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LICE OF CHILEAN OWLS: A FIRST DESCRIPTION

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KEY WORDS: Kurodaia; Strigiphilus; *Chile*; *lice*; *owls*.

Lice (Phthiraptera) are obligate ectoparasitic insects, carrying out their entire life cycle on the same mammal or bird host. Under particular conditions, lice may have negative effects on their hosts such as decreasing thermoregulatory capacity, reducing nestlings' body mass (which may negatively affect viability and productivity), influencing sexual selection, or transmitting pathogenic endoparasites (Clayton 1990, Moller 1990, Hunter et al. 1994). Lice often multiply when their hosts are stressed, debilitated, or sick (Krone and Cooper 2002). This may reach major importance in terms of conservation and management of threatened mammals and bird species (e.g., Smith and Belthoff 2001). On the other hand, because most genera of the Phthiraptera are restricted to particular taxa and because some louse species parasitize only one host species or a number of subspecies (Clayton 1990, Hahn et al. 2000), they can be useful in understanding ecological, coevolutionary, or phylogenetic relationships (Marshall 1981, Hafner et al. 1994, Hahn et al. 2000, Clayton and Drown 2001). In Chile, diversity and taxonomy of lice associated with wild bird hosts have been only recently studied (González-Acuña et al. 2003a, 2003b, 2004, 2005, San Martín et al. 2005). Here, we report seven lice species parasitizing Chilean owls. In part, these represent new records for Chile.

METHODS

We analyzed a total of 95 birds of six owl species: Barn Owl (*Tyto alba, N* = 21), Magellanic Horned Owl (*Bubo magellanicus, N* = 20), Austral Pygmy Owl (*Glaucidium nanum, N* = 22), Short-eared Owl (*Asio flammeus, N* = 14), Burrowing Owl (*Athene cunicularia, N* = 16) and Rufous-legged Owl (*Strix rufipes, N*= 3). Lice were obtained from several birds held in wildlife rehabilitation centers in central and southern Chile (*N* = 26), from carcasses found as roadkills (*N* = 24), and also from the bird collection housed in the Chilean National Museum of Natural History in Santiago (*N* = 45). In order to remove all louse specimens, each bird or carcass was handled on a clean white surface and the entire plumage was profusely and systematically surveyed (Pérez et al. 1996). All visible lice were removed from the host and brought into the laboratory for examination. The collected material was fixed in 70% filtered ethanol solution, and then slide-mounted for identification following the technique published by Palma (1978) and Price et al. (2003). This material was deposited in the collection of the Faculty of Veterinary Medicine of the University of Concepción, Chile.

RESULTS AND DISCUSSION

A total of 130 lice of seven species were isolated from all six sampled owl species. Two louse species were isolated from Barn Owls and one each from Short-eared Owls, Burrowing Owls, Magellanic Horned Owls, Austral Pygmy Owls, and Rufous-legged Owls (Table 1). Although *Kurodaia subpachygaster* was previously reported from Barn Owls (Price and Beer 1963), *Strigiphilus syrnii* on *S. rufipes* (Clayton 1990), and *S. chilensis* on *B. virginianus nacurutu* (renamed *B. magellanicus*, Clayton and Price 1984), all the remaining louse species we found represented new records for Chile. Because most of the owl specimens were obtained from museum and rehabilitation centers, our results probably do not reflect the natural condition, but, nonetheless, are useful in identifying louse species and their host specificity.

PIOJOS DE BÚHOS CHILENOS: UNA PRIMERA DESCRIPCIÓN

RESUMEN.—Examinamos 95 especímenes de búhos obtenidos de centros de rehabilitación de fauna silvestre, aves muertas en carreteras y colecciones de museo. Se analizaron un total de 20 individuos de la especie *Tyto alba*, 20 de *Bubo magellanicus*, 22 de *Glaucidium nanum*, 14 de *Asio flammeus*, 16 de *Athene cunicularia* y 3 de *Strix rufipes*. Dos especies de piojos fueron aisladas de *T. alba* (*Kurodaia subpachygaster, Strigiphilus aitkeni*) y una especie de *B. magellanicus* (*S. chilensis*), *G. nanum* (*S. microgenitalis*), *A. flam-*

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Table 1. Louse species collected from Chilean Owls.

OWL SPECIES	LOUSE SPECIES	ADULT		NYMPH	SEX RATIO
		MALE (*N*)	FEMALE (*N*)	(*N*)	(M/F)
Strix rufipes	*Strigiphilus syrnii*	—	7	1	—
Athene cunicularia	*Strigiphilus speotyti*	2	2	—	1:1
Glaucidium nanum	*Strigiphilus microgenitalis*	1	1	6	1:1
Bubo magellanicus	*Strigiphilus chilensis.*	18	22	10	1:1.2
Asio flammeus	*Strigiphilus cursor*	5	9	8	1:1.8
Tyto alba	*Kurodaia subpachygaster*	1	2	—	1:2
	Strigiphilus (*Tytoniella*) *aitkeni*	11	16	—	1:1.4

meus (*S. cursor*), *A. cunicularia* (*S. speotyti*) y *S. rufipes* (*S. syrnii*). Las especies *S. speotyti*, *S. microgenitalis*, *S. cursor*, y *S. aitkeni* representan nuevos registros para Chile.

[Traducción del equipo editorial]

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