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In This Issue —

VASCULAR PLANTS OF SOME SANTA ROSA WETLANDS, EAST-CENTRAL NEW MEXICO

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The Santa Rosa area in Guadalupe County, New Mexico is well known among scuba divers for its Karst topography of numerous deep, spring-fed sinkholes. The fact that the Town of Santa Rosa sits within much of the last, best, natural wetland habitat in New Mexico is less well known. Relatively large expanses of municipal and private property in Santa Rosa consist of permanent and seasonal wet meadows or 'Cienegas' and the sinkhole lakes are ringed with excellent examples of fresh water and alkaline marshlands.

After visiting the municipally owned wetlands and viewing adjacent private lands, it became obvious to us that the Santa Rosa wetlands are in danger of eventually disappearing. Many acres of cienega habitat have been ditched, plowed and planted with non-native grasses for livestock pasture. Springs, sinkhole lakes, El Rito Creek, and adjacent cienegas are being developed by the town and other private interests for scuba diving, swimming, fishing, field sports and other recreational activities. Much of the private cienega habitats have been severely grazed by livestock for many years. Despite these impacts, a great amount of wetland plant diversity and several acres of natural cienega remain in this area. The following checklist of plants will, hopefully, provide an historical benchmark of native and exotic species for botanists who may assess this area again in the future.

Physical Setting

Santa Rosa region lies within the Rio Pecos valley of east-central New Mexico at an elevation of about 1,400 meters. Santa Rosa and Blue Hole Spring, occur near the northeast edge of a six-mile-wide sink caused by the dissolution of the underlying San Andres limestone and gypsum and the collapse of the overlying Santa Rosa Sandstone (Kelley 1972). The strata dip to the east and water passing through the soluble layers comes to the surface in the sink creating numerous seeps and springs. Large springs, like Blue Hole Spring, are uncommon. The groundwater of this regional sink usually comes up in broad-area seeps that cause most of the soils to be saturated to the surface or root-zone. The Rio Pecos has cut through the sink probably at its deepest point (i.e., the deepest level of the dipping San Andres limestone), near its eastern edge. Within the Santa Rosa sink itself are smaller subsidence features, including six sink holes that fill with water and become small lakes.

Plant Communities

Santa Rosa occurs within the western short-grass prairie subdivision of the Great Plains floristic region, but is also influenced by elements from the Chihuahuan Desert flora. The local area is a topographical complex of sandstone and shale outcrops exposed by regional subsidence and erosion of the Rio Pecos. It is more scrubland than prairie and is dominated woody species such as *Juniperus monosperma, Rhus trilobata* and *Prosopis glandulosa*. The wetlands are in the bottom of the regional depression and are represented by the following types:

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(Wetlands, continued from page 1)

- Emergent wetland of mostly *Schoenoplectus* sp. and *Typha latifolia* around sinkhole lakes and along El Rito Creek.
- Riparian margins along El Rito Creek and Blue Hole Spring run, which are slightly elevated and dominated by *Baccharis salicina, Apocynum cannabinum* and other woody species.
- Wet cienega with fine-sand, soils that are alkaline and saturated to at or near the surface during most months of the year. These wet meadows are dominated by *Distichlis spicata, Juncus arcticus* var. *balticus.*
- Subirrigated cienega of alkaline, fine-sand soils that are wet on the surface during winter and spring and are relatively dry at the surface by mid-summer. These areas are dominated by *Sporobolus airoides, Isocoma pluriflora,* and occasional halophytes such as *Suaeda calceoliformis.*
- Tall-grass prairie of *Sorghastrum nutans* occurs on deep, sandy, alkaline soils that are usually moist at the soil surface and also subirrigated by groundwater.

The latter two categories my not be called wetlands by some plant ecologists, but are distinctly associated with spring seeps of the Santa Rosa cienegas. Floristic elements of tall-grass prairie such as *Spiranthes magnicamporum, Fimbristylis puberula* var. *interior* and many acres of *Sorghastrum nutans* are distributional disjuncts that would not be here without these spring seeps. Most of the wetland plant species at Santa Rosa are common to western North American wetlands. A few species such as *Flaveria chlorifolia, Helianthus paradoxus* and *Limonium limbatum* have their floristic affinities closer to home in New Mexico and Trans-Pecos Texas wetlands.

Rare Plants

The large population of *Helianthus paradoxus* is especially noteworthy in the Santa Rosa wetlands. This sunflower is listed as a 'Threatened' species under the federal Endangered Species Act and is also listed as 'Endangered' by the New Mexico Endangered Plant Species Act. In our study area, it is well established around the municipal fishing ponds between Blue Hole Spring and El Rito Creek, and a very large population of occurs in the cienega between Blue Hole Spring and Highway 91. A small patch of *H. paradoxus* is persists at Perch Lake and a few plants can be found in the *Distichlis-Juncus* cienega at Power's Dam Park during wet years.

Cirsium wrightii is another rare, southwestern wetland plant that occurs in the Santa Rosa wetlands. This rare thistle is scattered throughout the study area on marshy, permanently wet soils. It is considered a 'Species of Concern' by the federal government and the State of New Mexico because its wetland habitats and historical range have diminished since its discovery in 1851

Two relatively rare orchids, *Spiranthes magnicamporum* and *Epipactis gigantea*, were found at single locations near the Blue Hole Road bridge over El Rito Creek. Both populations were destroyed in 2003 by road renovation and construction of a sidewalk. Neither orchid could be located elsewhere in the study area. *Spiranthes magnicamporum* is listed as a State of New Mexico Endangered Species because it is threatened with extirpation from the state. Some other wetland species may have already disappeared from the Santa Rosa wetlands. *Spartina gracilis* Trinius was found here in 1945 (Allred 1993), but could not relocated by us during our partial survey of these wetlands.

Non-Native Species

Twenty non-native plant species were found in the Santa Rosa wetlands during this survey of the vegetation. Surprisingly, there are few serious infestations of exotic wetland species in this area. The non-native trees *Elaeagnus angustifolia* and *Tamarix chinensis* have gained strong footholds on the tall-grass cienegas and wetland margins, especially along El Rito Creek. The increasing Russian olive population is presently the most serious weed problem in the Santa Rosa wetlands.

The List

The following is an annotated checklist for the Santa Rosa wetland flora. Nomenclature conforms to Allred (2002) and all specimens cited have been deposited at the University of New Mexico Herbarium in Albuquerque. Our studies were confined to four general areas:

BH = Blue Hole Spring. This area includes Blue Hole Spring and its runoff channel; drainage channels along Blue Hole Road; the old fish hatchery that is presently used for recreational fishing, and the large cienega between the spring and Highway 91.

ER = El Rito Creek. Aquatic habitats and elevated riparian margins of the creek from the near the old fish hatchery to Highway 91. (El Rito Creek translates to English as The Creek Creek – an unfortunate redundancy in this established geographical name.)

PD = Power's Dam, which is a recreational fishing and picnicking site at an impoundment of El Rito Creek south of Highway 91.

PL = Perch Lake. A large sinkhole lake south of Highway 91 that is partially developed for scuba diving and picnicking.

Our impression of a species' general abundance in an area is expressed in the following numerical sequence:

1 = Rare. Very few individual plants or in small, infrequent patches.

2 = Occasional. Not continuous in distribution, but often encountered in suitable habitats.

3 = Common. Frequently encountered and nearly continuous in suitable habitats.

Non-native species are marked with an asterisk (*).

(*Continued on page 3, Wetlands*)

(Wetlands, continued from page 2)

ANNOTATED CHECKLIST OF VASCULAR PLANTS

FERNS AND FERN ALLIES

Equisetaceae - Horsetail Family

Equisetum laevigatum A. Br. SMOOTH SCOURING RUSH; BH-1, ER-1; *Bleakly 4080*.

Pteridaceae – Maiden-hair Fern Family

Adiantum capillus-vernis L.; SOUTHERN MAIDEN-HAIR; BH-1, ER-1; *Sivinski 5778, Bleakly 4861*; on hand-laid limestone blocks under small bridge at Blue Hole outlet and on travertine at confluence of Blue Hole Spring run and El Rito Creek.

ANGIOSPERMS – Dicotyledonous Plants

Apiaceae – Parsley Family

Berula erecta (Hudson) Cov.; WATER-PARSNIP; BH-1; *Sivinski 5398, Bleakly 4209, 4551*.

Apocynaceae - Dogbane Family

Apocynum cannabinum L.; INDIAN HEMP; BH-3, ER-3, PD-3; PL-2; *Sivinski 3715, Bleakly 4547.*

Asclepiadaceae - Milkweed Family

Asclepias incarnata L. subsp. *incarnata*; SWAMP MILKWEED; BH-1; *Sivinski 3237*; a single location in large cienega below Blue Hole parking lot.

Asclepias speciosa Torr.; SHOWY MILKWEED; BH-2, ER-1, PD-2, PL-2; *Sivinski 3710, Bleakly 4854.*

Asteraceae - Aster Family

Ambrosia psilostachya DC.; PERENNIAL RAGWEED; BH-1, PD-1; *Sivinski 4649*.

Baccharis salicina Torr. & Gray; GREAT PLAINS SEEP-WILLOW; BH-3, ER-3, PD-3, PL-3; *Sivinski 2069, Bleakly 4194*.

Cirsium wrightii A. Gray; WRIGHT'S MARSH-THISTLE; BH-2, PD-1, PL-1; *Sivinski 2853, Bleakly 4199*; on NM and federal 'Species of Concern' list.

Conyza canadensis (L.) Cronq.; CANADIAN HORSEWEED; BH-1 PD-1; *Sivinski 5793*.

Crepis runcinata (James) Torr. & Gray subsp. *glauca* (Nutt.) Babcock & Stebbins; FIDDLE-LEAF HAWK'S BEARD; BH-2, PD-1; *Sivinski 2697*.

Euthamia occidentalis Nutt.; WESTERN GOLDENTOP; BH-2; *Sivinski 2071*.

Flaveria campestris J.R. Johnst.; ALKALI YELLOWTOPS; PD-1; *Sivinski 4651*.

Flaveria chlorifolia A. Gray; CLASPING YELLOWTOPS; BH-3, ER-1, PD-3, PL-3; *Sivinski 4078, Bleakly 4198, 4421*.

Helenium autumnale L. var. *montanum* (Nutt.) Fern.; FALL SNEEZEWEED; BH-3, ER-2, PD-2, PL-2; *Sivinski 2070, Bleakly 4422*.

Helianthus annuus L.; COMMON SUNFLOWER; BH-2, ER-1, PD-1; *Sivinski 3711, Bleakly 4204*; occasional on wet soils. Rarely produces hybrid individuals with *H. paradoxus.*

Helianthus paradoxus Heiser; PECOS SUNFLOWER; BH-3, PD-1, PL-1; *Sivinski 2066*; on NM 'Endangered' list and federal 'Threatened' list.

Isocoma pluriflora (Torr. & Gray) Greene; SOUTHERN JIM-MYWEED; BH-3, ER-3, PD-3, PL-2; *Sivinski 4080*.

Machaeranthera pinnatifida (Hook.) Shinners; LACY SPINE-ASTER; BH-2, ER-1, PD-2, PL-1; *Sivinski 3943*.

Pseudoclappia arenaria Rydb.; CLAPDAISY; BH-1, PD-2; *Sivinski 3709*.

Pyrrhopappus pauciflorus (D. Don) DC.; FALSE DANDY-LION; BH-1; *Sivinski 3428, Bleakly 4077, 4552*.

Solidago canadensis L.; CANADA GOLDENROD; BH-3, ER-3, PD-3, PL-3; *Sivinski 2068, Bleakly 4194*.

**Sonchus asper* (L.) Hill; SPINY-LEAF SOW-THISTLE; BH-2, ER-2, PD-2; PL-1; *Sivinski 3708*.

Symphyotrichum ericoides (L.) Nesom; HEATH ASTER; BH-3, ER-1, PD-1, PL-1; *Sivinski 4650, Bleakly 4420.*

Brassicaceae – Mustard Family

**Nasturtium officinale* R.Br.; WATERCRESS; BH-1; *Sivinski 5396, Bleakly 4553.*

Chenopodiaceae - Goosefoot Family

Allenrolfea occidentalis (S. Wats.) Kuntze; IODINEBUSH; BH-1, PD-1; *Sivinski 3714*.

**Chenopodium glaucum* L.; OAK-LEAF GOOSEFOOT; PD-1; *Sivinski 5796*.

**Kochia scoparia* (L.) Schrad.; KOCHIA; BH-3, ER-2, PD-3, PL-2; *Sivinski 4083*.

Suaeda calceoliformis (Hook.) Moquin; LOW SEEPWEED; BH-1, PD-1; *Sivinski 2612*.

Convolvulaceae - Morning Glory Family

**Convolvulus arvensis* L.; FIELD BINDWEED; BH-3, PD-2, PL-1; *Sivinski 3725*.

Elaeagnaceae - Oleaster Family

**Elaeagnus angustifolia* L.; RUSSIAN OLIVE; BH-3, ER-3, PD-3, PL-1; *Sivinski 3712.*

Euphorbiaceae – Spurge Family

Euphorbia davidii Subils; DAVID'S SPURGE; BH-1; *Bleakly 4196*.

(*Continued on page 4, Wetlands*)

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

(Wetlands, continued from page 3)

Fabaceae - Pea Family
Desmanthus illinoensis (Michx.) MacM. Ex B.L. Robins. & Fern.; PRAIRIE BUNDLEFLOWER; ER-1; *Bleakly 4197*.
Glycyrrhiza lepidota (Nutt.) Pursh; AMERICAN LICORICE; BH-1, ER-2, PD-3, PL-2; *Sivinski 3712*.
**Melilotus officinalis* (L.) Lam.; YELLOW SWEET-CLOVER; BH-2, ER-2, PD-2, PL-1; *Sivinski 3733*.

Gentianaceae - Gentian Family
Eustoma exaltatum (L.) Salisbury ex G. Don; PRAIRIE GENTIAN, BH-2, PD-2; *Sivinski 3945, Bleakly 4191, 4858.*

Grossulariaceae – Gooseberry Family
Ribes aureum Pursh var. *villosum* DC.; BUFFALO CURRANT; BH-1, ER-1; *Bleakly 3905*.

Moraceae – Mulberry Family
**Morus alba* L.; WHITE MULBERRY; BH-1, ER-1; *Sivinski 5791*

Onagraceae - Evening Primrose Family
Gaura mollis James; VELVET-WEED; BH-2, ER-1, PD-2; *Sivinski 3707*.
Ludwigia repens Forst.; WATER PRIMROSE; BH-3, ER-3, PD-3, PL-2; *Sivinski 4088, Bleakly 4546*; this aquatic plant is very abundant in El Rito Creek and the Blue Hole Spring run.

Plumbaginaceae - Plumbago Family
Limonium limbatum Small; SOUTHWESTERN SEA LAVENDER; BH-2, PD-3, PL-2; *Sivinski 3947*.

Polygonaceae - Buckwheat Family
**Polygonum lapathifolium* L.; DOCK-LEAF SMARTWEED; BH-1; *Sivinski 5794*.
Rumex altissimus Wood; PALE DOCK; BH-2, ER-1, PD-1; *Sivinski 3731, Bleakly 4076.*

Rosaceae – Rose Family
Potentilla anserina L.; SILVERWEED; BH-2; *Sivinski 3727*.

Salicaceae - Willow Family
Populus deltoides Bartram ex H. Marshall subsp. *monilifera* (Aiton) Echenw.; EASTERN COTTONWOOD; BH-2, ER-2, PD-1, PL-1; *Sivinski 3729*.
**Salix babylonica* L.; WEEPING WILLOW; BH-1; *Sivinski 3734*; a single old tree at pond edge.
Salix exigua Nutt.; COYOTE WILLOW; BH-3, ER-3, PD-3, PL-3; *Sivinski 3735*.

Solanaceae – Nightshade Family
Solanum elaeagnifolium Cav.; SILVERLEAF NIGHTSHADE; BH-2; ER-2, PD-1; *Sivinski 3724*.

Tamaricaceae - Tamarisk Family
**Tamarix chinensis* L.; SALTCEDAR; BH-2, PD-3, PL-2; *Sivinski 3713*.

Ulmaceae - Elm Family
**Ulmus pumila* L.; SIBERIAN ELM, BH-2, ER-1, PD-1; *Sivinski 3942*.

Vitaceae – Grape Family
Parthenocissus vitacea (Knerr) A.S. Hitchc.; THICKET CREEPER; BH-1, ER-1; *Sivinski 5792*.

ANGIOSPERMS – Monocotyledonous Plants

Cyperaceae - Sedge Family
Cladium californicum (S. Wats.) O'Neill; CALIFORNIA SAWGRASS; BH-1; *Sivinski5777*; three large plants along the Blue Hole Spring run near its confluence with El Rito Creek. Probably the northern range extreme of this species in New Mexico.
Cyperus odorata L.; RUSTY FLATSEDGE; PD-1; *Bleakly 4860*; uncommon at edge of Power Dam Lake
Eleocharis rostellata (Torr.) Torr.; BEAKED SPIKE-RUSH; BH-2, PD-3, PL-2; *Sivinski 3250, Bleakly 4208, 4451*.
Fimbristylis puberula (Michx.) Vahl var. *interior* (Britt.) Kral; HAIRY FIMBRY; BH-1, PD-2; *Sivinski 2608, Bleakly 4200, 4548*.
Schoenoplectus acutus (Muhl. ex Bigelow) A.& D. Löve; HARDSTEM BULLRUSH; BH-1; ER-1; PD-3; PL-2; *Sivinski 3952, Bleakly 4071, 4555, 4859*.
Schoenoplectus americanus (Pers.) Volk *ex* Schinz & R. Keller; CHAIRMAKER'S BULLRUSH; BH-3, ER-1, PD-3, PL-3; *Sivinski 3249, 3953.*
Schoenoplectus pungens (Vahl) Palla var. *longispicatus* (Britt.) S.G. Smith; THREE-SQUARE BULLRUSH; BH-1; PD-1; PL-1; *Sivinski 3716, Bleakly 4073, 4550.*

Iridaceae – Iris Family
Sisyrinchium montanum Greene; MOUNTAIN BLUE-EYED-GRASS; BH-2; *Sivinski 3726, Bleakly 4072.*

Juncaceae - Rush Family
Juncus arcticus Willd. var. *balticus* (Willd.) Trautvetter; BALTIC RUSH; BH-3, ER-3, PD-3, PL-3; *Sivinski 2067, Bleakly 4074, 4075*.
Juncus torreyi Coville; TORREY'S RUSH; BH-1, ER-1, PD-1; *Sivinski 5397, Bleakly 4192 4554*.

Juncaginaceae – Arrowgrass Family
Triglochin maritimum L.; SEASIDE ARROWGRASS; PL-1; *Sivinski 5795*. Seen only on the north edge of Perch Lake.

Liliaceae - Lily Family
**Asparagus officinalis* L.; ASPARAGUS; BH-1 ER-1; *Sivinski 3728; Bleakly 4192.*

Orchidaceae – Orchid Family
Epipactis gigantea Dougl. ex Hook.; GIANT HELLEBORINE; BH-1; *Bleakly 4079*; this small population was destroyed by road construction in 2003.

(Continued on page 5, Wetlands)

(Wetlands, continued from page 4)

Spiranthes magnicamporum Sheviak; GREAT PLAINS LADIES-TRESSES; BH-1; *Sivinski 5690*; on NM 'Endangered' list. Approximately 20 plants occurred along the edge of Blue Hole Road, but were paved over with a sidewalk in 2003.

Poaceae - Grass Family

**Agrostis gigantea* Roth; REDTOP; BH-2, ER-1, PD-2, PL-1; *Sivinski 3251*.

**Arundo donax* L.; GIANT REED; ER-1, PD-2; *Sivinski 4648*.

**Bromus catharticus* Vahl; RESCUE GRASS; BH-1, ER-1, PD-1; *Sivinski 3719, Bleakly 3906*.

**Cynodon dactylon* (L.) Pers.; BERMUDAGRASS; BH-1; *Sivinski 3736*.

Dichanthelium acuminatum (Swartz) Gould & Clark; WOLLY ROSETTEGRASS; BH-1; *Sivinski 5782*.

Distichlis spicata (L.) Greene; INLAND SALTGRASS; BH-3, ER-2, PD-3, PL-3; *Sivinski 3723, Bleakly 4856*.

Elymus canadensis L.; CANADA WILDRYE; BH-2, ER-1, PD-2; PL-1; *Sivinski 3718*.

Elymus trachycaulis (Link) Gould ex Shinners; SLENDER WHEATGRASS; PD-2; *Sivinski 3954*; probably introduced here as a pasture grass.

**Festuca pratensis* Huds.; MEADOW FESCUE; BH-2, ER-2, PD-2, PL-1; *Sivinski 3720, Bleakly 4078*.

Hordeum jubatum L.; FOXTAIL BARLEY; BH-1, PD-1, PL-1; *Sivinski 3721*.

Hordeum pusillum Nutt.; LITTLE BARLEY; BH-1; *Sivinski 3717*.

Muhlenbergia asperifolia ((Nees & Mey. *ex* Trin.) Parodi; SCRATCHGRASS; BH-2, PD-1; *Sivinski 3946, Bleakly 4202, 4419*.

Panicum capillare L.; WITCHGRASS; BH-1; *Bleakly 4203*.

Panicum obtusum H.B.K.; VINE MESQUITE; BH-1; *Sivinski 4604*.

Panicum virgatum L.; SWITCHGRASS; BH-2, ER-1, PD-1, PL-2; *Sivinski 3941*.

Phragmites australis (Cav.) Steud.; COMMON REED; BH-3, ER-2, PD-3, PL-3; *Sivinski 4086, Bleakly 4549*.

Poa arida Vasey; PLAINS BLUEGRASS; BH-1, PD-1; *Sivinski 3722*.

**Polypogon monspeliensis* (L.) Desf.; RABBITFOOTGRASS; BH-2, ER-2, PD-2, PL-2; *Sivinski 3948, Bleakly 4423, 4556*.

**Sorghum halepense* (L.) Pers.; JOHNSONGRASS; BH-1; *Sivinski 3732*.

Sorghastrum nutans (L.) Nash; INDIANGRASS; BH-3, ER-2, PD-3, PL-3; *Sivinski 2109, Bleakly 4857*.

Sporobolus airoides (Torr.) Torr.; ALKALI SACATON; BH-3, ER-3, PD-3, PL-3; *Sivinski 3944*.

Sporobolus compositus (Poiret) Merrill; TALL DROPSEED; PD-1; *Sivinski 5766*.

Ruppiaceae – Ditch-grass Family

Ruppia cirrhosa (Petagna) Grande; SPIRAL DITCH-GRASS; BH-3, ER-2, PD-2, PL-3; *Sivinski 5797*.

Typhaceae - Cat-tail Family

Typha domingensis; SOUTHERN CATTAIL; BH-1; *Bleakly 4207, 4424*.

Typha latifolia L.; BROADLEAF CATTAIL; BH-2, ER-2, PD-3, PL-3; *Sivinski 4085*.

ACKNOWLEDGEMENTS

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Miscellaneous

- **Online Keys** at <http://flora.huh.harvard.edu:8080/actkey/index.jsp> for Brassicaceae of the World and *Salix* of North America.
- **Botany 2004**: Alpine Diversity: Adapted to the Peaks. July 31 to August 5, 2004. Snowbird Resort, Salt Lake City, Utah
- Software for botanical information, photos, field data, etc.: see the **Compleat Botanica** at <crescentbloom.com>
- **Native Plant Conservation Workshops, April 2004, Carlsbad Caverns National Park**. Throughout April 2004 the Carlsbad Caverns/Guadalupe Mountains Association will sponsor free programs for the public focusing on native plant conservation. With trailside workshops taking place each weekend, visitors, and amateur and professional naturalists, artists, and writers will be converging at the park to participate in interactive workshops lead by professionals. Topics include wildflower photography with Gustav Verderber, nature journaling with Sandra Lynn, drawing wildflowers with Donald Davidson, which cactus is this? with Dave Ferguson, Curator, native plant lore with Emily Buehler, and native plant identification with William Reid. For more information and to register, please contact Paula Bauer at 505-785-3131 or via e-mail at *paula_bauer@nps.gov*.

A Note On *Botrychium* in New Mexico

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Botrychium echo W. H. Wagner (Ophioglossaceae). NM, Catron Co., Gila Wilderness, ca. 10 air miles ESE of Mogollon, on Crest Trail 182, 2.5 mi SE of Sandy Point, in spruce, fir and aspen forest, elev. 10,000, 5 Sep 1976, *Spellenberg, Reitzel, & Hill* 4528 (NMC).

The Ophioglossaceae collections of the Biology Department Herbarium at New Mexico State University were recently returned by the University of Michigan, where they were used in the preparation of a treatment for the family by W. H. Wagner, Jr., and F. S. Wagner in Flora of North America 2:85-106 (FNA). The return of one of the specimens finally solves a long-nagging problem of correct identification in this difficult group of fascinating plants (see K. W. Allred, 2002, A Working Index of NM Vascular Plants, p. 2, *B. lunaria*).

I originally identified newly collected NMSU specimen of *Botrychium* (grape fern) as *B. matricariifolium* A. Br. ex Koch, where it would have represented a widespread Rocky Mountain taxon once known as the var. *hesperium* Maxon & Clausen found from northern Arizona to southern Canada, but now known as *B. hesperium* (Maxon & Clausen) W. H. Wagner & Lellinger in FNA. *Botrychium matricariifolium* in the strict sense is a taxon found east of the Great Plains (FNA). In 1977 B. Isaacs (Grape Ferns of New Mexico, Native Pl. Soc. of NM News, Oct. 1-2) reviewed the grape ferns for the state, suggesting that *B. matricariifolium* may occur in the state, but that no records were known. In Allred's work, the NMSU specimen was placed in *B. lunaria* (L.) Swartz, a species recorded for the state by Isaacs, and later listed for NM by Lellinger (1985, A Field Manual of the Ferns and Fern-Allies of the United States & Canada). *Botrychium lunaria*, though, is very different, with broad fan-shaped overlapping pinnae, a species not listed for NM in FNA, although the accompanying thumbnail map shows the species to occur in the extreme NW corner of the state, probably an error resulting from early problems of preparing computer-drawn maps. Isaacs's records [for *B. lunaria* and *B. lanceolatum* (S.G. Gmelin) Ångström] either were overlooked or identifications by the Wagners were different (Isaacs's specimens have not been seen by me, and were not found at UNM by Jane Mygatt). Although there are several similar slight errors in mapping for *Botrychium* species, only *B. virginianum* and *B. lanceolatum* subsp. *lanceolatum* are listed for NM in FNA. Isaacs records of *B. lanceolatum* from Sangre de Cristo Mts. are not mapped, suggesting the Wagners did not see his specimens.

The existence of *B. echo* in NM apparently also was overlooked in the preparation of the FNA treatment. Fortunately, the NMSU specimen was annotated by Ed Alverson (15 May 1984) in pencil, providing an authoritative identification (Dr. Wagner did not annotate the other specimens before his death). It also keys to *B. echo* in Wagners' FNA treatment. A search of the UNM herbarium by Jane Mygatt turned up a another earlier record, distant from the Mogollon site, of *B. echo* in NM, the specimen first identified as *B. lanceolatum* and later annotated as *B. echo* by W. Hank in 2001 (Rio Arriba County, San Pedro Peak, San Pedro Parks Wilderness Area. T22N, R1E, at 10,500 ft. 7/25/1964, *Annehara Fleck, sn*.) Clearly, Isaacs's records, and the genus *Botrychium* in NM, need to be re-examined in light of the FNA review of the genus. 🕮

What's In A Name?

In reviewing the common names of the grasses in New Mexico, one finds that our short life-span (relatively speaking) sometimes renders us oblivious to the vagaries of *nomina vulgaria*. Consider this from the early days (oh, 1910s or so) of New Mexico agrostology: Bush muhly and sideoats grama were both called mesquite grass, foxtail barley was called squirreltail, bristlegrass was called foxtail, alkali sacaton was called saltgrass, saltgrass was called alkali grass, alkali lovegrass was called Mexican saltgrass. threeawns and burrograss were called needlegrass, needlegrass was called porcupine grass, tobosa was called black grama, black grama was called wooly foot, blue grama was called white grama, western wheatgrass was called bluestem, bluestem was called sage grass, creeping muhly was called aparejo grass, bromegrass and oatgrass were called wild oats (as were wild oats), tumble grass was called crab grass, common reed was called carrizo, and stinkgrass was called candy grass.

While we're at it, we find that other, lesser plants (of doubtful integrity) like to get in on the action: viper-grass, Whitlow-grass, grass-of-Parnassus, serpent-grass, mat-grass, saw-grass, cotton-grass, eel-grass, blue-eyed-grass, arrow-grass, star-grass, bear-grass, and ditch-grass — none are grasses!

A while back one of my colleagues took me to task for calling Lehmann lovegrass, Lehmann's lovegrass. Hrrumph! ☺

Botanical Literature of Interest

Taxonomy and Floristics

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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 (+).

— Chick Keller [4470 Ridgeway, Los Alamos, NM 87544]

Cinna latifolia (Goeppert) Grisebach (Poaceae): Taos Co.: Italianos Canyon, side canyon below Twining (Taos Ski Basin), moist riparian mixed conifer forest, 9000-9500 ft, 27 July 2003, Chick Keller s.n. (NMCR); Santa Barbara Canyon, moist mixed conifer forest, 8500 ft, 30 July 2003, Chick Keller s.n. (UNM). [This is only the third time this species has been recorded for New Mexico, and the first collection since 1923.]

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

Carex microdonta Torrey & Hooker (Cyperaceae): Eddy Co.: Guadalupe Mts, Devil's Den Spring and Canyon (T36S, R21E, Sec 21, N edge ctr.), 32° 02.01'N, 104 ° 45.74'W, 6800-7100 ft, 1 Jun 2000, R. D. Worthington 29977 (UNM, UTEP). [Det. by Stanley Jones. Reported for NM in FNA vol 23, but without any locality information.]

— Kelly Allred [Box 3-I, New Mexico State University, Las Cruces, NM 88003]

****Briza maxima*** Linnaeus (Poaceae): Union Co.: Rainbow Ranch, northwest of Folsom just off of hwy 72, about 1.3 air miles west of county line, in irrigated alfalfa pasture, 6500 ft, 7 Nov 2003, David Graham (county agent) s.n. (NMCR).

— Richard Spellenberg [see note herein on p. 6]

Botrychium echo W. H. Wagner (Ophioglossaceae): Catron Co.: Gila Wilderness, ca. 10 air miles ESE of Mogollon, on Crest Trail 182, 2.5 mi SE of Sandy Point, in spruce, fir and aspen forest, 10,000 ft, 5 Sep 1976, Spellenberg, Reitzel, & Hill 4528 (NMC). Rio Arriba County: San Pedro Peak, San Pedro Parks Wilderness Area. T22N, R1E, 10,500 ft, 7/25/1964, Annehara Fleck s.n. (UNM).

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Kelly Allred

Fourth Southwestern Rare and Endangered Plant Conference 22 – 24 March 2004

The New Mexico Rare Plants Technical Council is organizing the 4th Southwestern Rare and Endangered Plant Conference to be held 22– 25 March 2004 in Las Cruces, NM. Information about the conference is available at <http://nmrareplants.unm.edu/conference/announce.htm>. The geographic coverage area includes the Sonoran and Mojave deserts on the west, the Colorado Plateau and Southern Rocky Mountains on the north, the Chihuahuan Desert and High Plains Grasslands on the east, the Chihuahuan and Sonoran deserts on the south, and all mountain ranges within these regional limits. We anticipate a United States focus, but topics on rare Mexican plants are also welcome. If you would like to receive periodic updates via e-mail, please contact Patricia Barlow-Irick <patriciabarlowirick@starband.net> or phone 505 568-9131

The New Mexico Botanist

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