

NATURAL HISTORY NOTES

CHIRONIUS EXOLETUS (Common whipsnake): PREY AND POSSIBLE DIET CONVERGENCE. Neotropical colubrid snakes of the genus *Chironius* inhabit rainforests in Central and South America (Dixon *et al.*, 1993). These snakes are diurnal, terrestrial to arboreal and feed on frogs (Dixon *et al.*, 1993). Arboreal species of *Chironius* feed mainly on Hylidae anurans (Dixon *et al.*, 1993; Marques & Sazima 2004). *Chironius exoletus* is a medium-sized snake, with a slender body that forages mainly from shrubs and trees (Marques & Sazima, 2004); its diet is based mostly on treefrogs but it preys on other anurans and lizards as well.

Here I report an unexpected treefrog as prey, *Trachycephalus mesophaeus* (Hylidae), found in the gut of an individual of *Chironius exoletus*. When disturbed, treefrogs of the genus *Trachycephalus* are known to release an abundant poisonous adhesive milky secretion from their skin (Duellman, 1956; Delfino *et al.*, 2002). This provides them with protection against predation, similar to that which occurs in other amphibians such as newts (Arnold, 1982). The snake was an adult male (MNRJ 585, 701 mm SVL, broken tail, 87 g mass) from Santa Catarina state, southern Brazil. The prey (70 mm SVL, male, 8.1 g mass) was ingested headfirst and was intact. The prey/predator mass ratio was 0.09.

Although previous information reported an individual *Trachycephalus* in the gut of *Chironius foveatus* (Dixon *et al.*, 1993), this is the first record of *Trachycephalus mesophaeus* as prey of *Chironius exoletus*. Besides that, *Trachycephalus venulosus* has already been reported as having been successfully eaten by snakes of the genus *Leptophis* (Henderson & Nickerson, 1977; Prado 2003; Albuquerque & Di-Bernardo, 2005) and *Liophis poecilogyrus* (Silva *et al.*, 2003). However, an adult *Drymarchon corais* (Leary & Razafindratsita, 1998) and a *Leptodeira annulata ashmeadii* (Manzanilla *et al.*, 1998) failed to ingest individuals of the genus *Trachycephalus*. Moreover, Lutz (1973) reported a *T. venulosus* being dropped by a bird and human injury by *Trachycephalus* has also been recorded previously (Duellman, 1956; Janzen, 1962).

The genera *Drymarchon*, *Chironius* and *Leptophis* belong to the subfamily Colubrinae but *Liophis* is a Xenodontinae genus. Therefore having *Trachycephalus* as prey may indicate an ecological diet convergence. Furthermore, these data could indicate an ability of *Chironius* to handle and swallow a dangerous unpalatable prey, similar to that observed for other snakes such as *Liophis epinephalus* and *Heterodon* spp (Greene, 1997).

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CROTALUS TRISERIATUS (Dusky rattlesnake): **BODY TEMPERATURE**. The physiological ecology of rattlesnakes is a new field of research; however recent studies offer intriguing glimpses that have significant bearing on our standing of their ecology and evolution (Campbell & Lamar, 2004). Nowadays, there are few reports about thermal ecology from this species group, specifically from *Crotalus*

triseriatus there are not studies about its thermal biology. Here we present first data of thermal ecology in this species.

From February to October 2007, we conducted field work in Magdalena Petlatalco, Delegación Magdalena Contreras, Sierra del Ajusco, México, Distrito Federal (19°13'15.5''N, 99°17'8.2''W, WGS84; elev. 3500 m). The climate is temperate semihumid (Cw) with a mean annual temperature of 7.5–13.5°C and a mean annual rainfall of 1340 mm (García, 1973). The vegetation is represented by pine forest (*Pinus hartwegii*) and zacatonal (*Muhlenbergia quadridentata*, *Festuca hephaestophila* and *Festuca amplissima*) (Álvarez del Castillo, 1989). The data presented are based on 15 captures. From each capture, body (T_b), substrate (T_s at the exact point of observation) and air temperatures (T_a at 1 m above substrate) were measured to nearest 0.2°C with a Miller & Weber (0–50 ± 0.2°C) quick reading thermometer. We also recorded microhabitat type for each capture.

Mean body temperature of *C. triseriatus* was 20.83 ± 5.36°C (12–31°C; $n = 15$). Mean substrate and air temperature were 16.64 ± 5.93°C (11.1–32°C) and 16.46 ± 3.64°C (12–22°C), respectively.

Body temperature and T_s were significantly correlated (Sperman Rank correlation: $r_s = 0.5588$, $P = 0.0471$), but T_b and T_a were not (Sperman Rank correlation: $r_s = 0.4596$, $P = 0.1141$). Most snakes were found under trunk ($n = 8$), the remainder were found on ground ($n = 6$) and vegetation ($n = 1$).

Snakes living in temperate areas often encounter large temperature fluctuations and thus many have evolved strategies to maintain a preferred T_b (Peterson, 1987). *Crotalus triseriatus* has a high field body temperature which could be the result of behavioral thermoregulation selecting different microhabitats to maintain their preferred T_b as happens with other species (Graves & Duvall, 1993). Higher T_b may allow snakes to digest prey, speed the recrudescence of reproductive organs, and/or further the development of embryos (Graves & Duvall, 1987). As a result *C. triseriatus* may maintain a strong relation between T_s and T_b , which appears to have a strong effect on activity patterns in other *Crotalus* species (Jacob & Painter, 1980).

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BOOK REVIEWS

Atlas des reptiles du Cameroun

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This “Atlas” is an atlas in both the older, geographic meaning and the more recent use of this term for a volume of photographs. Weighing in at 1½ kg and 688 pages, this treatment of the reptiles of Cameroon is a heavyweight to hold, let alone to carry anywhere! The weight results from the luxuriant production we have come to expect of IRD, with abundant and sometimes superfluous use of colour for diagrams as well

as photographs. An introductory 20 pages provide background on geology, geography, climatology, topography and vegetation with maps of vegetation and administrative districts but not climatology or topography. The core of the book (621 pages) is a systematic listing of Orders and Families and within the latter of each species by its scientific name in alphabetical sequence. The last is a welcome divergence from the usual practice of grouping by supposed affinities which is familiar to none other than a few aficionados. Indexes to scientific and French vernacular names appear at the end (pages 678–685) but not to English vernacular names although these are given in the text.