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## First Record of *Lipoptena depressa* (Diptera: Hippoboscidae) from Alberta, Canada

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**ABSTRACT:** *Lipoptena depressa* is reported for the first time from Alberta on a 2½-mo-old white-tailed deer fawn. This ked fly is one of four species occurring on deer in North America. The fawn had severe hemorrhagic enteritis of undetermined cause.

**Key words:** *Odocoileus virginianus*, white-tailed deer, *Lipoptena depressa*, Hippoboscidae, ked, case report.

*Lipoptena depressa* (Say, 1823) Sacken, 1878 is reported from mule deer (*Odocoileus hemionus*) (Bequaert, 1935, 1937, 1942, 1957; Spencer, 1938a, b; Cowan, 1943, 1946) and white-tailed deer (*Odocoileus virginianus*) (Bequaert, 1957) from British Columbia. *Lipoptena depressa* is reported also from Washington, Oregon, California, Idaho, Montana and South Dakota (Bequaert, 1937, 1942), Colorado (Eads and Campos, 1984), and Utah (Tip-ton and Saunders, 1971). Bequaert (1942) suggested that *L. depressa* may occur in Alberta, but apparently it is not previously reported in Canada east of the Rocky Mountains. Maa (1969) erected two subspecies of *L. depressa* to include specimens from the eastern slopes of the Rocky Mountains in Montana, Wyoming, South Dakota, and Nebraska (*L. depressa depressa*), and those from the western slopes in British Columbia, Washington, Oregon, Idaho, and California (*L. depressa pacifica*).

On 22 August 1986 a 2½-mo-old white-tailed deer fawn was found dead 9 km south of Cypris Hills, Alberta, Canada (49°33'N, 114°14'W) by a local rancher who contacted personnel of the Fish and Wildlife Division, Department of Energy and

Natural Resources. The fawn was submitted to the Regional Veterinary Laboratory, Animal Health Division, Lethbridge, Alberta for examination. It had a severe hemorrhagic enteritis of undetermined cause. Bacteriological examinations of intestinal contents were negative for *Salmonella* spp., *Campylobacter* spp., and *Yersinia* spp. and for toxins of *Clostridium perfringens* Type C. Numerous keds (Hippoboscidae) were found on the skin. Representative samples were removed and stored in 70% ethanol for subsequent identification. Specimens were mounted and cleared in Berlese fluid and identified as *Lipoptena depressa* following the descriptions of Bequaert (1937) and Maa (1969). Three female and two male specimens were sent to Dr. R. V. Peterson, Systematic Entomology Laboratory, U.S. National Museum of Natural History, Washington, D.C. who confirmed the identification. Voucher specimens are deposited in the U.S. National Museum of Natural History, but they were not assigned accession numbers.

Three additional species of ked flies occur on deer (*Odocoileus* spp.) in North America. *Lipoptena cervi*, introduced into the northeastern United States, is reported from Massachusetts, New Hampshire, and Pennsylvania (Bequaert, 1942). *Lipoptena mazamae* occurs in the southeastern United States (Texas, Florida, Georgia, and South Carolina) and Central and South America (Bequaert, 1942; Samuel and Trainer, 1972). *Neolipoptena ferrisi* occurs in southern British Columbia, Oregon, Colorado, California, North Dakota and Montana (Maa, 1969).

*Lipoptena depressa* is distributed primarily in the coastal region of British Columbia on *O. hemionus columbianus*. Apparently, *N. ferrisi* is distributed more commonly in the interior of British Columbia (Spencer, 1938a) on *O. hemionus hemionus* and *O. hemionus columbianus*. Spencer (1938a, b) and Cowan (1946) recovered low numbers of specimens from *O. hemionus columbianus* in the coastal regions of British Columbia. Spencer (1938a) believed that the distribution of the two species (*L. depressa* on the coast and *N. ferrisi* in the interior) probably resulted from climatic factors, rather than from host specificity. When both species occur on the same animal in the coastal regions *L. depressa* usually greatly outnumber *N. ferrisi* (Spencer, 1938b).

The effects of this parasite on the fawn were not determined. It is conceivable that heavy infections could serve as an additional stress, contributing to poor condition or death of the host.

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#### LITERATURE CITED

- BEQUAERT, J. 1935. The American species of *Lipoptena* (Diptera, Hippoboscidae). Bulletin of the Brooklyn Entomological Society 30: 170.
- . 1937. Notes on Hippoboscidae. 5. The American species of *Lipoptena*. Bulletin of the Brooklyn Entomological Society 32: 91–101.
- . 1942. A monograph of the Melophaginae, or ked-flies, of sheep, goats, deer and antelopes (Diptera, Hippoboscidae). Entomologica Americana 22: 1–220.
- . 1957. The Hippoboscidae or louse-flies (Diptera) of mammals and birds. Part II. Taxonomy, evolution and revision of American genera and species. Entomologica Americana 36: 417–611.
- COWAN, I. 1943. Notes on the life history and morphology of *Cephenemyia jellisoni* Townsend and *Lipoptena depressa* Say, two dipterous parasites of the Columbian black-tailed deer [*Odocoileus hemionus columbianus* (Richardson)]. Canadian Journal of Research 21: 171–187.
- . 1946. Parasites, diseases, injuries, and anomalies of the Columbian black-tailed deer, *Odocoileus hemionus columbianus* (Richardson), in British Columbia. Canadian Journal of Research 24: 71–103.
- EADS, R. B., AND E. G. CAMPOS. 1984. Notes on the deer keds *Neolipoptena ferrisi* and *Lipoptena depressa* (Diptera: Hippoboscidae) from Colorado, U.S.A. Journal of Medical Entomology 21: 245.
- MAA, T. C. 1969. Further notes on Lipopteninae (Diptera: Hippoboscidae). Pacific Insects Monograph 20: 205–236.
- SAMUEL, W. M., AND D. O. TRAINER. 1972. *Lipoptena mazamae* Rondani, 1878 (Diptera: Hippoboscidae) on white-tailed deer in southern Texas. Journal of Medical Entomology 9: 104–106.
- SPENCER, G. J. 1938a. Ectoparasites of deer in British Columbia. Proceedings of the British Columbia Entomological Society 34: 15–19.
- . 1938b. Ectoparasites of birds and mammals of British Columbia. II. A preliminary list of the Pupipara, louse flies. Proceedings of the British Columbia Entomological Society 34: 39–45.
- TIPTON, V. J., AND R. C. SAUNDERS. 1971. A list of arthropods of medical importance which occur in Utah, with a review of arthropod-borne diseases endemic in the state. Brigham Young University Scientific Bulletin Biological Series 15: 1–31.

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