Flora of South Australia

5th Edition

Photograph: Helen Owens

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Government of South Australia

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COMMELINACEAE[1]

J.P. Jessop[2] & J.G. Conran[3]

Erect or creeping herbs; leaves parallel-veined, with sheathing bases. **Flowers** usually small, bisexual, terminal or axillary, in 1–many-flowered, 1-sided cymose cincinni, often clustered or in panicles; sepals 3, free or fused, imbricate; petals 3, free or fused, coloured, some occasionally reduced; stamens 6, but some often reduced to staminodes or absent, the perfect or fertile ones having usually 2-celled anthers opening in slits; ovary superior, 2- or 3-celled; ovules orthotropous, attached to the axile placentas; style simple. **Fruit** a capsule, seeds 1–many. Spiderwort or dayflower family.

About 40 genera and about 650 species worldwide, mainly in warm areas. At least 11 genera and c. 47 species in Australia, with three genera and four species recorded in South Australia.

1. Inflorescence an open panicle with well developed scape..... 2. **Murdannia**
1: Inflorescence lacking a scape; flowers enclosed in sheathing leaves or bracts
   2. Fertile stamens 6; staminodes absent ..... 3. **Tradescantia**
   2: Fertile stamens 3; staminodes 3 ..... 1. **Commelina**

1. COMMELINA L.

Sp. Pl. 1: 40 (1753).
(After Jan Commelin, 1629–92, and Casper Commelin, 1667–1731, Dutch botanists.)

Prepared by J.P. Jessop & J.G. Conran

Annual or perennial evergreen or geophytic herbs, erect or prostrate, with a short to elongated rhizome and sometimes thickened roots; leaves cauline or radical. **Flowers** few, on 1 or 2 peduncles enclosed in a rather large spathe; sepals and petals free, delicate; fertile stamens 3, 1 longer than the other 2; staminodes 3, or sometimes 2, in the back part of the flower, smaller, the barren anthers appearing like 4 small spreading valves; style with a small capitate stigma. **Capsule** 2- or 3-celled, loculicidal. **Day-flower; scurvy grass.**

About 170 species worldwide, mainly in warm areas; c. nine native and two naturalised species in Australia, one native species in South Australia

1. **Commelina ensifolia** R.Br., *Prodr.* 269 (1810). — *C. undulata* R.Br., *Prodr.* 270 (1810).

   Glabrous plant, 30–50 cm high; stems rather stiff, branching, leafy; leaves distant, flat or channelled, broadly linear or linear-lanceolate, often undulate on the margin, 5–12 cm × 4–10 mm, with loose scarious striate sheaths 10–15 mm long, spathes spreading, ovate-acute, solitary, on a stipe 5–15 mm long rising from the upper leaf

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Fig. 1. *Commelina ensifolia*. *Illustration by G.R.M. Dashorst, from* Flora of South Australia *1: 1816, Fig. 826 (1986).*

sheaths and opposite the leaf, 15–20 mm long and rather broader when spread open, the margins united near the base, thus forming a broad oblique funnel which shelters the flowers, the sides with 4–6 curved nerves meeting at the summit of the straight mid-nerve. **Peduncle** solitary, stiff, rising from the base of the spathe, about 3-flowered, producing 1 or 2 capsules, the terminal flower usually exserted, the lowest flower male; petals obovate, pale-blue, longer than the sepals, one of the 3 fertile stamens with a long curved anther. **Capsule** c. 6 mm long, 3-celled, opening in 3 stiff spreading valves, each cell containing 1 smooth oblong seed. **Scurvy grass, wandering Jew.** The latter common name, although widely used, is based on a pejorative and anti-Semitic legend and should be discouraged. **Fig. 1, Pl. 1A–B.**

S.A.: NW, LE, GT; W.A.; N.T.; Qld; N.S.W. Flowers: probably in all months.

A very variable species across its range with hairy and glabrous forms, but there appears to be more or less continuous intergradation between them. This plant is very uncommon in S.A. and the records may represent ephemeral establishments by flood-borne seeds or chance collections at the time the plants were emergent (several other native *Commelina* species from dry areas of northern Australia are short-term emergent geophytes). The status of this taxon relative to other apparently closely related and widely distributed species in Africa and India needs further study.

The leaves and shoots of most *Commelina* species (including *C. ensifolia*) are considered edible and, as one of the common names suggests, have been used a source of fresh greens for vitamin C. Several species are known to cause contact allergy and rashes in people and domestic animals. Grows readily from seed or cuttings, rooting at the stem nodes; drought tolerant and dies down to rootstock under dry conditions.

2. MURDANNIA Royle

Ill. Bot. Himal. Mts. 403, pl. 95, f. 3 (1840).
(Named after Munshi Murdan Ali, the chief plant collector and Keeper of the Herbarium at the Saharunpore Botanic Garden, India in the early 19th Cent.)

J.G. Conran

Annual or perennial; stems annual, erect to prostrate; roots often tuberous; leaves cauline or radical, spiral or distichous. **Inflorescence** a scapose thyrsoid panicle or sessile cincinnus, terminal or terminal and axillary; flowers solitary to numerous, pedicellate or sessile, actinomorphic or slightly zygomorphic, bisexual or rarely unisexual; sepals 3, free, green or coloured; petals 3, free, blue, pink, purple, white or yellow; stamens 3, rarely 2, opposite the sepals, yellow; filaments hairy; staminodes 3 or absent, opposite the petals, yellow; filaments hairy or glabrous; ovary 3-locular; ovules 1–8 per loculus. **Fruit** a 3–celled capsule; seeds grey to brown, smooth or ornamented. **Grass lilies.**

A genus of c. 50 species native to tropical regions; seven species in Australia with a single native species recorded as possibly naturalised in South Australia.

The shoots and leaves of some species are eaten as vegetables in Asia and the roots of some native species were eaten by Australian aborigines.

1. ***Murdannia graminea** (R.Br.) G.Brückn. in Engl. & Prantl, *Nat. Pflanzenfam.*, ed. 2, 15a: 173 (1930), as *gramineum*. — *Aneilema gramineum* R.Br., *Prodr.* 270 (1810), as *graminea*. — **Illustr.:** K.A.Williams, *Native Pl. Queensl.* 1: 202 (1979); *Fl. S.E. Queensl.* 3: 78, fig. 12: b1–b2 (1989); *Fl. Kimberley Reg.* 1021, fig. 306H (1992).

Perennial, erect to c. 80 cm; rhizomatous; stems annual, ± glabrous to densely hairy; roots thick, tuberous; leaves radical and cauline, linear, 5–30 × 0.2–1.5, acute, pubescent to densely glandular-ciliate. **Inflorescence** an open cymose panicle; scape leafy, bracteate; flowers numerous; pedicels 3–10 mm long; sepals ovate, 5–8 × 2–3.5 mm, persistent; petals broadly obovate, 5–10 × 5–10 mm, blue to pink-purple, rarely white; stamens 3; staminodes 3; filaments 5–6 mm long, white hairy; anthers 1 mm long, ovoid, purplish grey, staminodes c. 0.5 mm diam, x-shaped, pale creamy yellow; ovary c. 0.5 mm diam. green; style 4–5 mm long, lavender-purple. **Fruit** ovoid-ellipsoid, 5–10 mm long; seeds 4–5 per loculus, grey to brown, 1.5–2.5 mm long, rugose, pitted. **Grass lily; blue murdannia. Pl. 1C.**

S.A.: *?SL; W.A.; N.T.; Qld; N.S.W. Flowers: Dec.–Jul.

The plant is a geophyte, dying down to the rootstock during the dry months. A very variable taxon in need of detailed study across its wide range in SE Asia and northern Australia.

The tuberous roots of this species were eaten by the aborigines. Easily cultivated and grows and flowers well in Adelaide.

3. TRADESCANTIA L.

Sp. Pl. 1: 288 (1753); *Gen. Pl.*, ed. 5, 139 (1754).
(Named for John Tradescant (1608–1662), gardener to Charles I of England.)

J.G. Conran

Rhoeo Hance ex Walp., *Ann. Bot. Syst.* 3: 659 (1853). *Setcreasea* K.Schum. & Sydow, *Just's Bot. Jahresber.* (1899) 27(1): 452 (1901). *Zebrina* Schnizl., *Bot. Zeitung (Berlin)* 7: 868 (1849).

Perennial herbs, erect or prostrate, with a short to elongated rhizome; leaves cauline or radical. **Inflorescence** axillary or terminal, a cincinnus or compound umbellate cyme subtended by a pair of leafy or boat-shaped bracts; flowers few to numerous, pedicellate, actinomorphic; sepals fused or free, green or coloured; petals free or connate, white or coloured; stamens 6, all fertile, filaments hairy; ovary 3–locular; ovules 2 per loculus. **Fruit** a dehiscent capsule; seeds single or few, brown to whitish, smooth or sculptured. **Spiderworts** or **inch plants** are the preferred common names for members of the genus. The common name 'wandering Jew' although frequently applied to procumbent species in this and other genera in the family is based upon an anti-Semitic mediaeval legend, and its use should be discouraged.

An American genus of c. 60 species, 4–5 species naturalised in Australia, 2 species in South Australia.

Although sometimes separated, the widely cultivated species placed in *Rhoeo, Setcreasea* and *Zebrina* have been shown to be members of *Tradescantia* (Hunt 1975, 1978).

Many species are grown as ornamentals, but most have the capacity to become weedy and invade natural ecosystems. The young shoots of some species are eaten, but others are poisonous and can cause contact dermatitis in humans and domestic animals. All species are easily grown from cuttings

1. Petals white; sepals abaxially hairy on mid-vein..... 2. **T. fluminensis**
1: Petals pink-edged with white bases; sepals abaxially densely pilose..... 1. **T. cerinthoides**

1. *__Tradescantia cerinthoides__ Kunth, *Enum. Pl.* 4: 83 (1843) — *T. blossfeldiana* Mildbr., *Notizbl. Bot. Gart. Berlin-Dahlem* 15: 222 (1940)

   Procumbent succulent herb rooting at the nodes; leaves spiral along stem or becoming distichous by twisting; sheath ciliate; lamina lanceolate to ovate, 3–15 cm × 10–35 mm, acute glabrous and dark green above, densely pubescent and purple abaxially. **Inflorescence** axillary, sub-umbellate, spathes 2, boat-shaped, acute, inner spathe slightly smaller; peduncle 10–45 mm long densely pilose, pedicels 10–15 mm long densely pilose; flowers numerous; sepals free, ovate-lanceolate, 4–6 × 2–3 mm, purplish-green, pilose abaxially; petals free, broadly ovate 7–8 mm ×, 5–6 mm, pink-edged, basally white; stamens 4–5 mm long, with long white hairs; anthers c. 0.5 mm diam. yellow; ovary c. 1 mm diam., white; style 4–5 mm long, white. **Capsule** 4 mm long; seeds 2 mm long, dark brown. **Wandering sailor.**

   S.A.: *?SL; *N.S.W. Native to Argentina and Brazil but is widely cultivated as a garden ornamental with several horticulturally-derived variants. Flowers: across the year but mainly warmer months.

This species causes contact dermatitis in some people and domestic animals. Grows readily from cuttings and generally grown as an outdoor ground-cover under shade.

2. *__Tradescantia fluminensis__ Vell., *Fl. Flumin.* 140 (1829). — *T. albiflora* Kunth, *Enum. Pl.* 4: 84 (1843). — **Illustr.:** *Fl. New South Wales* 4: 260 (1993); *Fl. Victoria* 2: 174, fig. 36A, B (1994); both as *T. albiflora*..

Procumbent succulent herb rooting at the nodes; leaves spiral along stem or becoming distichous by twisting; sheath ciliate; lamina lanceolate to ovate, 2.5–7 cm ×10–30 mm, acute green, sometimes purplish abaxially. **Inflorescence** axillary, sub-umbellate, spathes 2, boat-shaped, acute, inner spathe slightly smaller; peduncle 5–10 mm long, hairy, pedicels 10–15 mm long, hairy; flowers numerous; sepals free, ovate-lanceolate, 5–8 × 2–3 mm, green, hairy abaxially along mid-vein; petals free, broadly ovate 7–10 mm × 4–7 mm, white; stamens 5–6 mm long, with long white hairs; anthers c. 0.5 mm diam. yellow; ovary c. 1 mm diam., white; style 5–6 mm long, white. **Capsule** 2 mm long; seeds 1.5 mm long, reticulate, dark brown. **Inch plant; water spiderwort. Pl. 1D–G.**

S.A.: *SL, *SE; *W.A.; *N.T.; *Qld; *N.S.W.; *Vic. Native to Brazil and Argentina, the species is now a common weed in warmer regions throughout the world.

The names *T. fluminensis* and *T. albiflora* are both widely used, but most authorities now consider them to be forms of the same taxon.

Various cultivars, often under the name *T. albiflora* are grown as garden or indoor ornamentals. This species causes contact dermatitis in some people and domestic animals. Easily grown but can rapidly become an invasive weed. Most plants in Australia are from vegetative material, but seedlings have been occasionally reported.

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Pl. 1. A–B, ***Commelina ensifolia***: A, amongst *Trioda*, Cape Range National Park, W.A.; B, flower, Howard Springs, N.T. **C**, ***Murdannia graminea***, Howard Springs, N.T. **D–G**, ***Tradescantia fluminensis***: D, foliage on an erect stem, seen from above; E, a prostrate flowering stem; F, flowers; G, terminal inflorescence, showing opposite boat-shaped spathes and buds, initially reflexed, becoming erect at maturity. *Photos: A, A.C. Robinson; B–C, J.G. Conran; D–G, P.J. Lang.*