



The link between habitat, micro-climate and tick abundance and its role for tick prevalence in small mammals

Background

Ticks (*Ixodes* spp.) feeding on small mammals have been suggested to extend their distribution range northwards in Sweden; an extension that would also increase the risk of spread of tick-associated pathogens (e.g. *Borrelia* spp. and tick-borne encephalitis (TBE) virus). At present, our knowledge on habitat type-specific tick burden is however very limited. In addition, as ticks are sensitive to micro-climate, habitat burden varies probably also among habitats of the same type. As a consequence, also the tick-burden and tick prevalence of small mammals shows likely high intra-specific variation and varies probably significantly among mammal species.

Primary questions

1. Does tick abundance vary geographically?
2. Which habitats have highest tick abundance?
3. In which sense is identified tick abundance affected by micro-climate?
4. Which small mammal species show highest tick prevalence?
5. What is the relation between tick prevalence, geographic area, habitat type and micro-climate?

Work plan and methods

1. Thorough literature study on tick ecology
2. Development of study design and identification of suitable study areas
3. Sampling of ticks, trapping of small mammals and measurement of micro-climate
4. Taxonomic identification of ticks and tick preservation for pathogen analyses in complementary project
5. Identification of tick prevalence in small mammals
6. Data analyses
7. Thesis compilation

Extent

Preferably 60 credits, but 30 credits might also work.

Contact

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