

Terrestrial Amphipods or Lawn Shrimp (Crustacea: Amphipoda: Talitridae)¹

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Introduction

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Amphipods comprise an order of crustacea, shrimp-like in form, which contains mostly marine and freshwater forms. While some species are terrestrial, they still require moist habitats. These terrestrial species are sometimes referred to as lawn shrimp due to their similarity to true shrimp.

Distribution

Amphipods were first described in New South Wales, Australia, and then later on several Pacific islands. They were first reported in the Western Hemisphere in 1918 when at least one species was found in California (Mallis 1990). About 90 species occur in the United States and Canada. Nationally, the best known terrestrial species that occasionally invades structures is *Arcitalitrus sylvaticus* (Haswell) (McLaughlin et al. 2005, Smith and Whitman

1992). Two species common to Florida are *Talitroides topitotum* (Burt) (W. Cranshaw personal communication 30 June 2011) and *Talitroides allaudi* (Chevreux).



Figure 1. As seen by the red color, this amphipod, or lawn shrimp, is dead.

Credits: UF/IFAS

Description and Life Cycle

Amphipods are elongate and more or less compressed laterally. They do not have a carapace (the hard covering of the thorax common in other crustacea), and seven (rarely six) of the thoracic segments are distinct and bear leg-like appendages. The abdominal segments are more often or less fused, and so the thoracic segments make up most of the body (Borror et al. 1989). They have two pairs of antennae, with one pair usually very small. The eyes usually are well developed, but are sometimes reduced or lacking. Members

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of this order have chewing mouthparts (Smith and Whitman 1992). Adult amphipods range from 5 mm to 20 mm (3/16 to 3/4 inch) in length. *Arcitalitrus sylvaticus* (Haswell) reaches a length of 8 mm (3/8 inch), *Talitroides topitotum* are 7 mm in length, and *Talitroides allaudi* about 3.5 mm. Aquatic species are often whitish but are seen in other colors also. The color of terrestrial species varies from pale brown to greenish to brownish black when alive, but they often turn pink to red when they die.

Amphipods are sometimes misidentified as springtails (Insecta: Collembola). Springtails are commonly found in moist areas, sometimes in vast numbers. However, springtails are not crustacea, but insect-like arthropods with only three pairs of legs, one pair of antennae and usually a furcula (a forked structure) on the 4th abdominal segment. The group of springtails that might be confused with amphipods has a tubular structure on the last abdominal segment.

Eggs are deposited within a brood pouch on the underside of the adult female amphipod's body. The eggs hatch in one to three weeks. The young amphipods resemble the adults and leave the pouch during the next one to eight days when the female has her first molt during mating. The molt usually takes about one hour. And most species complete their life cycle (egg to adult) in one year or less (Smith and Whitman 1992).



Figure 2. *Hyaella azteca* is a 1/4-inch-long amphipod that is common in aquatic systems.

Credits: Scott Bauer, USDA

Most species produce only a single brood of eggs, but in at least one aquatic species, *Hyaella azteca*, the females average 15 broods over a five month period. *Hyaella azteca* is common in aquatic systems and is used by scientists as

an indicator of environmental health and water quality in streams, lakes, and other bodies of water.

Habits

Many amphipods, like those called beach fleas, live on the beach, where they occur under stones or decaying vegetation. Most amphipods are scavengers. Mallis (1900) found amphipods living under ivy used as ground cover. Here they jumped about like fleas and were difficult to capture. Amphipods are present in soft ground up to a depth of 13 mm. Leaf mold beneath shrubbery also offers a suitable habitat for terrestrial amphipods (Mallis 1990).

Terrestrial amphipods live on the surface (top 1/2 inch) of mulch and moist ground. After rains, large numbers of amphipods can migrate into garages or under the doors of houses. There they soon die. Amphipods do not have a waxy layer on their exoskeleton as do insects. They lose or gain moisture from their environment. Too much of a water loss results in desiccation, while too rapid a gain is also lethal. This is why they migrate out of rain-soaked soil to drier areas where they usually end up dying anyway. Most species are active at night.

Management

Terrestrial amphipods require a moist environment and die quickly in the drier environment found within structures or on drying pavements. They may be safely swept or vacuumed up and discarded. There are no labeled insecticidal recommendations for control.



Figure 3. Masses of dead, terrestrial amphipods in the bottom of a small artificial landscape pool. The amphipods turned pink to red in color upon death.

Credits: Tess Hart-Ross

If amphipods are a continual problem on sidewalks, pavements or within open structures after heavy rains, then steps should be taken to dry out the mulch or ground cover near these areas by turning it or reducing irrigation to decrease existing populations. This is similar to the practice used to control fungus gnats in indoor ornamental plantings. Weather stripping on the bottom of doors helps in keeping amphipods from entering structures.

Amphipods can cause problems for pool owners. During rainy weather, large numbers can be found in swimming pools and these can clog pool filters. Regular cleaning of filters during this period is the only solution.

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