

Project Update: March 2010

Emerging infectious diseases are a real threat to wildlife conservation for Galapagos Islands in Ecuador. It is known that human-aided transport like airplanes and ships represent the highest risk of introductions of mosquito disease vectors into isolated oceanic islands like Galápagos. The establishment of new mosquito vectors species like *Culex quinquefasciatus* in Galápagos in the mid-1980s, into previously unexposed areas, is a serious threat to the endemic fauna. All the airplanes carrying tourists and most of the cargo ships leave continental Ecuador from Guayaquil city. Consequently, It is essential to identify the mosquito vectors and their populations for potential threat of major diseases which might be spread to Galápagos and threaten its biodiversity.

With the support of a Rufford Small Grant in December 2008, a project to investigate mosquito vectors of zoonotic diseases in Guayaquil area of Ecuador was initiated. The main objectives of this study were: (1) make an updated inventory of mosquito species in Guayaquil; (2) to establish the geographic distribution of mosquito species; and (3) to assess the population dynamics of selected mosquito species and their ecological relationships.

Mosquito sampling was conducted from January 2009 to October 2009 around the airport and main ship ports in Guayaquil. Voucher specimens (5,863 adult mosquitoes) are now partially identified and preserved at the Centro Internacional de Zoonosis (Universidad Central del Ecuador) for morphological and future molecular detailed studies. Thanks to this project the mosquito species list will be in a public access Database, which could be used by authorities to enforce conservation policies for Galapagos Islands. The Rufford Grant has also allowed our undergraduate team to acquire entomological training.

