



Red Imported Fire Ant

Hymenoptera: Formicidae: *Solenopsis invicta* Buren

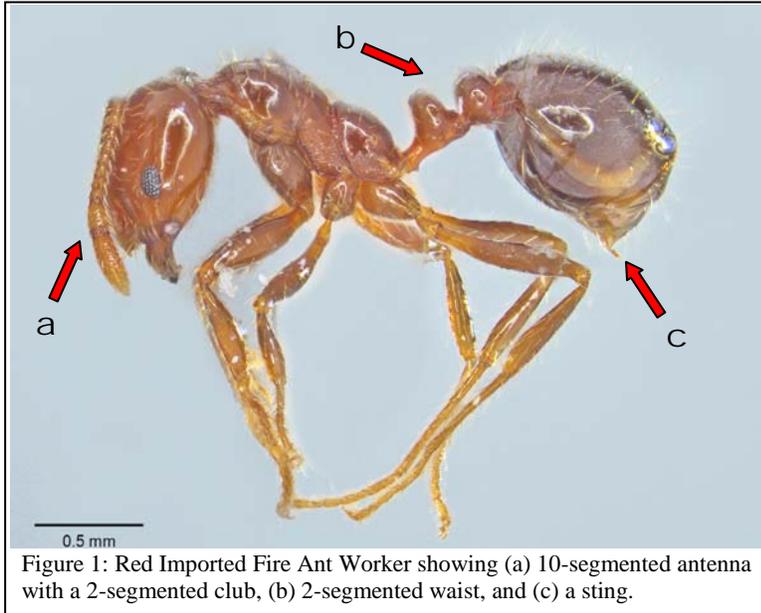


Figure 1: Red Imported Fire Ant Worker showing (a) 10-segmented antenna with a 2-segmented club, (b) 2-segmented waist, and (c) a sting.

Distribution: Native to South America, the Red Imported Fire Ant (RIFA) was likely introduced into the U.S. sometime in the 1930s or 1940s. The current distribution includes most of the Southeastern US, Puerto Rico, a few counties in California, and one county in New Mexico. Arizona has no known established populations of RIFA. Those found are quickly eradicated.

Economic Importance: RIFA are extremely defensive when disturbed. Their stings can result in painful blisters or dangerous allergic responses in people. RIFA are omnivorous, attacking many types of plants, especially seedlings, as well as small animals.

RIFA typically displace native species when they become established in an area, disrupting local ecosystems. RIFA are sometimes attracted to electrical devices in large numbers, causing power outages, power surges, equipment failures, and occasional fires. If allowed to become established in Arizona, RIFA would negatively impact our state's agriculture, environment, and our quality of life.

Appearance: Large, established RIFA colonies can be composed of up to 300,000 or more sterile female workers. These workers range in size from 2-6 mm, are usually red to dark reddish brown in color, have ten-segmented antennae, each with a two-segmented club, a two-segmented waist, and are armed with a sting (Figure 1). A single wingless queen (Figure 2a), about 8-9 mm in size, is usually found deep within the colony. Some colonies can have more than one queen. Virgin queens are winged, but shed their wings soon after mating. During colony reproduction, dark, small-headed, winged males about 6 mm size (Figure 2b) are produced in large numbers, but soon die after mating.

Biology: Nuptial flights occur on warm days usually after a rain. After swarming, the mated female drops to the ground, sheds her wings and finds a small crevice or digs a small hole to start a nest. During the first 2-4 weeks, the queen will lay up to 125 eggs. The first workers developed from these eggs are very small and are referred to as minims. Minims assume responsibility for brood care and start construction of the new mound. As the colony

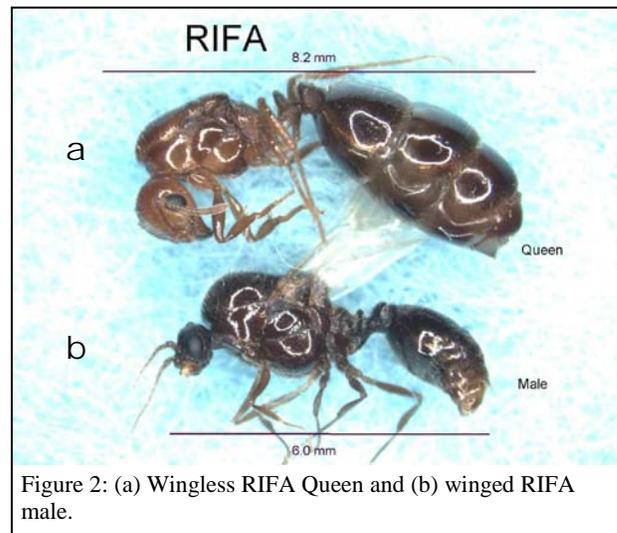


Figure 2: (a) Wingless RIFA Queen and (b) winged RIFA male.

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grows, a greater proportion of the eggs develop into larger workers referred to as majors. The colony may take 2 years to mature. Queens may live up to 7 years or more while workers usually live only from two months to a year.

Similar Arizona

Species: Arizona has three native species of fire ants: the Golden Fire Ant (*Solenopsis aurea*), the Desert Fire Ant (*Solenopsis amblychila*, Figure 3a), and most common, the Southern Fire Ant (*Solenopsis xyloni*, Figure 3b). All three look very similar to RIFA;

although, behaviorally, they are typically much less defensive. Using a microscope, one important characteristic for determining RIFA is the presence of a median clypeal tooth (Figure 3c, arrow), which is absent or very much reduced in our native fire ant species.

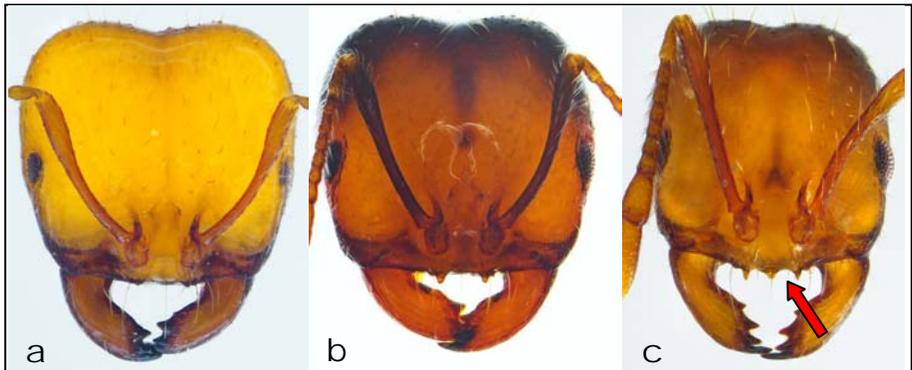


Figure 3: (a) Desert Fire Ant, (b) Southern Fire Ant, and (c) RIFA showing the median clypeal tooth (arrow), an important diagnostic character.

Inspection Tips:

When inspecting nursery stock, nests may be located through vigorously striking large containers, causing agitated ants to 'boil' out of their nest (Figure 4a). RIFA are sometimes found nesting under smaller plant containers and moving these will also trigger a defensive swarming. Although attracted to wet areas, RIFA will avoid direct contact with water.

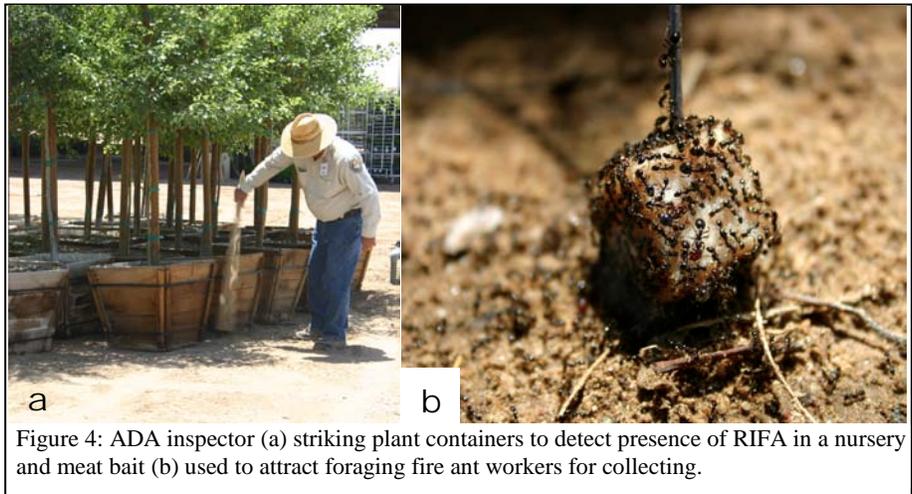


Figure 4: ADA inspector (a) striking plant containers to detect presence of RIFA in a nursery and meat bait (b) used to attract foraging fire ant workers for collecting.

Meat baits are used to detect the presence of RIFA foragers (Figure 4b). Worker activity, and thus meat bait effectiveness, will become very much reduced as surface temperatures approach 100°F. Worker activity on the surface will typically cease altogether when surface temperatures exceed 110°F.

Links to Resources:

Federal RIFA Information:

http://www.aphis.usda.gov/plant_health/plant_pest_info/fireants/

University of Arizona Extension Fire Ant Information:

<http://www.extension.org/fire+ants>

University of Florida Featured Creatures:

http://entnemdept.ufl.edu/creatures/urban/ants/red_imported_fire_ant.htm

Photographs in this document were taken by Arizona Department of Agriculture – Plant Services Division – Entomology