%, Ultsch and LeBerte, unpubl.
margins of the carapacial scutes
tman *op. cit.*). The three speci-
of a sample of 122 mature fe-
Brunswick were from a sample
lin and Mittelhauser's (*op. cit.*)
nted turtles increases with in-

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cal Sciences, University of Ala-
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TILIA

Eastern Collared Lizard) and
ngneck Snake). **PREDATOR-**
arking collared lizards for be-
am, Edmond Oklahoma, USA,
atus (324 mm TL, 6.8 g) in the
llaris (99 mm SVL, 43.5 g w/
.6% of the lizard's body mass,
rd. Eighty percent of the snake's
pharynx tail first, whereas the
d back posteriorly in the lizard's
that the ringneck was grabbed
hy because *Diadophis* uses its
997. Snakes: The Evolution of
ia Press, Berkeley, California.
the only reported instance of
nctatus. Collared lizards have
nulata (Best and Pfaffenberger
26) and *Opheodrys aestivus*
l. Rev. 31:in press).

, Department of Biology, Uni-
mond, Oklahoma 73034, USA

ITES

kled Rattlesnake) and ***CROTA-***
esnake). **ENDOPARASITES.**
n *Crotalus mitchellii* involves
phorus (Babero and Emmerson
ur knowledge there have been
otalus willardi. The purpose of
of larval tapeworms (cestodes)
anthocephalans) in *C. mitchellii*
of a total of 117 *C. mitchellii*
8 *C. willardi* from Arizona and
nd Chihuahua (México), from
zona State University, Tempe
eum of Los Angeles County
na (UAZ), and the Museum of
of New Mexico (MSB) were

examined for helminths (*C. mitchellii*: ASU, LACM, UAZ; *C. willardi*: ASU, UAZ, MSB). A mid-ventral incision was made in the body wall, and organ surfaces and mesenteries in the posterior portion of the body cavity were visually checked for helminths. Oblong whitish bodies, ca. 1 x 3 mm, were occasionally seen. These proved, upon microscopic examination, to be larval cestodes (tetrathyridia of *Mesocestoides* sp.) in *C. mitchellii* (LACM 104938) and *C. willardi* (UAZ 27943; MSB 25354, 61239) and oligacanthorhynchid acanthocephalan cystacanths in *C. mitchellii* (ASU 1606) and *C. willardi* (MSB 61241). Prevalence of infection (infected snakes/sample examined x 100) for *Mesocestoides* sp. was 1% in *C. mitchellii* and 11% in *C. willardi*, and for oligacanthorhynchid cystacanths was 1% in *C. mitchellii* and 4% in *C. willardi*. Parasite specimens were deposited in the U.S. National Parasite Collection (USNPC), Beltsville, Maryland: tetrathyridia of *Mesocestoides* sp., *C. mitchellii* USNPC 88616, *C. willardi* USNPC 88535; oligacanthorhynchid cystacanths, *C. mitchellii* USNPC 88617, *C. willardi* USNPC 88536.

Tetrathyridia of *Mesocestoides* sp. have been found in *C. atrox* and *C. viridis* (Bolette 1997a. J. Parasitol. 83:751–752; Mankau and Widmer 1977. Jap. J. Parasitol. 26:256–259). Bolette (1998. J. Helm. Soc. Washington 65:105–107) also found them in *C. viridis*. Tetrathyridia of *Mesocestoides* sp. also occur in *C. molossus* and *C. pricei* (Goldberg and Bursey 1999. Herpetol. Rev. 30:44–45). Oligacanthorhynchid cystacanths have been found in other North American crotalids: *Crotalus atrox*, *C. scutulatus*, *C. viridis* (Bolette 1997a. *op. cit.*; Bolette 1997b. Southwest. Nat. 42:232–236; Bolette 1998, *op. cit.*), *C. lepidus* and *C. tigris* (Goldberg and Bursey 1999, *op. cit.*). Rattlesnakes serve as paratenic (transport) hosts for *Mesocestoides* sp. (Bolette 1997a, *op. cit.*) and oligacanthorhynchid cystacanths (Bolette 1997b, *op. cit.*). The presence of *Mesocestoides* sp. and oligacanthorhynchid cystacanths in *C. mitchellii* and *C. willardi* are new host records and represent the first records of helminths in *C. willardi*. Including findings presented herein, *Mesocestoides* sp. are known from 4/13 (31%) and oligacanthorhynchid cystacanths from 7/13 (54%) of United States *Crotalus*.

We thank Michael E. Douglas (Arizona State University) and Charles H. Lowe (The University of Arizona) for permission to examine *C. mitchellii* and *C. willardi*, Robert L. Bezy (Natural History Museum of Los Angeles County) for permission to examine *C. mitchellii* and Charles W. Painter (New Mexico Department of Game and Fish, Santa Fe) for permission to examine *C. willardi*.

Submitted by **STEPHEN R. GOLDBERG**, Department of Biology, Whittier College, Whittier, California 90608, USA (e-mail: sgoldberg@whittier.edu), and **CHARLES R. BURSEY**, Department of Biology, Pennsylvania State University, Shenango Campus, Sharon, Pennsylvania 16146, USA.

CROTALUS SCUTULATUS (Mojave Rattlesnake). **THERMAL STRESS**. At 1027 h on 22 July 1999, while driving on a dirt road in desert grassland habitat 44 km SE of Willcox, Arizona, USA, I observed a *Crotalus scutulatus* (ca. 1 m total length) outstretched and slowly moving with head down across the road. As my jeep approached and stopped, the snake quickly coiled and I observed a freshly killed adult ground squirrel (*Spermophilus spilosoma*)

about 50 cm in front of the snake. The sn
quickly crawled off the road in a directio
to the squirrel, disappearing into roadside
from the squirrel. I responded by backin
from the encounter site and observed thr
remaining in my jeep. At 1039 h the snak
vegetation and crawled back and forth in th
the road until abruptly turning 90° and movi
squirrel in the road. Tongue flicking and
evident throughout what was obviously c
chemosensory searching behavior (Chiszar e
and Brodie [eds.], Biology of the Pitvipers
Tyler, Texas). At 1045 h the snake began sv
headfirst, advancing to the shoulder region w
h, the snake ceased swallowing and appear
short, jerky, undirected movements which
body off the substrate. The snake then lifted
idly moved headfirst until it was 4.5 m off th
the fencerow vegetation. At that time it resu
completed ingestion by 1054 h.

Daytime feeding in exposed habitat may
and thermal stress for reptilian predators (S
1979. *In* Amlaner and MacDonald [eds.], A
lemetry and Radio Tracking, pp. 611–615. P
York, New York), and this unusual rattlesnak
that such may have been the case here. Giv
normally cease activity long before their bo
proach critical levels (Huey 1982. *In* C. Gans
Reptilia, Vol. 12, Physiology C, pp. 25–91. A
York, New York). However, initial trailing, s
after disturbance, and swallowing, all while
dirt substrate of the road in late morning, may
snake's body temperature approaching a critic
actual body temperature was unknown but th
ture of a nearby *Terrapene ornata* thermal m
posed bare dirt microhabitat (similar to the roa
h, far above the normal field body temperat
30°C) and approaching the CTMax (39–42°C
lus spp. (Lillywhite 1987. *In* Seigel et al. [eds
and Evolutionary Biology, pp. 422–477. MacM
York, New York). It was unlikely that the sna
tion of swallowing and frantic retreat to shade
my presence because, after I had moved my j
snake did not appear to be aware of me.

I thank J. D. Congdon for comments on the

Submitted by **MICHAEL V. PLUMMER**,
ology, Box 12251, Harding University, Searc
USA.

DRYMARCHON CORAIS COUPERI (Easter
MICRURUS FULVIUS FULVIUS (Easte
PREDATOR-PREY. *Drymarchon corais cou*
venomous colubrid that is threatened througho
on a wide variety of vertebrates, including venom
1992. Rare and Endangered Biota of Florida. V
and Reptiles. University Press of Florida, Gaine
pp.). Descriptions of *D. corais* preying on venom

ASU, LACM, UAZ; *C.*
ral incision was made in
senteries in the posterior
checked for helminths.
were occasionally seen.
nation, to be larval ces-
) in *C. mitchellii* (LACM
MSB 25354, 61239) and
stacanths in *C. mitchellii*
41). Prevalence of infec-
x 100) for *Mesocestoides*
in *C. willardi*, and for
% in *C. mitchellii* and 4%
deposited in the U.S. Na-
Beltsville, Maryland:
itchellii USNPC 88616,
rhynchid cystacanths, *C.*
SNPC 88536.
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ol. 83:751–752; Mankau
256–259). Bolette (1998.
) also found them in *C.*
also occur in *C. molossus*
9. Herpetol. Rev. 30:44–
ave been found in other
x, *C. scutulatus*, *C. viridis*
Southwest. Nat. 42:232–
d *C. tigris* (Goldberg and
e as paratenic (transport)
e 1997a, *op. cit.*) and
tte 1997b, *op. cit.*). The
nthorhynchid cystacanths
ost records and represent
lardi. Including findings
known from 4/13 (31%)
om 7/13 (54%) of United

na State University) and
rizona) for permission to
Robert L. Bezy (Natural
) for permission to exam-
er (New Mexico Depart-
permission to examine *C.*

OBERG, Department of
alifornia 90608, USA (e-
RLES R. BURSEY, De-
te University, Shenango
USA.

Rattlesnake). **THERMAL**
hile driving on a dirt road
Willcox, Arizona, USA, I
total length) outstretched
ross the road. As my jeep
kly coiled and I observed
Spermophilus spilosoma)

about 50 cm in front of the snake. The snake then uncoiled and quickly crawled off the road in a direction opposite its approach to the squirrel, disappearing into roadside vegetation about 7 m from the squirrel. I responded by backing away to about 35 m from the encounter site and observed through binoculars while remaining in my jeep. At 1039 h the snake reappeared from the vegetation and crawled back and forth in the fencerow parallel to the road until abruptly turning 90° and moving directly to the dead squirrel in the road. Tongue flicking and trailing behavior was evident throughout what was obviously crotalid strike-induced chemosensory searching behavior (Chiszar et al. 1992. *In* Campbell and Brodie [eds.], Biology of the Pitvipers, pp. 369–382. Selva, Tyler, Texas). At 1045 h the snake began swallowing the squirrel headfirst, advancing to the shoulder region when suddenly, at 1047 h, the snake ceased swallowing and appeared frantic as it made short, jerky, undirected movements which lifted portions of its body off the substrate. The snake then lifted the squirrel and rapidly moved headfirst until it was 4.5 m off the road in the shade of the fencerow vegetation. At that time it resumed swallowing and completed ingestion by 1054 h.

Daytime feeding in exposed habitat may result in overheating and thermal stress for reptilian predators (Swingland and Frazier 1979. *In* Amlaner and MacDonald [eds.], A Handbook on Biotelemetry and Radio Tracking, pp. 611–615. Pergamon Press, New York, New York), and this unusual rattlesnake behavior suggests that such may have been the case here. Given a choice, reptiles normally cease activity long before their body temperatures approach critical levels (Huey 1982. *In* C. Gans [ed.], Biology of the Reptilia, Vol. 12, Physiology C, pp. 25–91. Academic Press, New York, New York). However, initial trailing, subsequent re-trailing after disturbance, and swallowing, all while exposed on the bare dirt substrate of the road in late morning, may have resulted in the snake's body temperature approaching a critical level. The snake's actual body temperature was unknown but the operative temperature of a nearby *Terrapene ornata* thermal model located in exposed bare dirt microhabitat (similar to the road) was 40°C at 1047 h, far above the normal field body temperature (approximately 30°C) and approaching the CTMax (39–42°C) of several *Crotalus* spp. (Lillywhite 1987. *In* Seigel et al. [eds.], Snakes: Ecology and Evolutionary Biology, pp. 422–477. MacMillan Publ. Co., New York, New York). It was unlikely that the snake's sudden cessation of swallowing and frantic retreat to shade was in response to my presence because, after I had moved my jeep 35 m away, the snake did not appear to be aware of me.

I thank J. D. Congdon for comments on the manuscript.

Submitted by **MICHAEL V. PLUMMER**, Department of Biology, Box 12251, Harding University, Searcy, Arkansas 72149, USA.

DRYMARCHON CORAIS COUPERI (Eastern Indigo Snake) and ***MICRURUS FULVIUS FULVIUS*** (Eastern Coral Snake). **PREDATOR-PREY**. *Drymarchon corais couperi* is a large, nonvenomous colubrid that is threatened throughout its range. It preys on a wide variety of vertebrates, including venomous snakes (Moler 1992. Rare and Endangered Biota of Florida. Vol. 3. Amphibians and Reptiles. University Press of Florida, Gainesville, Florida. 291 pp.). Descriptions of *D. corais* preying on venomous snakes specify

viperids as prey (Moler, *op. cit.*; Wright and Wri
book of Snakes of the United States and Canada.
Publishing Associates, Ithaca, New York. 564 pp
predation by *D. corais* of an elapid.

On 7 October 1998 at 0959 h, I discovered a *L*
cm total length) eating an adult *Micrurus fulviu*
cm total length), a semifossorial, aposematic el
vation was made in a prairie hammock that is b
Bluff Road (T23S R34E NE 1/4 Sec 22) at Tosoh
serve, Orange Co., Florida, USA. When discove
were in the road (unpaved and lightly traveled)
had already captured the coral snake. The *D. co*
the head and several centimeters of the body of t
the latter writhed alongside the body of its attack
observation followed from a distance of ca. 5 m.
corais elevated its head from the ground and,
proximately half ingested, moved off the road.
sumption of the coral snake concluded and the
treated into the hollow stump of a tree.

Submitted by **M. SHANE BELSON**, Florid
Environmental Protection, Tosohatchee State Re
lor Creek Road, Christmas, Florida 32709
matthec@ix.netcom.com).

MICRURUS CIRCINALIS (Trinidad Norther
ARBOREALITY. On 17 March 1999 in Arima
(10°41.57'N, 61°17.28'W), just after midnight, I
(total length ca. 40 cm) *Micrurus circinalis* 2
ground climbing upwards on a vertical tree tru
covered with vines and aerial roots. The snake c
and bark with some determination and required
a snake hook to remove it from the trunk. This is
arboreal behavior in *M. circinalis*. Arboreality
previously been reported for only two species:
(Schmidt and Smith 1943. Publ. Field Mus. Nat
12:129–134.) and *M. fulvius* (Carr 1994. A Natur
Celebration of Eden. Yale University Press, New
cut. 264 pp.).

I thank Joel Friesch for his assistance in the fi

Submitted by **RICHARD A. SAJDAK**, 4 C
Pittsford, New York 14534, USA (e-mail: rsajdak

MICRUROIDES EURYXANTHUS (Western C
DOPARASITES. There are, to our knowledge,
doparasites for *Micruroides euryxanthus*. The pu
is to report the presence of larval spiny-headed
cephala) in the body cavity of *M. euryxanthus*.

Eighty-seven *M. euryxanthus*, 80 from Arizon
Sonora, México, from the herpetology collectio
sity of Arizona, Tucson (UAZ) and the Natural
of Los Angeles County (LACM), respectively, w
helminths. A mid-ventral incision was made in t
gan surfaces and mesenteries in the posterior po
cavity were examined visually for helminths. Ob
ies, approximately 1 mm x 3 mm, were occasiona