



Flora of South Australia

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XYRIDACEAE

B.J. Conn

Mostly slender to robust herbaceous, perennial or sometimes annual, tufted plants, usually of marshy areas; leaves mostly or all basal, distichous or occasionally spirally arranged, basally with an open sheath; lamina narrow, flat to cylindrical or filiform, often 'grass-like'. **Inflorescences** usually many; each a \pm globose or cylindrical spike, each borne on a long axis (scape) which is usually as long as leaves; flowers bisexual, usually sessile, subtended by a bract; sepals 3, often unequal in size; petals 3, regular or irregular, basal half much narrower than distal half, or sometimes partly fused basally, yellow or less frequently blue or white; stamens 3 or rarely 6, opposite petals; staminodes present or absent; filaments short and joined to petals or corolla tube; carpels 3, fused; style simple or 3-branched distally; placentas axile or parietal; ovules (1–) many, orthotropous. **Capsule** opening loculicidally in 3 valves and sometimes circumsciss near the summit, sometimes enclosed by corolla tube; seeds small, numerous, longitudinally ribbed, endosperm present.

5 genera with about 280 species (mostly in genus *Xyris*), mainly in tropical and subtropical regions, especially America (*Achlyphila* Maguire & Wurdack from Venezuela is monotypic); only *Xyris* occurs in S.A. The status of this family is unclear because there are suggestions that it may not be monophyletic (Davis *et al.* 2004).

1. XYRIS L.

Sp. Pl. 1: 42 (1753).

(Greek name for a species of iris.)

Perennial, slender to robust herbs; lateral shoots with a bicarinate protective sheath; leaves alternate, distichous, occasionally absent, with basal sheath well-developed, margin membranous, entire or occasionally ciliate. **Inflorescence** 2–30-flowered, ovoid, obovoid or subglobose; basal sheath present; scape terete or subterete; bracts spiral, imbricate, with dorsal stomate field mostly distinct; flowers with lateral sepals spatulate, or oblong to obovate, keel prominent or indistinct, stomate field present or absent; dorsal sepal ovate, orbicular or obovate, falling off after anthesis; corolla yellow, ovate; stamens with filaments oblong or trapezoid; staminodes present or absent; style terete or flattened, undivided or trifid. **Capsule** obovoid, slightly dorsiventrally flattened, 3-lobed, hardened, not dehiscent at apex; seeds obloid to ellipsoid, longitudinally and transversely ridged..

About 250 species mainly in warm areas.

The term 'stomate field' describes an area on the dorsal surface of the bracts; it is a triangular, oblong or elliptic region with a high density of stomates, such that are usually clearly visible (usually different in colour from the remaining dorsal surface). It is best viewed at at least 10 \times magnification.

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1. **Xyris operculata** Labill., *Nov. Holl. Pl.* 1: 14, t. 10 (1805). — **Illustr.:** B.J.Conn & Doust, *Austral. Syst. Bot.* 10: 194, fig. 1 (1997).

Erect herb, with slender, few to many scapes, 30–50 cm high; lateral shoots with a bicarinate sheath, with keels smooth; leaves linear, 120–600 mm long; basal sheaths \pm shining, reddish brown to black, abaxial surface smooth, margin entire with well-developed membranous zone; ligule \pm triangular; lamina green, mostly subterete. **Inflorescence** 5–10-flowered; basal sheath 110–170 mm long, twisted, \pm ribbed, with lamina linear and aristate; scape terete or subterete, 1–1.4 mm diam., bracts and flowers arranged in an obovoid compact spike, 9–17 mm long, 5–8 mm diam.; sterile bracts 9–45, tightly arranged, usually forming 5 longitudinal columns; distal sterile bracts triangular to ovate or obovate, central region reddish brown to dark brown, dorsal stomate field triangular to ovate; fertile bracts orbicular to obovate, 5–8 \times 3.9–6.3 mm, with central region ovate to hemispherical or broadly triangular and yellowish to reddish brown or dark brown; flowers with lateral sepals oblong to elliptic or narrowly obovate, 5.9–7 mm long; lamina \pm translucent; keel reddish brown, distinct and prominent, distally fringed; stomate field narrowly ovate; dorsal sepal broadly obovate to orbicular, 5.5–7 \times 5.2–6 mm, with central region opaque to more or less translucent, distally reddish brown to dark brown; corolla much exceeding calyx, its lobes conspicuous, yellow, ovate; petal claws and staminodal filaments free; stamens with filaments oblong to narrowly trapezoid; staminodes Y-shaped, densely hairy; style branches 1.6–1.8 mm long, distally \pm tubular to funnel-shaped **Capsule** 4.2–4.6 mm long, enclosed by 2 persistent lateral calyx-segments, obtuse, circumsciss near apex with apical cap thick and hard. **Tall yellow-eye. Pl. 1.**

S.A.: SL, KI, SE; Qld; N.S.W.; Vic.; Tas. Flowers: in summer.

(Rare status in S.A.)

References

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Pl. 1. *Xyris operculata*. **A**, inflorescence with two open flowers; **B**, habit. Photos: D.J. Duval, DENR.