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Assessment of Local and Morphological Descriptors of Local Accessions of *Mangifera Indica* L. in North Benin

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Abstract

The local mango tree (*Mangifera indica* L.) occupies an important place in the family consumption in West Africa. The characterisation of this local fruit crop is neglected comparatively to improved varieties. Therefore the characterisation of local accessions of *Mangifera indica* L. is necessary to guarantee a sustainable future through its diversity conservation. Thus, this study was carried out in North Benin and aims to (i) identify local knowledge discriminating local accessions of *M. indica* (ii) assess the morphological descriptors and (iii) evaluate the convergence between the local and morphological descriptors. Sixty five (65) people were questioned using a structured guide on the knowledge of morphological characteristics discriminating the different types of accessions that occur in their production systems. In addition, 65 individuals of *M. indica* were sampled and characterised by 56 traits with 21 of which were quantitative and 35 qualitative. From each tree individual, 10 healthy mature fruits and 10 leaves were randomly collected, whose characteristics were evaluated. The data of the questionnaire and morphological characterisation were processed and analysed with univariate and multivariate statistical tools. The population recognised two different local accessions of *M. indica* distinguished generally by the shape and fibrousness of the fruit. An elliptical shape and a very fibrous character of the fruit were recognised locally for one accession while for the second the fruit has a rounded shape and is less fibrous. The morphological categorisation allowed us to distinguish three groups of accessions which differ essentially in fruit weight and leaf length. The morphological traits evaluated are almost all discriminating between the three morphological groups. The morphological characterisation of the two accessions converges globally with the local descriptors recognised by the population. The knowledge of these superior traits is fundamental to guide the sustainable management and conservation of local *Mangifera indica* accessions in Benin.

Keywords: Benin, conservation, local descriptors, *Mangifera indica*, morphological traits