Anuran predation by spiders is well documented in the Neotropical region (Menin et al. 2005. Phyllomedusa 4:39–47; Pombal Jr. 2007. Rev. Bras. Zool. 24:841–843). There are a few reports of hylids being preyed upon by spiders of the Pisauridae (Bernarde et al. 1999. Biociências 7:199–203; Bovo et al. 2014. Herpetol. Notes 7:329–331) and here we provide documentation of an additional instance.

At 1920 h, on 15 July 2016, in a lake at Reserva Ecológica de Guapiaçu, Cachoeira de Macacu, Rio de Janeiro, southeastern Brazil (22.45222°S, 42.77166°W, WGS 84; 33 m elev.), we observed the predation of an adult *Scinax alter* (SVL = 14 mm) by the spider *Thaumasia velox*. The spider was seen catching the frog and holding it with its pedipalps and chelicerae after the prey jumped between leaves (Fig. 1). The arachnid held the frog for 10 min., consuming part of its right posterior leg before releasing it. The frog produced a large amount of cutaneous secretions, suffered paralysis, necrosis on the local bite, and stayed alive for 30 min. The spider (female, 13.3 mm cephalothorax and abdomen length; identified by R.L.C. Baptista) was deposited in the Arachnids Collection of Universidade Federal do Rio de Janeiro, Rio de Janeiro, Brazil. Frog identification was verified by J. P. Pombal Jr., and was deposited in the Herpetological Collection of Museu Nacional (MNRJ 91162).

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***SMILISCA BAUDINII* (Mexican Treefrog) and *INCILIUS LUETKENII* (Yellow Toad). INTERSPECIFIC AMPLEXUS.** Anurans, particularly species that form large breeding assemblages, periodically exhibit atypical amplectic behavior, including multiple amplexus, same-sex amplexus, and interspecific amplexus (Gómez-Hoyos et al. 2012. Herpetol. Notes 5:497–498). Indeed, the drive to reproduce may be so intense for some species that amplexus between different families and even orders has occasionally been reported (Simovi et al. 2014. Herpetol. Notes 7:25–29).

FIG. 1. Interspecific amplexus between a male *Smilisca baudinii* and an adult *Incilius luetkenii* of an undetermined sex.

At ~2100 h on 8 May 2017, near the shore of Laguna de Apoyo, Masaya Department, Nicaragua (11.93337°N, 86.05472°W, WGS 84; 189 m elev.), we observed prolonged interfamilial amplexus between a male *Smilisca baudinii* and an adult *Incilius luetkenii* of an undetermined sex (Fig. 1). However, given the absence of a release call on the part of the toad, it was presumed to be a female. The animals were observed near the exposed bottom corner of an abandoned swimming pool, which contained ~15 cm of water. The *S. baudinii* grasped the *I. luetkenii* in axillary amplexus. No vocalizations were noted for either species during approximately 10 min. of observation, despite calling by multiple other *S. baudinii* in the immediate vicinity. The *I. luetkenii* hopped repeatedly along the edge of the water and the *S. baudinii* never relaxed its grip. Following observation and photography, the animals remained in amplexus and were subsequently allowed to hop away unharmed. While other cases of interspecific amplexus involving *S. baudinii* have been noted (Streicher et al. 2010. Herpetol. Rev. 41:208; Loc-Barragan et al. 2016. Mesoam. Herpetol. 3:463–464), this is the first reported amplexus between these two species, and the first interfamilial amplexus noted for *S. baudinii*.

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TESTUDINES — TURTLES

***ACTINEMYS MARMORATA* (Northwestern Pond Turtle). ATYPICAL NESTS.** The Northwestern Pond Turtle is considered a species of special concern in California (Thompson et al. 2016. California Amphibian and Reptile Species of Special Concern. University of California Press, Berkeley, California. 390 pp.). Bury et al. (2012. Northwest Fauna 7:1–128), and Thompson et al. (2016, *op. cit.*) suggested that the declines in the range of these turtles in California may be directly or indirectly related to aspects of the nesting ecology (e.g., destruction or loss of habitat, absence of protection for nest sites, lack of information on nesting ecology, etc.). Herein, we report on atypical or novel aspects of the nesting ecology of a population of pond turtles. The study area, which is hydrologically connected to the San Francisco Bay Estuary, probably represents an area of potential genetic admixture with the recently elevated *A. pallida*, as described by Spinks et. al. (2014. Mol. Ecol. 23:2228–2241).

While conducting a turtle-nesting ecology study between 2013 and 2016 at Mt. View Sanitary District's Moorhen Marsh, Martinez, California, we frequently observed female pond turtles engaged in nest-site selection, nest excavation, oviposition, and nest completion. This general series of behaviors follows a relatively predictable pattern to the experienced observer. Between 2014 and 2016, however, we observed—on several occasions and over several years—behaviors that, when viewed in the context of hundreds of observed nesting attempts, would likely be considered atypical.

Phantom nests. We observed six adult females (two in June 2014 and four in June 2015) select a nest site, excavate a nest chamber, appear to lay eggs, fill the nest and install a nest plug, and move away from the nest. In each case we immediately placed protective cages over the nests and monitored the sites through mid-spring. One month after all other hatchlings had emerged

PHOTO BY JEFF ALVAREZ

FIG. 1. Nest attempt by *Actinemys marmorata* showing a shallow excavation, approximately one cm deep. The anterior of the digging turtle was pointed towards the left side of the photo (red arrow).

PHOTO BY JEFF ALVAREZ

FIG. 2. Nest attempt by *Actinemys marmorata* showing a fully constructed nest, approximately 13–15 cm deep. The anterior of the digging turtle at the time of nest construction was pointed towards the top, left side of the photo (red arrow).

from monitored nests, we excavated nests where no emergence had occurred. Upon excavation of each of these nests, we noted that although the nest chambers were intact and no rodent burrows or desiccation cracks intersected the chamber, no eggs were present. We presumed that the females had engaged in all behaviors except ovipositing, and characterized these nests as "phantom" nests.

Incomplete nest attempts. On 10 occasions (one in June 2014, one in June 2015, and eight in May, June, and July of 2016) we observed that females had left the aquatic habitat to locate potential nest sites, and begun excavation, but had abandoned the sites before nest completion and oviposition. The excavations ranged from shallow scrapes (≤ 1 cm) in the soil (Fig. 1) to fully formed nest chambers 13–15 cm deep (Fig. 2). In each case, the site was abandoned; only the nest attempt indicated that a female turtle had been present but not completed the nest.

Incomplete nest. On a single occasion (June 2016), we observed that a female had excavated a nest and laid eggs, but failed to adequately plug the nest cavity, leaving the eggs partially exposed (Fig. 3). As this condition potentially subjected the eggs to desiccation and/or predation, we elected to use moistened soil from the immediate area to construct and place an artificial plug. The nest was then covered with a protective cage and monitored. This strategy (installing an artificial plug) was based on experience gained in 2015, when an unknown predator was discovered to have removed a plug from a caged nest but had left the eggs unharmed in the cavity. On that occasion, an artificial plug was constructed and placed over the cavity and the nest successfully produced eight hatchlings the following March.

Obscured predated nest. On 11 April 2016, we excavated a caged nest that showed no sign of emergence. We removed one unhatched egg, one fully formed dead neonate, and six broken eggs containing turtle parts in various stages of decomposition. Through veterinary examination of the remains, the majority of these nest contents were determined to have been predated by rodents (species unknown) in the nest chamber. This undetectable predation had occurred underground, while the nest was covered by a protective cage.

With appropriate experience, nesting sign can be detected during targeted surveys. Understanding ambiguous nesting sign by these declining turtles can certainly aid in documenting reproductive activity at a specific site. However, observations of nests—even direct observation of nesting females, with no indication of nest-site predation at the surface—cannot be correlated with emergence of neonate turtles. Despite indications in the field of nesting, determination of "successful" nesting of Northwestern Pond Turtles should be confined to observations of post-emergent hatchlings.

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PHOTO BY ALAN RESETAR

FIG. 3. "Incomplete nest" of *Actinemys marmorata* showing a fully constructed nest with eggs deposited, but exposed. The nest plug was not constructed by the female.

FIG. 1. Adult female *Apalone spinifera* (318 mm straight-line carapace length) from the Chunky River in Newton County, Mississippi, with a healed hole through its carapace (indicated by the author's thumb projecting through the hole). The inset photo shows the hole as viewed dorsally, with skin of the right hind leg visible underneath.

nest contents and determined that rodents predated eggs/contents. Mt. View Sanitary District generously supported and funded the turtle study and allowed access to the site. Laura Patterson, California Department of Fish and Game, approved our proposal to conduct a broad-scale turtle study under permit number SCP-000040.

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***APALONE SPINIFERA* (Spiny Softshell). HEALED INJURY.** Turtles are renowned for their ability to sustain and survive traumatic injuries that result from predation attempts or strikes from automobiles, boat propellers, or agricultural equipment. Such injuries, including cracked shells in hard-shelled species and amputated limbs, remain evident years after wounds have healed (Saumure and Bider 1998. Chelon. Conserv. Biol. 3:37-45; Ferronato et al. 2009. Phyllomedusa 8:19-25; Bulté et al. 2010. Aquat. Conserv. Mar. Freshw. Ecosyst. 20: 31–38). Trionychid turtles are distinguished by a flexible, cartilaginous covering of the carapace and plastron, which extends beyond the margins of the underlying bones of the carapace laterally and posteriorly. While numerous biomechanical and physiological advantages have been suggested to explain the evolution of their soft shells (Scheyer et al. 2007. Org. Divers. Evol. 7:136-144), they may leave these turtles prone to traumatic injuries. Indeed, carapace injuries from boat strikes analogous to those reported for hard-shelled turtles have been reported for *Apalone spinifera* of eastern North America (Galois and Ouellet 2007. Chelon. Conserv. Biol. 6:288-293).

On 23 May 2016, I captured an adult female *A. spinifera* in a fykenet set in an outer bend of the Chunky River, ca. 1.5 river km upstream of the old Griffis Fountain bridge in the town of Chunky, Newton County, Mississippi, USA. The turtle's straight-line carapace length was 318 mm. The turtle's right posterior carapace exhibited a large oval hole (ca. 1.5 × 1.0 cm) that penetrated all the way through the body (Fig. 1), with the ventral opening located in the inguinal pocket immediately lateral to the hind leg. The injury was apparently on old one that had healed completely, as there were no signs of scabbing. A wrinkle-like scar extended ca. 6 cm from the hole anterolaterally to the edge of the carapace, possibly indicating that the initial injury had torn at least partially all the way to the carapace margin. The hole appeared to be just outside the area of the bony disc of the carapace, but whether the disc margin or projecting rib tips had also been injured was not clear.

The most obvious candidates for the cause of the hole are the tooth of an American Alligator (*Alligator mississippiensis*), a stabbing beak of a large wading bird such as the Great Blue Heron (*Ardea herodias*), or a bullet fired by someone engaged in "plinking," the shooting of turtles by people who may regard them as vermin. The large size of the hole and the complete healing of the wound suggest the injury was likely a very old one,