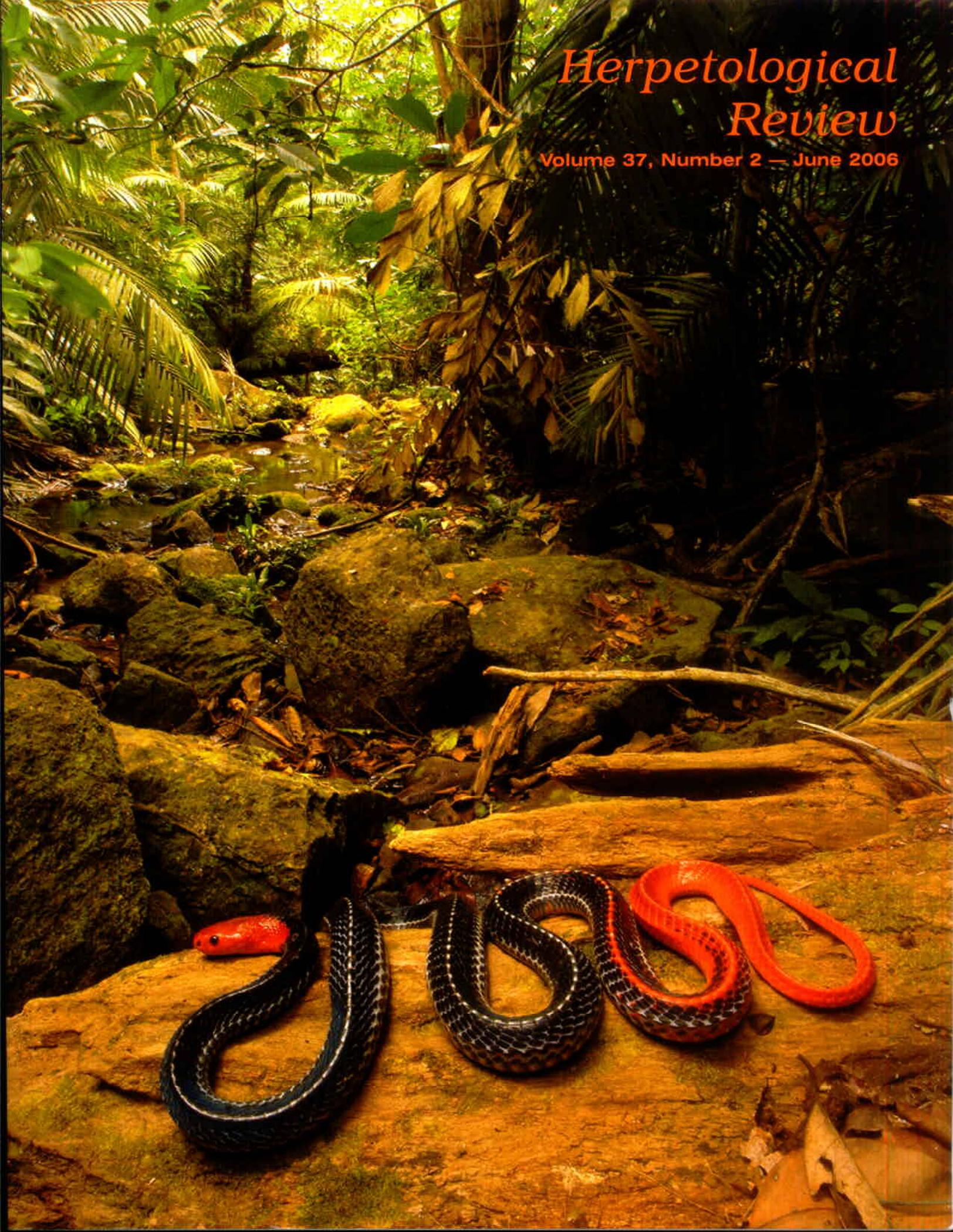


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Laguna Blanca, where *A. patagonicus* is now extinct. This suggests that both frogs and Percas may have shared the amphipod resource in the pond.

The information on the feeding habits of *A. patagonicus* presented here is part of an investigation of the interaction between frogs and introduced fish. There is a need to preserve the essential trophic resource for the "aquatic form" of the frog species, and strict official control should prevent any further introduction of fish into these ponds.

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**BUFO CALIFORNICUS** (Arroyo Toad). **MORTALITY.** On 14 May 2001, in a dry arroyo along a secondary channel of San Ysabel Creek (San Pasqual Valley, San Diego County, California, USA: N33.05.396, W116.58.164, WGS 84) DAK found a freshly-crushed toad carcass pressed into the sand within a tire track of a utility quad (off highway-vehicle [OHV]). The specimen was collected and brought to ELE and RNF for identification. The amphibian was subsequently identified as the federally endangered *Bufo californicus* [42 mm, snout-urostyle length [SUL]: SDSNH 69059]. The body of the toad was vertically compressed with a skin abrasion on the ventral surface and a partially protruding tongue. Based on the injuries sustained we concluded that the cause of death was crushing due to vertical pressure, most likely sustained from the force of impact from the OHV tires. It is unclear whether the toad was run over while on the surface (e.g., foraging) or burrowed under the sand and subsequently writhed to the surface. As evidenced by the abundance of tire tracks along the braided channels and across the sandy upland terraces, the habitat on private and public lands of San Ysabel Creek in San Pasqual Valley (ca. 5.5 × 0.75 km) is subject to intensive use by OHV riders (pers. obs.).

The reach of San Ysabel Creek where the dead specimen was collected supports a large population of *B. californicus* (U.S. Fish and Wildlife Service 1999. Arroyo Southwestern Toad [*Bufo microscaphus californicus*] Recovery Plan. USFWS, Portland, Oregon 119 pp.; pers. obs.). Documentation of this crushed individual demonstrates the vulnerability of this endangered species to incompatible recreational activities within occupied habitats.

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**BUFO HOUSTONENSIS** (Houston Toad). **JUVENILE DISPERSAL.** *Bufo houstonensis* is an endangered anuran endemic to central-east Texas. Although its breeding behavior has been well documented (Hillis et al. 1984. *J. Herpetol.* 18:56–72; Price 2003. TPWD report 03-0401), the little published information concerning the juvenile life stages focuses mainly on predation (Freed and Neitman 1988. *Texas J. Sci.* 40:454–456), coloration (Mays and Freed 1985. *Herpetol. Rev.* 16:108–109), and growth (Greuter and Forstner 2003. *Herpetol. Rev.* 34:355–356; Quinn and Mengden 1984 *Southwest. Nat.* 29:189–195).

A *Bufo houstonensis* egg string was surrounded with an aluminum flashing enclosure during Spring 2004 at the Griffith League Ranch (GLR) in Bastrop County, Texas, USA to monitor post-metamorphic behavior. Upon emergence, 993 individuals were captured and a single toe was clipped to identify the cohort year. The flashing was removed and 100 individuals were dusted with inert fluorescent powder (Radiant Color, T1 pigment) and released as a single group at the point of emergence. Fluorescent pigment was successfully used to track adult *Pelobates fuscus* (Eggert 2002. *Herpetol. J.* 12:69–74) and the same technique was applied in tracking juvenile *B. houstonensis* dispersal. Toadlets were monitored immediately following release to determine if the pigment caused any malaise, and normal activity was observed. Metamorphs were located with a UV light (Raytech, Raytector–V Portable UV Light) for two consecutive nights and observed during the early morning hours of the day following their pigment-marked release. Metamorph locations were marked with marking flags; the area was left as undisturbed as possible, and the dispersal pattern was not analyzed until after the metamorphs left the pond's edge. It was our intention to follow the juveniles for a longer period, but during the afternoon of the third day, GLR received over 25 mm of rain. We believe this resulted in the pigment powder washing off of the toads as well as washing away trackways from the preceding night's dispersal.

We released the pigment-marked individuals at the point of emergence at the pond's edge. The tracks from individual metamorphs were not distinguishable within 0.5 m of the release site because of the large amount of powder deposited in a small area. However, tracks could easily be distinguished beyond the initial confused area of powder marks. When dispersing from the pond's edge metamorphs did not move in a straight line, but in a seeming random pattern that may have been foraging or shade seeking behavior. The majority of the pigment-marked individuals retreated into the water after release, which is normal behavior for post-metamorphic *B. houstonensis* (Greuter 2003. Unpubl. MS. Thesis, Texas State Univ. San Marcos, Texas. 80 pp.). We were able to track 15 individuals over two days. Within 48 h after emergence, 8 of the *B. houstonensis* metamorphs had dispersed at least 4 m from the pond's edge. Mean dispersal distance was 3.24 m (range 0.7–5.13 m; median distance 3.43 m; N = 15) from the release point. The majority of the individuals (N = 12) were found buried under grass or sedge tussocks. The dispersal pattern did not increase in diameter from 24–48 h after marking. After the rainfall event, no pigment-marked metamorphs were relocated, however, toe-clipped individuals were quickly located, so we assumed the pigment washed off during the rainfall.

During this study, metamorphs did not show any ill effects related to the powder. Using this method was an easy, efficient, and