

What's Eating You? Plain Eastern Stripeless Scorpion (*Vaejovis carolinianus*)

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The plain eastern stripeless scorpion (*Vaejovis carolinianus* [Beauvois]) (Figure) is the major scorpion native to the lower mid Atlantic region of the United States. *V. carolinianus* is native to the southern Appalachian Mountains; however, it also can be found in Alabama, Georgia, Kentucky, North Carolina, South Carolina, Tennessee, and Virginia. In Kentucky, *V. carolinianus* is found along the Cumberland River as well as in the Great Smoky Mountains National Park. Closely related scorpions are found in Texas, California, Utah, Nevada, Arizona, and Mexico.^{1,2}

In some states, like Tennessee, the striped bark scorpion (*Centruroides vittatus*) accidentally was introduced and now can be found along with its plain cousins. Scorpions belong to the class Arachnida. Scorpions have a cephalothorax, a broad segmented abdomen, and a tail-like structure called a *telson*. The tip of the tail is enlarged and contains venom glands.³ The venom of *V. carolinianus* is tame, and the reaction to the venom is similar to a honeybee sting. The possibility of hypersensitivity to this particular species requires further study. There have been anecdotal reports of severe reactions and brown recluse spiderlike dermonecrotic reactions following stings (S. Stockwell, oral communication, April 5, 2000).

Stripeless scorpions are nocturnal hunters that feed on small insects and arachnids and prefer to hide during the day.⁴ They are most active in temperatures higher than 77°F and tend to become sluggish in colder temperatures; excellent photographs may be obtained of these scorpions after they are refrigerated. All scorpions have 2 eyes in the center of the head, with 2 to



Vaejovis carolinianus, the plain eastern stripeless scorpion (A and B).

5 extra eyes along the front sides of the head. Although there are numerous eyes, they are poorly developed and of limited value in detecting prey and enemies. The hairs on the surface of the pedipalps (pincers) and comblike organs (pectines) serve sensory functions. Scorpions will erect their tails in response to vibration and will strike if threatened.^{5,6}

V. carolinianus is reddish to dusty brown and lacks the tooth or thorn at the base of the stinger that is seen in *Centruroides* scorpions (Figure). *V. carolinianus* can grow up to 2-in long. It prefers moist forest habitats; will hide under rocks, leaves, and the bark of dead trees; and often is found in pine

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forests. As with some other scorpions, the courtship ritual of *V carolinianus* resembles a dance with pincers locked. All scorpions are viviparous (giving birth to live young). Young *V carolinianus* resemble adult scorpions in form but lack pigment. Like many other scorpions, young *V carolinianus* climb onto the back of the mother until after the first molting. *V carolinianus* can live for 7 to 8 years.

Because *V carolinianus* prefers a moist environment, it is less likely to be found in houses than the cosmopolitan *C vittatus*. Scorpions tend to invade houses that are unoccupied, when the conditions are more to their liking. In their natural habitat, scorpions are beneficial, preying on insect pests. In Mexico, where scorpion stings cause more morbidity and about 100 deaths annually, pyrethroid pesticides have shown efficacy in controlling *Centruroides limpidus* and *Vaejovis mexicanus*.⁷ In one study, use of pyrethroid pesticides reduced the number of scorpions and caused reported cases of scorpion envenomation to fall by 17% after having risen by approximately 40% over the prior 4 years.⁷

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