



## Foraging dynamics in sniper alley

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When the carpenter ant *Camponotus rufipes* is infected with the fungal parasite *Ophiocordyceps camponoti-rufipedis*, infected ants are manipulated to leave their nest and die biting the underside of a leaf. Fungal infected cadavers surround the main trunk-trails of *C. rufipes*, forming a sniper's alley for foragers. We filmed the trails of multiple *C. rufipes* nests to investigate how forager speed and movement patterns differ between beginning and peak foraging times. Using machine learning algorithms, we automated tracking of ants on these trails, providing us with a powerful dataset on undisturbed ant movement, perhaps the first such dataset obtained for a nocturnal forager outside of the laboratory. By analyzing the behavior of ants in the 'zone of fire' for infection, we can elucidate mechanisms that influence a colony's risk of infection and show how this fungus readily exploits this ant. This system demonstrates tradeoffs between consistent trail formation and disease risk, as well as reveals how parasites can take advantage of ants despite colony defenses within the nest.