



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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## An Inventory and Analysis of the Alien Plant Flora of New Mexico

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### Abstract

I summarized published information on non-native vascular plants recorded as established in the wild in New Mexico. Alien plants numbered 390 species and one additional hybrid form, with 13 species being represented by two or three alien subspecies. Alien plant species comprised 1 family and species of fern, 50 families and 270 species of Dicotyledons, and 5 families and 119 species of Monocotyledons. The families with most alien species were Poaceae, with 112, Asteraceae, with 43, Brassicaceae, with 42, Fabaceae, with 22, and Chenopodiaceae, with 18. About 77.2 percent of alien species were of Eurasian origin, with 11.3 percent being from other parts of North America. Annual forbs, vines and grasses constituted 44.9 percent of the aliens, whereas trees and shrubs constituted 8.5 percent of alien species. Since publication of the first state flora, the number of alien plants has increased from 136 in 1915 to 390 in 2000. The pattern of increase has been exponential, with about 6.75 new aliens appearing per year since 1980. Many other alien plants are present in neighboring states, and the potential for additional invasions is great.

### Introduction

New Mexico, with a vascular plant flora of about 3542 species in AD 2000, is experiencing invasions of alien plant species from several phytogeographic regions: the Chihuahuan and Sonoran desert regions to the south and west, the Colorado Plateau and Great Basin to the northwest, the Rocky Mountain region to the north, and the Great Plains to the east. Although New Mexico is somewhat remote from the points of introduction of alien plants from outside North America, many such species are now appearing. This review examines the known flora of alien plants in New Mexico, and traces the history of invasion from 1915, the data of publication of the first state flora, to 2000.

### Methods

Information on the current presence of alien species was taken from Allred (2000), Carter (1997), and recent issues of *The New Mexico Botanist*. Data on the presence of alien plants at earlier dates were taken from Wootton and Standley (1915), Tidestrom and Kittell (1941), and Martin and Hutchins (1980/1981). Data on growth form, life history pattern, and native region were obtained from Martin and Hutchins (1980/1981), other regional floras, and the National Resource Conservation Service's Plants Database (USDA-NRCS 2000). Plant nomenclature was based on Allred (2000) and Carter (1997), the latter for woody plants not included in the former. The current species total for New Mexico was obtained from the statistical summary given by Roalson and Allred (1995) plus species new to the state reported since then in *The New Mexico Botanist*.

### Results

A total of 390 species plus one hybrid taxon were recognized as established aliens (Appendix I). Three additional species were characterized as cryptogenic species (Carlton 1996), that is, species of uncertain status because natural pre-European invasion might have occurred or because European settlers might have introduced these species before the first studies of the flora of North America. Three species of dicots and 10 of grasses were represented by 2 or 3 subspecies. Alien species included 1 family and species of fern, 50 families and 270 species of Dicotyledons, and 5 families and 119 species of Monocotyledons. Seven families were represented by more than 10 species: Poaceae (112), Asteraceae (43), Brassicaceae (42), Fabaceae (22), Chenopodiaceae (18), Caryophyllaceae (12), and Polygonaceae (12).

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Botanice est Scientia Naturalis quae Vegetabilium cognitiorem tradit.  
— L innaeus



(Aliens, Continued from page 1)

Since the total number of species known in New Mexico is now about 3542, alien species make up about 11.0 percent of the state's flora.

Species classified as cryptogenic included *Amaranthus hybridus* L., Slim Amaranth; *Limosella aquatica* L., Mudwort; and *Xanthium strumarium* var. *canadense* (Mill.) Torr., Cocklebur. These species, all widespread in Europe, were well established in eastern North America in the early 18<sup>th</sup> Century, and might have reached North America by natural or human-assisted dispersal.

Several species occasionally considered alien are omitted from the list because of recent analyses that establish them as native. These include several taxa of *Corispermum*, which Martin and Hutchins (1980/81) characterize as alien. Mosyakin (1996) has revised this group and determined our species to be native to North America. New Mexican varieties of *Oxalis corniculata*, some North American forms of which are European exotics, are natives (Turner 1994). The New Mexican subspecies of *Calystegia sepium*, listed in some floras as a European import, is likewise native to western North America (Austin 1990).

The number of species of alien plants has increased by a factor of 2.88-fold since publication of the state's first flora (Wootton and Standley 1915)(Table 1). In 1915, only 136 species of 32 families had been recorded, corresponding to 4.6 percent of the flora then known (2975 species), or 4.1 percent of the flora known today. By 1942, no additional families of aliens had appeared, but the total number of alien species had increased to 181, a rate of increase of 1.67 species per year. Between 1942 and 1980, aliens belonging to 14 additional families had appeared, with total species increasing to 255, a rate of increase of 1.95 per year. Since 1980, 10 new families of aliens have appeared and 135 additional species have been recognized, a rate of increase of 6.75 per year. The number of alien species established in New Mexico has thus been increasing exponentially.

Most of the 24 families of aliens appearing since 1942 are now represented by only 1-2 species. Altogether, these families have contributed only 43 species to the current alien list. Two families however, have contributed more substantially; 5 species of the Rosaceae, all native to Europe or Eurasia, and 4 species of the Ranunculaceae, all from the Old World, have appeared in New Mexico's alien flora since 1942.

Since 1915, the major families increasing most in relative number of species were the Brassicaceae (3.82-fold increase), Poaceae (3.61-fold increase), and Asteraceae (2.87-fold increase). These three families have contributed 55.1 percent(140 species) of the increase in number of alien species since 1915.

Annual forbs were the most frequent life form group among aliens, followed by perennial forbs, annual grasses and perennial grasses (Table 2). Annuals of all groups make up 44.9 percent of the present alien flora. Graminoids constitute 29.2 percent of the total alien flora.

From 1915 to 2000, the groups increasing most in relative species number were trees, which increased 6.67-fold, and shrubs, which increased 4.33-fold. Graminoids as a whole increased 3.56-fold, with annual grasses increasing 4.20-fold and perennial grasses 3.00-fold. Forbs increased only 2.44-fold.

Forbs and vines with variable life history patterns (i.e., annual/biennial, annual/perennial, or biennial/perennial) almost doubled in numbers between 1980 and 2000. The total number of vines and woody plants more than doubled during this same period.

About 77.2 percent of present alien plants are native to temperate Eurasia (Table 3). An additional 11.3 percent are native to the United States, Canada, and Mexico. The representation of temperate Eurasian species has declined somewhat since 1915, when it was about 83.8 percent. Species native to Africa and the Old World trop-

ics have increased 6.33-fold; 13 of the 19 species from these areas are grasses. Since 1980, the numbers of alien species from other parts of North America have increased 2.44-fold.

#### Discussion

The alien component of the New Mexico flora, 11.0 percent, is only slightly greater than that estimated for the coterminous United States, 10.8 percent (Vitousek et al. 1997). The number of established alien plants in the coterminous United States, however, is estimated to be about 2,100 species. This number, together with the fact that northern Mexico and states adjacent to New Mexico possess many alien species that have not yet invaded New Mexico indicates that many additional invasions are certain to occur. In 1990, for example, Texas was estimated to possess 492 established alien plants, which equaled 9.9 percent of that state's flora (Vitousek et al. 1997). Colorado, with a total flora of 3088 taxa (species, subspecies, and varieties), has 492 alien taxa, which equal 15.9 percent of the flora (Weber and Wittman 1992). In both states, the absolute number of alien species is more than 100 greater than the number established in New Mexico. No statewide analysis is available for Arizona, but California has about 1045 established alien plants, which make up 17.7 percent of the state flora (Randall et al. 1998). Many of California's alien plants reach Arizona, so that Arizona probably has a substantially larger number of alien plant species than New Mexico.

The native regions of alien plants in New Mexico differ somewhat from those of eastern North America. In the central and north-eastern United States and adjacent Canada, 87.9 percent of alien plants are of Eurasian origin, with only 4.3 percent coming from other parts of North America (Foy et al. 1983). In New Mexico, the representation of Eurasian species is 10.4 percent less, but the importance of exotics from elsewhere in North America is greater. This reflects the fact that New Mexico is located central to several diverse native floras, and to the fact that urban and agricultural development of the state have created environments favorable for invasion of many species from the more humid eastern part of the continent.

New Mexico also differs somewhat from areas of the Pacific Coast in the representation of alien plants from different regions. In California, roughly 65 percent of alien plants come from Eurasia (Randall et al. 1998). For New Mexico, the percentage of aliens from Eurasia is thus about 12.2 percent greater, with the bulk of these being of European origin. The greater isolation of California, compared to New Mexico, from the European source area of exotic plants probably accounts for this difference. About 5 percent of California's exotics come from Australia and New Zealand, whereas less than 1 percent of New Mexico's exotics come from this region. An additional 7 percent of California's aliens come from southern Africa, compared to about 3.1 percent for New Mexico.

The large increase in alien woody plant species in New Mexico over the last 20 years of the 20<sup>th</sup> Century may be somewhat more apparent than real. Field botanists have often overlooked the early stages of establishment of many of these species in the wild, documenting them only when they appear far from areas of obvious planting (Jack L. Carter, Pers. Comm.). Nevertheless, these species represent one of our most serious ecological threats because of their tendency to invade native riparian ecosystems.

The abundance of alien plant species in bordering states means that New Mexico is poised to receive many new invaders in coming years. Indeed, the current rate of increase in alien species suggests that at least 6 to 7 species are likely to appear per year in the immediate future. This likelihood argues for establishment of an early detection and eradication program for alien invaders in New Mexico.

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**Table 1. The number of families and species of alien plants in the New Mexico flora from 1915 through 2000.**

	1915 <sup>1</sup>	1942 <sup>2</sup>	1980 <sup>3</sup>	2000
Ferns				
Families				1
Species				1
Dicots				
Families	29	29	41	50
Species	104	125	184	270
Monocots				
Families	3	3	5	5

	Species	33	58	72	119
Total					
Families		32	32	46	56
Species		136	181	255	390

<sup>1</sup>Wooton and Standley (1915)

<sup>2</sup>Tidestrom and Kittell (1942)

<sup>3</sup>Martin and Hutchins (1980/81)

**Table 2. The number of alien species of different life forms in the New Mexico flora from 1915 through 2000.**

	1915 <sup>1</sup>	1942 <sup>2</sup>	1980 <sup>3</sup>	2000
Forbs				
Annual	54	65	83	110
Biennial	4	6	16	19
Perennial	29	33	52	73
Annual/Biennial	5	7	10	21
Annual/Perennial	3	4	5	6
Biennial/Perennial	1	1	2	5
Vines				
Annual	1	1	1	2
Perennial	1	1	3	6
Annual/Perennial				1
Graminoids				
Annual	15	34	40	63
Perennial	17	23	28	51
Shrubs	3	3	4	13
Trees	3	3	11	20
TOTAL	136	181	255	390

<sup>1</sup>Wooton and Standley (1915)

<sup>2</sup>Tidestrom and Kittell (1942)

<sup>3</sup>Martin and Hutchins (1980/81)

**Table 3. The number of alien species of different geographical origins in the New Mexico flora from 1915 through 2000.**

	1915 <sup>1</sup>	1942 <sup>2</sup>	1980 <sup>3</sup>	2000
Temperate Eurasia				
Europe	81	101	138	196
Eurasia	27	38	51	72
Asia	6	7	19	33
Old World Tropics	1	3	4	7
Africa	2	3	6	12
New World Tropics	6	10	11	14
Temperate South America	4	6	7	10
Australia	1	1	1	2
North America				
USA/Canada	7	11	15	38
Mexico	1	1	3	6
TOTAL	136	181	255	390

<sup>1</sup>Wooton and Standley (1915)

<sup>2</sup>Tidestrom and Kittell (1942)

<sup>3</sup>Martin and Hutchins (1980/81)

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### Appendix I. Alien plants known to be established in New Mexico (December 2000).

#### Ferns and Allies

##### Salviniaceae

*Salvinia minima* Baker, Water Spangles

#### Angiosperms: Dicotyledoneae

##### Aceraceae

*Acer saccharinum* L., silver maple

##### Amaranthaceae

*Amaranthus abrus* L., prostrate pigweed  
*Amaranthus caudatus* L., love-lies-bleeding  
*Amaranthus cruentus* L., red amaranth  
*Amaranthus hypochondriacus* L., Prince-of-Wales feather  
*Amaranthus retroflexus* L., redroot amaranth  
*Amaranthus viridis* L., slender amaranth

##### Apiaceae

*Apium graveolens* L., wild celery  
*Apium leptophyllum* (Pers.) Sprague ex Britt. & Wilson, marsh parsley  
*Carum carvi* L., caraway  
*Conium maculatum* L., poison hemlock  
*Coriandrum sativum* L., coriander  
*Daucus carota* L., Queen Anne's lace  
*Foeniculum vulgare* Mill., fennel  
*Levisticum officinale* W.D.J. Koch, garden lovage  
*Pastinaca sativa* L., wild parsnip

##### Asteraceae

*Acroptilon repens* (L.) DC., Russian knapweed  
*Anthemis cotula* L., camomile  
*Arctium minus* (Hill) Bernh., burdock  
*Artemisia biennis* Willd. var. *biennis*, biennial wormwood  
*Calyptocarpus vialis* Less., straggler daisy  
*Carduus acanthoides* L., spiny plumeless thistle  
*Carduus nutans* L., musk thistle  
*Carthamus tinctorius* L., safflower  
*Centaurea calcitrapa* L., purple starthistle  
*Centaurea diffusa* Lam., diffuse knapweed  
*Centaurea maculosa* Lam., spotted knapweed  
*Centaurea melitensis* L., Malta starthistle  
*Centaurea solstitialis* L., yellow starthistle  
*Chrysanthemum leucanthemum* L., oxeye daisy  
*Cichorium intybus* L., chicory  
*Cirsium arvense* (L.) Scop., Canada thistle  
*Cirsium vulgare* (Savi) Ten., bull thistle  
*Conyza bonariensis* (L.) Cronq., asthmaweed  
*Conyza ramosissima* Cronq., dwarf horseweed  
*Cosmos bipinnatus* Cav., garden cosmos  
*Cotula australis* (Sieber) Hook. f., Australian waterbuttons  
*Eclipta prostrata* (L.) L., false daisy  
*Erigeron annuus* (L.) Pers., eastern daisy fleabane  
*Galinsoga parviflora* Cav., gallant-soldier  
*Hedynois cretica* (L.) Willd., cretanweed  
*Hypochaeris radicata* L., hairy catsear  
*Lactuca serriola* L. var. *integrifolia* Bogehn., prickly lettuce  
*Lactuca serriola* L. var. *serriola*, prickly lettuce  
*Onopordum acanthum* L., Scotch thistle  
*Pentzia incana* (Thunb.) O. Kuntze, African sheepbush  
*Scorzonera laciniata* L., cutleaf vipergrass  
*Senecio vulgaris* L., common groundsel

*Silybum marianum* L., blessed milkthistle  
*Sonchus arvensis* L., field sowthistle  
*Sonchus asper* (L.) Hill, spiny-leaved sowthistle  
*Sonchus oleraceus* L., common sowthistle  
*Tanacetum vulgare* L., common tansy  
*Taraxicum laevigatum* (Willd.) DC., red-seeded dandelion  
*Taraxicum officinale* Weber, common dandelion  
*Tragopogon dubius* Scop., yellow salsify  
*Tragopogon porrifolius* L., salsify  
*Tragopogon pratensis* L., meadow goatsbeard  
*Vernonia noveboracensis* (L.) Michx., New York ironweed  
*Xanthium spinosum* L., cocklebur

##### Bignoniaceae

*Catalpa speciosa* Warder, northern catalpa

##### Boraginaceae

*Cynoglossum officinale* L., common hound's tongue  
*Echium vulgare* L., viper's bugloss  
*Lappula squarrosa* (Retz.) Dumort., European stickseed  
*Myosotis scorpioides* L., true forget-me-not  
*Symphytum officinale* L., common comfrey

##### Brassicaceae

*Alyssum desertorum* Stapf., desert madwort  
*Alyssum minus* (L.) Rothm., alyssum  
*Berteroa incana* (L.) DC., hoary false madwort  
*Barbarea vulgaris* R. Br., common wintercress  
*Brassica juncea* (L.) Cosson, India mustard  
*Brassica napus* L., turnip  
*Brassica rapa* L., field mustard  
*Brassica tournefortii* Gouan, Asian mustard  
*Camelina microcarpa* Andrz., littlepod false flax  
*Camelina sativa* (L.) Crantz, gold-of-pleasure  
*Capsella bursa-pastoris* (L.) Medic., shepherd's purse  
*Cardamine hirsuta* L., hairy bittercress  
*Cardaria draba* (L.) Desv., hoary cress  
*Cardaria chalapensis* (L.) Handel-Mazetti, lenspod whitetop  
*Chorispora tenella* (Pall.) DC., crossflower  
*Conringia orientalis* (L.) Dumort., hare's ear mustard  
*Coronopus didymus* (L.) I. E. Smith, lesser swinecress  
*Descurainia sophia* (L.) Webb, flixweed  
*Diplotaxis muralis* (L.) DC., annual wallrocket  
*Diplotaxis tenuifolia* (L.) DC., perennial wallrocket  
*Eruca vesicaria* (L.) Cav., rocketsalad  
*Erysimum repandum* L., spreading wallflower  
*Hesperis matronalis* L., dames rocket  
*Iberis umbellata* L., globe candytuft  
*Isatis tinctoria* L., dyer's woad  
*Lobularia maritima* (L.) Desv., sweet alyssum  
*Lepidium campestre* (L.) R. Br., field pepperweed  
*Lepidium latifolium* L., perennial pepperweed  
*Lepidium perfoliatum* L., clasping pepperweed  
*Malcolmia africana* (L.) R. Br., African mustard  
*Matthiola bicornis* DC., night scented stock  
*Nasturtium officinale* R. Br., watercress  
*Raphanus sativus* L., radish  
*Rapistrum rugosum* (L.) Allioni, annual bastardcabbage  
*Rorippa microphylla* (Boehn. ex Reichenb.) Hyland ex Löve & Löve, onerow yellowcress  
*Sinapis alba* L., white mustard  
*Sinapis arvensis* L., charlock mustard  
*Sisymbrium altissimum* L., tall tumbleweed  
*Sisymbrium irio* L., London rocket  
*Sisymbrium loeselii* L., small tumbleweed mustard  
*Sisymbrium officinale* (L.) Scop. L., hedgemustard  
*Thlaspi arvense* L., pennycress

(Continued on page 5, Aliens)

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

— L. innaeus



(Aliens, Continued from page 4)

Caesalpinaceae

- Caesalpinia gilliesii* (Hook.) Wallich ex D. Dietr., bird-of-paradise  
*Gleditsia triacanthos* L., honey locust

Campanulaceae

- Campanula rapunculoides* L., rampion bellflower

Cannabaceae

- Cannabis sativa* L., marijuana

Caprifoliaceae

- Lonicera japonica* Thunb., Japanese honeysuckle  
*Lonicera morrowii* A. Gray, Morrow's honeysuckle  
*Lonicera tatarica* L., Tatarian honeysuckle  
*Lonicera x bella* Zabel [*morrowii* X *tatarica*], pretty honeysuckle

Caryophyllaceae

- Agrostemma githago* L., common corncockle  
*Arenaria serpyllifolia* L. thyme-leafed sandwort  
*Cerastium viscosum* L., sticky chickweed  
*Cerastium vulgatum* L., common mouse-eared chickweed  
*Dianthus armeria* L., Deptford pink  
*Saponaria officinalis* L., bouncing-bet  
*Silene latifolia* Poir. ssp. *alba* (Miller) (= *Lychnis alba* Miller), white cockle  
*Silene noctiflora* L., night-flowering catchfly  
*Spergularia media* L., media sandspurry  
*Spergularia rubra* L., red sandspurry  
*Stellaria media* (L.) Cyrillo, common chickweed  
*Vaccaria hispanica* (Miller) Rauschert, cow-cockle

Chenopodiaceae

- Atriplex hortensis* Moq., garden orache  
*Atriplex rosea* L., tumbling saltweed  
*Atriplex semibaccata* R. Br., Australian saltbush  
*Bassia hyssopifolia* (Pal.) Kuntze, five-hook  
*Chenopodium album* L., lamb's quarters  
*Chenopodium capitatum* (L.) Asch., strawberry blite  
*Chenopodium glaucum* L. ssp. *glaucum*, oakleaf goosefoot  
*Chenopodium hircinum* Schrad., avian goosefoot  
*Chenopodium murale* L., nettle-leaf goosefoot  
*Chenopodium paganum* Reichb., goosefoot  
*Chenopodium rubrum* L., red goosefoot  
*Halogeton glomeratus* (Bieb.) C. A. Mey., halogeton  
*Kochia scoparia* (L.) Roth, summer cypress  
*Salsola collina* P. S. Pallas, slender Russian thistle  
*Salsola paulsenii* Litv., Russian thistle  
*Salsola tragus* L., prickly Russian thistle  
*Teloxys ambrosioides* L., Mexican tea  
*Teloxys botrys* (L.) W. A. Weber, Jerusalem oak goosefoot

Clusiaceae

- Hypericum perforatum* L., common St. Johnswort

Convolvulaceae

- Convolvulus arvensis* L., field bindweed  
*Ipomoea hederacea* (L.) Jacq., ivyleaf morning-glory  
*Ipomoea purpurea* (L.) Roth, tall morning-glory

Cucurbitaceae

- Citrullus vulgaris* Schrad. var. *citroides* Bailey, watermelon  
*Citrullus vulgaris* Schrad. var. *vulgaris* Bailey, watermelon  
*Cucumis melo* L., cantaloupe  
*Mormordica balsamina* L., balsam-apple

Cuscutaceae

- Cuscuta epithymum* L., clover dodder

Dipsacaceae

- Dipsacus fullonum* L. ssp. *sylvestris* (Huds.) Clapham, teasel

Elaeagnaceae

- Elaeagnus angustifolia* L., Russian olive

Euphorbiaceae

- Euphorbia esula* L., leafy spurge  
*Euphorbia peplus* L., petty spurge

Fabaceae

- Alhagi maurorum* Medikus., camelthorn  
*Caragana arborescens* Lam., Siberian pea shrub (George W. Cox)  
*Coronilla varia* L., purple crownvetch  
*Lathyrus latifolius* L., perennial pea  
*Lotus corniculatus* L., birdfoot deerfleck

- Medicago lupulina* L., black medic  
*Medicago polymorpha* L., burclover  
*Medicago sativa* L., alfalfa  
*Melilotus indicus* (L.) All., annual yellow sweetclover  
*Melilotus officinalis* (L.) Lam., sweetclover  
*Onobrychis viciifolia* Scop., sainfoin  
*Robinia hispida* L., bristly locust  
*Robinia pseudo-acacia* L., black locust  
*Sphaerophysa salsula* (Pall.) DC., alkali Swainsonpea  
*Trifolium fragiferum* L., strawberry clover  
*Trifolium hybridum* L., alsike clover  
*Trifolium pratense* L., red clover  
*Trifolium procumbens* L., field clover  
*Trifolium repens* L., white clover  
*Vicia dasycarpa* Ten., winter vetch  
*Vicia sativa* L. ssp. *nigra* (L.) Ehrh., garden vetch  
*Vicia villosa* Roth, winter vetch

Gentianaceae

- Sabatia angularis* (L.) Pursh, rosepink

Geraniaceae

- Erodium cicutarium* (L.) L'Her., red-stemmed filaree

Haloragaceae

- Myriophyllum aquaticum* (Vell.) Verdc., parrot feather watermilfoil  
*Myriophyllum spicatum* L., spike watermilfoil  
*Myriophyllum verticillatum* L., whorl-leaf watermilfoil

Lamiaceae

- Lamium amplexicaule* L., henbit deadnettle  
*Leonurus cardiaca* L., motherwort  
*Marrubium vulgare* L., horehound  
*Mentha rotundifolia* (L.) Huds., apple mint  
*Mentha spicata* L., spearmint  
*Nepeta cataria* L., catnip  
*Prunella vulgaris* L., heal-all  
*Salvia pratensis* L., meadow sage  
*Scutellaria galericulata* L., marsh skullcap

Linaceae

- Linum usitatissimum* L., common flax

Lythraceae

- Lythrum salicaria* L., purple loosestrife

Malvaceae

- Abutilon theophrasti* Medic., velvetleaf  
*Alcea rosea* L., hollyhock  
*Hibiscus trionum* L., flower-of-an-hour  
*Malva crispa* L., curly mallow  
*Malva neglecta* Wallr., common mallow  
*Malva parviflora* L., cheeseweed mallow  
*Malva sylvestris* L., high mallow

Meliaceae

- Melia azedarach* L., Chinaberry

Mimosaceae

- Albizia julibrissin* Durazzini, mimosa

Molluginaceae

- Mollugo cerviana* L., threadstem carpetweed  
*Mollugo verticillata* L., green carpetweed

Moraceae

- Maclura pomifera* (Raf.) Schneid., Osage orange  
*Morus alba* L., White Mulberry

Oleaceae

- Fraxinus pennsylvanica* Marsh., green ash  
*Ligustrum vulgare* L., European privet

Papaveraceae

- Papaver rhoeas* L., corn poppy  
*Papaver somniferum* L., opium poppy

Plantaginaceae

- Plantago lanceolata* L., narrowleaf plantain  
*Plantago major* L., common plantain

Polemoniaceae

- Phlox divaricata* L., wild blue phlox (George W. Cox)

Polygonaceae

- Fagopyrum esculentum* Moench, buckwheat  
*Polygonum aubertii* Henry, Chinese fleeciveine

(Continued on page 6, Aliens)



(Aliens, Continued from page 5)

*Polygonum aviculare* L., knotweed  
*Polygonum convolvulus* L., black bindweed  
*Polygonum lapathifolium* L., curltop willowweed  
*Polygonum persicaria* L., spotted ladysthumb  
*Rumex acetosella* L., sheep sorrel  
*Rumex crispus* L., curly dock  
*Rumex obtusifolius* L., bitter dock  
*Rumex patientia* L., patience dock  
*Rumex pulcher* L., fiddle dock  
*Rumex stenophyllus* Ledeb., narrowleaf dock (Roger S. Peterson)

Portulacaceae  
*Portulaca oleracea* L. ssp. *impolita* Danin & H. G. Baker, purslane  
*Portulaca oleracea* L. ssp. *oleracea*, purslane  
*Portulaca oleracea* L. ssp. *papillio-stellulata* Danin & H. G. Baker, purslane

Primulaceae  
*Anagallis arvensis* L., scarlet pimpernel  
*Centunculus minimus* L., chaffweed

Ranunculaceae  
*Clematis orientalis* L., Oriental virginsbower  
*Consolida ajacis* (L.) Schur., rocket larkspur  
*Ranunculus acris* L., tall buttercup  
*Ranunculus testiculatus* Crantz, curvseed butterwort

Rosaceae  
*Malus sylvestris* P. Mill., European crabapple  
*Pyracantha coccinea* Roemer, scarlet firethorn  
*Pyrus communis* L., common pear  
*Rubus discolor* Weihe & Nees, Himalayan blackberry  
*Sanguisorba minor* Scop., small burnet

Rubiaceae  
*Galium aparine* L., cleavers

Salicaceae  
*Populus alba* L., white poplar  
*Salix alba* L., white willow  
*Salix babylonica* L., weeping willow  
*Salix fragilis* L., crack willow

Scrophulariaceae  
*Linaria dalmatica* (L.) Mill., Dalmatian toadflax  
*Linaria vulgaris* Mill., yellow toadflax  
*Verbascum blattaria* L., moth mullein  
*Verbascum thapsus* L., common mullein  
*Verbascum virgatum* Stokes, wand mullein  
*Veronica anagallis-aquatica* L., water speedwell  
*Veronica arvensis* L., corn speedwell  
*Veronica persica* Poir., birdeye speedwell  
*Veronica serpyllifolia* L., thymeleaf speedwell

Simaroubaceae  
*Ailanthus altissima* (Mill.) Swingle, ailanthus

Solanaceae  
*Datura innoxia* Miller, angel's trumpet  
*Datura stramonium* L., jimsonweed  
*Hyoscyamus niger* L., black henbane  
*Lycium barbarum* Mill., matrimony vine  
*Nicotiana glauca* Graham, tree tobacco  
*Physalis ixocarpa* Brot. ex Hornem., Mexican groundcherry  
*Solanum nigrum* L., black nightshade  
*Solanum sarachoides* Sendt. In Mart., hairy nightshade

Tamaricaceae  
*Tamarix chinensis* Lour, fivestamen tamarisk  
*Tamarix ramosissima* Ledeb., saltcedar

Ulmaceae  
*Ulmus pumila* L., Siberian elm

Verbenaceae  
*Phyla nodiflora* (L.) Greene, turkey tangle frogfruit  
*Verbena tenuisecta* Briq., South American mock vervain  
*Vitex agnus-castus* L., lilac chastetree

Zygophyllaceae  
*Peganum harmala* L., African rue  
*Tribulus terrestris* L., goathead  
*Zygophyllum fabago* L., Syrian beancaper

## Angiosperms: Monocotyledoneae

Cyperaceae  
*Cyperus esculentus* L., chufa flatsedge  
*Cyperus rotundus* L., nutgrass

Hydrocharitaceae  
*Egeria densa* Planch, Brazilian waterweed

Liliaceae  
*Asparagus officinalis* L., garden asparagus  
*Asphodelus fistulosus* L., onionweed  
*Muscari neglectum* Guss. ex Ten., starch grape hyacinth

Poaceae  
*Aegilops cylindrica* Host, jointed goatgrass  
*Agropyron cristatum* (L.) Gaertn. ssp. *cristatum*, crested wheatgrass  
*Agropyron cristatum* (L.) Gaertn. ssp. *desertorum* (Fisch. ex Link) Löve, crested wheatgrass  
*Agropyron cristatum* (L.) Gaertn. ssp. *fragile* (Roth) Löve, crested wheatgrass  
*Agrostis gigantea* Roth, redtop  
*Agrostis stolonifera* L., creeping bentgrass  
*Aira elegans* Willd. ex Gaudin., annual silver hairgrass  
*Alopecurus geniculatus* L., water foxtail  
*Alopecurus myosuroides* Huds., foxtail  
*Alopecurus pratensis* L., meadow foxtail  
*Anthoxanthum odoratum* L., sweet vernalgrass  
*Apera interrupta* (L.) Beauv., apera  
*Aristida oligantha* Michx., oldfield threeawn  
*Arrhenatherum elatius* (L.) J. & C. Presl, tall oatgrass  
*Arundo donax* L., giant reed  
*Avena barbata* Pott ex Link, slender oat  
*Avena fatua* L. var. *fatua*, wild oat  
*Avena fatua* L. var. *sativa* (L.) Hausskn., wild oat  
*Bothriochloa bladhii* (Retz.) S. T. Blake, Australian bluestem  
*Bothriochloa ischaemum* (L.) Keng var. *ischemum*, yellow bluestem  
*Bothriochloa ischaemum* (L.) Keng var. *songarica* (Rupr.) Celerier & Harlan, King Ranch bluestem  
*Briza minor* L., little quakinggrass  
*Bromus brizaeformis* Fisch. & Mey., rattlesnake chess  
*Bromus catharticus* Vahl, rescuegrass  
*Bromus diandrus* Roth, rigput brome  
*Bromus hordeaceus* L., soft brome  
*Bromus inermis* Leyss., smooth brome  
*Bromus japonicus* Thunb. ex Murray, Japanese brome  
*Bromus rubens* L., foxtail brome  
*Bromus secalinus* L., rye chess  
*Bromus sterilis* L., poverty brome  
*Bromus tectorum* L., cheatgrass  
*Catopodium rigidum* (L.) C. E. Hubb., ferngrass  
*Cenchrus echinatus* L., southern sandbur  
*Chloris submutica* Kunth, Mexican windmillgrass  
*Chloris virgata* Sw., showy windmillgrass  
*Cynodon dactylon* L., Bermudagrass  
*Dactylis glomerata* L., orchardgrass  
*Dactyloctenium aegypticum* (L.) Willd., crowfootgrass  
*Deschampsia danthonioides* (Trin.) Munro, annual hairgrass  
*Digitaria ciliaris* (Retz.) Koel., southern crabgrass  
*Digitaria eriantha* Steudel, pangola grass  
*Digitaria ischaemum* (Schreb.) Muhl., smooth crabgrass  
*Digitaria sanguinalis* (L.) Scop., hairy crabgrass  
*Echinochloa colona* (L.) Link, junglerice  
*Echinochloa crus-galli* (L.) Beauv., barnyardgrass  
*Echinochloa crus-pavonis* (Kunth) Schult., barnyardgrass  
*Eleusine indica* (L.) Gaertn., goosegrass  
*Elymus elongatus* (Host) Runem. ssp. *elongatus*, tall wheatgrass  
*Elymus elongatus* (Host) Runem. ssp. *ponticus* (Podp.) Melderis, tall wheatgrass  
*Elymus hispidus* (Opiz) Melderis ssp. *hispidus*, intermediate wheatgrass  
*Elymus hispidus* (Opiz) Melderis ssp. *barbulatus* (Schur), pubescent wheatgrass  
*Elymus repens* (L.) Gould, quackgrass  
*Eragrostis barrelieri* Daveau, Mediterranean lovegrass

(Continued on page 7, Aliens)



(Aliens, Continued from page 6)

*Eragrostis ciliaris* (All.) Vign. ex Janchen, stinkgrass  
*Eragrostis curvula* (Schrad.) Nees var. *conferta* Nees, Boer lovegrass  
*Eragrostis curvula* (Schrad.) Nees var. *curvula*, weeping lovegrass  
*Eragrostis lehmanniana* Nees, Lehmann lovegrass  
*Eragrostis superba* Peyr., Wilman lovegrass  
*Eremopyrum triticeum* (Gaertn.) Nevski, annual wheatgrass  
*Festuca arundinacea* Schreber, tall fescue  
*Festuca pratensis* Huds., meadow fescue  
*Festuca trachyphylla* (Hack.) Krajina, hard fescue  
*Hackelochloa granularis* (L.) Kuntze, Hackelochloa  
*Hierochloa odorata* (L.) Beauv., sweetgrass  
*Holcus lanatus* L., velvetgrass  
*Hordeum arizonicum* Covas, Arizona barley  
*Hordeum murinum* L. ssp. *glaucum* (Steud) Tsvelev, wall barley  
*Hordeum murinum* L. ssp. *leporinum* (Link) Arcangeli, hare barley  
*Hordeum vulgare* L., barley  
*Lolium perenne* L. var. *perenne*, perennial ryegrass  
*Lolium perenne* L. var. *aristatum* Willd., Italian ryegrass  
*Lolium temulentum* L., poison darnel  
*Panicum amarum* Ell., bitter panicum  
*Panicum antidotale* Retz., blue panicum  
*Panicum coloratum* L., Kleingrass  
*Panicum dichotomiflorum* Michx., fall panicum  
*Panicum hians* Ell., gaping panicum  
*Panicum milaceum* L., broomcorn millet  
*Paspalum dilatatum* Poir., Dallisgrass  
*Pennisetum ciliare* (L.) Link, buffelgrass  
*Phalaris angusta* Nees ex Trin., canarygrass  
*Phalaris canariensis* L., canarygrass  
*Phalaris minor* Retz., canarygrass  
*Phleum pratense* L., timothy  
*Pleuraphis rigida* Thurber in S. Wats., big galleta  
*Poa annua* L., annual bluegrass  
*Poa arachnifera* Torr., Texas bluegrass  
*Poa bulbosa* L., bulbous bluegrass

*Poa compressa* L., Canada bluegrass  
*Poa pratensis* L. *pratensis* phase, Kentucky bluegrass  
*Poa trivialis* L., rough bluegrass  
*Polypogon interruptus* Kunth., ditch polypogon  
*Polypogon monspeliensis* (L.) Desf., rabbitfoot grass  
*Polypogon viridis* (Gouan) Breistroffer, water polypogon  
*Psathyrostachys juncea* (Fischer) Nevski, Russian wildrye  
*Puccinellia distans* (L.) Parl., Parrish's alkaligrass  
*Rhynchelytrum repens* (Willd.) C. E. Hubb., Natal grass  
*Saccharum ravennae* (L.) Murray, Ravennagrass  
*Schismus arabicus* Nees, Mediterraneangrass  
*Schismus barbatus* (L.) Thell., Mediterraneangrass  
*Schlerochloa dura* (L.) Beauv., hardgrass  
*Secale cereale* L., rye  
*Setaria adhaerens* (Forsskal) Chiov., clinging bristlegrass  
*Setaria italica* (L.) Beauv., foxtail millet  
*Setaria magna* Griesb., giant foxtail  
*Setaria pumila* (Poir.) Roem. & Schult., yellow bristlegrass  
*Setaria verticillata* (L.) Beauv., hooked bristlegrass  
*Setaria viridis* (L.) Beauv., green bristlegrass  
*Sorghum bicolor* (L.) Moench ssp. *bicolor*, sorghum  
*Sorghum bicolor* (L.) Moench ssp. *drummondii* (Steud.) DeWet, Sudangrass  
*Sorghum halepense* (L.) Pers., Johnsongrass  
*Sporobolus neglectus* Nash, puffsheath dropseed  
*Sporobolus vaginiflorus* (Torr. ex Gray) Wood, poverty dropseed  
*Tragus berteronianus* Schult., spike burgrass  
*Tridens eragrostoides* (Vasey & Scribn.) Nash, tridens  
*Tridens flavus* (L.) A.S. Hitchc., purpletop  
*Triticum aestivum* L., wheat  
*Urochloa panicoides* Beauv., liverseed grass  
*Vulpia bromoides* L., Brome, six weeksgrass  
*Vulpia myuros* (L.) K. C. Gmelin var. *myuros*, rattail sixweeksgrass  
*Vulpia myuros* (L.) K. C. Gmelin var. *hirsuta* Hack., rattail sixweeksgrass  
*Zea mays* L. ssp. *mays*, maize  
Potamogetonaceae  
*Potamogeton crispus* L., curly pondweed



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### RARE, THREATENED, AND ENDANGERED PLANTS:

[See New Mexico Rare Plants, presented by the NM Rare Plant Technical Council: <http://nmrareplants.unm.edu>]

### WEB SITES OF INTEREST:

- U.S. Executive Order 13112. 1999. **Executive Order on invasive alien species**. [<http://www.pub.whitehouse.gov/uri-res/I2R?urn:pdi://oma.eop.gov.us/1999/2/3/14.text.2>]  
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Range Plant Specialist

### What's In A Name?

It's helpful and even satisfying for us to know the meaning of the scientific names of New Mexico plants. We delight in knowing that *Iris* means *rainbow* (Greek), commemorate the great Swedish naturalist with *Linnaea* (Latin), nod knowingly with *Dracocephalum* (dragon's head, Greek), scratch our heads a bit over *Gaura*, meaning superb (Greek), and take comfort that *Alyssum* (without madness, Greek) was recommended as a cure for rabies. But not all generic names are so meaningful. It is perfectly acceptable and within the rules to rearrange the letters of a closely related genus to arrive at a new name. Thus we have *Sibara* from *Arabis* (Cruciferae), *Sartidia* from *Aristida* (Gramineae), *Litrisia* from *Liatris* (Compositae), *Milula* from *Allium* (Liliaceae), and *Leymus* from *Elymus* (Gramineae). Some untapped anagrams for future botanists are *Spoilage* from *Aegilops*, *Precis* from *Crepis*, *Acid-rio* from *Dicoria*, *Septic* from *Pectis*, *Altercate* from *Tetraclea*, and *Ada-sue* from *Suaeda*. 



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