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Introduction

The genus *Coffea* is native to Africa and comprises more than 125 species, of which only two dominate the world market: *C. arabica* L. (type of Arabica coffee) and *C. canephora* Pierre ex A. Froehner (type of Robusta coffee)¹. Mozambique has been identified as wild source of native coffee species² although this remains to be investigated. In this context, the present study aims to:

- determine the species of *Coffea* occurring in Mozambique for prospecting the potential of native species.
- study the morphological and genetic diversity of the species found contributing to the conservation of *Coffea* species, and the production and improvement programs of coffee for its commercialization (Figure 1A, B).

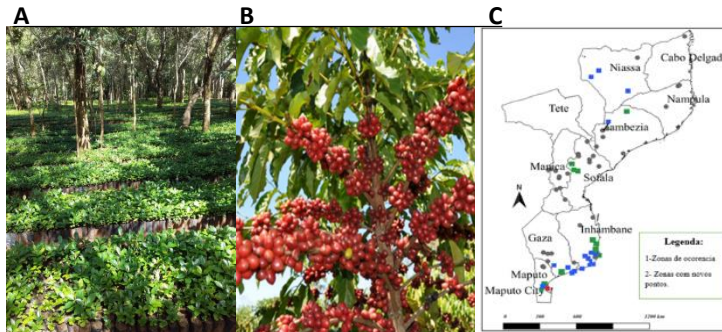


Figure 1. (A) Nursery coffee production system (B); and Coffee fruits in the ripening phase (C). Map of occurrence of *Coffea* species in Mozambique based on herbarium data, bioprospecting and discovery of new localities.

Materials and Methods

- Systematic review of herbarium data, and bioprospecting of *Coffea* spp. in Mozambique. In each locality, samples were georeferenced, collected according to Figure 1C and identified to species level, following taxonomical keys.
- DNA was extracted from leaves, followed by PCR reactions using universal barcode primers for the chloroplast DNA markers rbcL and matK based on the conditions previously defined for *Coffea*¹.
- BLAST searches were performed for all consensus sequences to identify the best matches in the National Center for Biotechnology Information (NCBI) GenBank.

Results Highlights and Conclusions

- Bioprospecting resulted in 62 points of occurrence of *Coffea* spp. in Mozambique, distributed across all provinces of the country (with the exception of Tete), although many past localities retrieved from herbarium vouchers were not found.
- Six species were taxonomically identified, *Coffea eugenoides*, *C. racemosa*, *C. mufindiensis*, *C. zanguebariae*, *C. salvatrix* and the cultivated *C. arabica*.
- Genetic analysis based on the two barcodes recovered all former species except *C. mufindiensis*.
- Results suggests the presence of cryptic diversity in the samples collected, highlighting the need of further genetic studies to discriminate the presence of more *Coffea* species in Mozambique.

References

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 2-Bento C.L. 2007. p. 5. http://www.youblisher.com/files/publications/12/69933/pdf.

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