

What's Eating You? Sticktight Flea Revisited



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PRACTICE POINTS

- Although the primary host of the sticktight flea is poultry, it has been found in many species of birds and mammals, including humans.
- Flea bites cause irritation and itching for hosts, typically resulting in clusters of firm, pruritic, erythematous papules with a central punctum.
- Removal of attached fleas in humans requires grasping the flea firmly with tweezers and pulling from the skin.

The sticktight flea (*Echidnophaga gallinacea*) earns its name by embedding its head in the host's skin. It has been found in many species of birds and mammals, including humans. The sticktight flea is found worldwide in the tropics, subtropics, and temperate zones, and it is the only representative of this genus found in the United States. Bites from fleas cause irritation and itching for hosts including humans, typically resulting in clusters of firm, pruritic, erythematous papules. Treatment can be tricky, as the fleas can be difficult to remove, and any flea-infested environments should be properly treated to prevent further bites.

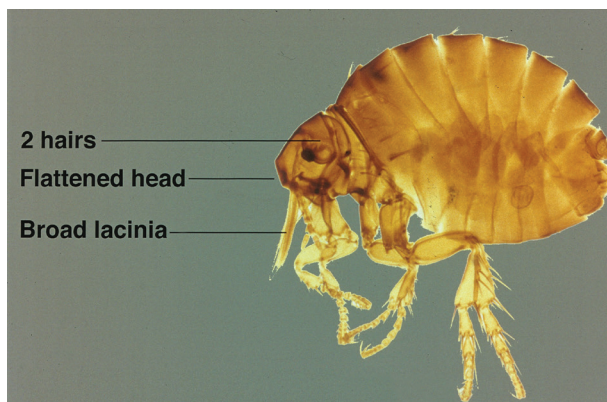
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Identifying Characteristics

The sticktight flea (*Echidnophaga gallinacea*) earns its name by embedding its head in the host's skin using broad and serrated laciniae and can feed at one site for up to 19 days.¹ It differs in morphology from dog (*Ctenocephalides canis*) and cat (*Ctenocephalides felis*) fleas, lacking genal (mustache area) and promotal (back of the head) ctenidia (combs), and is half the size of the cat flea. It has 2 pairs of setae (hairs) behind the antennae with an anteriorly flattened head (Figure).

Disease Transmission

Although its primary host is poultry and it also is known as the stickfast or chicken flea, the sticktight flea has been



Sticktight flea anatomy.

found in many species of birds and mammals, including humans. It is becoming more common in dogs in many parts of the world, including the United States,²⁻⁵ and has been found to be the most common flea on dogs in areas of South Africa.⁶ Other noted hosts of *E gallinacea* are rodents, cottontail rabbits, cats, ground squirrels, and pigs.⁷⁻¹⁴ Human infestation occurs from exposure to affected animals.¹⁵ As blood feeders, fleas have long been known to serve as vectors for many diseases, including bubonic plague, typhus, and tularemia, as well as an intermediate host of the dog tapeworm (*Dipylidium caninum*).⁵ *Rickettsia felis*, belonging to the spotted fever group, is an emerging infectious disease in humans commonly found in the cat flea (*C felis*) but also has been detected in *E gallinacea*.⁷ *Echidnophaga gallinacea* is found worldwide in the tropics, subtropics, and temperate zones, and it is the only representative of the genus found in the United States.¹ Given the wide range of wild and domestic animal hosts and wide geographic distribution for *E gallinacea*, it represents an increasing risk for humans.

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Echidnophaga gallinacea favors feeding from fleshy areas without thick fur or plumage. In birds, the area around the eyes, comb, and wattles is included; in dogs, it can be the eyes, in between the toes, and in the genital area.¹ Flea bites cause irritation and itching for hosts including humans, typically resulting in clusters of firm, pruritic, erythematous papules with a central punctum.¹⁵ Severe bites also may lead to bullous lesions. In birds, symptoms can be extreme, with infestation around the eyes leading to swelling and blindness, a decline in egg production, weight loss, and death in young birds.¹ Similar to other fleas, *E. gallinacea* is wingless and depends on jumping onto a host for transmission, which can be from the ground, carpeting and flooring, furniture, or another host. Fleas are champion jumpers (relative to body size) and can jump 100 times their length.¹⁶

Management

Treating sticktight fleas can be tricky, as they embed tightly into the host's skin. Animals should be treated by a qualified veterinarian. Removal of attached fleas in humans requires grasping the flea firmly with tweezers and pulling from the skin. If the infestation is considerable, malathion 5% liquid or gel can be applied. Patients can treat itching with topical steroids and antipruritic creams, and oral antihistamines can be used to relieve symptoms and reduce the likelihood of damaged skin as well as the potential for secondary infection. The flea-infested environment should be treated with insecticides. For treatment of hard surfaces, dichlorvos and propetamphos are effective. Organophosphates work well on fabric and carpeting. Domestic pets and livestock may be treated by a veterinarian with agents such as fipronil, selamectin, imidacloprid, metaflumizone, nitenpyram, lufenuron, methoprene, and pyriproxyfen.

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