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(SIPHONAPTERA: PULICIDAE), AN OCCASIONAL
PARASITE OF WHITE-TAILED DEER FROM THE
WELDER REFUGE IN SOUTHERN TEXAS**

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Source: Journal of Wildlife Diseases, 6(3) : 182-183

Published By: Wildlife Disease Association

URL: <https://doi.org/10.7589/0090-3558-6.3.182>

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***Pulex porcinus* JORDAN AND ROTHSCILD, 1923
(SIPHONAPTERA: PULICIDAE), AN OCCASIONAL PARASITE
OF WHITE-TAILED DEER FROM THE WELDER REFUGE
IN SOUTHERN TEXAS**

The javelina flea *Pulex porcinus* has been reported from white-tailed deer *Odocoileus virginianus* only in southern Texas (most recently by Cook, R. S., 1966, Ph.D. Thesis, University of Wisconsin, Madison, 123 pp.) where it is found commonly on the collared peccary *Dicotyles tajacu angulatus* (Samuel and Low, 1970. J. Wild. Dis. 6(1): 16-23). The reports of *P. porcinus* on deer have

been limited in scope, giving little information on the prevalence (percentage infestation), numbers, and site of attachment. In attempting to rectify this, 404 deer were examined systematically for fleas from 1966 through 1968 as part of an investigation of disease ecology at the Welder Wildlife Foundation in south Texas.

Methods

From January 1966 through August 1968, 143 neonatal fawns (less than 30 days of age) were captured live, and 261 deer (2 months to 9 years of age) were collected by shooting (Samuel, W. M., 1969. Ph.D. Thesis, University of Wisconsin, Madison, 196 pp.). Neonatal

fawns were examined for fleas in their entirety while the ears, antlers in velvet, and an "index" area (described in detail by Samuel and Trainer, 1970. J. Med. Ent. in press), on the medial surface of the left hind leg of older deer were scanned.

Results and Discussion

Pulex porcinus was found on the sparsely-haired concave surface of the ears of 56 (14%) of 404 deer. Numbers of fleas recovered per infested deer averaged 3.6 (1-27). None of 45 neonatal fawns examined in June 1966, had fleas, but 10 of 98 neonatal fawns examined in June 1967, were infested. *P. porcinus* was found on only one of 73 other deer examined from January 1966, through January 1967, but was prevalent on 59 and 40% of 32 and 37 deer collected in the spring and summer of 1967. Thereafter, prevalence was 8% of 119 deer collected in the fall, winter, spring, and summer of 1967-68. No neonatal fawns were examined in 1968. It is possible that *P. porcinus* was abundant at the Welder Refuge during the spring and summer of 1967, and deer became infested secondarily and temporarily in areas utilized by peccaries. Unfortunately, little information of fleas is available for peccaries

on the Refuge at that time. Samuel and Low (op. cit.) found *P. porcinus* on all 313 peccaries examined (1964-1967) from the Welder Refuge and the King Ranch (approximately 50 miles southwest of the Refuge). They reported fleas to be particularly abundant in the bedding areas of peccaries from the King Ranch in the springs of 1965 and 1966.

The prevalence of *P. porcinus* on sedentary neonatal fawns examined in 1967 from plant communities with "dense" vegetation, which were areas of the Refuge most frequented by peccaries, was 26% compared with 4% ($X^2 = 5.22$, $P < 0.05$) and 7% ($X^2 = 0.88$, $P > 0.05$) on fawns from communities with "moderately-dense" and "sparse" vegetation. Older deer, which usually frequented either lowland plant communities with "dense" and "sparse" vegetation or upland communities with "moderately-dense"

vegetation, were parasitized similarly ("dense-sparse" = 21%, compared with "moderately-dense" = 10%; $X^2 = 5.05$, $P < 0.05$).

The fact that prevalence and numbers of *P. porcinus* were usually low on deer, and percentage infestation was highest on

deer in areas used commonly by peccaries, suggests that deer are accidental and temporary hosts for *P. porcinus*. The geographic distribution of this flea from white-tailed deer (i.e., within the distribution of *Dicotyles tajacu angulatus*) strengthens this view.

Acknowledgements

Dr. R. B. Eads, U.S. Quarantine Station, New Orleans, Louisiana, verified the identification of *P. porcinus*. Mr. W. C. Glazener, Assistant Director of the Welder Refuge, coordinated and assisted with the captures and collections of deer. This study was a cooperative project of the Rob and Bessie Welder Wildlife Foundation, Sinton, Texas (Contribution No. 000), and the Department of Veterinary Science, University of Wisconsin (Paper No. 644).

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March 31, 1970

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