cfdrocha@uerj.br), Setor de Ecologia, Instituto de Biologia Roberto Alcântara Gomes, Universidade do Estado do Rio de Janeiro, Rua São Francisco Xavier 524, Maracanã, 20550-019, Rio de Janeiro, RJ, Brazil.

ELGARIA PANAMINTINA (Panamint Alligator Lizard). **REPRODUCTION**. The biology of *Elgaria panamintina* is summarized in Banta et al. (1996. Cat. Am. Amphib. Rept. 629:1–4). Information on clutch sizes or the timing of the events in the testicular cycle are unknown. Here we report the first clutch size and time of sperm formation (spermiogenesis) for this species.

Specimens were examined from the California Academy of Sciences (CAS), San Francisco, Natural History Museum of Los Angeles County (LACM), Los Angeles, Museum of Vertebrate Zoology (MVZ), University of California, Berkeley and Department of Biology, San Diego State University (SDSU), San Diego. All specimens were collected in Inyo County, California in the interval 1959–1985. Six males (mean SVL = 99 mm ± 9 SD, range: 90–114 mm) and two females (SVL = 105 mm ± 6 SD, range: 100–109 mm) were examined. In males, the left testis was removed and embedded in paraffin. Histological sections were cut at 5 mm, mounted on glass slides and stained with Harris' hematoxylin followed by eosin counterstain.

One male collected in May (CAS 89230, 93 mm SVL) was undergoing sperm formation (spermiogenesis). Lumina of the seminiferous tubules were lined by sperm. Two males collected in June (MVZ 77063, 97 mm SVL; CAS 89675, 92 mm SVL) had regressed testes containing spermatogonia. One male collected in June (MVZ 75918, 114 mm SVL) had a testis in early recrudescence (i.e., renewal of germinal epithelium for next period of spermiogenesis); spermatogonia and primary spermatocytes were present. One male collected in July (MVZ 227764, 90 mm SVL) had a regressed testis, a second male (MVZ 227765, 106 mm SVL) had a testis in recrudescence. The presence of a male collected in May undergoing spermiogenesis suggests that *E. panamintina* breeds during spring. This agrees with two other North American anguid lizards that also produce sperm at this time: *Elgaria multicarinata* (Goldberg 1972. Herpetologica 28:267–273) and *E. coerulea* (Vitt 1973. Herpetologica 29:176–183). A report of captive breeding in May exists for *E. panamintina* (Banta and Leviton 1961. Herpetologica 17:204–206). Behler and King (1979. The Audubon Society Field Guide to North American Reptiles and Amphibians. Alfred A. Knopf, New York. 743 pp.) reported spring mating for this species.

Histological examination revealed the ovarian follicles from the female collected in May (CAS 88135, 109 mm SVL) described in Banta (1963. Occas. Pap. California Acad. Sci. 36:1–12) as "developing eggs" had not started yolk deposition. One female collected in September (MVZ 150329, 100 mm SVL) contained 4 oviductal eggs and is the first clutch size reported for *E. panamintina.*

We thank J. Vindum (California Academy of Sciences), D. Wake (Museum of Vertebrate Zoology), and T. Reeder (San Diego State University) for permission to examine specimens.

Submitted by **STEPHEN R. GOLDBERG**, Department of Biology, Whittier College, Whittier, California 90608, USA (e-mail: sgoldberg@whittier.edu) and **KENT R. BEAMAN**, Section of Herpetology, Natural History Museum of Los Angeles County, Los Angeles, California 90007, USA (e-mail: kbeaman@nhm.org).

EUMECES SEPTENTRIONALIS SEPTENTRIONALIS (Northern Prairie Skink). **NESTING BEHAVIOR**. Somma and Fawcett (1989. Zool. J. Linn. Soc. 95:245–256) reported nesting and brooding activity for *Eumeces septentrionalis* in the laboratory, but field observations of *E. septentrionalis* nesting behavior are restricted to the accounts of Breckenridge (1943. Amer. Midl. Nat. 29:591–606), Nelson (1963. Unpubl. Ph.D. dissertation, University of Minnesota, Minneapolis), and Somma (1990. Bull. Chicago Herpetol. Soc. 25:77–80). Here, I augment the limited field data on nesting in *E. septentrionalis* with observations on 3 nests from southern Iowa.

On 22 June 2000 at ca. 0800 h, I observed 3 different *E. septentrionalis* nests each with an associated female and each under a different cover object in an open, grassy field on the south edge of Bridgewater (town; 41°14'N, 94°40'W), Adair County. One nest was under a piece of cement, one was under a flat rock, and one was under a piece of tin. I had placed all cover objects at each location in previous years. Soil in the area was silt loam or silty clay loam. Each female skink was in a short, horizontal burrow (6–10 cm long, 3–6 cm diam opening) with eggs that were poorly visible because they were far back in each burrow. Nest locations were flagged and the cover objects replaced. I returned to the area at ca. 1000 h the same day to observe each nest once again. Close examination revealed that each female had placed her eggs (clutch sizes = 4, 9, 11) into a shallow depression (ca. 2 cm deep) located outside and adjacent to each burrow opening. Each clutch was in the open depression and clearly visible when the cover object was removed during the 1000 h visit. Nests were located in sparsely vegetated areas, which provided better insolation than in adjacent areas. Through apparent repositioning of the eggs to the outside of each burrow and directly under a cover object, the females may have been making the environment of each clutch thermally more favorable for development. Two of three nests I observed hatched by 18 July (< 30 days), over 10 days faster than those reported by Breckenridge (1943. Amer. Midl. Nat. 29:591–606). Based on brooding observations of *E. septentrionalis* in the lab, Somma and Fawcett (1989. Zool. J. Linn. Soc. 95:245–256) reported an incubation interval of < 23 days.

Submitted by **PAUL W. FRESE**, Natural Resources Conservation Service, 510 East Hwy 136, Albany, Missouri 64402, USA; e-mail: paul.frese@mo.usda.gov.

GAMBELIA SILA (Blunt-nosed Leopard Lizard). **PREDATION**. *Gambelia sila* is a fairly large member of the depauperate lizard fauna of California's San Joaquin Valley (Montanucci 1968. Herpetol. 24:316–320). This lizard, state and federally listed as endangered, remains over only about 15% of its historical range (Germano and Williams 1992. Trans. West. Sec. Wildl. Soc. 28:38–47). Understanding population dynamics, including potential predators, is essential to its recovery. Several predators of *G. sila* are known. These include two snakes, the San Joaquin coachwhip (*Masticophis flagellum ruddocki*) and gopher snake (*Pituophis catenifer*), and five birds, the prairie falcon (*Falco mexicanus*), American kestrel (*Falco sparverius*), loggerhead shrike (*Lanius ludovicianus*), burrowing owl (*Athene cunicularia*), and roadrunner (*Geococcyx californianus*) (Montanucci 1965. Herpetol. 21:270–283; Tollestrup 1979. Ph.D. dissertation, University of California, Berkeley, 146 pp.; Germano and Carter 1995. Herpetol. Rev. 26:100). Here, we add two new species to the predator set on *G. sila*.

On 5 June 2002 at 0740 h, during a radio-telemetry study on the Lokern area of Kern County (California; 119°37'N, 35°22'W), we located the signal of a radio-collared *G. sila* coming from a northern Pacific rattlesnake (*Crotalus viridis oreganus*) that was curled up under a dead saltbush (*Atriplex* sp.). For the previous 5 days, we had located the signal in a burrow next to a wash ca. 3 m from where the rattlesnake was found. The area had burned in 1997, which killed native saltbush plants, and is one of 4 treatment replicates in a grazing study. Because of grazing and below-average rainfall in the previous winter, the land was largely devoid of herbaceous plants. We had tracked the *G. sila*, a small (100 mm SVL, 28.6 g) female, for 18 days. The rattlesnake, a small adult female (470 mm SVL and 74.6 g including the mass of the partially digested lizard and radio-telemetry package [2.2 g]), was euthanized by freezing. When the snake was opened, only the hind legs and tail of the lizard were recognizable (Fig. 1), which we think indicates that the lizard had been eaten several days prior to our finding it inside the rattlesnake.

On 23 May 2002, we captured an adult male *G. sila* (116 mm SVL, 53.6 g) in another part of the Lokern area. This area had not burned, was covered sparsely by living saltbushes, and was at the base of hilly terrain. We had taken 12 GPS locations until 18 June 2002, when the transmitter signal was determined to be coming from a distant location. We drove towards the signal (3.2 km straight-line distance) until we reached the base of a high-voltage powerline tower. The signal appeared to be coming from the nest of a pair of red-tailed hawks (*Buteo jamaicensis*), located ca. 30 m above the ground. We lost the signal 2 days later and were not able to recover the transmitter; we presume that one of the red-tailed hawks was responsible for the predation event. Although the northern Pacific rattlesnake and red-tailed hawk have been suspected as predators of *G. sila* (Tollestrup, *op. cit.*), these represent the first reports documenting, or suggesting, respectively, their preying on this lizard.

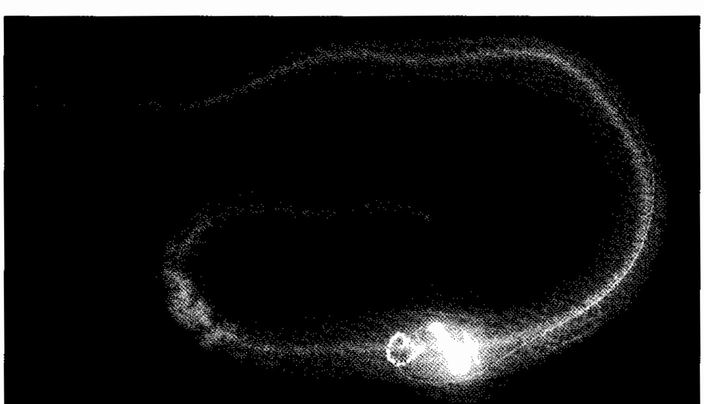

FIG. 1. Radiograph of the remains of a blunt-nosed leopard lizard (*Gambelia sila*) and its radio transmitter inside a northern Pacific rattlesnake (*Crotalus viridis oreganus*).

This work was carried out under U.S. Fish and Wildlife Service permit TE826513-1 and California Department of Fish and Game scientific collecting permit 801092-4 and accompanying memorandum of understanding. The rattlesnake (CAS 224701) was deposited with the California Academy of Sciences.

Submitted by **DAVID J. GERMANO** and **JUSTIN L. BROWN**, Department of Biology, California State University, Bakersfield, California 93311-1099, USA; e-mail (DJG): dgermano@csub.edu.

HOMONOTA UNDERWOODI (Underwood's Gecko). **BODY TEMPERATURE.** *Homonota underwoodi* is an insectivorous oviparous gecko that inhabits the dry hot landscape of the Monte Phytogeographic Province (Cabrera and Willink 1980. Biogeografía de América Latina. O.E.A. Washington D.C. 109 pp.) in Provincia de San Juan, Argentina. Like most Argentine gekkonids, few data address its biology. Werner *et al.* (1996. Cuad. Herp. 10:62–67), who made observations on body temperatures on a small number of lizards (N = 7), provided the only published data on this species' biology. Here, I augment the few data on field body temperatures as part of a larger study on this species' ecology.

Field work was carried out in a dry streambed with a mosaic of flagstones and patches of sand in La Laja, Departamento Albardon, Provincia de San Juan, Argentina (31°19'S; 68°41'W). Data were collected every 10 days from August 2000 to August 2001 by revisiting bushes and low flagstones across the study site at random. Each individual was captured by hand. The cloacal temperature (TC), temperature of the substrate (TS) and temperature of the air (TA) were measured with a rapid reading Miller-Weber thermometer to the nearest 0.1°C. For each capture, we took TS on the substrate at the exact point of observation, and TA 1 cm above the substrate. For both TS and TA, we distinguished whether the temperature was taken in the sun, shade or partial shade (on shrubby margins).

Of 56 captured animals, 96% were on low flagstones and 4% were in burrows among shrubs in an area heavily altered by human activities and erosion. Mean body temperature was 26.3°C (s = 5.6°C, N = 56). An ANOVA addressing gender differences in TC was not significant ($F_{2,50} = 1.61$, $P = 0.20$). An ANCOVA (TS as the covariate) revealed no interseasonal differences in TC ($F_{2,50} = 2.30$, $P = 0.10$). Cloacal temperature and TA were not correlated (r = 0.07, N = 56, $P = 0.65$), but the strong correlation between TC and TS was significant (r = 0.90, N = 56, $P < 0.01$). Evidence suggests that thermoregulation is enabled through conduction with the substrate and seems independent of air temperature. In contrast, Werner et al. (*op. cit.*), working with *H. underwoodi* on the Telteca Reservation NE of Mendoza (Argentina), obtained a significant correlation between TC and TA. These differences may be a function of the small number of lizards Werner (*op. cit.*) had. Body temperatures and the contrasts between TC and TS were similar in both studies. Lizards in the Telteca study thermoregulated under dry (livestock) dung patties during the day in a manner similar to what we observed in this population where low flagstones were consistently used.

Submitted by **JOSÉ ALBERTO MARINERO, JUAN**