TOPIC :
2) Mosquito-borne deseases (dengue, malaria, fiebre amarilla, zika, chikungunya)

APPROACH :
2. Vector biology and eco-epidemiology

Mosquito fauna from the Urutaú Natural Reserve in Misiones, Argentina, with discussion about their potential as vectors of important pathogens

Keywords: mosquito-borne deseases; vector biology; eco-epidemiology; important pathogens.

MUTTIS, Evangelina[1]; Brividoro, Melina V.[1]; CANO, María E.[1]; ROSSI, Gustavo C.[2]; and MICIELI, María V.[1]
[1]Centro de Estudios Parasitológicos y de Vectores (CEPAVE-CONICET). La Plata, Buenos Aires, Argentina.
[2]Adviser retired from Centro de Estudios Parasitológicos y de Vectores (CEPAVE-CCT La Plata-CONICET), Universidad Nacional de La Plata (UNLP). La Plata, Buenos Aires, Argentina.
E-mail address: emuttis@gmail.com

Urutaú Natural Reserve is a protected area located in the south of Misiones province, Argentina, near Posadas Capital. This location is characterized by warm and humid climate that promote great flora and fauna diversity. Regarding the mosquito fauna, from 194 species recorded for Misiones province, 66 species are actually registered for Candelaria and 88 for Capital Department. It is known that many of them are vectors of pathogens and parasites that cause human and animal diseases. Our goal was to know the mosquito community in order to consider their importance in pathogens and parasites transmission and evaluate the performance of different capturing techniques. The study was performed between September 2018 and May 2019 through four surveys. We sampled both, adults and immature stages using light traps (CDC and Fabric trap) at night and nets with aspirators (Net/Asp) during the day. Immature stages were collected from different water bodies under the ground, foliar axils and tree holes. A total of 2541 adults and 24 immature individuals were collected. Comparing the number of species and the number of individuals captured as adult with different methodologies, Net/Asp was the most effective in capturing diversity of species while CDC captured significantly higher number of individuals but with lower diversity ($P<0.05$). We were able to confirm the presence of 30 mosquito species belonging to nine genera. Among them, *Culex* (*Culex*) *lahillei* for the first time in Misiones province. Moreover *Aedes* (*Protomacleaya*) *terrens* and *Culex* (*Melanoconion*) *ribeirensis* are new citation for Capital Department. From 30 species identified, 15 of them are suspected to be implicated in cycles of pathogen´s transmission. Many *Culex* species are suspected to be involved in encephalitis transmission cycle in Argentina: Cx. *delpontei*, *Cx. maxi* and *Cx. coronator* (*Venezuelan equine encephalitis virus*) and *Culex quinquefasciatus* (*Saint Luis encephalitis virus*). Other species are related to *Yellow fever virus* (YFV) in Brasil (*Psorophora ferox*, *Psorophora albipes*, *Aedes serratus*, *Aedes hastatus* and *Aedes scapularis*) and *Sabethes albiprivus* that is the only mosquito from which the YFV has been isolated in Argentina before. In addition, *Ae. scapularis* and *Cx. quinquefasciatus* transmit the parasite *Dirofilaria immitis* to human and domestic animals. The importance of knowledge about vector mosquitoes and the pathogens they transmit lies in their potential

circulation in the native fauna, being a latent focus of possible future epidemic outbreaks in humans and domestic/wild animals.