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ON OPPORTUNITIES FOR THE HERPETOLOGIST

The name "herpetologist" is generally used to designate a person who has a specialized and general knowledge of amphibian and reptile forms. It is frequently applied to persons of widely varying knowledge and abilities: the carnival "lecturer" in a side show snakepit; a zoo curator; a distinguished and learned scholar.

The educational background of a herpetologist is varied and often there is a correlation between the manner in which he earns his living and the type of education. Herpetologists may be self-taught, may have learned through experience, or have had formal training at the college or university level. Rarely does one gain an adequate income because he is a Herpetologist but rather because he is a good businessman, an acceptable lecturer, a good teacher, meticulous curator, or a productive investigator.

The name "herpetologist" should ba applied only to those people who have demonstrated a thorough knowledge of reptiles and amphibians through their researches or their contributions.

What are the generally accepted ways of gaining knowledge of the science of herpetology? The greater part of the men active in the science have gained their education through experience on zoo or museum staff, or have completed formal studies leading to a graduate degree in biology or zoology with research emphasis on the taxonomy, ecology, anatomy, embryology, genetics, or physiology of amphibians or reptiles. The latter procedure is possibly a more rapid and efficient method of obtaining knowledge.

Some colleges and universities offer undergraduate herpetology courses but these are ordinarily devoted primarily to the procedures in identification of local and regional animals. Emphasis is not placed on the systematics, ecology, classification, physiology, or genetics of these animals. A few universities permit graduate students to do research in taxonomic herpetology but none offer an advanced degree in herpetology. The herpetologist must be a broadly-trained zoologist if he is to be a successful herpetologist.

The herpetologist with a doctoral degree in the biological sciences, or its equivalent, becomes qualified for a position as a curator in a museum or zoological garden, or as a teacher and investigator in a college or university. Too, he may enter government or industry as a zoologist, or as a biologist.

What income can this type of individual anticipate? If he joins a college or university as a member of the faculty, he may expect a minimum salary of $4,000 as an instructor or assistant professor for the academic year (9 months) and may have an opportunity to earn a probable maximum of $15,000 as a professor. If successful in the profession of higher education he may accept administrative positions which provide greater remuneration. If the person with formal training accepts a curatorship

Careers in Herpetology,Cont'd:

in a museum or zoo, he may anticipate a salary of $4,000 to $15,000 for the calendar year (12 months). Opportunities for appointment to curatorships are rare. Opportunities for employment as zoologists or biologists on college and university faculties should be excellent during the next few years. The following are the opinions of men representing some of the fields offering opportunities:

R. Marlin Perkins, Director, Lincoln Park Zoological Garden, Chicago.

In zoological gardens and museums there are only a few positions available in the United States. There are perhaps a dozen zoos in this country that employ herpetologists as such, and only five or six of these have a position of "Curator of Reptiles" providing an adequate income. Most zoo Curators of Reptiles would receive from $4,000 tp $7,000.

James A. Oliver, Director, American Museum of Natural History, N.Y.

My general opinion is that the professional opportunities are quite limited as to the availability of positions and as to the financial opportunities. With the large number of individuals interested in herpetology today I believe it is more realistic to direct them into training for other professional occupations for their primary source of income, pursuing herpetology as an avocation. That this is the solution used by most herpetologists today is indicated by the professions of the majority of members of the American Society of Ichthyologists and Herpetologists (ASIH). Most of these individuals earn their living as college professors of zoology or biology. A few individuals earn their living in a profession quite far removed from herpetology, but continue to make valuable contributions to the field.

Ross Allen, Ross Allen's Reptile Institute, Silver Springs, Florida

Camp work, museums, zoological gardens, private exhibits, lecturing, research and game department positions are always open to herpetologists. They can earn from $50 to $90 per week. It is my belief that a student should first become a biologist before specializing in herpetology. There are fair opportunities for the average person and a trained biologist has an excellent chance for advancement.

The late Karl P. Schmidt, Chicago Natural History Museum, said that a great untapped field of jobs for herpetologists lies in high school biology teaching. Completing college and the necessary courses, the herpetology-oriented young teacher could contribute much toward the improvement of science instruction in secondary schools.

THE REPORT ON HERPETOLOGY noted above was prepared by Professor Fred R. Cagle, Department of Zoology, Tulane University, New Orleans, Louisiana. It was prepared at the request of the American Society of Ichthyologists and Herpetologists in response to inquiries from many

ON THE CARE OF CAPTIVE REPTILES

Lee D. Schmeltz
Senior Keeper
NZP Reptile House

There are several most important considerations before one selects the reptiles to be collected and housed:

(1) Harmless or dangerous ? Confine your collection to harmless species unless you are involved in specific scientific research.

(2) What food is required ? Will it be available the year around ? This is best handled with advanced planning than to suddenly realize you have on your hands a specimen that you cannot provide with food.

(3) Size and number of reptiles? Remember you will enjoy your collection more with a few well-cared for, and well-chosen specimens. If you overcrowd cages and try tokeep too many you will be kept too busy. Time to observe your specimens should be your objective. Also, the largest snake available isn't necessarily the most interesting or attractive. Small reptile species can be a challenge even for fairly sophisticated student herpetologists. So much for selection. ---

Cages should be chosen with consideration for:

(1) Size of the specimen now and in the future.
(2) Relative activity of species maintained.
(3) Security is most important--especially where unusual or highly valuable specimens are concerned.
(4) Cages should have smooth surfaces for easy cleaning; good ventilation.
(5) Every cage should have a tag attached with name of species and scientific name and number of occupants. So much for caging.

Before you entertain the idea of keeping dangerous specimens anyplace but at a zoo, museum, or a well-locked laboratory:

(1) Check local laws, ordinances; many localities have a wild animal control law providing heavy fines and other penalties for keeping a wild animal (poisonous reptiles legally fall into this category in the eyes of the law). Licenses are required in some localities.

(2) Consider the SAFETY factor - yourself, your family, community. You can be held responsible for a mishap; legally, financially. --- Think this over very carefully!

(3) Reasons for keeping poisonous reptiles on your premises are rarely of sufficient importance to warrant the potential danger.

(4) Remember: Snakebite is an extremely costly and painful experience. Do not over-estimate your ability to handle poisonous snakes --especially exotic (foreign) species-- remember that the professionals with extensive experience are bitten, often by a domestic species such as rattlers.

ON THE CARE OF CAPTIVE AMPHIBIANS

Cages: Containers for keeping amphibians should be designed, or selected, for their moisture-holding ability. Aquariums are quite suitable for most amphibians, and especially so when three sides of the glass have been painted to exclude the light. Many amphibians are nocturnal or secretive by nature. Tops can be made of either wire or glass. Gallon jars with wide mouths can be used for smaller species, particularly salamanders. Moist earth or moss is the ideal floor covering for an amphibian cage. Avoid sand or rough gravel. Amphibian skin is tender and cannot take the abrasive effect of these materials.

Feeding: Supplies of small and soft-bodied animals such as earth worms or wax worms are of utmost importance in maintaining an amphibian collection. Small flies are also a popular food and are easily collected by suspending a small light over a wide-mouthed jar on a warm night. After a few hours you will find a quantity of insects trapped in the jar. Most amphibians prefer living food although a few may accept balls of raw hamburger dropped into water.

Temperature and humidity: These are both of importance if you expect to have any measure of success in maintaining an amphibian collection. Temperature should be maintained in the vicinity of 64 to 68 degrees F. Many of the salamanders should be kept even lower, if at all possible.

Humidity is, perhaps, the most important consideration when one keeps a collection. Always remember a dry amphibian is a dead one. Containers holding a good quantity of water should be put in every cage. Sprinkle your cages at least once a day with a little cool water, especially on warm, dry days. Plants will be useful in keeping the cages damp as well as providing decoration and a suitable environment.

Special: Handle amphibians only when your hands (or net) are wet. This avoids skin damage.

Keep specimens of one size in separate containers. This will avoid losses from the larger ones eating the smaller ones. Many know what happens in the case of reptiles in this situation, but forget the lessons learned when they start a collection of frogs or salamanders.

Lee D. Schmeltz
Senior Keeper
Reptile House
National Zoological Pk.

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VHS OBJECTIVES: ADOPTED: 1958

(1) Scientific study of the state's reptiles and amphibians.
(2) Improvement of records on collecting data.
(3) County surveys and exchange of verified information.
(4) Broader public understanding in the interest of conservation.
(5) Work for more accurate news reports on reptiles and amphibians.
(6) Deposit needed specimens for record in permanent scientific collections and for educational purposes.

CURATOR'S DEATH SPURS VENOM STUDY

William C. Patrick, Salt Lake
City TRIBUNE, Medical Editor

The tragic death of Mr. Gerald de Bary from snake venom may contribute to a better understanding of all types of venom and how to combat its deadly effects. Mr. de Bary, curator of the Hogle Zoo in Salt Lake City, Utah, since 1955, died a day and a half after an African puff adder at the zoo thrust its fangs into his left forearm.

Physicians who attended him during the agonizing hours intend to write a detailed clinical history* of the case, describing all of the disastrous reactions to the venom and what they did in an effort to combat them. This likely will be published in a medical journal, so it can be made available to those physicians who may have a similar problem with which to contend.

(EXCERPTS FROM SALT LAKE TRIBUNE)

The Salt Lake physicians plan to continue their studies of venom and its effects. The work of the Utah group likely will merge with new research to be conducted at the San Diego (Calif.) Zoo. The object of the research will be to obtain a better understanding of all types of venom by getting down to the molecular level.

Dr. Charles Schroeder, director, San Diego Zoo, said it is likely that a venoms laboratory will be established as a part of the Zoological Society of San Diego Institute for Comparative Biology. The Society expects to obtain the services of . . . Dr. Findlay E. Russell of the College of Medical Evangelists, Loma Linda, Calif., a physician whose great interest is the biochemistry of venoms. 1/29

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*THE VHS BULLETIN WILL CARRY AN ACCOUNT OF THE SNAKE-BITE ACCIDENT AS SOON AS A COPY OF THE CLINICAL HISTORY BECOMES AVAILABLE. TWO OF OUR MEMBERS, NZP ASSOCIATE DIRECTOR J. LEAR GRIMMER, AND VHS MEDICAL ADVISER, DR. R. L. GUILLAUDEU, HAVE OFFERED TO KEEP US WELL INFORMED ON THIS MATTER.

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NOTEWORTHY QUOTE

The VHS program and bulletin "is doing a good service to science and biology instructors in colleges and schools throughout Virginia. In the long run it will do much to advance the science of herpetology and natural science in the state. It will introduce many students to the science of taxonomy, distribution, ecology, and life cycles, for the first time. It will introduce students of our secondary schools and colleges to the importance of keeping records and documenting their own observations. Introducing people to natural science will prove worthwhile in making them better citizens of their community, state and nation.

Maurice L. Giltz, Ph.D.
Associate Professor
Department of Zoology & Ent

(Columbus, Ohio)

COMMENTS ON SNAKEBITE TREATMENT

FROM MEDICAL TRIBUNE, NEW YORK:

Nobody knows for sure how many persons annually get bitten by a venomous snake in the U.S.A. but it happens often enough to raise some challenging problems when it comes to treatment, Dr. Herndon G. Dowling, curator of reptiles at the New York Zoological Park, said. I don't pose as a medical authority he told Medical Tribune. "I would rely mainly on the studies of Dr. Findlay E. Russell of Los Angeles County Hospital, and Dr. Sherman Minton, of University of Indiana.

"Dr. Russell believes that tourniquet and suction are useful only within the first hour, and then advocates cooling with ice packs.

"Most people concerned with snake bite agree that for the bite of a potentially lethal snake, the giving of antivenin at the earliest possible moment is desirable," he declared. "It should be given under the guidance of a competent physician because of the possibility of resultant shock." While the timely use of antivenin usually effects a cure even in very severe cases, Dr. Dowling cautioned against its routine use in copperhead bites, since the venom of a copperhead is lower in quantity and toxicity than that of other pit vipers.

"Where an adult has been bitten by a copperhead of average size, or by a pygmy rattlesnake, we ordinarily consider administration of antivenin to be about as dangerous as the bite itself, due to the possibility of shock."

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FROM OAK RIDGE NATIONAL LAB NEWS:

Snakebite's low mortality rate is due to the effectiveness of emergency treatment. In most reported deaths due to rattlesnake bite, delay in beginning first aid treatment was the most important factor. The copperhead is not as dangerous a snake as many believe and not a single death was reported in the 10 year period (1950 - 1959). The amount of venom that can be removed by suction methods decreases markedly when as little as one hour has passed since the bite. ... It is not wise to put off first aid for 30 minutes to an hour because one could get to a hospital in that time. Prompt action is important, particularly with a bite in a child or small-sized adult.

Since antivenin is a hyper-immune horse serum, great care has to be used to test for hypersensitivity before it is injected. If a man is found to be allergic to horse serum, the antivenin can be administered in gradually increasing quantities and Cortisone may be given to counteract the allergic reaction. Most snake-bite victims will be admitted to the hospital for a period of observation.

(This last point from the ORNL "NEWS", Dr. Lincoln's column, has been made repeatedly by the VHS first president, John T. Wood, MD, in statewide meetings and elsewhere. He recommends a skin test for sensitivity to serum in advance of any possible encounter.)FT

COMMENTS FROM MEDICAL READERS ARE WELCOMED. (See VHS Bulletin # 34)

DISMAL SWAMP COLLECTING NOTES

A delayed report on a June collecting trip to Dismal Swamp has come in from Gary Williamson, of Virginia Beach.

Northern Black Racer
(Coluber constrictor constrictor)

Black Rat Snake
(Elaphe o. obsoleta)

Eastern Kingsnake (3)
(Lampropeltis g. getulus)

Brown Water Snake (2)
(Natrix t. taxispilota)

Canebrake Rattlesnake (2)
(Crotalus horridus atricaudatus)

Southern X Northern Copperhead
(Agkistrodon c. mokeson X c. contortrix)

Note: W. Leslie Burger, second VHS President, while in Virginia, observed that the aberrant forms of the copperhead which resemble the Southern subspecies are, in fact, the Northern form with some Southern intergradation. F.T.

(Gary Williamson notes that one of the copperheads was over 44" in length -- a good size but not unusual for Virginia as a whole.)

Gary Williamson reports, also, a Scarlet King Snake (Lampropeltis doliata temporalis X d. doliata) in Princess Anne County, Va. and has the preserved specimen. A gardener had killed the snake on top of some pine straw in a flower bed in the morning. It was in late July and the previous day and night it had rained. We recommend Roger Rageot see this!

DIAMOND-BACKED TERRAPIN, NEW KENT

The Northern Diamond-backed Terrapin (Malaclemmys t. terrapin) is well recorded toward the coast. A record as far inland as New Kent County is not recorded to date. I received a letter from Neil Richmond, Pittsburgh, noting an older record of this species from West Point, across the Pamunkey River from New Kent. It was probably once abundant in the county, but after 1900, when numbers were reduced by commercial hunting, no record has been made. It was with some surprise and much pleasure that I found an excellent specimen on June 14, '63 about ¼ mile from the Pamunkey in New Kent County. On the 18th, two more were found in almost the same location. All were females. Two had been hit by cars and dissection showed fully developed eggs in one. The other was dried and eight dessicated eggs were loose within the shell.

As far as we know, these are the only tangible records of Diamond-backed turtles from the county. If anyone has further knowledge on this, we would appreciate hearing it. Jeff Richmond
Box 932, Ashland, Va.

The editor of the VHS Bulletin is reasonably certain that the claim is correct. These three finds do constitute county records for New Kent County, Va. Please see that they find their way into a permanent collection and let VHS know where. We can then record the location on our distribution maps.

A COUNTY RECORD is an identifiable specimen from a specific locality preserved in a permanent scientific collection. VHS collection data are not, for the present, at all concerned with size. F.T.

NOTES ON VIRGINIA REPTILES

On December 31,1963 the Biological Society of Washington (D.C.)--published a series of Virginia herpetological records, as follows:

In the collection of the Museum of Comparative Zoology,Harvard U., is a specimen of the spotted turtle (MCZ 45979) taken at Magnolia Swamp Augusta County, Virginia, in 1940. Magnolia Swamp is located on the S. fork of the Shenandoah River at the crossing of the N&W RR nearest the intersection with County Rt.#658, 4 miles south of Stuart's Draft. I found the species still there in 1962. This represents a range extension of 110 mi. S. from Charles Town, W.Va., the previous southernmost record in the Shenandoah Valley (Netting,Proc.W.Va.Acad Sci., 14: 146-147, 1940).

Linzey(Herpetologica, 15(2):94, 1959) listed the Eastern Smooth Green Snake (Opheodrys v. vernalis) from Iron Mine Hollow(overlook at milepost 96.5), Blue Ridge Parkway Botetourt County, but failed to mention that this was the southernmost record for the species in the Blue Ridge. Two additional specimens have been taken in SNP, at the eastern edge of Big Meadows,in Madison County (USNM 145929), and near milepost 97 at Jarman Gap in Augusta County (USNM 146633). These are the first records of the species from these counties, and the species is now known from six Blue Ridge counties: Amherst, Augusta, Botetourt, Madison, Page & Rockbridge.

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SEND IN YOUR VIRGINIA

COLLECTING NOTES FOR USE

IN THE VHS BULLETIN !

The Southeastern Crowned Snake (Tantilla c. coronata) has been reported in Virginia only from Buckingham County (E.R. Dunn, COPEIA, No.76: 100,1919).Through the efforts of the Virginia Herpetological Society, three additional records have been brought to light. These are a juvenile in the Carnegie Museum collection (CM 19005), from 9.5 miles W. of Spencer, Patrick County; a juvenile in the collection of Randolph Macon Woman's College in Lynchburg, from 3 mi. E. of Madison Heights, Amherst County; and a specimen in the National Museum (USNM 144504),from Smith Mountain Pittsylvania County. The specimen from E. of Madison Heights is the first record of the species N of the James River, and suggests that it may have a wider distribution in Va. than was formerly suspected. It is now known from Amherst, Buckingham, Patrick, & Pittsylvania counties, and probably occurs in the higher Piedmont section of the state. W.L.Witt

(See VHS Bulletin No. 24 and the Virginia WILDLIFE magazine for May, 1961, on S.E. Crowned Snake).

The author wants to thank those individuals who made these notes possible: Robert Merkel of Charlottesville, Va.; E. Ray Schaffner, Chief Naturalist,SNP-Luray, Va.; Eugene Ramsey, and F.M.Hunter of Madison Heights,Va. and Dr. J. L. Chamberlain of the biology department of Randolph Macon Woman's College, Lynchburg, Va.; and, Neil Richmond, Carnegie Museum, Pittsburgh, Pa., and William H. Martin III, Leesburg, Va.,and Dr. Doris Cochran,USNM.

Keesler AFB, W.L.W.
Biloxi, Miss.

TO: BIOLOGY INSTRUCTORS
SCIENCE INSTRUCTORS

DO YOU HAVE STUDENTS WITH AN INTEREST IN HERPETOLOGY ?

THEY MAY ENJOY KNOWING ABOUT THE

VIRGINIA HERPETOLOGICAL SOCIETY

ROUTE SLIP:
(Circulate to:)

__ Biology Club
__ Science Club

__ Guidance Counselor

__ Faculty members---
(by name or dep't)

__ _____

__ _____

INSTRUCTORS, GUIDANCE COUNSELORS:

Do you have exceptional students who may be recommended for membership in the VHS ? Here is an outlet for science or biology interest and enthusiasm which you may want to consider.

SCIENCE FAIR exhibitors with a project in herpetology are offered a year's free subscription to the Virginia Herpetological Society Bulletin.

SCIENCE FAIR PROJECT winners with an exhibit on herpetology are awarded a year's paid membership in the Virginia Herpetological Society.

BIOLOGY CLUB SCIENCE CLUB

If your school has a Biology Club or Science Club its members may wish to participate in the program of the Virginia Herpetological Society, or invite a speaker to address a meeting.

SAMPLE BULLETIN (attached)

[illegible] to remain on the VHS mailing list fill out stub below,

The Forest Service of the Agriculture Department has just published a booklet on the Appalachian Trail. The folder tells something about the route of the trail, which extends 2,000 miles from Mount Katahdin in Maine to Springer Mountain in Georgia, --- A full-page map traces its path through the fourteen states it traverses -- a large portion in Virginia. The brochure also has a number of handy tips and safety suggestions and furnishes the addresses where additional information on the trail can be obtained.

Free copies of the A-T booklet, "The Appalachian Trail (MP-951)", may be obtained by writing the Forest Service, U.S. Department of Agriculture, Washington, D.C.20250