

Notes on Arizona Grasses

John R. Reeder
and Charlotte G. Reeder

Herbarium, University of Arizona

Since the publication of Lehr's Catalogue (1978), there has been increasing interest in keeping our knowledge of the Arizona Flora up to date. The following is presented in that spirit. In large measure, these notes are concerned with range extensions of plants already known to occur within the State, but in some cases new records are reported, and attention is also called to recent gatherings of species which have not been collected for a quarter century or more. The specimens cited here are deposited in the Herbarium of the University of Arizona, Tucson (ARIZ).

Aegilops cylindrica Host, an often troublesome European weed, was not listed as part of Arizona's grass flora by either Gould

(1951) or Kearney & Peebles (1951), but in the K. & P. Supplement (1960) collections are cited from Coconino, Navajo, and Yavapai Counties. It also occurs in the southern part of the state. Two records from Cochise County are: 4.5 miles south of St. David, Dowell Curtis Farm, 7 May 1960, *Byron Forsyth* (sine no.), and Huachuca Mountains, Ramsey Canyon, just outside entrance to Mile-Hi Center, 2 June 1984, *H.P. Miller* (sine no.).

Agropyron elongatum (Host) P. Beauv. is an introduction from the Mediterranean region. It is not listed in Hitchcock's Manual (1951), and is unreported from Arizona. Cronquist et al. (1977) indicate that it is known from scattered localities in the Intermountain Region. Two recent Arizona collections are: Coconino County, 8 km west of Coconino-Navajo county line along State Hwy. 260, 9 August 1981, *J.R. & C.G. Reeder 7403*; and Navajo County, 9.5 km southwest of Lower Greasewood along State Hwy. 15, 3 September 1981, *J.R. & C.G. Reeder 7456*.

Agropyron intermedium (Host) P. Beauv. is another introduced species (Eurasian) which is not recorded in the literature from Arizona. It is closely related to *A. elongatum*, but generally considered to be distinct. At ARIZ it is represented by the following collections: Gila County, Sierra Ancha, 17 June 1958, *R.R. Johnson* (sine no.); Mohave County, Black Rock Mountain, 28 June 1978, *R.K. Gierisch & C. Bundy 4408*, Seegmiller Mountain, 29 June 1978, *R.E. Coombs & C.E. Bundy 2559*; Navajo County, Buckskin Ridge, 12 miles south of Heber, 26 June 1974, *S. McLaughlin 339*.

The nomenclature of members of the grass tribe Triticeae (Hordeae) is presently in something of a state of flux. There is an increasing tendency to follow the ideas of Eurasian authors in treating species of the *Agropyron-Elymus* complex as members of several different genera. Under those concepts (espoused principally in the U.S. by A. Löve and D.R. Dewey), the names for the above two species would be: *Elytrigia pontica* (Podp.) Holub, and *Elytrigia intermedia* (Host) Nevski.

Bothriochloa ischaemum (L.) Keng (*Andropogon ischaemum* L.) is an introduced range grass from Eurasia. It was growing in the Tucson Nursery, and several specimens collected there in the mid 1930's are at ARIZ. Otherwise it is represented, as grown spontaneously, by two collections from Pima County separated by 30 years: Santa Catalina Mountains, Marshall Gulch, 17 September 1952, *K.F. Parker 8093*, and Tucson Mountains, Arizona-Sonora Desert Museum, 16 November 1983, *T.R. Van Devender* (sine no.). New records from Cochise County are: Ca. 15 km southeast of Willcox along State Hwy. 186, 24 October 1983, *J.R. & C.G. Reeder 7631*; Along I-10 ca. 1.5 km east of exit 331 (near Willcox), 5 November 1983, *J.R. & C.G. Reeder 7653*; Near mile 303 on State Hwy. 90, north of Sierra Vista, 8 November 1983, *J.R. & C.G. Reeder 7654*. Where we have seen this grass, it grows thickly along the roadside and is conspicuous, sometimes for a distance of five km or more. A reason for its poor representation in the herbarium may be that because of its similar size and reddish tinge, it is assumed to be one of the more common species of Andropogoneae occurring in the State.

Bromus arvensis L. is an annual weedy species of European origin. It is reported from Flagstaff, Coconino County, by both Kearney & Peebles (1951) and Gould (1951). Indeed, the only specimen for the State at ARIZ is a collection from that area, *A.R. Purchase 440*, 9 August 1937. While not a new record, the following collection is of interest since it indicates that the species is still present in the State. The locality is eighty or more airline miles from Flagstaff: Eight km west of Coconino-Navajo county line along State Hwy. 260, 9 August 1981, *J.R. & C.G. Reeder 7404*.

Bromus tectorum L., another European introduction, is a troublesome weed in many parts of the West. It has been collected on numerous occasions in the northern part of Arizona, but the following seems to be a new county record: Cochise County, Tombstone, 4 May 1979, *J.R. & C.G. Reeder 7130*: 6 May 1983, 7597.

Chloris verticillata Nutt. was reported by both Kearney & Peebles (1951) and by Gould (1951) as being represented in Arizona

by a collection from Gila County. It is now known from Apache County, Canyon de Chelly National Monument, by two collections: 16 June 1970, T.L. Burgess 720, and 8 July 1971, R.R. Halse 432. Also from Navajo County, 11 km north of Whiteriver along State Hwy. 73, 30 August 1981, J.R. & C.G. Reeder 7435.

Digitaria ischaemum (Schreb.) Schreb. ex Muhl. is one of the "crabgrasses." Like *D. sanguinalis*, it is an European weed. It was not reported in either Gould (1951) or Kearney & Peebles (1951), but in the K. & P. Supplement (1960) the following specimen is cited: Pima County, Tucson, University of Arizona Campus, 16 October 1955, K.F. Parker 8427. That sheet is still the only one we found in the *D. ischaemum* folder at ARIZ. That this weed still persists in southern Arizona is attested to by the following: Pima County, Tucson, corner of Broadway Blvd. and Kolb Road, 25 August 1981, J.R. & C.G. Reeder 7423. The plant was a pest in the lawn of an apartment complex.

Eragrostis echinochloidea Stapf, an African species, was grown in the S.C.S. Nursery in Tucson as early as 1944. In 1947 it was collected ten miles east of the city along the Benson Highway by W.C. Bryan (#139). A second gathering from apparently the same area, but two years later, is represented at ARIZ by K.F. Parker 7146. Over the years it has been collected in various parts of Tucson where it grows as a street weed. Although we know of no records for this grass from any county other than Pima, there is now evidence that it is becoming naturalized outside the city. Recent collections are: Tucson, Tumamoc Hill, near laboratory buildings, 14 September 1983, J.E. Bowers 2756; Rincon Mountains, Posta Quemada Canyon, 31 October 1983, J.E. Bowers R1391, west base of Tanque Verde Ridge, 29 April 1984, J.E. Bowers & S.P. McLaughlin R1436; Ca. 2 km west of Jct. of I-10 and State Hwy. 83, 24 October 1984, J.R. & C.G. Reeder 7691. This species was not listed for Arizona by Gould (1951) nor by Kearney & Peebles (1951, 1960). It is, however, included in Lehr's Catalogue (1978).

Eragrostis superba Peyr., an introduced African species, was reported as occurring spontaneously in Pima County by Mason & Yatskievych (1981). They also indicated a record from Cochise County, but that is an error. The basis for the latter is "Martin, October 1958." The locality, Davidson Canyon, is correct, but that canyon is in Pima County—not Cochise. That the species does, indeed, occur in Cochise County, however, is attested to by a recent collection: Mule Mountains, ca. 2.5 miles northeast of the tunnel at Bisbee on U.S. Hwy. 80, 31 August 1984, A.C. Sanders et al. 5209. *Eragrostis superba* seems to be adapting well to Arizona, and is now definitely a part of our flora. Recent collections, and new county records, are: Pinal County, ca. 5 km northwest of the Pinal-Pima county line along I-10, 6 August 1981, J.R. & C.G. Reeder 7363; also Santa Cruz County, 5 km west of I-19 along Ruby Road, 13 September 1981, J.R. & C.G. Reeder 7480; and Near Washington Camp, 17 August 1981, J.R. & C.G. Reeder 7422. Most of the reported collections are from roadsides, but at Washington Camp the species is colonizing a slope between the road and a nearby gulch.

Three species of *Eragrostis* listed by Lehr (1978) seem better treated as synonyms. These are: *E. arida* A. Hitchc., *E. diffusa* Buckl., and *E. neomexicana* Vasey. In his study of the *Eragrostis pectinacea-pilosa* complex, Koch (1974) relegated *E. arida* to synonymy under *E. tephrosanthos* Schultes. Also, *E. diffusa* was not considered to be distinct from *E. pectinacea* (Michx.) Nees. There has always been a problem in attempting to make a clear separation between *E. mexicana* (Hornem.) Link and *E. neomexicana*. Recent authors tend to treat the two as synonyms, *E. mexicana* being the older, and therefore correct, name for the taxon. For examples of current publications in which these concepts are followed, see Gould & Moran (1981) and McVaugh (1983).

Pennisetum setaceum (Forsk.) Chiov. is the "Fountain Grass" much used in ornamental plantings. All collections in the ARIZ herbarium are from Tucson, or the nearby Santa Catalina Mountains. The following is from an area several kilometers east of Tucson, where it seems well established and is spreading along the roadside.

Pima County, 3.5 km south of Jct. of State Hwy. 83 and I-10, 26 August 1981, J.R. & C.G. Reeder 7424.

Rhynchelytrum repens (Willd.) C.E. Hubbard, an introduced African species, has been known around Tucson since 1892 (Gould, 1951). Numerous collections from the Santa Catalina and Rincon Mountains of Pima County are represented at ARIZ. Recent gatherings suggest that this species is beginning to become naturalized in other areas: Pima County, Cañada Agua, SE side of Tortolita Mts., 14 March 1981, T.L. Burgess & H. Miller 6063; Ca. 2 km west of Jct. of I-10 and State Hwy. 83, 24 October 1984, J.R. & C.G. Reeder 7690. Santa Cruz County, 8 km SW of Patagonia in a small canyon, 4 November 1984, J.R. & C.G. Reeder 7692. In each of the latter two localities, numerous clumps were observed.

The name for this species deserves some comment. In the older U.S. literature, *Tricholaena rosea* Nees was applied to this grass, but since about 1950 most botanists have used *Rhynchelytrum roseum* (Nees) Stapf & Hubbard. A concise explanation regarding the logic for considering *R. repens* to be the correct name is to be found in McVaugh (1983, p. 345). He points out that most agrostologists working with Asian and African floras now treat *R. repens* and *R. roseum* as synonyms; Hitchcock (1951) implied that they are distinctly different species.

Sporobolus neglectus Nash is a native species poorly known in Arizona. It is represented in the ARIZ herbarium by several collections, all from Coconino County. The following is apparently a new county record: Navajo County, 14.5 km south of Indian Pines, 30 August 1981, J.R. & C.G. Reeder 7437. Since the inflorescences are often entirely hidden in the sheaths, the plant is easily passed over as being too immature to collect.

Tragus racemosus (L.) All. was included by both Gould (1951) and Kearney & Peebles (1951). Both base the record on plants grown in Tucson in the early part of this century, and suggest that the species has probably not persisted. Lehr (1978) lists it in his Catalogue with a question mark. We were able to demonstrate (Reeder & Reeder, 1977) that this species is, indeed, a part of our naturalized flora, and has been so since at least 1946. Our collections came from the Chiricahua Mountains in Cochise County. Recently we have found *Tragus racemosus* in a second locality, this time in the Santa Rita Mountains in Pima County: ca. 0.5 km east of Box Canyon on the Greaterville-Continental road, 6 September 1984, J.R. & C.G. Reeder 7668. In this locality, numerous plants were observed in sandy soil at the edge of the road.

Literature Cited

- Cronquist, A., A.H. Holmgren, N.H. Holmgren, J.L. Reveal, & P.K. Holmgren 1977. Intermountain Flora Vol. 6. New York: Columbia University Press. (Poaceae, pp.175-464.)
- Gould, F.W. 1951. Grasses of the Southwestern United States. Tucson: University of Arizona Press. 352 pp. (Reprinted, 1977)
- _____ & R. Moran 1981. The Grasses of Baja California, Mexico. San Diego Soc. Nat. Hist. Memoir 12. 140 pp.
- Hitchcock, A.S. 1951. Manual of the Grasses of the United States. (2nd ed. revised by Agnes Chase.) U.S. Dept. Agric. Misc. Publ. 200. 1051 pp.
- Kearney, T.H. & R.H. Peebles 1951. Arizona Flora. Berkeley: University of California Press. 1032 pp. (Supplement, 1960, pp. 1033-1085, by J.T. Howell & E. McClintock.)
- Koch, S.D. 1974. The *Eragrostis pectinacea-pilosa* Complex in North and Central America (Gramineae: Eragrostoideae). Illinois Biological Monographs 48. 74 pp.
- Lehr, J.H. 1978. A Catalogue of the Flora of Arizona. Phoenix, Arizona: Desert Botanical Garden. VI + 203 pp.
- Mason, C.T., Jr. & G. Yatskievych 1981. Notes on the Flora of Arizona VI. Desert Plants 3: 29, 30.
- McVaugh, R. 1983. Flora Novo-Galiciana. Vol. 14. 436 pp. Ann Arbor: University of Michigan Press.
- Reeder, J.R. & C.G. Reeder 1977. *Tragus racemosus* in Arizona. Madroño 25: 107, 108.