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DYSSCHEMA SACRIFICA (LEPIDOPTERA: ARCTIIDAE): FIRST RECORD ON THE MEDICINAL PLANT *EREMANTHUS ERYTHROPAPPUS* (ASTERACEAE) IN BRAZIL

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The “Cerrado” biome (Savanna type) has a rich and diverse flora in Brazil (Myers et al. 2000; Barbosa & Fearnside 2004; Leite et al. 2012), showing the need for conservation measures of its natural resources (Lewinsohn et al. 2005; Leite et al. 2006; 2013). In Brazil, only 2.5% of the “Cerrado” is preserved as an Integral Protection Unit (Sparovek et al. 2010). This increases the impact of deforestation for wood extraction, fires and agricultural activities in this biome (Loyola et al. 2010; Pivello et al. 2010). Plant species in the Asteraceae family are found in the Brazilian “Cerrado” and used as a wood source, essential oils and secondary metabolites for industry and folk medicine (Batalha & Martins 2004; Fonseca et al. 2006). The “candeia” tree, *Eremanthus erythropappus* (DC.) MacLeish (Asteraceae), an arboreal plant, is found in mid-western, northeastern, southeastern and southern Brazil (Silverio et al. 2008). This species is suitable for the production of essential oils for the pharmaceutical and cosmetics industries (Sousa et al. 2008; Freitas et al. 2008).

Compounds from leaves, twigs and bark of *E. erythropappus* exhibit anti-inflammatory, analgesic and anti-ulcer activity (Braun et al. 2003; Nascimento et al. 2007; Silverio et al. 2008). The establishment of *E. erythropappus* plantations can reduce the indiscriminate exploitation of this plant in its natural environment. However, monocultures are susceptible to damage by defoliating insects and, therefore, knowledge of potential pest species is important for the Integrated Pest Management in these areas (Tavares et al. 2014).

Our objective was to identify and report the occurrence of an unknown lepidopteran species damaging *E. erythropappus* plants in the Cerrado area of Minas Gerais State, Brazil.

Immatures and adults of this unidentified lepidopteran were observed on *E. erythropappus* (Fig. 1A, 1B, 1C, 1D, 1E and 1F) in Jan 2013 in Diamantina (S 18° 18' -W 43° 36' W, 1,250 m asl, 1,082 mm average annual rainfall and 19.4 °C average temperature), Minas Gerais State, Brazil. Egg masses, larvae, pupae and adults of this lepidopteran were collected and sent to the Laboratory of Forest Entomology of the Federal University of the Jequitinhonha and Mucuri Valley (UFVJM) in Diamantina, Minas Gerais State, Brazil. Some of these adults were killed in killing chambers and sent to Dr. Paulo Sérgio Fiuza Ferreira, a taxonomist with Departamento de Entomologia, Universidade Federal de Viçosa in Viçosa, Minas Gerais State, Brazil. Dr. Ferreira identified it as *Dysschema sacrifica* (Hübner, 1831) (Lepidoptera: Arctiidae). Early larval instars of *D. sacrifica* fed by scraping *E. erythropappus* leaf surfaces while the older instars totally consumed the leaves. Pupae were found on the abaxial surface of the leaves, protected by a thin translucent web. Masses of white spherical eggs ca. 1 mm in diameter were also found on the abaxial leaf surfaces.

Adults of this species were collected and placed in screened wooden cages (50 × 40 × 40 cm) with 10% honey solution, *E. erythropappus* leaves and fan-folded paper for oviposition (Fig. 2). Mating was observed but no female oviposited in the

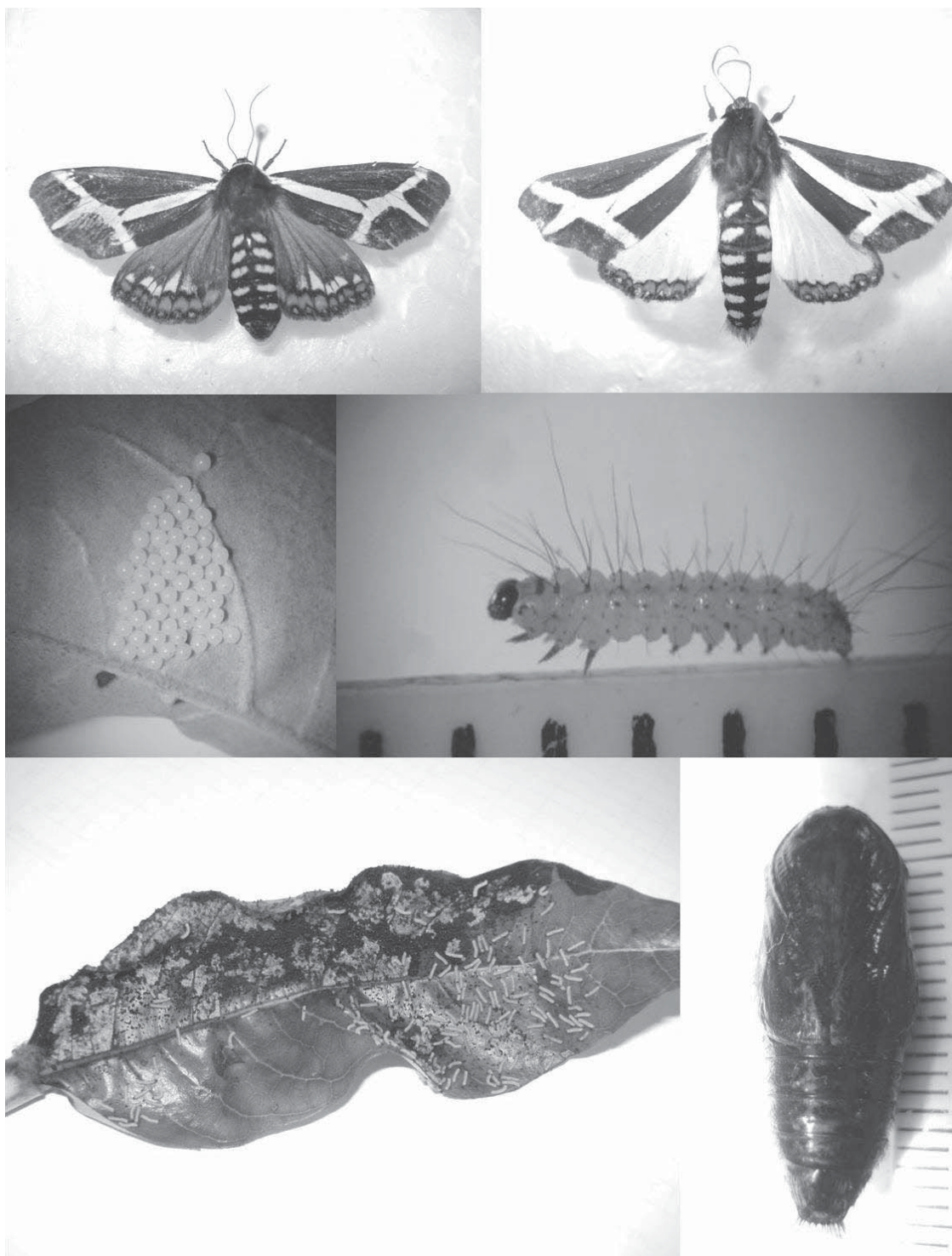


Fig. 1. *Dysschema sacrifica* (Lepidoptera: Arctiidae) at Diamantina, Minas Gerais State, Brazil: Upper left. female; Upper right. male; Middle left. egg mass; Middle right. caterpillar; Lower left. feeding damage by small caterpillars on the adaxial leaf surface of *Eremanthus erythropappus*; Lower right. pupa. This collage of images is shown online in color in supplementary material for this article in Florida Entomologist 97(3) (2014) at <http://purl.fcla.edu/fcla/entomologist/browse>.



Fig. 2. Cages for oviposition of *Dysschema sacrifica* (Lepidoptera: Arctiidae) adults collected on *Eremanthus erythropappus* at Diamantina, Minas Gerais State, Brazil. This collage of images is shown online in color in supplementary material for this article in Florida Entomologist 97(3) (2014) at <http://purl.fcla.edu/fcla/entomologist/browse>.

laboratory, thus the species biology could not be assessed.

The feeding damage caused by the larvae of *D. sacrifica* on *E. erythropappus* confirms its general feeding habit as a defoliator (Bai et al. 2010; Pankoke et al. 2012; Zaché et al. 2012). This insect is characterized by a white cross-like mark on the forewing. Adults exhibit sexual dimorphism in that females, which are usually larger than males, have brown hind wings whereas those of the males are white (Contreras Chialchia 2009).

The distribution of *D. sacrifica* involves various Brazilian biomes, including the Atlantic forest (semideciduous forest and Araucaria forest), Savannah and Southern Field (Steppe) biome (Ferro & Diniz 2007a, 2007b; Ferro & Teston 2009).

This is the first record of *D. sacrifica* feeding on *E. erythropappus* in Brazil, which shows the potential of the “candeia” tree as a food source and shelter for this insect.

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SUMMARY

Dysschema sacrifica (Hübner, 1831) (Lepidoptera: Arctiidae) was found feeding on *Eremanthus erythropappus* (DC.) MacLeish (Asteraceae) plants in Diamantina, Minas Gerais State, Bra-

zil. Eggs, larvae and adults of this insect were collected on this host and sent for identification. This is the first record of *D. sacrifica* as a defoliator of this plant.

Key Words: candeia tree; defoliators; medicinal plants; pests

RESUMO

Dysschema sacrifica (Hübner, 1831) (Lepidoptera: Arctiidae) foi encontrada se alimentando em plantas de *Eremanthus erythropappus* (DC.) MacLeish (Asteraceae) em Diamantina, estado de Minas Gerais, Brasil. Ovos, imaturos e adultos deste inseto foram coletados neste hospedeiro e enviados para identificação. Este é o primeiro relato de *D. sacrifica* como desfolhador desta planta.

Palavras Chave: candeia; desfolhadores; plantas medicinais; pragas

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