

Identification of *Borrelia lusitaniae* in *Apodemus sylvaticus* in Portugal

Isabel Lopes de Carvalho¹; Fátima Amaro¹; Rita de Sousa¹; Maria João Alves¹;
Maria Sofia Nuncio¹

¹Center for Vector and Infectious Disease Research, National Institute of Health,
Lisboa, Portugal.

Lyme borreliosis is the most common vector borne infectious disease in the northern hemisphere and as such, it is a significant public health concern. In 1993, a new genospecies, known as *B. lusitaniae*, was isolated in Portugal from *I. ricinus* and, since 2000, this strain was confirmed as particularly dominant in southern areas, by both *Borrelia* isolation from ticks, and DNA amplification from ticks and carnivores. In 2002, the first isolation of *B. lusitaniae* from a human patient was achieved. In addition, *B. garinii* and *B. afzelii* have also been detected in Portuguese patients by serology or DNA amplification, and by isolation from the vector. However, there is a lack of information about *Borrelia* spp reservoir in Portugal.

A total of 196 rodents (22 *Apodemus sylvaticus*, 160 *Mus spretus* and 14 *Rattus rattus*) were tested by IFA for *Borrelia burgdorferi* sensu lato. The seroprevalences detected were respectively 4,5%, 11% and 7%. Biopsy samples from ears, heart and bladder of each animal were cultured separately in tubes containing BSK-II medium, and used in the isolation attempts. In one of this cultures we performed a nested PCR targeting the 5S (rrf)-23S (rrl) intergenic spacer and the gene (fla) encoding the flagelin of *Borrelia burgdorferi* s.l. and it was allowed to identify the strain as *Borrelia lusitaniae*.