

UNION INTERNATIONALE POUR L'ÉTUDE DES INSECTES SOCIAUX

# TOULOUSE ENVAHIE PAR LES INSECTES SOCIAUX

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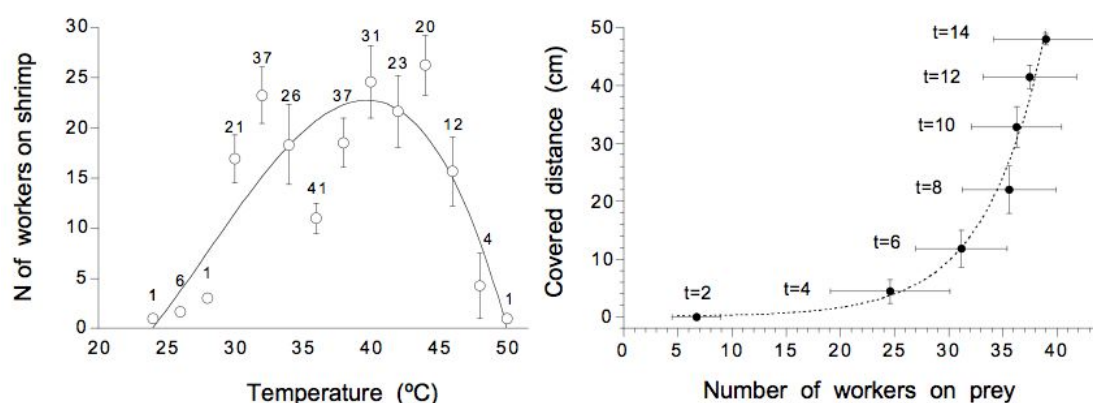
## Running with a prey to the nest: what is better, alone or in a team? A field study of worker recruitment in the ant *Aphaenogaster senilis*

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In social insects, decision to exploit a food source is taken at two different levels: individual-level (when the worker carry the food to the nest and communicate to nestmates) and colony-level (when social activities as recruitment by chemical trails are employed to collect the food source). Group-recruitment is a social ant foraging strategy where the recruiter lays a very temporal chemical trail while returning from the food source to the nest and it is used to guide a group of few nestmates (recruited workers) to food. In the Mediterranean ant *Aphaenogaster senilis* we studied how the food type may influence the decision-making process of individual workers, changing from individual retrieving to group-recruitment. We offered to field colonies three types of prey: adult or young crickets (cooperatively transportable), shrimps (non-transportable) and different quantities of sesame seeds (individually transportable). Group-recruitment was used by colonies to collect crickets or shrimps, but also for smaller items (seeds) when there were available in large quantity; notwithstanding small piles of seeds rarely released recruitment. Foragers seemed to be able to “measure” the food source characteristics (quality, quantity and transportability) deciding to recruit or not. Social integration of individual information about food emerged as a colony decision to initiate or to continue recruitment, when the patch was rich. Group-recruitment allows a fast colony response during a wide thermal range (up to 45°C ground temperature) and it needs a lower number of workers than mass-recruitment. By combining both advantages of social foraging (group-recruitment) and thermophyly the subordinate species *A. senilis* is able to exploit quickly and accurately food sources.