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From the alpine to the urban fox - adaptive behaviour of the red fox (Vulpes vulpes). A short overview on the Integrated Fox Project IFP on urban foxes in Zürich, Switzerland.

Abstract

Over the past 15 years, there has been a marked increase in the red fox population of Europe and foxes are nowadays observed in many cities of Central Europe, too - as first observed in Great Britain already in the 1940s. In the Integrated Fox Project IFP, started 1996, ecological and epidemiological aspects of the increasing urban fox population in Zürich are investigated by means of radio-tracking, tagging of young foxes, examination of dead foxes and genetical analysis. A central subject of the IFP is the understanding of the mechanisms which made the colonization of a new habitat possible with respect to population dynamics and adaptive behavior.

Regarding the rapid increase of fox populations in Europe the recently observed invasion of urban areas could be a consequence of an increasing rural fox population having (almost) reached carrying capacity. As an alternative to this Carrying capacity hypothesis we propose the Urban island hypothesis. According to this hypothesis, the increase of the urban fox populations happened within the cities and autonomously from the rural fox populations.

Preliminary results show that the home-ranges of radio-tracked foxes lie in quite densely populated residential areas. The population density is relatively high with up to 12 adult foxes per square km. Urban foxes often choose sleeping places exposed to varying human disturbance. First results of stomach analysis indicate, that urban foxes feed regularly on compost heaps and at feeding places.

With respect to the Carrying capacity hypothesis urban foxes are out competed rural foxes whereas with respect to the Urban island hypothesis the colonization of the urban habitat is voluntary, maybe initiated by only a few animals which learned to live under specific urban circumstances. According to this hypothesis the growth of the urban fox population should go parallel with a selection, and lead to a sub-population specifically adapted to exploit the resources of a new habitat.

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