NOTES ON PRESERVING SPECIMENS AND DEVELOPING COLLECTIONS

(Reprinted from VHS Bulletin
Number 11, May, 1959.)

One of the most encouraging arguments that developed during the first VHS statewide meeting in '58 was a challenge by some of our naturalist members to the scientist members to justify their killing and preservation of amphibians and reptiles. In the discussion the question of a humane attitude toward living creatures was raised. The issue of conservation of wildlife was considered. I asked each member who wishes to preserve specimens to first weigh carefully his reasons for doing so. If each of us pauses to think, I believe that our sincere naturalist members will find little deserved criticism in our actions.

Scientifically useful collections of Va. reptiles and amphibians are needed to answer many questions. The answers will be incomplete if there are no study specimens. . . . What is the growth rate of larval two-lined salamanders ? What are the diet changes that occur seasonally in newts ? Do spotted salamanders deposit their eggs in single masses or series of masses ? Is the snapping turtle a scavenger or predator -- beneficial to pond life, or destructive ? . . . These questions, and a myriad of others, can only be answered fully, and reliably from systematic study of appropriate collectionsof specimens.

Before starting a collection review your reasons for preserving the animals you are concerned with. If you have worked out a problem, and you are seeking a solution to it through work with preserved ... specimens, your herpetocidal acts may be justified. The project:
(1) must be well planned,
(2) should contribute something to our knowledge of the species,
(3) should not duplicate the efforts of others.

Seek advice from officers of the society, or from college zoology instructors, if you are in doubt about any of these points. (See the list of depositories for Va. specimens -- the series you want to check may already be in a Va. preserved collection.) We may not know the answers, but we'll try to steer you to someone who does.

If you are interested in preserving specimens simply as a "hobby", find out what Va. counties are poorly represented in museum or college collections and gather the specimens there. Then, when you are through with your finds, they can be placed in a large collection where they are available to all who wish to work with them.

Some species occur in tremendous abundance, are widespread in their occurrence, and will never be depleted by collectors. Often, they are the forms that are rare in preserved collections, and the so-called "rarities" are relatively abundant. (Get acquainted with the preserved collection nearest your home locality or collecting area. Find out what it needs in the way of additional specimens.)

(CONTINUED ON NEXT PAGE) . . .

PRESERVING and COLLECTING, continued

PREPARATION OF SPECIMENS:

The step of getting an animal into proper condition fpr preservation is called "preparation." This involves selection of suitable specimens for the purposes of the collection. If, for example, you plan to study food habits of some species from stomach contents, you would not preserve any animals not "fresh from the field" or the stomachs might be empty. Then, the animals must be killed in a way that is humane -- causes as little suffering as possible -- and that will leave the animal in a relaxed, flexible state. This is easier in the case of animals that respire through their skins (amphibians); proper preparation of reptiles is more difficult. For amphibian preparation, obtain from your druggist an ounce of CHLOROTONE. This is a moderately water-soluble anesthetic that can be used again and again. Put a half teaspoonful in a quart of water, and after 2 hour period strain through a cloth to remove undisolved crystals. The remaining fluid will anesthetize effectively as long as it lasts. Put salamander in it for half an hour, and they will be relaxed and ready for arranging and hardening.

For reptiles, I suggest putting the animals into hibernation (via a freezer), and then injecting a liberal quantity of chlorotone in the area of the heart. This will require a little study of anatomy from the manuals before the first attempts are made. It is simple with most snakes and lizards, for you can observe them in life and note under which ventral scale the heart is pulsating. Count down from the chin to this scale and record the number for this species. In the case of turtles, it is simply a matter of deep injection of much chlorotone for most workers, for it is hard to locate the heart without practice. (NOTE: If other members have better ways to anesthetize reptiles please advise.)

After anesthesia is complete, the animal (amphibian) is arranged in a position suitable for study -- the head, body, and tail in a straight line, limbs extended from the sides and the toes separated. Then a few drops of commercial formaldehyde are dropped on it with a medicine dropper. (Get thorough instructions on handling this strong poison before attempting it.) After twenty minutes the salamander may be lifted with wooden or plastic tweezers and dropped into a vat of dilute formalin solution (one part formalin to sixteen parts water). In the reptiles, the dilute formalin is injected into the body cavity since it will not pass effectively thru the skin. For larger amphibians--bullfrogs or Hellbenders, etc. --injection into the body cavity also is necessary. Make it a rule to inject a stronger solution of formalin into all large muscle masses --dilution of formalin to water, 1 part formalin to six parts water. Along the trunk of the animal space points of injection about ½ to 1½ inches apart, and put a small quantity of formalin solution in each site. Avoid distortion of the animal's shape. Don't crowd specimens into a few jars -- give them space, and cover them with preserving fluid. Large snakes should be in coils in gallon glass jars. Put a piece of strong plastic beneath the screw-on jar lid to keep fumes from eating away the metal lids.

PRESERVING AND DEVELOPING A COLLECTION, continued:

LABELING: Without an adequate or complete label your specimens are worthless as study material. Attached to each specimen by a cord of short length, a label lists 2 facts: (1) WHEN the specimen was caught; and (2) WHERE it was caught. (See Collecting data slips at the bottom of pages.) Record the date, county, state, and locality in soft pencil on waterproof cardboard. If none is available, pieces of manila file folder will do. Cut down to useful size. These two useful facts are all-important. (See article, this Bulletin, on the need for specimens in permanent preserved collections and the way to get them there with credit.) Locality should be listed as a distance and direction from some location found on most road maps. For example: "2 miles W of Chester, Chesterfield County, Va., July 4, 1966." Habitat data is useful, also: " Found under log in oak grove,"etc. Your name, a collecting number and the identity of the specimen may be added if desired, but are not essential on a record at this stage. WARNING: Treat formaldehyde with the care it deserves -- it is a strong poison. Work out-of-doors so the fumes can easily escape. Keep your hands out of it as much as possible. When pouring, pour slowly and don't splash. Wash up afterwards!

John Thornton Wood, MD

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Dr. J.T. Wood wrote the above article when he was President of VHS. He was the society's first president --serving in 1958 and 1959. (Editor)

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DOCUMENT YOUR RECORDS WITH PRESERVED SPECIMENS PLACED IN A DEPOSITORY!

Specimens should be deposited in a permanent scientific collection. There are major depositories in the three main regions of Va.:

(Northeast) U.S. National Museum, Dep't of Amphibians and Reptiles, Dr. Cochran, or Dr. James A. Peters. Mr. Tuck.

(Southeast) College of William and Mary, Biology Dep't., Dr. G. R. Brooks, Jr. (or) Norfolk Museum of Arts and Sciences, Natural History Dep't. Mr. Phil Morrison or Mr. Roger H. Rageot.

(Southwest) Virginia Polytechnic Institute (VPI), Dep't of Biology, Dr. Robert D. Ross or C. Duke Wilder. (Specimens must be in good condition with good field notes.)

Other areas of the state have depository collections -- (Central) University of Virginia, Department of Biology, Dr. J.J. Murray, Jr. University of Richmond, Biology Dep't. Mr. G.C. Schaefer.

(Northeast) Bridgewater College Dep't of Biology, Dr. H.G. Jopson.

Many, but not all, of those named are members of VHS. Please be courteous and attentive to the requirements of each depository as provided by any of those named or their associates on the faculty.

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COLLECTING IN CAROLINE COUNTY

For the past three years I have attended the U.S.Army Reserve Active Duty Training program at Camp A.P. Hill in Caroline County, Va.

During these two-week periods in late June and early July I have an opportunity, aided by my brother - Jerry, to collect and examine the herpetofauna of the region. The 20 species and subspecies obtained are listed below. Undoubtedly, most of these are not new county record material for Caroline County, but I am submitting the list for those in VHS who may be interested.

Those species with a check (#) before the name have been preserved. Those with an asterisk (*) are county records for Caroline.

AMPHIBIANS:

*# Desmognathus fuscus Dusky Sal.
Pseudotriton (sp). see comments
*# Eurycea longicauda guttolineata Three-lined Salamander
Bufo t. americanus Amer. Toad
Hyla v. versicolor Eastern Gray Treefrog
Rana pipiens Leopard Frog
Rana catesbeiana Bullfrog (1)

REPTILES:

Terrapene c. carolina Box T.
Pseudemys rubriventris Red-bellied Turtle (1)
Sceloporus hyacinthinus undulatus Northern Fence Liz.

Reptiles, continued:
Eumeces (sp.) Skink (see note) (see comments)
Storeria o. occipitomaculata Northern Red-bellied Snake (1)
Thamnophis sirtalis sirtalis Eastern Garter Snake
*#Natrix s. sipedon Northern Water Snake
*#Natrix septemvittata Queen S.
#Heterodon platyrhinos Hog-mose
*#Diadophis p. edwardsi Ringneck
Coluber c. constrictor Northern Black Racer
*#Elaphe o. obsoleta Black Rat S.
#Agkistrodon contortrix mokeson Northern Copperhead (venomous)

AUTHOR'S COMMENTS:

The Pseudotriton sp. listed above was badly mangled under a log before being brought to me. While it resembled ruber, the Northern Red Salamander, I did not attempt any identification. Due to lack of preserving equipment in the field, the creature could not be saved. (This would have been a county record if preserved. Ed.)

The skinks (Eumeces) were observed infrequently on trees and on log piles. I did not secure any specimens and could not allocate them to species since both the Five-lined Skink (fasciatus) and the Southeastern Five-lined Skink (inexpectatus) occur in the area.

The Queen Snake (Natrix septemvittata) represents an interesting record from the extreme eas-

CAROLINE COUNTY NOTES, concluded.

The Queen Snake (Natrix septemvittata) represents an interesting record since this is on the extreme eastern edge of its range. This animal was found crawling on a hillside at least 50 feet from a dry stream bed.

The Ringneck Snake (Diadophis punctatus edwardsi) was referred to the Northern form since it had an immaculate venter, which is unlike the southern race (punctatus).

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(Editor's Note: We are sorry the Notes on Caroline County prepared by Mr. Collins were not presented at an earlier date. They were in an incorrect file and temporarily mislaid. We trust this year's U.S. Army Reserve Duty has proved as profitable as the past several tours. Perhaps we may update the notes with the current year's. A symbol (1) in the list indicates that, had these specimens been preserved, these too would have been county records. F.Tobey.)

VHS Congratulates Tom 'N' Jerry Collins on their contributions to our knowledge of Va. herpetology!

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Other amphibians and reptiles recorded from Caroline County are:
Ambystoma maculatum Spotted Sal.
Diemictylus v. viridescens Newt
Plethodon c. cinereus
Red-backed Salamander
Siren lacertina Greater Siren
Acris c. crepitans No.Cricket F.
Hyla c. crucifer Spring peeper
Gastrophryne carolinensis
Eastern Narrow-mouthed Frog
Rana clamitans melanota
Green Frog
Sternotherus odoratus Stinkpot
Cnemidophorus sexlineatus
Eastern Six-lined Racerunner
Lampropeltis g. getulus King S.
Opheodrys aestivus Rough Green S

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Dr. Phoebe H. Knipling, science supervisor for Arlington County public schools, has been named a regional director of the National Science Teachers Association. The region encompasses the District of Columbia, Kentucky, Maryland, North Carolina, Tennessee, West Virginia and Virginia. The Arlington County science supervisor has been Treasurer of VHS since its first statewide meeting,1958.

. . . .

Dr. Robert L. Guillaudeu of 6712 Dean Drive, McLean, Va., has been named president of the Fairfax County Medical Society at the Society's annual meeting in late 1965. Dr. Guillaudeu is the VHS Medical Adviser, succeeding John Thornton Wood, MD in that office.

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Roger H. deRageot will return to France for several months again this summer. Roger was the 3d President of VHS. He will return to Norfolk in the Fall.

DON'T FORGET THE SOCIETY'S FALL STATEWIDE MEETING. PLACE AND DATE NOT YET FIXED WILL BE NOTED IN THE NEXT VHS BULLETIN.

ANNUAL STATEWIDE MEETING, 1966 . . .

PREPARE YOUR EXHIBITS NOW

FOR THE SOCIETY'S FALL

STATEWIDE MEETING

THE DATES AND PLACE TO BE ANNOUNCED
IN THE NEXT VHS BULLETIN
OUT SOON

COMING IN NEXT NUMBER: VHS-B #49 SNAKEBITE

AND ITS INCIDENCE IN VIRGINIA AND THE

SOUTHEASTERN UNITED STATES :