

in just over 4 min, it had fully emerged from its egg, at which point the hatchling was still attached to its yolk sac via the umbilicus. The time between when the eggs were uncovered to when the hatchling fully emerged from its egg was ca. 7 min. Remaining eggs were transferred to a small plastic bag with moist grass and leaves and allowed to incubate at an air temperature averaging 25°C; the remaining viable eggs hatched over the next 4 days. The clutch size and nest depth documented in this observation of *C. spaldingi* is similar to that reported in another study of *Ctenotus* (clutch size: 4–6 in *C. robustus*; 2–6 in *C. taeniolatus*; nest depth: 5 cm in *C. robustus*; 4 cm in *C. taeniolatus*; Taylor 2005. Aust. J. Zool. 52:649–666). However, I am unaware of other reports suggesting that nest disturbance may induce hatching in the genus *Ctenotus*.

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GAMBELIA WISLIZENII (Long-nosed Leopard Lizard). **PREDATION.** Previous observations of *Gambelia wislizenii* have revealed that this lizard preys on large invertebrates and small vertebrates, including other lizards and mammals (e.g., McCoy 1967. Amer. Midl. Nat. 77:138–146; Parker and Pianka 1976. Herpetologica 32:95–114; Pietruszka et al. 1981. J. Herpetol. 15:249–250). Although herpetologists might have often witnessed *G. wislizenii* feeding in the wild, photodocumentation of the predation process is lacking. Here we photodocument the details of a *G. wislizenii* predation event on *Uta stansburiana* from southern Utah, USA.

At 1457 h on 12 May 2004, we witnessed an adult (> 90 mm SVL) *G. wislizenii* (a male based on lack of nuptial coloration) seize an adult (> 40 mm SVL) *U. stansburiana* (also a male based on the bluish throat color and the intensity of the lateral spot behind the forelimbs) and digitally photographed the encounter. The incident occurred just a few meters north of the newly restored Paria Canyon Movie Set in Grand Staircase-Escalante National Monument, Kane County (37°14.237'N; 111°57.498'W; elev. 1450 m). Triassic-age rocks around the site weather readily, producing abundant soft alluvium in the valley. Consequently, sagebrush grows relatively densely, providing ample shade and shelter among rocks and sandy areas for basking.

Our photodocumentation omits the first 30 sec of the assault. During this phase, the *G. wislizenii* grasped its prey by the neck and immobilized it by repeated shaking and visibly clenching its jaw. This process continued, increasingly less vigorously, until the *U. stansburiana* stopped moving. The *G. wislizenii* then rapidly rotated its prey and ingested its entire torso, head first and belly up, within a minute (Figs. 1A–B). Ingestion of the torso was followed by a minute-long pause. The final effort consisted of swallowing the tail. This appeared to be a strenuous process during which the leopard lizard repeatedly contorted its body (Fig. 1C), presumably to roll up the food item in its stomach. During ingestion, our observation distance was 3–4 m. Following prey ingestion, the *G. wislizenii* noticeably slowed its movements, and it tolerated an even closer approach to a distance of 2 m. Based largely on the camera's digital clock, the entire progression from initial

attack to completion of prey ingestion took about 3.5 min.

A literature search revealed that detailed descriptions of predation of *Gambelia* spp. are rare since most food habits studies fo-

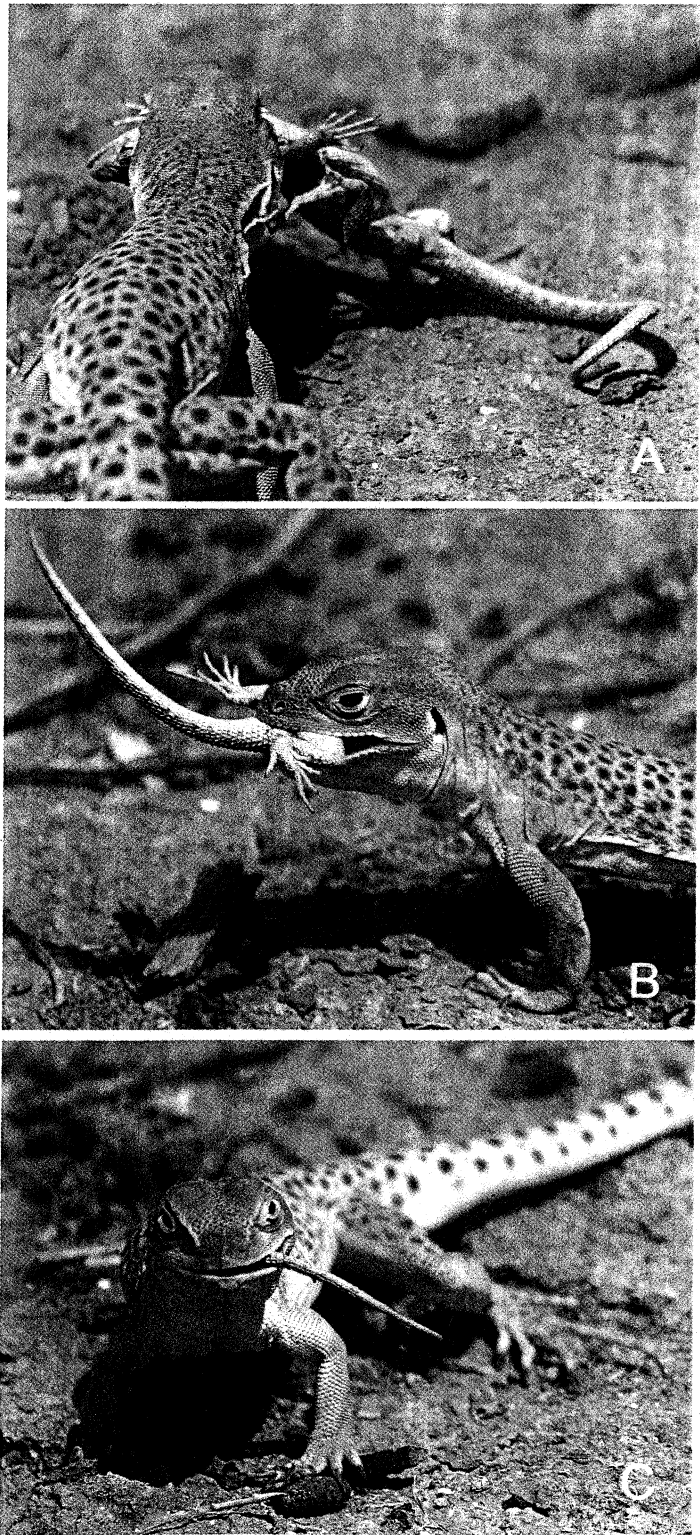


FIG. 1. A) Seven seconds after the observation began, the *Gambelia* has immobilized the *Uta* with repeated shaking and jaw clenching. B) Fifty-three seconds after the observation began, the prey is swallowed head first and belly up. C) To swallow the tail of its prey, the *Gambelia* repeatedly contorts its body; 149 sec after the observation began.

cus on the stomach contents of these lizards (e.g., Knowlton and Janes 1932. Ohio J. Sci. 32:467–470, Knowlton and Janes 1934. Copeia 1934:10–14, Knowlton and Thomas 1936. Copeia 1936:64–66, Milstead and Tinkle 1969. Am. Midl. Nat. 81:491–499). *Gambelia* is a fast, aggressive and tenacious predator that can capture prey running at full speed (Tanner and Krogh 1974. Herpetologica 30:63–72). However, the time needed for swallowing seems to vary greatly. A male *G. sila* caught and swallowed a conspecific hatchling “within a few seconds” (Germano and Williams 1994. Herpetol. Rev. 25:26–27), but the consumption of a pocket mouse *Perognathus* by a juvenile female *G. wislizenii* necessitated more than 1.5 h (Pietruszka et al. 1981. J. Herpetol. 15: 249–250). Large prey is swallowed with the aid of bending movements of the head and body, whereas small prey is masticated before ingestion (Montanucci 1956. Herpetologica 21:270–283).

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GERRHONOTUS LIOCEPHALUS (Texas Alligator Lizard). **MORTALITY.** In México, forest fires occur primarily over two seasonal intervals. One season, which runs January to June, applies to the entire country save the northeast; the other, which begins in May and ends in September, applies to northeastern México. Both coincide with the dry season (SEMARNAP, 2000. Texto Guía Forestal. Subsecretaría de Recursos Naturales, Dirección General Forestal-SEMARNAP. México, D.F., 150 pp.). Forest fires have the potential to negatively affect forest faunas, and in particular, amphibians and reptiles (Bury 2004. Conserv. Biol. 18:968–975). Fire-induced formation of light gaps in forest canopies can favor certain reptiles, but reptiles may have greater difficulty finding refuge in fire-affected sites (Bury, *op. cit.*; Ernst et al. 1995. Herpetol. Rev. 26:185–187). However, few data exist indicating the vulnerability of reptiles. Hence, here we provide an observation from Nuevo Leon, México implying that *Gerrhonotus liocephalus* might sometimes be at risk from forest fires.

During a visit to the central part of the Parque Ecológico Estatal Chipinque, in an area known as El Empalme (25°36'16.0"N, 100°21'06.0"W, datum: NAD27, elev. 1270 m) on 25 April 1998, we found an adult female *G. liocephalus* (141 mm SVL; 36 mm tail with a 20 mm regenerated piece; 33.5 g) that died probably due to a forest fire that had passed through the area over the interval 9–22 of April 1998 (fire information online at <http://www.jornada.unam.mx/1998/04/11/incendios.html> and http://www.horacero.com.mx/130_edicion/30130.html). This female lacked digits on its left front foot, and all metatarsals and phalanges were missing on its right front foot. All digits on the hind feet were incomplete, as the outer portion of each digit up to at least the second phalange was missing. Moreover, the dorsal scales were much darker than normal and sloughed off in alcohol after only two days of preservation, suggesting the lizard was exposed either to fire directly or to a hot substrate. Our visit to the site occurred two days after the fire was brought under control, which suggests that this animal survived the fire but succumbed from

fire-related injuries. In this same area we also found under a rock a specimen of *Plestiodon brevirostris pineus* that had not been affected. More information on the vulnerability of fire to reptiles will be needed to determine whether demographic consequences to this sort of mortality exist.

The *G. liocephalus* (UANL 5532) was deposited in the herpetological collection of the Universidad Autonoma de Nuevo Leon, Facultad de Ciencias Biologicas.

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HOPLODACTYLUS MACULATUS (Common Gecko). **SOCIAL ASSISTANCE.** Cooperation, especially parental care, is a significant life history component in many vertebrates (Clutton-Brock 1991. The Evolution of Parental Care. Princeton University Press, Princeton. 368 pp.). However, documentation of parental care in reptiles is sparse, having been reported or inferred for only 3.4% of lepidosaurians (Somma 2003. Parental Behavior in Lepidosaurian and Testudinian Reptiles: A Literature Survey. Krieger Publishing Company, Malabar, Florida. 174 pp.). Moreover, reports of parental care among lepidosaurians are taxonomically biased towards snakes (Shine 1988. In Gans and Huey [eds.], Biology of the Reptilia. pp. 275–329. Alan R. Liss, New York), and among lizards are biased towards skinks (Somma, *op. cit.*). Of the nearly 1000 recognized species of geckos (Suborder Gekkota; Pianka and Vitt 2003. Lizards: Windows to the Evolution of Diversity. University of California Press, Berkeley. 333 pp.), parental care has been reliably documented in only 21 (all in the Family Gekkonidae; Somma, *op. cit.*). Further, reports of parental care of post-hatching juveniles (as opposed to eggs) are even less common (Shine, *op. cit.*; but see Evans 1959. Copeia 1959:103–110; O'Connor and Shine 2004. Anim. Behav. 68:1361–1369 for exceptions). Hence, here we report observations of juvenile *Hoplodactylus maculatus* using adult conspecifics to aid in dispersal to foraging grounds from a communal retreat site.

Hoplodactylus maculatus, moderate-sized (to 82 mm SVL) nocturnal geckos endemic to New Zealand (Gill and Whitaker 2001. New Zealand Frogs and Reptiles. David Bateman, Auckland, New Zealand. 112 pp.), are known to form large diurnal aggregations (Hare and Hoare 2005. Herpetol. Rev. 36:179). During a two-week period in November 2004 (austral spring), we observed and video-recorded nocturnal emergence behavior of a diurnal aggregation of ~100 individual *H. maculatus* on Stephens Island, Cook Strait, New Zealand (40°35'S, 173°55'E; elev. 200 m). Geckos (adults, sub-adults, and < 1-month-old neonates) emerged singly from their retreat site at dusk (~2030 h NZDT) from two exits and were seen moving in progression along branches, and between coastal trees to reach the canopy, presumably to forage. Neonate geckos were observed travelling with 1–2 adults on several occasions. More importantly, however, we observed neonate geckos using the body of adult geckos that were bridging the gap between twigs of different trees to make arboreal crossings (Fig. 1).