

IRIDACEAE IRIS FAMILY
Part One Sisyrinchium L.

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Sisyrinchium L. Blue-eyed-grass, Yellow-eyed-grass

Perennial or annual herbs, in ours generally caespitose. **ROOTS** fibrous, fine to moderately thickened, pale yellow to dark brown. **STEMS** 2-winged, simple or branched with 1-3 peduncles at uppermost nodes and 1(-2) leaf-like bracts at each node. **LEAVES** folded lengthwise in iris-like fashion but somewhat flexuous, mostly basal and distichous, the margins slightly hyaline basally. **INFLORESCENCE** an umbel with 2 spathe bracts, the lower (outer) bract enclosing the other (inner). **FLOWERS** 2-6, ephemeral, perfect, actinomorphic, perianth parts nearly alike (the 3 outer tepals slightly wider than the 3 inner), spatulate, oblanceolate, or elliptic, the apex generally apiculate and acute or obtuse to emarginate; filaments 3, nearly completely united or free; ovary inferior, 3-carpellate, the placentation axile. **FRUIT** a loculicidal capsule. **SEEDS** 10-45, dark brown or black, generally spherical or angular, the surface nearly smooth, granular or reticulate. --Ca. 80 spp. in the w hemisphere; 1 sp naturalized in New Zealand, another naturalized in the British Isles. (Greek: iris-like plant.) Cholewa, A.F., and Henderson, D.M. 1985. *Brittonia* 36:342-363; Henderson, D.M. 1976. *Brittonia* 28:149-176.

- 1. Filaments completely united; flowers blue-violet with yellow bases; fruits straw-colored to beige; mature seeds with a smooth or granular surface.
 - 2. Stems branched; spathe bracts subequal (the inner some times longer than the outer) *S. demissum*
 - 2' Stems simple; outer spathe bract distinctly longer than the inner *S. idahoense*
- 1. Filaments united only near the base; flowers yellow to orange and generally with brownish veins; fruits light brown to black; mature seeds with a reticulate surface.
 - 3. Stems simple, 3 mm or less in width; seeds hemispheric with a depression on the flattened side.
 - 4. Tepals 8 mm or more in length; anthers 1.8-4.3 mm long; pedicels erect or ascending in fruit; capsules 4.5-9 mm long *S. longipes*
 - 4' Tepals 5 mm or less in length; anthers 0.5-1.6 mm long; pedicels recurved in fruit; capsules 3-6(8) mm long *S. cernuum*
 - 3' Stems branched, 3.5 mm or more in width; seeds nearly spherical or angular, but lacking a depression *S. arizonicum*

Sisyrinchium arizonicum Rothr. (of Arizona). --Plants perennial, erect to 60 cm tall. **ROOTS** conspicuously thickened. **STEMS** branched, nodes 2-4, the uppermost node with 2 peduncles, 3.5-8 mm wide including the broad wings, the margins generally minutely dentate, the surface minutely hirsute or

scabrous. LEAVES 5-12 mm wide. SPATHE BRACTS with the dorsal keels denticulate at least apically; outer bract 30-55 mm long, tapering evenly to the apex, the margins connate basally (3)5-6 mm, the base sometimes minutely hirsute or scabrous on the surface; inner bract 27-51 mm long (sometimes longer than the outer), the hyaline margin narrow to wide, ending below or at the apex, the base tapering evenly (rarely abruptly curved) as it emerges from the outer bract. FLOWERS yellow to orange, generally with brownish veins; pedicels stiffly erect or ascending, glabrous, at anthesis shorter than or only slightly longer than the inner bract; tepals 11-23 mm long, the outer with obtuse or acute, apiculate apices; anthers 3-7 mm long; filaments united basally; ovary pubescent or glandular-pubescent. FRUITS 8-19 mm long, obovoid to somewhat spherical, black or blackish brown. SEEDS 1.5-2.2 mm long, nearly spherical or angular, the surface reticulate. $2n = 34-36, 72$. --Moist meadows, streamsides, and open places in coniferous woods: Apache, Cochise, Coconino, Greenlee, Pima cos.; 1600-2900 m (5300-9500 ft); Jul-Aug; NM; Chih., Dgo., Sin., Mex.

Sisyrinchium cernuum (E. Bickn.) Kearney. (nodding). --Plants apparently annuals with erect stems, to 20 cm tall. ROOTS fibrous. STEMS 0.5-2 mm wide, simple, the margins entire to slightly minutely dentate, the surface glabrous. LEAVES 1.5-4.5 mm wide. SPATHE BRACTS with the dorsal keels entire; outer bract 14-41 mm long, tapering evenly to the apex, the margins connate basally 3.3-5 mm; inner bract 10-15 mm long, the hyaline margin narrow to moderately wide, ending at the apex, the base straight to slightly curved as it emerges from the outer bract. FLOWERS yellow to orange and generally with brownish veins; pedicels recurved in fruit, glabrous, at anthesis equalling or longer than the inner bract; tepals 2.6-5 mm long, the outer with acute or obtuse, non-apiculate apices; anthers 0.5-1.6 mm long; filaments united basally; ovary glabrous. FRUITS 3-6(-8) mm long, generally nearly spherical, light to dark brown. SEEDS 0.9-1.1 mm long, hemispherical with a deep depression on the flattened side, the surface reticulate. --Ephemeral pools, wet or moist meadows, seeps and streamsides in oak or pine woods: Cochise, Pima, Santa Cruz, cos.; 1000-2400 m (3300-8000 ft); Mar-Sep; Ags., Chih., Dgo., Gto., Jal., Mex., Sin., Mex.

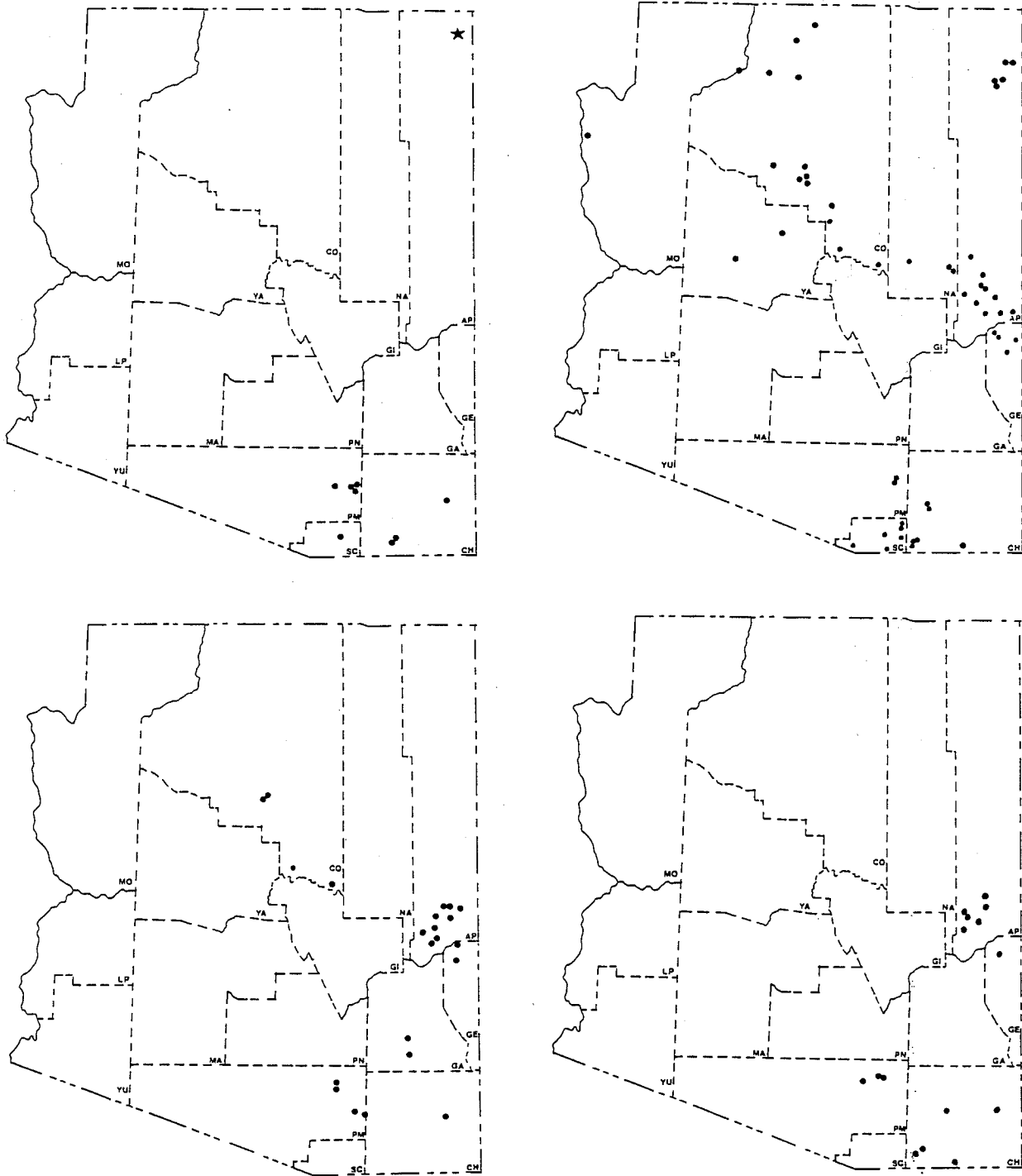
Sisyrinchium demissum Greene (humble). --Plants perennial, erect or lax, to 50 cm tall. ROOTS fine to somewhat thickened. STEMS (0.8-)1-3.2 mm wide, branched, nodes 1-2, the uppermost with 2-3 peduncles, the margins generally entire, the surface glabrous. LEAVES 1.3-4.5 mm wide. SPATHE BRACTS with the dorsal keels generally entire, subequal in length or occasionally the inner longer than the outer; outer bract 11-26 mm long, tapering evenly to the apex, the margins connate basally 3.3-8 mm; inner bract 12-26 mm long, the hyaline margin narrow to moderately wide, ending just below the apex, the base tapering evenly to slightly curved. FLOWERS blue-violet with yellow bases; pedicels erect or ascending, glabrous, at anthesis equaling or longer than the inner bract; tepals 6-15 mm long, the outer with obtuse to retuse, apiculate apices; anthers 0.6-1.7 mm long; filaments completely united; ovary glabrous, pubescent or glandular pubescent. FRUIT 3-7.5 mm long, obovoid to nearly spherical, straw-colored or beige. SEEDS 0.8-2.0 mm long, oblong to nearly spherical or angular, the surface smooth or granular. $2n = 32$ (in AZ), 64, [*S. demissum* var. *amethystinum* (E. Bickn.) Kearney & Peebles. It is possible that *S. macrocarpon* E. Bickn. also belongs here; it differs in longer outer spathe bracts and larger capsules, and is known only from the type specimen collected at Willow Springs, Apache Co., 10-20 June 1890, Palmer 490a (Holotype: US!)]. --Wide ranging in ephemeral ponds, wet or moist meadows, streamside, gravel bars and springs from the Sonoran Desert to spruce forests (rather tolerant of grazing and trampling, which tends to produce stunted plants with smaller flowers): reported from Apache, Cochise, Coconino, Greenlee, Mohave, Navajo, Pima, Santa Cruz, Yavapai, and possibly La Paz cos.; 550-2900 m (1800-9500 ft); Apr-Oct; s UT, s NV, to w TX; Chih., Son., Mex.

Sisyrinchium idahoense E. Bickn. (of Idaho). --Plants perennial, erect, to 45 cm tall. ROOTS fine to somewhat thickened. STEMS 1-2.5(-4) mm wide, simple (occasionally branched), the margins entire or minutely dentate, the surface glabrous. LEAVES (0.5-)1-3(-4.5) mm wide. SPATHE BRACTS with the dorsal keels entire or minutely dentate, unequal in length; outer bract 14-55 mm long, tapering evenly to the apex, the margins connate basally (2-)3-7 mm; inner bract 12-33 mm long, the hyaline margin narrow,

ending at or just below the apex, the base curved or tapering evenly as it emerges from the outer bract. FLOWERS light to deep blue-violet or purple with yellow bases; pedicels erect to ascending, glabrous or glandular-pubescent, at anthesis subequal to longer than the inner bract; tepals (6-)8-20 mm long, the outer with obtuse, truncate, or emarginate and apiculate apices; anthers 0.7-2(-2.5) mm long; filaments completely united; ovary glandular pubescent. FRUIT 3-6 mm long, obovoid to nearly spherical, straw-colored or beige. SEEDS 0.8-1.8 mm long, oblong to nearly spherical or angular, the surface generally granular. $2n = 64, 96$. --4 vars.; sw Can s to CA, n NV, UT, CO, n NM.

var. **occidentale** (E. Bickn.) D. M. Hend. (western). --STEM margins entire. SPATHE BRACTS with the dorsal keels entire; outer bract 14-35 mm long, the margins connate basally 3-7 mm; inner bract 12-20 mm long. --Grassy areas around springs, moist meadows, streambanks; Apache Co. (Four Corners area); 1600 m (5200 ft); Jun; range as for the species.

Sisyrinchium longipes (E. Bickn.) Kearney & Peebles (long-footed). --Plants perennial, erect, to 46 cm tall. ROOTS fibrous or moderately thickened. STEMS 0.6-3.5 mm wide, simple, the margins entire, the surface glabrous. LEAVES 1.2-4.4 mm wide. SPATHE BRACTS with the dorsal keels entire; outer bract 12.5-36(-50) mm long, tapering evenly to the apex, the margins connate basally (2.5-)3.5-9 mm; inner bract 11-26 mm long, the hyaline margins wide, ending just below or at the apex, the base curved or tapering evenly as it emerges from the outer bract. FLOWERS yellow to orange and generally with brownish veins; pedicels ascending, glabrous, at anthesis generally longer than the inner bract; tepals 8-12 mm long, the outer with acute non-apiculate apices; anthers 1.8-4.3 mm long; filaments united basally; ovary glabrous. FRUITS 4.5-9 mm long, obovoid to nearly spherical, dark brown to black. SEEDS 1.1-1.7 mm long, hemispherical with a slight depression on the flattened side, the surface reticulate. $2n = 34$. --Wet or moist meadows, streambanks, springs, or ephemeral pools in coniferous woods; Apache, Cochise, Coconino, Graham, Greenlee, Pima cos.; 2100-3100 m (7000-10200 ft); Jun-Aug; disjunct in s CA; Chih., Mex.



Iridaceae: *Sisyrrinchium* Figure 1. Distribution of: A, *Sisyrrinchium idahoensis* (star) and *S. cernuum* (dots); B, *S. demissum*; C, *S. longipes*; and D, *S. arizonicum*.