

What's Eating You?

Pulex irritans

COL Dirk M. Elston, MC, USA

Identifying Features

All fleas are characterized by laterally compressed bodies and large hind legs. *Pulex irritans* (Figure 1) lacks the ctenidia (combs) that lend the appearance of a mustache (genal comb) and mane of "hair" (pronotal comb) to dog and cat fleas. It has a rounded frons (forehead), which allows differentiation from the anteriorly flattened head of the sticktight flea. Behind the anten-

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From Wilford Hall Air Force Medical Center, San Antonio, Texas.

REPRINT REQUESTS to the 59th Medical Wing, Dermatology Service/MMID, 2200 Bergquist Drive, Suite 1, Lackland Air Force Base, TX 78236-5300; or e-mail to elston@whmc.af.mil.

nae, the head has only a single pair of setae (hairs). It has no pleural rod, a feature that differentiates it from *Xenopsylla cheopis* (oriental rat flea).

Fleas show little host specificity. Although known as the human flea, *P irritans* is a common flea on dogs and cats. It is also found on wild animals with no human contact.¹ It can serve as the intermediate host of the dog tapeworm (*Dipylidium caninum*). *P irritans* may serve as a vector for bubonic plague^{2,3} and erysipeloid. It may have played a major role in the spread of plague during Europe's great epidemics.

P irritans is implicated in the spread of diseases historically associated with *X cheopis*. Like *X cheopis*, *P irritans* infests rodents that harbor plague bacillus.⁴ Although *P irritans* infests deer in

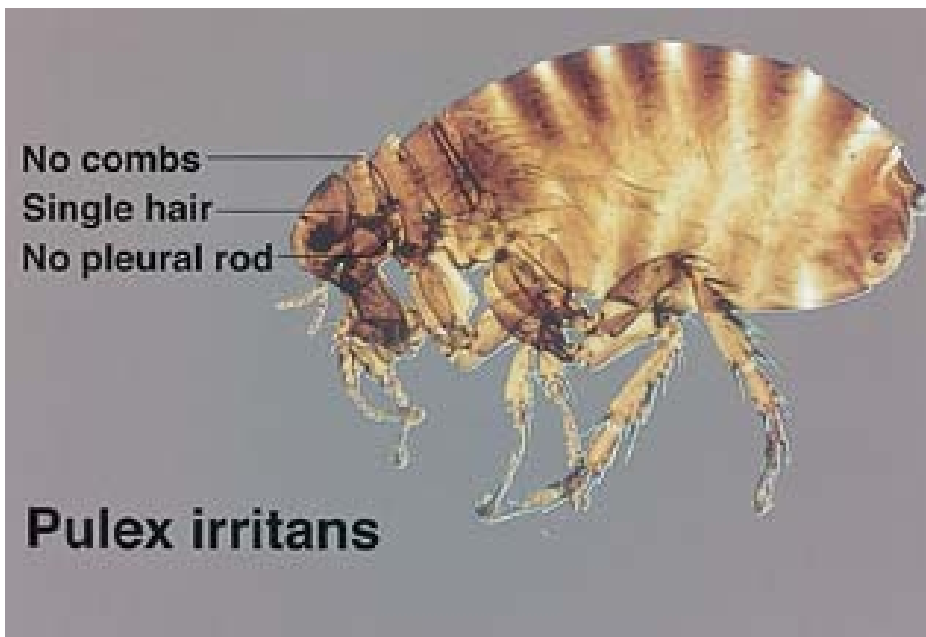


FIGURE 1. Human fleas carry disease and are common on dogs in parts of the southeastern United States.

Lyme-endemic areas, fleas collected from infested deer do not contain spirochetes. Therefore, it appears that fleas are not likely to transmit Lyme disease.⁵

Refugee populations are commonly infested with ectoparasites, including *P irritans*.⁶ Ectoparasites create the potential for rapid spread of disease in these populations. *P irritans* persists as a “house flea” in many parts of the world. Its importance as a plague vector is magnified by its resistance to pesticides.⁷

Fleas are prolific. A female human flea can lay more than 400 eggs in her lifetime. The ability of pupae and “cocooned” adults to lie dormant for a year or more can confound efforts at flea control. Lufenuron, an orally administered growth regulator, has revolutionized flea control. It does not kill adult fleas, but it does prevent reproduction. New topically applied agents, such as fipronil, are also highly effective. These can be applied to the nape of the pet’s neck every 1 to 3 months.

Adverse Reactions

Flea bites appear as tense, pruritic, urticarial papules on exposed areas including the hands, forearms, and lower legs. Excoriation with secondary impetiginization is common. Vesicular and bullous flea-bite reactions occur and can be quite dramatic. Histologic examination reveals a wedge-shaped dermal infiltrate that surrounds both venules and arterioles. Eosinophils are common. Epidermal necrosis, spongiosis, and intraepidermal or subepidermal bullae may be seen.

Treatment

Topical antipruritics containing camphor and menthol or pramoxine offer some relief. Topical propylene glycol has been used as a counter-irritant. Ultrapotent topical steroids under occlusion may be needed for short-term treatment of severe cases, although many cases will respond to milder topical steroids.

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