

SHORT COMMUNICATION

Notes on Australian grasses (Poaceae)

Some new combinations and clarification of some names are required for the next edition of Wheeler et al. (1982).

1. *Austrofestuca*

Alexeev (1976) established the genus *Austrofestuca* based on the single Australasian species *A. littoralis* (Labill.) Alexeev. Edgar and Connor (1983) have taken up the name but it has not yet been formally used in Australia although Simon (1986) does provide a new combination for *A. pubinervis* (Vickery) B. Simon, a segregate of *A. littoralis*. Alexeev (1987) found an earlier epithet applicable to *A. pubinervis* and made the combination *A. triticoides* (Trin.) Alexeev. Clayton and Renvoize (1986) accepted *Austrofestuca* but found that the characters used to delimit it required the inclusion of three more Australasian species.

Alexeev (1985) established the new genera *Festucella* and *Hookerchloa* for two of these species, *Festuca eriopoda* and *F. hookeriana* respectively. These genera were distinguished from *Austrofestuca* by: (i) *Festucella* having filiform as opposed to folded leaves, and (ii) *Hookerchloa* having awned lemmas.

The characters that have been used by the authors mentioned above to distinguish *Austrofestuca* from *Festuca* include:

- (i) lemmas keeled throughout;
- (ii) ovary glabrous;
- (iii) caryopsis with a short oval hilum (linear to oblong in *Festuca*);
- (iv) lodicules pubescent;
- (v) lowest lemma 5–11-nerved (3–5-nerved in *Festuca*), and
- (vi) callus shortly pubescent.

The first two of these characters are quite consistent in all four species although the second is easily visible only in material at an appropriate stage of development. The hilum character (iii) is useful but mature caryopses are not common on herbarium specimens. The hairiness of the lodicules is also reasonably consistent but not easy to observe; occasionally there are only a few hairs. The nervation of the lemma and the degree of pubescence of the callus are less consistent, the type species frequently having a glabrous callus. On the basis of the first four characters *Austrofestuca*, as delimited by Clayton and Renvoize (1986), should be accepted.

Festucella Alexeev is based on a leaf character that is not qualitative. The character basically is leaf width as even the diagram in Alexeev (1987) shows a trans-section of a folded leaf. The number of nerves also cited as a secondary character is likewise related to leaf width, as are the few anatomical characters mentioned. Leaf width is not an appropriate generic character and *Festucella* here is treated as a synonym of *Austrofestuca*.

Hookerchloa Alexeev is distinguished from *Austrofestuca* by the former having awned lemmas and glabrous lodicules. Awned lemmas are not a consistent character on one inflorescence in this taxon, and many plants have no awns, so it is not an appropriate generic character. Neither *F. hookeriana* (*Hookerchloa*)

nor *F. eriopoda* (*Festucella*) have glabrous lodicules; in both species they are more sparsely hairy than in *A. littoralis* or *A. triticoides* but they do have hairs. *Hookerchloa* is also treated here as a synonym of *Austrofestuca*.

The two new combinations required are:

Austrofestuca eriopoda (J. W. Vickery) S. W. L. Jacobs, **comb. nov.**

BASIONYM: *Festuca eriopoda* J. W. Vickery (1939: 10–11).

SYNONYM: *Festucella eriopoda* (J. W. Vickery) Alexeev (1985: 104).

Austrofestuca hookeriana (F. Muell.) S. W. L. Jacobs, **comb. nov.**

BASIONYM: *Festuca hookeriana* F. Muell. in Hook. f. (1858: 127, t. CLXV).

SYNONYMS: *Poa hookeriana* (F. Muell.) F. Muell. (1873: 131). *Schedonorus hookerianus* (F. Muell.) Benth. (1878: 656). *Hookerchloa hookeriana* (F. Muell.) Alexeev (1985: 106).

The third species occurs only in New Zealand; I am leaving the appropriate combination to authors more familiar with that species.

2. *Australopyrum*

The literature concerning the classification of the Triticoid grasses is voluminous and has been reviewed by West et al. (1988). There is still much diversity of opinion on the circumscription of genera and their relationships. The endemic Australian species formerly included in *Agropyron* have been treated by Löve (1984) who included them in his genus *Australopyrum*, and Clayton and Renvoize (1986) who maintained them in *Agropyron*. Löve excludes from *Australopyrum*, *Elymus scaber* which occurs also outside Australia and which was formerly included in *Agropyron*.

The genomic data (Löve 1984) and the shortly pedicellate spikelets of our native species indicate that they are best excluded from the now restricted *Agropyron* (Barkworth and Dewey 1985). Löve made new combinations for our taxa but, without explanation, he reduced *Agropyron velutinum* Nees (1840) to a subspecies of *Australopyrum retrofractum* (J. W. Vickery) A. Löve (*Agropyron retrofractum* J. W. Vickery, 1950). *A. retrofractum* is more closely related to *A. pectinatum* than to *A. velutinum*. Simon (1986) made the combination *Australopyrum velutinum* (Nees) B. Simon and also treated *A. retrofractum* as a synonym of *A. pectinatum*. Wheeler et al. (1982) recognised the three species as distinct and plan to do so again in the new edition.

There is, however, still one problem remaining in using the name *A. retrofractum*. When forming the combination *Australopyrum retrofractum* (J. W. Vickery) A. Löve, Löve united two species and failed to use the earlier epithet *Agropyron velutinum* Nees. The combination for *Australopyrum retrofractum* at specific rank as made by Löve (1984) is incorrect but the basionym is legitimate and, in accordance with article 63.3 of the Code, Löve's combination can be used if *Australopyrum velutinum* is treated as a separate species.

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