Maybe we tend to overlook this and other common plants, but it would be interesting to note if Carse's *Muehlenbeckia complexa* var. *grandifolia* is still "not uncommon in the vicinity of Auckland". Resolving the taxonomic status of this plant could make a nice student thesis study.

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Occurrence of the tropical reed grass, *Phragmites karka,* in Auckland

Mike Wilcox

Common reed or cane grass (*Phragmites australis* (Cav.) Trin. ex Steud.) is widely distributed in Europe, Asia, Africa, America and Australia (Hocking et al. 1983; Clayton et al. 2010). It is recorded as a naturalised plant in New Zealand (Edgar & Connor 2010) with occurrences in Napier and in Canterbury. Biosecurity New Zealand (2009) have classified it as an unwanted organism under the Biosecurity Act 1993, and banned it from sale, propagation and spread, and issued a threat notice about it because of its potential to spread and block waterways. It is a bamboo-like grass, growing up to 3 m tall.

Fig. 1. *Phragmites karka* to 3.5m tall, Tahapa East Reserve, 5 June 2011. Photo: Mike Wilcox.

In June 2011 I came across a dense stand of *Phragmites* in Auckland, which I at first thought was *P. australis*. The location was Tahapa East Reserve in Meadowbank. The stand was on dry land at the edge of the reserve in front of a house near the entrance from Tahapa Crescent, comprising thousands of culms over an area of c. 120 square metres. Culms varied in thickness from 5 to 20 mm, were dull and ridged, and were 1 to 4.0 m tall including flower head (Fig. 1). Several plants had flower heads (Fig. 2), but no seed had been set, and the stand appeared to be a single clone. Judging by the extent of the stand and size and maturity of the plants, it had been there for years and was probably initially planted for some purpose, and subsequently increased by rhizomatous spread. The field in the reserve is regularly mowed up to the edge of the reeds.

Fig. 2. Flower head of *Phragmites karka*, Tahapa East Reserve, 5 June 2011. Photo: Mike Wilcox.

Fig. 3. Florets of *Phragmites karka*, Meadowbank, 5 June 2011. Photo: Mike Wilcox.

Clayton & Snow (2010) distinguish *Phragmites* from the rather similar *Arundo*, as follows:

Lemmas plumose; florets all fertile ..... *Arundo*

Lemmas glabrous, the hairs arising from callus and rhacilla; lower florets male or barren ..... *Phragmites*

Wu et al. (2006) separate them as follows:

Spikelet hairs arising from lemma back; ligule membranous ..... *Arundo*

Spikelet hairs arising from floret callus; ligule ciliate ..... *Phragmites*

The conspicuously hairy callus (Fig. 3) and the ciliate ligule (Fig. 4) in the Meadowbank population confirms it to be *Phragmites* (Auckland material examined of giant reed *Arundo donax* L. had a prominent membranous ligule with a fimbriate margin – Fig. 5).

The robustness of the culms and breadth of the leaves (up to 4 cm) suggest it could be the central Asian subspecies *P. australis* subsp. *altissimus* (Benth.) W.Clayt., as mentioned in Wu & Wang (1999). This subspecies, however, is not included in *The Flora of China* (Wu et al. 2006), which recognises three Chinese species: *P. japonicus* Steud., *P. australis* and *P. karka* (Retz.) Trin. ex Steud. *Phragmites japonicus* has long, overground stolons – a feature not evident in the Meadowbank population –

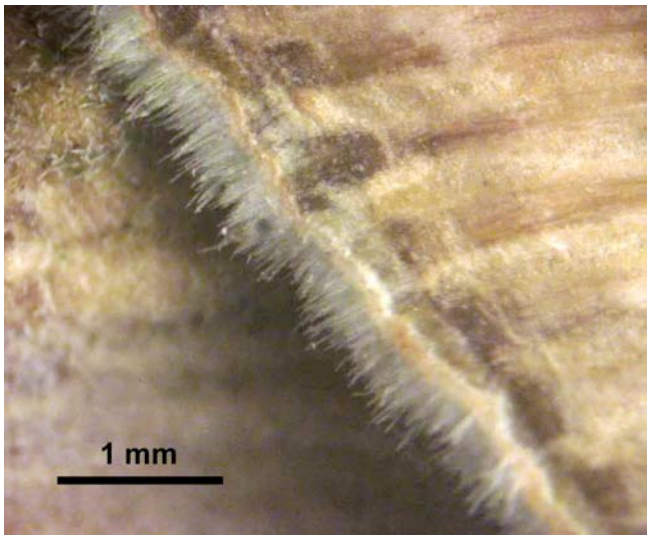

Fig. 4. Ligule of *Phragmites karka*, Tahapa East Reserve, 5 June 2011. Photo: Mike Wilcox.

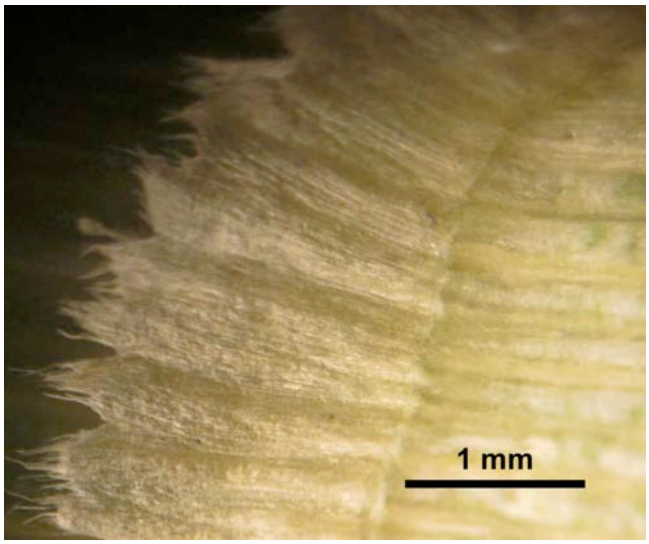

Fig. 5. Ligule of *Arundo donax*, Monarch Reserve, Hillcrest, Auckland, 13 July 2011. Photo: Mike Wilcox.

and grows to just 2 m tall. The other two species occurring in China are separated as follows:

Spikelets 10–18 mm; upper glume 6–9 mm; panicle branches usually spiculate to base; culms up to 2 m tall ..... *P. australis*

Spikelets 8–10 mm; upper glume 3.5–5 mm; panicle branches often bare around lowermost node; culms 4–6 m tall..... *P. karka*

The spikelets of the Meadowbank material are in the range of 8-10 mm, and this feature, together with the rather short callus hairs and tall stature, are consistent with it being *P. karka* – a species not previously recorded from New Zealand (Edgar & Connor 2010).

It is evidently a more tropical species than *P. australis*, but could well have the same weed potential here if it were to spread into wetlands.

In November 2011 I examined *Phragmites australis* in Adelaide, South Australia, growing on the banks of the Torrens River. In comparison with the Meadowbank *Phragmites*, it was aquatic in habitat, more slender and shorter (1-2 m), the flower heads were nodding, and the plants seemed to be semi-deciduous (Fig. 6).

Fig. 6. *Phragmites australis* by the Torrens River in Adelaide, South Australia, Nov 2011. Photo: Mike Wilcox.

The situation of *Phragmites australis* in North America is complicated. There are two native subspecies recognised – *P. australis* subsp. *americanus* Saltonstall, P.M. Peterson & Soreng in the northern USA and Canada, *P. australis* subsp. *berlandieri* (E.Fourn.) C.F.Reed in the Gulf States and extending to South America, and *P. australis* subsp. *australis*, considered introduced (Saltonstall et al. 2004). Diagnostic features of subsp. *americanus* (e.g. ligules 1.0-1.7 mm long) and subsp. *berlandieri* (e.g. culms smooth and shiny) are not seen in the Meadowbank population, which has very short ligules and ridged, dull culms.

A fourth species, *Phragmites mauritianus* Kunth, is recognised from Africa and islands of the western Indian Ocean but appears to have no definitive features distinguishing it from *P. karka* (as *P. vallatorius* in Clayton et al. 2010). These two species have been shown to be genetically closely related (Lambertini et al. 2006).

Nomenclatural Postscript

Phragmites karka is not recognised by Clayton et al. (2010), the name they use for this species being *P. vallatorius* (Pluk. ex L.) Veldkamp. Wu et al. (2006) rejected this name (as *P. vallatoria*) as being illegitimate as they considered that the original name (basionym) for it, *Arundo vallatoria*, had not been validly published. However, Kirkbride & Wiersema (2007) disagreed, and showed that it had been, and that accordingly, *P. vallatoria* had priority over *P. karka*, though they proposed rejecting *A. vallatoria* (and therefore *P. vallatoria*) on the grounds that *P. karka* is such a widespread reed and is the name in common use, and accepted in most plant name databases.

Herbarium specimens

Tahapa East Reserve, Meadowbank, Auckland, *M.D. Wilcox*, 2 June 2011, AK 325496-97, AK 325734.

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