

as escape shelters, but that “rocks, tin, boards, etc., are never used...” (Axtell 1954. MS Thesis. Univ. of Texas at Austin). Axtell also reported on the use of mammal burrows by other members of the genus (Axtell 1958. Ph.D. Dissertation. Univ. of Texas at Austin.) but never observed that behavior in *H. l. subcaudalis* (R. Axtell, pers. comm.). This is the first report of the use of ground squirrel or any other type of burrows by *H. l. subcaudalis*. In this note we present evidence that *H. l. subcaudalis* not only uses ground squirrel burrows, but that it is dependent on them at this site.

On 18 March 2013, while surveying for *H. l. subcaudalis* at Laughlin Air Force Base (LAFB) in southern Val Verde County, Texas, we observed two of the lizards retreat into Mexican Ground Squirrel burrows. We observed the behavior again on 16 April and 21 May 2013. Altogether, we observed the behavior eight times (out of 16 total observations). Of the eight lizards not observed to escape into ground squirrel burrows, two attempted to hide under the tires of our vehicle, one dashed across the road ahead of us and we couldn't determine what type of refuge it took, and five were captured by running them down on foot before they could find any type of escape shelter.

The Southern Spot-tailed Earless Lizard occurs on relatively flat substrates composed of soils that are loamy, loamy-clay, clay-loam, clay, rarely sandy loam, and never pure sand (Axtell 1956, *op. cit.*; Duran and Axtell 2010. Rept. to Texas Parks and Wildlife Dept., Contract #199464). The habitat at LAFB where this population occurs includes about 718 ha on and around aircraft runways in the western part of the base. The substrate is flat, loamy, and hard-packed. The site is sparsely vegetated, even when rainfall is near the 43.6 cm yearly average for Del Rio, Texas, but at the time of our visits, the region was experiencing drought, vegetation was even more sparse than usual, and lizards were quite conspicuous when present. The site is mown frequently to about 15 cm, mostly to discourage birds that might collide with aircraft. Several decades of mowing has replenished topsoil, has converted former agricultural fields and overgrazed thornscrub into grassland, and has, inadvertently, restored and maintained habitat for *H. l. subcaudalis*. Another result of the continuous mowing is that, except for an occasional stunted *Prosopis glandulosa* (Honey Mesquite) and a few stands of denser grass in moist depressions, the landscape mostly lacks escape cover, such as tall grass, dead or fallen trees, low growing shrubs, leaf litter, and cacti that might be available under different management regimes. Additionally, LAFB is enclosed by high fencing which excludes people and most medium-sized burrowing mammals. We observed numerous 1.9–2.5 cm diameter burrows, probably created by small rodents, but these burrows may have been too small for utilization by *H. l. subcaudalis*, and we saw no evidence that it was using them. We found no published or anecdotal reports of *H. lacerata* creating its own burrows. We did not observe *H. l. subcaudalis* escaping into refugia other than ground squirrel burrows. That we were able to catch lizards by running them down on foot may be the most informative anecdote to illustrate the paucity of escape cover at this site.

Lacking other types of refugia, *H. l. subcaudalis* appears to be dependent on ground squirrel burrows for escape cover at this location. The relationship between *I. mexicanus* and *H. l. subcaudalis* at this site is an apparent case of commensalism.

The Southern Spot-tailed Earless Lizard has been extirpated from much of its historic range. The observations at LAFB were the first reported observations of the subspecies since one individual was caught in a pitfall trap on the Chaparral Wildlife

Management Area in LaSalle Co., Texas, in 1997 (Duran and Axtell 2010, *op. cit.*). The specimens we collected at LAFB were the first since a specimen was taken by Andy Price in Kinney Co., Texas in 1993 (Duran and Axtell 2010, *op. cit.*).

Limited knowledge of the life history requirements of *H. l. subcaudalis* has made planning effective conservation difficult. Evidence of the subspecies' close relationship to ground squirrels at this location may provide an important clue to restoring and maintaining populations, particularly in cases where man-made disturbance has created conditions under which the availability of escape cover may be a limiting factor.

This work was performed under Texas Parks and Wildlife Department Scientific Research Permit #SPR-0302-204. The live specimens were donated to the Fort Worth Zoo in Fort Worth, Texas. The zoo is attempting to breed the subspecies in captivity in hopes of reintroducing it into the wild.

We would like to thank the staff at Laughlin Air Force Base for permitting and participating in this research.

C. MIKE DURAN, The Nature Conservancy, 200 E. Grayson Street, Suite 202, San Antonio, Texas 78215, USA (e-mail: mduran@tnc.org); **DANNY L. YANDELL**, 47 CES/CEAN, 251 4th Street, Laughlin AFB, Texas 78843, USA.

JAPALURA SWINHONIS (Swinhole's Japalura) and **TAKYDROMUS SAUTERI** (Sauter's Grass Lizard). **PREDATION**. On 25 September 2013 at 0912 h along the roadside on Orchid Island, Taiwan (22.03333°N, 121.00916°E; 70 m elev.), one of us (CMW) observed and photographed an adult male *Japalura swinhonis* predating an adult *Takydromus sauteri*. The adult grass lizard was being consumed tail-end first (Fig. 1). During our observations, the *J. swinhonis* carried its prey from the ground up onto the trunk of a tree. Other *T. sauteri* individuals were observed on leaves of Japanese silver-grass (*Miscanthus floridulus*) along the forest edge in the vicinity. Most individuals move from leaf to leaf or are active on the ground and at night some individuals rest on the upper surface of a leaf (Huang 2006. *J. Herpetol.* 40:267–273). *Japalura swinhonis* is a sit-and-wait forager, which perches on tree trunks or on the ground at the edges of forests on Orchid Island. Previously, *J. swinhonis* was known to consume invertebrates exclusively, including ants (50%) and crickets (16.67%)

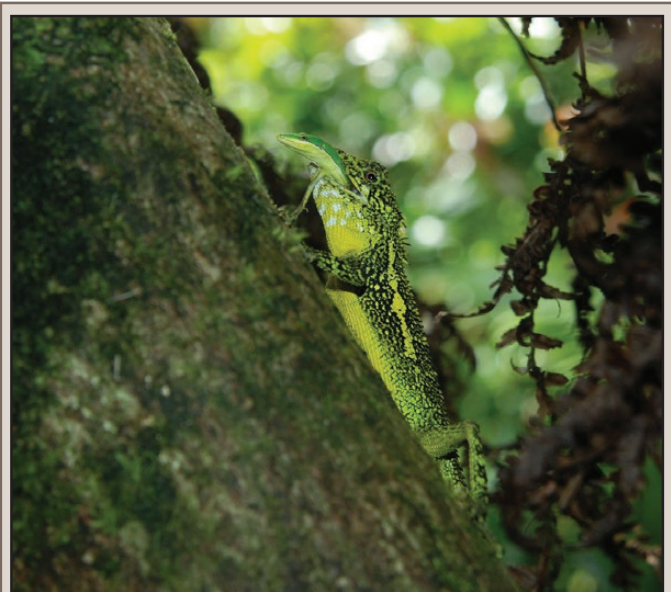


FIG. 1. Adult male *Japalura swinhonis* consuming an adult *Takydromus sauteri* tail-end first.

PHOTO BY C. M. WANG

(Huang 2007. Zool. Sci. 24:181–188). These two lizard species commonly co-occur along forest edges on Orchid Island, Taiwan (Huang 2004. Ph.D thesis, Cornell University, Ithaca, New York), which could result in substantial overlap between them.

CHIU-MEI WANG (e-mail: cmwang@mail.nmns.edu.tw), **JUNG-YA HSU** (e-mail: pygmalion@mail.nmns.edu.tw), and **WEN-SAN HUANG**, Department of Biology, National Museum of Natural Science, 1 Kuan-Chien Road, Taichung 404, Taiwan (e-mail: wshuang@mail.nmns.edu.tw).

LEPIDOPHYMA GAIGEAEE (Gauge's Tropical Night Lizard). ENDOPARASITES. *Lepidophyma gaigeae* occurs in Querétaro and Hidalgo, Mexico (Bezy and Camarillo 2002. Nat. Hist. Mus. Los Angeles Co., Contrib. Sci. 493:1–41). Goldberg et al. (2002. Texas J. Sci. 54:282–284) previously reported one species of Cestoda, *Bitegmen gerrhonoti*, and two species of Nematoda, *Spauligodon giganticus* and *Ascaridia* sp., in *L. gaigeae*. The purpose of this note is to add to the helminth list for *L. gaigeae*.

Two *L. gaigeae* (mean SVL = 58.0 mm ± 2.8 SD, range = 56–60 mm) collected August 1972 in Querétaro, Mexico and deposited in the herpetology collection of the Natural History Museum of Los Angeles County (LACM), Los Angeles, California, USA as LACM 106808, 106809 were examined for helminths.

The digestive tract was removed through a mid-ventral incision and its contents were examined for helminths using a dissecting microscope. Only nematodes were found, which were cleared in a drop of lactophenol on a coverslipped microscope slide and studied under a compound microscope. One species of Nematoda, *Spauligodon oxkutzcabiensis*, was found in the intestines (N = 21, prevalence [number infected/number examined × 100] = 100%; mean intensity [mean number infected individuals] = 10.5 ± 12.0 SD, range = 2–19. Voucher helminths were deposited in the United States National Parasite Collection, Beltsville, Maryland, USA as USNPC 107882.

Spauligodon oxkutzcabiensis was described from *Thecadactylus rapicauda* collected in the Yucatán by Chitwood (1938. Publ. Carneg. Inst. Washington 491:52–66) and is commonly found in lizards from Mexico and Central America. The distribution of hosts for *S. oxkutzcabiensis* is summarized in (Goldberg and Bursey 2012. Comp. Parasitol. 79:269–274). Infection occurs from contact with contaminated substrate or conceivably from licking the ground (see Goldberg and Bursey 1992. J. Parasitol. 78:539–541). *Spauligodon oxkutzcabiensis* is separated from the congener *S. giganticus* based on ornamentation of the eggs and number of spines on the tail of the female; eggs of *S. giganticus* with one polar knob, eggs of *S. oxkutzcabiensis* with a knob on each pole; tail of female *S. giganticus* with 10–11 spines, tail of female *S. oxkutzcabiensis* with 13–15 spines (Chitwood, *op. cit.*; Read and Amrein 1953. J. Parasitol. 39:365–370). Both *S. giganticus* and *S. oxkutzcabiensis* have previously been reported in different representatives of sceloporine lizards from Mexico, including *Sceloporus grammicus* and *S. mucronatus* (Goldberg et al. 2003. Southwest. Nat. 48:208–217. *Lepidophyma gaigeae* represents a new host record for *Spauligodon oxkutzcabiensis*.

We thank G. Pauly (LACM) for permission to examine *L. gaigeae*.

STEPHEN R. GOLDBERG, Natural History Museum of Los Angeles County, Herpetology Section, Los Angeles, California 90007, USA (e-mail: sgoldberg@whittier.edu); **CHARLES R. BURSEY**, Pennsylvania State University, Shenango Campus, Biology Department, Sharon, Pennsylvania 16146, USA (e-mail: cxb13@psu.edu); **JEANNETTE ARREOLA**, Whittier College, Biology Department, Whittier, California 90608, USA (e-mail: jarreola@poets.whittier.edu).

LEPIDOPHYMA SYLVATICUM (Madrean Tropical Night Lizard). ENDOPARASITES. *Lepidophyma sylvaticum* occurs along the Sierra Madre Oriental from Nuevo León to Veracruz, Mexico (Bezy and Camarillo R. 2002. Nat. Hist. Mus. Los Angeles Co., Contrib. Sci. 493:1–41). To our knowledge, there are no reports of helminths from *L. sylvaticum*. The purpose of this note is to establish the initial helminth list for *L. sylvaticum*.

Eight *L. sylvaticum* (mean SVL = 79.0 mm ± 7.3 SD, range = 70–90 mm) collected in 1973 and deposited in the herpetology collection of the Natural History Museum of Los Angeles County, Los Angeles, California, USA (LACM 106744–106746, Hidalgo state, Mexico; LACM 106781–106785, Nuevo León state, Mexico), were examined for helminths.

The digestive tract was removed through a mid-ventral incision and its contents were examined for helminths using a dissecting microscope. Only nematodes were found, which were cleared in a drop of lactophenol on a coverslipped microscope slide and studied under a compound microscope. Four species of Nematoda were found: *Aplectana herediaensis* (small, large intestines, N = 1187), prevalence (number infected/number examined × 100) = 100%; mean intensity (mean number infected individuals) = 148.4 ± 99.7 SD, range = 1–292; *Parapharyngodon alvarengai* (large intestine, N = 2), prevalence = 13%; *Physaloptera* sp. (third stage larvae, stomach, N = 5), prevalence = 38%, mean intensity 1.7 ± 1.2 SD, range = 1–3; ascarid larvae (body cavity, N = 2), prevalence = 13%.

Voucher helminths were deposited in the United States National Parasite Collection (USNPC), Beltsville, Maryland, USA as: *Aplectana herediaensis* (USNPC 107962, 107963); *Parapharyngodon alvarengai* (USNPC 107694); *Physaloptera* sp. (USNPC 107695); ascarid larvae (USNPC 107696).

Aplectana herediaensis was described from *Lepidophyma flavimaculatum* from Costa Rica (Bursey et al. 2006. Carib. J. Sci. 42:164–170) and was later found in *L. flavimaculatum* from Panama (Bursey et al. 2007. Comp. Parasitol. 74:108–140) and *L. micropholis* from San Luis Potosí (Goldberg and Bursey 2011. Herpetol. Rev. 43:648–649). *Parapharyngodon alvarengai* was described from *Mabuya maculata* (currently *Trachylepis atlantica*) from Brazil by Freitas (1957. Mem. Instit. Oswaldo Cruz 55:21–45) and is known from the lizards *Anolis nebulosus*, *Phyllodactylus lanei*, *Sceloporus nelsoni* and *Urosaurus auriculatus* of Mexico as well as *Mesoscincus managuae* from Nicaragua and *Ameiva ameiva*, *Hemidactylus agrius* and the toad *Rhinella icterica* from Brazil (Anjos et al. 2011. Neotrop. Helminthol. 5:285–290; Goldberg and Bursey. 2012. Comp. Parasitol. 79:269–274). There are many reports of amphibians and reptiles containing third stage larvae of *Physaloptera* sp. but no adults (Goldberg et al. 1993. Bull. South. California Acad. Sci. 92:43–51; Goldberg et al. 2009. Comp. Parasitol. 76:258–266). These amphibians and reptiles likely serve as paratenic (= transport) hosts with development completed in a carnivore that feeds on them. Vertebrates typically serve as intermediate hosts for larval ascaroids in which development to the stage infective to the definitive host occurs (Anderson 2000. Nematode Parasites of Vertebrates, Their Development and Transmission. CABI Publishing Oxon, UK. 650 pp.) *Lepidophyma sylvaticum* represents a new host record for *Aplectana herediaensis*, *Parapharyngodon alvarengai*, *Physaloptera* sp. (3rd stage larva), and ascarid larvae.

We thank G. Pauly (LACM) for permission to examine *L. sylvaticum*.

STEPHEN R. GOLDBERG, Natural History Museum of Los Angeles County, Herpetology Section, Los Angeles, California 90007, USA (e-mail: