



10-31-1988

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Recommended Citation

Egoscue, Harold J. (1988) "Noteworthy flea records from Utah, Nevada, and Oregon," *Great Basin Naturalist*. Vol. 48 : No. 4 , Article 10.

Available at: <https://scholarsarchive.byu.edu/gbn/vol48/iss4/10>

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NOTEWORTHY FLEA RECORDS FROM UTAH, NEVADA, AND OREGON

Harold J. Egoscue¹

ABSTRACT.—Collections from several scattered western localities have (1) extended the ranges in Nevada of two sagebrush vole fleas, *Oropsylla bacchi johnsoni* and *Megabothris clantoni princei*, (2) provided a second record for Utah of the rarely collected flea, *Delotelis telegoni*, and (3) included additional examples of unusual and seldom reported host-flea relationships for the area.

The geographical distribution, ecology, host preferences, and seasonal occurrence of many western fleas are still imperfectly known. Presented here are range extensions, additional data about rare fleas, and uncommonly recorded host-flea associations.

Scientific and common names of mammals follow Hall (1981) except for *Sorex monticolus obscurus* (see Hennings and Hoffmann 1977). Fleas in the family Ceratophyllidae are according to a revision by Smit (Traub, Rothschild, and Haddow 1983). The name combination *Sternopsylla distincta texana* as new usage was first proposed by Johnson (1957).

One or more voucher specimens of most host species, except deer mice and the shrew listed as *Sorex* sp., were deposited in the University of Utah, Museum of Natural History, Salt Lake City. Hosts collected by me were caught in Museum Special snap traps except the spotted skunk, which was livetrapped. Fleas were permanently mounted on slides, and all but *Orchopeas sexdentatus* are presently in my possession.

Sorex merriami merriami Dobson

Epitedia stanfordi Traub, 1944. 1 ♀, Harney Co., Oregon: 16 km S of Crane, 1,318 m, 25 October 1984.

This host association is no doubt accidental; *E. stanfordi* was also collected here from *Lagurus curtatus*, *Peromyscus maniculatus*, *P. crinitus*, and *Reithrodontomys megalotis*, most of which are generally regarded as normal hosts for this flea. Flea records from the Merriam shrew are few. Specimens identified only as "common rodent fleas" were reported from *S. merriami* in central Washington

(Johnson and Clanton 1954). Fleas specific to this soricid are unknown.

Sorex vagrans vagrans Baird

Epitedia stanfordi Traub, 1944. 1 ♂ 1 ♀, Tooele Co., Utah: mouth of South Willow Creek Canyon, east base Stansbury Mts., 8 km S of Grantsville, 1,610. 4 m, 21 February 1980.

Sorex monticolus obscurus Merriam

Corrodopsylla curvata obtusata (Wagner 1929). 1 ♀, Tooele Co., Utah: head of Mack Canyon, Stansbury Mts., 2,470.5 m, 28 September 1967; 1 ♀, outlet of North Willow Lake, Stansbury Mts., 2,562 m, 17 July 1968.

The first and only other published Utah records of *C. c. obtusata* are from the water shrew, *Sorex palustris*, collected in the Oquirrh Mts., Tooele Co. (Egoscue 1966). Several other species of small mammals including *Sorex monticolus* (then *S. obscurus*) caught in the same traplines there did not have this flea, thus leading me to wonder if *C. c. obtusata* might be host specific to water shrews in the intermountain area. This notion was dispelled by the Mack Canyon record ex *S. monticolus* collected on a dry, sagebrush hillside some distance from the nearest *S. palustris* populations. Left unexplained is why all *C. c. curvata* collected to date in Utah are from the Wasatch cordillera while every *C. c. obtusata* is from isolated mountains of the Bonneville Basin. Additional collecting is clearly recommended.

The taxonomic status of *C. c. obtusata* remains unresolved. Holland (1985 and elsewhere) strongly suggested that it be accorded full species status.

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Sorex sp.

Corrodopsylla curvata curvata (Rothschild 1915). 16 ♂♂ 12 ♀♀, Salt Lake Co., Utah: Red Butte Canyon, Wasatch Mts., 1,830 m, July 1982.

The specific identity of the host (not saved) is in question, but it was not a water shrew. Twenty-eight fleas from either a dusky or a wandering shrew are highly unusual. Shrew fleas from Utah are rare in collections.

Tadarida brasiliensis mexicana (Saussure)

Sternopsylla distincta texana (C. Fox 1914). 10 ♀♀, White Pine Co., Nevada: Rose Guano Cave, west base of the Snake Range, 1,952 m, 24–26 August 1965; Idem., 1 ♂ 3 ♀♀, 5 October 1966; Idem., 1 ♂, 12 July 1967; Idem., but from guano collected on the cave floor, 1 ♂ 2 ♀♀, 4–5 July 1985.

Rose Guano Cave, sometimes referred to as Rosebud Cave, harbors a maternity colony of Brazilian free-tailed bats estimated to number several thousand. To my knowledge, these are the first records of *S. d. texana* from Nevada.

Ochotona princeps cinnamomea J. A. Allen

1. *Ctenopsyllus armatus* (Wagner 1901). 9 ♂♂ 9 ♀♀, Sevier Co., Utah: Johnson's Reservoir, 2,745 m, 31 May 1965. 2. *Megabothris abantis* (Rothschild 1905). 1 ♂, Idem., 31 May 1965. 3. *Amphalius runatus necopinus* (Jordan 1925). 1 ♀, Idem., 31 May 1965.

Ochotona princeps fuscipes A. H. Howell

1. *Ctenopsyllus armatus* (Wagner 1901). 3 ♂♂ 5 ♀♀, Kane Co., Utah: 3.2 km E of Navaho Lake, 2,745 m, 10 June 1965. 2. *Amphalius runatus necopinus* (Jordan 1925). 3 ♂♂, Idem., 10 June 1965.

Ochotona princeps lasalensis Durrant & Lee

1. *Ctenopsyllus armatus* (Wagner 1901). 7 ♂♂ 14 ♀♀, San Juan Co., Utah: Warner Ranger Station, La Sal Mts., 2,806 m, 21 May 1965. 2. *Amphalius runatus necopinus* (Jordan 1925). 1 ♀, Idem., 21 May 1965.

Ochotona princeps uinta Hollister

Ctenopsyllus armatus (Wagner 1901). 9 ♂♂ 16 ♀♀, Summit Co., Utah: Smith and Moorehouse Canyon, 1.6 km S of Smith and Moorehouse Guard Station, Uinta Mts., 2,745 m, 5–13 June 1965.

Stark (1958) had less than two dozen pika flea records to report from Utah. The rodent flea, *Megabothris abantis*, has been found with some regularity as a stray on *Ochotona* in Canada (Holland 1985), Utah (Stark 1958), and several other western states (Hubbard 1947).

Microdipodops megacephalus ambiguus Hall

Meringis hubbardi Kohls 1938. 1 ♂, Humboldt Co., Nevada: 14.5 km N of Winnemucca, 1,342 m, 30 July 1965.

Hubbard (1949b) reported this flea from kangaroo mice collected in northern Nevada but gave no specific localities. *Microdipodops* sp. rarely has fleas.

Microdipodops megacephalus nasutus Hall

Meringis hubbardi Kohls 1938. 2 ♂♂ 1 ♀, Mineral Co., Nevada: 1.2 km NE of Lucky Boy Pass Summit, Wassuk Mts., 2,455 m, 10–11 September 1980.

Although *M. hubbardi* has been found on a wide variety of small mammals, *Perognathus parvus* appears to be the preferred host. No Great Basin pocket mice were caught in association with kangaroo mice at either of the above-mentioned Nevada localities, although suitable habitat was present at both places.

Peromyscus maniculatus sonoriensis
(Le Conte)

Delotelis telegoni (Rothschild 1905). 1 ♀, Utah Co., Utah: 7.2 km NE of the summit of Mt. Nebo, Wasatch Mts., 2,580 m, 31 July 1985.

The first Utah record of this rare flea was collected by D Elden Beck and reported by Stark (1958). My specimen came from a host trapped in an aspen-snowberry association with a heavy understory of grasses and herbaceous plants. Other small mammals caught here were *Sorex monticolus*, *Eutamias minimus*, *Microtus longicaudus*, and *Zapus princeps*.

Lagurus curtatus intermedius (Taylor)

1. *Oropsylla bacchi johnsoni* (Hubbard 1949). 6 ♂♂ 3 ♀♀, Eureka Co., Nevada: Garden Pass Summit, 56.3 km N of Eureka, 2,039 m, 22 July 1985. 2. *Megabothris clantoni princei* Hubbard 1949. 3 ♂♂ 10 ♀♀, Idem., 22 July 1985. 3. *Malariaeus telchinus* (Rothschild 1905). 1 ♀, Idem., 22 July 1985.

The 23 fleas listed above came from one host. None of several other kinds of rodents including deer mice collected here was infested with either *O. b. johnsoni* or *M. c. princei*. Garden Pass Summit is about midway between Vya, where Hubbard (1949a) found these two *Lagurus* fleas in extreme NW Humboldt Co., Nevada, and Johnson Pass, Tooele Co., the only place in Utah where *M. c. princei* has been collected (Egoscue 1977).

Spilogale putorius gracilis Merriam

1. *Orchopeas sexdentatus* ssp. 3 ♂♂ 9 ♀♀, Tooele Co., Utah: White Sage Flats, 1.6 km E of Simpson Buttes, 1,372.5 m, 18 November 1965. 2. *Anomiopsyllus amphibolus* Wagner, 1936. 5 ♂♂ 10 ♀♀, Idem., 18 November 1965. 3. *Meringis dipodomys* Kohls, 1938. 1 ♂ 3 ♀♀, Idem., 18 November 1965. 4. *Dactylopsylla ignota utahensis* (Wagner, 1936). 1 ♂ 4 ♀♀, Idem., 18 November 1965.

Fleas recovered from spotted skunks reflect their catholic food habits and investigative behavior; they have no fleas peculiar to them in the Great Basin.

All the fleas listed were collected from an adult male spotted skunk caught at a vacant kit fox den. This situation provides a classic example of the epidemiological involvement potential a small carnivore can have for acquiring and disseminating ectoparasites. Here we have a small mustelid living in the den of a canid and carrying four species of rodent fleas, all presumably picked up in the course of its recent foraging or denning activities. The kangaroo rat fleas could have come from the immediate vicinity where the skunk was captured, but the nearest woodrat and gopher populations were at least one mile distant. *Anomiopsyllus amphibolus* is a host-specific nest flea of *Neotoma*, suggesting that the skunk had recently spent time in a wood rat house.

ACKNOWLEDGMENTS

I thank T. Tomasi for providing the shrew fleas obtained during his research in Red Butte Canyon. Paul Lombardi collected the pika fleas. Robert E. Elbel, E. A. Shippee, and R. Bassard gave valuable assistance in the field; Elbel also critically read the manuscript.

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