Information

Bohart Museum of Entomology **No. 018**

Spider Bites

All spiders are predators, feeding on insects and other small animals. They have hollow tusk-like jaws connected at the base to poison glands that produce toxins. These toxins are used to capture and subdue prey, and also may be used defensively. Very few spiders can bite through human skin, and even those that can either possess toxins that have little or no effect on humans, like the American tarantulas, or produce insufficient quantities of venom to cause sufficient symptoms, like jumping spiders. Worldwide only a small number of spider species combine the ability to penetrate human skin and deliver enough sufficiently toxic venom to cause human disease. Of these species a portion are ecologically separated from humans in a manner that all but eliminates them as serious risks.

No spider as part of its normal behavior seeks out humans for any reason, much less for the specific purpose of biting someone. Bites generally occur when a human accidentally injures a spider or when a spider confuses a person's movement with that of a prey insect.

In general, the major signs and symptoms of serious spider bite are either systemic and neurotoxic, like that of a Black Widow bite, or are locally erosive, causing a relatively painless open lesion, like that of the Brown Recluse Spider. A third category of bites, like those caused by Wolf Spiders, may cause short-term symptoms similar to those of a mild bee sting, including localized pain and some minor swelling.

In northern California, there are only two kinds of spiders that can bite and cause toxic effects in humans, the Black Widow and some Sac Spiders. Both possess neurotoxic venoms that may produce system-wide effects when injected into humans. Of these two groups of spiders, only the Black Widow has a truly dangerous bite.

One spider that is <u>not</u> a problem in California is the Brown Recluse Spider. Recluse spider bites are often blamed as the cause of large expanding lesions seen on patients in California. However, the Brown Recluse does not occur here, and so the lesions are most probably caused by some other infection. In other parts of the country, cases of Recluse spider bites that have been studied from initial bite to resolution have almost always resulted in a fingernail-sized lesion, which is self-limiting and usually heals completely within several months.

Many different symptoms are ascribed to spider bites; however, there usually is little evidence actually connecting a spider to the diagnosis of an actual bite. The medical literature is full of clinical descriptions of spider bites that lack any evidence that a spider actually caused the wound. Erroneously blaming the wound on a spider bite may result in improper treatment of other, potentially serious, conditions. If a deep lesion develops with minimal surface necrosis of the skin, and continues to spread into deep tissue with extensive swelling and dark discoloration extending away from the site of the lesion, it is unlikely that a spider was the cause. The most likely cause is a primary or secondary (but invasive) infection resulting in cellulitis. A bacterial culture could confirm this issue, and treatment with antibiotics would be recommended.

For more information on particular spiders, see the following Bohart Entomology Museum Information Sheets:

#001 Black Widow Spiders

#002 Sac Spiders

#012 Jumping Spiders

#024 Recluse Spiders

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