

# FIRST REPORT OF *LIPOPTENA MAZAMAE* (DIPTERA: HIPPOBOSCIDAE) IN *MAZAMA GOUAZOUBIRA* IN SANTA CATARINA, BRAZIL

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Flies of the genus *Lipoptena* belong to the phylum *Arthropoda*, class *Insecta*, order *Diptera*, and to the *Hippoboscidae* family. There are 30 species in Brazil, classified into 10 genera. However, there is still little information about their distribution and hosts across Brazilian regions (GRACIOLLI & CARVALHO, 2003).

The genus *Lipoptena* feeds on blood and parasites mammals and birds, including several species of the *Cervidae* family. It causes significant blood loss, emaciation, and carcass and pelage devaluation (KADULSKI, 1996; BROCE, 2006; WALL, 2007). Damage to the pelage is noticeable, and so are histological, physiological and behavioral findings. Flies of this genus tend to bite around the neck and the posterior region (KAUNISTO et al., 2008). LAUKKANEN et al. (2005) associated occupational allergic rhinoconjunctivitis in man when exposed to these insects, in addition to immune response of saliva and stool antigens in deer, characterized by hypersensitivity, dermatitis and allergic reactions.

*Lipoptena mazamae* occurs in the United States, Central America and South America (SAMUEL & TRAINER, 1972; DEMARAIS et al., 1987; MERTINS et al., 1992; REEVES et al., 2006). In Brazil, it has been found in the states of Amazonas, Pará, Mato Grosso, São Paulo, Paraná, Santa Catarina and Rio Grande do Sul (GRACIOLLI & CARVALHO, 2003; RIBEIRO et al., 2003). Nevertheless, this fly species had not been reported to infect *Mazama gouazoubira* in the state of Santa Catarina.

*L. mazamae* has been implied to transmit anaplasmosis to cattle, *Trypanosoma cervi* to deer and *Bartonella* spp. to cattle, deer and humans (REEVES et al., 2006).

The present study is a partnership set up between Universidade do Planalto Catarinense (UNIPLAC) and IBAMA (Brazilian Environmental and Renewable Natural Resources Institute), to investigate the causes of death of wild animal species that live in Santa Catarina and to gather information about diseases in these populations.

In September 2008, a male brown brocket deer (*Mazama gouazoubira*) of approximately 1 year old weighing 11.150kg was referred to IBAMA, in Lages,

from a rural area in the town of Paineal (altitude of 916 m; 27°50'48''S; 50°10'36''W) and was taken to UNIPLAC for necropsy.

Examination for the detection of ectoparasites included visual inspection of the animal's whole body. Seventeen flies were collected from the inguinal region and placed in alcohol 70 GL and then sent to the School of Veterinary Medicine of UFRGS for taxonomic classification. The entomological diagnosis was based on the identification key proposed by GRACIOLLI & CARVALHO (2003). At the site from which the flies were removed there were small hemorrhagic spots. No other abnormal finding was detected at necropsy.

The flies were identified as *Lipoptena mazamae*. This is the first report of *Lipoptena mazamae* in *Mazama gouazoubira* in the state of Santa Catarina, Brazil. As there is no other report of the presence of *Lipoptena* sp. In the species analyzed, we suggest that future research should explore this issue in greater detail in living or necropsied animals, so as to obtain data on dispersion patterns, seasonality, parasite load and pathogenicity.

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## REFERENCES

- [1] BROCE, A. Ectoparasites control. Veterinary Clinics of North America. **Food Animal Practice**, v. 22, p. 463-474, 2006.
- [2] DEMARAIS, S.; JACOBSON, H.; GUYMN, D.C. Effects of seasons and area on ectoparasites of white-tail deer (*Odocoileus virginianus*) in Mississippi. **Journal of Wildlife Diseases**, v. 23, p. 261-266, 1987.
- [3] GRACIOLLI, G.; CARVALHO, C.J. de. Hippoboscidae (Diptera, Hippoboscoidea) no estado do Paraná, Brasil: chaves de identificação, hospedeiros e distribuição geográfica. **Revista Brasileira de Zoologia**, v. 20, p. 667-674, 2003.
- [4] KADULSKI, S. Ectoparasites of cervidae in Northeast Poland. **Acta Parasitologica**, v. 41, p. 204-210, 1996.
- [5] KAUNISTO, S.; KORTET, R.; HÄRKÖNEN, L.; HÄRKÖNEN, S.; YLÖNEN, H.; LAAKSONEN, S. New bedding site examination-based method to analyse

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- deer ked (*Lipoptena cervi*) infection in cervids. **Parasitology Research (online)**. DOI: 10.1007/s00436-008/1273-0. 2008. Available at: <<http://www.springerlink.com/content/100447/>> Accessed on December 20, 2008.
- [6] LAUKKANEN, A.; RUOPPI, P.; MÄKINEN-KILJUNEN, S. Deer ked-induced occupational allergic rhinoconjunctivitis. **Annals of Allergy, Asthma and Immunology**, v. 94, p. 604-608, 2005.
- [7] MERTINS, J.L.; SCHIATER, J.I.; CORN, J.L. Ectoparasites of the black buck antelope (*Antilope cervicapra*). **Journal of Wildlife Diseases**, v. 28, p. 481-484, 1992.
- [8] REEVES, W.K.; NELDER, M.P.; COBB, K.D.; DASCH, G.A. *Bartonella* spp. in deer keds, *Lipoptena mazamae* (Diptera: Hippoboscidae), from Georgia and South Carolina, USA. **Journal of Wildlife Diseases**, v. 42, p. 391-396, 2006.
- [9] RIBEIRO, P.B.; BICHO, C.L.; VIANNA, E.E.S.; COSTA, P.R.P. *Lipoptena (Lipoptenella) mazamae* Rondani, 1878 (Diptera, Hippoboscidae) em *Mazama gouazoubira* (Fischer, 1814) (Veado catingueiro), no Rio Grande do Sul, Brasil. **Arquivos do Instituto Biológico**, São Paulo, v. 70, p. 211, 2003.
- [10] SAMUEL, W.M.; TRAINER, D.O. *Lipoptena mazamae* Rondani, 1878, (Diptera: Hippoboscidae) on white-tail deer in Southern Texas. **Journal of Medical Entomology**, v. 9, p.104-106, 1972.
- [11] WALL, R. Ectoparasites: future challenges in a changing world. **Veterinary Parasitology**, v. 148, p. 62-74, 2007.