Molecular detection of host blood meal and pathogen diversity in bat-associated ticks in Europe

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Potentially zoonotic pathogens have been previously detected in bat-associated ticks. Their role in disease transmission, as well as their frequency of feeding on non-bat hosts, is poorly known. We used molecular blood meal analysis to reveal feeding patterns of bat tick species, including *Ixodes ariadnae* (n = 11), *I. simplex* (n = 9), and *I. vespertilionis* (n = 141) collected in Hungary and Romania. About 78% of the samples showed the presence of vertebrate DNA, predominantly revealing bats. We also detected non-bat hosts in these ticks, such as domestic dogs, *Canis lupus familiaris,* wild boar, *Sus scrofa*, and a horse, *Equus* sp. We found the presence of *Neoehrlichia mikurensis* in bat ticks for the first time. Overall, bat-associated ticks may exhibit a broader host range than previously thought. Their role as disease vectors should be re-evaluated in more complex host systems, as they may contribute to pathogen transmission beyond just bat hosts.