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AN ACROBAT ANT, *CREMATOGASTER OBSCURATA* (HYMENOPTERA: FORMICIDAE), POSES AN UNUSUAL CONSERVATION QUESTION IN THE FLORIDA KEYS

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The acrobat ant *Crematogaster obscurata* Emery was first discovered in the U.S. in 1995 and reported in 2000 (Deyrup et al. 2000) under the name of *C. agnita* Wheeler, now a synonym of *C. obscurata* (Longino 2003). This species may be distinguished from other Florida *Crematogaster* by its flattened, semierect hairs and by its granulate microsculpture on the sides of the head, mesopleura and propodeum (Fig. 1). In the field it may be recognized by its small size: workers are about 2.3 mm in length, about two thirds the length of other local species of arboreal *Crematogaster*. In Central America, *C. obscurata* is known from dry forest habitats and beach margins (Longino 2003). Florida colonies were found in a tropical hardwood hammock and nearby coastal mangroves. Nests occurred in dead portions of living trees: hollow twigs and branches, and insect galleries in larger dead branches. One nest was in the stub of a dead branch of *Piscidia piscipula* (L.) Sargent, the others in *Rhizophora mangle* L. Two in the red mangroves were in isolated trees in the intertidal zone, so foraging may be confined to a single tree. Nests had numerous queens that had shed their wings, so it is possible that colonies may spread by fission.

Outside of Florida, *C. obscurata* is known from Mexico, Guatemala, Belize, Costa Rica, and Venezuela (Longino 2003). In Florida, *C. obscurata* is known from the Atlantic side of the southwest end of Summerland Key, Monroe County. I consider this species an exotic in Florida because it is apparently absent from the West Indies, and it is highly unlikely that a species with the dispersal ability to colonize Florida from Central America would fail to colonize islands in the West Indies. It is also unlikely that a species that had spread around the Gulf of Mexico during a warm climatic period would now be so highly restricted in distribution. This species might have been imported recently, or it might have come long ago, perhaps in the 1800s, during the campaign to bring useful and ornamental Neotropical plants to tropical Florida from Mexico and Central America (Deyrup et al. 2000). There are over 50 species of exotic ants in Florida, including several species that are seldom encountered (Deyrup et al. 2000).

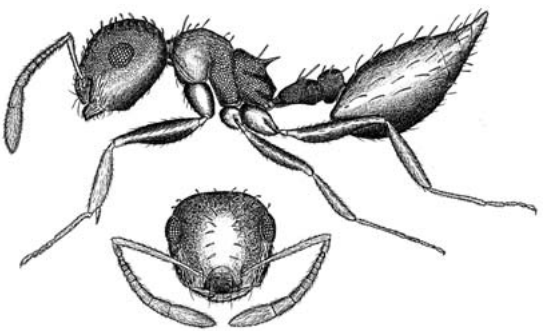

Fig. 1. *Crematogaster obscurata* Emery, worker from Florida population; actual length of ant 2.3 mm.

The Florida distribution of *C. obscurata* is probably genuinely limited. The 1995 collection was made by 3 experienced "ant hunters," Stefan Cover, Bert Hölldobler, and myself; we did not find additional colonies in surrounding trees or elsewhere in the Keys. The tree containing the colony and the surrounding hammock were later swept away by hurricanes. The 2006 collection from nearby mangroves was also made by experienced myrmecologists, Lloyd Davis, Corrie Moreaux, and myself; we were unable to find additional colonies nearby or elsewhere. Prior to 1995, a variety of other surveys of ants of the Florida Keys (summarized in Deyrup et al. 1988) did not produce *C. obscurata*.

Crematogaster obscurata presents an interesting dilemma in conservation ecology. It is known from a single site, from which it could probably be eradicated with poison baits placed on trees where colonies occur. This could be done relatively easily, inexpensively, and without ecological damage to surrounding areas. It is not known to be a pest species, and does not seem to have dispersed in an invasive way in the 11 years since it was discovered. Nevertheless, it is always possible that *obscurata* could displace native mangrove ants, foster sap-sucking insects, or attack native tropical insects. Moreover, it could be an ecological time bomb, persisting for a period in a restricted area until it achieves a critical population mass, or evolves a critical adaptation that promotes invasive spread. Prudence suggests an effort to eradicate *C. obscurata*, even though it seems an innocuous ant that adds an interesting species to the ant fauna of Florida. Prior to such an attempt, there should be a more thorough investigation of the taxonomy of Florida *C. obscurata*. It would be unfortunate and embarrassing if this population was exterminated, then found to have represented a rare endemic. There should also be a

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more thorough survey of West Summerland and nearby Keys to make sure the species has not already established itself beyond the limits of practical eradication without serious effects on nontarget species. The Florida Keys are a unique ecological resource. Any attempt to alter the fauna of the Keys should be done with the permission and cooperation of the agencies that protect the fauna of the islands.

Summary

A small population of the Neotropical acrobat ant *Crematogaster obscurata* has survived a series of hurricanes on West Summerland Key, Monroe County, Florida. This is the only known U.S. population of this apparently innocuous species. If the exotic status and limited range of the Florida population is confirmed, it would be prudent to attempt to eradicate it, using insecticidal baits applied to the trees where colonies occur.

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