

COLONY AND HABITAT CHARACTERISTICS OF *PACHYCONDYLA CHINENSIS* (HYMENOPTERA: FORMICIDAE)

PATRICIA ZUNGOLI, ERIC PAYSSEN, ERIC BENSON
AND JENNIFER NAUMAN

Department of Entomology, Soils, and Plant Sciences,
Clemson University, Clemson, SC 20634-0315 USA

Abstract *Pachycondyla chinensis* (Smith), is a Ponerine ant, endemic to Japan and parts of Asia. Although it has been established from Georgia to Virginia in the United States since at least 1874, it has received little attention here. In current literature of immunological studies conducted in Korea, in which *P. chinensis* is referred to as a new ant, immediate allergic reactions, including anaphylaxis, were reported. Recently, this ant has come to our attention as a nuisance species that delivers a painful sting that may result in a welt on some individuals that may remain for a period of up to one week. Although we have not received reports of systemic allergic reactions, stings from *P. chinensis* are not uncommon.

The purpose of this study was to learn more about the colony structure and habitat of *P. chinensis*. *Pachycondyla chinensis* colonies were excavated and returned to the laboratory where ants were separated from the nest material, counted and measured. On the campus of Clemson University and surrounding area in South Carolina USA (approximately 34°40'N by 82°49'W), *P. chinensis* has established near the edges and interior of wooded areas, along building foundations and at the bases of trees outside wooded areas. Established colonies were shallow, positioned approximately 10 centimeters from the surface to the base in loose soil, or were located in rotting logs. Most nest entrances were extremely cryptic, with no excavated material around the opening. Sometimes *P. chinensis* colonies were found in association with native subterranean termites, *Reticulitermes* spp. and frequently inhabited abandoned termite galleries. While the ants were seen carrying termites in their mandibles after the nest was disturbed, the two groups appeared to live in close proximity within the same habitat. Collected colonies were small; ranging in size from approximately 100 workers to over 700. *Pachycondyla chinensis* colony structure was variable. The percentage of dealated females in a given colony was inconsistent, and it is unknown if multiple reproductives occur within a colony. Colony size was not a predictor of the percentage dealated females. Dealated females represented 0 to 15% of the total colony. The maximum we observed in our sample was 18 in a colony of 118 ants. Size variation in workers is minimal. Dealated females found in the nests were slightly larger than other workers, but otherwise strikingly similar in general morphology.