



V 14 Considerations on the seasonality of the life cycle of *Ixodes ricinus* in central Europe

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The important vector tick *Ixodes ricinus* needs 3–6 years to complete its life cycle in central Europe. Larva, nymph, and the adult female attach to a host and take a large blood meal. The total feeding time is approximately 2 weeks, which is less than 1.5% of the whole span of life. Between periods of feeding, the tick digests the previous blood meal, moults to the next life stage (females lay eggs), and becomes active again to find a new host after a period of rest post-ecdysis. Although the durations of the engorged phases, of the moulting phases, of the phases of rest after ecdysis, and of the intermittent phases of questing (host-seeking) are to some extent flexible, the seasonality of *I. ricinus* follows a clear pattern. It seems doubtful that an increase of average temperatures as presumed for the next decades in central Europe would necessarily lead to a significant shortening of the tick life cycle.

In the present study, groups of freshly engorged *I. ricinus* (larvae, nymphs, and adult females) were put out onto field plots in different seasons over 3 years. The ticks moulted there to the next life stages, and we observed their subsequent questing pattern on vertically placed wooden rods in 2 different regions in Germany. We also have unpublished data available from a former study of one of the authors (O.K.) in the 1980s in which freshly engorged *I. ricinus* larvae and nymphs were put out onto field plots in different seasons, and the timing of their development to the following life stage was checked regularly.

These data, together with data from the literature, permit an outlining of the seasonal patterns of the *I. ricinus* life cycle, its flexibilities and inflexibilities, and its potential length in a somewhat warmer environment.