

Detection of *Bartonella quintana* in lice collected from cloth of Ethiopian homeless

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Human lice *Pediculus humanus* can transmit various pathogens comprising *Bartonella quintana*, *Borrelia recurrentis* and *Rickettsia prowazekii*. Xenosurveillance is an epidemiological approach of assessing human infection risks by screening vectors of infectious diseases. In the proof-of-principle study conducted here, 23 human lice collected from the cloths of 30 homeless Ethiopian individuals were assessed by 16S rRNA gene-specific panbacterial PCR and PCR with specificity for relapsing fever-associated *Borrelia* spp. with subsequent sequencing of the amplicons. In one amplicon of the panbacterial PCR (4.3% of the assessed lice), DNA of *Bartonella quintana* was identified. Correlating clinical data were not available, however, the assessment confirmed the abundance of *B. quintana* in local lice and thus an associated infection pressure. Larger-sized cross-sectional studies seem advisable to more reliably quantify the infection risk for lice-infested local individuals. The need for prevention by providing options of maintaining standard hygiene for Ethiopian homeless individuals is stressed by the finding.

Keywords

Ethiopia; xenosurveillance; *Pediculus humanus*; *Bartonella quintana*; infection risk; vector

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Professional Status of the Speaker

Senior Scientist

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No, I am not a Junior Scientist.

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