Cleistochloa subjuncea C.E.Hubb.

(Cly-sto-klo-a; sub-jun-see-a)

A wiry perennial grass, up to 60 cm tall (Fig. 1). The leaves arise from along the stem (cauline) and are quite variable in size (Fig. 2). Two types of spikelets (the basic flowering unit) are found, one type consists of open spikelets which are carried in groups of 2-6 on a terminal spike (Fig. 3) and the second consists of closed spikelets which are carried as solitary spikelets in the branch and leaf axils, usually partially enclosed by the leaf sheath (that part of the leaf that clasps the stem) (Fig. 4). When the grass dries off, the leaf sheath loosens from the stem/culm and the leaf blade breaks off (Fig. 5).

Fig. 2. Image showing leaf variability within one tuft of *Cleistochloa subjuncea* (PHOTO: RJ Cummings d67829a).

Fig. 1. Image of *Cleistochloa subjuncea* plant (PHOTO: RJ Cummings d18686a).

Fig. 3. Image showing open (chasmogamous) spikelets on terminal raceme of *Cleistochloa subjuncea* (PHOTO: RJ Cummings d8687a).

> BOTANICAL DESCRIPTION

A wiry perennial to 0.6 m tall, bases covered with thick scales (cataphylls) although these are not always obvious (Fig. 6). Leaf blades 1-6 cm long, to 3 mm wide, hairy or glabrous (Fig. 2). Terminal inflorescence an erect raceme, 0.7-3.5 cm long, consisting of 2-6 chasmogamous spikelets borne alternately along the axis (Fig. 3). Chasmogamous spikelets 3.5-5 mm long, almost glabrous. Lower glume < 1 mm long; upper 5-nerved, 3-4 mm long. Lower lemma 3.5-4.5 mm long, hairy on the upper margins and apex but glabrous on the surface; upper lemma as long as the spikelet. Cleistogamous spikelets partly enclosed by the leaf sheaths, 4-6 mm long, obtuse, usually apiculate (Fig. 4).

> DIAGNOSTIC FEATURES

This genus is recognised by the tufted wiry stature of the plant, the indistinct flowering heads, and the spikelets partially enclosed in the leaf axils. *Cleistochloa sclerachne* also occurs in the Cape York Peninsula Region (CYP) and can be distinguished from *C. subjuncea* by the wider and longer leaf blades, and the hairy surface of the lower lemma of the terminal spikelets (Fig. 7). Sterile specimens of *Paspalidium gracile* have a similar wiry form and are difficult to distinguish without spikelets, they lack the spikelets in the leaf axils and have a bristle which extends beyond the terminal spikelets (Fig. 8 & 9).

Fig. 4. Image showing closed spikelet in axil of leaves of *Cleistochloa subjuncea* (PHOTO: RJ Cumming d18688a).

> NATURAL VALUES

This species contributes to the ground layer biodiversity of the region. The wiry stems and sparse leaves of this species provide little bulk in terms of fuel load for carrying fire.

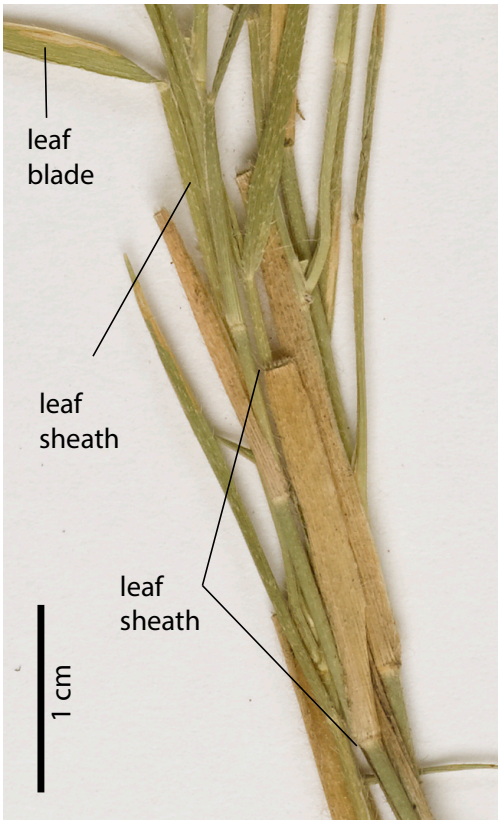

Fig. 5. *Cleistochloa subjuncea* specimen showing leaf sheath wtih broken leaf blade (PHOTO: ATH, specimen QRS76630).

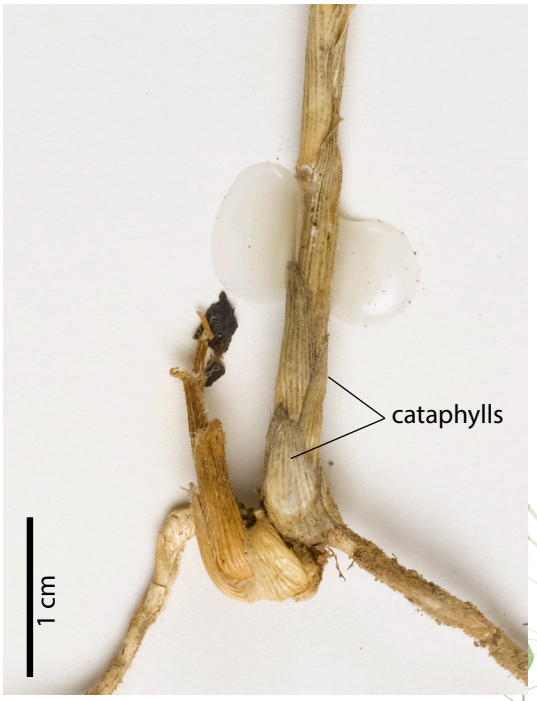

Fig. 6. Cataphylls *Cleistochloa subjuncea* (PHOTO: ATH, specimen QRS76630).

> HABITAT

In tropical and subtropical rain forests, Brigalow forests, tropical and subtropical sub-humid woodlands, and semi-arid shrub woodlands, often associated with sandstone and poorer soils (Simon & Alfonso 2011) (Fig. 10). Collections are located in the lower eastern quadrant of the Cape York Peninsula (Fig. 11), and the Mitchell River Catchment may be on the edge of this species' distribution.

> LAND MANAGEMENT NOTES

Flowers sporadically throughout the year.

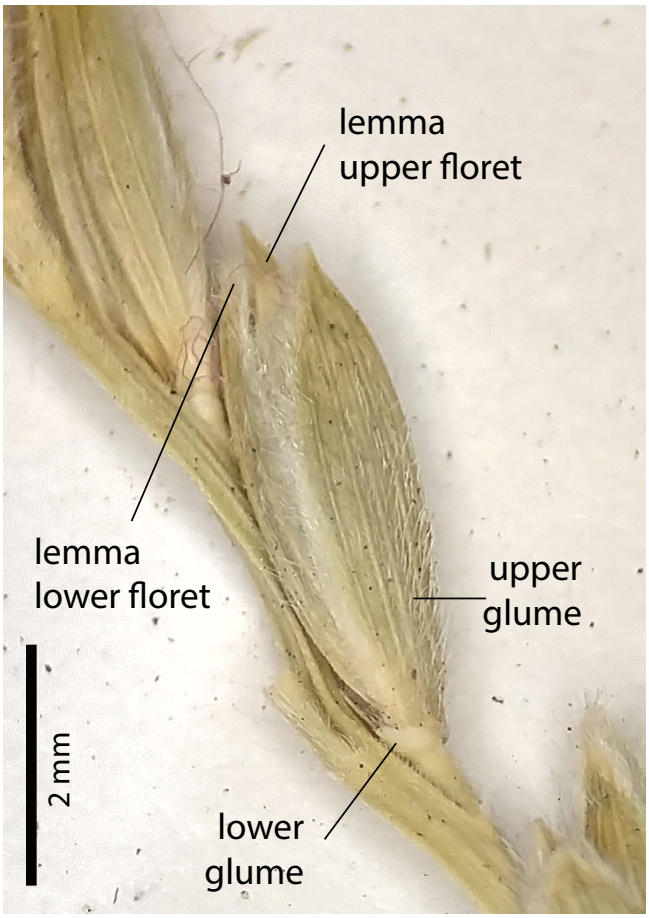

Fig. 7. Image showing open spikelets on terminal raceme of *Cleistochloa sclerachne* (PHOTO: ATH, specimen).

Fig. 8. Image *Paspalidium gracile (*PHOTO: RJ Cummings d18656a).

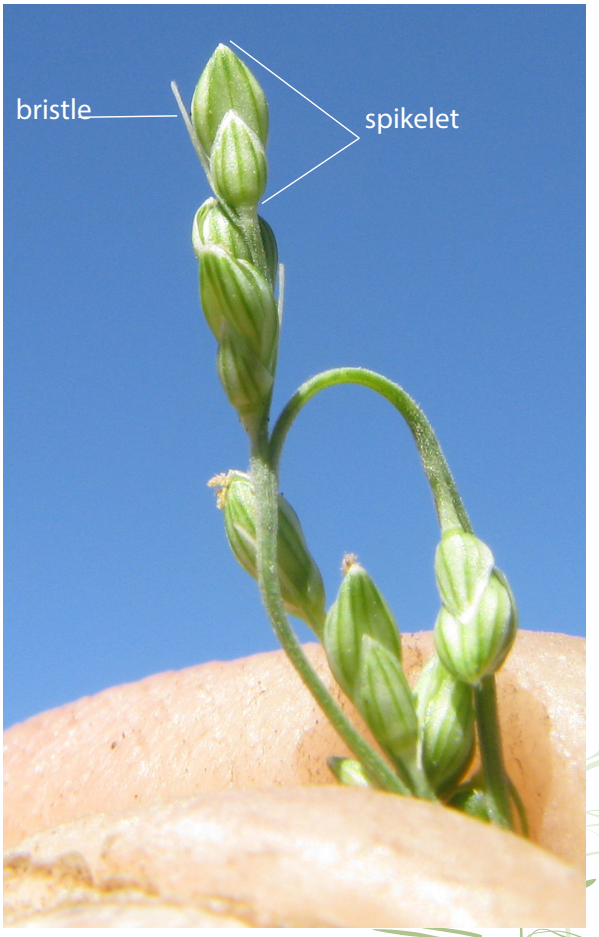

Fig. 9. Image of inflorescence *Paspalidium gracile* (PHOTO: Harry Rose).

Fig. 10. Lancewood (*Acacia shirelyii*) community with *Cleistochloa subjuncea* in ground layer (PHOTO: RJ Cummings d42676a).

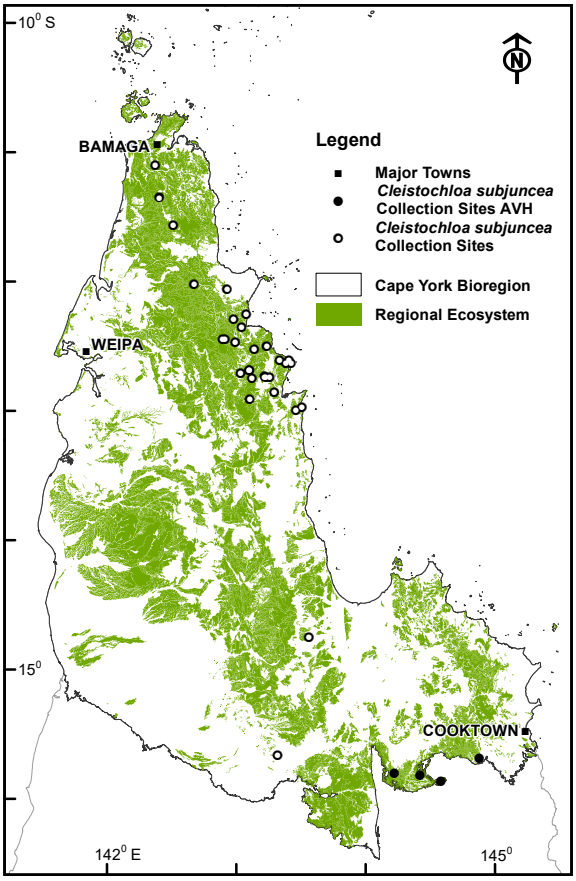

Fig 11. Map of CYP bioregion showing actual herbarium collections (from BRI and CNS) (solid circle) and site records (open circle) of *Cleistochloa subjuncea*. The green shading indicates areas where this species might also be found, based on similarity of habitat to locations where the species has been 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.

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