

THE SOUTHEASTERN CROWNED SNAKE -- SMALL, SHY, SECRETIVE
AND SMOOTH-SCALED:

Tantilla c. coronata is a rare species, as long or slightly longer than an ordinary wooden lead pencil at the maximum, and somewhat thinner than a pencil. He has the distinction of being the only rear-fanged species found (to date) within the Commonwealth of Virginia.

While some larger, tropical rear-fanged snakes are highly dangerous to man, the Southeastern Crowned Snake is not. The small size of even full-grown specimens makes it difficult -- if not impossible -- for this snake to inflict any kind of bite on the human body.

The Crowned Snake's teeth are so tiny that it is doubtful that they would draw blood. The "fangs" -- elongated, grooved (not hollow) teeth -- of this small serpent are deep in the mouth, near the rear of the upper jaw. Further, there is no strong proof that this snake actually manufactures a venom.

Rear-fanged snakes are frequently classed as poisonous snakes. In Tantilla's case this may be erring on the side of caution. But some rear-fanged snakes are deadly poisonous particularly the tropical varieties. While many other rear-fanged snakes are considered only "mildly poisonous" it is safer to place all of them in the poisonous category and treat them with the same cautious respect due dangerously venomous snakes.

It should be noted, however, that the development of fangs has occurred in scattered species of snakes and the rear-fanged snakes are not a natural grouping. It is a catch-all category non-uniform in qualifications for membership.

While North American rear-fanged species are not apt to produce noteworthy injury to man or domestic animals, wounds from the bite of the larger and better equipped southwestern (Mexican and Central American) forms would be followed by observable local symptoms of poisoning -- inflammation, swelling, and slight pain and discoloration. South of the Rio Grande there are rear-fanged snakes that grow to 2 feet. If provoked these snakes can produce a bite which is roughly like a bee-sting. The worst reported from these is a swollen finger and a black-and-blue area almost two inches in diameter.

A few rear-fanged snakes such as the "boomslang" may inflict very serious bites. The boomslang made the headlines in September, 1957 when Dr. Karl P. Schmidt, world-renowned herpetologist, was bitten by one. He kept a diary of his symptoms which tragically progressed beyond the point where medical aid could save him. He had been bitten by a 30 - inch boomslang at the Lincoln Park Zoo in Chicago. The resulting news publicity brought a half-dozen older cases to light. The boomslang is a tropical African rear-fanged snake.

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A similar article appeared in the May issue of VIRGINIA WILDLIFE

S.E. CROWNED SNAKE, continued

What then, is the nature and function of the suspicious dentition of the Southeastern Crowned Snake (*Tantilla c. coronata*)? It consists of a pair of elongated grooved teeth located at the rear of the upper jaw. These grooved teeth are apparently not connected to poison sacs in the head. The prey-- consisting largely of underside-of-rock-types such as earthworms and soft-bodied burrowing insect larvae -- is held and worked back into the mouth. This is done by alternate grasping movements of each side of the mouth. When the food is at the rear of the mouth the fangs become engaged for the first time. The prey is held in this position until struggling ceases and then it is engulfed. If the saliva of this species possesses any toxic qualities they are slight. The poison would help to tranquilize an earthworm or insect grub. At least, this is what occurs in the more developed rear-fanged species. This would aid the snake in swallowing and make the prey unaware of its status as food.

In biting in self defense, if grasped by a man, the fangs of the S.E. Crowned Snake are not likely to come into play. Even were the snake larger than normal (i.e., well over the record 13 inches) it is highly improbable that it could, or would, engulf a human finger by advancing its jaws in the familiar "elbowing up" manner typical of snakes. In hand, Crowned Snakes have but one desire. As with other small snakes they writhe to get loose and take cover. Members of the genus *Tantilla* have not shown any aggressive disposition.

The Southeastern Crowned Snake is neither a newly-discovered, nor a recently-arrived species. In not seeing him, or -- having seen him -- not recognizing him, there is no shame. This snake is so shy and secretive that it may exist without being noticed. So far as most members of the human population are concerned, this snake would be put down as "just another small brown snake." No outward trait sets the *Tantilla* apart from other "small brown earth snakes." His most observable distinguishing mark is on his head -- the focal point of his personality and the basis for his popular and scientific names. (We have discovered, as the result of the appearance of the article in the VIRGINIA WILDLIFE magazine, that the "crown" must be accompanied by a smooth skin -- juvenile Rough Earth Snakes (*Haldea striatula*) are sometimes plainly "crowned" -- but, of course, they have keeled scales!)

Description: The S.E. Crowned Snake is plain dirt brown to tan above; pinkish to yellowish-white beneath and has a dark brown to black head and neck. The dark brown head is separated from the dark brown of the neck by a whitish or yellowish crossband or "crown." (See: Conant, "A Field Guide to the Reptiles and Amphibians" (1958) figure 38, page 180)

The late Raymond Lee Ditmars, in his "Reptile Book" provided the dimensions of a typical specimen:

Length	9 inches	(record: 13 in.)
Tail	1-5/8ths inches	
Diameter	3/16ths inches	(head, same).

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S.E. CROWNED SNAKE, continued

Range: The range of this diminutive reptile is not well defined within the Commonwealth of Virginia. (It is not reported in Md.-Pa.) Large areas of the central and southwestern portions of the state, where this species may be expected, remain relatively unexplored by scientifically-oriented collectors who, by habit, deposit specimens in permanent herpetological collections. There is reason to believe that specimens may yet be found in the counties bordering upon North Carolina and Tennessee, and, to the west: Kentucky.

The writings of the late Dr. C.S. Brimley, Raleigh, N.C., mention scattered findings of this species in that state. It is recalled that Dr. Glenn Gentry, Tennessee Fish and Game Commission, Nashville, (and a VHS member) has collected specimens from timbered hillsides under stones in nearby eastern Tennessee and other parts of the Volunteer State. W. Leslie Burger, VHS President, faculty member of Franklin College, Franklin Indiana, looked for specimens of Tantilla in the extreme southwestern corner of Virginia. We hope he will return.

There are three Virginia records of Tantilla c. coronata, two of these are published and one, as yet, unpublished.

A single specimen of Tantilla coronata was collected by W. T. Davis, a noted entomologist from Staten Island, N.Y., who was an authority on the cicadas. The snake was taken in BUCKINGHAM COUNTY, VIRGINIA, near the James River about opposite from Wingina, Nelson County, Va., on July 15, 1917. (First recording of Tantilla in Va., appeared in COPEIA, No. 76, p. 100 (published in 1919) reported in a paper by the late Dr. Emmett Reid Dunn, a noted Virginia herpetologist.

A specimen of Tantilla c. coronata (juvenile) is in the Carnegie Museum (Pittsburgh, Pa.) collection (CM 19005). It was found near Spencer, HENRY COUNTY, VIRGINIA, by G.W. Burton, between March and May, 1940.

A third specimen, found in the vicinity of Lynchburg, Va. is to be reported in the near future. It was found by a student of Madison Heights High School and turned in to Mr. Eugene Ramsey of the Madison Heights High School faculty. Dr. James L. Chamberlain, Department of Biology, Randolph-Macon Woman's College, Lynchburg, Va., and member of VHS, confirmed Mr. Ramsey's identification. The specimen came to light as a direct result of the article on the S.E. Crowned Snake appearing in the May issue of the VIRGINIA WILDLIFE magazine of the Commission of Game and Inland Fisheries. The article was accompanied by illustrations excellently done by the magazine's staff artist. Well done, Ned Smith.

Congratulations are due Mr. Ramsey and F.M. Hunter for uncovering the third specimen of Tantilla c. coronata. Who will turn up the fourth?

(continued on page four)

S.E. CROWNED SNAKE, continued

Dr. Roger Conant states that this small brown snake is "where you find it, and then almost always in hiding -- under stones, in rotting logs, etc." He reports a widely varied habitat ranging from dry, wooded hillsides to the borders of swamps.

Snakes that may be mistaken for the Southeastern Crowned Snake because of similarity in size and coloration are as follows:

Smooth Earth Snake (Haldea valeriae) a smooth grayish-brown snake of lighter-hued underside. The grayish back has either regular or scattered dark spots or flecks. The head of the Smooth Earth Snake has no darker color except perhaps for a small dark facial line between the nostril and eye.

The Northern Brown Snake (Storeria dekayi) has a dark head, but no dark neck and the scales are rough or "keeled" rather than smooth as in Tantilla. In some small species or baby snakes it will be necessary to use a lens to check the presence or absence of these ridges or "keels".

The Rough Earth Snake (Haldea striatula) is a brown snake with white or yellowish underside. As noted above, and in Ditmars (in several books) the juvenile of this species may have a "crown" much like the S.E. Crowned Snake. The Tantilla, of course, has smooth scales.

The Ring-necked Snake (Diadophis p. edwardsi, or, D. p. punctatus) is a bluish-gray color above with a yellow-orange underside. The ring of both species is well down on the neck. In Tantilla the crossband is on the head.

Franklin Tobey, Jr.

Some live specimens from widely scattered localities would be most welcome. Dead specimens should be preserved and deposited in one of the several herpetological collections:

U.S. National Museum, Washington 25, D.C.	Dr. Doris M. Cochran
Virginia Polytechnic Institute, Blacksburg,	Dr. Robert D. Ross
Carnegie Museum, Pittsburgh, Pa.	Dr. Neil D. Richmond
Bridgewater College, Bridgewater, Va.	Dr. H.G.M. Jopson
Randolph-Macon Woman's College, Lynchburg,	Dr. James L. Chamberlain
Norfolk Museum, Norfolk, Curator, Natural History,	Roger H. Rageot

FOR MEMBERS WHO WOULD LIKE TO KNOW ABOUT PREPARING SPECIMENS
AND PRESERVING THEM FOR PERMANENT COLLECTIONS - - -

We have on hand a few copies of VHS Bulletin No. 11 which we will mail to you upon request -- enclose a three-cent stamp.

Bulletin Number 11, May, 1959, contained a leading feature article by Dr. John Thornton Wood, then our first President, now our medical adviser. Dr. Wood is an occasional contributor to the VHS Bulletin.

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LIST OF VIRGINIAN AMPHIBIANS AND REPTILES--

WHICH HAVE BEEN REPORTED FOR THREE COUNTIES

OR LESS

by William L. Witt, Arlington, Va.

<u>Animal's scientific name</u>	<u>Salamanders</u> <u>Common name</u>	<u>Number of</u> <u>Counties</u>	<u>Localities</u>
<u>Ambystoma jeffersonianum</u>	Jefferson Salamander	3	3
" <u>t. tigrinum</u>	Eastern Tiger "	? ("Va.")	1
<u>Aneides aeneus</u>	Green Salamander	3	3
<u>Cryptobranchus alleganiensis</u>	Hellbender	2	2
<u>Desmognathus f. welteri</u>	Black Mtn Dusky S.	1	1
" <u>planiceps</u>	Flat-headed Sal.	1	2
<u>Eurycea b. wilderae</u>	Blue Ridge Two-lined S.	1	1
<u>Gyrinophilus p. duryi</u>	Kentucky Spring Sal.	1	1
<u>Leurognathus m. marmorata</u>	No. Shovel-nosed Sal.	1	1
<u>Necturus m. maculosus</u>	Mudpuppy	1	1
" <u>punctatus</u>	Dwarf Waterdog	3	3
<u>Plethodon r. hubrichti.</u>	Thunder Ridge Sal.	1	1
<u>Pseudotriton r. nitidus</u>	Blue Ridge Red Sal.	1	1
<u>Siren lacertina</u>	Greater Siren	3	3
<u>Plethodon welleri ventro-</u> <u>maculatum</u>	Weller's Salamander	1	1
<u>Desmognathus wrighti</u>	Pigmy Salamander	1	1
<u>Frogs and Toads</u>			
<u>Bufo quericus</u>	Oak Toad	2	2
<u>Hyla gratiosa</u>	Barking Treefrog	1	1
<u>Limnaeodius ocularis</u>	Little Grass Frog	3	4
<u>Pseudacris brachyphona</u>	Mtn. Chorus Frog	3	3
<u>Rana virgatipes</u>	Carpenter Frog	2	2
<u>Turtles</u>			
<u>Amyda ferox spinifera</u>	Spiny Softshell Turtle	2	3
<u>Chrysemys p. marginata</u>	Midland Painted Turtle	-	-
<u>Graptemys geographica</u>	Map Turtle	2	3
<u>Malaclemmys t. terrapin</u>	No. Diamond-backed T.	3	3
<u>Pseudemys f. concinna</u>	River Cooter	3	4
" <u>r. rubriventris</u>	Red-bellied Turtle	1	1
" <u>scripta scripta</u>	Yellow-bellied "	1	1
<u>Sternotherus m. peltifer</u>	Stripe-necked Musk T.	1	2
<u>Lizards</u>			
<u>Eumeces a. anthracinus</u>	No. Coal Skink	2	2
<u>Ophisaurus ventralis</u>	Eastern Glass Lizard	1	1

(continued on page 6)

LIST OF VIRGINIAN AMPHIBIANS AND REPTILES
WHICH HAVE BEEN REPORTED FOR THREE COUNTIES
OR LESS (continued)

<u>Scientific name</u>	<u>Common name</u>	<u>Number of</u>	
		<u>Counties</u>	<u>Localities</u>
<u>Snakes</u>			
<u>Lampropeltis d. temporalis</u>	Coastal Plain Milk S.	3	3
" <u>d. doliata</u>	Scarlet King Snake	1	1
" <u>g. niger</u>	Black Kingsnake	1	1
<u>Sistrurus m. miliarius</u>	Carolina Pigmy Rattler	1	1
<u>Tantilla c. coronata</u>	S.E. Crowned Snake	3	3

For identification of species see "Field Guide to Reptiles and Amphibians of Eastern North America" by Roger Conant (1958) No. 12 in the Peterson Field Guide series. (W.L.W.)

COLLECTING NOTES: * * * * *

Eastern Charles City County and western James City County, Va. May '61

Marbled Salamander	4	<u>Ambystoma opacum</u>
Fowler's Toad	3	<u>Bufo woodhousei fowleri</u>
Blue-tailed Skinks	6	<u>Eumeces (sp)</u>
Fence Lizards	2	<u>Sceloporus undulatus hyacinthinus</u>
Eastern Worm Snake	4	<u>Carphophis a. amoenus</u>
Northern Black Racer	1	<u>Coluber c. constrictor</u>
Rough Earth Snake	5	<u>Haldea striatula</u>
Rough Green Snake	2 DORs	<u>Opheodrys aestivus</u>
Eastern King Snake	1	<u>Lampropeltis g. getulus</u>

Lester C. Via and William L. Witt reported the above specimens taken in and around sawmills in western Charles City and eastern James City counties on May 28, 1961. Most of the specimens were the first taken for record in the counties, according to data on hand. WLW

BULLETIN # 23 was sent to 200 High School Biology and Science instructors. Responses received indicate that it was welcomed by guidance counselors as well. Copies of this bulletin will be mailed to a similar group in the near future. Support the work of the Virginia Herpetological Society by your dues or a small donation in lieu of dues. (Membership blank bottom page 7.)

WRITE UP YOUR LOCAL COLLECTING NOTES AND SEND THEM TO VHS EDITOR FOR PUBLICATION IN A NEAR-FUTURE ISSUE OF THE BULLETIN:

INVESTIGATOR CITES EARLIER EVOLUTION OF REPTILE STAGE
(World Wide Medical News Service)

Cardiff, Wales. . . Present textbooks may have to be rewritten if a theory presented in a paper before the section of zoology at a meeting of the British Association for the Advancement of Science is generally accepted. Professor James Brough, Department of Zoology, Cardiff University, in presenting unpublished details of work carried out by himself and his wife, places the origin of reptilian forms much earlier than has been supposed.

Evolution of reptilian forms from fish is usually considered to have taken place through an amphibian phase. The transition took place on earth something between 250 and 300 million years ago and is generally put somewhere towards the end of the Devonian and the beginning of the Carboniferous Periods.

Professor Brough described details of creatures whose fossilized remains he has studied. They are among the earliest-known four-footed animals, but they show certain features conforming more to the basic reptilian than to the basic amphibian type. Two of them found in the lower Carboniferous strata of Scotland represent the oldest known tetrapod skeletons apart from the Ichthyostegids from East Greenland.

Among other characteristics, these specimens possess features of skull development from which the palate evolved, as well as typically reptilian interclavicles which distinguish them from batrachomorphs. The early date of these remains, coupled with the changes discernible in them, suggests that animals that were essentially reptilian existed at the very beginning of the Carboniferous period.

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ANIMAL SOUNDS AND COMMUNICATION edited by W. E. Lanyon and W.N. Tavolga, American Institute of Biological Sciences, 2000 "P" St. NW, Washington, D.C., available with 12-inch LP record, \$10.

Irston R. Barnes, President, Audubon Naturalist Society, in his news column "The Naturalist" says this work reflects "significant progress on a new frontier -- animal sounds.

The volume is an outgrowth of the interest developed at a meeting held August 27, 1958, at Bloomingdale, Ind. A symposium on animal sounds was held under the joint auspices of AIBS and the Ecological Society of America, with the support of the Office of Naval Research. The nine papers report remarkable progress in objective studies of animal sounds and communication. Although prepared by specialists for other scientists, the layman can readily follow their findings.

William N. Tavolga, AMNH, offers insights into the unknown world of sound production and communication among fish. Charles M. Bogart provided a 180-page discussion of the Influence of Sound on the behavior of Amphibians and Reptiles. ANIMAL SOUNDS AND COMMUNICATION.

(detach)

MEETING NOTICES WILL APPEAR ON THIS PAGE IN FUTURE BULLETINS - WATCH!

THANKS ARE DUE OUR HOSTS -- H.B. CALDWELL, DIRECTOR, and ROGER RAGEOT CURATOR OF NATURAL HISTORY, OF THE NORFOLK MUSEUM OF ARTS AND SCIENCE FOR THE FINE PROGRAM PRESENTED TO MEMBERS AND FRIENDS OF VHS IN MAY.

ROGER H. RAGEOT, VHS CO-FOUNDER, PRESENTED AN EXCELLENT TALK ON THE REPTILES AND AMPHIBIANS OF THE DISMAL SWAMP. HE ILLUSTRATED THE TALK WITH COLOR SLIDES OF MANY UNUSUAL SPECIMENS.

MR. REED, VIRGINIA BOARD OF EDUCATION, PRESENTED A FINE FILM ON THE DISMAL SWAMP WHICH, WHILE DESIGNED FOR GRADE SCHOOL STUDENTS, WAS GREATLY ENJOYED BY ALL. THE FOLLOWING AFTERNOON WAS SPENT IN THE DISMAL SWAMP (STUMPY LAKE) AND AT KNOTT'S ISLAND, NORTH CAROLINA.

THE OFFICERS AND MEMBERS OF VHS ARE GRATEFUL TO NORFOLK MUSEUM FOR THE EXCELLENT PROGRAM AND HOSPITALITY ON THAT OCCASION.