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Factors behind dispersal distance in the Siberian flying squirrel

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Dispersal can be condition and phenotype-dependent and can involve complex decision making during prospecting for a new home. Knowledge of factors behind dispersal is central, since dispersal is the process behind e.g. gene flow, invasions and habitat selection. We have studied factors behind dispersal for juvenile Siberian flying squirrels, *Pteromys volans*. We found differences in prospecting strategies between dispersers: Juveniles dispersing the longest distances disperse early and move fast far away from the natal site. Instead some often smaller sized individuals abandon natal site later. They spent time prospecting near the natal area, often making several visits to potential sites before final settlement decisions. In the end, the dispersal distance also is, obviously, the result of distance between vacant habitat patches in the landscape. However, the observed differences between shorter and longer dispersing individuals were not explained by differences in the amount of habitat or conspecifics within the dispersed landscape or by interactions between relatives. Unfortunately, we lack data on heritability of dispersal in flying squirrels, but the observed differences were more related to differences between litters than within litters

(between siblings). Our results imply complex decision making and differences in prospecting strategies between dispersing individuals. In flying squirrels, longer dispersal distances are not merely a secondary effect of short-distance dispersal. Instead, condition-dependent factors are shaping the distribution of dispersal distance of the species, by enhancing long-distance dispersal.