

newts were still associated with the carcasses (Joe Medeiros, pers. comm.).

A search of the literature failed to reveal previous reports of terrestrial salamanders being attracted to carrion. Carcasses of large native mammals, especially mule deer, *Odocoileus hemionus*, are not rare in this part of the Sierra Nevada and represent an unpredictable but rich food source if they are infested by necrophagous fly maggots. However, none of the newts exhibited feeding behavior even though thousands of maggots were within a few centimeters in the mouths of both cows. Although it is possible that the newts had already fed and were satiated, I hypothesize that the newts were attracted by pheromones produced by other newts that had previously visited the carcasses or by a false chemical signal that mimicked newt sex attractant. My observations were made early in the breeding season when responsiveness to pheromones is strongest. The trance-like condition and ventral rubbing observed in two of the newts is similar to parts of the courtship behavior of *Taricha* described by Davis and Twitty (1964). Copeia 1964(4):601-610). Whatever the proximal cause of attraction, the detection and localization of putrefying carcasses should not present a significant physiological or behavioral hurdle for an organism with such dramatic chemosensory and orienting capabilities (Twitty 1955. J. Exp. Zool. 129: 129-148; Grant et al. 1968. Science 160: 1354-1355).

Submitted by **STEVEN R. MOREY**, Department of Biology, University of California, Riverside, California 92521, USA

## SAURIA

**ANOLIS LIMIFRONS. PREDATION.** Although the small neotropical lizard *Anolis limifrons* is well studied, abundant, and thought to suffer high predation (Andrews and Rand 1982. In: Leigh, Rand, and Windsor, eds., The Ecology of a Tropical Rainforest, pp. 405-412), actual observations of predation on this species are rare. On 17 October 1985, we were collecting *Anolis limifrons* in forest near the Rio Agua Salud of the Parque Nacional Soberania, Panama. Just after having captured a female from the base of a large tree, we noticed another lizard dart into a cavity at the base of a buttress, where it was pounced upon by a large spider (*Cupiennus* spp., Family Ctenidae). The spider successfully held the lizard as it struggled, retreated into a burrow with the lizard when we attempted to capture it, and only released the lizard when we began to excavate the burrow. When released, the lizard was unable to move, although it could pull its legs under itself when placed on the ground. It was dead within a half hour.

Birds, mammals, and snakes are the most obvious potential predators of *Anolis limifrons*, but this observation demonstrates that arachnids are also capable of taking adults of this species and may represent a significant source of mortality.

Submitted by **BRIAN C. BOCK** and **MANUEL QUINTERO**, Smithsonian Tropical Research Institute, Box 2072, Balboa, Panama.

**CNEMIDOPHORUS GULARIS GULARIS** (Texas Spotted Whiptail). **REPRODUCTION.** On 1 May 1986, at 1750 h CDT we stopped at El Sauz, Starr Co., Texas, to search for syntopic contacts between *C. g. gularis* and the parthenogenetic *C. laredoensis*. Immediately upon leaving the vehicle mating behavior was observed between a male and female of *C. g. gularis* between Texas Farm Road 649 and dense growths of bunchgrasses. This behavior occurred in a microhabitat of scattered clumps of bunchgrasses between which were open sandy spaces free of debris (Fig. 1A). The mating sequence commenced when a male (estimated SVL between 65 and 72 mm) poked his head into the entrance of a freshly dug burrow (Fig. 1A, arrow), whereupon a female (estimated SVL between 64 and 69 mm) emerged from the burrow. The female moved a few cm from the burrow entrance; the male followed, assumed a position alongside the female, and placed his right forelimb over her body at the level of the axillary region (Fig. 1A). As the female continued to move slowly forward, the male kept pace undulating his pelvic region against the left flank of the female and occasionally vibrating his tail. The female remained docile and made no attempt to escape. As they moved ahead very slowly, the male positioned his pelvic region so as to alternately undulate it against the flank of the female and to rub the female's body with his cloaca (Fig. 1B). Using the right hindlimb as a counter balance, the male brought his cloaca into contact with the cloaca of the female (Fig. 1C). The male then very deliberately grasped the right flank of the female in his jaws and copulation with the right hemipenis was initiated. In Fig. 1D it can

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#### The Author

John Coborn has made a lifetime study of zoological subjects - especially herpetology. He has been keeper, then curator, of reptiles and aquarium at a zoological park, and then moved on to be director of a zoological garden. He has organised several national and international herpetological symposia, founded a herpetological society, written many books and articles and made numerous appearances on radio and TV.

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