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BOOK OF ABSTRACTS

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WCSdb: A database of wild *Coffea* species

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RATIONALE

Two coffee species are mainly cultivated: Arabica and Robusta. Beside these species, the 139 wild coffee species/taxa belong to the *Coffea* genus are largely unknown to coffee scientists although these species may be crucial for future coffee crop development to face climate changes. These wild coffee species conserved in living collection revealed large morphological variations, but also growth habitats and adaptation. In addition to morphology, large variations were observed in terms of seed biochemical compounds involved in the quality of coffee such as caffeine, trigonelline, sucrose and mangiferin contents into others. However, this diversity was reported so far in any publicly available database.

METHODS

A database has been built using Pl@ntNet Publish. It is an IT platform dedicated to the dissemination of botanical data focused on taxa or specimen levels. It is based on Symfony (PHP) and MongoDB and allows users to manage data publication spaces.

RESULTS

In this study, we developed the Wild Coffee Species (WCS) database: http://publish.plantnet-project.org/project/wildcofdb_en. It presents: (i) each species held in collection on the sites of La Reunion island and Kianjavato (Madagascar) with a photo gallery (597 images); (ii) different detailed information such as synonymy, natural distributions, habitats, architectural, morphological, phenological, biochemistry, genetic/genomic data (chloroplast genomes, whole genome sequencing and GBS), trait of interest retrieved from the literature and personal observations on living collection; (iii) a general geographical map of the species distribution.

CONCLUSIONS & PERSPECTIVES

The WCS database represents the first comprehensive information about wild coffees species, to help researchers working in the preservation of coffee species, geneticists and breeders working with trait or genes of interest and improvement of cultivated species or breeders motivated to re-cultivate forgotten species adapted to climate changes or adapted to specific habitats.

References:

- Guyot et al. 2020 WCSdb: a database of wild Coffea species, Database, Volume 2020, baaa069. https://doi.org/10.1093/database/baaa069