

## Project Update: July 2015

In October, 2012, my doctoral thesis project entitled "Aerial insectivorous bats (AIB) as potential controllers of insect pests in two rice fields of the Western Llanos of Venezuela" was awarded with a RSG grant. Between 2013 and 2014, I sent five updates about progress achieved during exploratory work and fieldwork conducted between May 2013 and October 2014. The final report was delivered on November 29th 2014, after the end of fieldwork.

Since then, I dedicated myself to: (1) constructing the bat call library of AIB associated with the rice fields studied, (2) analysing sound files, (3) preparing the reference collection of insects associated to rice crops selected for the study, and (4) extracting DNA from primary and secondary insect pest.

Fortunately, earlier this year, we managed to get two very experienced undergraduate students in entomology, and since then, processing of samples of insects has advanced faster. This support allowed me to focus efforts on analysis of sound files and genetic analysis of the diet of bats.

### Scopes:

To date, we have achieved remarkable progress in analysis of samples selected for preliminary data analysis. Below I will cite samples that have been processed:

- (1) All insect samples collected by a light trap during dry season at Acarigua and Turén (Edo. Portuguesa, Venezuela). This mean there are a total of six samples of insects from the three phases of lifecycle of rice in Turen and Acariga that already were processed.
- (2) All audio files recorded by two EM3 acoustic devices during dry season at Turén (Edo. Portuguesa, Venezuela). This mean there are a total of 2518 audio files (25 hours) from the three phases of lifecycle of rice in Turen that already were analysed.

In relation to work of genetic, recently, we conducted DNA extractions of major rice pests (*Tagosodes* spp, *Lissorhoptrus* spp, *Spodoptera frugiperda*, *Oebalus* spp and *Rupella* spp), and also, we extracted DNA from 60 morphotypes belonging to different families of Coleoptera, Hemiptera, Homoptera, Orthoptera and Lepidoptera. Recently, we completed extraction of DNA of the faeces samples from several species of AIB (*Molossus molossus*, *Myotis nigricans* and *Eptesicus furinalis*) at Laboratoire d'Ecologie Alpine of Université Joseph Fourier, Francia. In this lab, we also performed PCR to DNA samples of insects and faeces through a robot (approximately 2000 PCR !!!).



Top left: DNA extraction from faeces samples of AIB at Laboratoire d'Ecologie Alpine of Université Joseph Fourier, Francia. Top right: DNA extraction from insect samples at Unidad de Ecología Molecular, Centro de Ecología, IVIC, Venezuela. Bottom left: DNA extraction from faeces samples of AIB at Laboratoire d'Ecologie Alpine of Université Joseph Fourier, Francia. Middle: DNA extraction from insect samples at Unidad de Ecología Molecular, Centro de Ecología, IVIC, Venezuela. Bottom right: Abimel y Claudia, entomologists (right); and me (left), Laboratorio de Biología de Organismos, Centro de Ecología, IVIC, Venezuela.