

Need to Know

- Straight talk for professionals about pests and pest control products

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Scorpion – Its Biology and Control

Scorpions are the oldest known terrestrial arthropods. Scorpion fossils have been estimated to be more than 400 million years old. Most species are nuisance pests, but are medically important because of their stings. Most species' stings are only as toxic as a bee sting, but can be complicated by allergic reactions and death in some cases.



Desert harric scorpion (Courtesy of Dr. D. Gouge)

Scorpions are becoming a prevalent pest, especially in the southwest United States, which appears to be the result of the increasing urban encroachment into the scorpions' natural habitat. Scorpions are predatory and will enter homes in search of harborage and food such as crickets and roaches. There are over 70 species in the United States, but less than 10 species are considered urban pests.



The cephalothorax has two chelicerae to chew prey surrounded by two pedipalps for grasping prey.

Scorpions are related to spiders as they have just two body segments; an abdomen and a cephalothorax (combined head and thorax). The abdomen terminates in a tail containing a stinger, while the cephalothorax has two chelicerae to chew prey and two pedipalps (pincers) to grasp prey.

Young scorpions begin life as first instar nymphs, which crawl to the mother's back and remain there 7-30 days until the first molt.



Bark Scorpion with young (Courtesy of Dr. D. Gouge)

Nymphs average 6 molts before reaching maturity, which takes several months to 4 years, depending on species. Adults live one to six years. Most scorpions in the United States are active only during the night and during warm months.

The species of urban importance are the desert harric scorpion (*Hadrurus arizonensis*); Devil's scorpions (*Vejois* spp.); and the bark, common striped, and margarite scorpions (*Centruroides* sp). Most stings from scorpions cause short-term pain, swelling or slight discoloration, but allergic reactions can be more severe. The most dangerous species in the United States is the bark scorpion, whose neurotoxic venom can cause hyperactivity, anxiety, numbness radiating from the point of envenomization, respiratory distress, dizziness, and death within two to 24 hours after the time of stinging. Morphine should not be administered, since it will synergize the effects of the venom. Antivenom is effective if administered within two hours after stinging.



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Scorpion Management

The following five-step approach should be followed when addressing a scorpion problem.

Inspection: Check for harborages both indoors and outdoors. Scorpions will reside under debris such as wood piles and rocks during the day. Place sticky traps along walls inside suspected areas. Check under boxes, furniture and carpets, as well as attics, vents and light voids in ceilings. At night when scorpions are active, scorpions can be observed with an ultraviolet light as they will fluoresce.

Elimination of Harborage: Remove wood piles, landscape timbers, and rocks near the structure. Inside, where scorpions have been seen, move boxes and other objects that may serve as refuges off the ground.

Exclusion: Ensure that door thresholds are tight. Windows should have tight-fitting screens.



Pesticide application: If scorpions are inside the structure, applications should be made behind appliances, along walls, in wall and ceiling voids housing lights and vents, attic areas, and crawl spaces.

When addressing scorpions outside, apply a five- to ten-foot band of pesticide around the perimeter of the structure and apply the band at least two to three feet up the foundation wall to at least the weep screed, if present.

DeltaDust® and **DeltaGard® G** are registered for perimeter band applications for scorpions. **Suspend® SC** and **Tempo® Ultra SC** and **Tempo® Ultra WP** are registered for perimeter band and 2-3 foot foundation applications. See labels for details.

Contributed by Dr. Phil McNally

Special thanks to Dr. Dawn Gouge of the University of Arizona for use of her photographs.



If the weep screed is open, be sure that the screen is in good order. Frames, vents, utility pipe entrances, fascia boards should be sound and caulked, if necessary.

Food/Prey Reduction: Establish an 18-inch grass-free perimeter band around the structure. Use a perimeter pesticide application to eliminate insect prey.

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