Abstract Submitted
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The Dynamics of Foraging Ants G. WILLIAM BAXTER, Penn State Erie, The Behrend College — We experimentally study the foraging of small black ants, Formicinae lasius flavus, in order to describe their foraging behavior mathematically. Individual ants are allowed to forage on a two-dimensional surface in the *absence* of any food sources. The position of the ant as a function of time is determined using a high-resolution digital camera. Analysis of the average square displacements of many ants suggests that the foraging strategy is a non-reversing random walk. Moreover, the ants do not retrace their steps to return home but instead continue the random walk until it brings them back near their starting point.

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