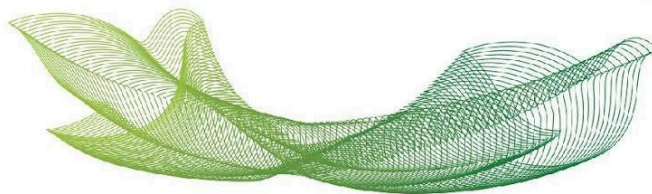


Tipo	Periódico
Título	A transcriptomic atlas of macauba palm reveals organ-specific gene expression and stress-related pathways
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Resumo	<p>The macauba palm (<i>Acrocomia aculeata</i>) is an emerging oilseed species with promising applications in biodiesel production, as well as in food and cosmetic industries. Native to the Neotropics, it is in the early stages of domestication and distributed across diverse environments and edaphoclimatic conditions. However, genomic studies of macauba are limited due to the scarcity of publicly available sequence data, as it is considered a non-model plant. In this study, we present an exploratory analysis of a transcriptome dataset comprising seven different organs (roots, bulbs, male and female flowers, leaves, leaf sheath, and fruits). A total of 22,703 transcripts were assembled into a single reference dataset. Of these, 9729 transcripts (42.85 %) were annotated using KEGG orthology. Gene expression profiling revealed 306, 32, 41, 67, 92, 158 and 916 organ-specific transcripts in leaves, leaf sheaths, bulbs, female flower, male flower, fruit and root, respectively. Comparative analysis with oil palm (<i>Elaeis guineensis</i>) and date palm (<i>Phoenix dactylifera</i>) revealed 55 gene families exclusive to macauba palm. In addition, 221 transcripts related to drought stress were identified through functional annotation and grouped into 112 gene families. Root libraries revealed 7091 fungal transcripts - approximately 3.9 % of all reads – mainly derived from arbuscular mycorrhizal fungi (AMF) <i>Rhizophagus</i> spp. These findings highlight the central role of signal transduction pathways in response to environmental stresses in macauba palm. The transcriptome dataset generated in this study provides a valuable genomic resource for future genotype-phenotype investigations in macauba palm. Furthermore, the presence of AMF-associated transcripts suggests a potentially important role for these symbiotic fungi in macauba palm growth and development.</p>



Fomento

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