Chrysopogon fallax S.T.Blake

This grass is an erect tufted deep rooted perennial, between 30-120 cm high (Fig. 1a). The narrow leaves are mostly basal with leaf sheaths tightly overlapping and forming a fibrous base (Fig. 1b). The basic flowering units or spikelets are arranged in clusters in an open inflorescence or flowering head. The branches of the flowering head are arranged in several whorls along a central stem, each whorl with branches arising from the stem like the spokes of a wheel (Fig. 2). There are usually 1 or 2 spikelet clusters along each branch of the whorl. The spikelet clusters consist of three spikelets, a sessile spikelet 9-14 mm long, which has a prominent twisted awn or bristle 20-45 mm long, and a tuft of often golden hairs on the sharp tipped base (callus), and two spikelets at the end of a stalk or pedicel which are sterile or male, 9-14 mm long (Fig. 3) and sometimes shortly awned.

> BOTANICAL DESCRIPTION

A perennial grass with culms 30-120 cm high (Fig. 1). Rhizomatous, with rhizome often shallowly constricted into short segments and usually pale yellow in colour (Fig. 4). Leaf sheaths tightly overlapping and forming a distinct white to pale yellow fibrous base (Fig.1b).Leaf blades held erect, 5-45 cm long, 2-7 mm wide, smooth or rough to the touch. The inflorescence is an open panicle, comprised of numerous raceme or spike-like branches arranged in whorls along a central stem (Fig. 2). Spikelets are arranged in clusters of three along each branch, each branch up to 6 cm long, with 2 or 3 spikelet clusters per branch. Each spikelet cluster consists of a prominent bisexual sessile spikelet and two pedicelled spikelets which are either sterile or male (Fig. 3). The sessile spikelets are 9-14 mm long and are conspicuously awned, the awn 20-45 mm long with a twisted column, the pedicelled spikelets are usually 9-14 mm long and sometimes shortly awned, 2-15 mm long.

Fig. 1a. Habit of *Chrysopogon fallax*

Fig. 1b. Leaf bases of *Chrysopogon fallax*

> DIAGNOSTIC FEATURES

Species of this genus that occur in Cape York Peninsula can be identified when flowering by the whorled branches of the open panicle (Fig. 2), the awned sessile spikelet and the spikelet clusters occurring with one sessile spikelet and one or two stalked or pedicelled spikelets (Fig. 3). This species can be difficult to separate from other species within the genus but with careful examination of the inflorescence it is distinguished by the combination of the following characters: the deep rooted habit and fibrous leaf base, the number of spikelet clusters per branch of inflorescence i.e. 2 or 3, the two companion spikelets and the narrow leaf blades < 1 cm wide. It is most likely to be confused with *Chrysopogon pallidus* but can be distinguished from that species by the smaller callus or tip at the base of the sessile spikelet or seed, 1.5-3.5 mm long in C. *fallax*, compared with 4-6 mm long in C. *pallidus* (Fig. 5). Take care with this character as sometimes it can be difficult to delineate where the callus stops especially when obscured by long hairs. Spear grass species from the genus *Sorghum/Sarga* although usually easily recognisable may cause confusion as they have a similar inflorescence structure to *Chrysopogon*, with branches of the inflorescence often in whorls and spikelets in clusters or pairs of awned sessile spikelets and stalked spikelets. The common spear grass species in the region generally have more robust spikelets, longer awns and quite pungent tips on the end of the sessile spikelet which spear into clothing (see figures under C. *filipes*).

Fig. 2. Inflorescence of *Chrysopogon fallax*

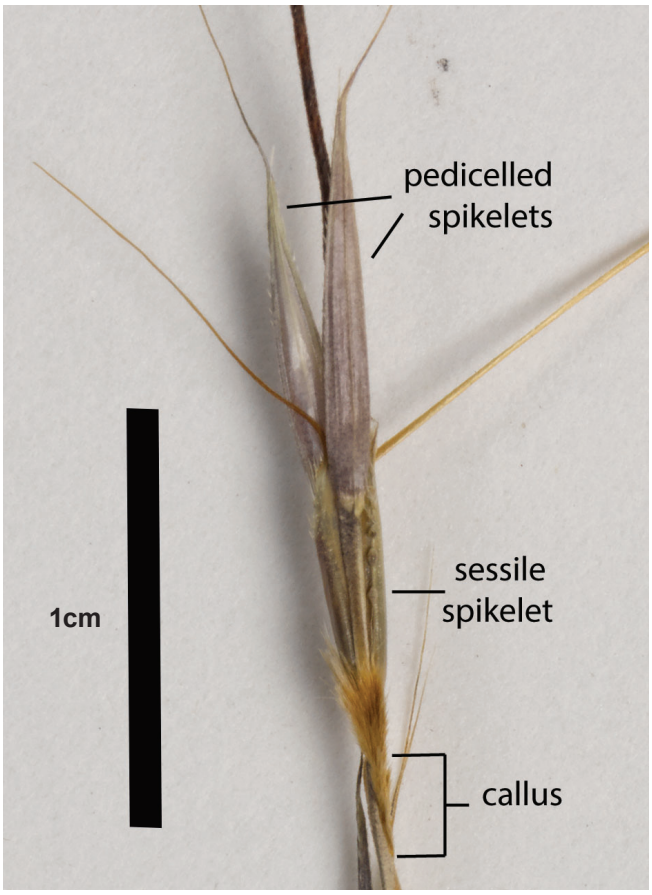

Fig. 3. Spikelet cluster of *Chrysopogon fallax*

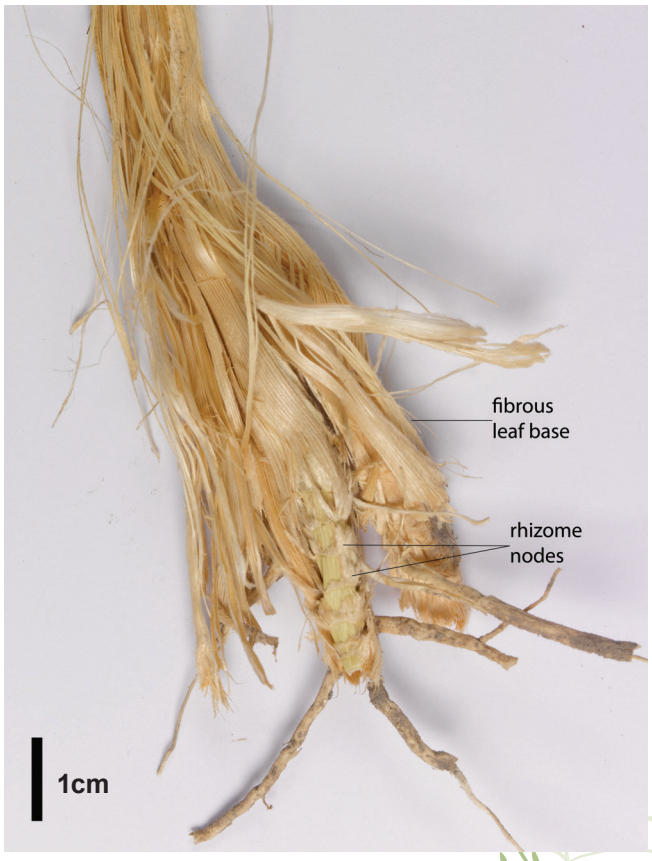

Fig. 4. Rhizome nodes of *Chrysopogon fallax*

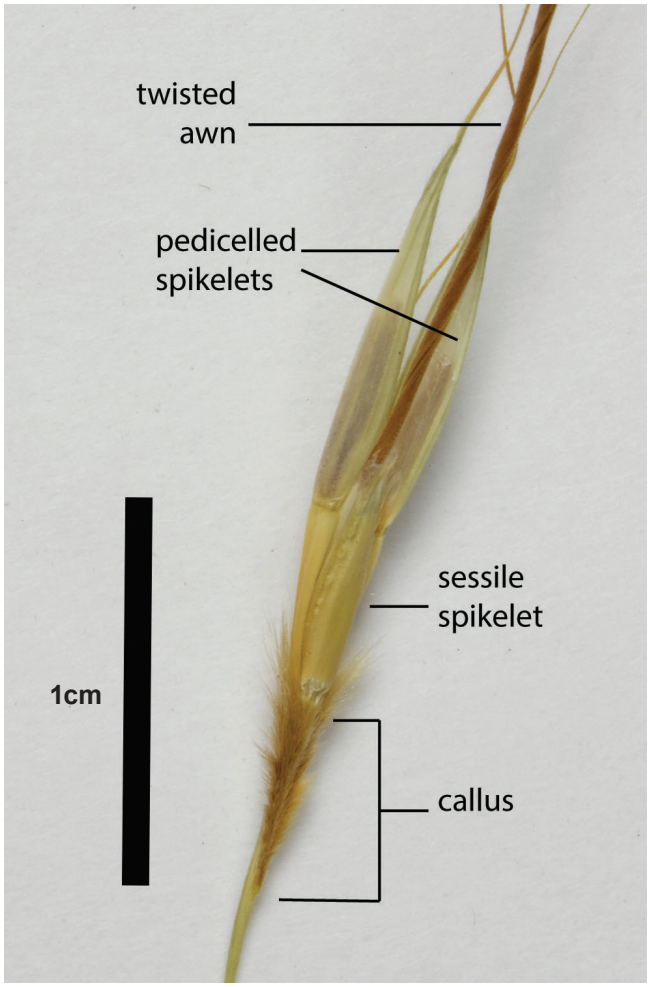

Fig. 5. Callus of *Chrysopogon pallidus*

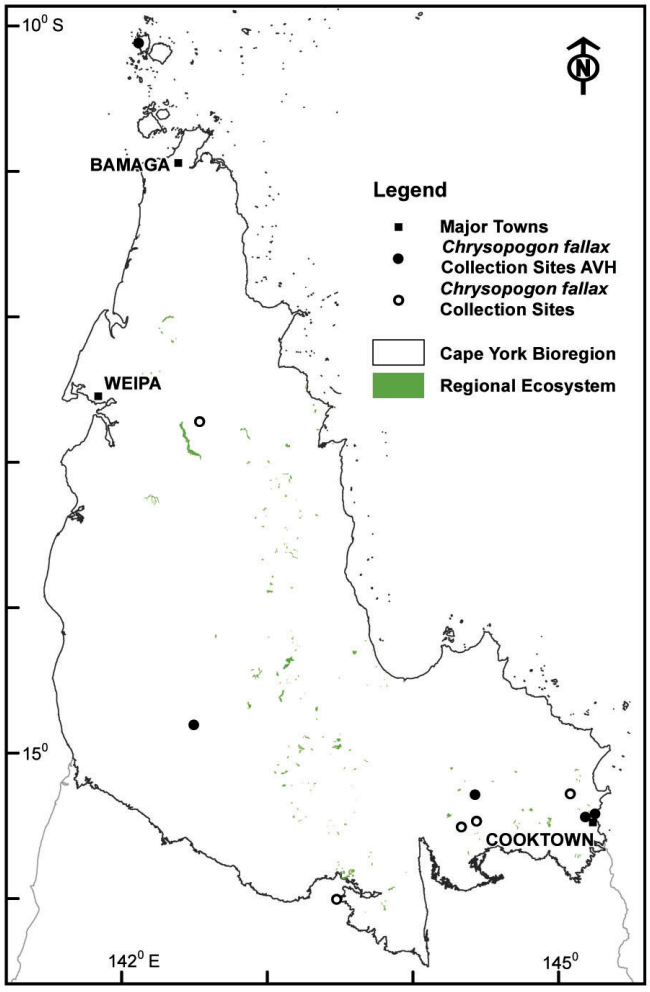

Fig. 6. Map of CYP bioregion showing actual herbarium collections (from BRI and CNS) (solid circle) and site records (open circle) of *Chrysopogon fallax*. The green shading indicates areas where this species might also be found, based on similarity of habitat to locations where the species has been 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.

> NATURAL VALUES

A rhizomatous deep rooted perennial probably useful in stabilising soils, providing habitat for fauna, and seed for granivorous species.

> HABITAT

Widespread throughout subtropical and tropical areas of Australia, including the arid zones of most mainland states; mainly recorded in open forests.

> LAND MANAGEMENT NOTES

This species is considered to have some forage value especially when shoots are young and green but not considered especially productive regarding amount of fodder produced or nutritive value. The deep roots are considered to make it resistant to drought and heavy grazing. (Anderson 2003, Lazarides 2002, Milson 2000, Rolfe *et al*. 1997, Simon & Alfonso 2011).

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This project is supported by the Queensland Government Department of Natural Resources and Mines through the Queensland Regional Natural Resource Management Investment Program