

> **R. Garni**¹, A. Tran², H. Guis³, T. Baldet³, K. Benallal¹, S. Boubidi¹, Z. Harrat¹

¹ Service d'Eco-Epidemiologie Parasitaire, Institut Pasteur Alger, Algiers, Algeria

² Cirad, Animal et gestion intégrée des risques (AGIRs), Montpellier, France

³ Cirad, Contrôle des maladie animales exotiques et émergentes, (UMR Cirad - Inra), Montpellier, France

Leishmaniasis are among the most important vector-borne diseases being endemic in 80 countries where they constitute a major public health concern. The resurgence of cutaneous leishmaniasis (CL) in North Africa and the Middle East reflects the remarkable adaptability of the parasite in a changing environment including population movements, urbanization, and rural development. CL is endemic in Algeria where both forms have been described previously, the sporadic form caused by *Leishmania infantum* in the north and the classical form caused by *L. major* in central and southern parts of the country. In 2005, an outbreak of CL occurred in the province of Ghardaïa, located in the northern Sahara: 2,040 humans cases were recorded, many of them from urban areas, and a new enzyme variant has been described: *L. killicki* (MON-301). The latter species coexists sympatrically with *L. major* MON-25. Both species are transmitted respectively by *Phlebotomus sergenti* and *P. papatasi*, suggesting distinct eco-epidemiological patterns and specific distribution area. The aim of this study is to characterize the environmental determinants of CL in the city of Ghardaïa by using SPOT images, entomological and epidemiological collected data in order to establish a risk map for the two species. Our results show that CL due to *L. killicki* seem to be localized in the outskirts of the city, near foothills where the potential reservoir *Mas-soutiera mzabi* (Rodentia, Ctenodactylidae) is present, while CL due to *L. major* is more likely present within the city, more particularly in palm groves and gardens. This study will provide useful informations for local authorities on the respective risk area of both parasites in order to take prevention and mitigation measures to prevent CL outbreaks.