

Short note

The first report of human biting by *Lipoptena cervi* from Slovakia

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ABSTRACT. The first bite by deer ked *Lipoptena cervi* (Linnaeus, 1758) on humans has been reported from Slovakia. The host was bitten on the head and neck. Pain and itching appeared immediately after the bite. The skin lesion persisted for several weeks. Although the first documented case of human stings is published here, bites may have occurred in the past, albeit rarely.

Keywords: hippoboscid, ectoparasites, humans, painful and itchy bites, Middle Europe

Introduction

The genus *Lipoptena*, in the family Hippoboscidae, is known as a group of obligate

parasites of mammals known as deer ked [1]. In Europe, 5 species are known [2]. In Slovakia, only 2 species, native *Lipoptena cervi* (Linnaeus, 1758) and invasive *Lipoptena fortisetosa* (Maa, 1965) [3,4].

People entering natural habitats of *Lipoptena* are exposed to their attacks and the subsequent health consequences [5]. Humans are accidental hosts for *Lipoptena* species, as they cannot reproduce after feeding on humans. For this reason, this is even considered an ecological trap [5–7], because when the parasite settles on the host, it loses its wings.

The knowledge of the clinical picture of *Lipoptena* bites from Slovakia, has not yet been relevantly published. In some cases, around the world, serious disease symptoms and health problems have been noted in humans, including chronic dermatitis [5,8,9].

Materials

Lipoptena cervi (Linnaeus, 1758), 1 ♀ (Fig. 1)

Locality: Slovakia, cottage, the ornithological station Drienovec, 13.9.2023



Figure 1. *Lipoptena cervi* (Linnaeus, 1758) specimen from the biting person



Figure 2. Papular lesions caused by *Lipoptena* biting

Host: human (Fig. 2, Laboratory and Museum of Evolutionary Ecology, University of Prešov). After painful bites, it was taken from the bitten person's hair.

Results

The host was bitten on the head and neck by *L. cervi* fly. After it is removed from the host poorly visible punctures, irregularly shaped scattered erythematous papules were observed and photographed. Pain and itching appeared immediately after the bite; the skin lesion persisted for several days to weeks (see also Fig. 2). This case fully corresponds to Buczek et al. [10], which described similar cases from Poland.

Although we are publishing the first documented case of a human being bitten, rare cases of biting may have occurred in the past. Which is also documented by a survey the authors of the articles on https://www.nahuby.sk/diskusie.php?parent_message_id=6113270). Many mushroom borers are attacked by this parasite, which travels on their body, especially on the upper part, neck and hair. They also bring the parasite home, but almost never

report being bitten. In another community interview with students and researchers in the forest, some people have previously reported such bites of unknown origin – it seems they could also have come from *L. cervi*. An issue worth investigating in the future is the fact of selective attacks on individuals in such a group, with bites recurring in the same places on the body and in the same locations in the forest.

Due to the fact that *L. cervi* is a vector *Bartonella schoenbuchensis* is one of the parasites important to humans for epidemiological reasons. We should not ignore the itchy papules and painful skin lesions caused by it.

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