

Trichodectes canis: severe pediculosis in coyotes

PEDICULOSIS is caused by an infestation of lice of the order Mallophaga (biting lice) or of the order Anoplura (sucking lice). It can be easily diagnosed by finding adult lice or nits in the hair. In severe infestations of biting lice, alopecia or matting of hair may be present. The biting louse *Trichodectes canis* is commonly isolated as a cause of pediculosis in dogs;¹⁻³ however, reports of *T. canis* in coyotes are few.⁴⁻⁷ Cases of *T. canis* in dogs have become less prevalent during the past two decades, probably through routine use of insecticides on dogs and around kennels.

In many instances, pediculosis may initially be confused with mange unless the causative agents are identified. In most instances in wild Canidae (*i.e.*, wolves, coyotes, foxes), alopecia caused by infestations of lice is probably attributed to mange.

In this paper we describe two cases of severe alopecia associated with large numbers of *T. canis* in coyotes (*Canis latrans*).

Case No. 1

On December 7, 1976, a trapper killed an adult female coyote. Because of alopecia the coyote was believed to have mange and was submitted to a class in wildlife disease at Washington State University.

Matted hair was noted over the shoulders, the dorsal thorax, and the dorsal and lateral portions of the neck (Figure 1). The underfur was separated from the skin and was retained within the midshaft of the guard hairs. Approximately 35% of the coyote's body surface was involved. In many areas, the coat was noticeably sparse. Mature and immature lice and nits could be seen on the hairs (Figures 2-4). (Continued on next page)

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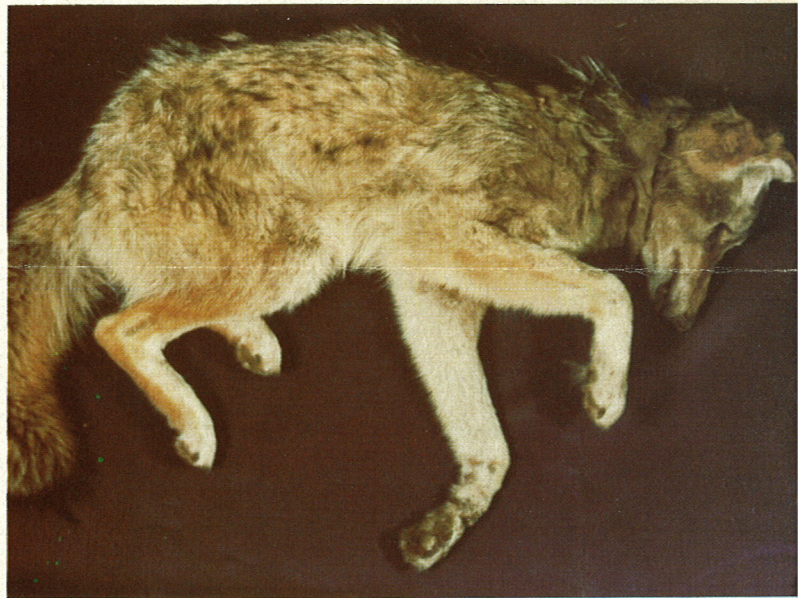


Figure 1
Coyote with heavy infestation of *Trichodectes canis* exhibiting matted coat over the thorax, shoulders, and neck.

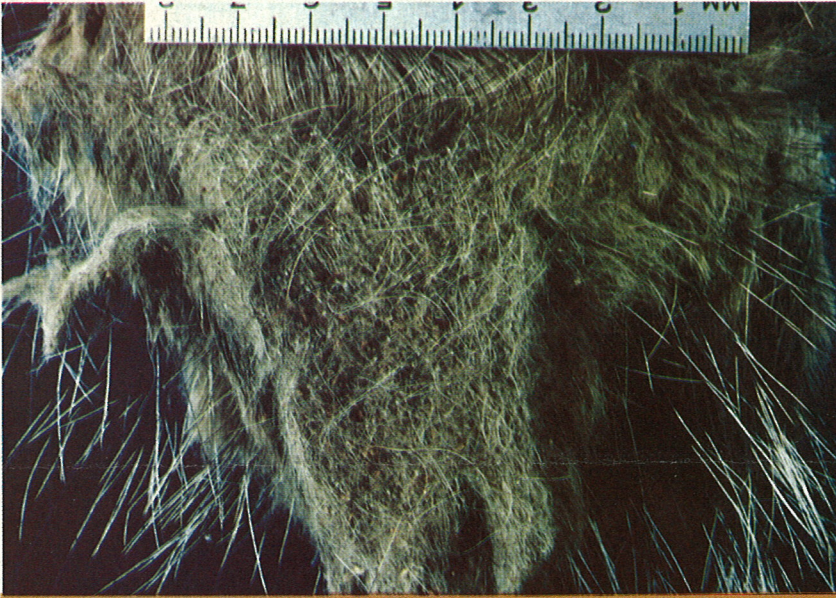


Figure 2
Coat from the coyote in Figure 1. The undercoat has separated from the skin and is matted within the guard hairs.

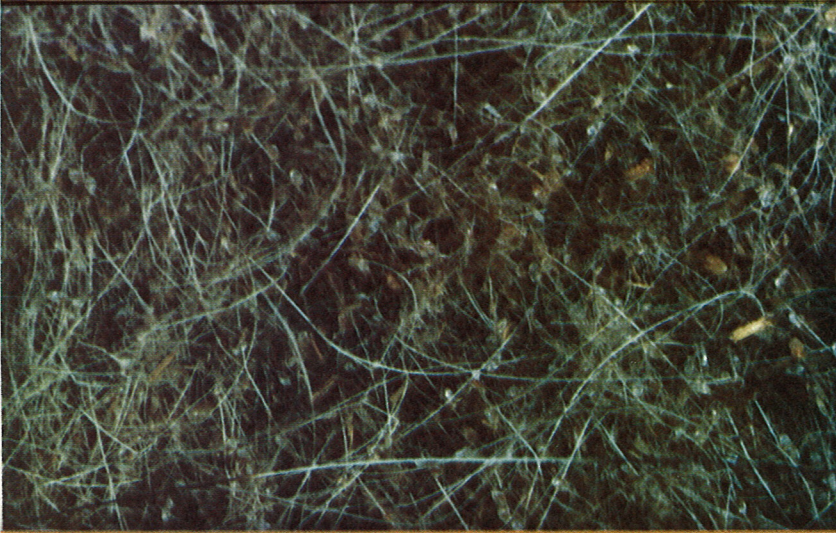


Figure 3
Numerous *Trichodectes canis* and nits on the hairs.

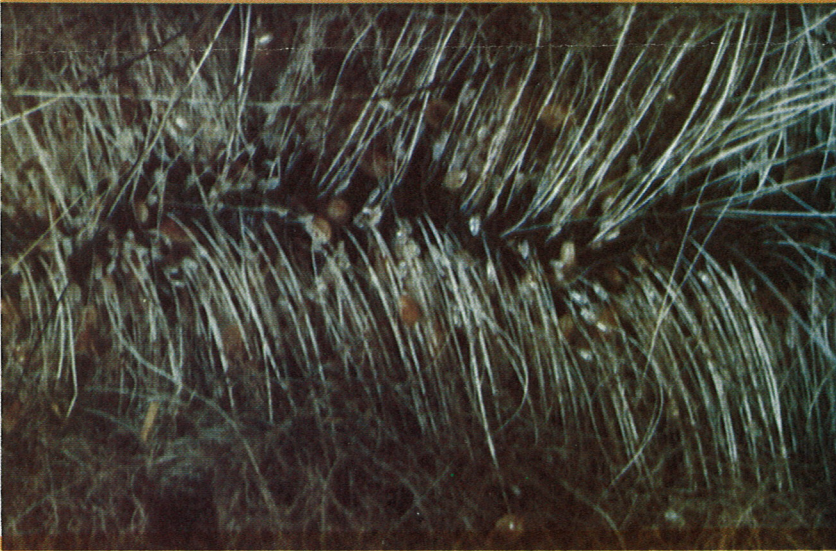


Figure 4
Close-up of lice and nits in an area over the shoulders of the coyote.

The lice were collected, fixed in 70% alcohol, cleared in 5% KOH, and examined microscopically. *Trichodectes canis* was the only ectoparasite detected (Figure 5). The identification was confirmed by Dr. J. Kierans of the Rocky Mountain Laboratory, Hamilton, Montana. The number of lice on the animal was estimated to be 50,000.

Variable acanthosis, diffuse hyperkeratosis, and focal parakeratosis were seen when the skin was examined microscopically. Superficial portions of the hair follicles were filled with keratinous debris. Many of the hair follicles were active. Sebaceous and apocrine glands were mildly hypertrophied. Inflammatory cellular infiltrate was superficial and consisted primarily of neutrophils in the epidermis and papillary debris. The superficial keratinous debris harbored many bacteria.

Case No. 2

On December 2, 1976, five days before Case No. 1 was seen, a coyote which had been caught in the wild and confined at the United States Sheep Experiment Station, Dubois, Idaho, was found to have lesions similar to those seen in Case No. 1. When the animal's skin was examined, *T. canis* was the only ectoparasite detected. Although the infestation was heavy, the number of lice present was not estimated.

The insecticide, Diazinon, as a 50% wettable powder, was dusted on the bedding in the coyote's den box the day after the infestation was noted. No lice were subsequently found on this coyote or coyotes in adjoining pens. Within six weeks, new growth had replaced the affected fur.

Discussion

Reports of mange in wild Canidae are often based solely on observations of alopecia or matted hair.⁸ Such reports should be viewed with some skepticism since the causative agent must be identified before a diagnosis can be confirmed. In both cases reported here, mange was initially suspected (*Demodex*, *Sarcoptes*, *Otodectes* spp.), but *T. canis* was the etiologic agent.

Infections of *T. canis* may be a minor hazard to

human health. They can serve as intermediate hosts for the dog tapeworm *Dipylidium caninum*,^{1,3,9} which can develop to the mature form in man. Anyone who has contact with wild Canidae should be aware that infective cysticercoids can be transferred from lice to man by accidental hand-to-mouth contact, with resultant ingestion of the cysticercoids.

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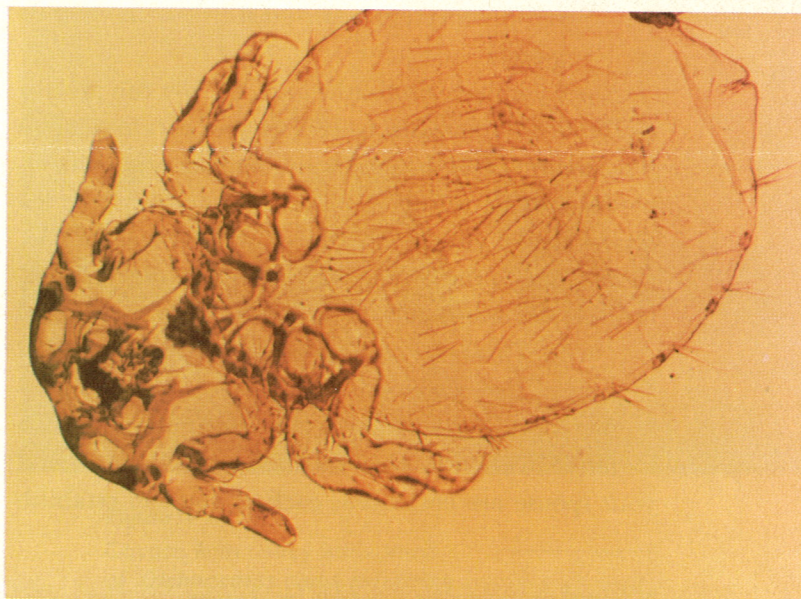


Figure 5—*Trichodectes canis* from the coyote.