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Prey and mound disassembly, manipulation and transport by fire ant collectives BAHNISIKHA DUTTA, DARIA MONAENKOVA, MICHAEL A. GOODISMAN, DANIEL GOLDMAN, Georgia Inst of Tech — Fire ants inhabit subterranean nests covered by a hemispherical mound of soil permeated by narrow (~ 1 body length diameter) tunnels. Fire ants can use their mound for long-term food storage [Gayahan & Tschinkel, *J. Insect Sci.*, 2008]. Since mound tunnels are narrow, we expect that in addition to prey manipulation, mound reconfiguration could also be an important aspect of the food storage strategy. Ant colonies collected from wild were allowed to build nests in containers filled with clay soil in the laboratory. These colonies were offered diverse prey embedded with lead markers, including mealworms, crickets and shrimp. Ant-prey-soil interactions on the nest surface were recorded using overhead video and subsurface using x-ray imaging. Individual ants involved in prey storage exhibited three distinct behaviors: prey maneuvering, prey dissection and mound reconfiguration. Small prey (e.g. mealworms) were collectively carried intact into the mound through a tunnel, and then disassembled within the mound. Larger prey (e.g. shrimp) were dismantled into small pieces above the surface and carried to mound tunnels. The bodies of hard medium-sized prey (e.g. crickets) were buried after limb removal and then disassembled and moved into tunnels. Soil reconfiguration occurred in all cases.

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