

**Supplementary Figure 2.**

Maximum likelihood phylogram of all studied accessions of *Austrostipa* species inferred from ribosomal ITS1–5.8S gene–ITS2 DNA sequences with *Anisopogon avenaceus* (Duthieae), *Bromus erectus* (Bromeae), *Hordeum vulgare* and *Secale sylvestre* (both Triticeae) used as outgroup. ML and MP bootstrap support values  $\geq 50\%$  as well as Bayesian PP  $\geq 0.5$  are indicated on the branches. Clades with ML support  $< 50\%$  are collapsed. The taxonomic groupings of the *Austrostipa* species according to Jacobs and Everett (1996) and in this study are marked by different colors in columns 1 and 2. *A.*, *Austrostipa*.

**1. Subgenera of *Austrostipa* according to Jacobs and Everett (1986)**

- Arbuscula* (3 of 4)
- Aulax* (2 of 2)
- Austrostipa* (6 of 7)
- Bambusina* (2 of 2)
- Ceres* (5 of 6)
- Eremophilae* (3 of 6)
- Falcatæ* (9 of 10)
- Lancea* (4 of 7)
- Lanternæ* (1 of 3)
- Lobatae* (4 of 6)
- Longiaristatae* (2 of 2)
- Petaurista* (2 of 2)
- Tuberculatae* (5 of 7)

**2. Subgenera of *Austrostipa* in this study**

- Arbuscula* (3 of 4)
- Aulax* (2 of 2)
- Austrostipa* (23 of 36)
- Bambusina* (2 of 2)
- Falcatæ* (9 of 10)
- Lobatae* (4 of 6)
- Longiaristatae* (2 of 2)
- Paucispiculatae* (1 of 1)
- Petaurista* (2 of 2)

- Anemanthele* (1 of 1)

□ Outgroup

(species number sampled for ITS of in total)

