

Two needlegrasses (*Austrostipa* spp., Poaceae)

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Introduction

Northern New Zealand hosts a dozen or so species of "needlegrass", that is, members of tribe Stipeae, the stipoid grasses. Two are native: the (sometimes excessively) familiar *Austrostipa stipoides* of coastal shell banks, and the forest grass *Anemanthele lessoniana*, this seen now mainly in ornamental and restoration plantings. The others, among them three representatives of the notorious *Nassella* (a genus on everybody's Most Unwanted list), appear from time to time as weeds of dry open places (Wilcox 2000).

The Mediterranean species *Piptatherum miliaceum* is by far the most common of our needlegrasses. A metre or so tall, it resembles a small bamboo in having whorls of short leafy branches at the upper nodes of its culms. Its panicle, up to 40 cm or so long, is whorled too. Its florets are more innocuous than those of most of its relatives, being small and blunt and with just a short, deciduous awn.

The two needlegrasses that are the main subject of this note, *Austrostipa ramosissima* and *A. verticillata*, are much less common in New Zealand than *P. miliaceum*, and in the Auckland region probably just occur in gardens, and rarely at that (but I would not suggest that anyone should plant them; see 'Notes on Specimens' below for indications of their weediness). Even more bamboo-like than *P. miliaceum*, they have hard upright culms 1.5 m or more tall, which are spaced along stout rhizomes. This habit, and the characteristic tight whorls of leafy branches from the upper culm nodes, have earned them a position in *Austrostipa* as the sole members of subgenus *Bambusina* (Footnote 1). Their panicles are whorled too, and bear numerous dark brown to purplish florets, each with a single (eventually deciduous, usually once-bent) awn c. 3 cm long (Figs. 1, 2).

Because *A. ramosissima* was first collected wild in 2004 the account of the Stipeae in Flora NZ V (Edgar & Connor 2000) only includes *A. verticillata*. This and *A. ramosissima* can be distinguished (Everett et al. 2009: 60; ROG pers. obs.) as follows:

Lemma 1.8–3 mm long, with hairs lacking or restricted to proximal part of the dorsal mid-line: surface of lemma roughened by relatively closely spaced, subacute (sometimes shortly bristle-tipped) tubercles ***A. ramosissima***

Lemma 2.7–4 mm long, with hairs scattered over most of surface, roughened by close-spaced, rounded to subacute tubercles ***A. verticillata***



Fig. 1. **A & B:** *Austrostipa ramosissima* **A.** Floret, dorsal view. **B.** Floret, ventral view, awn shed; arrow indicates outer edge of lemma. **C & D:** *A. verticillata* **C.** Floret, dorsal view. **D.** Floret, ventral view, awn shed; arrows indicate gap between edges of lemma, caused by swelling of caryopsis. Scale bar 1 mm. (A & B from AK 257364. C & D from AK 255949.) Photograph by author.

Notes on specimens

Austrostipa ramosissima : Tauranga, Welcome Bay, in a reserve, a wild patch over 100 sq. m., coll. 2002, AK 257363, -4, -5; Whangarei Heads Road, [planted at ?] edge of pasture and regrowth bush, coll. 2016, AK 360327.

Austrostipa verticillata : [cultivated ex] Nelson, AK 1361, coll. T. Kirk [19th C.]; Waikumete, Palmer's Nursery, planted AK 216561, coll. 1971; Pukekohe, Joy Nurseries, [cult. as] *Stipa elegans*, AK 300840, coll. 1998; Whitford, Ayrлие's Garden, cult. as *Stipa ramosissima*, "does not appear to be spreading", AK 259113, coll 2002; Wanganui, Marybank above S.H. 3, one robust tussock, seen here in 1991, AK 289030, coll. 2003.

Footnote 1 Bambusiform grasses

Flora of New Zealand V (Edgar & Connor 2000) notes the term "bambusiform" in its glossary but uses it in the text just for *Microlaena polynoda*, which is not a stipoid grass but a member of the Southern Hemisphere tribe Ehrharteae. Found in dry open forest, it is usually loosely tufted, but can scramble up a couple of metres or so among the lower branches of surrounding bushes. Its tough culms, like those of the piptatherum and the two big austrostipas, have clusters of leafy nodal branches.

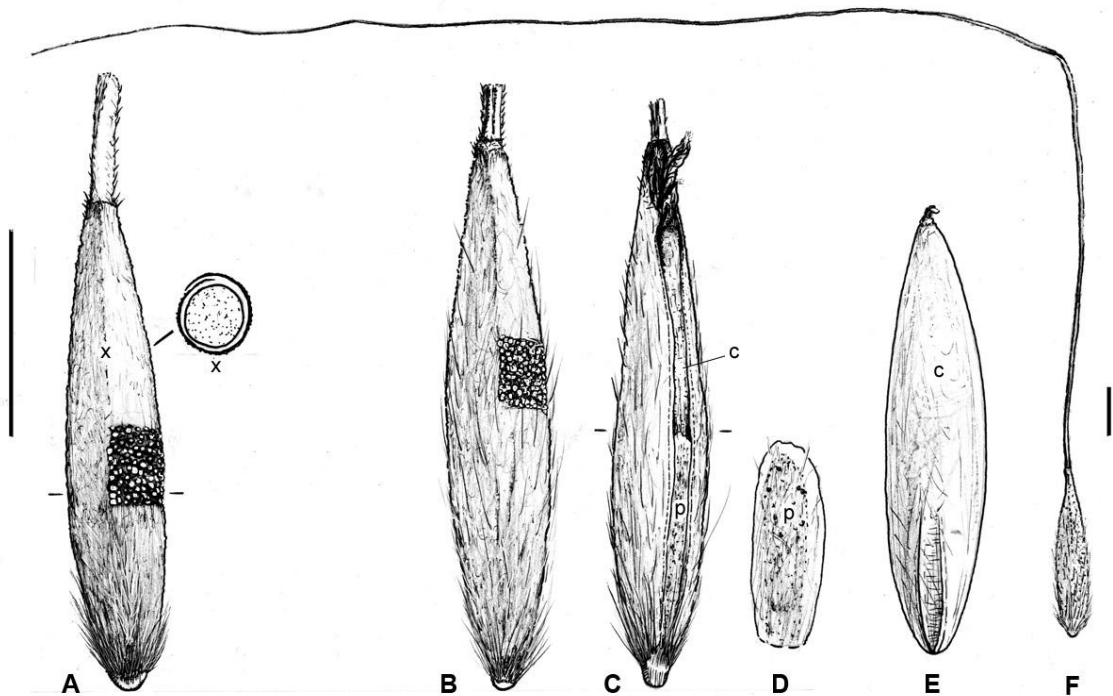


Fig. 2. **A:** *Austrostipa ramosissima*. Floret, dorsal view; most of awn omitted, patterning of lemma indicated centrally. Lines each side indicate level of palea apex. To right, a transverse section, showing the coriaceous, tuberculate lemma tightly enclosing the ripened fruit ("caryopsis"). **B–F:** *A. verticillata*. **B.** Floret, dorsal view. **C.** Floret, oblique-ventral view, showing upper part of caryopsis (c) exposed above palea (p) (short lines indicate level of palea apex); at floret's apex there are three shrivelled anthers. Note – gap between lemma margins is caused by swelling of caryopsis. **D.** Palea in dorsal view, showing wide membranous margins and a few tubercles and short hairs centrally, the nervation not evident. **E.** Caryopsis in dorsal view; shallow broad basal groove above base is presumably where the central thickened part of the palea has been pressing. **F.** Floret with its shortly setose, eventually deciduous, geniculate awn. Scale bars 1 mm long. (A from AK 257364; B–F from AK 255949). Drawn by author.

References

- Edgar, E.; Connor, H. E. 2000: *Flora of New Zealand*. Vol. 5. Manaaki Press, Lincoln.
 Everett, J.; Jacobs, S. W. L.; Nairn, L. 2009: *Austrostipa*. Pp. 15–62, *Flora of Australia* Vol. 44A (ed. A. Wilson). ABRIS/CSIRO, Melbourne.
 Wilcox, M D. 2000: Observations on grasses of the Auckland region. *Auckland Botanical Society Journal* 55: 1–6.

Norfolk Island noodlings

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Introduction

In Australia one noodles by rummaging through waste from an opal mine, hoping to find an overlooked gem or two. Norfolk Island's well-known flora would seem to offer similar odds, but a holiday there last December did turn up enough "notes and queries", mainly concerning weeds and cultivated plants, to make a write-up seem worthwhile. It was my fourth time on "Norf'k Aelan" (previously: 1989, 1991, and 2006), and my field books for those trips have had to be noodled through as well.

I made no collections on this last visit but a photograph supports one of my sightings. In what follows, some reference is made to material in AK (Auckland War Memorial Museum herbarium), including the manuscripts of J. D. McComish (Appendix 1).

The island's weeds have recently been investigated by staff of the CSIRO herbarium at Canberra, who visited in late 2013–early 2014 (Lepschi, Collins &