FIRST RECORDS OF INSECT GALLS IN RONDÔNIA (BRAZIL)

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INTRODUÇÃO

A gall is an abnormal plant growth produced by a foreign organism and involves an increase in cell volume (hypertrophy) and/or cell number (hyperplasia). The host plant and the gall maker have a high specificity, therefore the galls have an unique morphology. Galling insects are amongst the most specialized and fascinating herbivores, because of their ability to control and redirect plant development (Shorthouse *et al*. 2005). The gall midges (Diptera: Cecidomyiidae) represent the most common galling insect taxon. The most surveys of galls in Brazil is concentrated in the southeast, in areas of restinga and rocky fields, but little is known about galling insects of Amazonian Forest (Maia & Fernandes 2004 e Maia 2011).

OBJETIVOS

The main objective of this work is to contribute to the knowledge of the diversity and distribution of insect galls, realizing the first records in the Municipality of Monte Negro (Rondônia).

MATERIAL E MÉTODOS

Insect galls were collected on October, 2011 and May, 2012 in four localities of Rondônia (North Region of Brazil): Cacaulândia, Cachoeira, Monte Negro and Campo Novo de Rondon. Each survey took 15 days, and the vegetation of each locality was investigated for insect galls during 4 hours per visit. All plant organs were examined, except for the subterraneous roots. Samples of the host plants, preferably in the fertile state, were mounted in the field and later identified by Dr. Gracialda Ferreira and Manoel dos Reis Cordeiro (Universidade Federal Rural da Amazônia, Pará). The voucher specimens were included in the Herbarium of this Institution. Each gall morphotype was photographed using a digital photographic camera and characterized based on shape, color, presence or absence of trichomes, and number of internal chambers. In the laboratory, samples of each morphotype were maintained individually in plastic pots to obtain the adults insects. The immature insects were obtained by dissection under a stereoscopic microscope. All insects were preserved in 70% alcohol and the Cecidomyidae (Diptera) were later mounted on slides for microscope, following the methodology of Gagné (1994). The specimens are deposited in the collection of Museu Nacional/Universidade Federal do Rio de Janeiro (MNRJ).

RESULTADOS

A total of 161 morphotypes of insect galls were found in 115 different host plant species. The most galled plant

organs were the leaves (87%), followed by the stems (17%) and the buds (2.5%). None of the studied galls occurred on fruits. The locality with the greatest richness of gall was Cacaulândia with 45 morphotypes in 22 host plant species, followed by Cachoeira (46 morphotypes in 36 plant species); Campo Novo de Rondon (35 morphotypes in 27 plant species) and Monte Negro (30 morphotypes in 30 plant species). Leguminosae (N=21), Bignoniaceae (N=20), Rubiaceae (N=5) and Sapindaceae (N=5) were the plant families with the greatest richness of gall. Forty-five morphotypes of galls were induced by Cecidomyiidae (Diptera), twenty-three by Hymenoptera and two by Lepidoptera. The other gallers could not be determined as gall samples were collected already unoccupied, or occupied by predators or parasitoids. Galls of Coleoptera, Hemiptera, and Thysanoptera were not found, although these inducers have been recorded in other Amazonian areas.

DISCUSSÃO

Little is known about geographic distribution, biology and ecology of galling insects of Amazonian Forest. This study contributes to the knowledge of the galls and host plants from Amazonian biome, and reports insect of galls Rondônia for the first time. Previous studies in other three Brazilian north forest areas (Amazonia Central, Tapajós and Pará) reported a richness of 1028, 66, and 54 gall morphotypes, respectively (Julião 2007; Maia 2011 and Oda 2006). The medium number of gall morphotypes found in Rondônia does not differ from the values of these other areas, except for Amazonia Central that provide the largest number of galls. This difference can be explained by the major number of host plants collected in Amazonia Central (941 plant families) when compared to this study. The richest plant families in number of gall morphotypes in Rondônia differ from others Amazonian Forest areas (Julião 2007; Maia 2011 and Oda 2006). This indicates that the richness of galls is showed by the most speciose plant families of each area (Silva & Pinheiro 2007 and Julião 2007) The most galled plants organs were leaves, stems and buds, as well as in other investigated Amazonian rainforest areas. According to Maia (2011), the high diversity of leaf galls can be explain probably because leaves represent an abundant and frequently renewable resource, with undifferentiated meristematic cells, which are essential to gall growth. The majority of the galls were induced by the Cecidomyiidae (Diptera), the most important galling taxon not only in other Neotropical localities, but in all zoogeographic regions.

CONCLUSÃO

Rondônia presents a great number and variety of galls, contributing to the knowledge of galling insects, their host plants and their geographical distribution in the area of the Amazon rainforest.

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