

Eastern Illinois University  
**The Keep**

---

Faculty Research & Creative Activity

Biological Sciences

---

January 2009

# Natural history notes: *Rhinocheilus lecontei* *tesselatus* (longevity)

Stephen J. Mullin

*Eastern Illinois University*, [sjmullin@eiu.edu](mailto:sjmullin@eiu.edu)

Follow this and additional works at: [http://thekeep.eiu.edu/bio\\_fac](http://thekeep.eiu.edu/bio_fac)



Part of the [Biology Commons](#)

---

## Recommended Citation

Mullin, Stephen J., "Natural history notes: *Rhinocheilus lecontei* *tesselatus* (longevity)" (2009). *Faculty Research & Creative Activity*. 274.

[http://thekeep.eiu.edu/bio\\_fac/274](http://thekeep.eiu.edu/bio_fac/274)

This Article is brought to you for free and open access by the Biological Sciences at The Keep. It has been accepted for inclusion in Faculty Research & Creative Activity by an authorized administrator of The Keep. For more information, please contact [tabruns@eiu.edu](mailto:tabruns@eiu.edu).



FIG. 1. *Candoia paulsoni mcdowellii* (top), succumbed to envenomation during a predation attempt by a *Pseudonaja textilis*. The *Candoia* had previously consumed a *Sphenomorphus jobiensis* (bottom). Photograph by Mark O'Shea.

captured, the first Oro Province specimens collected since the mid-1960s.

One specimen, a female (981 mm SVL, 1210 mm TTL), was sighted at 1100 h, following a period of light rain, lying alongside and parallel with a low 'frond-row' of dead palm fronds, between oil-palms. It was in the process of swallowing a *Candoia paulsoni mcdowellii* (McDowell's Bevel-nosed Ground Boa) that had been envenomed but was still alive. Although Australian *P. textilis* are reported to use constriction to subdue prey, the *Pseudonaja* was lying almost full length and was not constricting or restraining the *Candoia*, two thirds of which protruded from its mouth. Disturbed, the *Pseudonaja* regurgitated the *Candoia* and attempted to flee, but was caught. The *Candoia*, a female (445 mm SVL, 525 mm TTL) was also collected, but rapidly succumbed to the venom. It contained a *Sphenomorphus jobiensis* (Jobi Skink; 85 mm SVL, 180 mm TTL) (Fig. 1).

Snakes are representative of the limbless, elongate 'Type IIB' prey taken by many elapids (Cundall and Greene 1999. In Schwenk [ed.], *Feeding: Form, Function, and Evolution in Tetrapod Vertebrates*, pp. 293–333. Academic Press, San Diego, California) but adult Australian *P. textilis* are not noted to be especially ophiophagous, showing a preference for 'Type III' prey such as small mammals. All three New Guinea *P. textilis* collected by MOS fed readily on rat pups within 10 days of captivity. This record of ophiophagy is the first wild feeding record for PNG *Pseudonaja* and the first record of a *Pseudonaja* preying on a boid, although the endemic New Guinea elapid *Micropechis ikaheka* has previously been reported to prey on *Candoia aspera* (O'Shea 1994. *Herpetol. Rev.* 25:70).

We thank Wolfgang Wüster, Graham King, John Hula, Gabby Chris, Rick Shine, and Rex Neindorf.

Submitted by **MARK O'SHEA** (e-mail: osheam@unimelb.edu.au) and **DAVID WILLIAMS** (e-mail: d.williams4@pgrad.unimelb.edu.au), Australian Venom Research Unit, Department

of Pharmacology, University of Melbourne, Parkville, Victoria, 3010, Australia.

**PSEUSTES POECILONOTUS** (Bird-eating Treesnake). **PREDATORS.** The diet of *Pseustes poecilonotus* is known to include birds and bird eggs (Campbell 1998. *Amphibians and Reptiles of Northern Guatemala, the Yucatan, and Belize*. University of Oklahoma Press, Norman. 380 pp.). However, other than antbirds (Thamnophilidae), interactions with specific avian prey species appear to be lacking in the literature (Oniki 1979. *Biotropica*. 11:60–69; Weatherhead and Blouin-Demers 2004. *J. Avian Biol.* 35:185–190; Willis 1972. *Ornithol. Monogr.* 10:1–162).

On 11 August 1996 at approximately 1400 h I watched two adult *Ramphastos swainsonii* (Chesnut-mandibled Toucans) dive repeatedly at a nest hole cavity located ca. 15 m high in the trunk of a dead tree near the 300 meter mark of the Sendero Oriental Trail at La Selva Biological Station, Costa Rica (10.43°N, 83.98°W). Observation with binoculars revealed that a *P. poecilonotus* (ca. 1.4 m total length) was clinging to the tree trunk just outside the nest hole opening. The two *R. swainsonii* continued to dive at and harass the snake for several minutes before the snake fell from the tree and landed on a log a few meters from where we were standing. I could not tell whether the snake had lost its grip or whether it had been knocked off the tree by the *R. swainsonii*. The snake's head had blood on it, but it wasn't clear if its injuries were sustained from the fall, or from the toucans. The *P. poecilonotus* was momentarily stunned, and I grabbed it by the tail, whereupon it spread its neck and began striking at me. I released the *P. poecilonotus* at the capture site.

I could find no records in the literature of *P. poecilonotus* attempting to prey on *R. swainsonii* or any other toucan species. Further, foraging observations documented in the literature seem to indicate that *P. poecilonotus* is most often seen foraging in lower level vegetation (Willis, *op. cit.*), so seeing one attempting to predate a nest high in the canopy may represent an unusual event (D. Graham, pers. comm.). Alternatively, it may be that human observations of *P. poecilonotus* tend to be limited to lower vegetation, missing possible foraging by the snake at higher levels of the canopy.

I thank D. Graham for assistance.

Submitted by **DONALD LYMAN, JR.**, Biology Department, Merrimack College, North Andover, Massachusetts, 01845, USA; e-mail: donlyman@ix.netcom.com.

**RHINOCHAILUS LECONTEI TESSELATUS** (Texas Long-nosed Snake). **LONGEVITY.** On 25 June 1980, I collected a male *Rhinocheilus lecontei tessellatus* (ca. 260 mm SVL) at a public camping ground adjacent to the Pecos River (Jim White Campground, now Lake Carlsbad Recreation Area), Carlsbad, Eddy County, New Mexico. I maintained this animal in captivity until its death on 12 August 2007. From the time of its capture until August 1989, the snake was fed a diet of *Sceloporus occidentalis* (Western Fence Lizard), *Uta stansburiana* (Side-blotched Lizard), and *Eumeces skiltonianus* (Western Skink). Refused prey items included *S. occidentalis* eggs and subadult *Elgaria multicarinata* (Southern Alligator Lizard). From August 1989 until its death, the snake was fed weanling *Mus musculus* and neonate *Rattus nor-*

*vegicus*. At time of death, the snake measured 645 mm SVL and 105 mm tail length. The size at time of collection, indicates that it likely hatched in 1978 or earlier, making this snake at least 29 years old when it died. Previous records for this species (Slavens 1981. Inventory of Live Reptiles and Amphibians in North American Collections, Current January 1, 1981. Woodland Park Zoological Gardens, Seattle, Washington; Snider and Bowler 1992. Longevity of Reptiles and Amphibians in North American Collections, 2<sup>nd</sup> ed. Herpetol. Circ. 21) do not indicate a specimen older than 22 years. The specimen is deposited in the Texas Natural History Collections (TNHC 66571).

Submitted by **STEPHEN J. MULLIN**, Department of Biological Sciences, Eastern Illinois University, Charleston, Illinois 61920, USA; e-mail: sjmullin@eiu.eiu.

**SIBON LONGIFRENIS** (Drab Snail-eater). **REPRODUCTION.**

The genus *Sibon* is one of four groups of neotropical snake specialized for foraging on snails, slugs, and also amphibian eggs (Montgomery et al. 2007. Herpetol. Rev. 38:343). *Sibon longifrenis* is a small nocturnal and arboreal species previously found in Honduras, Costa Rica, and Panama. In Costa Rica it inhabits undisturbed Atlantic Lowland Wet and Moist Forests, Premontane Wet Forests, and Rainforest. It is a seldom seen snake that inhabits deep shady forest (Leenders 2001. A Guide to the Reptiles and Amphibians of Costa Rica. Zona Tropical, Miami, Florida. 305 pp.; Savage 2002. Amphibians and Reptiles of Costa Rica. University Chicago Press, Chicago, Illinois. 934 pp.).

On 14 November 2002, while conducting transect-based surveys, I found a female *S. longifrenis* (288 mm SVL, 135 mm tail, 9.7 g) in the forests of Caño Palma Biological Station, Tortuguero, Limón Province. The snake was moving across a palm tree leaf (*Manicaria saccifera*) at a height of ca. 2 m in an area of wet primary swamp forest (25.4°C, 97%RH). I captured the snake and held it overnight in order to verify identification and measure it. During the night the snake laid two elongate, white eggs (10.0 x 26.1 mm, 1.24 g; 10.1 x 24.8 mm, 1.25 g) in a terrarium. After laying her eggs, the snake weighed 7.1 g. The eggs were placed inside a small terrarium in conditions intended to mimic natural circumstances. Unfortunately by 25 December 2002 both eggs had brown fungi on their surfaces and inspection revealed partially developed dead embryos inside.

Guyer and Donnelly (2005. Amphibians and Reptiles of La Selva, Costa Rica and the Caribbean Slope. University of California Press, Berkeley. 367 pp.) reported *S. longifrenis* as 'presumably an egg-layer.' To the best of my knowledge, this is the first report of clutch size in *S. longifrenis*. Egg-laying has been reported for only a handful of *Sibon* species, but all previously reported clutch sizes range from 2–9 eggs (Kofron 1987. J. Herpetol. 21:210–225; McCoy 1990. Carib. J. Sci. 26:162–166; Campbell 1998. Amphibians and Reptiles of Northern Guatemala, the Yucatan, and Belize. University of Oklahoma Press, Norman, Oklahoma. 380 pp.). November and December are wetter periods for the Tortuguero region and Caño Palma Biological Station receives most of its rainfall around this time.

I thank the Canadian Organization for Tropical Education and Rainforest Conservation, Ministerio de Recursos Naturales Energía y Minas, and Farnborough College of Science and Technology for

permissions and assistance.

Submitted by **TODD R. LEWIS**, 4 Worgret Road, Wareham, Dorset, BH20 4PJ, United Kingdom; e-mail: biotropical@gawab.com.

**THAMNOPHIS ATRATUS ATRATUS** (Santa Cruz Gartersnake).

**DIET.** The interaction between the newt *Taricha granulosa* and the gartersnake *Thamnophis sirtalis* provides a model system for the study of predator-prey coevolution (e.g., Brodie and Brodie 1999. Bioscience 49:557–568). Newts of the genus *Taricha* possess tetrodotoxin (TTX) in their skin and other tissues (Mosher et al. 1964. Science 144:1100–1110; Wakely et al. 1966. Toxicon 3:195–203), which acts as a powerful chemical defense against nearly all potential predators (Brodie 1968. Copeia 1968:307–313). Despite the fact that TTX is a potent neurotoxin, *T. sirtalis* in a number of California and Oregon populations prey on *T. granulosa* (Brodie and Brodie 1990. Evolution 44:651–659; Brodie and Brodie 1991. Evolution 45:221–224). In fact, concentrations of TTX in *T. granulosa* and levels of resistance in *T. sirtalis* generally covary over much of the West Coast in a pattern consistent with an evolutionary arms-race of adaptation and counter-adaptation (Brodie et al. 2002. Evolution 56:2067–2082; Hanifin et al. 2008. PLoS Biol. 6:e60). Until recently, this TTX-mediated coevolution was thought to include only two ecological partners, *T. sirtalis* and *T. granulosa*. However, a similar interaction between gartersnakes and newts was recently discovered in the Sierra Nevada Mountains of California; *T. couchii* prey on both *T. torosa* (Brodie et al. 2005. J. Chem. Ecol. 31:343–356) and *T. sierrae* (Wiseman and Pool 2007. Herpetol. Rev. 38:344–345) and are resistant to TTX at levels concordant with toxicity in sympatric *T. torosa* (Brodie et al. 2005, *op. cit.*). Here we detail a field observation of a *T. atratus* preying on a *T. granulosa*. Our report is significant because it is the first to document predation by *T. atratus* on metamorphosed *Taricha* in the wild, and hints at yet a third arms-race between gartersnakes and newts.

On 13 October 2006 at 1411 h, at Monte Bello Pond (MB05) in the Santa Cruz Mountains, Santa Clara County, California (37.32108°N, 122.18548°W; 576 m elev.), RRG observed an adult *T. atratus atratus* (~ 75 cm SVL) swim ashore with a subadult *T. granulosa* (~ 5 cm SVL) firmly held in its mouth (Fig. 1). The snake settled on the south edge of the pond, characterized by a gentle grade and only sparse vegetation, where it held the newt high off the substrate (~ 15 cm) but kept the majority of its own body anchored in the shallows. The snake gripped the newt through the midsection and proceeded to manipulate the prey deeper into its mouth. The newt struggled to free itself and appeared to exude a milky white liquid along its dorsal surface (glandular secretions including TTX; Cardall et al. 2004. Toxicon 44:933–938), but by 1414 h (3 min) the snake had already succeeded in swallowing the newt tail-first. The snake briefly rested (1 min) before turning back into the pond and slowly swimming away, apparently unaffected by its prey.

*Taricha* larvae have been reported in the diet of *T. atratus* (Fitch 1940. Univ. California Publ. Zool. 44:1–150; Fitch 1941. California Fish Game 27:2–32; Fox 1951. Univ. California Publ. Zool. 50:485–530; Kuchta 2005. *In* Lannoo [ed.], Amphibian Declines: The Conservation Status of United States Populations