

Entomology in Ecuador

OLIVIER DANGLES

Escuela de Ciencias Biológicas, PUCE, Quito, Ecuador
IRD-LEGS, CNRS et Université Paris-Sud 11, F-91190 Gif-sur-Yvette, France

The Western Amazonian basin has long been recognized as supporting one of the highest levels of biological diversity in the world. Insects are particularly abundant and species rich in this region, yet the task of describing new species, discovering their range, understanding the factors that govern their distribution and the degree of alteration in their community structure as a result of habitat degradation is still in its early stages. The wide diversity of habitats that Ecuador possesses in a small area makes it an ideal location for biodiversity and ecological research. Although the diversity of many groups (e.g. plants, birds, and frogs) has been the focus of numerous publications data on the entomological fauna in Ecuador are scarce, mostly limited to the response of insect diversity to altitudinal gradients. During the past decades, the Ecuadorian research in Entomology has been dominated by taxonomic studies. Face to the acute environmental awareness and called attention to the pressing problem of biodiversity conservation, this taxonomic knowledge has recently been refocused in an ecological perspective.

The nine contributions to this special issue aim to present some of the major lines of research developed in ecological entomology in Ecuador, mainly at the Museum of Zoology of the Catholic University of Quito (QCAZ), Invertebrate Section. The studies concern different ecosystems of Ecuador such as lowland Amazonian rainforests (Carpio *et al.* 2009, Checa *et al.* 2009), Montane cloud forest (Donoso & Ramon 2009) and Andean páramos (Moret 2009). Most studies however cover a wide range of biogeographic regions (Badher *et al.* 2009, Barragan *et al.* 2009, Donoso *et al.* 2009, Dangles *et al.* 2009) including comparisons with other regions from Latin America (Cárdenas *et al.* 2009). The coverage of taxa (e.g. Diptera, Isoptera, Hymenoptera, Lepidoptera, Coleoptera), thematic (e.g. taxonomy, biogeography, community ecology, conservation biology) and methodologies (e.g. multi-dimensional analysis, spatial statistics, niche modeling) was designed to highlight the diverse areas on which QCAZ entomologists have focused during the last years, giving a broad view of some of their scientific achievements.

In spite of their large topical range, the contributions to this special issue are united by a common theme: a focus on how a good knowledge of species taxonomy plays a crucial role in fostering and underpinning ecological research in the field of entomology. This is particularly important in tropical countries like Ecuador where the task of entomologists seems to have a time limit with a clock ticking faster and faster as human disturbance continues to increase. I hope that this special issue will not only provide a fresh view of entomo-

logical research performed in Ecuador but also foster interest from entomologists worldwide to come and perform research in this country which shelters one of the most species-rich but also most endangered insect fauna on Earth.

Acknowledgements. I am grateful to Brigitte Frérot, Pierre Rasmont, and Yves Carton for their enthusiasm in this special issue project and their support for making it a reality. I also thank all the members of the QCAZ Museum, Invertebrates Section for their dedicated contribution to this issue. Special thanks to Raphael Cárdenas, for his help in the coordination of the issue. Financial supports from the Pontificia Universidad Católica del Ecuador (Donación de Impuesto a la Renta), the IRD (UR-072) and the University of Delaware (Department of Entomology & Wildlife Ecology) for the publication of this special issue are greatly acknowledged.

References

- Bahder B.W., Scheffrahn R.H., Krecke J., Keil C., Whitney-King S. 2009.** Termites (Isoptera: Kalotermitidae, Rhinotermitidae, Termitidae) of Ecuador. *Annales de la Société Entomologique de France* (N. S.) 45(4): 529-536.
- Barragán A.R., Dangles O., Cárdenas R.E., Onore G. 2009.** The history of entomology in Ecuador. *Annales de la Société Entomologique de France* (N. S.) 45(4): 410-423.
- Cárdenas R.E., Buestán J., Dangles O. 2009.** Diversity and distribution models of horse flies (Diptera: Tabanidae) from Ecuador. *Annales de la Société Entomologique de France* (N. S.) 45(4): 511-528.
- Carpio C, Donoso D.A., Ramón G., Dangles O. 2009.** Short term response of dung beetle communities to disturbance by road construction in the Ecuadorian Amazon. *Annales de la Société Entomologique de France* (N. S.) 45(4): 455-469.
- Checa M.F., Barragán A., Rodríguez J., Christman M. 2009.** Temporal abundance patterns of butterfly communities (Lepidoptera: Nymphalidae) in the Ecuadorian Amazonia and their relationship with climate. *Annales de la Société Entomologique de France* (N. S.) 45(4): 470-486.
- Dangles O., Barragán A.R., Cárdenas R.E., Onore G., Keil C. 2009.** Entomology in Ecuador: Recent developments and future challenges. *Annales de la Société Entomologique de France* (N. S.) 45(4): 424-436.
- Donoso D.A., Ramón G. 2009.** Composition of a high diversity leaf litter ant community (Hymenoptera: Formicidae) from an Ecuadorian pre-montane rainforest. *Annales de la Société Entomologique de France* (N. S.) 45(4): 487-499.
- Donoso D.A., Salazar F., Maza F., Cárdenas R.E., Dangles O. 2009.** Diversity and distribution of type specimens deposited in the Invertebrate section of the Museum of Zoology QCAZ, Quito, Ecuador. *Annales de la Société Entomologique de France* (N. S.) 45(4): 437-454.
- Moret P. 2009.** Altitudinal distribution, diversity and endemism of Carabidae (Coleoptera) in the páramos of Ecuadorian Andes. *Annales de la Société Entomologique de France* (N. S.) 45(4): 500-510.