



V 27 Infection of ticks with *Borrelia afzelii* cuts off olfactory orientation towards certain host kairomones

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Nymphs of the blood-feeding tick *Ixodes ricinus* are known to walk short distances towards host odour, although their main mode of host finding is ambushing passing vertebrates. Several chemicals have been identified that can mediate the olfactory orientation of the eyeless ticks which are vectors of *Borrelia burgdorferi* sensu lato (*Bb* s.l.). While tick nymphs can parasitize both small and large vertebrates, large vertebrates like deer are no reservoir hosts for *Bb* s.l. When leaving possible cofeeding transmission apart, a large mammal thus often is a dead-end for *Bb* s.l.

Here, we investigate whether *Borrelia afzelii*-infected and uninfected ticks behave differently towards host (dogs, men) odours or certain host volatiles (CO₂; hexanoic acid), and we compared the questing heights of both tick groups. We used a locomotion-compensator (servosphere) to test responses of non-infected and infected ticks to volatile kairomones. The choice of ambushing heights was tested in stalk-arenas.

Non-infected ticks responded to all offered kairomones (but not to clean air or plant volatiles) and chose a high ambushing position. Infected ticks, although showing the same walking activity as non-infected ones, in contrast did not orientate to dog and human odours and chose a low ambushing position. This modified behaviour of ticks might contribute to enhance the chance of *Bb* s.l. to avoid reservoir-incompetent hosts.