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Chenopodium in New Mexico

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A 50-year-old quote from Herbert Wahl's preliminary study of North American *Chenopodium* will suffice for an introduction:

> "No group of plants of comparable size and wide distribution known to the writer has suffered the lack of understanding of the taxa involved as has the genus *Chenopodium*, especially those members of its Section *Chenopodia* that are closely related to *C. album* and *C. Berlandieri*. The reasons for this lie in (1) the ecological variability characteristic of weedy annuals, (2) the fact that important diagnostic characters are present in the seeds, which are of small size and often lacking from collected material, (3) the repetition of similar variations in habit and leaf shape in distinct species and (4) the lack of pubescence characters in most species." (H.A. Wahl. 1952-53. A preliminary study of the genus *Chenopodium* in North America. Bartonia 27:1-46.)

I affirm the validity of these observation, and quickly admit that I have done nothing to remedy this taxonomic riddle. Nonetheless, after puzzling over nearly all the specimens in our major herbaria, I conclude that most of the variation in New Mexico species falls within some rather general patterns, characterized by the key below, which is offered as a preliminary look at this troubling (troubled?) genus in the state. If we are fortunate, these patterns might correspond to species.

Keep in mind the following: 1) Plants without mature seeds are very difficult to identify accurately, in spite of my use of vegetative features in the key (an attempt to provide some measure of field-usefulness). 2) The pericarps of *Chenopodium*, when teased with a needle, are either readily separable and come off nearly in their entirety (free pericarps), or are scratched off in small patches or remain attached to the seed (adherent pericarps).

My sincere thanks to the curators and staffs of NMC and UNM, as always, cooperative and helpful.

Chenopodium Linnaeus
[Gr. *chen*, goose, and *pous*, foot, referring to the shape of the leaf]

1 Herbage stinking like rotten fish; pericarps honeycomb-pitted or smooth
  2 Blades prominently sinuate-dentate and usually also lobed; plants stout, yellowish; pericarps smooth ..... 11. ***Ch. hircinum***
  2 Blades mostly entire above the base, which may be lobed or expanded; plants slender, generally not yellowish; pericarps honeycomb-pitted
    3 Leaves densely farinose on both surfaces, whitish; blades broadest very near the base; fruits completely enclosed by the sepals at maturity, the pericarp slightly to markedly whitened; seeds subglobose.....19. ***Ch. watsonii***
    3 Leaves sparsely farinose to nearly glabrous, at least above; blades often with hastate lobes above the base; fruits partially exposed by the spreading sepals at maturity, the pericarp black; seeds ± flattened .....15. ***Ch. neomexicanum***
1 Herbage not noticeably malodorous; pericarps smooth or roughened, honeycomb-pitted in *Ch. berlandieri* and *Ch. neomexicanum*
  4 Primary leaf blades evidently toothed to sinuate-dentate above any basal lobes, at least those of the main stem
    5 Leaves green and glabrous beneath (rarely indistinctly mealy when young)
      6 Flowers in branched paniculate clusters; seeds all horizontal; sepals 5
        7 Sepals glabrous, partially exposing the fruit at maturity; flowers somewhat individually dis-

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Botanice est Scientia Naturalis quae Vegetabilium cognitiorem tradit.
— Linnaeus

(Chenopodium, continued from page 1)

posed in the panicle, which overtops the leaves ..... 18. ***Ch. simplex***
7 Sepals farinose, covering the fruit at maturity; flowers in small glomerules in the panicle, which scarcely surpasses the leaves ..... 14. ***Ch. murale***
6 Flowers in terminal or axillary spikes of rather dense glomerules; seeds all vertical or both vertical and horizontal; sepals 3 (sometimes 4)
8 Basal leaves early deciduous, on petioles shorter than the blades; glomerules on axillary spikes..... 17. ***Ch. rubrum***
8 Basal leaves persistent, on petioles longer than the blades; glomerules on terminal spikes
9 Glomerules subtended by leaf-like bracts throughout the spike; flowers maturing from base of plant to apex; sepals becoming red and fleshy at maturity ..... 7. ***Ch. foliosum***
9 Glomerules not subtended by leaf-like bracts, at least in the terminal ½ of the spike; flowers maturing from apex to base of plant; sepals greenish, not fleshy, only occasionally somewhat red..... 4. ***Ch. capitatum***
5 Leaves grayish farinose beneath, sometimes sparsely so but evident
10 Glomerules large, (3)4-7 mm in diameter; pericarp honeycomb-pitted; style base persistent on the fruit; sepals keeled..... 3. ***Ch. berlandieri***
10 Glomerules smaller, 1.5-4 mm in diameter; pericarp not honeycomb-pitted; style base deciduous from the fruit; sepals keeled or not
11 Pericarp loosely investing the seed and easily separated from it; blades lanceolate to elliptic in outline, densely farinose beneath; sepals not keeled, spreading and exposing the fruit at maturity ..... 9. ***Ch. glaucum***
11 Pericarp closely investing the seed and scarcely separable from it; blades mostly ovate to rhombic in outline, or lanceolate and nearly entire, variously farinose beneath but often less than densely so; sepals keeled, covering or exposing the fruit at maturity. ..... 1. ***Ch. album***
4 Primary leaf blades entire above the base, which may have 1-2 lobes
12 Leaves with a single vein from the base and no pinnate veins, mostly linear; pericarp adherent
13 Blades 8-12 mm wide or more, broadly linear to narrowly lanceolate..... 1. ***Ch. album***
13 Blades less than 5 mm wide
14 Blades densely farinose below; fruits 1.1 mm or less in diameter; fruit exposed by the spreading sepals at maturity..... 13. ***Ch. leptophyllum***
14 Blades sparsely farinose below; fruits 1.3-1.6 mm in diameter; fruit exposed or covered by the sepals
15 Sepals enlarging slightly and spreading to expose the fruit, fused for more than half their length, with an undulate collar from the sinuses; leaves 1-2 mm wide; pericarp sometimes markedly red, especially when young, but also brownish to nearly black ..... 5. ***Ch. cycloides***
15 Sepals not enlarging, enclosing the fruit, fused for half their length or less, lacking an undulate collar from the sinuses; leaves 1-6 mm wide; pericarp brownish to black..... 16. ***Ch. pallescens***
12 Leaves with 3 or more veins from the base and/or pinnately veined, generally broader than linear; pericarp adherent or free from the seed
16 Blades triangular to broadly rhombic-ovate, with lobes at midlength or below, 1-2 times longer than broad
17 Pericarp adherent, honeycomb-pitted..... 15. ***Ch. neomexicanum***
17 Pericarp free, smooth
18 Sepals tightly covering the fruit at maturity, weakly keeled; blades relatively thick; glomerules crowded; seeds 0.9-1.1 mm in diameter..... 12. ***Ch. incanum***
18 Sepals spreading to expose the fruits at maturity, strongly keeled; blades relatively thin; glomerules spaced; seeds 1-1.3 mm in diameter..... 8. ***Ch. fremontii***
16 Blades narrowly ovate, oblong, or narrower, never broadly rhombic or triangular, sometimes with basal lobes, 2-5 times longer than broad
19 Flowering shoots virgate, narrow and spike-like; inflorescence bracts leaf-like..... 10. ***Ch. hians***
19 Flowering shoots mostly branching, not virgate; inflorescence bracts absent or tiny, not leaf-like
20 Pericarp free from the seed, readily separating nearly in its entirety; blades 3-5 times longer than broad..6. ***Ch. desiccatum***
20 Pericarp adherent to the seed, or coming off in small patches; blades 2-3 times longer than broad ..... 2. ***Ch. atrovirens***

Note: An asterisk (*) before a name indicates the taxon is thought to be exotic to New Mexico.

1. ***Ch. album*** Linnaeus LAMB'S QUARTER [*Chenopodium missouriense* Aellen, *Chenopodium paganum* of NM authors, not Reichenbach]. Disturbed ground in open sites, extremely variable. Young green plants are cooked as a potherb as well as used raw in salads. The tiny black seeds have been ground into flour; such sustained Napolean at times. This species is very similar to *Ch. berlandieri*, which has honeycomb-pitted fruits, though some plants are intermediate with nearly entire blades, smoothish seeds, and persistent styles and possibly represent hybrid derivatives (*Ch.* ×*variabile* Aellen). Occasionally, large plants of *Ch. fremontii* from shaded sites in the mountains will develop teeth above the basal lobes and can be confused with *Ch. album*, but the leaf bases of *Ch. fremontii* are ± truncate rather than acuminate, and the pericarps are free, rather than adherent in *Ch. album*. Some of the more obvious forms of *Ch. album* are weakly distinguished by the following:

a Blades of upper leaves elliptic to lanceolate, entire or nearly so, mostly 1-veined…var. ****lanceolatum*** (Muhlenberg ex Willdenow) Cosson & Germain
a Blades of upper leaves ovate-lanceolate to rhombic, entire to toothed, mostly 3-veined
b Inflorescence branches stiff, the glomerules congested; stems purplish at the nodes; fruits about 1.0 mm in diameter; blades of lower leaves less than 1½ times longer than wide; flowering in September...var. ***missouriense*** (Aellen) Bassett & Crompton Our apparently native form.
b Inflorescence branches more delicate and arching, the glomerules spaced; stems rarely purplish at the nodes; fruits 1.1-1.5 mm in diameter; blades of lower leaves 1½ times or more longer than wide; flowering throughout the growing season...*var. ***album***

(Continued on page 3, Chenopodium)

(Chenopodium, continued from page 2)

Selected Specimens: Bernalillo Co.: Ojo de San Antonio Valley, 6700 ft, 07-Sep-75, Tierney, G. 9 (UNM). Catron Co.: Datil Mts, 8300 ft, 10-Jul-76, Fletcher 527 (UNM). San Francicso River bottom, ft, 08-Aug-52, Castetter 9580 (UNM). Dona Ana Co.: Mesilla, ft, 03-Jul-1897, Wooton, E.O. 85 (NMC); Las Cruces, 26-Jun-87, Anderson, D.L. 4310 (NMCR). Grant Co.: Cliff, Gila crossing, ft, 12-Jul-1900, Wooton, E.O. s.n. (NMC); Mogollon Mts, Gila National Forest, along hwy 15, Copperas Vista lookout, 21-May-04, Kelly W. Allred 9182 (NMCR). Hidalgo Co.: Animas Mts, Indian creek, 5400 ft, 07-Aug-76, Wagner, W.L. 2282 (UNM). Lincoln Co.: Circle Bar West Ranch, 5500 ft, 08-Sep-94, McClenahan, Dianne 125 (NMCR); S. Fork of Eagle Creek, 7480 ft, 29-Jun-69, Hutchins, B. 2065 (UNM); WSMR, Oscura Gate, 23-Jul-91, Anderson, D.L. 4905 (WSMR); NMSU Range and Livestock Research Center (Corona Ranch), 6250 ft, 02-Aug-98, Forbes, Adam C. 426 (NMCR); Cedar Creek, 1/2 mi N Ruidoso, 7000 ft, 16-Aug-57, Harrington s.n. (UNM); White Mts, ft, 25-Aug-1907, Standley, P.C. 3587 (NMC). Los Alamos Co.: Water Canyon, 7000 ft, 09-Aug-79, Tierney 406 (UNM). McKinley Co.: an arroyo s. of the 1972 spoils, 7000 ft, 31-Aug-74, Wagner, W.L. 391 (UNM); bottom of Wild Berry canyon, 6769 ft, 29-Jul-76, Manthey, T. 1135 (UNM). Otero Co.: Alamogordo, 12-Oct-1907, Walters, E. s.n. (NMC); Sacramento Mts, La Luz Canyon, 7650 ft, 26-May-04, Kelly W. Allred 9186 (NMCR). Quay Co.: McAlister, ft, 20-Jul-42, Suggs, D.D. s.n. (NMC). San Miguel Co.: Winsor's Ranch, ft, 09-Jul-1908, Standley, P.C. 4264 (NMC). Sandoval Co.: Baca Location, Valle Grande, 8600 ft, 10-Aug-63, Keddy, D. 28 (UNM); Collier's Draw near Sky Vilage, 5800 ft, 27-Jun-69, Tierney, G. F-2-21 (UNM). Santa Fe Co.: Santa Fe, ft, 23-Jul-1908, Standley, P.C. 4495 (NMC). Socorro Co.: Bosque del Apache W. R., ft, 01-Aug-86, Hale, C s.n. (UNM); Hwy 60, about 2 miles east of Bernardo, along irrigation canal near Rio Grande, 4770 ft, 19-Jul-04, Kelly W. Allred 9231 (NMCR). Torrance Co.: Near Pine Springs, pinyon-juniper-ponderosa transition, 7040 ft, 19-Jul-04, Kelly W. Allred 9237 (NMCR).

2. ***Ch. atrovirens*** Rydberg PIÑON GOOSEFOOT. Open areas in the mountains of the central and southwest region, from 7500 to 12,000 ft. The pericarp is supposedly both adherent and free, but nearly all of ours seem to be adherent. This species has been frequently misidentified as *Ch. hians*.

Selected Specimens : Bernalillo Co.: Sandia Peak, fir and aspen, 10678 ft, 05-Aug-49, Gordon, S. 163 (UNM). Catron Co.: Mogollon Mts, Gila National Forest, Feathery Hill, 2.3 air miles east of Negrito air strip, 8080 ft, 12-Aug-99, Allred, Kelly W. 7585 (NMCR). Cibola Co.: Mt. Taylor, w slope of La Mosca Peak, subalpine dry meadow, 10653 ft, 16-Aug-98, Ivey, R.D. (UNM). Lincoln Co.: South Fork of Eagle Creek, 5 mi w of Alto, 7480 ft, 22-Jul-69, Hutchins, R. 2325 (UNM); Sierra Blanca Ski Area, 10300 ft, 08-Jul-77, Knight, P. 156 (UNM). Los Alamos Co.: Upper Frijoles meadow, 9600 ft, 29-Jul-82, Dunbar, T. 114 (UNM). McKinley Co.: McKinley Coal Mine, July 1961 spoils, 7000 ft, 31-Aug-74, Wagner, W. 369 (UNM). Mora Co.: vicinity of Wagon Mound, 10-Sep-90, Smith, G. 137 (NMC). Otero Co.: Sacramento Mountains, La Luz Canyon Road, 1.7 miles east of Apache Canyon, 8155 ft, 26-Jul-01, Allred, Kelly W 8136 (NMCR). Rio Arriba Co.: Jiarita Mesa, 18 mi sw of Tres Piedras, 8500 ft, 07-Aug-63, Goodrow, K.K. 451 (UNM); e side of Canjilon Mt, grassland, 9200 ft, 12-Jul-63, Goodrow, K.K. s.n. (UNM); Lower Lagunitas Lakes Campground, ft, 02-Aug-98, McGrath, J. 156 (UNM). San Miguel Co.: Sangre de Cristos Mts, Gallinas Canyon, 7300 ft, 05-Aug-84, Cully, A.&B. 1951 (UNM). Sandoval Co.: Valles Caldera National Preserve, Hartman, R.L. (NMCR); west slope of Redondo Peak, 11-Sep-63, Osborn, N. 1934 (UNM); 01-Aug-1908, Bartlett, Mrs. W.H. s.n. (NMC). Santa Fe Co.: Sangre de Cristo Mts, near Rio En Medio, aspen, 25-Jul-63, Goodrow, K.K. 593 (UNM). Socorro Co.: San Mateo Mts, Cibola National Forest, Mt. Withington Lookout, 10115 ft, 25-Sep-02, Kelly W. Allred 8443 (NMCR). Taos Co.: Above Pot Creek, 10 mi e of Fort Burgwin, 09-Jul-61, Dixon, H.N. 57 (UNM); Lower Rio Hondo Canyon, 8500 ft, 12-Aug-67, Mackay, H. 676 (UNM). Torrance Co.: Manzano Mts, Nuevo Canyon near mouth of Encirro Canyon, open meadow, 7200 ft, 29-Jul-62, Bedker, E.J. 291 (UNM).

3. ***Ch. berlandieri*** Moquin-Tandon PITTED GOOSEFOOT. Open bare areas, disturbed sites, fields, roadsides, throughout the state. Very similar to *Ch. album*, q.v., and merged with that species by some workers; the strongly keeled sepals, honeycomb-pitted seeds, and persistent styles seem to be diagnostic. Sometimes only the main leaves are toothed, and those of the branches are mostly entire. We have two minor varieties:

a Style bases with a yellow area; seeds 1.2-1.5 mm diameter...var. ***zschackei*** (Murray) Murray ex Ascherson

a Style bases without a yellow area; seeds 1-1.3 mm diameter...var. ***sinuatum*** (Murray) Wahlenberg

Selected Specimens: Bernalillo Co.: Rio Grande Nature Center, 17-Sep-84, Knight, P. 3225 (UNM); Ojo de San Antonio, 6700 ft, 21-Sep-75, Tierney, G. 3 (UNM). Catron Co.: Datil mts, Bavenport bog, 8000 ft, 29-Aug-76, Fletcher 1220 (UNM). Colfax Co.: Raton, ft, 27-Sep-1907, Kohlhausen, Dr. C.B. s.n. (NMC); Maxwell City, 02-Oct-1907, Van Bruggem, W. s.n. (NMC). Dona Ana Co.: NMSU College Ranch, bosque pasture along Rio Grande, 4000 ft, 10-Sep-03, Kelly W. Allred 9048 (NMCR). Grant Co.: Metcalfe's Ranch, 11-Jul-1900, Wooton, E.O. s.n. (NMC). Hidalgo Co.: Peloncillo Mts, Clanton Draw, at entrance to National Forest from the east, 5400 ft, 05-Sep-03, Kelly W. Allred 8997 (NMCR). Lincoln Co.: White mts, 8400 ft, 26-Sep-70, Hutchins, B. 3330 (UNM); Ruidoso Creek, 29-Jun-1895, Wooton, E.O. s.n. (NMC). Los Alamos Co.: Mortendad Canyon, 7000 ft, 08-Sep-77, Foxx, T. 8 (UNM). McKinley Co.: bottom of Dalton Pass, 6750 ft, 09-Oct-76, Marley, G. 324 (UNM). Otero Co.: Sacramento Mts, La Luz Canyon, along Forest Road 162, 8038 ft, 27-Sep-03, Kelly W. Allred 9139 (NMCR); Sacramento Mts, James Canyon, ft, 11-Aug-1899, Wooton, E.O. s.n. (NMC); 6 mi w of Sacramento, 06-Aug-69, Conley, W.H. s.n. (NMC). Quay Co.: Nera Visa, ft, 02-Oct-1907, Belnap, W. s.n. (NMC). Rio Arriba Co.: Truchas Peak, 9750 ft, 06-Aug-49, Gordon, S. 181 (UNM). Roosevelt Co.: Melrose air force Range, 22-Jul-93, Bleakly 335 (UNM). San Juan Co.: Chaco Canyon Ntl Mon, 6200 ft, 10-Oct-77, Cully, A. 252 (UNM). San Miguel Co.: upper Pecos, 10-Aug-1898, Maltby & Cayhill s.n. (NMC); Near Pecos, 22-Aug-1908, Standley, P.C. 5174 (NMC). Sandoval Co.: Jemez Mts, Monument Canyon, 8400 ft, 22-Sep-83, Fletcher, R. 7464 (UNM); San Antonio Hot Springs, Valles Caldera NP, 8500 ft, 15-Aug-01, Hartman. R.L. 73884 (NMCR). Santa Fe Co.: Santa Fe, Cockerell, T.D.A. s.n. (NMC); Santa Fe, 19-Sep-1907, Harvey, Mrs. L.A. s.n. (NMC). Sierra Co.: Rhodes Canyon, 28-Jul-92, Anderson, D.L. 5853 (WSMR); Mineral Creek, ft, 26-Sep-1904, Metcalfe, O.B. 1413 (NMC). Socorro Co.: Magdelena Mts, 7200 ft, 28-Jul-73, Hutchins, B. 4576 (UNM). Taos Co.: Taos, 21-Sep-1907, Adair, W.M. s.n. (NMC). Union Co.: Albert, ft, 23-Sep-1907, Hanson, H.M. s.n. (NMC); Clayton Lake, 30-Aug-92, Ivey, R.D. s.n. (UNM).

4. ***Ch. capitatum*** (Linnaeus) Ambrosi var. ***parvicapitatum*** S.L. Welsh STRAWBERRY BLITE [*Chenopodium overi* Aellen]. Mostly in the central regions of the state, in the forests among aspen, ponderosa pine, and piñon. Variety *capitatum* is likely to be found in the state. It differs by having larger fleshy, red, glomerules 6-10 mm in diameter and cordate leaf bases.

Selected Specimens: Catron Co.: Bill Lewis Cienega, 8900 ft, 08-Sep-80, Fletcher, R. 4817 (UNM). Cibola Co.: Diener Canyon, Zuni Mts, 28-Jul-91, McCallum, A. 1260 (UNM); Mt. Taylor, 8800 ft, 09-Jul-32, Castetter, E. 3950 (UNM). Colfax Co.: Palo Flechado Hill, 8000 ft, 16-Jul-32, Castetter, E.C. 3956 (UNM). Lincoln Co.: s fork of Eagle Creek, 7480 ft, 29-Jun-69, Hutchins, R. 2068 (UNM); Eagle Creek, 10-Jul-82, Soreng, R. 2021 (NMC). Mora Co.: Pecos River, 9360 ft, 01-Jul-82, Andrews, T. 31276 (UNM). Otero Co.: Sacramento Mts, James Canyon, 03-Aug-1899, Wooton, E.O. s.n. (NMC); Mayhill, 9000 ft, 13-Aug-49, Gordon, S. 596 (UNM). Rio Arriba Co.: Truchas Peak, 9750 ft, 06-Aug-49, Gordon, S. 207 (UNM). San Juan Co.: Chuska Mts, 8000 ft, 25-Jul-95, Hevron, W. 2393 (UNM). San Miguel Co.: Crest del Monte, 8500 ft, 23-Jul-32, Nelson, A. 3957 (UNM). Sandoval Co.: 8 mi n of Jemez Springs, 25-Jul-84, Spellenberg, R. 7820 (NMC); San Juan Mesa, 8100 ft, 04-Aug-78, Wagner, W. 3855 (UNM). Santa Fe Co.: 21 mi nw of Pecos, 24-Aug-60, Martin, W.C. 4353 (UNM). Sierra Co.: James Brothers' Spring, 7800 ft, 29-Jun-94, Roalson, E.H. 939 (NMCR); Taylor Peak, Black Range, 7500 ft, 12-Aug-82, Hutchins, R. 10330 (UNM). Socorro Co.: e of South Baldy, 10000 ft, 26-Aug-73, Hutchins, R. s.n. (UNM). Taos Co.: Sangre de Cristo Mts, 17-Aug-73, Holmgren, N.H. 7268 (NMC); Rio Hondo, 8500 ft, 15-Sep-67, McKay, H. s. n. (UNM).

5. ***Ch. cycloides*** A. Nelson SANDHILLS GOOSEFOOT. Open sandy areas and blowouts, a few collections in the northeast and northcentral regions.

Selected Specimens : DeBaca Co.: 2 mi sw of Ft. Sumner, ft, 27-Aug-97, Sivinski, R. 4076 (UNM). Quay Co.: ne of Logan, ft, 28-Aug-96, Sivinski, R. 4090 (UNM). Roosevelt Co.: Kenna, ft, 02-Sep-54, Williams, E. 10505 (UNM); 4 mi n of Milnesand, ft, 17-Aug-92, McGregor, R.C. 40728 (NMC).

6. ***Ch. desiccatum*** A. Nelson DESERT GOOSEFOOT. Disturbed ground generally below 7500 ft, but a few collections from 8,000 ft. We have two widespread and intergrading forms, supposedly distinguished by the following inconsistent features:

a Plants bushy, usually branched from the base; primary leaves entire, somewhat fleshy or succulent, oblong to oblong-ovate; sepals covering

(*Continued on page 4, Chenopodium*)

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

— Linnaeus

(Chenopodium, Continued from page 3)

the fruit at maturity, strongly keeled; fruits 0.9-1.1 mm wide...var. ***desiccatum*** DESERT GOOSEFOOT.

a Plants usually solitary from the base; primary leaves entire or with 1 or 2 basal lobes or teeth, thin, not fleshy or succulent, ovate-lanceolate; sepals spreading to expose the fruit at maturity, weakly keeled; fruits 1-1.4 mm wide…var. ***leptophylloides*** (Murray) Wahl PLAINS GOOSEFOOT [*Chenopodium pratericola* Rydberg]. This form approaches *Ch. leptophyllum* in leaf shape but differs most clearly in having free pericarps (adherent in *Ch. leptophyllum*).

Selected Specimens : Bernalillo Co.: Petroglyph Ntl Mon, 18-Sep-93, Barlow-Irick, P. 9398 (UNM). Curry Co.: 1 mi e of Clovis, 01-Jul-93, Ulaszek, E. 1916 (NMC). DeBaca Co.: Fort Sumner, 19-Jul-04, Kelly W. Allred 9238 (NMCR). Dona Ana Co.: White Sands Missile Range, along road near C-Station, in swampy area, 4000 ft, 23-Jun-92, Anderson, David Lee 5778 (NMCR); Las Cruces, campus of New Mexico State University, 4000 ft, 09-Nov-01, Kelly W. Allred 8208 (NMCR). Harding Co.: Kiowa National Grassland, Unit 46, ft, 11-Aug-87, Dunmire, W. s.n. (UNM). Lincoln Co.: Fort Stanton, 03-Oct-80, Lebgue, T. 452 (NMCR; Lovelace Ranch, 5400 ft, 30-Aug-64, Iwen, F.A. 162 (UNM). Los Alamos Co.: Pajarito Canyon, 7000 ft, 17-Jul-79, Foxx 365 (UNM). McKinley Co.: upper portion of Dalton Pass, 7600 ft, 18-Aug-76, Wagner, W.L. 2449 (UNM); bottom of Wild Berry canyon, 6769 ft, 18-Aug-76, Manthey, T. 1137 (UNM); Chaco Canyon Nation Mon, ft, 17-Aug-77, Duke, J.M. s.n. (UNM). San Juan Co.: Chaco Canyon, 20-Aug-38, Castetter, E. 9581 (UNM); 1 mi. SE of jct with Largo Canyon, 5900 ft, 22-Aug-98, Heil, K. 12504 (UNM). San Miguel Co.: upper bajada, 6740 ft, 26-Aug-02, Chauvin, Y. 02LV003-F5 (UNM). Sandoval Co.: Frijoles Creek, near the Rio Grande, 5400 ft, 01-Jul-88, Jacobs, B. 4213 (UNM); Pueblo of Santa Ana, 6156 ft, 05-Sep-01, Trafton, A. 14 (UNM). Sierra Co.: Kingston, 6000 ft, 15-Sep-63, Potter, D.D. 13 (UNM). Socorro Co.: atop Ladron Peak, 9175 ft, 02-Oct-75, Manthey, T. 646 (UNM); Hwy 60, about 2 miles east of Bernardo, along irrigation canal near Rio Grande, 4770 ft, 19-Jul-04, Kelly W. Allred 9230 (NMCR). Torrance Co.: Manzano Mts, Comache Canyon, 6400 ft, 21-Sep-63, Bedker, E.J. 1567 (UNM). Union Co.: Volcano rim, 8080 ft, 28-Aug-02, Chauvin, Y. 02CV003-F10 (UNM).

7. ***Ch. foliosum*** (Moench) Ascherson LEAFY GOOSEFOOT. Waste ground, disturbed sites, in the western regions.

Selected Specimens : Sierra Co.: 12 mi N of T or C, 4 mi E of hwy 85, 28-Oct-66, Clarkson s.n. (UNM).

8. ***Ch. fremontii*** S. Watson FREMONT'S GOOSEFOOT. In a variety of habitats nearly throughout the state, from deserts to forests, but typically more of a montane species. The foliage of typical forms are sparsely farinose and green, but farinose and grayish forms exist and are easily mistaken for *Ch. incanum*; for these one must rely upon the features in the key. Occasionally, large plants from shaded sites in the mountains will develop teeth above the basal lobes; these can be confused with *Ch. album*, but the leaf bases of *Ch. fremontii* are ± truncate rather than acuminate, and the pericarps are free, rather than adherent in *Ch. album*.

Selected Specimens : Bernalillo Co.: small meadow in Sandia park, 7275 ft, 08-Apr-49, Gordon, S. 9 (UNM). Catron Co.: Saddle Mountain region, just west of the cliffdwelling on the south-face of Brushy Mountain, 7412 ft, 06-Aug-01, Susannah B. Johnson 544 (NMCR); Black Range, Gila National Forest, For. Rd. 150 south of Beaverhead junction, 6700 ft, 28-Aug-02, Kelly W. Allred 8369 (NMCR); Hall Canyon, Mogollon mts, 7600 ft, 21-Jul-84, Dunbar, T. 687 (UNM). Cibloa Co.: Grants lava flow, 6400 ft, 20-Sep-86, DeBruin, E. 631 (UNM); SE side of Mount Sedgwick, 9100 ft, 19-Jul-68, Riffle, N.L. 513 (UNM). Dona Ana Co.: 1/2 mi S of Horner Ranch, 5500 ft, 08-Sep-52, Dunn, D.B. 8610 (UNM); San Andres Mts, Ropes Spring, 5660 ft, 17-Sep-99, Allred, Kelly W. 7670 (NMCR). Grant Co.: Mangas Valley, Rabbit trap exclosure, 5100 ft, 13-Sep-83, Fletcher 7439 (UNM). Hidalgo Co.: Peloncillo Mts, Clanton Draw, at entrance to National Forest from the east, 5400 ft, 05-Sep-03, Kelly W. Allred 8895 (NMCR). Lincoln Co.: White Mts, 25-Aug-1907, Wooton, E.O. 3622 (NMC). Los Alamos Co.: Water Canyon, 7100 ft, 02-Aug-78, Tierney, G 21 (UNM). McKinley Co.: Dalton Pass area, 7200 ft, 01-Jul-76, Marley, G. 133 (UNM); Chaco Canyon Nat'l Mon, 18-May-77, Duke, J.M. s.n. (UNM). Otero Co.: Sacramento Mts, turnout near dirt road to Cathey Peak, 9200 ft, 07-Aug-02, Kelly W. Allred 8319 (NMCR); Karr Canyon, Sacramento mts, 31-Aug-52, Castetter 9579 (UNM). Rio Arriba Co.: , ft, 24-Jun-64, Miller, J. 140 (UNM). Sandoval Co.: Valles Caldera National Preserve, Hartman, R.L. (NMCR); Alamo Canyon, Bandelier Nat'l Mon, 6100 ft, 31-Aug-75, Halley, R. 79 (UNM). Santa Fe Co.: Santa Fe, 01-Oct-1907, Boyle, A. s.n. (NMC); 1/4 mi S. of 285, N side of Rodeo rd, ft, 01-Aug-72, Kelley, E 309 (UNM); n of Glorieta, 24-Aug-1908, Standley, P.C. 5244 (NMC). Sierra Co.: Ridge on W side of Diamond Creek, 8600 ft, 28-Jun-94, Roalson, E.H. 909 (NMCR). Socorro Co.: Springtime Canyon, San Mateo Mts, 01-Nov-58, Todd, D. s.n. (UNM); San Mateo Mts, slopes n of Mt. Withington, along For. Rd. 138, 9670 ft, 25-Sep-02, Kelly W. Allred 8467 (NMCR); vicintity of Water Canyon, Magdelena mts, 9450 ft, 25-Aug-73, Hutchins, B. 4719 (UNM). Taos Co.: between Amalia & Ute Springs, 14-Aug-73, Holmgren, N.H. 7172 (NMC); 3 mi e of Dixon, ft, 24-May-79, Baker, W.L. 1034 (NMC). Torracne Co.: 3 mi SW of Manzano peak, 7100 ft, 01-Sep-63, Bedker, E.J. 1456 (UNM). Union Co.: Entrance to volcano, 7220 ft, 30-Aug-02, Chauvin, Y. 02CV009-F7 (UNM).

9. ***Ch. glaucum*** Linnaeus We have two forms that have been treated as varieties. Only var. *glaucum* is common in the state:

a Leaf-like bracts throughout the inflorescence; vertical seeds 0.9-1.1 mm wide…var. ***salinum*** (Standley) B. Boivin ROCKY MOUNTAIN GOOSEFOOT [*Chenopodium salinum* Standley]. Disturbed ground, waste places, widely scattered throughout the state. This is the native form.

a Leaf-like bracts absent in the inflorescence, at least in the terminal half; vertical seeds 0.6-0.9 mm wide…var. ***glaucum*** Not common; known from a few early reports and perhaps not persisting. Not seen by me.

Selected Specimens of var. *salinum*: Catron Co.: Mts se of Patterson, 16-Jul-1900, Wooton, E.O. s.n. (NMC); Zuni Salt Lake, ft, 26-Jun-00, Savinski R. 5211 (UNM). Colfax Co.: Eagle Nest Lake, 8200 ft, 06-Jul-35, Nelson, A. 3951 (UNM). Curry Co.: Cannon Air Force Base, ft, 20-Jul-93, Bleakly & DeBruin 522 (UNM). McKinley Co.: Zuni Reservation, ft, 28-Jul-1904, Wooton, E.O. 2772 (UNM). Quay Co.: Tucumcari Lake, ft, 17-Jun-83, Cully, A.&B. 1134 (UNM). San Juan Co.: 17 mi s of Fruitland, 11-Sep-77, Spellenberg, R. 4867 (NMC). San Miguel Co.: Las Vegas National Wildlife Refuge, about 7 air miles southeast of Las Vegas, McAlister Lake, 6500 ft, 15-Aug-90, Allred, Kelly W. 5120 (NMCR). Socorro Co.: Bosque del Apache Wildlife Refuge, 01-Jul-86, Hale, C. s.n. (UNM).

10. ***Ch. hians*** Standley GAPING GOOSEFOOT. Open prairies, sand hills, and roadsides in the northern region; in New Mexico known only from the type collection at Dulce and this not seen by me. Specimens of *Ch. atrovirens* are frequently identified as this.

11. ****Ch. hircinum*** Schrader FOETID GOOSEFOOT. Reported in the early 1900s from southern New Mexico, but apparently not found since; native to South America. A distinctive species because of the foetid odor and large blades both lobed and toothed.

12. ***Ch. incanum*** (S. Watson) Heller MEALY GOOSEFOOT [*Chenopodium incanum* (S. Watson) Heller var. *elatum* Crawford]. Found in a variety of habitats, from deserts to woodlands in the foothills, but tending to be at the lower elevations. Foliage is typically farinose and gray, but sometimes very sparsely farinose and greenish, causing a confusion with *Ch. fremontii*. A weak variety has been recognized, based on branching habit and blade shape, but this distinction seems to be inconsequential in New Mexico populations.

Selected Specimens : Bernalillo Co.: Albuquerque, ft, 08-Jun-36, Carter, C.B. s.n. (NMC). Catron Co.: Saddle Mountain region, Pueblo Park Campground, 6156 ft, 06-Aug-01, Susannah B. Johnson 592 (NMCR). Chaves Co.: Sand Ranch, Polecat ranch house, 45 miles east of Roswell along hwy 380, 4380 ft, 01-Jul-99, Allred, Kelly W. 7417 (NMCR); Roswell, 3770 ft, 10-Oct-97, Chauvin, Y. 97YC010B (UNM). Cibola Co.: Los Gigantes, Zuni Mts, 20-Jul-81, McCallum, A. 1218 (UNM); El Morro, 12-Sep-52, Swanson, V.B. s.n. (NMC). Dona Ana Co.: College Ranch, 05-Sep-70, Spellenberg, R. 2363 (NMC); WSMR, Organ Mts, 23-Aug-91, Anderson, D.L. 5034 (WSMR); Rope's Spring, San Andres mts, 5600 ft, 11-Aug-75, Von Loh, J. 448 (UNM). Eddy Co.: Los Medanos Site, 14-May-79, Van Pelt s.n. (UNM). Grant Co.: Hahita, hwy NM 9, 4650 ft, 27-Sep-97, Worithington, R.D. 27121 (UNM). Hilago Co.: Antelope Wells, 21-Aug-55, Castetter 9932 (UNM); Peloncillo Mts, Clanton Draw, at entrance to National Forest from the east, 5400 ft, 05-Sep-03, Kelly W. Allred 8995 (NMCR). Lincoln Co.: Capitan Mountain near Summit, 01-Aug-76, Wagner, W. L. 2201 (UNM); 15 mi NE of Three Rivers, 5780 ft, 08-Jul-72, Hutchins, B. 3819 (UNM). Luna Co.: 4.5 mi S of the E side of Deming, 13-Oct-48, Dunn 5310 (UNM). McKinley Co.: Navajo Experiment Station, ft, 13-Aug-36, Surface, V. s.n. (NMC); 7 mi NE Borrego Pass, 30-Sep-79, Marley, G.A. 1749 (UNM). Mora Co.: Canadian River in Canyon Chiquita, 29-Jun-81, Knight, P. 1589 (UNM). Otero Co.: WSMR, 3 km n of Orogrande, ft, 28-Jul-95, Anderson, D.L. 6700 (WSMR); Turner's Ranch, ft, 19-Jul-1905, Wooton, E.O. s.n. (NMC). Roosevelt Co.: Melrose Bombing Range, 12-Oct-90, Barlow s.n. (UNM). San Juan Co.: NMGS plant site, 6000 ft, 24-May-78, Marley, G.A. 1245 (UNM); Chaco canyon, S of Pueblo Alto, 6420 ft, 01-Oct-77, Cully, A. 246 (UNM). San Miguel Co.: 3 mi E of jct US 85 & hwy 3, ft, 11-Aug-49, Gordon, S. 510 (UNM). Sandoval Co.: NM 22 mile post 5-6, 10-Jul-2000, Nellessen, J.E. 6 (UNM); White Rock Canyon, mouth of Frijoles Canyon, 5400 ft, 14-May-88, Jacobs,B. 4004 (UNM). Santa Fe Co.: Arroyo Hondo, 1/2 mi w of Pueblo ruins, ft, 01-Jul-72, Kelley, E. 57 (UNM); Santa Fe municipal airport, 04-Aug-53, McKinley, J.W. 32 (UNM). Socorro Co.: Sevilleta, E of Nunn-Burris Ranch house, 5300 ft, 23-Jul-76, Manthey, T. 1092 (UNM); N. Fork Canyon, Magdelena mts, 6975 ft, 26-Jul-73, Hutchins, B 4467 (UNM). Torrance Co.: NMSU Corona Ranch, northeast corner of I Pasture, 5050 ft, 19-Jul-97, Forbes, Adam C. 39 (NMCR); Gallenas Peak S of Willard, 08-Sep-61, Potter, L.D. 578 (UNM).

13. ***Ch. leptophyllum*** (Moquin-Tandon) Nuttall ex S. Watson NARROWLEAF GOOSEFOOT. Widespread in the western half of the state in disturbed areas, often in the mountains. A conspicuous species because of the narrow, farinose, single-veined leaves, but it may be confused with *Ch. desiccatum* var. *lephtophylloides*, which has free pericarps rather than adherent ones.

(Continued on page 5, Chenopodium)

(Chenopodium, Continued from page 4)

Selected Specimens : Catron Co.: Gila National Forest, Snow Lake, 8300 ft, 03-Aug-93, Allred, Kelly W. 5951 (NMCR); Brockman Ranch, 8 km e of Red Hill, 06-Sep-90, Anderson, D.L. 4527 (NMCR). Hidalgo Co.: Peloncillo Mts, Clanton Draw, at entrance to National Forest from the east, 5400 ft, 05-Sep-03, Kelly W. Allred 8993 (NMCR). Lincoln Co.: Fort Stanton, 7000 ft, 04-Oct-80, Lebgue, T. 465 (NMCR). Luna Co.: Hadley Canyon, 5400 ft, 18-Apr-88, Columbus, J. Travis 1938 (NMCR). McKinley Co.: Mesa above Wild Berry canyon, 6600 ft, 12-Sep-76, Wagner, W.L. 318 (UNM); Gallup, ft, (NMC); Jct. Highway 9 & 666, 19-Aug-76, Wagner, W.L. 2462 (UNM). San Juan Co.: Navajo Mine, BHP-Utah International, Area IV-North, 23-Jul-87, Allred, Kelly W. 4527 (NMCR). San Miguel Co.: near Pecos, 22-Aug-1908, Standley, P.C. 5172 (NMC). Santa Fe Co.: 2 mi. due w. of Santa Fe Airport, 6450 ft, 10-Sep-01, Chauvin, Y. 01YC002-F2 (UNM). Sierra Co.: 14 mi e of Beaverhead, ft, 14-Aug-82, Spellenberg, R. 6594 (NMC). Socorro Co.: Ladron, near tank in Sect. 33, 5800 ft, 21-Sep-75, Manthey, T. 505 (UNM). Taos Co.: between Amalia & Ute Springs, ft, 14-Aug-73, Holmgren, N.H. 7173 (NMC).

14. ****Ch. murale*** Linnaeus NETTLE-LEAF GOOSEFOOT. Native to Europe and Asia. Poorly known in New Mexico.

Selected Specimens : Socorro Co.: ne of Magdalena Mts, 6100 ft, 14-Sep-74, Hutchins, R. 5169 (UNM).

15. ***Ch. neomexicanum*** Standley NEW MEXICO GOOSEFOOT [*Chenopodium arizonicum* Standley]. Disturbed ground in woodlands, pine forests, and roadsides. In his original description Standley clearly indicated these plants (as well as *Ch. arizonicum*) to be "ill-scented," but most New Mexico plants identified with this name seem to be non-aromatic.

Selected Specimens : Dona Ana Co.: Organ Mountains, 01-Sep-1898, Cockrell, T.D.A s. n. (UNM); Organ Mts, ft, 10-Sep-1899, Wooton, E.O. s.n. (NMC). Eddy Co.: Longview Ridge, 5962 ft, 03-Oct-00, Chauvin, Y. 00YC063-F21 (UNM). Lincoln Co.: Fort Stanton Experimental Ranch, 03-Oct-80, Lebgue, T. 445 (NMCR). Luna Co.: Florida Mts, arroyo e. of Gym Peak, 4500 ft, 11-Oct-97, Wothington, R.D. 27275 (UNM); on ridgetop just E of summit of Cooke's Peak, 8000 ft, 20-Sep-87, Columbus, J. Travis 1846 (NMCR). McKinley Co.: mesa w. of Wild Berry canyon, 6600 ft, 17-Aug-76, Wagner, W.L. 2397 (UNM). San Miguel Co.: Trout springs, Las Vegas canyon, ft, 24-Aug-1910, Wooton, E.O. s.n. (UNM). Sierra Co.: Mineral Creek, 7800 ft, 26-Sep-1904, Metcalfe, O.B. 1412 (UNM). Socorro Co.: Ladron, head of Canon del Norte, 6850 ft, 02-Oct-75, Manthey, T. 680 (UNM).

16. ***Ch. pallescens*** Standley SLIM-LEAF GOOSEFOOT. Open ground in the southeastern region; not common.

Selected Specimens : New Mexico, Eddy Co.: Livingston Ridge, Los Medanos Site, 10-Jul-78, Knight, M. s.n. (UNM).

17. ***Ch. rubrum*** Linnaeus RED GOOSEFOOT. Moist open areas, alkaline clay flats and playas. We supposedly have two forms in New Mexico that have been variously treated as species, subspecies, varieties, or not at all. The specimens I have seen more-or-less fit the native form (var. *humile*), as below, but the distinction is clearer on paper than in the plants:

a Stems erect or ascending, 15-80 cm long; blade margins deeply dentate; vertical seeds 0.6-1 mm in diameter...var. ****rubrum*** Native to Europe. Not seen by me for New Mexico material.

a Stems prostrate or spreading; blade margins entire or shallowly dentate; vertical seeds 0.8-1.2 mm in diameter...var. ***humile*** (Hooker) S. Watson Native to the western United States.

Selected Specimens : Cibola Co.: Bluewater Lake, 7200 ft, 26-Sep-90, Loftin 3 (UNM). Otero Co.: WSMR, Brazel Lake, 4100 ft, 19-Aug-93, Anderson, D.L. 6328 (WSMR). Rio Arriba Co.: San Gregorio, 19-Sep-64, Fleck, A. s.n. (UNM). San Juan Co.: 15 mi w of Farmington, ft, 17-Sep-84, Spellenberg, R. 7876 (NMC). Sandoval Co.: Alamo Canyon, 5450 ft, 04-Jun-88, Jacobs, B. 4144 (UNM); White Rock Canyon, 5400 ft, 12-Jul-88, Jacobs, B. 4262 (UNM). Sierra Co.: Elephant Butte Lake, 4200 ft, 25-Oct-75, Hutchins, R. 5380 (UNM).

18. ***Ch. simplex*** (Torrey) Rafinesque GIANT-SEED GOOSEFOOT [*Chenopodium gigantospermum* Aellen]. Waste places, in the northeastern and northwestern corners of the state, from very few collections.

19. ***Ch. watsonii*** A. Nelson STINKING GOOSEFOOT. Woodlands and shrublands of various kinds, often with piñon or juniper, disturbed ground. Plants form rather dense clumps, with thick, malodorous leaves that seem wet to the touch when fresh. The odor remains in dried material.

Selected specimens : Catron Co.: Datil Mountains, 7600 ft, 10-Aug-76, Fletcher 1069 (UNM). Cibola Co.: Coal Mine Canyon, 27-Jun-60, Osborn, N. 194 (UNM). Grant Co.: Redrock, 11-Sep-35, Anderson & Rhinehart 541 (NMC); in drainage bottom about 1/4 mile N of White Eagle Mine, 5800 ft, 01-Aug-87, Columbus, J. Travis 1430 (NMCR). Hidalgo Co.: Peloncillo Mts, Clanton Draw, at entrance to National Forest from the east, 5400 ft, 05-Sep-03, Kelly W. Allred 8996 (NMCR); Animas Mts, 5400 ft, 07-Aug-76, Wagner, W.L. 2287 (UNM); south of Lordsburg, ft, 08-Jun-49, Dittmer 3947 (UNM). McKinley Co.: Mexican Springs, 03-Jul-35, Carter, C.B. 8143 (NMC); Dalton Pass mesa top, 7200 ft, 01-Jul-76, Marley, G. 102 (UNM). Sandoval Co.: Bandelier National Mon, Friljoles Canyon, 6470 ft, 22-Aug-57, Yarnell, R.A. 127 (UNM). Socorro Co.: Chupadera Mesa, 16-Aug-48, Dunn 4453 (UNM); Montezuma, 7000 ft, 01-Jul-65, Broeske, F. s.n. (UNM). Taos Co.: Cerros de Taos, 19-Aug-73, Holmgren, N.H. 7296 (NMC). Torrance Co.: 10 mi s of Clines Corners, 02-Jul-49, Castetter 3944 (UNM). 🕮

What's In A Name?

I report the following from Paul Fryxell's article on generic scientific names derived from both the given and surnames of people [Very personal generic names (*Nomina perpropria*): A contribution to whimsical botany. Sida 10(2):95-102. 1983]:

Allenrolfea: Robert Allen Rolf, 1855-1921
Billieturnera: Billie Lee Turner, 1925-
Captaincookia, James Cook, 1728-1779
Carlowrightia, Charles Wright, 1811-1885
Ivanjohnstonia, Ivan Murray Johnston, 1898-1960
Marshalljohnstonia, Marshall Conring Johnston, 1930-
Peteravenia, Peter Raven, 1936-
Reedrollinsia, Reed Clark Rollins, 1911-1998
Sirhookera, Sir Joseph Dalton Hooker, 1817-1911
Willwebera, William A. Weber, 1918-

So, have at it…! ☺

Abutilon (Malvaceae) in and near New Mexico

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Indian mallows are common in southern New Mexico and one species occurs northward at least to Sandoval and Guadalupe counties. Since preparation of Martin and Hutchins' A Flora of New Mexico an additional species has been reported, another is recognized here, and *A. abutiloides* and *A. pinkavae* have been reported nearby and are likely to occur in New Mexico. Specimens have been reviewed at NMC, NMCR, and UNM.

A key:

1 Styles and carpels 5; some pubescence stellate 2

2 Flowers in compact panicles; leaves mostly 4-7 cm long; calyx 6-8 mm; petals 9-15 mm .....***A. malacum***
2 Flowers solitary or in open panicles; leaves mostly 2-4 (a few to 6) cm long; calyx 2-4 mm, petals 4-7 mm..... 3

3 Plants usually erect subshrubs with densely tomentulose leaves; corolla usually with dark center; petals reflexed; fruits 6 cm diameter .....***A . incanum***
3 Plants usually decumbent or trailing with sparsely pubescent leaves; corolla lacks dark center; petals erect; fruits 7-9 mm diameter.....***A. parvulum***

1 Styles and carpels 6 to 15; pubescence stellate or not..... 4

4 Stem often >1 m tall; carpels (8-)10-15..... 5

5 Larger leaves to 5(-10) cm long; calyx and petals 9-12 mm long..... *A. abutiloides*
5 Larger leaves 10-20 cm long; calyx and petals 3-10 mm long..... 6

6 Calyx 5-9 mm long; carpels with divergent awns; plants annual.....***A. theophrasti***
6 Calyx 3-5 mm long; carpels with short mucros; plants perennial.....***A. mollicomum***

4 Stems <0.6 m tall; carpels 6-9..... 7

7 Petioles 0.5-0.75 X blade length; calyx 2-5 mm. long; petals 5-10 mm long.....***A. fruticosum***
7 Petioles 0.9-1.2 X blade length; calyx 8-20 mm long, petals 14-18 mm long..... 8

8 Plants procumbent to ascending; leaves prominently dentate, about as long as wide; fruits 10 mm long (shorter than calyx); petals pale yellow .....***A. wrightii***
8 Plants erect; leaves obscurely crenulate-serrulate, longer than wide; fruits 8-17 mm long (= calyx); petals orange.....*A. pinkavae*

Abutilon abutiloides (Jacq.) Garcke *ex* Brit. & Wilson. Subshrubs to 1.5 m; corollas orange-yellow. Texas, Arizona, Mexico, West Indies. Known in Graham County, Arizona, a few km west of New Mexico.

Abutilon fruticosum Guill. & Perr. Subshrubs 2-60 cm tall; corollas cream to orange-yellow. *A. fruticosum* was described from Senegal and is known eastward to India. J. E. Fryxell (1983) introduced this name for North American plants to include *A. texense* Torr. & Gray in Oklahoma, Arkansas, Texas, and northern Mexico. The species has not previously been reported for New Mexico, although *A texense* has been listed as a synonym of *A. incanum* in New Mexican works. New Mexico specimens are *Peterson 04-195* (deposited NMC) and *01-476* (NMNHI) from Eddy County, foothills of the Guadalupe Mountains in a side-canyon of South Texas Hill Canyon (T22S R21E Sec. 15, 1550 m elevation), where it grows in Chihuahuan Desert scrub that includes *Juniperus pinchotii* and *Rhus trilobata*. Specimens collected earlier by Richard D. Worthington in the Guadalupes and recorded (in accord with the floras of Texas and New Mexico) as *A. incanum* are presumably this species.

Abutilon incanum (Link) Sweet. Subshrubs or shrubs to 1 m or taller; corollas yellow or pink, reflexed and commonly with a dark red center. New Mexico to Arizona and northwestern Mexico and (pink form only) in Hawaii. In New Mexico in Sierra, Luna, and Grant counties. Arguably J. Carter's Luna County collection can be distinguished as *Abutilon pringlei* Hochreutiner or *A. incanum* subsp. *pringlei* (Hochr.) Felger & Lowe.

Abutilon malacum S. Wats. Perennial herb or subshrub to 1 m; corollas yellow. Texas to Arizona and northern Mexico. In New Mexico from Chaves and Eddy west to Grant and Hidalgo counties.

Abutilon mollicomum (Willd.) Sweet (*A. sonorae* A. Gray). Shrub 1-2 m tall; corollas yellowish. Mexico, north to Texas, Arizona, and New Mexico (in Hidalgo and Luna counties).

Abutilon parvulum S. Wats. Perennial herb or subshrub with trailing branches; petals orange or pink. Northern Mexico, Texas and Colorado west to California. Our most common and widespread Indian mallow, the only species known north of Socorro and Chaves counties.

Abutilon pinkavae P. Fryxell. Subshrub to 0.5 m; corollas orange. Coahuila, Nuevo Leon, and Chihuahua. R. D. Worthington's collection locale near Ciudad Juárez is about 9 km from New Mexico.

Abutilon theophrastii Medik. Robust annual herb to 1 m or more; corollas yellow. Asian, widespread across southern U.S. Found in 1955 by R. J. Fleetwood in a Socorro County sorghum field; known from a Lea County garden and a few other such places.

Abutilon wrightii A. Gray. Ascending or decumbent perennial herb to 0.6 m; corollas pale yellow. Texas to Arizona. In New Mexico known in the Guadalupe Mountains of Eddy County.

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 (+).

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

Astragalus nutriosus Sanderson (Fabaceae): Catron County: about 10 miles west-south-west of Red Hill and ¼ mile east of the Arizona border, T1S R21W Sec 28 NW¼ of NE¼, 2,300 m, Sandy basaltic soil with *Juniperus monosperma*, *Pinus edulis*, *Bouteloua gracilis*, *Ericameria nauseosa* var. *bigelovii*, locally rare, 18 May 2004, R.C. Sivinski 5808 (UNM).

— Richard Worthington [P.O. Box 1333, El Paso, TX 79913]

Arnica latifolia Bong. (Asteraceae): Taos County: Sangre de Cristo Mts., up Middle Fork (of Red River) Trail to about 1.0-1.5 mi. below Middle Fork Lake, N36º 36.30' W105º 24.76', about 10,000 ft., along stream in canyon bottom in spruce-fir forest, 20 Jul 2004 R. D. Worthington 32608 (UTEP, SRSC, UNM). [Det. by B. L. Turner]

Carex bebbii (L. H. Bailey) Olney & Fern. (Cyperaceae): Rio Arriba County: Tusas Mts., Vallecitos Ranch at Vallecitos River and Rock Creek, N36º 38.34' W106º 11.95', 8800 ft. R.D. Worthington 32790 (UTEP, BRCH, UNM). [Det. by S. Jones]

Carex capitata L. (Cyperaceae): Taos County: Sangre de Cristo Mts., upper Long Canyon Trail, N36º 37.32' W105º 27.18', 11050 ft., R.D. Worthington 32635 (UTEP, BRCH, UNM). [Det. by S. Jones]

Carex garberi Fern. (Cyperaceae): Taos County: Sangre de Cristo Mts., upper Long Canyon Trail, N36º 37.32' W105º 27.18', 11050 ft., R.D. Worthington 32636 (UTEP, BRCH, UNM). [Det. by S. Jones].

— Nesom (2004, see Literature Reports)

Gamochaeta stagnalis (I.M. Johnston) A. Anderberg (Asteraceae): Hidalgo County: Peloncillo Mts, Granite Gap, occasional on W-facing granitic slope with *Ericameria laricifolia*, *Fouquieria splendens*, *Agave palmeri*, *Opuntia phaeacantha* var. *discata*, 21 Apr 1993, L. McIntosh 2665 (NMC). [This specimen was reported in issue 30 as *G. rosacea*; Guy Nesom has corrected the identification to *G. stagnalis*.

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

Viola adunca Small var. ***bellidifolia*** (Greene) Harrington [*Viola labradorica* Schrank] (Violaceae): Taos County: Trail from Bull of the Woods (above Taos Ski area at Twining) towards Wheeler Peak, R14 E T27N, near tree-line with Engelmann spruce, 11,500 ft, 30 June 2004, C.F. Keller 01821 (UNM). [Further specimens will be collected this summer and deposited in other herbaria.]

Botanical Literature of Interest

Taxonomy and Floristics

Bierner, M.W. 2004. **Taxonomy of *Hymenoxys* subgenus Macdougalia (Asteraceae: Helenieae: Tetraneurinae).** Sida 21 (2):657-663.

Brouillet, L., L. Urbatsch, & R.P. Roberts. 2004. ***Tonestus kingii* and *T. aberrans* are related to *Eurybia* and the Machaerantherinae (Asteraceae: Astereae) based on nrDNA (ITS and ETS) data: Reinstatement of *Herrickia* and a new genus, *Triniteurybia*.** Sida 21 (2):889-900.

Grant, V. 2004. **Taxonomy of the Polemoniaceae: *Gilia* and *Lathrocasis*.** Sida 21(2):531-546.

Hartman, R.L. & R.K. Rabeler. 2004. **New combinations in North American Caryophyllaceae.** Sida 21(2):753-754.

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Lost: One Groundsel

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With thanks to Tim Lowrey

Charles Wright's collection that became the type of *Senecio millelobatus* Rydberg was from "New Mexico; hills on the Limpia," but that area is now in Texas. Martin and Hutchins (A Flora of New Mexico) state that the species is widespread in New Mexico but they give no definite county record. No other primary source has the species in New Mexico, nor do our major herbaria have a specimen. DeWitt Ivey (Flowering Plants of New Mexico) illustrates it handsomely but does not claim that it occurs anywhere but Texas; his model (blooming 11 May) came from the Davis Mountains.

Debra Trock (1999, dissertation, Kansas State University) treats the species as *Packera millelobatus* (Rydb.) W. A. Weber & Löve. She has it in Texas, Coahuila, and Chihuahua. Other sources have it also in Arizona.

Regretfully, until someone comes up with a specimen, we should omit this groundsel from the New Mexico flora.