

Cabo Verdean Wild Relatives of Millets: nature solutions to enhance food security



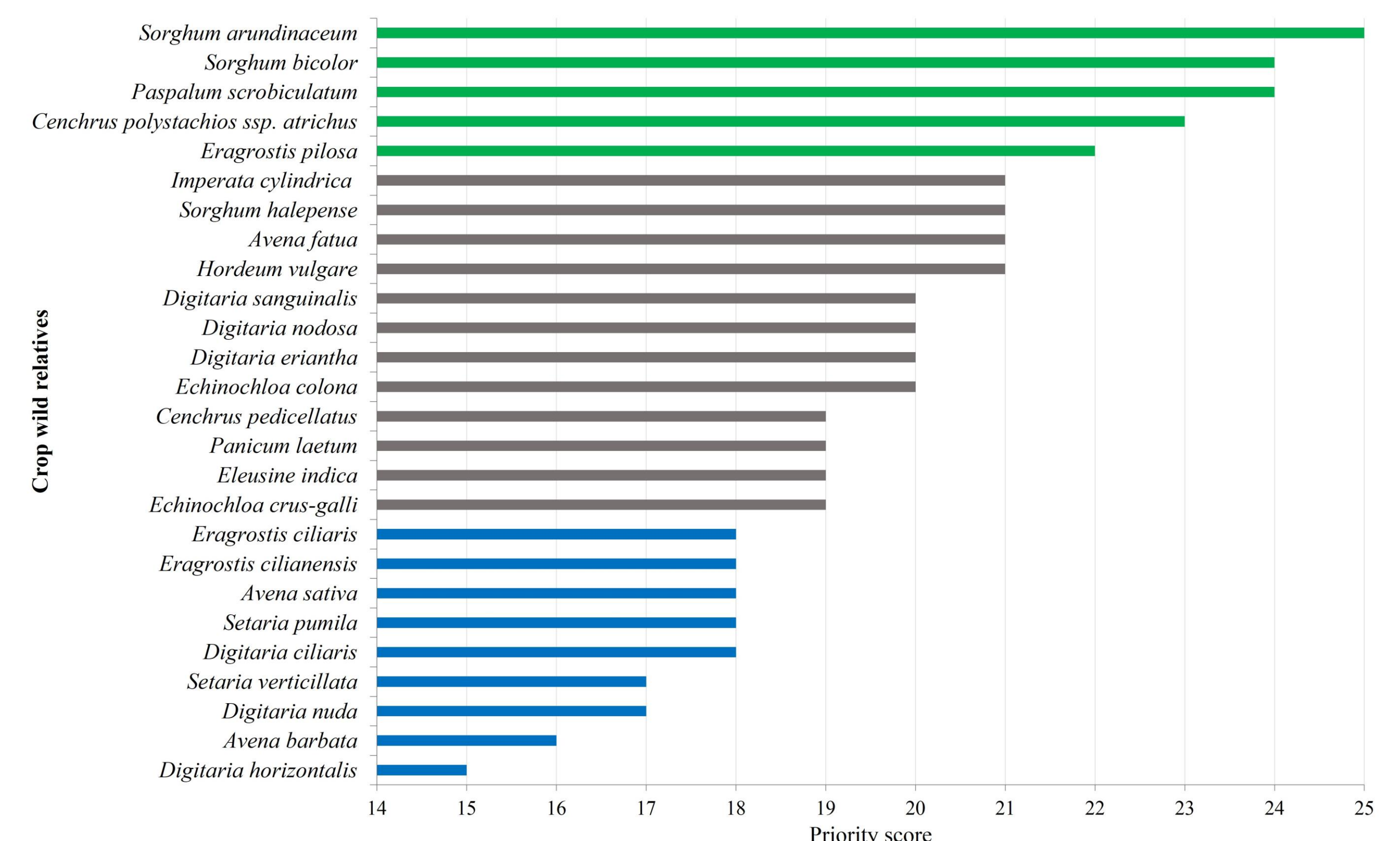
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Introduction

Poaceae family, one of the major plant group in the world, are well adapted to a wide range of habitats, and particularly suited to arid environments. The importance of this family is well known, not only for the economic value of several crops to humankind but also for their **Crop Wild Relatives (CWR)**, essential to crop improvement.

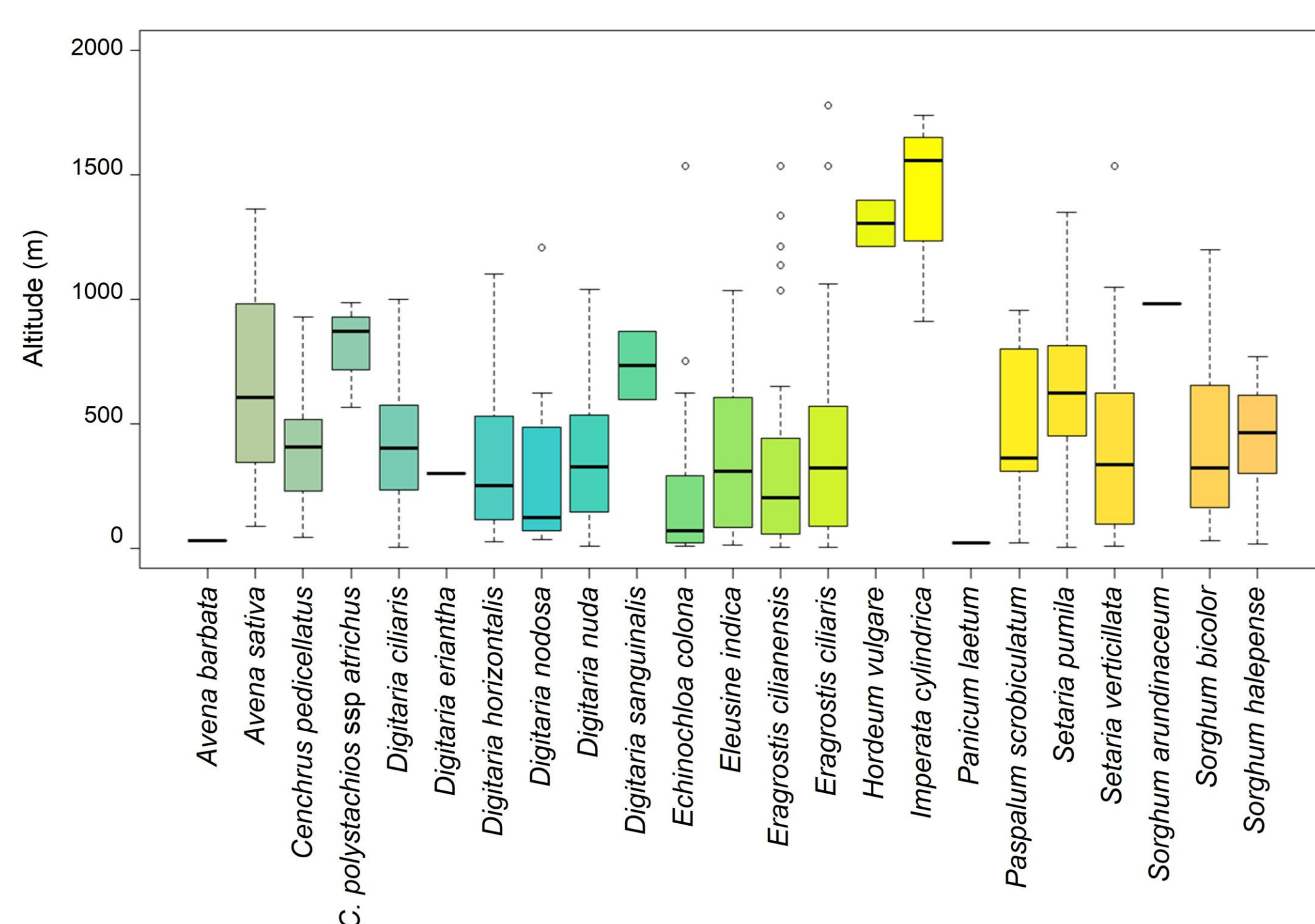
Many of these CWRs are the wild relatives of important **MILLETS** (small-grain grass species crops) that are particularly relevant to the African continent's food security.



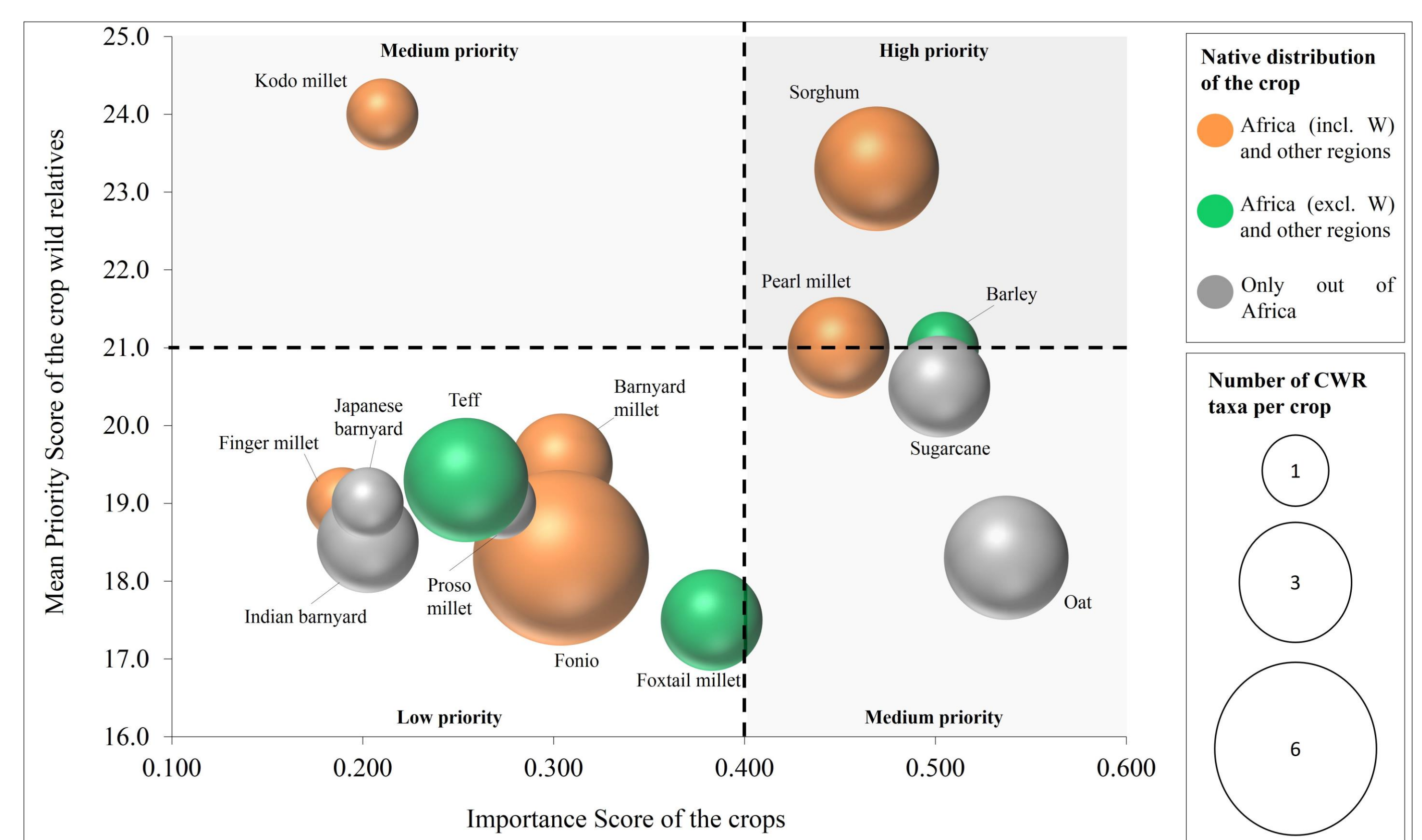
B. The 26 Poaceae CWR identified in Cabo Verde and their Priority for collecting and conserving. Priority categories: green – highest, grey – medium, blue – low.

Aims

The value of the Cabo Verde's Poaceae for agrobiodiversity is highlighted through: **(A)** identifying the grasses used for direct consumption, as well as their CWR occurring under extreme conditions; **(B, C)** evaluating the importance of the CWR for crop improvement; and **(D)** assessing the need of special conservation measures in the archipelago.

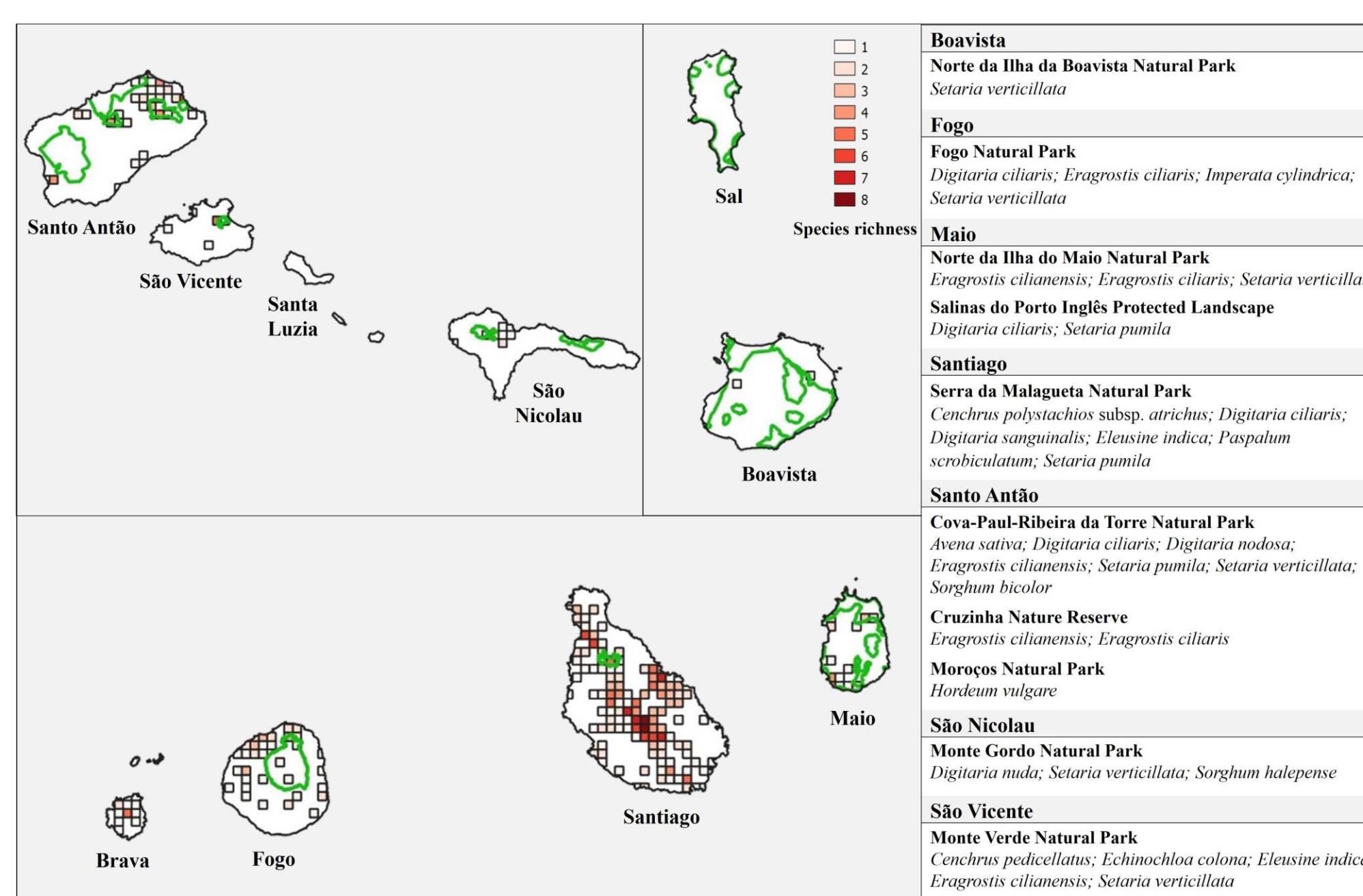


A. Altitudinal distribution of CWR records in Cabo Verde islands. Both millets and sorghum CWR of Cabo Verde occur under extreme climatic conditions in this archipelago, being presumably more resilient to climate change.



C. Comparison of the importance of the 14 Poaceae crops studied and their CWR in Cabo Verde. The Importance Score concerns the food supply and agricultural production metrics of the crops and the mean Priority Score represents the nine criteria used as a proxy to prioritize the CWR (for details see Rocha et al., 2021). The size of the circles indicates the number of CWR taxa per crop. The colours indicate the native distribution of the crop.

D. Most CWR biodiversity hotspots are outside Cabo Verdean protected areas, and only *Sorghum bicolor* is represented in germplasm banks.



Conclusions

The valorisation and conservation of the plant genetic resources related to millet crops and their CWR is of major importance to fight and ensure food security in Cabo Verde. Thus, the native species remain a viable sustainable land management option to fight degradation in these tropical dry islands, when plant diversity faces increasing threats due to desertification.

