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Resumo	Weeds are one of the biotic factors that cause crop productivity losses worldwide. Due to the consequences to human health and the environment of the indiscriminate use of synthetic herbicides, alternative methods involving the use of the allelopathy phenomenon have been gaining prominence. Here, we explore the allelopathic effect of Jatropha gossypiifolia L. on the weed Bidens bipinnata L. and investigate its potential herbicidal allelochemicals. In vitro bioassays demonstrated that the use of J. gossypiifolia leaf powder was able to inhibit seed germination and early growth of B. bipinnata seedlings, obtaining significant reductions with increasing concentration. Bioguided fractionation of the aqueous extract indicated that the hexane and ethyl acetate fractions were bioactive in inhibiting weed growth. Metabolomics based on mass spectrometry and molecular networks was used to annotate the allelochemicals of the bioactive fractions, generating the dereplication of metabolites from the classes of alkaloids, phenolics, fatty acids, steroids, and terpenoids, which may be associated with herbicidal activity. These results point to the allelopathic effect of the J. gossypiifolia leaf powder and its putative herbicide allelochemicals, providing subsidies for future studies on the application of this species in alternative weed management strategies.
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