

## Weaver ants demonstrate the adaptive behavior under stress

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In a colony, ants demonstrate their intelligence through complex patterns and collective behaviors which are attributed from a self-organization of individual ant. Ants expressed a wide variety of adaptive intelligences such as creating the route or bridge for foraging, managing a group behavior to escape from dangerous situations without jamming, etc. Here, we develop an experimental platform to observe weaver ants, *Oecophylla smaragdina*, making decision under both normal and stressful circumstances. By analyzing ant's motion under a high-speed camera and our in-house image processing script in MATLAB, we extract individual trajectories of weaver ants and their corresponding physical parameters. Our preliminary results show that weaver ants possess adaptive behaviors through the events which observed from ant's trajectories and speed under the dangerous substance.

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