

New records of *Lipoptena fortisetosa* (Diptera: Hippoboscidae) in north-eastern Poland

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In Poland, two species of *Lipoptena* (Hippoboscidae) are present: *Lipoptena cervi* and *Lipoptena fortisetosa*. *L. cervi* occur widely across the country, while the presence of *L. fortisetosa* has been demonstrated only in the Dolnośląskie, Małopolskie and Warmińsko-Mazurskie Provinces. They are a blood-sucking ectoparasites of cervids. In Europe commonly occur in red deer, roe deer, fallow deer, elk and sika deer. In total, 154 *L. cervi* and 26 *L. fortisetosa* were collected from red deer's during hunting seasons (from November to December and from May to June of 2018/2019) from two localities in north-eastern Poland. In the Białowieża Primeval Forest, 3 (2♀,1♂) of *L. fortisetosa* and 9 (6♀,3♂) of *L. cervi* were collected. While from the Strzałowo Forest Inspectorate (Puszcza Piska Forest) 26 (15♀,11♂) of *L. fortisetosa* and 145 (78♀,67♂) of *L. cervi* were obtained. After collection, all insects were preserved in 70% ethanol for further morphological processing. Sex determination and species identification were carried out using taxonomic keys according to Borowiec 1984. A morphological study was conducted using optical and scanning electron microscopes. The biggest difference between the two species refers to body size: *L. fortisetosa* is smaller than *L. cervi*. In both species, females are larger than males. For females the average body length of *L. fortisetosa* was 4.29mm (3.86–4.65mm), and males was 3.75 (3.66–3.86). The average body length of *L. cervi* for females was 5.90mm (4.54–6.89mm), and males was 5.55mm (4.69–6.40mm). The important feature of thorax regions is the chaetotaxy, *L. cervi* is hairier than *L. fortisetosa*. Another differences are the female terminalia (the number of bristles on the genital opening) and features of the pregenital sclerites and pregenital plates. The two new localities of *L. fortisetosa* species in Poland are presented: one in the Białowieża Primeval Forest, and one in the Strzałowo Forest Inspectorate (Puszcza Piska Forest), both on north-eastern Poland.

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