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Authors: Pfaffenberger, G. S., and Rosero, J. F.

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Mallophaga from Five Raptor Species in Eastern New Mexico

G. S. Pfaffenberger and J. F. Rosero, Department of Life Sciences, Eastern New Mexico University, Portales, New Mexico 88130, USA

Presently there is no information on mallophagan parasites from eagles, hawks and owls in New Mexico. Within the last year several specimens were donated to the Natural History Museum of Eastern New Mexico University. Before the birds were prepared as museum mounts they were systematically examined. Using forceps, single rows of feathers were deflected and a stereomicroscope was used to examine their bases for the presence of ectoparasites. Mallophaga of the head and neck were maintained separately from those recovered from the body. Relative numbers of lice recovered are of value when similar techniques and personnel are used (Chamberlain, *In* Bram (ed.), 1978, U.S.D.A. Agric. Handbook No. 518, pp. 3–6), therefore these numbers were determined and used for comparative purposes. Representative specimens were deposited in the U.S. National Parasite Collection, Beltsville, Maryland 20705, USA (Accession Nos. 77602–77608).

The golden eagle (*Aquila chrysaetos*) was infected with *Craspedorrhynchus aquilinus* (Denny, 1842) only about the head and neck. Our inability to recover lice from the thick layer of down beneath the body plumage probably accounts for the lack of data in Table 1. *Strigiphilis oculatus* (Rudow, 1870) was the only mallophagan species recovered from the great horned owl (*Bubo virginianus*). As indicated in Table 1, *S. oculatus* appeared to demonstrate a slight preference for the body over head and neck regions of the host.

The red-tailed hawk (*Buteo jamaicensis*) proved to be the most heavily infected (Table 1) with slightly more lice being recovered from head and neck than body regions. Of the five raptor species examined, this host proved to be the only one upon which mallophagan territoriality seemed to exist. *Craspedorrhynchus americanus* was found only upon the head and neck while *Degeeriella fulva* (Giebel, 1874) was recovered only from the body.

The American rough-legged hawk (*Buteo lagopus*) was infected with a single species of lice (*Degeeriella fulva*) which appeared more frequently over the body than head and neck areas (Table 1). Fi-

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TABLE 1. Numbers, sex and distribution of biting lice recovered from raptors in eastern New Mexico.

Host	Head-neck			Body			No. lice per bird	
	M[a]	F[a]	I[a]	M	F	I	Total	Mean
Golden eagle (1)[b]	22	35	0	0	0	0	57	57.0
Great horned owl (2)	1	4	8	10	16	16	55	27.5
Red-tailed hawk (1)	34	55	0	22	43	0	154	154.0
American rough-legged hawk (1)	3	6	11	16	29	18	83	83.0
Barn owl (3)	4	3	0	1	1	1	10	3.3

[a] M = male lice, F = female lice, I = immature lice.
[b] Number of specimens examined.

nally, the barn owl (*Tyto alba*) carried a lower burden of lice than the other raptors. Aside from the red-tailed hawk, it was the only host to support two parasite species. The most common species was *Strigiphilus aitkeni* Clay, 1966, which occurred over head-neck and body, while only two specimens of *Kurodaia subpachygaster* (Piaget, 1880) were recovered from the body.

We should like to thank Dr. R. D. Price for identifying the Mallophaga.

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Xylazine Hydrochloride-induced Anorexia in White-tailed Deer

Robert J. Warren,[1] **Roy L. Kirkpatrick, David F. Gibson,**[2] **and Patrick F. Scanlon,** Department of Fisheries and Wildlife Sciences, Virginia Polytechnic Institute and State University, Blacksburg, Virginia 24061, USA

Xylazine hydrochloride (Rompun, Haver-Lockhart Laboratories, Shawnee, Kansas 66201, USA) is a commonly used immobilizing drug in wildlife research. Many of its physiological effects on white-tailed deer (*Odocoileus virginianus*) are known (Gibson et al., 1982, Zoo Biol. 1: 311–322), but no published reports exist on its action in inducing anorexia in white-tailed deer. Simpson et al. (1983, Vet. Rec. 112: 385) reported suppressed appetite in red deer (*Cervus elaphus*) calves immobilized with xylazine hydrochloride. Our paper reports on xylazine hydrochloride-induced anorexia observed during a 1-yr nutritional experiment with adult male white-tailed deer.

Details on experimental animals and design can be found in Warren et al. (1981, J. Wildl. Manage. 45: 926–936). Seven individually penned deer were fed a commercially prepared deer feed at two levels—ad libitum or 75% ad libitum. Feed intake was measured daily for the entire experiment. Xylazine hydrochloride was injected intramuscularly with blow-gun syringes (Warren et al., 1979, J. Wildl. Dis. 15: 537–541) once every 4 wk during the 1-yr experiment. Doses were 3.3 mg/kg (April–October) and 1.7 mg/kg (November–February).

For the purpose of the current report, feed intake data for individual deer were pooled over the entire year in order to demonstrate the effect of xylazine hydrochloride on feed intake. These pooled data were tested by analysis of variance (Barr et al., 1976, A User's Guide to SAS, Sparks Press, Raleigh, North Carolina, 329 pp.) with a split-plot design to determine differences in feed intake between diet levels and days after xylazine hydrochloride injection, as well as the diet by day interaction. A diet by day interaction would indicate that ad libitum-fed deer responded differently to the drug than 75% ad libitum-fed deer. Comparisons of means for significant differences were conducted as described by Steel and Torrie (1980, Principles and Procedures of Statistics, 2nd Ed., McGraw-Hill Book Co., New York, New York, 633 pp.) for split-plot designs and analysis.

Feed intake data recorded on the day after injection also were analyzed separately to test for diet and month sources of variation. Thus, in this separate analysis

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[1] Present address: School of Forest Resources, University of Georgia, Athens, Georgia 30602, USA.

[2] Present address: Wildlife Research and Conservation Commission of the Northern Territories, P.O. Box 1046, Alice Springs, Northern Territory 5750, Australia.