

groups), lizards, and even plant material have been recorded for other carphodactylid geckos (Pianka and Pianka 1976. *Copeia* 1976:125–142; McPhee 1979. *The Observer's Book of Snakes and Lizards of Australia*. Methuen, Australia. 157 pp.; Harvey 1983. *Trans. Roy. Soc. South. Aust.* 107:231–235; Bauer 1990. *Herpetol. Rev.* 21:83–87; How et al. 1990. *Rec. West. Aust. Mus.* 14:449–459; Couper et al. 1993. *Queensland Geogr. J., Ser. 4*, 8:261–265; Couper and Gregson 1994, *op. cit.*; Doughty and Shine 1995. *Herpetologica* 51:193–201). Herein we report a new and unusual prey item for *N. sheai* from Western Australia.

An adult female *Nephrurus sheai* (WAM R174053; 118 mm SVL), collected from Johnson Creek, Drysdale River National Park, Western Australia (14.7814°S, 127.0997°E; WGS 84), was X-rayed using a Thermo KeveX PXS5-927EA Microfocus source with a LTX-1717 Digital Flat Panel Detector (settings: 40 kV, 80 μ A, 3.2 W) at the Western Australian Museum and found to have a camaenid gastropod (likely *Amplirhagada drysdaleana*, 16 mm shell diameter) in its stomach (Fig. 1). This is not only the first record of *Nephrurus sheai* preying on a gastropod, but also the first documentation of molluscivory in the family Carphodactylidae. At least 15 species of other gekkotans have been reported to feed on gastropods, however, including diplodactylid, sphaerodactylid, gekkonid, and phyllodactylid taxa (Daza et al. 2009. *Biol. J. Linn. Soc.* 97:677–707).

DANIEL J. PALUH (e-mail: dpaluh@villanova.edu), and **AARON M. BAUER**, Department of Biology, Villanova University, 800 Lancaster Avenue, Villanova, Pennsylvania 19085, USA (e-mail: aaron.bauer@villanova.edu).

PHRYNOSOMA HERNANDESI (Greater Short-Horned Lizard). COMMENSALISM. Commensalism is a relationship between two organisms whereby one benefits without negatively affecting the other. Like other horned lizards, *Phrynosoma hernandesi* feeds primarily on ants, but will take other insects (Powell and Russell 1983. *Can. J. Zool.* 62:428–440). Here we describe apparent commensalism between *P. hernandesi* and Lark Buntings (*Calamospiza melanocorys*).

Between 27–30 June 2001 a *P. hernandesi* was observed inside a *C. melanocorys* nest on the Pawnee National Grassland (Weld Co, Colorado, USA; 40.69034°N, 104.35785°W, WGS 84; 1513 m elev.). The lizard was first observed in the ground nest at 1554 h on 27 June 2001, along with four nestlings that were two days old and spontaneously begging for food. The parents were in the vicinity with food (e.g., grasshoppers). During the subsequent nest check, two days later, at 0844 h on 29 June the lizard was again observed in the nest. On this particular occasion, the lizard moved to the rim of the nest while we weighed the three remaining four-day old nestlings (Fig. 1). When we returned the nestlings to the nest, the lizard repositioned itself into the nest cup. The last day that we observed the lizard in the nest was on 30 June during a routine nest check at 1039 h. The female Lark Bunting flushed from the nest when we approached, and in the nest was the lizard alongside the three nestlings. Nestlings were now six days old, sleeping, and occupying most of the nest cup. The last day with young in the nest (three nestlings) was 1 July; the lizard was not seen and was not found during a 1-m radius search of the nest area.

The nest association we observed occurred over four days, and it was unclear if the lizard gained any thermoregulatory or dietary benefit from the association. While in our presence, neither Lark Bunting parent reacted adversely to the presence of the lizard. *P. hernandesi* is known to feed on a variety of ant and beetle species, ground-dwelling bees, true bugs, and other similar ground-dwelling arthropods in Weld County (D. Martin,



FIG. 1. *Phrynosoma hernandesi* (Greater Short-Horned Lizard) in the nest of a Lark Bunting (*Calamospiza melanocorys*).

unpubl. data). Ants were often associated with our Lark Bunting nests and on many occasions were seen removing dried droppings of older nestlings (just prior to and after fledgling). Thus, the lizard may have benefitted from the association by feeding on ants that were attracted to the bird droppings. We suspect that such lizard-bird nest associations are quite rare because it was not observed in the other 810 Lark Bunting nests monitored over seven years in this region.

AMY A. YACKEL ADAMS, U.S. Geological Survey, 2150 Centre Ave Building C, Fort Collins, Colorado 80526, USA (e-mail: yackel@usgs.gov); **ROD D. ADAMS**, Front Range Community College, 4616 S Shields St., Fort Collins, Colorado 80526, USA; **SUSAN K. SKAGEN**, U.S. Geological Survey, 2150 Centre Ave Building C, Fort Collins, Colorado 80526, USA; **DANIEL J. MARTIN**, Natural Resource Ecology Laboratory, Colorado State University, 1499 Campus Delivery, Fort Collins, Colorado 80523, USA.

PODARCIS SICULUS (Italian Wall Lizard). HABITAT AND SUB-URBAN INVASION. *Podarcis siculus* has invaded multiple regions of North America (Burke and Ner 2005. *Northeast. Nat.* 12:349–360). In New York state, multiple populations have been documented on Long Island in urban and suburban environments (Gossweiler 1975. *Copeia* 1975:584–585; Burke and Ner, *op. cit.*). Recently, *P. siculus* was documented invading nearby suburban Greenwich, Connecticut (Donihue et al. 2015 *Herpetol. Rev.* 46:260–261). We recently documented the first populations of *P. siculus* in Westchester Co., New York (Goldfarb et al. 2016. *Herpetol. Rev.* 47:82), and herein describe their habitat use and discuss a possible movement pathway.

On 29 August 2015 between 1100 h and 1700 h, in response to a previous sighting of *P. siculus* by BAG, we surveyed a 3500 m² area incorporating three households, a church, and a small office building in Hastings-on-Hudson, Westchester Co., New York. Following 4 h of searching we (BAG, MRL, CMD) found one adult male and one adult female, four sub-adults or adults of unknown sex, and three young-of-the-year (~3 cm snout-vent length) *P. siculus*. One individual, the adult female, was collected as a voucher specimen (YPM HERR.019476; Fig. 1A). The two adults were found at the base of a tree in the front yard of a private home (Fig. 1b). Nearby habitat included a 1.3 m tall rock wall, in most places covered with dense ivy. An additional sub-adult was found in this ivy on this wall, 15 m from the two adults. The other three sub-adults were found in landscaped vegetation and upon a concrete curb separating another

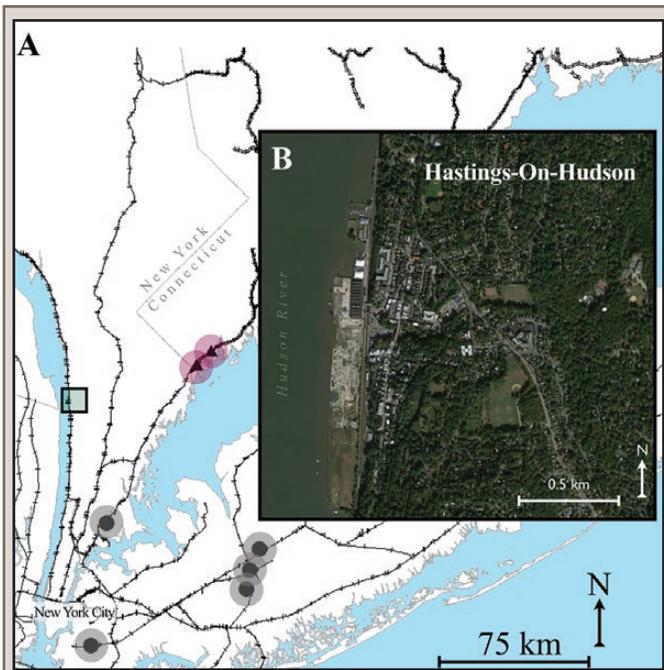


FIG. 1. Map of A) Hudson River and Long Island Sound region with our *Podarcis siculus* sightings in Hastings-on-Hudson (inset map B) and previously-reported regions of Connecticut (maroon circles) and the New York City area (grey circles) with *P. siculus* populations (Gossweiler, *op. cit.*; Burke and Mercurio 2002. *Am. Midl. Nat.* 147:368–375; Burke and Ner, *op. cit.*; Kolbe et al. 2013. *Biol. Invas.* 15:775–783.

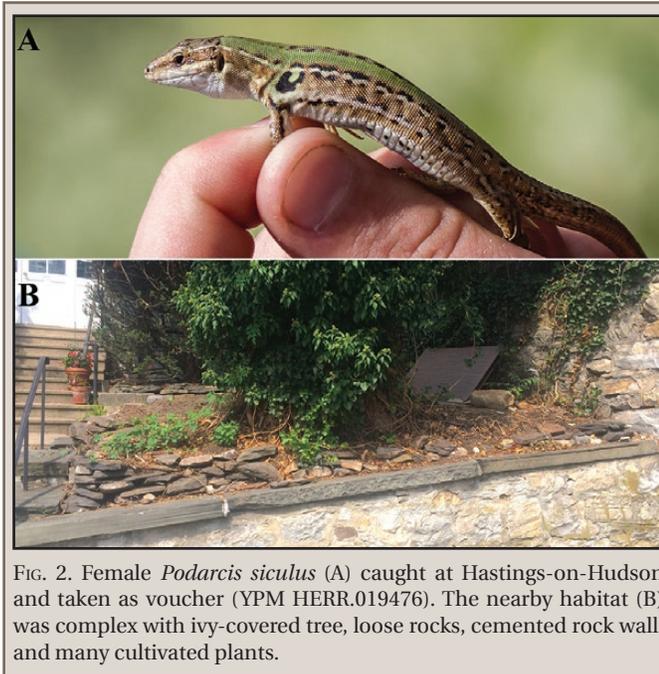


FIG. 2. Female *Podarcis siculus* (A) caught at Hastings-on-Hudson and taken as voucher (YPM HERR.019476). The nearby habitat (B) was complex with ivy-covered tree, loose rocks, cemented rock wall, and many cultivated plants.

household and the office building. The three young-of-the-year lizards were all in a heavily-landscaped garden in the front yard of this second household. While a variety of stone, brick, and clay gardening debris as well as logs were found in the area, no lizards were seen basking on these items or found underneath them.

Donihue et al. (*op. cit.*) recently suggested that *P. siculus* is radiating north from established populations in New York City

using railroad tracks. All lizards in Greenwich, CT were found within 10 m of railroad tracks that ran directly to New York City. Not discounting a potentially novel introduction to Westchester county, railroad track right-of-ways present a viable hypothetical dispersal avenue into Hastings-on-Hudson. The area we surveyed was only 250 m from railroad tracks with services to New York City where the putative *P. siculus* source population is.

Although ours is the first record of this species in Westchester Co., a conversation with a resident of one of the households indicated that the species has been present for at least seven years. Furthermore, the young lizards in our sample indicate that the local population is successfully breeding. Although the exact duration of *P. siculus* colonization this far north in New York state is unknown, the indication that this species may have been present for almost a decade and that they may be moving via railroad track right-of-ways indicates that more extensive surveys throughout this region would be of value.

Our location represents one of the northernmost occurrences of *P. siculus*; Greenwich, Connecticut is approximately 3 km further north. How this species copes with the particularly cold winter conditions in the northeastern United States relative to their native Mediterranean climate is of particular interest. Donihue et al. (*op. cit.*) also suggested that railroad tracks, which are often heated in winter, as well as the urban heat island effect, might provide a warm microclimate for these lizards to survive cold winters. In addition to this, the Hudson River may buffer the climatic conditions of Hastings-on-Hudson relative to more inland regions of New York. Similarly, Long Island Sound may provide a thermal buffer for Connecticut populations of *P. siculus*. Whether this species is rapidly adapting to live in suburban Westchester Co., as well as other urban regions of the United States (Donihue and Lambert 2015. *AMBIO* 44[3]:194–203) is an important question for future research. Specimen collection was authorized under Yale University IACUC protocol number 2015-10681.

MAX R. LAMBERT (e-mail: max.lambert@yale.edu) and **BEN A. GOLDFARB**, Yale School of Forestry and Environmental Studies (FES), Greeley Lab, 370 Prospect Street, New Haven, Connecticut 06511, USA (e-mail: ben.a.goldfarb@gmail.com); **GREGORY J. WATKINS-COLWELL**, Yale Peabody Museum of Natural History, 170 Whitney Avenue, New Haven, Connecticut 06521, USA (e-mail: gregory.watkins-colwell@yale.edu); **COLIN M. DONIHUE**, Yale School of Forestry and Environmental Studies (FES), Greeley Lab, 370 Prospect Street, New Haven, Connecticut 06511, USA (e-mail: colin.donihue@yale.edu).

PTYCHOZOON KUHLI (Kuhl's Parachute Gecko). REPRODUCTION. *Ptychozoon kuhli* is known from Thailand, Peninsular Malaysia, Sumatra, the Mentawai and Natuna Archipelagos, Borneo and Java (Das 2010. *A Field Guide to the Reptiles of South-East Asia*, New Holland Publishers, Ltd, UK. 376 pp.). Information on reproduction is summarized in Grismer (2011. *Lizards of Peninsular Malaysia, Singapore and their Adjacent Archipelagos*, Edition Chimaira, Frankfurt am Main. 728 pp.). In this note we provide additional information on *P. kuhli* reproduction from a histological examination of museum specimens.

A sample of 29 *P. kuhli* consisting of 8 adult males (mean SVL = 85.4 mm ± 6.1 SD, range = 78–93 mm) 21 adult females (mean SVL = 93.2 mm ± 4.6 SD, range = 84–103 mm) collected 2002 to 2013 and deposited in the herpetology collection of La Sierra University (LSUHC), Riverside, California, USA was examined by West Malaysia state: Johor LSUHC 5055, 5587, 5708, 6272, 6321, 6397, 7027, 7640, 7716, Kedah LSUHC 7141, 9629, 9630, 9631, 9632; Kelantan LSUHC 11159; Pahang LSUHC 3855, 4679, 5042,