3th International Symposium of Ecology
September 26 to 28, 2018. Foz do Iguaçu, Brazil
SINECO
3th INTERNATIONAL SYMPOSIUM OF ECOLOGY

Revealing land-use change as a key factor influencing the incidence of envenomation by *Lonomia* sp. in southern Brazil

Marília Melo Favalesso, Consejo Nacional de Investigaciones Científicas y Técnicas (CONICET) e Instituto Nacional de Medicina Tropical, Puerto Iguazú, Misiones, Argentina; **Eliana Burgos**, Consejo Nacional de Investigaciones Científicas y Técnicas (CONICET) e Instituto Nacional de Medicina Tropical, Puerto Iguazú, Misiones, Argentina; **Maria Elisa Peichoto**, Instituto Nacional de Medicina Tropical, Puerto Iguazú, Misiones, Argentina; and **Ana Tereza Bittencourt Guimarães**, Universidade Estadual do Oeste do Paraná, Cascavel, Paraná, Brasil.

Abstract:

Among the Lepidoptera with medical importance in southern Brazil, larvae of *Lonomia obliqua* moth (Saturniidae: Hemileucinae) stand out by being the etiological agent of lonomism, a form of erucism in which the most troubling symptoms include systemic hemorrhage that can lead to death. In the last years, the scientific literature has attributed the incidence of accidents with these larvae mainly to changes that have been occurring in the use and occupation of the land; however, this hypothesis has never been investigated before. Thus, using negative binomial regression, information-theoretic model evaluation/averaging, and external model validation, we investigated the effects of landscape (% of preserved areas, % of agricultural areas, % of preserved areas near agricultural areas and % of forest areas) and climatic covariates (temperature and rainfall in summer, Δ temperature and rainfall between summer and winter and Δ temperature and rainfall between summer and annual values) on cases of lonomism documented by DATASUS during the period of 2001-2006 at municipalities of southern Brazil. Our analysis indicated that there is a significant increase in cases of lonomism in agricultural areas nearby vegetation of preserved areas, and a small influence of Δ annual-summer rainfall in the accidents during warmer months. These results demonstrate that the use of the land is a great influencing factor on cases of lonomism in southern Brazil. Thus, this study contributes to encourage adopting policies and regulations to foster the sustainable use of the land.

Key-words (3 to 5 words): accident risks, Lepidoptera, lonomism, public health, Saturniidae.

Funding Agency: This work was carried out with the support of "Consejo Nacional de Investigaciones Científicas y Técnicas (CONICET)" from Argentina and the "Centro Latinoamericano de Formación Interdisciplinaria (CELFI)".