

OBSERVATIONS OF THE NORTHERN RED  
SALAMANDERby Kent Wells, VHS  
Springfield, Va.

One of the most beautiful of all the salamanders found in Virginia is the brilliantly colored Northern Red Salamander (Pseudotriton ruber ruber). This species, apparently, is not common in my area (Fairfax Co.) and until February, 1966, I had not seen one. Then, on February 19, 1966, while walking home from a collecting trip near Accotink Creek about two miles from Annandale, Va., I spotted a large salamander larva of an unknown type walking on the bottom of a small stream. The stream trickles through a patch of woods close to a large subdivision and runs through a long cement culvert under the Capital Beltway (Interstate Route # 495) ultimately reaching the extremely polluted Accotink Creek. This small stream, however, which probably originates in storm sewers, is relatively free of pollution. It is thus able to support frogs, tadpoles, salamander larvae, and small minnows. The portion of the stream where the larva was found is seldom more than a foot or two deep and is fairly cold. It remains so, even in summer, because of the cooling effect of the long trip through the dark culvert.

When I first found the larva, I was unable to identify it. It was about 4" (101mm) long with all four legs fully developed and a flattened tail fin. The ground color was a brownish-yellow and the dorsal surface was heavily mottled with irregular brown spots. The gills, a bright red, consisted of three long branches. The eye was gold.

At first I incorrectly identified it as the larva of a Spring Salamander (Gyrinophilus porphyriticus) because the coloration was like that of an adult of this species. Not until transformation occurred was I able to identify it correctly. Transformation was completed about April 8, at a length of between 3 3/4" (95mm) and 4" (101mm).

Metamorphosis in this salamander is truly a transformation. Within a short time the ground coloration changed from yellow-brown to a bright orange. The brown mottling was transformed into a pattern of irregular dark spots. By early May, the salamander had become a brilliant coral red of an almost translucent quality. The eye was as bright and sparkling a gold as a toad's eye. The venter, at this stage, was unspotted and of the same ground color as the dorsal surface.

I have kept this Red Salamander in a semi-aquatic terrarium, and this individual seems to divide its time equally between the water and the land. Red Salamanders are not completely aquatic, for I have found specimens under leaves or logs near streams. This specimen has done well on a diet of chopped earthworms and mealworms and has continued to grow. By October, 1966 I had noticed a marked increase in weight and length of the salamander, and it has reached, at present, a length of a little over 5" (127mm).

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Observations of the Northern Red Salamander, continued:

The most interesting change has been in the coloration. I had read in several books that old adults have a purplish-brown color on the dorsal surface. I did not know, however, how old an "old adult" was, and I was surprised to find that as early as January, 1967, there were signs of a darkening color and a disappearance of the beautiful coral red. At the present time, fifteen months after transformation, the dorsal ground color has become a dark purple and all traces of the coral are gone!

The venter has become a pinkish color and is heavily spotted with small dark spots.

I plan to continue to keep this Red Salamander --- one of the most interesting salamanders that I have had in captivity --- for as long as possible to note further color changes and to try to determine the longevity of this species in captivity.

July 16, 1967

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ADDRESS all comments on the Bulletin to the Secretary with a copy, or copies, to other VHS officers or authors of Bulletin articles.

ADDRESS all correspondence on dues or membership standing to the VHS Treasurer. See renewal-application form at the end of this Bulletin.

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ON LEAF LITTER

The findings of science can be unsettling, and we are certainly shaken to discover what we are harboring in our backyard. There, for some years we have maintained a small compost heap in a somewhat poke-and-putter style. We've had a smug feeling about our compost--seeing ourself as wrenching free soil nutrition out of an ever-escalating economy and also as avoiding the trauma of dragging leaves out to the garbage collector. And the only problem we've ever had is that a box turtle hibernates in it, is a late sleeper, and hates to be dug up, so that spreading compost has to wait until the turtle comes out for the spring rites.

According to New Scientist, a bit more than a hibernating turtle has its place within that pile of disintegrating leaves. When autumn rains wet the litter down, we read, it becomes invaded by bacteria, actinomycetes, fungi and algae. Next, water fauna consisting of protozoa eelworms and potworms turn up with slugs, snails and millipedes, all ingesting away, while earthworms drag leaf fragments into their burrows for a good snack. As winter gets colder the activities of such creatures come to a temporary halt but in the spring the eggs of mite and springtail hatch and they begin to chomp in the company of fly larva, beetles, and woodlice.

LATEST ADDITIONS TO SCIENTIFIC COLLECTION BY VHS MEMBER

The latest additions to the U.S. National Collection of Reptiles and Amphibians were provided by VHS Member Robert D. Jennings of the Virginia Dep't of Agriculture.

USNM 162317

(1) Mole Snake (Lampropeltis caliginosa rhombomaculata). It was collected in May, 1966, near Mobjack Bay, Gloucester County, Va.

USNM 162318

(2) Northern Copperhead (Agkistrodon contortrix mokeson). It was collected in August, 1966, near Route #1, one quarter mile south of the Chickahominy, near the Henrico County line in Hanover County, Virginia.

These two specimens were exhibited at the 1966 statewide meeting held by VHS in Camp Brady Saunders at Maidens, Va., last October.

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TWO-VOLUME SET, VAN DENBURGH

Volumes I and II of "REPTILES OF WESTERN NORTH AMERICA" by John Van Denburgh, (128 plates) --for sale. The two-volume set was published by the California Academy of Sciences, November, 1922, hard bound (cloth) good condition -- will accept best offer -- the second-hand book store price is @ \$16. Write: (Mr.) Stanley T. Robinson, Jr., 8401 Brook Road, McLean, Virginia, 22101.

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SEND YOUR COMMUNICATION TO THE VHS BULLETIN EDITOR TODAY

NORTHERN CRICKET FROG IS "TOTALLY SUN-ORIENTED"

The ability of animals to find their way home by innate compass systems has long interested men whose naked-eye navigation by so-called "fixes" on the sun or star are extremely crude. Mississippi State University zoologists have presented evidence to the winter meeting of the American Association for the Advancement of Science in Washington, D.C., that at least one species -- the Northern Cricket Frog (Acris gryllus crepitans) is totally sun-oriented.

D.E. Ferguson and co-workers said the frogs could be transported a hundred miles or more in a closed container and, when released, invariably headed on a compass azimuth which bisected their home pond at right angles.

Held in darkness for 24-hours, the frogs still oriented correctly on release. But, when the darkened period was extended to a week and their environment was kept at a constant temperature, they lost their homing capability. The investigators assume the loss is a product of the frogs slipping out of phase with local sun time, because they can be reoriented with exposure to the normal light-dark period or even to the fluctuation of daily temperatures and humidity. A spurious reorientation is established by exposure of these frogs to an artificial light-dark cycle six hours early or late compared to local time. When freed, the frogs set off at an angle of 90 degrees variance from their correct (natural) course.

VHS members may want to check on this in their own localities.

COMMUNICATIONS FROM VHS MEMBERS

...Robert G. Tuck, Jr. of the US National Museum, Division of Reptiles and Amphibians, forwarded a letter which should be of some interest to VHS members. Here is an opportunity to assist, indirectly, in a study..

Dr. James A. Peters
U.S. National Museum
Division of Reptiles
and Amphibians
Washington, D.C. 20560

Dear Dr. Peters:

As you may recall, I wrote you last summer in regard to live specimens of the eastern worm snake (Carphophis a. amoenus).

I am still working with this genus and would like to ask again if you would please send any that might become available to you this season. Such live specimens would be greatly appreciated and would be extremely valuable to my study. Even a single individual would be very useful.

Best regards,

D.R. Clark, Jr.
Dep't of Zoology
University of Kansas
Lawrence, Kansas
66044

Excerpted from a letter

I have collected a few Eastern Cottonmouths from the Northwest River in Dismal Swamp, talked to the Campers' Association and two Scout troops, and reviewed several Merit Badges. Even though I have become very inactive I do still want to keep

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in touch and do certainly admire the businesslike, high plane you have maintained in the VHS Bulletins.

Sincerely,

O.K. Goodwin
Newport News, Va.

(O.K. Goodwin is a co-founder of VHS and a co-chairman for 1967-8.)

I had a chance to do some collecting in the Okefenokee area on the weekend of the 17th & 18th of June with a friend of mine, Bill Hadley. On the afternoon of the 17th, Bill found a beautiful specimen of the spotted turtle (Clemmys guttata). It was approx. 4 1/4 inches long and vividly marked. I noticed that the range, in Conant's Field Guide wasn't covered in Georgia, except by an "x" in the general area. The exact location was 8 miles So. of Waycross, Ga. on Route # 1(US).

The following were also found that weekend:

- Banded water snakes (2) (Natrix sipedon fasciata)
Eastern Cottonmouth (1) (Agkistrodon piscivorus)
Coral Snake (Dead on Road) (1) (Micrurus fulvius) 26" long

Even though this doesn't deal with Virginia herps, I thought it would be interesting enough to report.

Cordially,

L/Cpl. Joseph C. Mitchell
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