



## Bat rabies in France: a 24-year retrospective epidemiological study

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Résumé en anglais	<p>Since bat rabies surveillance was first implemented in France in 1989, 48 autochthonous rabies cases without human contamination have been reported using routine diagnosis methods. In this retrospective study, data on bats submitted for rabies testing were analysed in order to better understand the epidemiology of EBLV-1 in bats in France and to investigate some epidemiological trends. Of the 3176 bats submitted for rabies diagnosis from 1989 to 2013, 1.96% (48/2447 analysed) were diagnosed positive. Among the twelve recognised virus species within the Lyssavirus genus, two species were isolated in France. 47 positive bats were morphologically identified as <i>Eptesicus serotinus</i> and were shown to be infected by both the EBLV-1a and the EBLV-1b lineages. Isolation of BBLV in <i>Myotis nattereri</i> was reported once in the north-east of France in 2012. The phylogenetic characterisation of all 47 French EBLV-1 isolates sampled between 1989 and 2013 and the French BBLV sample against 21 referenced partial nucleoprotein sequences confirmed the low genetic diversity of EBLV-1 despite its extensive geographical range. Statistical analysis performed on the serotine bat data collected from 1989 to 2013 showed seasonal variation of rabies occurrence with a significantly higher proportion of positive samples detected during the autumn compared to the spring and the summer period (34% of positive bats detected in autumn, 15% in summer, 13% in spring and 12% in winter). In this study, we have provided the details of the geographical distribution of EBLV-1a in the south-west of France and the north-south division of EBLV-1b with its subdivisions into three phylogenetic groups: group B1 in the north-west, group B2 in the centre and group B3 in the north-east of France.</p>
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