, 1125 m, 16 Apr 2002, R.S. Peterson 02-46 (NM Natural History Institute Herbarium). [validates this rhizomatous psammophile for NM]

Rotala ramosior (Linnaeus) Koehne (Lythraceae, lowland toothcup): The earlier report of this species (Sivinski, R. 2002. New plant distribution reports. The New Mexico Botanist 24:7.) was in error; the identification of the plant in question is corrected to *Ludwigia palustris*. *Rotala ramosior* has yet to be collected in NM.

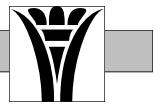
— Relf L. Price [3521 Pueblo Drive, Los Alamos, NM 87545]

Warnstorffia fluitans (Hedwig) Loeske (Bryophyta: Musci: Amblystegiaceae): Sandoval County: Jemez Mountains, Valles Caldera National Preserve, Alamo Fen, Caribbean Pond, N35° 55'01.47" W106°35'41.16", submerged in artificial acidic pond, pH 1-4, associated species includes the xanthophyte *Tribonema affine*, 8500 ft, 27 June 2008, R.L. Price 1 (COLO, VCNP). Det: W.A. Weber. [This is the first report of this species from New Mexico]



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

— *Linnæus*



Publication and Subscription Information

"The New Mexico Botanist" is published irregularly (as information accrues), and distributed as a pdf file via email. You may be placed on the mailing list by sending us your name and email address:

Kelly Allred
Email: kallred@nmsu.edu
or

The New Mexico Botanist
Email: kbustos@nmsu.edu

Available on-line at <http://aces.nmsu.edu/academics/rangescienceherbarium/>

Kelly Allred, editor

A handwritten signature of the name "Kelly Allred".



COOPERATIVE EXTENSION SERVICE
U.S. Department of Agriculture
New Mexico State University
Las Cruces, NM 88003