DIPLODERMA CHAPAENSE (Chapa Mountain Lizard). PREDATION and CLUTCH SIZE.

Article *in* Herpetological Review · February 2024

CITATIONS
0

READS
63

4 authors:

Daniel Kane
Zoological Society of London
25 PUBLICATIONS **48** CITATIONS
SEE PROFILE

Benjamin Tapley
ZSL
159 PUBLICATIONS **1,187** CITATIONS
SEE PROFILE

Kimberley Carter
Zoological Society of London
11 PUBLICATIONS **59** CITATIONS
SEE PROFILE

Luan Thanh Nguyen
Asian Turtle Program - Indo-Mynamar Conservation
83 PUBLICATIONS **397** CITATIONS
SEE PROFILE

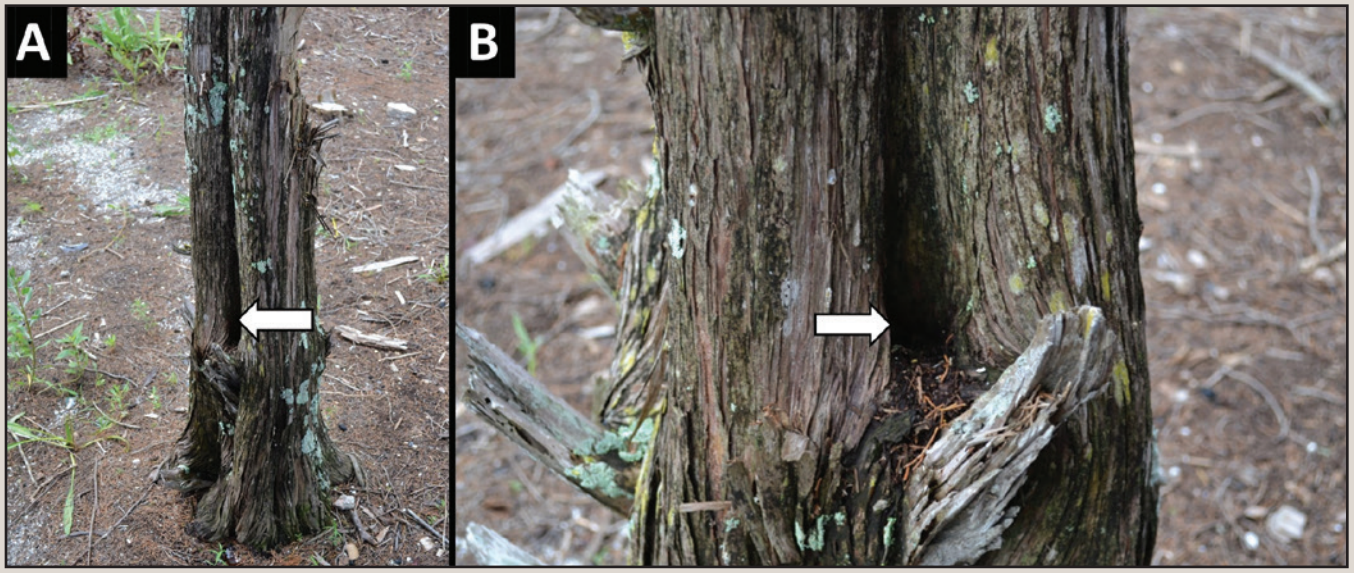

FIG. 1. A) Tree hole with an arboreal nest of *Anolis sagrei*; B) a close-up hole showing debris; white arrows point to the recession in the tree where eggs were oviposited.

(0–17 per nest, mean = 5.3 ± 5.7 SD). Seven out of 11 of these nests contained both hatched and unhatched eggs, suggesting multiple cohorts, whereas two nests contained only hatched eggs, and two nests contained only unhatched eggs.

Other *Anolis* species have similarly been observed nesting in tree cavities such as *A. valencienni* (Rand 1967, *op. cit.*), *A limifrons* (Andrews 1988, *op. cit.*), and *A. angusticeps*, (Robinson et al. 2014. Reptil. Amphib. 21:71–72), but to our knowledge this is the first time this behavior has been reported in *A. sagrei*. We hypothesize that female *A. sagrei* may select arboreal nest sites to protect eggs from desiccation or from damage or displacement from heavy rainfall and flood events which occur periodically each year at these sites. Alternatively, arboreal nest sites may reduce predation risk from ants, ground snakes, or other terrestrial predators.

DAVID M. DELANEY, Department of Natural Resource Ecology and Management, Iowa State University, Ames, Iowa 50011, USA (e-mail: dmdelane@iastate.edu); **SARIN TIATRAGUL**, Research School of Biology, Australian National University, Canberra 2601, Australia (e-mail: sarin.tiatragul@anu.edu.au); **DANIEL A. WARNER**, Department of Biological Sciences, Auburn University, Auburn, Alabama 36849, USA (e-mail: dan.warner@auburn.edu).

***CTENOSAURA BAKERI* (Utila Spiny-tailed Iguana). DIET.** *Ctenosaura bakeri* is endemic to Isla de Utila, Islas de la Bahía, Honduras, and exclusively utilizes mangrove and mangrove-adjacent habitat (Gutsche 2005. Iguana 12:142–151). The species is known to be omnivorous, but little is known about specific natural prey items, although there is an apparent ontogenetic dietary shift in *C. bakeri*, similar to other species in the genus *Ctenosaura* (Schulte and Köhler 2010. Salamandra 46:141–146). Wild adult *C. bakeri* primarily consume Black Mangrove leaves (*Avicennia germinans*), Fiddler Crabs (genus *Minuca*), and arthropods (Gutsche 2003. Iguana 10:28–29; Köhler 2004. Iguana 11:206–211; McCranie 2018. The Lizards, Crocodiles, and Turtles of Honduras: Systematics, Distribution, and Conservation. Harvard University Press, Cambridge, Massachusetts. 646 pp.), but most precise information on dietary structure comes from observations of captive specimens (Köhler 1995. Salamandra 31:93–106). Here, we present a report on the consumption of the leaves of the Cocoplum (*Chrysobalanus icaco*) by an adult female *C. bakeri*.

On 28 April 2023 at 1027 h, we used radiotelemetry to track an adult female *C. bakeri* (188 mm SVL) that was ca. 5 m high in a *C. icaco* tree located on a clay "island" surrounded by tidally submerged mangrove vegetation at Tradewinds (16.0903°N, 86.8874°W; WGS 84; 6 m elev.), Isla de Utila, Honduras. We observed the lizard consuming the leathery leaves from the *C. icaco* for several minutes before returning to basking behavior in the canopy. The lizard consumed green leaves still attached to the *C. icaco* tree. She ripped off half a leaf at a time and chewed for a moment before swallowing in ca. 5 seconds.

Although *C. bakeri* is known to consume leaves, to our knowledge, this is the first evidence of *C. bakeri* consuming the leaves of *Chrysobalanus icaco* in the wild.

Research was carried out under permits ICF-DVS-014-2022 and IUP-IACUC protocols 02-2022 and 02-2023. Thanks to Steve Maldonado-Silvestrini for verifying the identification of the tree. Special thanks to the Fundación Islas de la Bahía for accommodations and field and technical assistance. We thank the International Iguana Foundation, Holohil, IdeaWild, and Indiana University of Pennsylvania for funding our research.

COURTENAY L. HARDING, Department of Biology, Indiana University of Pennsylvania, Indiana, Pennsylvania, USA (e-mail: xxvcc@iup.edu); **MARIA CELESTE MOLINA ZAVALA,** Utila Iguana Research and Breeding Station, Utila, Honduras (e-mail: cmolina.zavala@gmail.com); **JOSIAH H. TOWNSEND**, Department of Biology, Indiana University of Pennsylvania, Indiana, Pennsylvania, USA (e-mail: josiah.townsend@iup.edu).

***DIPLODERMA CHAPAENSE* (Chapa Mountain Lizard). PREDATION and CLUTCH SIZE.** *Diploderma chapaense* is one of 42 currently recognized *Diploderma* spp. and is known to occur in northern Vietnam and southern China and little is known about its reproductive biology or predators. Here we report on clutch size and an instance of predation in this species., as well as identifying *Lycodon chapaensis* as a predator of this species.

On 17 June 2022 on Mount Fan Si Pan, Hoang Lien National Park, Sa Pa District, Lao Cai Province, northwest Vietnam

PHOTOGRAPHS BY LUAN THANH NGUYEN

FIG. 1. A): *Lycodon chapaensis* found under a log in Hoang Lien National Park, Lao Cai Province, Vietnam (ITBCZ 3617); B) Adult female *Diploderma chapaense* (ITBCZ 3618) removed from the stomach of the *Lycodon chapaensis*, with four well-formed eggs. Scale bar represents 2 cm.

(22.3452°N, 103.7752°E; WGS 84; 2019 m elev.) we observed and collected an adult male *L. chapaensis* (845 mm SVL, 1064 mm total length; Fig. 1A) resting beneath a fallen log in secondary broadleaf forest. Upon dissection of the snake while preparing it as a museum voucher we found a partially digested adult female *D. chapaense* (69.1 mm SVL, 125.2 mm total length; Fig. 1B). The lizard had been swallowed headfirst and appeared gravid. We then dissected the lizard and found four well-formed eggs ranging from 15.2–16.0 mm long × 7.8–8.3 mm wide (mean dimensions = 15.5 × 8.0 mm); we did not dissect the eggs so state of development of any potential embryos was not ascertained.

To our knowledge these observations are the first notes on predation and clutch size for *D. chapaense*. The closely related species *D. swinhonis*, that occurs in Taiwan and Japan, produces several clutches of 2–6 eggs between March and October (Huang. 2007. Zoological Science 24:181–188; Imatake et al. 2020. J. Vet. Med. Sci. 82:1551–1557) and our findings are similar. Both specimens were deposited in the collections of the Institute of Tropical Biology Collection of Zoology, Ho Chi Minh City, Vietnam (ITBCZ) (*Lycodon chapaensis*: ITBCZ 3617; *Diploderma chapaense*: ITBCZ 3618).

We thank Director Mr. Nguyen Huu Hanh, the Vietnamese Ministry of Agriculture and Rural Development, and staff at Hoang Lien National Park for support, facilitating surveys and permits (Permit numbers 4198/UBND-NLN, 3762/UBND-NC, and 25/KH-VQG). Ethical approval was granted by the Zoological Society of London's ethics committee (project ZDZ194). We also extend thanks to the People's Committee of Lao Cai Province for supporting our research. We thank Chang A Sung and Tan Lo Quay for assistance in the field. Field work was supported by The *IUCN* SSC Asian Species Action Partnership and a ZSL EDGE Hero Award to L. Nguyen.

DANIEL KANE, Zoological Society of London, Regent's Park, London, United Kingdom, NW1 4RY (e-mail: daniel.kane@zsl.org); **BENJAMIN TAPLEY**, Zoological Society of London, Regent's Park, London, United Kingdom, NW1 4RY (e-mail: ben.tapley@zsl.org); **KIMBERLEY CARTER**, Zoological Society of London, Regent's Park, London, United Kingdom, NW1 4RY (e-mail: kimberley.carter@zsl.org); **LUAN THANH NGUYEN**, Asian Turtle Program – Indo-Myanmar Conservation, CT1 Bac Ha C14 Building, To Huu Road, Ha Noi, Vietnam (e-mail: nguyenluanbio@gmail.com).

***ENYALIUS BILINEATUS*. (Two-lined Fathead Anole). LEUCISM.** *Enyalius bilineatus* is a medium sized, semi-arboreal

PHOTOS BY ALEXANDRE HUDSON

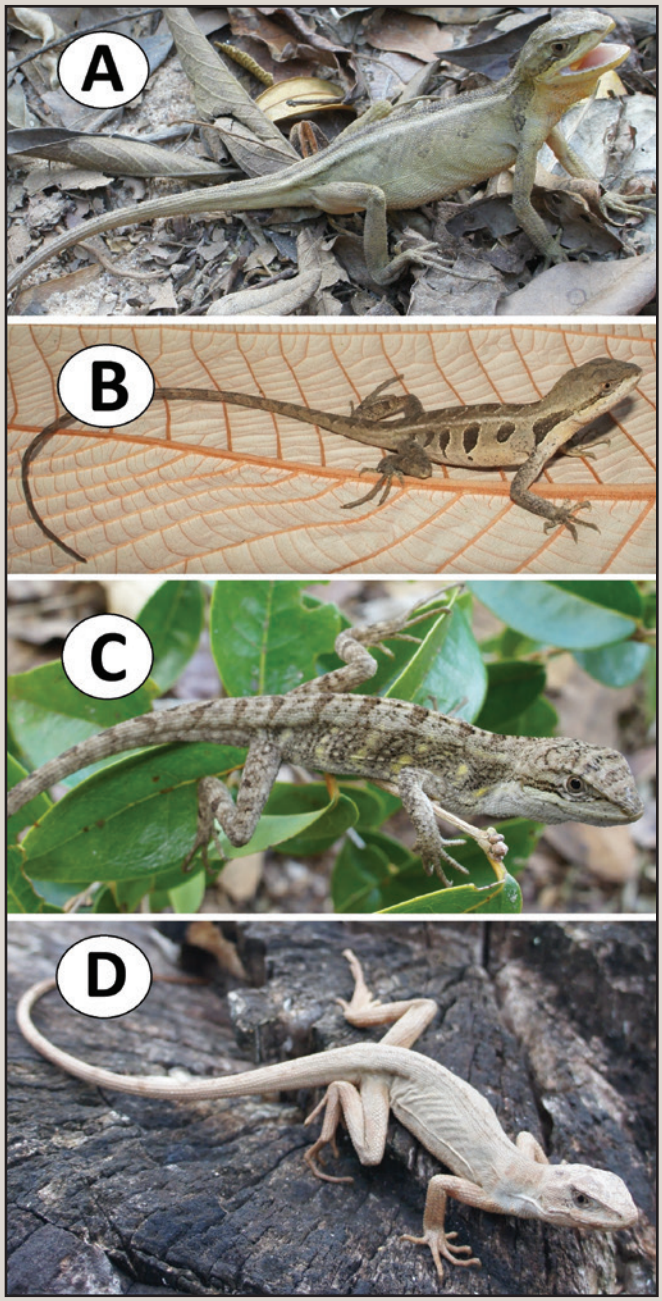

FIG. 1. Individuals of *Enyalius bilineatus* in the National Forest of Ritápolis: A, B, C) Adults showing typical coloration patterns and variation of the paravertebral line and cross bands among individuals; D) Leucistic adult.