

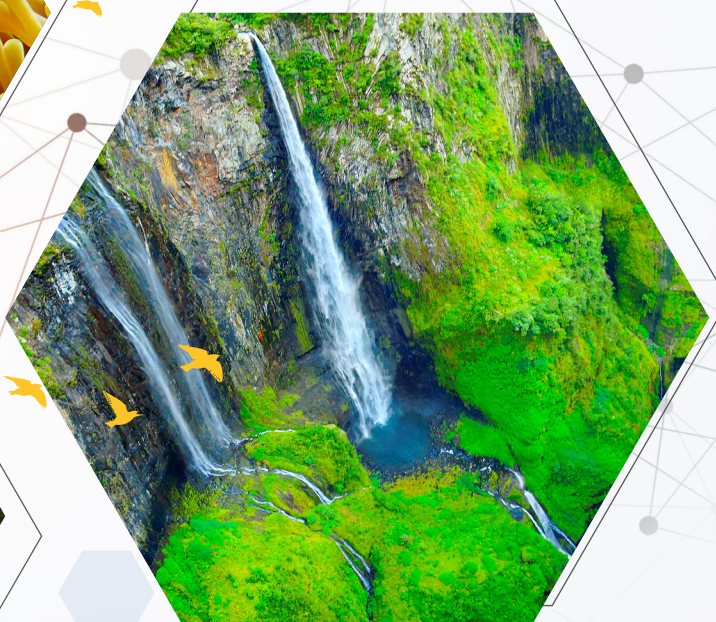
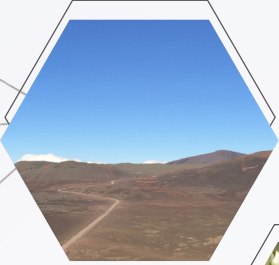
BOOK OF ABSTRACTS
POSTERS

Island BIOLOGY

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Population dynamics and damages of the invasive phloem-feeder psyllid *Acizzia uncatoides* (Hemiptera : Psyllidae) on the endemic tree *Acacia heterophylla* on La Réunion Island

Géraldine Angebault ^{*† 1}, Maeva Vinot ², Lucie Marquereau ¹, Sebastien Dervin ², Marc Salamolard ³, Mathieu Rouget ⁴, Bernard Reynaud ⁵

¹ UMR Peuplements Végétaux et Bioagresseurs en Milieu Tropical - University of La Réunion (UMR PVBMT) – Pôle de protection des plantes 97410 Saint-Pierre, Réunion

² UMR Peuplements Végétaux et Bioagresseurs en Milieu Tropical - CIRAD (UMR PVBMT) – Pôle de protection des plantes 97410 Saint-Pierre, Réunion

³ Parc national de La Réunion (PNRun) – 258 Rue de la République, 97431 LA PLAINE DES PALMISTES, Réunion

⁴ UMR Peuplements Végétaux et Bioagresseurs en Milieu Tropical - CIRAD (UMR PVBMT) – Pôle de protection des plantes 97410 Saint-Pierre, Réunion

⁵ UMR Peuplements Végétaux et Bioagresseurs en Milieu Tropical - University of La Réunion (UMR PVBMT) – Pôle de protection des plantes 97410 Saint-Pierre, Réunion

Phloem feeders, such as psyllids, are known as pests in agriculture and in natural ecosystems. *Acizzia uncatoides* (Ferris & Klyver, 1932), originating from Australia, is an invasive psyllid pest on *Acacia koa* in Hawaii. On la Réunion Island, this psyllid species has been found on *Acacia heterophylla* Willd since 2010 and formally identified in 2016. This endemic tree is the dominant canopy tree in Acacia mountain forests, distributed throughout the National Park of the territory. In this study, population dynamics and the impacts of the psyllid on *Acacia heterophylla* were studied. A survey was conducted by monitoring four altitudinal transects set up within the National Park between 1350 to 2350 m from Jan 2017 to Jan 2019 on a monthly basis. Damages on *Acacia heterophylla* were recorded in terms of defoliation and tree mortality on 713 individuals within six 250 m² plots. Populations of *Acizzia uncatoides* were assessed by 1-min suction sampling with a leaf blower vac covered with mesh fabric bags. The higher the elevation is, the more numerous and damaging the psyllid appeared to be. *Acizzia uncatoides* was found in all transects in the 11 sites throughout the year with a population peak in October-January. We found up to 60,000 adults in 1-min mechanical aspiration at 2350 m. Defoliation was severe in 5 sites and up to 30 % tree mortality was observed in 250 m² quadrats. The risks to endemic forests of Reunion Island and the possibilities of biological control of *Acacia uncatoides* are discussed.

Keywords: *Acizzia uncatoides*, *Acacia heterophylla*, invasive psyllid pest, threatened native species, population dynamics

*Speaker

†Corresponding author: geraldine.angebault@gmail.com