



## **Parasites from the Asiatic Black Bear (*Ursus thibetanus*) on Kyushu Island, Japan**

Authors: Yokohata, Y., Fujita, O., Kamiya, M., Fujita, T., Kaneko, K., et al.

Source: Journal of Wildlife Diseases, 26(1) : 137-138

Published By: Wildlife Disease Association

URL: <https://doi.org/10.7589/0090-3558-26.1.137>

---

BioOne Complete ([complete.BioOne.org](https://complete.BioOne.org)) is a full-text database of 200 subscribed and open-access titles in the biological, ecological, and environmental sciences published by nonprofit societies, associations, museums, institutions, and presses.

Your use of this PDF, the BioOne Complete website, and all posted and associated content indicates your acceptance of BioOne's Terms of Use, available at [www.bioone.org/terms-of-use](https://www.bioone.org/terms-of-use).

Usage of BioOne Complete content is strictly limited to personal, educational, and non - commercial use. Commercial inquiries or rights and permissions requests should be directed to the individual publisher as copyright holder.

---

BioOne sees sustainable scholarly publishing as an inherently collaborative enterprise connecting authors, nonprofit publishers, academic institutions, research libraries, and research funders in the common goal of maximizing access to critical research.

## Parasites from the Asiatic Black Bear (*Ursus thibetanus*) on Kyushu Island, Japan

Y. Yokohata,<sup>1</sup> O. Fujita,<sup>1</sup> M. Kamiya,<sup>1</sup> T. Fujita,<sup>2</sup> K. Kaneko,<sup>3</sup> and M. Ohbayashi,<sup>4</sup> <sup>1</sup> Department of Parasitology, Faculty of Veterinary Medicine, Hokkaido University, Sapporo 060, Japan; <sup>2</sup> Oita Livestock Hygiene Center, Oita 870-11, Japan; <sup>3</sup> Department of Parasitology, Aichi Medical University, Aichi 480-11, Japan; <sup>4</sup> Department of Veterinary Medicine (Parasitology), Rakuno Gakuen University, Ebetsu 069, Japan

**ABSTRACT:** Two *Dirofilaria ursi*, six *Trichodectes pinguis* and numerous *Haemaphysalis megaspinosa* were obtained from an Asiatic black bear (*Ursus thibetanus*) shot in Kyushu, Japan. The presence of two parasites specific to black bears may indicate the existence of a wild population, although the bears are regarded to be extinct on Kyushu Island.

**Key words:** *Dirofilaria ursi*, *Trichodectes pinguis*, *Haemaphysalis megaspinosa*, Asiatic black bear, *Ursus thibetanus*, survey.

A male Asiatic black bear (*Ursus* (= *Selenarctos*) *thibetanus*) was shot in Ogata, Oita Prefecture, Kyushu, Japan (32°50'N, 131°50'E) on 24 September 1987, although this species is considered to be present only on Honshu and Shikoku Islands and to be extinct on Kyushu Island since 1941. The animal was necropsied in Oita Livestock Hygiene Center (Oita 870-11, Japan). The bear was estimated to be 4-yr-old by counting cementum annuli in its canine teeth. Two specimens of a filarial nematode, six specimens of a biting louse and numerous specimens of a hard tick were obtained from the bear. These were identified as *Dirofilaria ursi*, *Trichodectes pinguis* and *Haemaphysalis megaspinosa*, respectively. No parasites were recovered from the viscera of this bear.

*Dirofilaria ursi* was found in the esophageal and tracheal connective tissue. They were identified as *D. ursi* by the many longitudinal ridges on the cuticle. This species has been reported from *U. thibetanus* in some places in Honshu Island, Japan (Yamaguti, 1941; Uni, 1978, 1983), from brown bears (*Ursus arctos*) in Russia and Canada and from American black bears (*Ursus americanus*) in Canada and the United States (Anderson, 1952; Rogers and Rogers, 1976; Rogers, 1975; Manville, 1978; Pence et al., 1983). *Dirofilaria ursi*

is specific to these two species of bears, although *D. ursi*-like specimens have been reported from humans in Canada and the United States (Beaver et al., 1987).

*Trichodectes pinguis* and *H. megaspinosa* were found in ventral body hairs of this bear. The former, which has been reported from *U. thibetanus* in Japan and in a zoo in Paris (Nakagawa, 1960; Rogers and Rogers, 1976), from *U. arctos* in Europe (Rogers and Rogers, 1976) and from *U. americanus* in North America (Rogers and Rogers, 1976; Rogers, 1975; Manville, 1978), is also specific to these species of bears. *Haemaphysalis megaspinosa* is a common species of tick on various mammalian hosts in Japan (Yamaguchi and Kitaoka, 1980).

There have been bears reared or held in captivity at Ogata that could have been a source of infection of any parasites in the bear we examined. The finding of the two species specific to bears suggests that the bear examined may have originated from a wild population, although we are not sure whether or not the bear is a wild free-ranging or an escaped captive specimen.

The parasite specimens were deposited in the Department of Parasitology, Faculty of Veterinary Medicine, Hokkaido University, Japan (Accession number 1345).

### LITERATURE CITED

- ANDERSON, R. C. 1952. Description and relationships of *Dirofilaria ursi* Yamaguti, 1941, and a review of the genus *Dirofilaria* Railliet and Henry, 1911. Transactions of the Royal Canadian Institute 29: 35-65.
- BEAVER, P. C., J. S. WOLFSON, M. A. WALDSOHN, M. N. SWARTZ, G. W. EVANS, AND J. ADLER. 1987. *Dirofilaria ursi*-like parasites acquired by hu-

- mans in the northern United States and Canada: Report of two cases and brief review. *American Journal of Tropical Medicine and Hygiene* 37: 357-362.
- MANVILLE, A. M. 1978. Ecto- and endoparasites of the black bear in northern Wisconsin. *Journal of Wildlife Diseases* 14: 97-101.
- NAKAGAWA, H. 1960. Notes on the Mallophaga from the Asiatic black bear. *Japan Wildlife Bulletin* 18: 217-222.
- PENCE, D. B., J. M. CRUM, AND J. A. CONTI. 1983. Ecological analyses of helminth populations in the black bear, *Ursus americanus*, from North America. *The Journal of Parasitology* 69: 933-950.
- ROGERS, L. L. 1975. Parasites of black bears of the Lake Superior region. *Journal of Wildlife Diseases* 11: 189-192.
- ROGERS, L. L., AND ROGERS, S. M. 1976. Parasites of bears: A review. *In* *Bears—Their biology and management*, M. R. Pelton, G. E. Folk and J. W. Lenfer (eds.). Morges, Switzerland, pp. 411-430.
- UNI, S. 1978. Scanning electron microscopic study of *Dirofilaria* species (Filarioidea, Nematoda) of Japan and a review of the genus *Dirofilaria*. *Journal of Osaka City Medical Center* 27: 439-458.
- . 1983. Filarial parasites from the black bear of Japan. *Annales de Parasitologie Humaine et Comparée* 58: 71-84.
- YAMAGUCHI, N., AND S. KITAOKA. 1980. Ixodidae. *In* *Illustrations of the mites and ticks of Japan*, S. Ehara (ed.). Zenkoku Noson Kyoiku Kyokai, Tokyo, Japan, pp. 144-161.
- YAMAGUTI, S. 1941. Studies on the helminth fauna of Japan. Part 35. Mammalian nematodes II. *Japanese Journal of Zoology* 9: 409-438.

*Received for publication 7 March 1989.*