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NEW AND CORRECTED FLORISTIC RECORDS FOR NEBRASKA—4

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Nineteen species (including eight Eurasian* ones) are newly recorded for Nebraska: *Alopecurus arundinaceus**, *Amaranthus californicus*, *Asclepias asperula*, *A. purpurascens*, *Cardamine flexuosa**, *Centaurea diffusa**, *Dipsacus laciniatus**, *Eriochloa villosa**, *Euclidium syriacum**, *Gentiana alba*, *Geranium viscosissimum*, *Geum vernum*, *Goodyera oblongifolia*, *Haplopappus multicaulis*, *Heterotheca latifolia*, *Lathyrus tuberosus**, *Polygonum douglasii*, *Scirpus saximontanus*, *Veronica biloba**. Twenty-one others are shown to be more widespread in Nebraska than previously known, one has a more restricted range than previously reported, two (*Scirpus smithii*, *S. torreyi*) are deleted from the flora based upon corrected identifications, and the status of some rarely-collected species is updated. Thirty-two additions, two deletions, and two corrections to the recently-published flora of Seward County are also presented along with thirteen additions to the flora of Keith County.

† † †

INTRODUCTION

The *Atlas of the Flora of the Great Plains* (Great Plains Flora Association, 1977) (hereinafter, "the *Atlas*") is the only comprehensive published source of county-by-county distributional data for the vascular flora of Nebraska. Continuing field and herbarium work at the University of Nebraska—Lincoln, the University of Nebraska at Omaha, and Chadron State College has rendered some of that data incomplete and out-of-date. Here we summarize, in five categories, some of our findings from

the 1989–1991 field seasons: (1) nineteen species are newly reported; (2) notes are given on significant extensions of known geographic ranges and other distributional data, including occurrences of rare plants; (3) two species previously attributed to Nebraska are excluded on the basis of corrected identifications; (4) continuing field work in Seward County has revealed 32 species and one variety not listed for that county by Rolfsmeier (1988), as well as two new records of bryophytes; (5) thirteen species have also been found in Keith County which were not listed by Sutherland and Rolfsmeier (1989).

Species are listed alphabetically by genus within each of the four categories. Nomenclature follows the *Flora of the Great Plains* (Great Plains Flora Association, 1986) (hereinafter, "the *Flora*"), with synonyms used in the *Atlas* given in brackets. For species that were mapped in the *Atlas*, the number of the corresponding map is given following each species' name. Cited specimens are housed at the herbaria of the University of Nebraska—Lincoln (NEB), the University of Nebraska at Omaha (OMA), Chadron State College (CSCN), and the University of Kansas (KANU), using the internationally-standardized acronyms for those herbaria.

Some records in this paper resulted from a rare-plant inventory of the Pine Ridge Unit and Soldier Creek Wilderness Area of the Nebraska National Forest and are presented here with the permission of the Nebraska Natural Heritage Program and Game

and Parks Commission. These records are denoted by an asterisk in the list.

Species newly recorded in Nebraska

Alopecurus arundinaceus Poir. (Poaceae), creeping foxtail. This Eurasian grass has long been known in North America at scattered localities in Canada and North Dakota (Hitchcock and Chase, 1951). It has recently been found at several stations on the Platte River in western and central Nebraska: **Lincoln County**—Flat field now drained by ditches NW1/4 S3 T13N R34W (*Wilson & Moore s.n.*, 3 Jul 1991; OMA); **Keith**—clumps at the north edge of the North Platte River north of Sarben (*Sutherland 6681 & Kaul*, 20 May 1989; NEB, OMA); it is also at Clear Creek Waterfowl Management Area in the western part of the county (*Sutherland 7023 & Moore*, 21 Jul 1991; OMA); **Phelps**—occasional along the south shore of the Platte River southwest of the Overton bridge (*Rolfsmeier 5314*, 9 Jul 1989; NEB). Dorn (1988) reports it in southeastern Wyoming, so it probably occurs elsewhere along the Platte River in Nebraska, but it is easily overlooked because it is superficially similar to *Phalaris arundinacea* L., with which it often grows. Specimens have been collected in northwestern Nebraska: **Box Butte**—moist roadside ditch south of Alliance (*Rolfsmeier 9429*, 8 Aug 1991; NEB); **Dawes**—moist meadow along tributary of West Ash Cr. (*Rolfsmeier 8925*, 16 Jun 1991; NEB).

****Amaranthus californicus*** (Moq.) Wats. (Amaranthaceae). This species was not mapped in the *Atlas*, although it is known in Crook County, Wyoming (Dorn, 1988), not far from the Nebraska border. It has only recently been found in Nebraska: **Sioux County**—shores of drying pond in Oglala National Grassland (*Rolfsmeier 9593*, 28 Aug 1991; CSCN, NEB).

Asclepias asperula (Dcne.) Woods. var. ***decumbens*** (Nutt.) Shinnars (Asclepiadaceae), antelope horn. Map 986. This milkweed of the southern plains is known in Kansas just south of the Nebraska border. Recently a specimen from south-central Nebraska was determined as this species: **Nuckolls County**—grazed prairie along Gimlet Cr., 8 mi west of Superior (*S. Churchill 5404*, 27 May 1975; NEB).

Asclepias purpurascens L. (Asclepiadaceae), purple milkweed. Map 995. Recorded just outside the State in northwestern Missouri and northeastern Kansas, this eastern milkweed has been located for the first time in Nebraska in **Richardson County**

(rare on upper-mid slope in oak-linden woods (*Rolfsmeier 5849*, 22 Sep 1989; NEB); upland slope in oak bluff forest, south part of Indian Cave State Park (*Rolfsmeier 6867*, 11 Jul 1990; NEB). It has also been collected in similar habitat in the north portion of the park in **Nemaha County** (*Rolfsmeier 8676 & Stepanek*, 24 May 1991; NEB).

Cardamine flexuosa With. (Brassicaceae). This annual Eurasian mustard has been reported from several scattered stations in North America (Voss, 1985) and has recently been collected for the first time in Nebraska: **Lancaster County**—locally common as a weed in ornamental plantings at 11th and P Streets in Lincoln (*Rolfsmeier 5859*, 26 Oct 1989; NEB).

Centaurea diffusa Lam. (Asteraceae), diffuse knapweed. Petersen (1926) reported *Centaurea maculosa* Lam. as introduced and spreading along roadsides in eastern Antelope County and western Pierce County. A voucher specimen at NEB collected by Petersen from near Brunswick (Antelope County) in 1917 turns out to be *C. diffusa*, which we have recently re-discovered in central **Pierce County** (abundant in pastures and roadsides along Willow Cr., southwest of Pierce, *Rolfsmeier 6946 & Kaul*, 12 Jul 1990; NEB); it is an aggressive weed in sandy soil there and on the south side of nearby Willow Creek Reservoir. Our plants do not match the descriptions of this species in European manuals in that they have a short pappus, whereas European plants have none, but they reasonably match descriptions in North American manuals.

Dipsacus laciniatus L., cut-leaved teasel (Dipsacaceae). This coarse biennial herb was reported in the *Atlas* and *Flora* as scattered in eastern Kansas, but we found it recently in Nebraska in **Saline County**—north side of Nebr. 41, ca 4 mi west of junction with Nebr. 15 (*Rolfsmeier 7285 & Kaul*, 31 Jul 1990; NEB). We saw it nearby along Nebr. 15 and we expect it to be found elsewhere in ruderal habitats in the eastern part of the State.

Eriochloa villosa (Thunb.) Kunth (Poaceae). This Eurasian grass is sparingly introduced in North America and was reported in Iowa by Pohl (1966). We now have specimens from Nebraska: **Thurston County**—locally common along roadside margin 1 mi east, 2 mi north of Macy (*Rolfsmeier 8130 & Esch*, 21 Sep 1990; NEB).

Euclidium syriacum (L.) R. Br. (Brassicaceae). This annual Eurasian mustard was reported at various locations in eastern Wyoming

(Dorn, 1988) but was not included in the *Flora*. It has now been collected in Nebraska: **Dawes County**—locally common in disturbed, gravelly soil in waste ground near corner of W. Third and Elm Streets, Chadron (*Rolfsmeier* 8936, 16 Jun 1991; NEB).

Gentiana alba Muhl. (Gentianaceae). Map 973. Petersen (1923) reported this gentian on the basis of a specimen at NEB collected by H. J. Webber near Nemaha in 1889. The specimen was subsequently misidentified and refiled as *G. puberulenta* Pringle, and thus was excluded by Winter (1936) from his list of species for Nebraska. We recently discovered the specimen and corrected the nomenclature, thereby re-establishing the presence of this southeastern species in the State.

Geranium viscosissimum Fisch. & Mey. (Geraniaceae), viscid cranesbill. In the appendix of *Atlas* this species is reported from the Black Hills, where it is apparently infrequent. Two sheets of it at NEB establish its presence in the western part of the Nebraska Pine Ridge: **Sioux County**—beneath pines on east-facing hillside at the head of West Hat Cr. canyon (*Tolstead s. n.*, 25 Jul 1940).

Geum vernum (Raf.) T. & G. (Rosaceae), heartleaf avens. Map 567. This perennial of the eastern states is apparently widespread in southwestern Iowa but has been collected only twice in Nebraska: **Otoe County**—locally common in oak-elm woods along South Table Cr., Nebraska City (*Rolfsmeier* 8501, 8522, 10 May 1991; NEB, OMA); **Richardson**—under trees in floodplain of Rock Cr., (*Shildneck C-7361*, 7 May 1975; NEB).

Gnaphalium palustre Nutt., diffuse cudweed (Asteraceae). Map 1485. The *Atlas* shows this species to be in Cheyenne and Holt counties, but the Cheyenne County record is based upon a specimen (bank of the North Platte River, *J. G. Smith s.n.*, 28 Aug 1889; NEB) from Camp Clarke in what is now Morrill County but was then part of Cheyenne County. The Holt County specimen (on the Niobrara River, *Clements* 2999, 10 Aug 1893; NEB) is valid. We have now found the species in **Sioux County**—shore of pond, Oglala National Grassland, *Rolfsmeier* 9559 & *Hardy*, 24 Aug 1991; and *Rolfsmeier* 9596, 28 Aug 1991; CSCN, NEB) and in **Keith County**—riverbank at Clear Creek Waterfowl Management Area, *Sutherland* 7046 & *Kaul*, 13 Aug 1991; OMA. According to the *Flora*, the species is probably introduced in Nebraska.

****Goodyera oblongifolia*** Raf. (Orchidaceae), rattlesnake plantain. In the appendix to the *Atlas*

this boreal orchid was reported for the Great Plains region only from the Black Hills, but it has been found in the Nebraska Pine Ridge: **Dawes County**—upland pine woods in the drainage of Big Bordeaux Cr. (*Rolfsmeier* 9273, 20 Jul 1991; NEB).

Haplopappus multicaulis (Nutt.) Gray (Asteraceae). Specimens of this rare species of the northwestern Great Plains and Wyoming were recently located at NEB: Northwest Nebraska—(*C. Churchill s. n.*, 24 Jun 1909); **Sioux County**—Mansfield (collector unknown but probably C. H. Churchill, 12 Jun 1905).

Heterotheca latifolia Buckl., camphor weed (Asteraceae). Map 1520. A species of the southern Great Plains and southwestern U.S., this plant is established along Nebr. 63 in Saunders County, where it is probably a chance introduction. Its presence in Nebraska was first called to our attention by Dr. Marvin Bickel of Nebraska Wesleyan University (where there are herbarium vouchers), and several specimens were collected by Stephanie Goodnight-Krager (**Saunders County**—abundant ruderal off Nebr. 6 along road to Nebraska National Guard Camp, 6 Oct 1988; NEB, OMA). More recently a very large population was discovered in northeastern **Rock County** (sandy roadside along Nebr. 137 ca 10 miles north of Newport, *Rolfsmeier* 7995, 13 Sep 1990; NEB). This population continues south along the highway for at least two miles and is locally abundant in adjacent grazed rangeland.

Lathyrus tuberosus L., tuberous vetchling (Fabaceae). This European vetch has been collected at two locations in Nebraska: **Douglas County**—abundant in roadside ditch along Nebraska 92, just east of Venice (*Sutherland* 6707, *Bragg*, & *Hickey*, 10 Jul 1989; NEB, OMA); **Pawnee**—Burchard Lake Wildlife Area (*Lommasson* 1428, 4 Jul 1967; NEB). It is still at Burchard Lake, on roadsides with crown vetch (*Coronilla varia* L.), suggesting that it was apparently an intentional introduction that has persisted well over 20 years at this site.

Lechea tenuifolia Michx., pinweed (Cistaceae). Represented in Nebraska by several collections made near Minden in 1897 by Harry Hapeman. A population has been discovered recently in southeast Nebraska: **Pawnee County**—limestone glade in upland oak woods, Table Rock Wildlife Management Area (*Rolfsmeier* 9803, 16 Sep 1991; NEB, OMA).

****Plagiobothrys scouleri*** (H. & A.) I. M. Johnst. (Boraginaceae), popcorn flower. Map 1110. Winter (1936) reported this species from the State (as *Allo-*

carya scopulorum Greene) on the basis of a depauperate specimen at NEB (**Sheridan County**—Rushville, *Bates s.n.*, 25 May 1890) that appears to be correctly identified. The species was recently found in abundance in **Dawes County** (buffalo wallows in pasture 19, Pine Ridge Ranger District, Nebraska National Forest, *Rolfsmeier 9381*, 31 Jul 1991; CSCN, NEB) and **Sioux County** (drying shore of pond in Oglala National Grassland, *Rolfsmeier 9595*, 28 Aug 1991; NEB), confirming its presence in the State.

Polygonum douglasii* Greene (Polygonaceae). This knotweed is widespread to the north and west of Nebraska and is common in the Black Hills. It has recently been found in Nebraska in scattered locations in the Pine Ridge: **Dawes County—disturbed uplands north of the cliffs picnic area, Pine Ridge Ranger District, Nebraska National Forest (*Rolfsmeier 9326*, 26 Jul 1991; CSCN, NEB); **Sioux**—common in disturbed ground in burned upland pine woods, Soldier Creek Wilderness Area (*Rolfsmeier 9103*, 28 Jun 1991; CSCN, NEB).

Scirpus hallii Gray (Cyperaceae). Map 1852. In the *Atlas*, *S. hallii* was reported in nine counties in central Nebraska. All the records for Cherry, Clay, Fillmore, Franklin, Harlan, Kearney, Perkins and York counties are *S. saximontanus*. *Scirpus hallii* is known in Nebraska from a single collection in **Holt County** (roadside ditch 20 mi south of O'Neill, *Tolstead s. n.*, 20 Aug 1941; NEB), where both species occur.

Veronica biloba L. (Scrophulariaceae). This weedy, annual, Eurasian speedwell is widespread in the western United States, occurring eastward to the Front Range of the Rocky Mountains. It has been collected recently for the first time in Nebraska in **Cedar County**—locally common on disturbed, upland slope of oak forest bluff, Wiseman Wildlife Area, 3 mi east, 1 mi north of St. James (*Rolfsmeier 5042*, 1 Jun 1989; NEB).

Veronica hederifolia L. (Scrophulariaceae), ivy-leaved speedwell. Reported in the *Atlas* and *Flora* from Douglas County based upon *Sutherland 2606 & Wiley* (OMA), this weedy Eurasian speedwell is also established in **Dawes County**—disturbed meadows in Indian Cr. drainage, Pine Ridge National Recreation Area (*Rolfsmeier 9042*, 22 Jun 1991; NEB). It should be sought elsewhere in Nebraska.

Extensions of geographic range in Nebraska

Amelanchier arborea (Michx. f.) Fern. (Rosaceae), Juneberry. Map 549. The status of this eastern deciduous woodland tree was updated by Rolfsmeier et al. (1988). A recent collection from **Dakota County** (atop oak-wooded bluff at Basswood Ridge Wildlife Area, *Rolfsmeier 5562*, 10 Aug 1989; NEB) extends the range of this species over sixty miles northward in the Missouri River Valley.

*Bergia texana** (Hook.) Walp. (Elatinaceae). Map 339. This shoreline plant was known in Nebraska only from a specimen taken in Dawes County in the 1970s until its recent discovery in adjacent **Sioux County**—shores of drying pond in Oglala National Grassland (*Rolfsmeier 9592*, 28 Aug 1991; CSCN, NEB).

Cardaria chalepensis (L.) Handel-Mazzettii (Brassicaceae), lens-podded hoary cress. This Asiatic mustard, a common weed of western North America, was first reported from Nebraska in Richardson County by Mulligan and Frankton (1962) but was not shown in the *Atlas*. It was recently collected in Seward County (*Rolfsmeier*, 1988), and subsequent herbarium work has revealed it to be widespread in the State, although not as common as the similar *Cardaria draba* (L.) Desv. We have specimens from **Cuming County**—along gravel road 5.5 mi east, 1 mi north of West Point (*S. Churchill 3385*, 29 Jun 1974; NEB); **Custer**—dry ground, Broken Bow (*Kiener 27082*, 2 Jun 1951; NEB); and **Lancaster**—upland prairie hayfield 3 mi north of Lincoln (*Koch 4569*, 16 May 1968; NEB).

Carex saximontana Mack. (Cyperaceae), Rocky Mountain sedge. Map 1793. This inconspicuous sedge was reported in the *Atlas* only from a few counties in northwestern and extreme eastern Nebraska. Recent floristic work in oak woodlands along the Niobrara and Missouri rivers shows it to be common along the length of the Niobrara River and downstream along the Missouri River, reaching its easternmost extension in Dakota County. We have seen specimens from the following counties: Antelope, Boyd, Brown, Cedar, Cherry, Dakota, Dawes, Dixon, Holt, Keya Paha, Knox, Sheridan, and Sioux. Reports in the *Atlas* for Douglas and Sarpy counties are based on misidentifications of the closely related *C. jamesii*. The specimen reported from Cass County has not been located.

Carex texensis (Torr.) Bailey (Cyperaceae). This inconspicuous woodland sedge was known in Nebraska from a single specimen collected in

Richardson County (appendix in *Atlas*). Its recent discovery in **Otoe County** (locally common in oak woods along South Table Cr., Nebraska City, *Rolf-smeier 8829*, 7 Jun 1991; NEB, OMA) extends the known range northward in the Great Plains.

Chenopodium fremontii Wats. (Chenopodiaceae). Fremont goosefoot. Map 257. This sometimes-weedy goosefoot was reported in the *Atlas* from only Dawes and Sheridan counties in Nebraska. Our discovery of this plant in Keith County (Sutherland and Rolf-smeier, 1989) led us to believe that it is more common and widespread than previously reported. A survey of the specimens at NEB revealed additional records from Banner, Box Butte, Brown, Cherry, Custer, Grant, Scotts Bluff, Sioux, and Thomas counties that were overlooked in preparation of the *Atlas*. A specimen from Holt County may also be this species.

Didiplis diandra (DC.) Wood (Lythraceae), water purslane. The Nebraska distribution of this easily-overlooked aquatic herb was not reported in the *Atlas*. Graham (1986) listed the plant for Hamilton County, and we have seen additional specimens from **Kearney County**—ditch along road near Axtell (*Tolstead s.n.*, 23 Jul 1941; NEB); **Lancaster**—rooting in mud, Lincoln, *J. G. Smith s.n.*, 15 Jul 1886; NEB); and **Perkins**—shores of pond 2 mi east of Grant (*Tolstead s.n.*, 2 Aug 1941; NEB). We have seen no collections made after 1941.

Dryopteris spinulosa (O.F. Muell.) Watt (Polypodiaceae), spinulose wood fern. [*Dryopteris carthusiana* (Vill.) H.P. Fuchs]. Map 26. This fern of moist woodlands is rare in Nebraska, although it is common over much of its range. It was reported from the Niobrara Valley by Churchill et al. (1988) and from eastern Nebraska (*Atlas*) on the basis of two specimens at NEB. One is supposedly from Lancaster County but we believe it was not collected in the State. A second, from Cass County, may be this species but is too immature to be identified with certainty. A recent collection from **Dakota County** (upper end of moist draw in oak woods, Basswood Ridge Wildlife Management Area, *Rolf-smeier 5569*, 10 Aug 1989; NEB, OMA) verifies the presence of this fern in oak woods along the Missouri River.

Euthamia occidentalis Nutt. (Asteraceae). This composite of the western states was reported in the appendix of the *Atlas* from central and western Nebraska: Hall, Kearney, and Scotts Bluff counties. Recent collecting along the Platte River shows its distribution to be continuous from Scotts Bluff County to eastern Dawson County. We have seen it

at nearly every crossing over the North and South Platte rivers from Lewellen to Overton, east of which it is more sporadic. Vouchers have since been taken from Dawson, Deuel, Garden, Keith, Lincoln, Morrill (KANU), and Phelps counties. A recent collection from **Hamilton County** (frequent on sandbar in river at bridge 2 mi southeast of Chapman, *Esch 336*, 31 Aug 1990; NEB) represents its easternmost known station.

Hibiscus laevis All. (Malvaceae), halberd-leaved rose mallow. [*H. militaris* Cav.]. Map 355. Long known from lowlands of the Missouri and lower Platte rivers, this showy herb has now been found along the Platte River in central Nebraska. Recent collections from **Hall County** (locally abundant in still channel near bridge ca 6 mi west of Doniphan, *Rolf-smeier 9446*, 8 Aug 1991; NEB), and **Hamilton County** (frequent along edge of river near bridge 2 mi southeast of Chapman, *Esch 321*, 31 Aug 1990; NEB) extend its range in the State nearly 100 miles westward.

Juncus compressus Jacq. (Juncaceae) black grass. This introduced rush was known previously from Nebraska only by a single collection made by Ralph Brooks and Craig Freeman (Sutherland and Rolf-smeier, 1989). We have added several collections (OMA and NEB) which demonstrate that the species is present along both the North and South Platte rivers and across the length of Keith County. (**Keith County**—bank of South Platte River just south of Paxton, *Sutherland 7027*, 26 Jul 1991; bank of South Platte River at southeast corner of Roscoe Bridge, *Sutherland 7037*, 31 Jul 1991; north bank of North Platte River at Clear Creek Waterfowl Management Area, *Sutherland 7040* and *Great Plains Flora Class*, 5 Aug 1991.)

Lespedeza stipulacea Maxim (Fabaceae), Korean lespedeza. Map 693. In the *Atlas* this weedy legume was shown in Douglas and Richardson counties, but it is more widespread. There are recently-collected specimens in NEB from Cass, Jefferson, Lancaster, Nemaha, Otoe, Pawnee, Saline, and Seward counties, showing the species to be thoroughly established in southeastern Nebraska.

Ludwigia peploides (H. B. K.) Raven (Onagraceae), floating evening primrose. Map 782. This aquatic herb of the southern states was reported as new to Nebraska based on several collections from Lancaster County (Sutherland and Kaul, 1986). Recent field work shows it to be more widespread: **Cass County**—Louisville Lakes Recreation Area (*Kaul 6065*, 3 Oct 1987, and *Kaul 7044*, 21 Aug 1991; NEB);

Douglas—moist sand by the Platte River, Two Rivers Recreation Area (*Kaul 6312 & Nieto-Feliner*, 6 Sep 1988).

Lythrum salicaria L. (Lythraceae), purple loosestrife. Map 758. The status of this aggressive European aquatic was last updated by Sutherland and Kaul (1986). Prior to 1980, it was reported only from Fillmore County in the *Atlas*. We discovered a population at Branched Oak Lake in Lancaster County in 1982. Both infestations have since grown from a few to hundreds of individuals (pers. observation). Loosestrife has already become a serious problem along portions of the Niobrara River (Churchill et al., 1988) and is well on its way to becoming so along the Platte River.

Thompson, et al. (1987) reported an infestation on the margin of a pond and its outlet stream at Blue Hole Wildlife Area, south of Elm Creek in Buffalo County. In 1987, we observed it to be abundant on the banks of the Platte River nearby, and it appears that this infestation is spreading downstream. Specimens collected at the bridge south of Gibbon establish its presence through Buffalo County, though it has not yet been seen at the Overton bridge, eight miles upstream from Elm Creek. It is also common along the Platte in Hall County south of Alda and Grand Island. Three more localities downstream on the Platte have recently been found: on the **Hamilton-Merrick county line**—uncommon on sandbar in middle of river, near bridge 2 mi southeast of Chapman (*Esch 335, 346*, 31 Aug 1990; NEB); **Platte County**—low ground on west side of bridge, 1.5 mi south of Duncan (*Esch s.n.*, 2 Jul 1991; NEB); **Saunders**—west bank of the river at the crossing of Nebr. 92, east of Yutan (*Sutherland 6706, Bragg, & Hickey*, 10 Jul 1989; NEB, OMA). In addition, the species is in the floodplain of the Platte River in **Lincoln County**, where it is common in the drainage ditch on the south side of U.S. 30, 5.5 mi east-southeast of Maxwell (*Rolfsmeier 5506*, 6 Aug 1989; NEB). Finally a specimen was taken from the Twin Lakes Wildlife Management Area in **Seward County** in 1986, but the species has not been found again at this site.

Melica nitens (Scribn.) Nutt. ex Piper (Poaceae), threeflower melic. Map 2001. This woodland grass has been collected only twice in the State, in Cass and Richardson counties. We found a third locality, in **Johnson County** on a roadbank near oak woodland 3 mi south, 0.25 mi east of Tecumseh, which represents the westernmost station in Nebraska (*Rolfsmeier 8715, Esch & Bartok*, 26 May 1991; NEB, OMA).

Mentzelia oligosperma Nutt. (Loasaceae), stickleaf. Map 393. Reported only once, from the Nebraska Panhandle, this plant of rocky prairies has long been known just south of the Kansas-Nebraska border. We have now located plants in similar habitat in extreme southern Nebraska: **Pawnee County**—north-facing slope in prairie west of lake, Burchard Lake Wildlife Management Area (*Ferraro 911-58*, 11 Sep 1988; OMA); **Thayer**—locally common in small prairie above limestone roadcut 1 mi north, 3.5 mi east of Hubbell (*Rolfsmeier 7272 & Kaul*, 31 Jul 1990; NEB).

Oenothera speciosa Nutt. (Onagraceae), showy white evening primrose. Map 804. This perennial herb is widespread in the southern plains and was recorded in the *Atlas* from four counties in extreme southern Nebraska. It was reported from Keith County (Sutherland and Rolfsmeier, 1989), where it was an apparent introduction that has not persisted. We have since seen specimens from central and northeastern Nebraska: **Dakota County**—base of roadbank along Nebr. 12, 0.5 mi south of the Dixon County line (*Rolfsmeier 5187*, 16 Jun 1989; NEB); **Dixon**—roadbank southeast of junction of Nebr. 9 and 12 (*Rolfsmeier 5188*, 16 Jun 1989; NEB); **Hall**—hay meadows at Mormon Island Preserve (*Kolstad 4916, 5046*, Jun 1980; NEB); **Wayne**—rare on shoulder of Nebr. 15, 1 mi west, 0.75 mi south of Altona (*Rolfsmeier 5219*, 16 Jun 1989; NEB). The northeastern Nebraska plants were certainly introduced by roadside seedings or vehicular traffic, but the Hall County plants are apparently native.

Oryzopsis racemosa (J. E. Smith) Ricker (Poaceae), black-seeded ricegrass. Map 2021. The status of this woodland grass was updated in a previous paper (Rolfsmeier et al., 1988). It is restricted to the bluffs of the Missouri River Valley from Fontenelle Forest to Ponca State Park, with a westward extension along the Platte River into Saunders County. Two new stations extend its known range far northward: **Dakota County**—locally abundant atop steep oak-wooded slope, Basswood Ridge Wildlife Management Area (*Rolfsmeier 5355*, 13 Jul 1989; NEB, OMA); **Dixon**—on protected, north-facing bluff, Ponca State Park (*Rolfsmeier 5378*, 14 Jul 1989; NEB, OMA).

Ranunculus testiculatus Crantz (Ranunculaceae). This small, weedy buttercup is established through the western United States and is known in Nebraska from Dawes (*Atlas*) and **Dundy** (Sutherland and Kaul, 1986) counties. A collection in **Dixon County** may represent the easternmost established population in North America (abundant

in disturbed soil of campground, Ponca State Park, *Rolfsemeier 4710*, 4 May 1989; NEB). The species is no doubt elsewhere in Nebraska.

Rhamnus davurica Pall. (Rhamnaceae), buckthorn. Reported in the *Flora* for Dawes County, this east Asian shrub has been found elsewhere in the State, perhaps escaped from cultivation. A fairly large population is established in oak woodland in **Madison County** (Oak Valley Wildlife Management Area, *Rolfsemeier 6576*, 23 Jun 1990; NEB), and a single plant has been observed yearly in a small prairie remnant in **Seward County** (4 mi east, 3.5 mi south of Seward, *Rolfsemeier 4074*, 8 Sep 1987; NEB), where it has not spread but has survived several controlled burns. A specimen taken at Ponca State Park in Dixon County may also be this species. *Rhamnus davurica* is similar to another exotic buckthorn, *R. cathartica* L., which is found more frequently as an escape and differs in having ovate rather than elliptic leaves. The floristic status of *R. cathartica* in Nebraska was discussed in a previous paper (Rolfsemeier et al., 1988); it is a potentially troublesome invader of woodlands and hedgerows.

Rubus allegheniensis Porter (Rosaceae), common blackberry. Map 603. Two recently-discovered specimens extend the known range west of the Missouri River Valley. Steiger (1930) reported this species from Nine Mile Prairie in Lancaster County; we rejected that (cf. Kaul and Rolfsemeier, 1987) because we could not find his voucher specimen, but we have now found it at NEB. More recently a collection was made in southern Lancaster County (borrow pit near railroad tracks 5 mi south of Lincoln, *Harrison s.n.* NEB). A population in **Seward County** (locally common in sumac thicket along Middle Oak Cr., 5.5 mi east, 0.5 mi south of Bee, *Rolfsemeier 4945*, 26 May 1989) is also this species. Because that population is on a roadside, it may have been intentionally introduced, but it is thoroughly established and apparently spreading there.

Sclerochloa dura (L.) Beauv. (Poaceae). This inconspicuous weedy grass is common in the northwestern states and has been reported in Kansas and Missouri (*Atlas*) and for Dawes County in northwestern Nebraska based upon *Larson 7186* in the herbarium at South Dakota State University (Brandenburg et al., 1991). We have collected it in several counties in southeastern Nebraska, and we expect it to be found statewide, especially in urban and suburban settings: **Gage County**—roadsides at Riverside Park, Beatrice (*Rolfsemeier 8493*, 7 May 1991; NEB, OMA); **Johnson**—rare in waste ground at

county fairgrounds, Tecumseh (*Rolfsemeier 8563 & Esch*, 11 May 1991; NEB); **Otoe**—roadsides and waste places north of Steinhart Park, Nebraska City (*Rolfsemeier 8497, 8530*, 10 May 1991; NEB); **Seward**—locally common along roadsides at county fairgrounds, Seward (*Rolfsemeier 8578*, 15 May 1991; NEB).

Other distributional notes

Ambrosia acanthicarpa Hook. (Asteraceae), annual bursage. Map 1325. This ragweed was reported in the *Atlas* from three counties in the Nebraska Panhandle, the most recent collection being made in 1897. It has recently been found in abundance along sandy roadsides at the Lake Ogallala Recreation Area in **Keith County** (*Sutherland & Rolfsemeier*, 1989), and specimens have been taken recently from **Garden County**—roadside weed in sandhills prairie just north of the crossing of Blue Cr., SW 1/4 S24, T19N R44W (*Sutherland 6823 & Bartlett*, 9 Aug 1989; NEB, OMA); **Sheridan**—common in disturbed roadside ditch 9.7 mi west of the Grant County line on Nebr. 2 (*Hardy 1587*, 27 Aug 1985; CSCN); **Sioux**—abundant in disturbed soils along road, Agate Fossil Beds National Monument (*Weedon 9164, Hardy & Shepherd*, 24 Aug 1985; CSCN). Though mature material is easily recognized as this species, non-fruiting material may be confused with the common annual ragweed *A. artemisiifolia* L. However, *A. acanthicarpa* is regularly alternate-leaved to the base when young, and the ultimate segments of the leaf blades are rounded rather than acute.

Machaeranthera grindelioides (Nutt.) Shinners (Asteraceae), goldenweed. Map 1563. Reported in the *Atlas* from only one Nebraska county (Dawes), but a survey of NEB revealed specimens from three other Panhandle counties: **Banner County**—collected three times by P. A. Rydberg in 1891; **Kimball**—collected by Rydberg in 1891 and later by Tolstead near Pine Bluffs in 1941; **Sioux**—five collections in the northern part of the county between 1889 and 1912.

****Navarretia intertexta*** (Benth.) Hook. var. ***propinqua*** (Suksd.) Brand (Polemoniaceae). Map 1062. This inconspicuous annual herb of the western states was reported in the *Atlas* for Nebraska on the basis of a single collection made in northern Sheridan County in 1889. Its recent discovery in **Dawes County** confirms its presence in the State (frequent along margins of buffalo wallows in pasture 19, Pine Ridge Ranger District, Nebraska National Forest, *Rolfsemeier 9375*, 31 Jul 1991; CSCN, NEB).

Deletions from reports of the flora of Nebraska

Scirpus smithii Gray and *S. torreyi* Olney (Cyperaceae). These two bulrushes were recorded in the *Atlas and Flora* for the Great Plains on the basis of a single collection from Sheridan County at KANU, and from two sheets at NEB collected in Dodge County. The former is actually *S. nevadensis* S. Wats., while the latter are *S. pungens* Vahl. We have seen no Nebraska specimens assignable to either species.

Additions to the flora of Seward County, Nebraska

The following list contains 32 additions, 2 deletions, and 2 corrections to the Seward County flora (Rolfmeier, 1988). These bring the totals for the county to 627 species in 330 genera.

Agrimonia gryposepala Wallr., agrimony (Rosaceae). Rare in oak-hickory forest east of Bee. *Aquilegia canadensis* L., columbine (Ranunculaceae). Was reported in the list as a possible introduction, based on a specimen with incomplete label data; a native population has since been seen in oak-hickory woods east of Bee. *Armoracia rusticana* Gaertn., B. Mey. & Scherb., horseradish (Brassicaceae). Uncommon in low disturbed ground in Seward (Keller 221).

Baptisia australis (L.) R. Br., blue false indigo (Fabaceae). Locally common in disturbed prairie pasture; may have escaped from cultivation. *Bidens bipinnata* L., Spanish needles (Asteraceae). Uncommon lawn weed in Bee (Hotovy 66).

Carduus acanthoides L., plumeless thistle. Locally common in an overgrazed pasture southwest of Goehner. *Carex conjuncta* F. Boott (Cyperaceae). Locally common in open floodplain woods along the West Fork Big Blue River. *Carex convoluta* Mack. (Cyperaceae). Rare in oak forest ravine south of Garland. *Cystopteris protrusa* (Weath.) Blasd. lowland fragile fern (Polypodiaceae). Rare in oak forest, Bur Oak Wildlife Management Area.

Dichanthelium acuminatum (Sw.) Gould & Clark var. *acuminatum* (Poaceae). Uncommon in upland prairie at Oak Glen Wildlife Management Area. *Distichlis spicata* (L.) Greene var. *stricta* (Torr.) Beetle, inland saltgrass (Poaceae). Rare in floodplain meadow near Ruby.

Erodium cf. *cicutarium* (L.) L'Her., filaria (Geraniaceae). Rare weed in lawn in Seward; spec-

imens observed in 1990 and 1991 have thick rootstocks and appear to be perennial. *Erysimum inconspicuum* (S. Wats.) MacM., smallflower wallflower (Brassicaceae). Locally common on disturbed hilltops in a prairie south of Garland. *Erythronium mesochoreum* Knerr (Liliaceae). Rare in upland prairie near the northeast corner of the county.

Fragaria vesca L., woodland strawberry (Rosaceae). Locally common in oak forest draws, Burr Oak Wildlife Management Area.

Hypericum majus (Gray) Britt., greater St. John's-wort (Clusiaceae). Rainwater basin north of Utica (Kiener 25996).

Juncus tenuis Willd., path rush (Juncaceae). Apparently uncommon in low prairie.

Lactuca floridana (L.) Gaertn., Florida lettuce (Asteraceae). Rare in oak-hickory forest east of Bee. *Lemna trisulca* L., star duckweed (Lemnaceae). Locally common in oxbow pond southwest of Ruby. *Lythrum salicaria* L., purple loosestrife (Lythraceae). Rare in low prairie, Twin Lakes Wildlife Management Area; not seen since 1986.

Mirabilis linearis (Pursh) Heimerl., narrowleaf four-o'clock (Nyctaginaceae). Mistakenly reported as *M. cf. albida* (Walt.) Heimerl. in the list, based on an old specimen at NEB.

Parthenocissus quinquefolia (L.) Planch., Virginia creeper (Vitaceae). Common in oak forest, Burr Oak Wildlife Management Area; confused with *P. vitacea* Knerr, which is more common in floodplain woods. *Poa bulbosa* L., bulbous bluegrass (Poaceae). Rare in lawn in Seward (Keller 150). Recollected recently in Seward (May 1991) by Jim Landon. *Poa sylvestris* Gray, woodland bluegrass (Poaceae). Locally common in deep oak ravine near Oak Glen Wildlife Management Area; mistakenly reported as *P. palustris* L. in the list.

Rhamnus davurica Pall., buckthorn (Rhamnaceae). A specimen observed yearly since 1987 in a small prairie remnant southeast of Seward. *Rubus allegheniensis* Porter, common blackberry (Rosaceae). Locally common at edge of woods along tributary of Oak Cr.

Scirpus acutus Muhl., hardstem bulrush (Cyperaceae). Uncommon in wetland in the Blue River valley near Seward and Ruby. *Scirpus atrovirens* Willd., darkgreen bulrush (Cyperaceae).

Wetland near Plum Cr., Seward (Keller 266). *Scle-rochloa dura* (L.) Beauv. (Poaceae). Scattered along roadside margins at the Seward County fairground. *Sisymbrium altissimum* L., tumbling mustard (Brassicaceae). Rare in waste ground near Nebr. 15. *Smilacina racemosa* (L.) Desf., false spikenard (Liliaceae). Locally common in deep oak ravine near Oak Glen Wildlife Management Area. *Sper-molepis inermis* (Nutt.) Math. & Const., scale-seed (Apiaceae). Rare in upland prairie near the north-east corner of the county.

Woodsia obtusa (Spreng.) Torr., blunt-lobed woodsia (Polypodiaceae). Rare in oak forest, Bur Oak Wildlife Management Area.

Additionally, three species not collected in the County in the last 30 years were re-discovered in 1990: *Aristida purpurea* Nutt. var. *robusta* (Merrill) A. Holmgren & N. Holmgren (last collected by C. Brandhorst of Concordia Teachers College in 1958); *Helenium autumnale* L. (by W. L. Tolstead in 1946); and *Utricularia vulgaris* (by W. Kiener in 1948).

Finally, the liverworts *Riccia fluitans* L. and *Ricciocarpus natans* (L.) Corda were collected in a small oxbow pond southwest of Ruby (Rolfmeier 7000A, 7000B, 17 July 1990; NEB). Only one species of Hepaticae (*Marchantia polymorpha* L.) was previously reported in Seward County (Churchill, 1977).

Additions to the flora of Keith County

The following list includes thirteen recent additions to the flora of Keith County (Sutherland and Rolfmeier, 1989). These additions were made through the efforts of a number of collectors including Leonard Boryca, Tanya Bray, Robert and Martha Kaul, Phillip Moore, Steven Rolfmeier, David Sutherland, Gerald Toll, Barbara Wilson, and Richard Zeller. Specimens will be placed at the Cedar Point Biological Station herbarium with duplicates of most at OMA. These collections bring the totals for Keith county to 612 species, subspecies, and varieties of 306 genera in 88 families.

Ambrosia grayi (A. Nels.) Shinnery, bur rag-weed (Asteraceae). Roadside ditch along Nebr. 61, 1 mi north of Perkins County line. *Aster hesperius* A. Gray, paniced aster (Asteraceae). Shore of North Platte River, Clear Creek Waterfowl Management Area. *Asclepias speciosa* Torr. X *A. syriaca* L., common and showy milkweed hybrid (Asclepiadaceae). 4 mi south, 0.5 east, and 1.5 south of Paxton in roadside ditch. *A. speciosa* was growing nearby.

We have not yet located *A. syriaca* in Keith county, but it has been introduced into cropland very near this location in Perkins County. *Astragalus crassicaarpus* Nutt. var. *crassicaarpus*, ground-plum (Fabaceae). Upland sandhills prairie at Buckhorn Springs Ranch SE1/4 S3 T14N R36W.

Centaureum pulchellum (Sw.) Druce, centaury (Gentianaceae). Among *Trifolium fragiferum* plants on north side of North Platte River at Clear Creek Waterfowl Management Area. *Cirsium ochrocentrum* A. Gray, yellowspine thistle (Asteraceae). Roadside ditch on US 30 0.5 mi east of Deuel County line.

Eleocharis xyridiformis Fern. & Brackett, spikerush (Cyperaceae). In marsh with shallow water, NW1/4 S17 T13N R36W. *Euphorbia Xpseudovirgata* (Schur) Soo, leafy spurge (Euphorbiaceae). Roadside 4 mi south, 0.5 mi east of Paxton.

Gnaphalium palustre Nutt., diffuse cudweed (Asteraceae). Riverbank on north side of North Platte River at Clear Creek Waterfowl Management Area.

Lindernia dubia (L.) Penn., false pimpernel (Scrophulariaceae). Riverbank on north side of North Platte River at Clear Creek Waterfowl Management Area.

Mollugo verticillata L., carpetweed (Molluginaceae). In gravel-and-sand parking area near the South Platte River just south of Paxton.

Pastinaca sativa L., wild parsnip (Apiaceae). At Otter Creek near Belmar, NE1/4 S5 T15N R40W.

Senecio vulgaris L., common groundsel (Asteraceae). Weed in flowerbeds by McDonald's Restaurant near Interstate 80 in Ogallala.

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