



FIG. 1. Male *Anolis antonii* parasitized by *Microtrombicula* sp. A) left side view; B) dewlap extension (right side view).

2009 In Krantz and Walter [eds.], *A Manual of Acarology*. 3rd Edition, pp. 83–96. Texas Tech University Press, Lubbock, Texas). Mites were then observed under light microscopy 400x (Leica DM 1000 LED), and subsequently identified as within the genus *Microtrombicula* (Acariformes: Trombiculidae), following Brennan and Goff (1977 *J. Parasitol.* 63:554–566). Mites from the genus *Microtrombicula* are characterized by six branched and nude setae in palp without the subterminal seta, a dorsal scutum subpentagonal, flagelliform sensilla, and leg II with pretarsala present.

The prevalence of *Microtrombicula* sp. was 21.7% in males, 59.1% in females, and 15.2% in juveniles. The parasite load of the infested population was low (mean = 2.39, SD = 1.63), and the size (SVL) of the parasitized lizards ranged from 20–51 mm. No significant correlations were found between the parasite load and SVL (Pearson $r = 0.09$, $p = 0.50$), perch height (Pearson $r = 0.08$, $p = 0.57$) or perch diameter (Pearson $r = 0.08$, $p = 0.54$) where the lizards were found. The axillary pockets and the dewlap were the main body regions of the lizards used as infestation sites by mites.

In particular, at 1041 h on 15 November 2011, we found an adult male *A. antonii* (SVL = 42 mm) with six individual *Microtrombicula* sp. on the dewlap and severe injuries known as mite-associated ulcerative dermatitis (MAUD) (Dawson et al. 1986. *Lab Anim. Sci.* 36:262–267). The inflammatory response

ANOLIS CAROLINENSIS (American Green Anole). POSSIBLE

KLEPTOTHERMY. Kleptothermy describes a mode of thermoregulation by which one animal shares or steals the body heat of another (Brischoux et al. 2009. *Biol. Lett.* 5:729–731). This behavior is common across a broad range of taxa and manifests primarily as aggregations where effective size is increased to reduce the loss of heat. When aggregated, individuals are able to increase the thermal inertia of the group as a whole, which serves to both reduce metabolic cost of body temperature maintenance and reduce external heat loss (Canals et al. 1989. *J. Theor. Biol.* 141:181–189). These behaviors are common in mammals (Arends et al. 1995. *J. Mammal.* 76:947–956) and birds (Ancel et al. 1997. *Nature* 385:304–305) found in cold environments, but appear particularly attractive to reptiles, which—as ectotherms—must rely on external sources for the maintenance of body temperature. Subsequently, kleptothermy has been reported in both snakes (Aubert and Shine 2009. *Aust. Ecol.* 34:210–217) and lizards (Shah et al. 2003. *Behaviour* 140:1039–1052). Often these interactions occur among members of the same species, but many possible instances of interspecific kleptothermic behavior have been noted (Brischoux et al., *op. cit.*). For example, *Notechis scutatus* (Australian Tiger Snake) (Worrell 1958. *Song of the Snake*. Angus and Robertson, Sydney, Australia. 210 pp.) and *Sphenodon punctatus* (New Zealand Tuatara) (Corkery et al. 2014. *Physiol. Biochem. Zool.* 2:216–221) are both known to utilize seabird burrows as thermal refuges. Few studies actually quantify heat transfer in supposed instances of kleptothermy, so many observations purporting this behavior are conjectural (Corkery et al., *op. cit.*). Nevertheless, noting unique natural history observations such as these is important in furthering our knowledge of both species' ecology, and interspecific relationships. Here I report a possible case of kleptothermy in *A. carolinensis* from the Red Ratsnake, *Pantherophis guttatus*.

At 0803 h on 10 February 2016 in Miami, Florida, USA (25.543°N, 80.575°W; WGS 84), I observed a possible incident of kleptothermy in the external battery housing of an Isco 6712 portable automatic water sampler. The sampling unit and battery housing were located on a 1.5-m-tall wooden platform ca. 40 m from a levee embankment in a thicket of *Salix caroliniana* (Coastal Plain Willow) surrounded by inundated marsh composed of *Cladium jamaicense* (Sawgrass) and *Muhlenbergia capillaris* (Hairawn Muhly Grass). The water level directly below



FIG. 1. Circled in white between the coils of the *Pantherophis guttatus* (Red Ratsnake) is the head of an *Anolis carolinensis* (American Green Anole) as found *in situ*. The lizard remained briefly in this position before retreating its entire head back underneath the snake's body.

the platform was ca. 35 cm. Weather conditions were overcast skies, with an air temperature of ca. 15.5°C. During a routine sample retrieval and battery check, the battery housing cover was removed and inside next to the battery was a large (SVL ca. 75.0 cm) *Pantherophis guttatus*. Nested within the body of the *P. guttatus* was an *Anolis carolinensis* (SVL ca. 5.0 cm; Fig. 1). The lizard did not appear to be constrained in any way and had free movement in the snake's coils, and therefore this observation was not perceived in any way to be a predation event. Further, the snake was visibly distended from a previous meal. After less than a minute the *A. carolinensis* withdrew its exposed head back underneath the *P. guttatus*.

This particular observation was interesting because *P. guttatus* is a predator of *A. carolinensis* (pers. obs.). In addition to potential thermoregulation benefits, it is possible the anole was also afforded some degree of protection from predators such as smaller snakes, which may have been more appropriate size-matched predators. The space inside the battery housing was noticeably warmer than the surrounding air, and there was ample space for the anole such that it was not necessary to be in direct contact with the snake. This is the first recorded observation of an individual *A. carolinensis* taking shelter in the coils of a *P. guttatus*.

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A sample of five *C. semenanjungensis* consisting of three males (mean SVL = 61 mm \pm 3.6 SD, range = 58–65 mm) and two females (SVLs = 60, 68 mm) were collected in June 2008, in West Malaysia, Johor State, Gunung Panti (1.8344°N, 103.9006°E, WGS 84) and deposited in the herpetology collection of La Sierra University (LSUHC), Riverside California, USA as LSUHC 8900, 8901, 8926, 8927, 8930 was examined. Lizards were sacrificed by an overdose of pentobarbital.

A cut was made in the lower abdominal cavity and the left testis or ovary was removed, embedded in paraffin, cut into 5- μ m sections, and stained with Harris hematoxylin followed by eosin counterstain. Histology slides were deposited at LSUHC.

All three males were producing sperm (spermiogenesis). The lumina of the seminiferous tubules were lined by sperm or clusters of metamorphosing spermatids. The smallest reproductively active male measured 58 mm SVL (LSUHC 8927). One female (SVL = 68 mm, LSUHC 8930) exhibited early yolk deposition (vitellogenic granules in the ooplasm) indicating she was an adult. The other female (SVL = 60 mm, LSUHC 8926) was not reproductively active and possessed quiescent ovaries. While adults may reach an SVL of 71.1 mm SVL (Grismer 2011, *op. cit.*), *C. semenanjungensis* males as small as 58 mm SVL have commenced reproductive activity. Examination of *C. semenanjungensis* from additional months is needed to elucidate the reproductive cycle of this species.

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CYCLURA LEWISI (Blue Iguana). SOCIAL BEHAVIOR. Extensive tongue-touching of substrates and inspection of retreats and feces suggest that chemical cues play an important role in *Cyclura lewisi* communication and behavior (Goodman 2007. *Carib. J. Sci.* 43:73–86; pers. obs). The purpose of this note is to document a new observed interaction between adult specimens that further support the importance of chemical cues in *C. lewisi* social behavior. I observed *C. lewisi* behavior during summer 2010 at Queen Elizabeth Royal Botanic Park (19.31816°N, 81.16718°W) in Grand Cayman. I observed specimens free to roam in the Park and breeding adults hosted in pens (ca. 12 x 15m) delimited by 1-m-high concrete walls that prevent lizards from seeing one another. Males are territorial and head-bob to rivals. On

