



P 56 Molecular detection of lizards' tick-borne pathogens in Algeria

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Ticks transmit a greater variety of pathogenic microorganisms than any other arthropod vector group. In Algeria, *Ixodes ricinus* is the most prevalent tick species. The wide spectrum of tick-borne pathogens poses a health risk to people involved in outdoor activities in tick-infested areas. In the present study, a PCR-based detection system was established in order to investigate the occurrence of bacteria and protozoa of medical importance in Algerian ticks.

Lizard ticks were collected throughout Park National El-Kala (Algeria) in 2008 and 2009. The results of this preliminary study indicate that immature ticks (*I. ricinus*) are being frequently found on lizards. These ticks potentially may serve as vectors for animal and human diseases. Universal primer pairs targeting the 16S rRNA gene for the detection of the genera *Rickettsia* and *Anaplasma* were designed. A first screening involved 422 *I. ricinus*.

Ticks of all developmental stages investigated by PCR and (multiplex)-nested PCR showed that all of the above-mentioned bacterial and protozoal genera occur in Algerian ticks. In larval and nymphs ticks, the genera *Rickettsia*, *Anaplasma*, and a still unknown pathogen were detected. The results revealed that *R. helvetica* and *R. monacensis* appear to be the most prevalent species in Algerian ticks. Moreover, an unknown pathogen that may pose an unknown health risk in Algeria was detected for the first time. From these results, apparent contributions of various other hosts to pathogen transmission highlight the need for a community approach to better understand vector-borne zoonoses. Future methods will generate information for approaching a variety of topics of pressing concern to public health, including the potential impact of anthropogenic landscape change on human risk of exposure to zoonotic pathogens.