

Flowers hermaphrodite, sessile with 2 opposite persistent navicular bracteoles by some considered as outer perianth-segments. True perianth with a short tube, the limb divided into 4 segments, 1 outer anterior one thin and almost petal-like or somewhat scarious, very broad, completely enveloping the inner segments, but becoming detached at the base and cast off as the flower expands, 3 inner broad yellow petal-like spreading segments, withering after flowering. Perfect stamens 3, opposite the inner segments, attached to their base and shorter than them; anthers erect, sagittate, with 2 cells opening laterally in longitudinal slits somewhat turned outwards; staminodia usually 3, alternating with the inner segments, short and filiform, with a terminal tuft of jointed hairs or an imperfect anther, or in some species wholly deficient. Ovary sessile, imperfectly 3-celled; ovules numerous on 3 placentas, either basal and confluent or elongated parietal and quite distinct, or sometimes separating from the sides of the ovary except at the base and apex. Style single, divided at the end into 3 spreading branches, each terminating in a capitate or dilated stigma. Capsule globular or ovoid, often 3-furrowed, opening loculicidally in 3 valves or sometimes circumsciss, the hardened apex falling off entire. Seeds small and numerous, linear or oblong, usually striate; embryo lenticular, applied to the extremity of the albumen furthest from the hilum.—Tufted perennials or rarely annuals. Leaves radical or surrounding the base of the scape or stem, linear and grass-like or rigid and subulate or rush-like. Flowers solitary and sessile within imbricate rigid glume-like scales, forming a terminal head or short spike on a simple leafless scape, the outer bracts of the head usually empty and in some varieties of various species somewhat enlarged into a small involucre.

The genus is widely spread over the warmer regions both of the New and the Old World. Of the Australian species, one is identical with a common Asiatic one, the others are, as far as hitherto ascertained, all endemic.

I have described the 2 outer navicular scarious or glume-like organs outside the perianth as bracteoles from their position at the base of the perianth as well as from their consistence and persistence, whilst the broad segment enveloping the inner ones is evidently the real outer perianth, being placed like the inner segments at the apex of the tube.

Placentas of the ovary parietal, free from each other and extending to the apex of the cavity.

Bracts entire or minutely ciliate. Anther-cells dorsally affixed to a small connective. Staminodia penicillate. Eastern or tropical species.

- Leaf-tufts on a perennial stock, with rigid sheathing bases. Staminodia densely penicillate 1. *X. complanata*.
- Leaf-tufts annual. Leaves grass-like. Staminodia very slender, with few hairs or scarcely any 2. *X. pauciflora*.

Bracts with black jagged margins. Anther-cells adnate the greater part of their length. No staminodia. Western species.

- Flower-heads globular. Bracts very broad 3. *X. lacera*.
- Flower-heads ovoid or oblong. Bracts ovate 4. *X. flexifolia*.

Placentas very short and confluent at the base of the ovary. Other characters of *X. operculata*, but bracteoles not winged.

5. *X. gracilis*.

Placentas connate at the base of the ovary, extending also up the sides. Capsule usually hardened at the apex.

Staminodia densely penicillate. Bracteoles with a prominent or winged usually ciliate keel.

- Bracts broad, glabrous, appressed, entire or the inner ones jagged. Eastern species 6. *X. operculata*.

Bracts ovate-oblong, hirsute or plumose at the end. Western species

7. *X. lanata*.

- Bracts ovate-oblong, loosely imbricate or spreading, glabrous. Western species 8. *X. laxiflora*.

Staminodia small, transversely dilated at the end, without hairs. Bracts broad, entire. Western species

9. *X. gracillima*.

X. altissima, Lodd. Bot. Cab. t. 1900, by a horticultural error supposed to be Australian, is evidently *Bobartia spathacea*, Sweet, from South Africa.

1. **X. complanata**, *R. Br. Prod.* 256.—Stock perennial. Leaves tufted, generally surrounded by a few old brown sheaths, grass-like, flat, often very narrow, varying from 1 or 2 to above 3 in. long. Scape more or less flattened, from under 1 ft. to about 1½ ft. high. Flower-head at first short and ovoid, but sometimes lengthening into a cylindrical spike of ½ to 1 in., the scales broad, light-brown, entire or the inner ones slightly ciliate, the lower empty ones very few. Bracteoles prominently keeled or with a narrow dorsal shortly ciliate wing. Inner perianth-segments broad but small. Anther-cells quite distinct, dorsally attached to a small connective; staminodia densely penicillate. Style divided nearly to the base. Placentas of the ovary free from each other and extending to the apex of the cavity. Seeds very numerous and small.—*X. laevis* and *X. scabra*, *R. Br. Prod.* 256; *X. elongata*, Rudge in *Trans. Linn. Soc.* x. 289, t. 15; *F. Muell. Fragm.* viii. 205.

N. Australia. Islands of the Gulf of Carpentaria, *R. Brown*; Bathurst Island, *A. Cunningham*; Sea Range and Victoria River, *F. Mueller*; Port Darwin, *Schultz*, n. 128.

Queensland. Facing Island (*X. laevis*), *R. Brown*; Moreton Bay, *F. Mueller* and others; Rockhampton, *O'Shanesy*; Endeavour River, *A. Cunningham*; Rockingham Bay, *Dallachy*; Port Denison, *Fitzalan*.

N. S. Wales. Port Jackson (*X. scabra*), *R. Brown*, *Woolfs*, and others; Hastings River and Mount Mitchell, *Beckler*.

The species is also in East India if *X. Walkeri*, Wight in Kunth, *Enum.* iv. 19, be really identical, as it appears to be.

Var. bracteata. Outer scales of the flower-head enlarged into spreading bracts of 3 to 4 lines.—Moreton Bay, *Leichhardt*.

Var. ? leptocaulis. Scapes very narrow, scarcely compressed or angular-terete. Flower-heads small and short. Flowers not examined.—Cape York, *M'Gillivray*; Upper Brisbane River and Providence Hill, *F. Mueller*.

XYRIS oligantha.

2. *X. pauciflora*, Willd. *Phytogr.* i. 2, t. 1.—Apparently annual. Leaves in radical tufts, grass-like, narrow, rarely above 6 in. long.

Scapes sometimes only 2 or 3 in. high, but varying from that to 1 ft. or rather more, terete or slightly flattened. Flower-head ovoid-globose, attaining 4 to 5 lines diameter when full-grown but often very much smaller, the scales very broad, entire, brown with very thin almost hyaline margins. Bracteoles thin and light-coloured, quite glabrous, without prominent keels. Perianth small for the genus. Anthers almost sessile, the cells quite distinct dorsally attached to a small connective; staminodia very slender, with very few terminal hairs and often very difficult to find. Capsule obovoid, the placentas adnate to the apex of the valves.—Kunth, *Enum.* iv. 17; *X. pauciflora*, *X. paludosa*, *X. denticulata*, and *X. pusilla*, R. Br. *Prod.* 256; *X. oligantha*, Steud. *Syn. Glum.* ii. 288.

N. Australia. M'Adam Range and Victoria River, F. Mueller; Port Essington, Armstrong.

Queensland. Endeavour River, Banks and Solander, A. Cunningham; between Norman and Gilbert Rivers, Gulliver.

The species is also widely spread over tropical Asia. Brown's four species were all described from Banks and Solander's Endeavour River specimens, and appear to me to differ only in size and luxuriance: the two smallest slender forms, 2 to 3 in. high with very small heads (*X. paludosa* and *pusilla*), gathered in the same locality by Cunningham, represent well Willdenow's figure; the larger forms are, however, more frequent in Indian as well as in Australian collections.