

TICK ABUNDANCE IN THE CITY OF ZÜRICH, SWITZERLAND

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Abstract Ticks and their caused diseases lyme disease and TBE are an increasingly discussed topic in Switzerland. The habitat preferences of ticks have been studied frequently, but there exist almost no data about the abundance of ticks in urban areas. Due to that, the purpose of this study was to examine the tick density in urban parks in the city of Zurich. In addition there was analysed whether there is a relation between the abundance of rodents and ticks and whether the collected ticks were infected with the bacterium *Borrelia burgdorferi*. The ticks were collected by flagging low vegetation in 14 park areas in the city of Zurich. The study areas were classified in three categories. Category 1 includes areas with a high amount of forest, whereas category 3 contains cultivated, open parks and category 2 is situated in between. During the flagging, temperature and humidity were measured on each area. The results include the analysis of the climatic data and of the study areas, the comparison with the rodent data, the outcome of the borreliosis tests and the determination of the development stage. 15 ticks of the species *Ixodes ricinus* were collected during the study. On 4 out of these 14 study areas ticks were found. These 4 areas belong all to the category 1. The average humidity over all tick findings was 65% (SD= 13.4) and the temperature 16.95°C (SD= 2.21). There was no relation between the occurrence of ticks and rodents. All results of the borreliosis tests were negative. The collected data are insufficient to give a statement about the tick density in the city of Zurich. There is no final answer that explains why there were no ticks found on category 2 and 3 areas. A possible explanation could be the lacking of high vegetation and organic matter at these areas. These two factors are essential for the existence of a microclimate. To obtain more meaningful results, it is recommended to adapt the method and to perform the study again.