

What's Eating You? Tarantulas (Theraphosidae)

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Figure 1. Tarantula from central Texas.

Tarantulas are large, hairy, mygalomorph spiders that are common in the southwestern United States (Figure 1). Most New World species of tarantula have urticating hairs on the dorsal abdomen. The hairs are used defensively to drive small predators from the spider's burrow. These defensive urticating hairs are commonly shorter than the lighter colored guard hairs and have sturdy barbs along their surface. In contrast to the guard hairs, which number 2 to 3 per square mm, the urticating hairs are present in great numbers (10,000 to 20,000 per square mm). Urticating hairs form a characteristic dorsal patch on the abdomen. Each year, when the spider molts, it arms itself with a fresh coating of hairs. When threatened, the

tarantula will raise its hind legs onto the dorsal abdomen and use leg vibrations to flick a volley of hairs at its attacker. Softer urticating hairs are incorporated into the silk web of the spider's home.¹

Tarantula hairs produce urticaria that is not immune mediated and can result in a persistent papular dermatitis. Tarantula dermatitis is described both in modern medical literature and in early adventure tales of travels in South America.²⁻⁵ Itching at the site of hair penetration may persist for several weeks after exposure.

Urticating hairs are found on tarantulas indigenous to the New World, including some of the more colorful species sometimes sold as pets (Figure 2). The hairs of most tarantulas indigenous to the United States produce only mild reactions. Urticating hairs are absent in African and Asian species. Histologic examination of papules resulting from exposure to tarantula hairs demonstrates that the hairs penetrate the stratum corneum and stratum malpighii and may extend as deep as the reticular dermis.

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Figure 2. Colorful tarantulas from Mexico are sometimes sold as pets.

Ophthalmia nodosa secondary to exposure to tarantula hairs may be noted in patients presenting with skin rash and blurred vision after handling a tarantula.⁶ Ophthalmia nodosa is a chronic, granulomatous, nodular reaction occurring most commonly in response to vegetable or arthropod hairs. Tarantula hairs can cause inflammation in all parts of the eye, from the conjunctiva and cornea to the retina.⁷⁻¹⁰ Confocal microscopy has shown that tarantula hairs penetrate the corneal stroma and endothelium and enter the anterior chamber of the eyes.¹¹ The finding of ophthalmia nodosa, with fine hairs in the cornea and conjunctival granulomas followed by chorioretinal lesions, closely resembles the findings in ophthalmia nodosa caused by exposure to caterpillar hairs.¹² Chronic keratouveitis from tarantula hairs may persist for months after exposure. Patients should be evaluated by an ophthalmologist. Slit lamp examination should be performed.¹³ Surgical removal of the hairs is often necessary. Topical corticosteroid preparations can be helpful in managing this complication.¹⁴

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