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The causes and consequences of variation in dispersal distance

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Gould Seminar Room (Room 235) Gould building (Bldg. 116) Daley Road, ANU



Dispersal is a fundamental process in population biology, ecology, and evolution. In most species, dispersal distributions are characterized by many individuals that remain close to their origin and large variation in the distances moved by those that leave. Darwin saw that long-distance dispersal played a key role in range expansion, and models show that dispersal distance can strongly affect population and community dynamics. But despite these wide-ranging implications, we have little understanding of how variation in dispersal distance is maintained in natural populations and, more specifically, the fitness consequences of long-distance dispersal.

My research uses a stream salamander system to address these gaps in our understanding of the proximal causes and consequences of variation in dispersal distance. This work does not support the widely held view that fitness consequences of long-distance dispersal are unpredictable, and instead suggests that consistent evolutionary mechanisms may explain the prevalence of long-distance dispersal in nature.

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