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Asian Needle Ant

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Introduction

The Asian needle ant, *Brachyponera* (=*Pachycondyla*) chinensis (Formicidae: Hymenoptera), is an invasive species of ant native to China, Japan, and Korea. To date, the ant is found in the eastern US from Massachusetts to Florida, and west to Wisconsin, Indiana, Kentucky, Mississippi, and Arkansas. It has been identified in several counties across Virginia. Anecdotal references indicate it may have arrived in Virginia as early as the 1940s.

Description

The Asian needle ant is a small, dark brown to black ant (Fig. 1 & 2). The antennal tips, legs, mouthparts, and stinger are often lighter brown in color. The workers are typically 4-5 mm (0.2 inch) in length and a queen may measure 6.5 mm (about 0.2 inch) in length.

Figure 1. Asian needle ant (Eli Sarnat, Antkey, USDA APHIS PPQ, Bugwood.org).

The Japanese name of oo-hari-ari ("giant needle ant") refers to size of the stinger (Fig. 1) and not the overall size of the insect. The venom delivered through the stinger can be a major allergen to people who are sensitive to insect stings. Due to the painful sting and lack of awareness of this species, Asian needle ants are sometimes mistaken for imported fire ants (*Solenopsis* spp.).

Figure 2. Asian needle ant (Mohammed El Damir, Bugwood.org).

Habitat

The Asian needle ant is considered a leaf litter inhabitant and a general scavenger. In nature, the ants can be found in damp areas below stones or rotting logs. Asian needle ants are also found in residential settings, parks, and urban areas, where they occur in mulch and under railroad ties, logs, bricks, and pavers. They can nest in potted plants, under wood piles, and in lawns. The ants have been reported to forage inside homes and buildings and may pose a problem as residential invaders in the future.

Asian needle ants feed on small arthropods, such as termites, springtails, and other invertebrates found in the soil and leaf litter. Inside buildings, the ants are known to scavenge food from kitchens and garbage. In addition to protein, Asian needle ants are attracted to sources of sugar when available.

Life History

Like all ants, Asian needle ants have a complete life cycle with egg, larval, pupal, and adult stages.

Established colonies produce winged males and females (Fig. 3), which usually leave the nest and fly in mating swarms during the summer. Mated queens lose their wings and establish new colonies in new areas by laying eggs that develop into worker ants. Worker ants, which are infertile females, are responsible for caring for the ant brood, foraging for food, enlarging the nest, and defending the colony. Later, the queen will lay eggs that develop into the reproductive males and females. Asian needle ant colonies may consist of multiple nests working cooperatively, sometimes with multiple queen ants producing brood.

Figure 3. Winged reproductive Asian needle ant (Mohammed El Damir, Bugwood.org).

Damage

Researchers in other states have reported that the Asian needle ant displace species of native ants, reducing biodiversity and upsetting the natural balance in the ecosystem. Plant species dependent on native ant species to spread their seeds do not have the same relationship with this exotic ant and their distribution may be limited by this.

Asian needle ant has even outcompeted the invasive pest Argentine ant (*Linepithema humile*) in some urban areas.

As a health risk, the ant has a painful sting. The venom can produce reactions ranging from mild irritation in many people to life-threatening anaphylactic shock in people who are very sensitive to insect venom. People who are allergic to bee stings should seek immediate medical attention if they begin to experience breathing problems or other allergic reactions after being stung by Asian needle ants. Typically, a sting from an Asian needle ant does not produce the blister seen from invasive fire ant stings.

People are often stung when they place their bare hands on or close to Asian needle ant colonies in mulch or soil, or when moving logs or landscape materials covering a nest. People have reported being stung when the ants get trapped between clothing and bare skin, or when someone tries to brush the ants off with a bare hand. To avoid stings in areas where Asian needle ants have been identified, wear protective gloves, long sleeves, and long pants when working in outdoor where the ant can be found, like under downed trees and in mulch beds. Closed toe shoes should be worn with socks and consider applying insect repellent to footwear and clothing.

Control

Research is lacking on the efficacy of baits in controlling Asian needle ants. This species does not appear to use pheromone trails to attract fellow workers to food sources. Instead, they physically carry another worker to where the food is located. This results in slow recruitment to the food or bait compared to other species of ants that lay pheromone trails. Reports indicate that the ants will feed on a protein-based bait, but less so on the sugar-based baits typically used for indoor ant species.

If pesticide applications are necessary, refer to the section on “outdoor ants” in the current version of the Pest Management Guide for Home Grounds and Animals (VCE Pub 456-018) for recommendations.

Revised

Theresa A. Dellinger, March 6, 2023.

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2023 ENTO-29NP (ENTO-554NP)