PHRYNOSOMA MODESTUM (Round-tailed Horned Lizard). **BLOOD-SQUIRTING**. *Phrynosoma modestum* was heretofore thought to be a member of a "non-blood-squirting" clade including *P. mcallii* and *P. platyrhinos* (Sherbrooke and Middendorf III. 2001. Copeia 2001:1114–1122). Here we report blood-squirting by *P. modestum*.

At 1530 h on 14 August 2009 we collected an adult male (50 mm SVL, 6.4 g) Round-tailed Horned Lizard (*Phrynosoma modestum*) ca. 7 km SE of Fowler in Otero County, southeastern Colorado, USA. When first captured, the specimen squirmed and ultimately wriggled out of DW's hand. The animal darted several meters while evading capture, and was subsequently pinned to the ground with more pressure than normal to prevent a second escape. At this time the specimen squirted a small amount of blood (ca. 0.025 ml) from an ocular sinus of the right eye. Blood was also visible surrounding the right eye, which was still swollen and engorged a few moments following the blood-squirting event when photos were taken (Fig. 1A). While photographing this individual at close range (<1 m) following its release, DM noted rapid swelling and subsequent rapid dissipation of swelling of the upper and lower lids around the left eye (Fig. 1B–1D). It is presumed that the lizard was preparing to squirt blood again, this time from the other eye, but found it unnecessary.

Blood-squirting is thought to be primarily a defense against predation attempts by canids (Middendorf and Sherbrooke 1992. Copeia 1992:519–527); potential canid predators in the area include Coyotes (*Canis latrans*), Domestic Dog (*C. lupus familiaris*), and Swift Fox (*Vulpes velox*), but can also be elicited by human contact (Hodges 2004. Southwest. Nat. 49:267–270). To our knowledge this is the first substantiated incidence of *P. modestum* squirting blood (confirmed by W. Sherbrooke, pers. comm.). Field work was conducted under Colorado Division of Wildlife scientific collection license 09HP927 and with permission of the landowner.

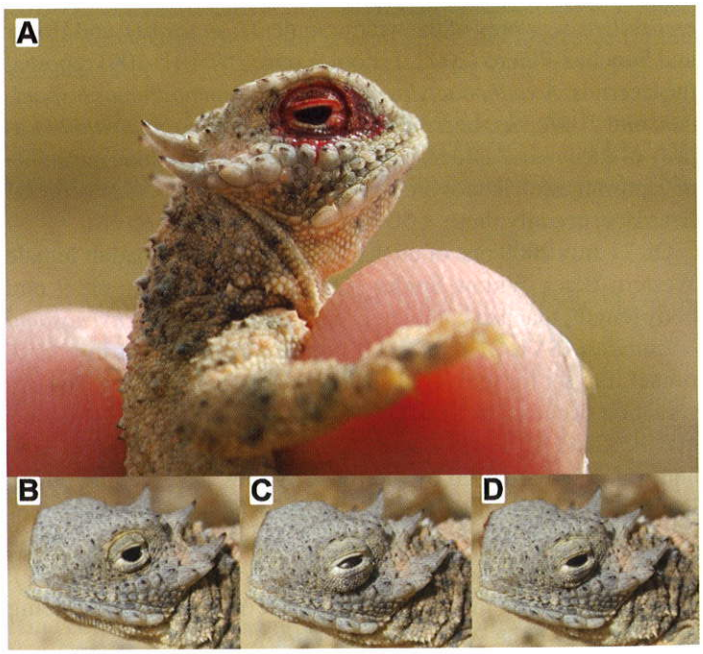

FIG. 1. A) Adult male *Phrynosoma modestum* after squirting blood from the ocular sinus of the right eye. B–D) The same individual after release at 15:43 h, apparently preparing to squirt blood from the left eye, demonstrating the lizards eye before swelling (B, 15:44:55 h), during swelling (C, 15:45:07 h), and after dissipation of swelling (D, 15:45:10 h). Photographed in the field in Otero County, Colorado, 14 August 2009.

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PLESTIODON FASCIATUS (Five-lined Skink). **PREDATION**. Few reports document spider predation on small squamates, and most involve larger spiders, i.e. wolf spiders or orb weavers. Cokendolpher (1977. J. Arachnol. 5:184) observed an orb weaver (*Argiope aurantia*) eating a Broad-headed Skink (*Plestiodon laticeps*); Corey (1988. J. Arachnol. 16:392–393) observed a wolf spider (*Lycosa ammophila*) feeding on a Green Anole (*Anolis carolinensis*); and Hampton et al. (2004. Herpetol. Rev. 35:269–270) observed a wolf spider (*Hogna carolinensis*) feeding on a Ground Skink (*Scincella lateralis*). To our knowledge, no prior records exist of predation of lizards by cobweb spiders (Family Theridiidae), a family of spiders with relatively small body sizes (cephalothorax length range: 1–8 mm; Craig 1987. Am. Nat. 129:47–68). Here we provide an observation of predation by an American House Spider, *Achaearanea tepidariorum*, on a juvenile *Plestiodon fasciatus*.

At ca. 1000 h on 11 August 2006, we observed an *A. tepidariorum* with its fangs deployed in a juvenile (36.0 mm SVL) *P. fasciatus* inside a building at the Tennessee Aquarium Conservation Institute at Cohutta Springs, ca. 1.2 km S of Red Clay, Georgia (34.9739°N, 84.9503°W; datum: WGS84, elev. 259 m). The skink was near death and struggling listlessly. After photographing the scene, we preserved both the spider and the skink. The skink had lost a portion of its tail. As the spider appeared to be actively feeding on the skink at the time of capture, we discount the possibility that the spider was merely investigating a disturbance in its web.

Specimens are deposited in the California Academy of Sciences collections (*Plestiodon*, CAS 235426; *Achaearanea*, CASENT 9024310). We thank J. Miller and J. Vindum for confirming identifications and accessioning the specimens.

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PODARCIS MURALIS (Common Wall Lizard). **CONTROL**. *Podarcis muralis* is a medium-sized European lizard that has been introduced into at least three states/provinces (Ohio, Kentucky, and British Columbia; Burke and Deichsel 2008. *In* Jung and Mitchell [eds.], Urban Herpetology, pp. 347–353. Herpetol. Conserv., Vol. 3, SSAR). Walker and Deichsel (2005. Herpetol. Rev. 36:202) report

the discovery of this exotic species at The Falls of the Ohio State Park, Indiana. Werner Mayer (Museum of Natural History, Vienna, Austria) determined the subspecies as *Podarcis muralis maculiventris*, western clade based on mtDNA sequences. This form is identical to that of specimens observed within Cincinnati, Ohio for over 50 years now. Here we report on measures of controlling this alien species in Indiana and its impact on a native one.

Concerns regarding the presence of *Podarcis muralis* in Indiana resulted in the Indiana Department of Natural Resources (IDNR) enacting an executive order to control this species. The executive order was designed to address two concerns regarding the presence of this species. The first concern was that *Podarcis muralis* might displace native Five-lined Skinks (*Plestiodon fasciatus*) where both species are sympatric. The second concern was to act quickly before the lizards became established and spread to adjacent habitats. The control program was first conducted from 7 July to 15 August 2005 by Nick Burgmeier, and subsequently by two contractors in 2006 and 2007. A total of ca. 30 *P. muralis* were removed from the park and euthanized, most of which were discarded. Two specimens were deposited at the Purdue University Biology collection in West Lafayette, Indiana (25.021, 25.022). One specimen from the Falls of the Ohio State Park is in the Field Museum collection (FM 265504).

The control program was accompanied by visual surveys inside and outside the State Park. As sightings of *Podarcis* decreased, there were increased observations of *P. fasciatus*. However, there were fewer *Podarcis* observed and subsequently captured than predicted. This might be attributed to the flooding of the Falls of the Ohio State Park during the winter of 2004–2005. During this time, the riprap below the interpretative center's observation deck (the focus of *Podarcis* occurrence) was submerged. This flood event possibly drowned many of the *Podarcis* hibernating there. Additionally, local predators might have helped to reduce the *Podarcis* population. Feral Cats (*Felis silvestris catus*) and Mockingbirds (*Mimus polyglottos*) were seen preying upon *Podarcis* within the state park.

After control programs were concluded, GD inspected the area from 11–13 October 2007. Surveys were performed under excellent weather conditions but no *Podarcis* were observed. However, two *P. fasciatus* were seen during this same time period. In the summer of 2008, park personnel and visitors reported additional sightings of juvenile and adult *P. muralis* as well as several *P. fasciatus* (Sarabeth Klueh, pers. comm.). During 2009, park personnel reported only sightings of *P. fasciatus*, but no sightings of *Podarcis* as of 18 September (Bett Etenohan, pers. comm.)

We conclude that the return of *P. fasciatus* after *Podarcis* removal is a good indication that the exotic species likely has had a negative impact on natives. However, the quick recovery of the *Podarcis* population during 2008 might indicate that there is a flow of lizards into the park from illegal release and/or from rafting on driftwood originating from places upriver from Clarksville and as far as Cincinnati. We suggest that the population dynamics of both species be further observed. We would further recommend that land managers take appropriate measures to control the introduced species as necessary.

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SCELOPORUS SPINOSUS SPINOSUS (Spiny Lizard). **BROOD**. *Sceloporus spinosus* is distributed along the central plateau of Mexico. Three subspecies are recognized: *spinosus* is the most widely distributed, while two others—*apicalis* and *caeruleopunctatus*—are endemic to the state of Oaxaca (Bell et al. 2003. Acta Zool. Mex. [n.s.] 90:103–174; Sites et al. 1992. Bull. Am. Mus. of Natl. Hist. 213:1–110; Smith 1939. Zool. Ser. Field Mus. Nat. Hist. 26:59–172; Smith and Taylor 1950. U.S. Natl. Mus. Bull. 199:1–253). Here we report record egg size and dimensions for the species and incubating time under laboratory conditions.

Mean size of sexually mature females varies among populations (69–106 mm SVL), courtship occurs in early spring, and eggs are laid mainly during middle or late summer (Calderón-Espinosa et al. 2006. Herpetol. Monogr. 20:47–158). Females of some populations lay a single clutch per season while females in other populations may lay more than one (Castro-Franco 2002. M.Sc. dissertation, Facultad de Ciencias, Universidad Nacional Autónoma de México; Valdéz-Gonzáles and Ramírez-Bautista 2002. J. Herpetol. 36:36–43). Oviposition is asynchronous within populations as females at all stages of gravidity are found at any one time during the reproductive season (Calderón-Espinosa. et al. 2006, *op. cit*).

On 23 June 2007, a gravid female *S. spinosus spinosus* was obtained from Los Reyes La Paz, Estado de Mexico, Mexico, (19.3543°N, 98.9403°W, 2633 m elev.), and brought into the laboratory and assigned collection number 4401-E. The lizard weighed 50.55 g before oviposition, and was maintained in a plastic box measuring 32 × 20 × 14 cm, with newspaper as substrate, fresh water in a dish, and ambient temperature at 26–28°C.

On the morning of 4 July 2007, the female laid a clutch of 13 eggs (female weighed 35.74 g post-oviposition), which were placed in plastic boxes with agrolite substrate. An incubator was used to provide a 28–30°C thermal gradient and relative humidity fluctuated between 50–70%. Mean measurements of the eggs were as follows: length 16.2 ± 01.5 mm and width 10.8 ± 00.7 mm, mean mass 1.13 ± 0.12 g.

Four hatchlings emerged on 28 August 2008 and the remaining nine the next day. The mean incubation time was 55.5 ± 0.5 days at 28–30°C. Mean measurements were as follows: 27.6 ± 01.7 mm SVL, 34.1 ± 01.2 mm tail length and the neonates weighed 0.86 ± 0.03 g. Hernández-Ibarra et al. (2001. XVI Congreso de Zoología, Memorias, Zacatecas, p. 43) reported that this species lays clutches ranging from 10 to 30 eggs, and Valdez-González (1998. Graduate dissertation, Facultad de Estudios Superiores Iztacala, Universidad Nacional Autónoma de México) reported clutch numbers of 15.3 ± 1.2 eggs; mean measurements of the eggs were as follows: length 15.1± 0.65 mm and width 8.8 ± 0.3 mm, with mean weight of 1.69 ± 0.808 g.

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