TABLE 1. *Rhabdias pseudosphaerocephala* in *Rhinella horribilis* from southeastern (SE) and southwestern (SW) Florida, USA. Mean intensity, median intensity and a mean abundance are all in units of *Rhabdias*/toad. SEM is presented in parentheses.

Sample	N	Prevalence	Mean intensity	Median intensity	Mean abundance
SE Florida all toads	18	55.6%	5.50 (1.51)	4.5	3.06 (1.06)
SW Florida all toads	109	68.8%	17.49 (2.10)	12.0	10.25 (1.64)
SW Florida females	23	56.5%	6.46 (3.20)	3.0	3.65 (1.90)
SW Florida males	66	68.2%	20.47 (2.85)	16.0	13.95 (2.27)

cycle that infects cane toads when L3 larvae move from the soil onto the cane toad skin, penetrates the periorbital region, and migrates to the lungs (Finnerty et al. 2018. Ecol. Evol. 8:4606–4618).

Rhinella horribilis were collected by hand from two sites in Florida, USA. In April 2022, *R. horribilis* were collected in an incorporated region of southwest Florida located in south Fort Myers (26.49286°N, 81.78355°W; WGS 84). The second collection site was 170 km east of the Fort Myers site, located in a residential area with large permanent retention ponds in Jupiter (26.95094°N, 80.15536°W; WGS 84). Vouchers of parasite tissue specimens not used for DNA analyses from the Fort Myers location and host vouchers are archived at the Museum of Southwestern Biology, Division of Parasites (MSB:PARA:46016–46030). Parasites were identified by molecular analysis. For each sample, the entire nematode was placed in a microcentrifuge tube. The Cox-1 (500 base pairs) mitochondrial gene was amplified using standard PCR protocols, sequenced, and uploaded to GenBank under the accession numbers OR622943–OR622950.

The *R. horribilis* samples from southeast and southwest Florida both exhibited high prevalence of *R. pseudosphaerocephala* with more than half of the toads in each sample infected (Table 1). In southwest Florida, the frequency of infection was slightly higher in males than females, but nominal logistic analysis indicated that there was no statistically significant association between infection status and sex ($C^2 = 1.001$, $P = 0.317$). Embryonated eggs were commonly found in the lungs as well as in the esophagus and intestines.

This work provides the first record and distribution of *R. pseudosphaerocephala* in *R. horribilis* in the United States. Oliver et al. (1993. J. Parasitol. 79:786–790) identified ticks on *R. horribilis* in Florida, but to our knowledge, no publications have examined their endoparasites. The relatively high prevalence in two locations in Florida separated by 170 km suggests this parasite may be pervasive in Florida. The high prevalence observed in *R. horribilis* in Florida is not surprising because *R. pseudosphaerocephala* appears to be endemic to bufonids. Previous studies indicate *R. pseudosphaerocephala* commonly infect *R. horribilis* throughout their distribution in Australia, Mexico, and Panama (Falcón-Ordaz et al. 2023. J. Parisitol. Biodivers. 32:doi:10.32873/unl.dc.manter32; Kelehear et al. 2009. Parisitology 136:919–927) but found limited potential for host switching to native species in Australia (Pizzatto et al. 2012. J. Wildl. Dis. 48: 951–961). Further field and laboratory studies on native anurans are needed to determine the potential for *R. pseudosphaerocephala* spillover in Florida.

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***SCAPHIOPUS HOLBROOKII* (Eastern Spadefoot). BURROW DEPTHS.** *Scaphiopus holbrookii* is a fossorial amphibian that digs burrows in well-drained soils (Pearson 1955. Eco. Monographs 25:233–267). They frequently emerge at night from burrows during the active season (approximately March to August, depending on latitude) to feed within small distances of burrow entrances (Devan-Song et al. 2021. J. Herpetol. 55:137–150). Reports on *in situ* burrow depths are limited.

We conducted upland surveys for *S. holbrookii* across lowland forested sites in Arkansas, Tennessee, and Virginia, USA. All surveys were conducted on non-breeding nights with no or



LEFT PHOTO BY MADELYN ALBRITTON, RIGHT PHOTO BY M. A. WALDEN

FIG. 1. Left: *Scaphiopus holbrookii* next to burrow entrance at Village Creek State Park, Arkansas, USA. Right: *S. holbrookii* back-filled its burrow as it retreated below the surface at Colonial National Historical Park, Virginia, USA.

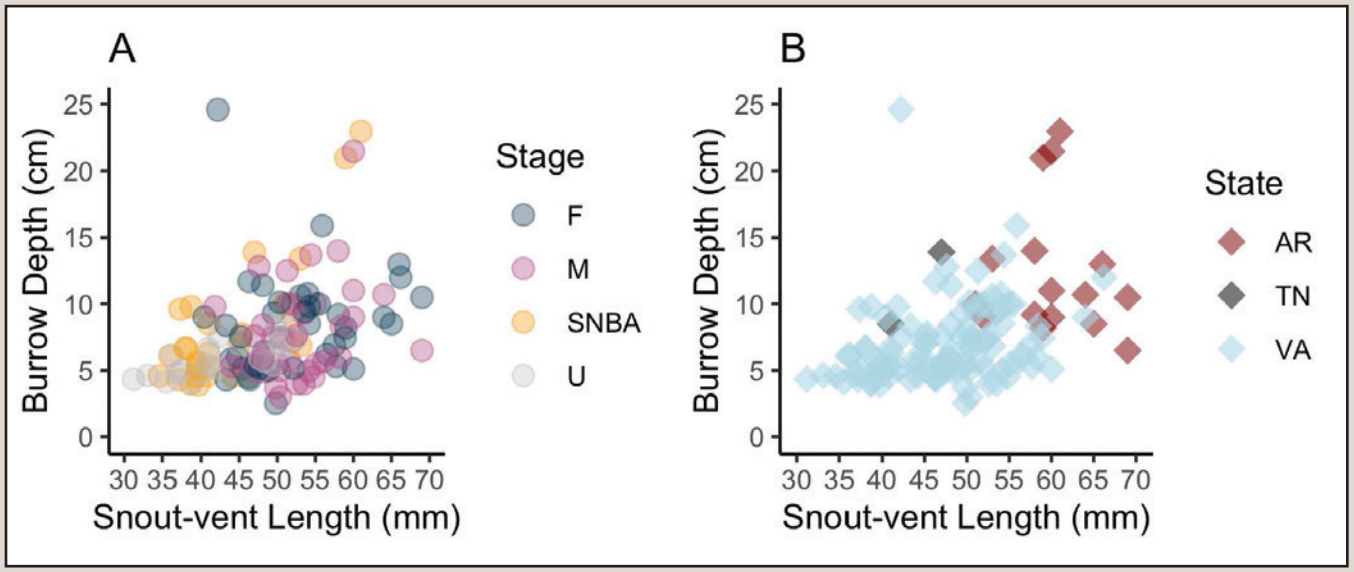


FIG. 2. *Scaphiopus holbrookii* burrow depths by life stage (A) and US state (B). F = Female, M = Male, SNBA = subadult or non-breeding adult, and U = undetermined. AR = Arkansas, TN = Tennessee, and VA = Virginia. Note that the x-axis for SVL begins at 30 mm.

minimal precipitation. Arkansas and Tennessee surveys were conducted in June and July 2023 at Village Creek State Park in eastern Arkansas (35.170°N, 90.706°W; WGS 84) and Meeman-Shelby Forest State Park in western Tennessee (35.340°N, 90.041°W; WGS 84). Virginia surveys were conducted between April 2016 and May 2017 in Colonial National Historical Park in southeastern Virginia (37.229°N, 76.501°W; WGS 84). *Scaphiopus holbrookii* were located by eyeshine between 2000 h and 2200 h in Arkansas and Tennessee, and between 2000 h and 0300 h in Virginia.

Upon detecting an individual, we searched the surrounding habitat, in a roughly 60 cm radius from where it was found, for unoccupied burrow entrances (Fig. 1). This was done first visually, by scanning the ground surface, and then tactilely, by feeling the ground surface in the area for unevenness and moving leaf litter to visually detect burrow entrances. Burrow depth, which may be different from vertical depth from the surface due to the slight angle of some burrows, was measured by gently inserting a thin stick into the burrow until the end of the burrow could be felt and measuring the length of the stick with a ruler. The SVL, mass, and sex were recorded for each frog captured. In Virginia, we used the same methods as described above, except that only visual scans were used, not tactile exploration of the soil surface.

Tactile exploration was highly successful in detecting burrows. We detected and measured the burrow depths for 18 of 34 *S. holbrookii* captured in Arkansas and two of two captured in Tennessee using both visual and tactile exploration, and 109 out of >4000 *S. holbrookii* captured in Virginia using visual exploration only (Fig. 2). Overall burrow depth for all *S. holbrookii* averaged 7.9 cm (± 0.340 cm SE; range: 4–26 cm; N = 129); with 8.9 cm (± 0.623 cm SE; N = 42) for females, 7.9 cm (± 0.587 cm SE; N = 39) for males, and 7.9 cm (± 0.901 cm SE; N = 29) for subadults and non-breeding adults. Previous studies (e.g., Jansen et al. 2001. J. Herpetol. 35:141–145) have documented burrow depths of *S. holbrookii* between 5–30 cm, however, individuals have been recorded as deep as 2 m below ground at the northern end of the species range (Driver 1936. Copeia 1936:67–69).

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***SPEA HAMMONDII* (Western Spadefoot). LEUCISM.** There is a paucity of reports on leucism in the Scaphiopodidae, and specifically for *Spea* (Ray et al. 2020. Herpetol. Rev. 51:306–307). Gibson and Sattler (2010. Catesbeiana 30:73–81) and McKnight and Ligon (2013. Herpetol. Rev. 44:131–132) reported leucism in *Scaphiopus hurterii* and *S. holbrookii*, respectively. More recently, Ray et al. (2020, *op. cit.*) documented the larvae of *Spea bombifrons* as leucistic in Yellowstone National Park. Here, we report leucism in *S. hammondii* from a large vernal pool in Madera County, California, USA.

Like many in the genus, *S. hammondii* is known to frequently utilize vernal pools and cattle stock ponds for breeding in much of its range in California and northern Baja California (Flaxington 2021. Amphibians and Reptiles of California: Field Observations, Distribution, and Natural History. Field Notes Press, Anaheim, California. 294 pp.). We conducted visual encounter and dip net surveys of several large vernal pools, that functioned as cattle stock ponds at a property in Madera County, California, in April 2023 (specific location withheld). We were able to quickly collect dozens of larvae, from among what appeared to be many hundreds or thousands of larvae present. Larvae were placed in bins for counting, species determination, and for an assessment of developmental stage. All larvae from two pools appeared typical in coloration and development. At a third pool, we noted a single individual appeared atypical in appearance, and a close investigation revealed that it appeared to be leucistic (Fig. 1).

Leucism is considered a genetic defect in that there is an observable absence of melanophores and xanthophores, and iridophores are nearly absent (Bechtel 1995. Reptile and Amphibian Variants Colors, Patterns, and Scales. Krieger Publishing Company, Malabar, Florida. 206 pp.). The resulting coloration is typically pale, white, or nearly so, with pigmented eyes (i.e., not albino). This single leucistic *S. hammondii* larva was among 100s