

Communication

Skin lesions in dogs, horses and calves caused by the stable fly *Stomoxys calcitrans* (L.) (Diptera: Muscidae)

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Specific skin lesions caused by *Stomoxys calcitrans* on the feeding sites of different species are described. Skin lesions appeared on dogs, horses and calves following bites of stable flies. Necrotic dermatitis was observed in 32 dogs of various breeds at the tip of the ears. Exudative dermatitis appeared on the legs of 45 adult horses and dermatitis was diagnosed in the "hair whirlpools" on the backs of 18 white calves.

Key words: Dog - Horse - Calf - *Stomoxys calcitrans* - Dermatitis - Lesion.

Introduction

Stomoxys calcitrans is the most common blood-feeding fly around farm animals and is an important pest of livestock in temperate and subtropical countries (4). The biology of *S. calcitrans* has recently been reviewed (7). It feeds twice a day on the average, usually on whichever host happens to be available at the time (10), but will feed more often if interrupted. *S. calcitrans* has been identified as a mechanical vector of disease agents (8, 18). The wide host range of stable flies has been reported by Greenberg (8).

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Stable flies are significant pests of domestic animals and cause severe annoyance (5), injury and allergic reactions (13). Economic losses, e.g., decrease in milk yield in dairy cattle (2, 14), reduced weight gain in calves (3) and damage to tissues and hides (6) have been reported. Stable flies can also be a significant pest of man, causing pain and annoyance (15). The differences in the degrees of attacks by *S. calcitrans* are influenced by the host odour (1), and the reactions of the host under attack (17).

Relatively little information is available on stable flies as a cause of skin lesions in domestic animals. In this study, specific skin lesions caused by *S. calcitrans* in dogs, horses and calves observed during a survey period of three years (1992-1994) are described.

Results and Discussion

The preferred biting site of stable flies on dogs is at the tip of the ears (12). We made similar observations on 32 dogs of various breeds, with prick-ears (figure 1). As a result of watch dog and sheep dog continuous exposure to stable fly bites, necrotizing dermatitis developed on the biting sites (figure 2). Similar observations have been made by Hogsette *et al.* (12). A similar clinical condition can be confused with stick fast flea infestation. The local shepherds used to cut the pups' ears in order to protect them from this injury (figure 3).



Figure 1: Biting site of stable flies on tips of dog ears.

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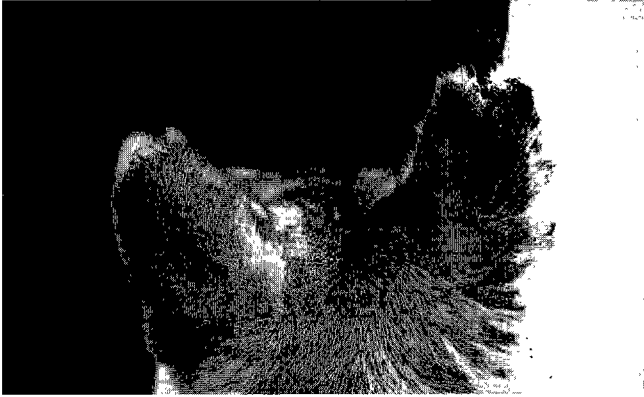


Figure 2: Necrotizing dermatitis on the tips of dog ears.



Figure 3: Sheep dog with cut ears.

S. calcitrans prefers to feed on the front legs of horses and cattle, possibly because the skin there is thinner and blood capillaries are closer to the surface (16). Three flies per front leg of 10 animals (cattle and horses) is the economic threshold of stable flies (11).

Forty-five adult horses of various breeds were observed continually stamping their feet, throwing their heads towards their front legs and waving their tails, their skin twitching. Exudative dermatitis appeared on the skin following stable fly bites (figure 4). In the case of exudative dermatitis, the condition also resembles *Dermatophilus* infection.

Calves in dairy herds (Israeli-Holstein) were kept in lodges and were bitten on their backs by stable flies

during the Summer. Dermatitis was diagnosed in the "hair whirlpools" on the backs of 18 white calves (figure 5). This specifically local dermatitis is covered by a dark exudate which is the blood meal residue of *S. calcitrans*; this being described here for the first time. In this area, the hairs are thinner and the skin is accessible to the biting flies.

The biting sites of stable flies may lead to the development of myiasis following activity of oviparous or larviparous flies. The annoyance and injury caused by stable flies can be prevented by adequate control on all animals exposed to their bites (7).



Figure 4: Exudative dermatitis on the front legs of a horse.

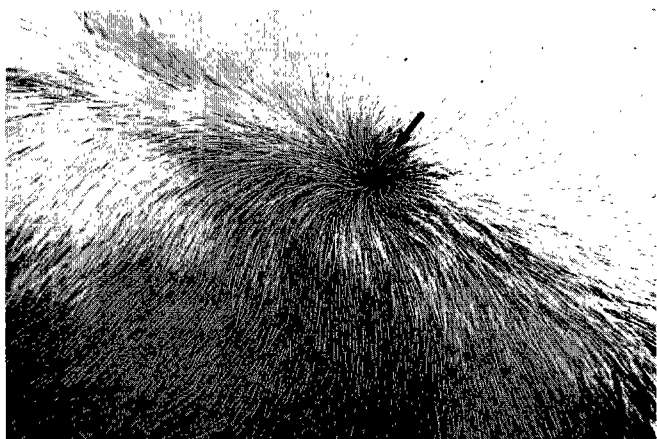


Figure 5: Biting site of stable flies on the "hair whirlpool" on the back of a calf.

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- YERUHAM I., BRAVERMAN Y.** Lésions de la peau chez le chien, le cheval et le veau causées par les stomoxes *Stomoxys calcitrans* (L.) (Diptera : Muscidae). *Revue Elev. Méd. vét. Pays trop.*, 1995, **48** (4) : 347-349
- Des lésions spécifiques de la peau causées par *Stomoxys calcitrans* sur des sites de prédilection sont décrites sur des espèces différentes d'animaux (chiens, chevaux et veaux) consécutivement à des piqures par des stomoxes. Une dermatite nécrotique est observée chez 32 chiens de races diverses, sur la pointe des oreilles. Une dermatite exsudative est constatée sur les pattes de 45 chevaux adultes et une dermatite est diagnostiquée sur les zones des "tourbillons de poils" sur le dos de 18 veaux.
- Mots-clés* : Chien - Cheval - Veau - *Stomoxys calcitrans* - Dermatite - Lésion.