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Asian Needle Ant

Pachycondyla chinensis (Emery)

In Japan, it is known as oo-hari-ari or giant needle ant because of its large and painful sting. In the U.S., we now call it the Asian needle ant. By whatever name you call it, *Pachycondyla chinensis* (Emery), first documented in the United States in the 1930's, is here to stay.

This ant is not very well-recognized, even by entomologists. Although it is very common in the upstate of South Carolina, it is rarely identified. When a person is stung by an ant in the Southeast, the sting is often attributed to the more common red imported fire ant. It is possible that more people are being stung by *P. chinensis* than is reported.

Description. The winged female and male swarmers are different in appearance. The winged female is approximately 5.6 mm (0.22 inches) in length with a black body and brown mouthparts and legs. The smaller winged male is just 3.0 mm (0.12 inches) and is light brown in color. The total length of workers is approximately 3.5 mm, also with a black body and light brown mouthparts and legs.

Biology and Habitat. The Asian needle ant prefers nesting in dark, damp areas in soil beneath stones, logs, stumps, and debris. Where it occurs in South Carolina, it is found in those habitats and under mulch, landscape features such as railroad ties, ornamental stones, statuary, concrete pavers, and other elements common in urban settings. Observed colony sizes range from a small single nest site with <50 individuals to multiple, closely arranged nest sites with >5,000 individuals. Often there are multiple queens in each colony.

Pachycondyla chinensis (Emery) - (1) winged female, (2) winged male and (3) common worker. *(Photo by Eric S. Paysen)*

The Asian needle ant is documented from Virginia, North Carolina, South Carolina and Georgia, and unpublished records also occur from Tennessee and Alabama. Although the Asian needle ant has been in the U.S. for nearly 70 years, it has only come to our attention in the past few years. The populations appear to have increased substantially, although no numbers are available. When they are found in forest and urban habitats in upstate South Carolina, it is a dominant species to the exclusion of many beneficial native ants commonly found in similar habitats. It appears that where it occurs, the Asian needle ant alters the ant community structure and presumably the overall biodiversity.

In the upstate of South Carolina, Asian needle ant workers are active beginning in March and continuing until late October, when colonies disappear, presumably going beneath the surface to avoid cold winter temperatures. Swarmers are active from late May to September, but most swarming occurs in July and August.

Medical Importance. In addition to the impact it may have on the biodiversity of native species, the Asian needle ant poses a threat to public health in the United States. Systemic, or whole body, allergic reactions leading to anaphylaxis caused by the sting, previously were only documented in Japan and South Korea, but two cases of anaphylaxis were recorded in South Carolina and one in North Carolina in 2006. With reactions that are not life threatening, symptoms may last for 2 h to 14 d. Asian needle ants are not defensive of their nests in the way that fire ants are, but if they get trapped in your clothing, or you kneel on one, or place you hand on top of one, they often will sting. During their swarming season, the chance of receiving a random sting increases because the females are more likely to land on an individual or get trapped in clothing. Often people are stung when brushing an ant off their skin. If an ants lands on you, it is best to flick it off, rather than brush it off.

Pachycondyla chinensis commonly nests under and in natural and man-made objects. (*Photos by Pat Zungoli)*

Control strategies. Data on control strategies is incomplete, but based on our knowledge of the habitat the Asian needle ant prefers, we can speculate about possible management strategies. Because it nests beneath natural and man-made structural objects, it is logical that limiting structural elements around a property will reduce the likelihood of this ant's presence. During swarming season, it commonly enters homes and other buildings. To reduce the chance of them coming in from their outdoor habitats, well-fitted screens on doors and windows will be helpful. If chemical treatment is used, we recommend direct treatment of nest sites for success. This will require moving objects that cover and protect the colony to allow insecticide to penetrate the nest. No data is available on the use of ant bait for control. Baiting for control of Asian needle ant may be unsuccessful because these ants do not form foraging trails. Much research is needed to formulate a good plan for management of *P. chinensis*.

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 EIIS/MV-18 (New 10/2006, rev. 05/2008).