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## The Occurrence of *Rhipicephalus sanguineus* and *Liponyssus bacoti* in Iowa

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## The Occurrence of *Rhipicephalus sanguineus* and *Liponyssus bacoti* in Iowa

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A year ago the writer presented at these meetings a paper discussing the distribution of the tropical rat flea, *Xenopsylla cheopis*, in Iowa and other interior states. Now he will present evidence that two acarines generally associated with tropical fauna may have become more or less permanently established inside the state. They are *Rhipicephalus sanguineus*, the brown dog tick, and *Liponyssus bacoti*, the tropical mite.

The first collection of *Rhipicephalus sanguineus* in the state consisted of specimens taken in Davenport, Iowa, in 1941 by Father W. A. Hauber of St. Ambrose College, who sent them to the writer for identification. He turned them over to Eddy and Joyce who, in 1942, published the record. Since then the writer has had submitted to him tick specimens and accounts of three more infestations, as follows: Des Moines, Iowa, summer of 1942, in a house; Ames, Iowa, summer of 1946, in an apartment; Nevada, Iowa, fall of 1946, in a house. Dogs were kept in the homes in all three outbreaks. Spraying the cracks in the wall and floor whence the ticks issued with a commercial 10 percent DDT in oil solution brought about the complete eradication of the ticks from the Ames apartment.

According to Bishopp and Trembley (1945) the brown dog tick is a "first magnitude pest of dogs" and "an annoying household pest", but "it does not readily attach to man". According to the same authors it has been found to carry the following microorganisms:

*Piroplasma canis*, the cause of malignant jaundice of dogs; the causative agents of Spanish relapsing fever and typhus fever; and, experimentally, *Haematozoon canis*, *Trypanosoma cruzi*, *T. christophersi*, the rickettsia of Rocky Mountain Spotted Fever, and *Anaplasma* of cattle and dogs.

The first record of *Liponyssus bacoti* in Iowa is that of Freed, Jordan and Eckhoff (1937) who found six specimens of the mite, as well as twenty-five specimens of *Xenopsylla cheopis*, on rats trapped in a Des Moines factory where a victim of endemic typhus had been employed. In June, 1939, the writer received specimens from Red Oak, Iowa, some taken from an infested house and some from the common brown rat. The nymphs and adults of the tropical rat mite attack man freely. Not only is their crawling about the body annoying, but the bites are painful and may be the cause of a skin eruption (*Vide* Bishopp, 1923; Shel mire and Dove, 1931). The mite appears also to be capable of transmitting endemic typhus (Dove and Shel mire, 1931, 1932) in the United States. Of special interest is the report of Williams and Brown (1946) that it also transmits *Litomosoides carinii*, a filariid nematode parasitic in the cotton rat (*Sigmodon hispidus*).

Fig. 1 is a photograph of a specimen from the Red Oak infesta-

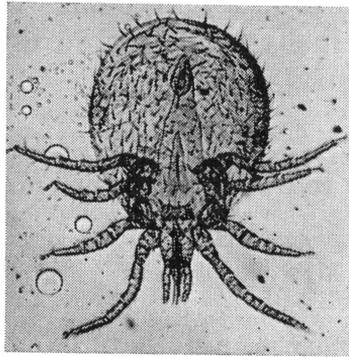


Fig. 1. Photograph of cleared and mounted specimen of *Liponyssus bacoti*.  
(Photo by P. H. Carr)

tion which the writer successfully cleared and mounted. Both the longer dorsal plate and the anal and forward plates on the ventral surface are well shown.

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