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PhD thesis title: **Influence of anthropogenic noise on small-mammal foraging in urban forests**

**PhD thesis résumé**

Noise can influence animals in variable ways, ranging from behavioral changes to effects on physiology. Impacts of noise on foraging are of particular interests because forging behavior determines the strength of food web interactions. In principle, noise could make foraging riskier by masking sounds made by predators. This situation is likely to occur if the predators hunt by sneaking up to their prey and rely on stealth. On the other hand, noise could also make foraging less risky by masking sounds made by foraging animals and making it easier to avoid predation (if the predators locate their prey by auditory cues). In this study, we evaluated how road noise influences foraging of small mammals. We used a two-pronged approach. First, we conducted an observational study, with foraging measured at different distances from roads. Second, we carried out an experimental study where we evaluated foraging with and without artificial traffic noise emitted by speakers. The intensity of foraging was measured with giving-up densities. While foraging was not influenced by distance from the road in the observational part of the study, it intensified with the emission of artificial noise in the experimental study. This result suggests that noise masks the sounds made by foraging animals and reduces the perceived predation risk. Yet, the fact that this effect was found only in the experimental study raises the possibility that animals habituate to permanent noise, which in the long-term reduces its influence on foraging.

 Key words: **Traffic noise, yellow-necked mouse, bank vole, dB, GUD**