Schizachyrium occultum (Hosok.) S.T.Blake

(Shy-zac-e-ree-um; o-cult-um)

This species is a very slender and delicate annual, tufted or single stemmed, and found on sandy soils usually associated with other species of *Schizachyrium*. Usually erect or becoming erect, up to 45 cm tall, with leaves arising from the base and along the stems (Fig. 1). The stems give rise to one or a few separate flowering spikes each enclosed or partially enclosed in a leaf-like sheath (or spatheole) (Fig. 2). The basic flowering units or spikelets are arranged in compact pairs, each pair arranged one after the other in what appears as a solid flowering spike (Fig. 2). The flowering spike becomes fragile with age and breaks apart between the pairs of spikelets (Fig. 3 & 4i). Each spikelet pair consists of a stalkless spikelet, a stalked spikelet and an internode (a segment of the flowering stem) (Fig. 4). The spikelet pairs are usually obscured by long white hairs on the internode and stalked spikelet. Dissection and magnification of the spikelet pair is usually required to observe the characters useful for identification. The stalkless (sessile) spikelet in this species is obscured between the stalked spikelet and the internode (Fig. 3). The lower glume of the stalkless spikelet, is flattened from side to side (so that the spikelet is narrower than deep), has no flaps or wings along the lower glume edges and tapers into a fine tip (Fig. 4iii). The stalkeless spikelet contains 1 fertile floret (a modified grass flower) with a distinct awn or bristle which is bent a 1/3 to half away along of its length (Fig. 3 & 4i). The stalked spikelet consists of a single glume only, tapered into a bristle or awn (Fig. 3 & 4ii). Although it is much smaller than the glume on the stalkless spikelet it appears larger as the stalk and glume look like one structure. In this species the internode is very stout, and the stalked spikelet very conspicuous and may be misinterpreted as the stalkless spikelet (Fig. 3ii & 4ii). Be aware that the terminal spikelet cluster occuring at the tip of each flowering spike will often have two stalked spikelets which does not reflect the typical spikelet arrangement of the other spikelet pairs described above.

Fig. 1. Sheet of pressed herbarium specimen of *Schizachyrium occultum*.

> BOTANICAL DESCRIPTION

Annual. Culms erect, stature slender to delicate, 10-45 cm tall. Leaf-blades 1.5-3.5 cm long, 0.6-2 mm wide, conduplicate or convolute, surface scaberulous except above middle. Inflorescence a rame (an unbranched inflorescence in which the main axis produces a series of paired spikelets, one sessile and one pedicellate, the oldest at the base and the youngest at the top), 1.2-2.7 cm long, 5-10 jointed (Fig. 2). Rhachis fragile at the nodes (Fig. 2 & 3). Spikelets partially enclosed in spatheole at maturity (Fig. 2). Sessile spikelets 3.7-5 mm long, very, laterally compressed, lower glume not winged (Fig. 4iii), lemma awn 9-13 mm long (Fig. 2). Pedicelled or companion spikelet on stalk longer than sessile spikelet, glume 0.9-1.2mm long, awn 5-8 mm long. The rhachis internode, is very stout and pubescent on the back (Fig. 4iv).

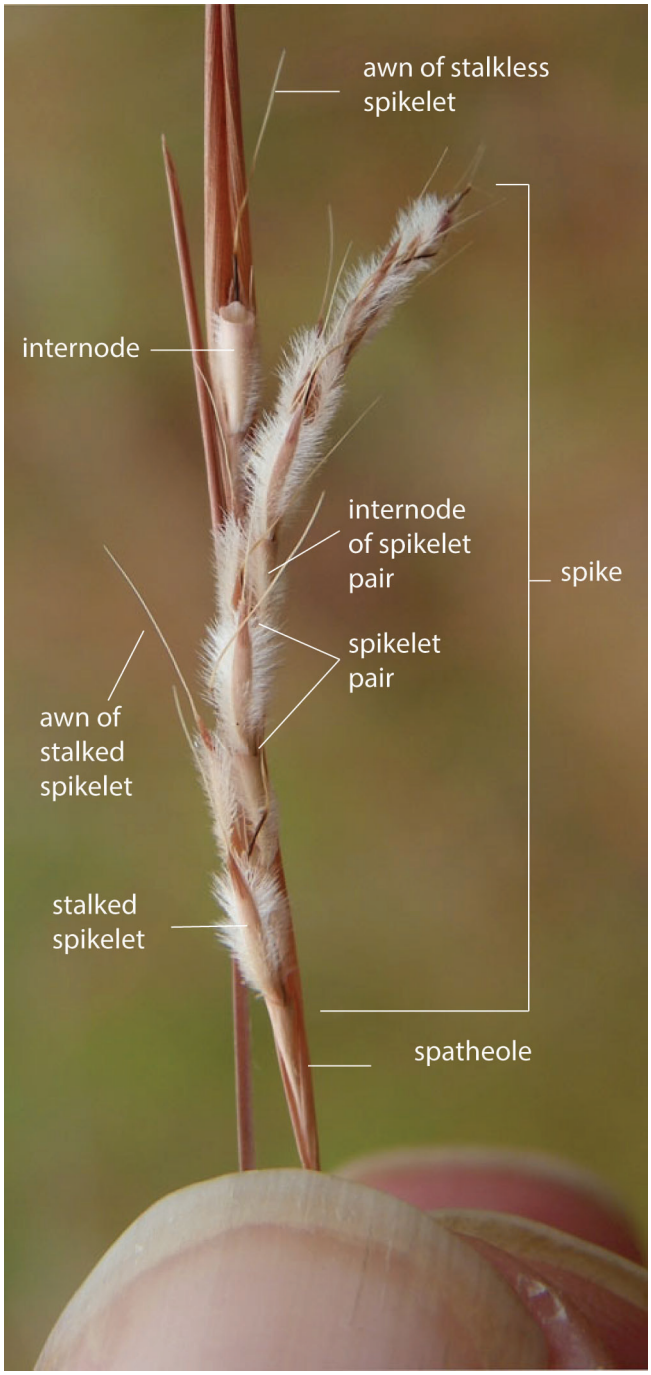


Fig. 2. Image of inflorescence of *Schizachyrium occultum* showing spike, sheathing spatheole and details of spikelet pairs. PHOTO: RJCumming

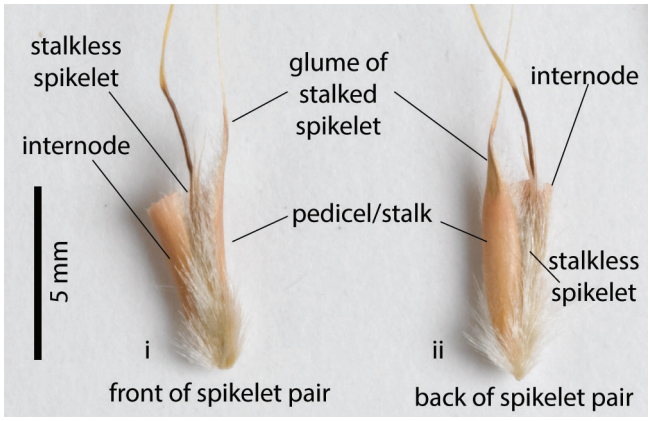


Fig 3. Image of two spikelet pairs from a pressed specimen of *Schizachyrium occultum*. Showing: i) front of spikelet pair with stalkless spikelet not easily visible; and ii) back of spikelet pair with prominent stalked spikelet and internode visible.

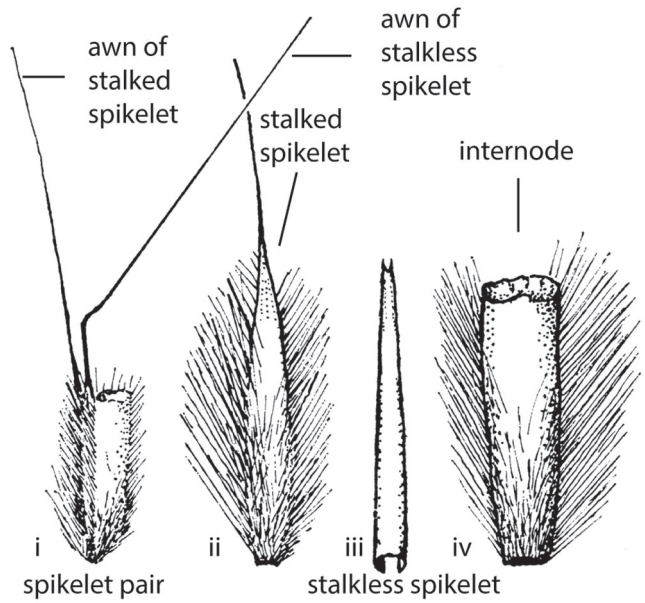


Fig 4. Line drawings of *Schizachyrium occultum* spikelet pair (reproduced from Blake 1974). Showing: i) spikelet pair with internode; ii) prominent stalked spikelet; iii) narrow lower glume of sessile spikelet; iv) stout internode.

> DIAGNOSTIC FEATURES

The slender flowering spikes emerging from a leaf like sheath are characteristic of most *Schizachyrium* species seen in northern Australia. *Schizachyrium occultum* is distinguished by the narrow insignificant stalkless spikelet tightly wedged between the much more conspicuous stalked spikelet and stout internode (Fig. 3). The stalked spikelet is often initially confused with the stalkless spikelet in this species because it is so much more prominent (Fig. 3ii). Although these characters are readily recognised when inspected, this species is not well collected, perhaps because it is associated with other species and maybe overlooked. Both *S. occultum* and *S. dolosum* have robust stout internodes and prominent stalked spikelets, however, *S. dolosum* can be distinguished by the stalkless spikelet which is easily visible with a hand lens (Fig. 5a & b).

Identification keys to other species in the area can be found at Simon & Alfonso (2011).

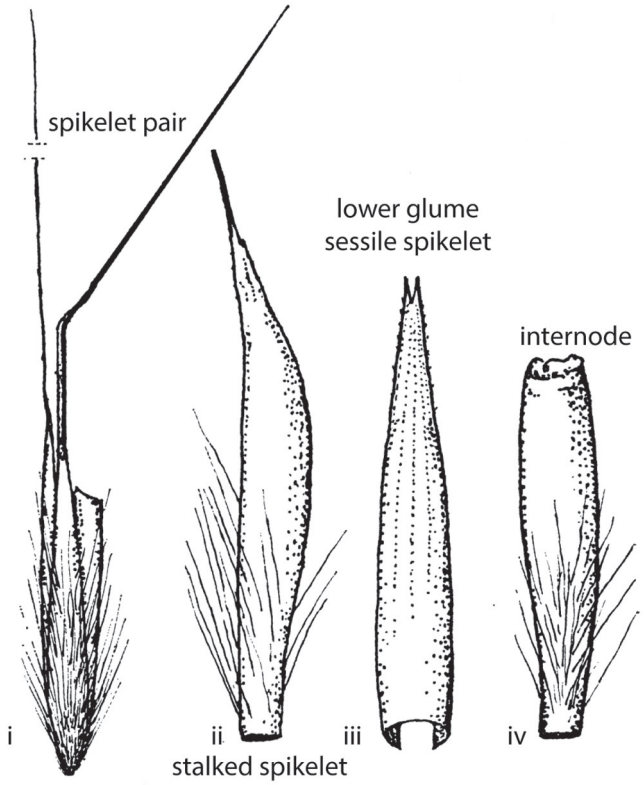


Fig. 5a. Line drawings of *Schizachyrium dolosum* spikelet pair (reproduced from Blake 1974). Showing: i) spikelet pair with internode; ii) prominent stalked spikelet; iii) lower glume of sessile spikelet; iv) internode. CC By: S.T.Blake.

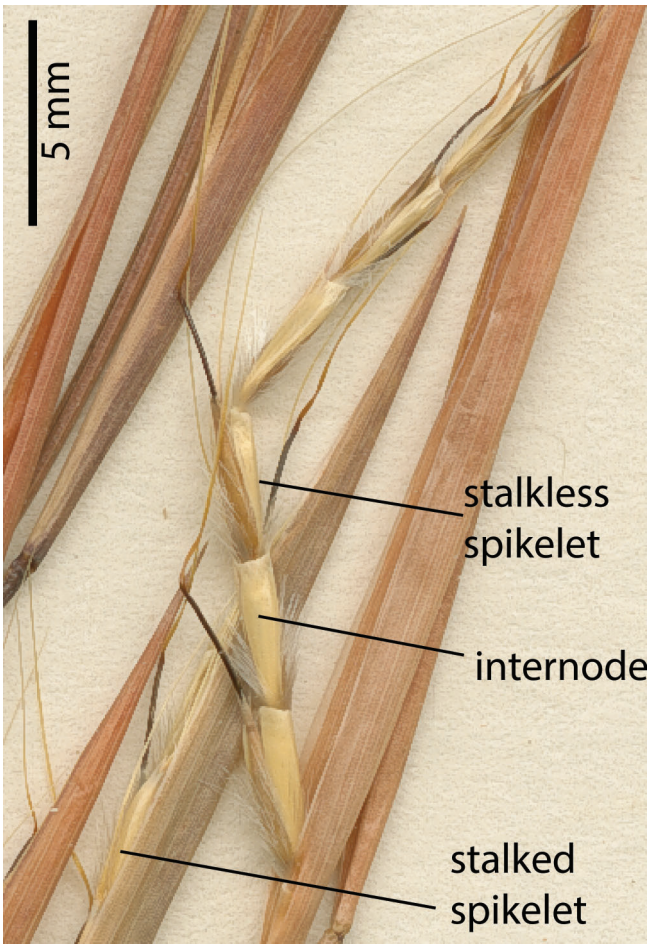
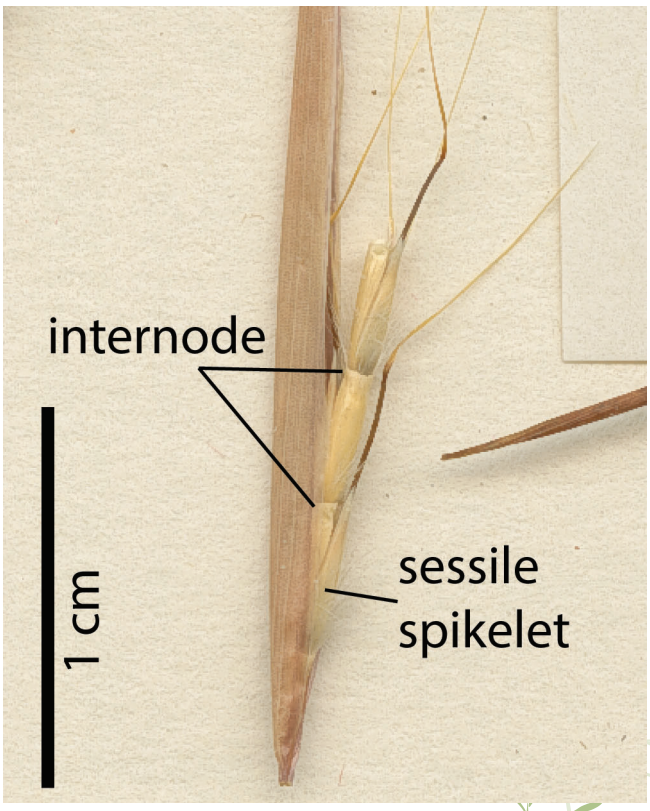


Fig 5b. Image of a section of inflorescence of a pressed specimen of *Schizachyrium dolosum.* Showing internode, visible stalkless spikelet and prominent stalked spikelet.



> NATURAL VALUES

The species in this genus are collectively referred to as firerass in Crowley *et al* (2004) and are considered a critical food source for the Golden Shouldered Parrot. *Schizachyrium* species produce large amounts of seed which fall to the ground and persist through the dry season. They provide an important food source for many seed-eating specialists before the seeds start to germinate in the early wet season. Although recorded as being grazed by stock they are not considered a valuable fodder species, probably because they offer little in the amount of bulk for grazing stock (Simon 1992, Rolfe 1997, Milson 2000, Lazarides 2002).

> HABITAT

Found in sandy soils of northern Qld and Northern Territory (NT), usually associated with other Schizachyrium species. (Simon & Alfonso 2011). This species is only known from one collection in the region (Fig).

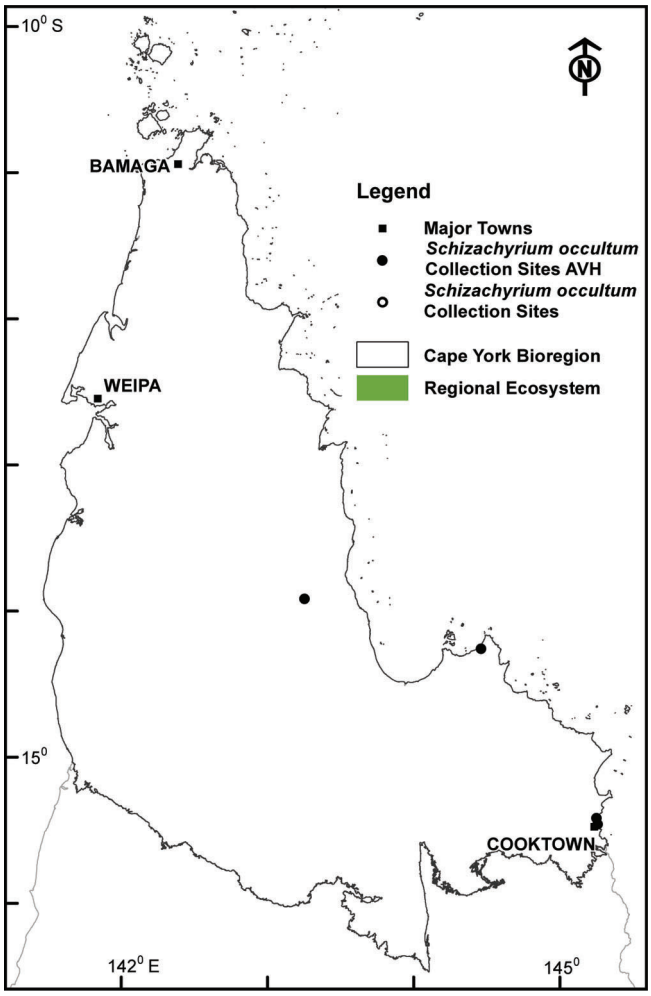


Fig 6. Map of CYP bioregion showing actual herbarium collections (from BRI and CNS) (solid circle) and site records (open circle) of *Schizachyrium occultum*. The green shading indicates areas where this species might also be found, based on similarity of habitat to locations where the species has been recorded. (Mapping supplied by P. Bannink, DES). Data attribution: Environment and Science, Queensland Government, Biodiversity status of pre-clearing and 2015 remnant regional ecosystems series - version 10.0 licensed under Creative Commons Attribution.

RESOURCES:

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