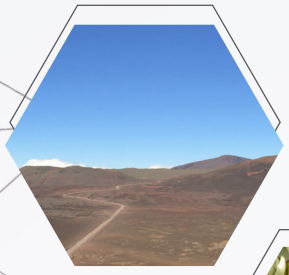
BOOK OF ABSTRACTS
POSTERS

Island BIOLOGY 2019



La Réunion
8-13 JULY

Université de la Réunion
Campus du Moufia

Island Biology

Book of Abstracts

Posters

Third International Conference on Island Ecology, Evolution and Conservation

8-13 July 2019
University of La Réunion
Saint Denis, France

Editors: Olivier Flores, Claudine Ah-Peng, Nicholas Wilding

Interspecific interactions between a new invasive Tephritid fruit fly, Bactrocera dorsalis, and other resident species in an insular context

Benoit Jobart * [1], Jim Payet† [1], Serge Glenac‡ [1], Hélène Delatte§ [1], Laura Moquet¶ [1]

[1] CIRAD (UMR PVBMT, Pôle de Protection des Plantes) – 7 chemin de l'IRAT, 97410 Saint-Pierre, La Réunion, Réunion

The impact of biological invasions of insects considered as pests have important negative impacts on the economy and the environment, particularly in insular ecosystems. Since the detection of one of the most harmful pest of fruit and vegetable crops, *Bactrocera dorsalis*, in April 2017, La Réunion counts nowadays nine pests species of Tephritid fruit flies of economic importance. A biological control agent, the braconid wasp*, Fopius arisanus*, was initially introduced in La Réunion in 2003 to control another fruit fly of the same genus: the peach fruit fly, *Bactrocera zonata. Bactrocera dorsalis,* in its native area is the main host of this braconid wasp and will probably be able to parasitize it in La Réunion. To understand the invasion process of *B. dorsalis* and the impact of this new introduced fruit fly on the community structure of the resident Tephritid species, and the parasitoid, *F. arisanus*, it is necessary to study the competition interactions. We first assessed the interspecific competition between *Bactrocera dorsalis* and four other fruit flies, *Bactrocera zonata, C. capitata*, *C. quilicii* and *Ceratitis catoirii*. Three of those fruit flies are successive invaders in La Réunion and one endemic species. We focused our study on the interference competition among pairs of adults, measuring the ability of a female to remove another one from a fruit for the laying behavior in controlled environments.The parasitoid preference for both sympatry species of genius Bactrocera were observed. On one hand, we observed the preference for eggs only and on the other hand, the preference for one particular species according to the host fruit in choice experiments.

Keywords: Biological invasion, Bactrocera dorsalis, Fopius arisanus, interference competition, indirect interactions.

*Speaker
†Corresponding author:
‡Corresponding author:
§Corresponding author:
¶Corresponding author: