Comparative petiole anatomy of cassava (Manihot) species

D. Graciano-Ribeiro¹, D.Y. Hashimoto-Freitas² and N.M.A. Nassar³

¹Programa de Pós-Graduação em Biodiversidade Vegetal, Instituto de Ciências Biológicas, Universidade Federal de Goiás, Goiânia, GO, Brasil
²Departamento de Biologia Celular, Instituto de Biologia, Universidade de Brasília, Brasília, DF, Brasil
³Programa de Pós-Graduação em Botânica, Instituto de Biologia, Universidade de Brasília, Brasília, DF, Brasil

Corresponding author: N.M.A. Nassar
Email: nagibnassar@geneconserve.pro.br

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ABSTRACT. In this study, we describe the petiole anatomy of six wild cassava (Manihot) species, one hybrid, and two cultivars of Manihot esculenta, in order to identify their dominant anatomical patterns and relate them to possible adaptations to abiotic factors in the Cerrado biome. The median parts of several petiole samples were transversally and longitudinally sectioned and stained. The results include data for the taxonomic classification of the genus, including distinctive anatomical characteristics of hybrid varieties of cassava and wild species, such as the presence/absence of trichomes and a hypodermis, layer type and number in the cortex, number of vascular bundles, cell types in the pith, and type of organization. Morphological analysis revealed differences in length and shape of the petiole insertion. The presence of trichomes, a hypodermis, the amount and type of supporting tissue in the cortex, as well as gelatinous fibers, may be related to drought tolerance.

Key words: Cassava breeding; Cerrado biome; Hybrid; Taxonomic key; Wild species