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NON-CIRCULATING

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Texas Board of Health

Robert Bernstein, M.D., F.A.C.P.
Commissioner

Urticating Caterpillars of Texas

Bureau of Epidemiology, 1100 West 49th Street, Austin, Texas 78756-3180 (512-458-7207)

URTICATING CATERPILLARS OF TEXAS

In the spring, summer, and fall, there are several species of fuzzy or spiny caterpillars that pose a health problem in Texas. Among the more common are the larvae of the puss moth (*Megalopyge opercularis*), io moth (*Automeris io*), buck moth (*Hemileuca* spp), saddleback caterpillar (*Sibine stimulae*), and the hag moth (*Phobetron* spp) (Figure 1).¹ Periodic population increases of these caterpillars have resulted in outbreaks of caterpillar-induced dermatitis. For example, in Texas, infestations of puss moth caterpillars have resulted in thousands of cases of dermatitis in children, necessitating the closure of some public schools until the infestations could be eliminated.² In a 1958 Texas survey of 2,130 cases involving reaction to the puss moth caterpillar, no deaths were reported, but hospitalization was required for eight patients. Symptoms included severe local pain (98%), local swelling (92%), lymphadenopathy (32%), headache (29%), shock-like symptoms (5%), and convulsions (0.2%).³

Urticating caterpillars do not have "stingers", as do wasps or bees, but, rather, possess nettling or urticating hairs (setae) and spines. The setae and spines -- functionally divided into two groups, those causing mechanical irritation and those with a poison gland at the setal base -- are found in a variety of forms. Some fragment easily and may be difficult to extract from the skin and mucous membranes. If they enter the eye, they may scratch the conjunctiva or cornea or penetrate into the interior producing a subsequent loss of vision. This can occur through direct transfer of setae from the hands to the eye or from the use of towels or clothing that have come in contact with the caterpillars.⁴

The chemistry and pharmacology of caterpillar venoms are poorly known. However, the active fractions are described as primarily proteinaceous in nature, with esterases and proteinases as the major components. Histamine, 5-hydroxytryptamine, and unidentified materials that stimulate histamine release are also present.⁵

PUSS MOTH

The puss moth caterpillar, sometimes called an "asp" or "flannel moth", resembles a small tuft of cotton and is characterized by a covering of long hairs that obscure the head, true legs, and abdominal prolegs. Among the long body hairs are numerous spines that discharge venom upon contact. With each molt, the pigmentation of the puss moth caterpillar gradually changes from white, to tan, and finally to gray with darker markings. The mature caterpillar is approximately 2.5cm in length. The moth overwinters in the cocoon and emerges in late spring or early summer. Eggs, deposited by the moth on various trees and shrubs, hatch in only a few days.

Following contact with the puss moth caterpillar, intense, local burning may be felt at the site of contact. The pain may soon radiate a considerable distance as localized swelling begins. The area of contact may become greatly reddened with minute papules, and the inflammation may spread for several inches around the site.

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In sensitive persons, lymph nodes under the arms or in the groin may become enlarged and painful, and a severe headache may begin. Weakness and nausea may ensue, followed by shock-like symptoms. These conditions usually occur less than two hours after contact. Even when such symptoms do not occur, the contact site may remain inflamed and irritated for several days. The severity of the symptoms is dependent upon a number of factors including: sensitivity of the individual, maturity of the caterpillar, number of spines contacted, degree of pressure against the caterpillar, and site of contact.

The remaining four caterpillars -- the lo moth, buck moth, saddleback caterpillar, and the hag moth -- produce less severe reactions than the puss moth. These reactions, which result in localized, intense itching and/or wheals, are restricted to the area of contact and subside within a few hours.

IO MOTH

The caterpillar, when mature, is 5.0 to 6.35cm in length. The body is pale green with yellow and red to maroon lateral stripes edged with white. Each body segment possesses several fleshy tubercles upon which are many long, venomous spines, greenish in color and tipped with black. The insect overwinters as a pupa inside an oval cocoon mixed in leaves and debris on the ground. In the spring or summer, the adult moth emerges to mate and oviposit on various trees and shrubs. The caterpillars, which hatch in late spring or early summer, feed for several weeks on foliage prior to pupation. While the lo moth generally is less prevalent than the puss moth, on occasion it may be quite prevalent as a result of favorable environmental conditions. The sting mechanism is similar to that of the puss moth; however, the reaction is less painful, and the accompanying symptoms are less severe.

BUCK MOTH

The mature caterpillar is approximately 7.6cm in length, with a pigmented purple-black body, reddish head, and glossy black, thoracic legs. The body is covered with glossy black, spiny tubercles and is characterized by numerous small, pale-yellow dots. The adult moth deposits its eggs in collar-like masses encircling a small twig. The insects overwinter as tiny caterpillars and emerge in the late spring and summer to feed, primarily on oak trees. Pupation occurs in midsummer with resulting moth emergence in the fall, at which time the insects mate and oviposit. The toxicity of the venom is similar to that of the io moth. Contact results in localized pain of short duration.

SADDLEBACK MOTH

The caterpillar is slug-like in appearance and approximately 2.5cm in length when mature. The dorsal and lateral areas of the body are brown with a dorsal green center, giving the appearance of a saddle blanket. Within this center is a purple-brown spot which appears as a saddle. Groups of spines are located laterally on the body with two large tubercles at the anterior and posterior regions. The abdominal prolegs are absent, and the thoracic legs are very small. These insects are encountered less frequently in Texas than in other states and have a wide host range, including trees, shrubs, and even corn plants. The sting is less venomous in nature than those discussed above.

HAG MOTH

This caterpillar is approximately 1.6cm in length and light brown in pigmentation when mature. The stinging hairs are found on each of nine pairs of variable-length lateral processes. The longer processes are curved and twisted, while the short processes are quite straight and blunt in appearance. The insect feeds on a variety

of shrubs and on low branches of deciduous trees. This caterpillar is probably the least common of the urticating caterpillars. Its sting is comparable to that of the saddleback caterpillar.

FIRST-AID for STINGS

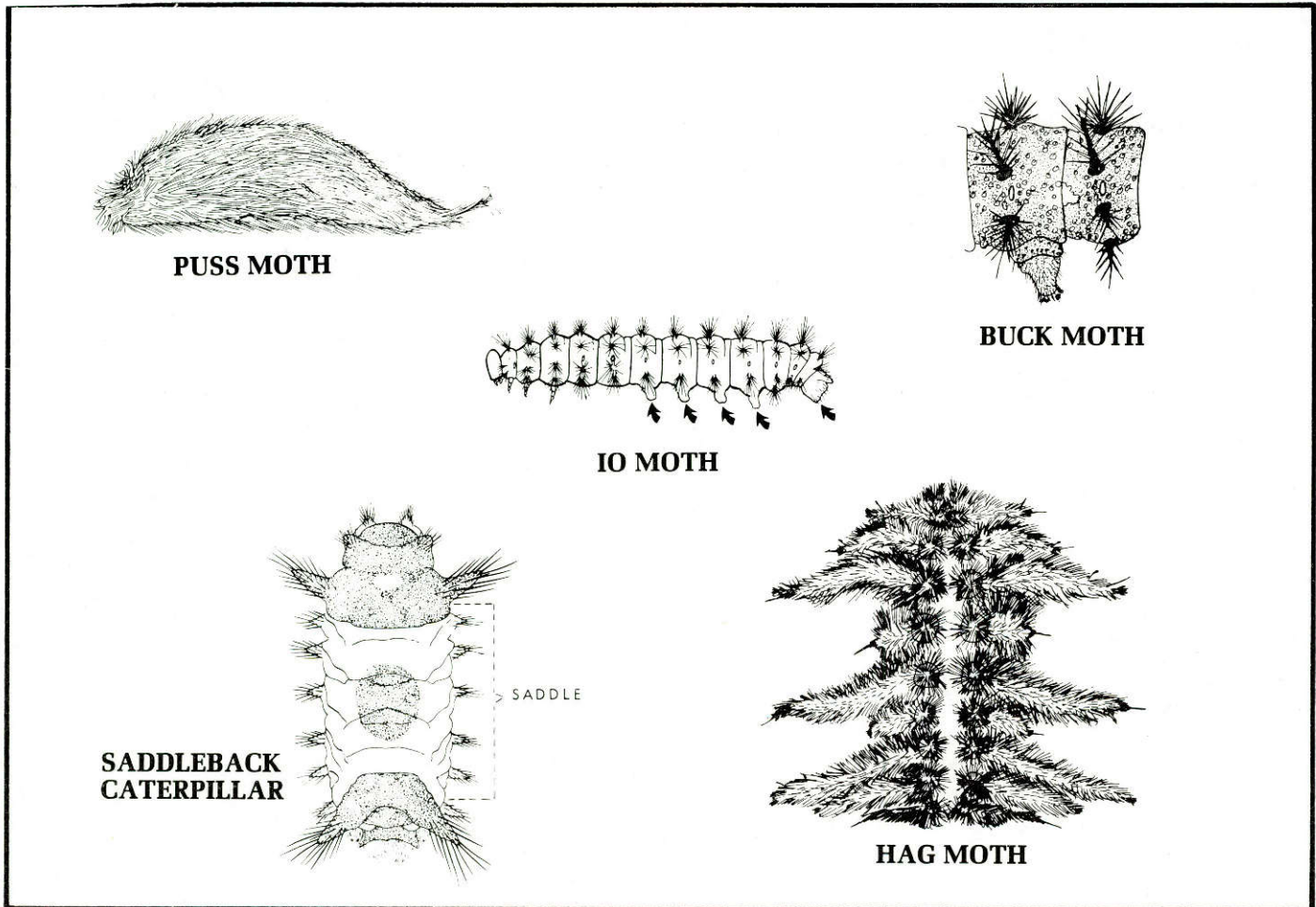
There is really no effective home first-aid treatment for caterpillar stings. Immediate application of adhesive or transparent tape over the contact area may be helpful in removing broken spines. Washing the affected skin area thoroughly with soap and water may help to remove irritating venom. Prompt application of an ice pack and a baking soda poultice may help to reduce pain and prevent swelling. Antihistaminic drugs, often administered for bee and wasp stings, are reportedly ineffective. Household analgesics such as aspirin also appear to be ineffective for alleviating pain and headache. Severe reactions, such as fever, nausea, vomiting, numbness, blistering, shock, and convulsions should be treated with supportive and symptomatic care under a physician's supervision. Very young, aged, or unhealthy individuals are more likely to suffer reaction symptoms, and medical precautions should be taken with such persons.¹ In many cases, the application of analgesics and creams or lotions with steroids or the intravenous injection of 10 ml of 10% calcium gluconate have provided some relief.^{6,7}

This article was written by entomologist Captain Nelson R. Powers, (PhD), US Army Medical Service, Fort Hood, Texas. The opinions expressed herein are those of the author and not necessarily those of the Department of the Army or the Department of Defense (AR 360-5).

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Figure 1.
Selected urticating caterpillars
of Texas.



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