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Article

Mites (Acari) associated with three species of the genus *Jatropha* (Euphorbiaceae) in Brazil, with emphasis on *Jatropha curcas*

A. C. LOFEGO[1,4], J. M. REZENDE[2], R. L. C. VERONA[3] & R. J. F. FERES[1]

[1]*Universidade Estadual Paulista (UNESP), Câmpus de São José do Rio Preto. Depto. Zoologia e Botânica. Rua Cristóvão Colombo, 2265. CEP 15054-000. São José do Rio Preto, SP., Brazil*

[2]*Universidade Estadual Paulista (UNESP), Câmpus de São José do Rio Preto. Programa de Pós-Graduação em Biologia Animal. Rua Cristóvão Colombo, 2265. CEP 15054-000. São José do Rio Preto, SP., Brazil*

[3]*Centro Universitário do Norte Paulista (UNORP). Rua Ipiranga, 3460. CEP 15020-040. São José do Rio Preto, SP., Brazi*

[4]*Corresponding author: E-mail: aclofego@ig.com.br; Phone number +55 17 3221-2398*

Abstract

The physic nut (*Jatropha curcas* L.) (Euphorbiaceae) has emerged as a new option in cultivation aimed at biodiesel production. In order to provide information that may be useful to further develop management plans for that specific crop, samples of mites were collected from cultured and wild *J. curcas* plants in various regions of the country and from two other species of the same genus, *Jatropha gossypiifolia* L. and *Jatropha mollissima* (Pohl) Baill. in the northeastern region of Brazil. Altogether 31 species belonging to 10 families were recorded. The family Phytoseiidae presented the largest number of species (17). *Polyphagotarsonemus latus* Banks (Tarsonemidae) was the most abundant species (8,503 specimens). A dichotomous key was prepared to identify all the sampled species. At least four mite species of the samples deserve attention as showing potential for being pests in the crops of *J. curcas*, *Brevipalpus phoenicis*, *Brevipalpus obovatus*, *Polyphagotarsonemus latus* and *Tetranychus bastosi*, the latter two often found in great abundance.

Key words: biodiesel production, *Polyphagotarsonemus latus*, *Tetranychus bastosi*

Introduction

The genus *Jatropha* (Euphorbiaceae) has approximately 170 species, distributed throughout the tropical Americas (Carels 2009). Three of these species are particularly important in Brazil. *Jatropha mollissima* (Pohl) Baill. abundant in northeastern Brazil where it is a native plant; *Jatropha gossypiifolia* L., used as an ornamental plant and periodically found in empty lots and roadsides; and *Jatropha curcas* L. (physic nut), which is traditionally cultivated for medicinal purposes, soap making and hedges. Currently, *J. curcas* has gained attention as a crop for biodiesel production (Nunes 2007).

Due to its status as a relatively new crop, there is a need of research about the economic viability of physic nut, especially in relation to its management, where possible pests or associated beneficial organisms need to be considered. In this context, it is essential to carry out studies on fauna surveys and become familiar with the communities of the organisms associated with physic nut and other plants of the same genus, such as *J. gossypiifolia* and *J. mollissima*, that are abundant and simultaneously occurring, since they can be reservoir or alternative hosts for organisms found on *J. curcas*, such as mites.

Previous studies have showed that some phytophagous mites can be potential pests in the *J. curcas* crop in Brazil, particularly *Polyphagotarsonemus latus* Banks (Tarsonemidae) and

