

THE PHARAOH ANT, MONOMORIUM PHARAONIS (LINNAEUS)

(HYMENOPTERA:FORMICIDAE)<sup>1</sup>

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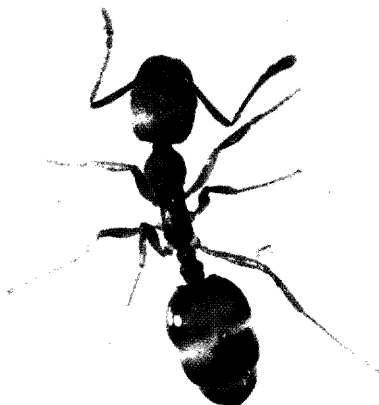
**INTRODUCTION:** The ant, Monomorium pharaonis (L.), is commonly known as Pharaoh's ant. The name possibly arises from the mistaken tradition that it was one of the plagues of ancient Egypt (Peacock et al. 1950). This ant is distributed worldwide, is one of the more common household ants, and carries the dubious distinction of being the most difficult household ant to control. Consequently, many pest control operators exclude it from their guaranteed services.

**DESCRIPTION:** The workers of Monomorium pharaonis (L.) are monomorphic and are approximately 2 mm long. Each segment of their antennal clubs increases in size toward the apex of the club. The eye is comparatively small, with approximately 6-8 ommatidia across the greatest diameter. The prothorax has subangular shoulders, and the thorax has a well-defined mesoepinotal impression (Fig. 1). Erect hairs are sparse on the body, and body pubescence is sparse and closely appressed. The head, thorax, petiole, and postpetiole are densely (but weakly) punctulate, dull, or subopaque. The clypeus, gaster, and mandible are shiny. The body color ranges from yellowish or light brown to red (Smith 1965).

**DISTRIBUTION:** Monomorium pharaonis (L.) has been carried by commerce to all inhabited regions of the earth (Wheeler 1910). This ant, which is probably a native of Africa, does not nest outdoors except in southern latitudes and has been able to adapt to field conditions in southern Florida (Creighton 1950). In colder climates, it has become established in heated buildings.

**ECONOMIC IMPORTANCE:** Pest control operators have predicted that the Pharaoh ant will be a major indoor pest in the United States within a few more years. The ant has the ability to survive most conventional household pest control treatments and to establish colonies throughout a building.

In some areas, this ant has become a major pest of residences, commercial bakeries, factories, office buildings, apartments, and hospitals. Infestations in hospitals have become a chronic problem in Europe (Erdos et al. 1977). In Texas, Wilson and Booth (1981) reported an extensive infestation throughout a seven-floor medical center. In ant-infested hospitals, burn victims and newborns are subjected to increased risk because the Pharaoh ant can transmit such pathogens as Salmonella spp., Staphylococcus spp., and Streptococcus spp. (Beatson 1977).



This ant infests almost all areas of a building where food is available and infests many areas where food is not commonly found. In infested areas, if sweet, fatty, or oily foods are left uncovered for only a short period of time, one can likely find a trail of Pharaoh ants to the food. As a consequence, they cause much food to be discarded due to contamination. Owners have been known to consider selling their homes because of the ravages of this pest (Smith 1965).

**BIOLOGY AND NESTING HABITS:** The Pharaoh ant colony consists of queens, males, workers, and immature stages (eggs, larvae, pre-pupae, and pupae). The size of the colony can vary from a few dozen to several thousand individuals. Males are not often found in the colony. Mating takes place in the nest, and no swarms are known to occur. Approximately 38 days are required for development of workers from egg to emergence. Males and queens usually take 42 days. Queens can produce 400 or more eggs in batches of 10-12 (Peacock et al. 1950). Part of the success and persistence of this ant undoubtedly relates to

Fig. 1. Monomorium pharaonis worker. (DPI Photo #702863-13)

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the budding or splitting habits of the colonies. Numerous daughter colonies are produced from the mother colony when a queen and a few workers break off and establish a new colony. Even in the absence of a queen, workers can develop a queen from the brood which is transported from the mother colony.

SURVEY AND DETECTION: Workers of the Pharaoh ant can often be observed on their feeding trails. These ants are attracted to sweet and fatty foods, which may be used to determine their presence. A small piece of raw liver is one of the best attractants for determining the extent of an infestation.

CONTROL: Control of Pharaoh ants is difficult, due to their nesting in inaccessible areas. Treatment must be thorough and complete at all nesting sites, as well as the foraging area. Thus, treatment must include walls, ceilings, floor voids, and electrical wall outlets. Several insecticides (both liquids and dusts) are labelled for indoor ant control. Baits may be appropriate for some situations and may be purchased ready-to-use or made with labelled insecticidal material.

Insect growth regulators (IGR) have recently been marketed for indoor control of Pharaoh ants. The IGR is used as a bait, and ants must be allowed to transport the bait back to their nests. The IGR prevents the production of worker ants and sterilizes the queen. Therefore, it is necessary to allow up to 20 weeks for ants to die naturally with the use of IGR.

Since the control of Pharaoh ants requires such a complete treatment of a building, precautions should be made to prevent pesticide contamination of foodstuff and prevent children and pets from contacting pesticides. Home-owners should read and follow instructions on the label before applying an insecticide for the control of Pharaoh ants. Consult a local extension agent for further information.

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