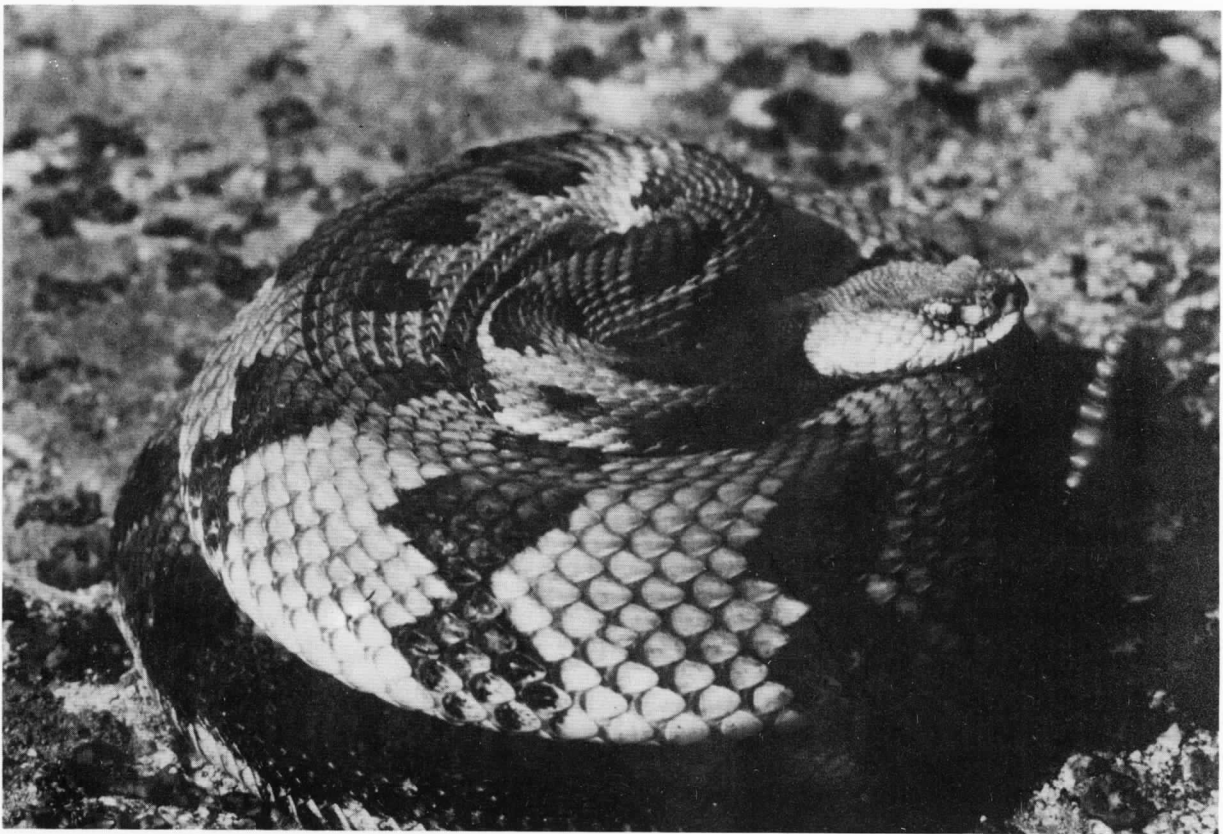


BULLETIN
of the
Chicago Herpetological Society



Volume 29, Number 4
April 1994



In this month's issue William S. Brown, Len Jones and Randy Stechert describe in detail a case of illegal trafficking in timber rattlesnakes in the northeastern United States. This photograph of an adult male *Crotalus horridus* from Ulster County, New York, was taken 25 September 1993 by Randy Stechert.

BULLETIN OF THE CHICAGO HERPETOLOGICAL SOCIETY
Volume 29, Number 4
April 1994

A Comment on Bullfrog (<i>Rana catesbeiana</i>) Predation on Gulf Coast Toads (<i>Bufo valliceps</i>) as Reported by Platt and Fontenot John K. Tucker 73
A Case in Herpetological Conservation: Notorious Poacher Convicted of Illegal Trafficking in Timber Rattlesnakes William S. Brown, Len Jones and Randy Stechert 74
Book Review: <i>The Care and Use of Amphibians, Reptiles and Fish in Research</i> edited by Dorcas O. Schaeffer, D.V.M., M.S., Kevin M. Kleinow, D.V.M., Ph.D., and Lee Krulisch	Kathy Bricker 80
Helpful Herp Hints	Dennis Engler 82
HerPET-POURRI	Ellin Beltz 83
NEW T L I N E	Debi Hatchett 86
The Tympanum Marcia Rybak; Marlene Golin; Jill Horwich 87
Herpetology 1994	88
Unofficial Minutes of the CHS Board Meeting, February 18, 1994	89
Advertisements	90
News and Announcements	92

EDITORS

Michael A. Dloogatch
 Joan F. Moore
 John C. Murphy
 Copy editor: Jill Horwich
 Advertising Manager: Ralph Shepstone

CHS OFFICERS 1994

Marcia Rybak, President
 Anthony Rattin, Vice-President
 Gary Fogel, Treasurer
 Jill Horwich, Recording Secretary
 Brian Jones, Corresponding Secretary
 Michael A. Dloogatch, Publications Secretary
 Steve Spitzer, Membership Secretary
 Stacy Miller, Sergeant-at-Arms
 Jim Gaspar, Member-at-Large
 Jack Schoenfelder, Member-at-Large
 Claus Sutor, Member-at-Large
 Ron Humbert, Immediate Past President

The Chicago Herpetological Society is a nonprofit organization incorporated under the laws of the state of Illinois. Its purposes are education, conservation and the advancement of herpetology. Meetings are announced in this publication, and are normally held at 7:30 P.M., the last Wednesday of each month.

Membership in the CHS includes a subscription to the monthly *Bulletin*. Annual dues are: Individual Membership, \$22.00; Family Membership, \$25.00; Sustaining Membership, \$50.00; Contributing Membership, \$100.00; Institutional Membership, \$38.00. Remittance must be made in U.S. funds. Subscribers outside the U.S. must add \$12.00 for postage. Send membership dues or address changes to: Chicago Herpetological Society, Membership Secretary, 2001 N. Clark Street, Chicago, IL 60614. Publications are sent to U.S. members via third class bulk mail; the post office does not forward such mail, even if a special request is made to forward magazines.

Manuscripts should be submitted in duplicate, typewritten and double spaced. Alternatively, submission of manuscripts in the form of IBM PC-compatible or Macintosh format diskettes is encouraged. Manuscripts and letters concerning editorial business should be sent to: Chicago Herpetological Society, Publications Secretary, 2001 N. Clark Street, Chicago, IL 60614. **Back issues** are limited but are available from the Publications Secretary for \$2.50 per issue postpaid.

The BULLETIN of the Chicago Herpetological Society (ISSN 0009-3564) is published monthly by the Chicago Herpetological Society. Copyright 1994.

A Comment on Bullfrog (*Rana catesbeiana*) Predation on Gulf Coast Toads (*Bufo valliceps*) as Reported by Platt and Fontenot

John K. Tucker
Illinois Natural History Survey
1005 Edwardsville Road
Wood River, IL 62095

I read with interest the paper by Platt and Fontenot (1993) about bullfrog (*Rana catesbeiana*) predation on Gulf Coast toads (*Bufo valliceps*). This subject is of interest to me because I coauthored one of the papers (Tucker and Sullivan, 1975) that Platt and Fontenot cited, and the author of the another paper cited (Brown, 1974) was my major professor for my master's degree. I believe that Platt and Fontenot come to erroneous conclusions; I am impelled to comment on the fallacies in their paper.

Platt and Fontenot do not conclusively demonstrate that "bullfrogs can consume and digest adult Gulf Coast toads without suffering ill effects from the toxic parotoid gland secretions" (Platt and Fontenot, 1993, p. 190). Two methodological shortcomings are of prime importance. First, no actual observations of the behavior of the bullfrogs were reported. Both Brown (1974) and I (Tucker and Sullivan, 1975) reported actual observations of the behavioral reactions of bullfrogs attempting to eat toads. Our observations demonstrated a range of reactions from simple regurgitation to nearly complete paralysis. Neither of us would argue that bullfrogs do not eat toads nor did we report any long-term or permanent adverse effects. We reported short-term effects that provide at least some measure of protection to toads.

Second, I believe that the paper would have benefited from confirmation by an independent herpetologist of the identification of the toads that "... were almost completely digested with only the vertebral column and attached pieces of skin remaining..." (Platt and Fontenot, 1993, p. 189). At the very least, the authors should have mentioned whether the specimens were preserved and, if so, where they are deposited.

Accepting for the time being that the identifications may have been accurate, then four examples of bullfrogs containing toads are reported in this paper. In one of these, the bullfrog regurgitated the toad. This is in complete agreement with the

observations of Tucker and Sullivan (1975) and Brown (1974) and supports our conclusions that toads are at best difficult meals for bullfrogs. Thus, it is not appropriate for Platt and Fontenot to use this example as evidence that bullfrogs can consume toads without adverse effects. The energy wasted in capturing and then regurgitating the toad is an adverse effect.

We are consequently left with three examples, two of which are based on fragmentary material. These examples in no way demonstrate that "bullfrogs can consume and digest adult Gulf Coast toads *without suffering ill effects* [italics added] from the toxic parotoid gland secretions." In fact, no one observed the reactions of the bullfrogs after the toads were ingested. It could well be that the bullfrogs suffered the consequences of ingesting toads pointed out by Brown (1974) but managed to survive them. Furthermore, Platt and Fontenot (1993) did not investigate the physiological impact of the bufonid toxins on the digestive system of the bullfrog. The only conclusion that can be drawn from Platt and Fontenot (1993) is that Gulf Coast toads *may be* included in the diet of bullfrogs, but this has already been reported in at least four other diet studies (Korschgen and Moyle, 1955; McCoy, 1969; Munz, 1920; Taylor and Michael, 1971). The cost to the bullfrog of eating toads cannot be determined from the data of Platt and Fontenot (1993). Actual observations previously reported by Brown (1974) and myself (Tucker and Sullivan, 1975) clearly indicate that the cost of ingesting toads to the bullfrog is high and that the parotoid secretions protect toads from ingestion by bullfrogs. In conclusion, the paper by Platt and Fontenot presents no new information, and they make an erroneous interpretation of the material they do present.

Acknowledgements

I thank Lauren E. Brown and Gary L. Paukstis for helpful comments on the manuscript.

Literature Cited

- Brown, L. E. 1974. Behavioral reactions of bullfrogs while attempting to eat toads. Southwest. Nat. 19:335-337.
- Korschgen, L. J., and D. L. Moyle. 1955. Food habits of the bullfrog in central Missouri farm ponds. Amer. Midl. Nat. 54:332-341.
- McCoy, C. J. 1969. Diet of bullfrogs (*Rana catesbeiana*) in central Oklahoma farm ponds. Proc. Okla. Acad. Sci. 48:44-45.
- Munz, P. A. 1920. A study of the food habits of the Ithacan species of Anura during transformation. J. Entomol. Zool. 12:33-56.
- Platt, S. G., and L. W. Fontenot. 1993. Bullfrog (*Rana catesbeiana*) predation on Gulf Coast toads (*Bufo valliceps*) in Louisiana. Bull. Chicago Herp. Soc. 28(9):189-190.
- Taylor, R. J., and E. D. Michael. 1971. Habitat effects on monthly foods of bullfrogs in eastern Texas. Proc. Southeast. Assoc. Game and Fish Comm. 25:176-186.
- Tucker, J. K., and M. E. Sullivan. 1975. Unsuccessful attempts by bullfrogs to eat toads. Trans. Ill. State Acad. Sci. 68:167.

A Case in Herpetological Conservation: Notorious Poacher Convicted of Illegal Trafficking in Timber Rattlesnakes

William S. Brown¹, Len Jones² and Randy Stechert³

Key Words: timber rattlesnake, *Crotalus horridus*, threatened species, illegal collecting, poaching, exploitation, population depletion, federal felony conviction, U.S. Fish and Wildlife Service, New York State Department of Environmental Conservation, live animal trade, single-human impact.

Introduction

In 1993 a commercial collector was convicted of federal felony charges for trafficking in protected wildlife. Rudy Komarek, a well-known reptile collector and part-time showman ("Cobra-King") from New Jersey, was arrested under the Lacey Act for unlawful interstate commerce in a state-protected species, the timber rattlesnake (*Crotalus horridus*). In this article, we summarize Komarek's history of reptile poaching, and we assess the impact of his illicit activities on the survival and status of the timber rattlesnake.

A detailed report written by one of us (Stechert, 1981) documented the timber rattlesnake's status and the history of its decline in New York. The report showed that a great percentage of that decline was caused directly by collecting and taking by one person: Rudy Komarek. In June of 1983, as a result of reports such as Stechert's, the timber rattlesnake officially was listed as a threatened species in New York State (NYDEC, 1983). Under the state's Environmental Conservation Law, it is illegal without a permit to take, possess, transport or sell any state-listed threatened species (*Acris crepitans*, *Kinosternon subrubrum*, *Emydoidea blandingii*, *Crotalus horridus*) or endangered species (*Ambystoma tigrinum*, *Clemmys muhlenbergii*, *Sistrurus catenatus*) of amphibian or reptile (plus the federally-listed sea turtles not included in this brief summary).

Rudy Komarek has been a poacher of protected wildlife for many years. Although he is believed to have taken a number of other species occasionally (e.g., spotted salamanders, *Ambystoma maculatum*; spotted turtles, *Clemmys guttata*; road-killed raptors and snakes for "head shops"), his main target of commercial exploitation has been the timber rattlesnake. We will argue that Komarek single-handedly has had an extremely harmful impact on this snake in two northeastern states (New York and Massachusetts) and has had a deleterious effect in two others (Connecticut and New Jersey).

The significant degree of damage Komarek has done to *Crotalus horridus* in these states is attributable to two primary factors: (1) the biological features of the timber rattlesnake, many of which have been discovered only in recent years through long-term field studies, make this species vulnerable to targeted exploitation; and (2) Komarek is a pathological snake-hunter who has made it his lifelong business to take large numbers of timber rattlesnakes over a period of approximately 45 years. In spite of all efforts to stop him, we believe he probably will continue to deplete these populations as long as he is physically able.

We are publishing this information for the first time in detail because we hope this case will alert all persons concerned about illegal exploitation of amphibians and reptiles. The case we will describe exemplifies the importance of ongoing cooperative efforts between the United States Fish and Wildlife Service (USFWS) and state wildlife agencies, specifically the New York State Department of Environmental Conservation (NYDEC), the New Jersey Department of Environmental Protection and Energy (NJDEPE), and the Connecticut Department of Environmental Protection (CTDEP). The herpetological community at large, we believe, comprises a majority of conscientious practitioners concerned about our legal system and the cooperative efforts it takes to make our state and federal wildlife statutes work. Making them work means shutting down each individual's perceived "freedom" to exploit our wildlife as if it were a commons.

Acknowledgements

At the outset, we express a special note of gratitude to the Miami Serpentarium, and in particular to its owner, Bill Haast, and manager, Nancy Harrell, for their cooperation in the investigation. Without their full and completely voluntary interaction with the USFWS, this case would not have been concluded successfully. Herpetological species currently being threatened by commercial activities, as exemplified in this case by *Crotalus horridus*, can be said to have been spared another brief moment in their evolutionary futures thanks to the dedicated collaboration of these good people. We also wish to acknowledge a number of cooperating herpetologists and others who, in addition to two of the authors (Brown, Stechert), responded to official requests to communicate their knowledge of the defendant to the prosecuting United States Attorney: John L. Behler (New York Zoological Society), Mark R. Mazurkiewicz (NYDEC Environmental Conservation Police), Julie Victoria (Senior Wildlife Biologist, CTDEP), and Robert T. Zappalorti (Herpetological Associates, Inc.). With permission, we have selectively quoted from several of these persons' correspondence. For reading and critically commenting on the manuscript, we thank Alvin R. Breisch (NYDEC Endangered Species Unit), Laurie Freeman, Carol Weingeist, and Bob Zappalorti.

Life History and Status of the Timber Rattlesnake

The timber rattlesnake is one of the last symbolic wilderness species remaining in eastern North America. Many of our mountainous deciduous forests would be lacking an ele-

1. Department of Biology, Skidmore College, Saratoga Springs, NY 12866

2. United States Fish and Wildlife Service, Division of Refuges, 3860 Tollgate Boulevard, Suite 300, Naples, FL 33942

3. 90 Bank Street, Midland Park, NJ 07432

ment of pristine excitement without this species. Seeing one of these snakes quietly coiled on the forest floor on a warm summer day is a naturalist's or hiker's thrill of a lifetime. Saving this species for our future is a high priority of those with a sense of respect for the natural world. The source of aesthetic pleasure imparted by this magnificent reptile underscores its part in the biological diversity and functioning of the ecosystems in which it lives.

All timber rattlesnake populations throughout the northeastern states have been exploited; some have been seriously depleted and others are on the verge of complete extirpation. A major one-day symposium sponsored by the Massachusetts Audubon Society on 7 December 1991 documented the species' decline (Tynning, 1992). This conference brought together some 160 conservation biologists and environmentalists who showed a high level of concern about the snake's survival in the northeast. Although it is protected by state endangered/threatened species listings in all states where it still occurs in the Northeast (New Jersey, New York, Connecticut, Massachusetts, Vermont and New Hampshire), it already has disappeared from Maine and Rhode Island, and is very close to extinction in New Hampshire.

The timber rattlesnake's life history in northern parts of its range may be summarized as follows (Brown, 1993): (1) the snake is long-lived, with a maximum lifespan of approximately 25 years; (2) most females require nine to ten years to reach reproductive maturity; (3) birthing occurs only every third or fourth year; (4) the average litter size is moderate to small, averaging eight to nine young; and (5) mortality among the young is high.

In *Crotalus horridus*, natural selection has acted to produce a long-lived, slow-reproducing species with a low annual recruitment rate and slow population turnover. The snake exists in stable populations which only rarely are disturbed by predators. Fluctuations are due primarily to weather-related annual shifts in the proportions of reproductive females. There are few if any "surplus" or "harvestable" snakes because of the demographic constraints and age-structure balance in the population. Removal of a single animal, especially an adult female, from such a population has a relatively high negative effect on the population, damaging its ability to sustain itself.

The spatial biology of a northern timber rattlesnake population is centered strongly on its den. In cold climates, an entire population uses only one den for hibernating and surviving through the winter. Each individual rattlesnake becomes imprinted on its "home" den and uses that den with extremely high fidelity over its lifetime.

Historically, the location of timber rattlesnake dens became known to early colonists, and many dens were exterminated by purposeful snake-hunting raids. Dozens of "Rattlesnake Mountains" are named on topographic maps throughout the New England states. Most of them no longer harbor timber rattlesnakes, attesting to the ease with which entire populations can be wiped out. Historical depletion and extinction have occurred unabated into the twentieth century.

Rudy Komarek: A Brief Appraisal

Shortly after one of us (Brown) began studying the timber rattlesnake in northeastern New York in 1978, he met Randy Stechert, a herpetologist and conservationist who had considerable first-hand knowledge of a reptile collector in New Jersey named Rudy Komarek. Stechert warned that Komarek (1) is an outlaw who takes many timber rattlesnakes for commercial sale, (2) delights in purposely removing these snakes from study populations of researchers, and (3) has a penchant for using the telephone or the mail to harass individuals involved in conservation work or scientific study of the timber rattlesnake.

One day in July 1981 Brown was rudely introduced to Komarek when he received two telephone calls from him (using a false name but later identified as Komarek through verifications assisted by Stechert). Komarek told Brown that his (Komarek's) collecting so many rattlers and depleting dens over the years was "strictly for bucks." He attempted to extract specific collecting information from Brown over the telephone. Later, Brown was appalled to learn that Komarek had gotten a temporary job as a snake "geek" or cobra handler at a local amusement park literally at the back door of Brown's study area. Alarmed, Brown personally confronted Komarek one day, warning him in no uncertain terms to stay out of Brown's study area and informing Komarek that New York State Environmental Conservation Officers and the state Forest Ranger were alerted to Komarek's presence.

As part of Brown's status surveys of the timber rattlesnake conducted under contracts with NYDEC's Endangered Species Unit, he surveyed bounty records in Warren and Washington counties in northeastern New York. Prior to 1971 these counties had paid to have timber rattlesnakes killed. After 1971, all bounties on wildlife in New York State (variously paid by certain towns or counties on coyotes, *Canis latrans*; porcupines, *Erethizon dorsatum*; and rattlesnakes, *Crotalus horridus*) were outlawed by the new comprehensive state Environmental Conservation Law.

Brown's survey of bounty records revealed a never-paid claim submitted on 10 October 1969 by Rudy Komarek. This bounty claim was surprising, as Brown had not realized Komarek had killed rattlesnakes in this region of New York. Later, however, it was learned that an alert supervisor from Washington County had questioned Komarek on his claim for payment of \$605 (representing 121 dead rattlesnakes) and had determined that Komarek never actually killed the snakes in Washington County, but had brought them there from other areas. Komarek had killed and transported them to northeastern New York to submit his fraudulent claim to Washington County for the bounty. Randy Stechert, who knew Komarek during those years, states:

Rudy stated he supplemented his catch at a den in Sullivan County—in an attempt to collect a \$5.00 bounty per snake offered in Warren and Washington Counties—by stomping to death three litters or approximately 24 newborn rattlesnakes to turn in their tails along with the tails of the other juveniles and adults he had killed. (letter to U.S. Attorney, 8 February 1993)

A decade later, on 19 November 1991 and 12 August 1992, Brown received anonymous communications from Komarek in the mail. Each note included photographs: the first showed many captured timber rattlesnakes; the second showed Komarek himself walking along a dirt road, wearing a T-shirt and a backpack and carrying snake tongs. Those who have encountered Komarek in the woods report that he may conceal his snake tongs in his backpack — along with rattlesnakes — to avoid being noticed as a snake hunter.

The photograph of Komarek confirms the following physical description: 65-year-old white male, short (5'5" in height), stocky build, straight brown hair (graying, and balding on top), neck wrinkles, and wearing glasses. (The physical features and photo identification were verified by Stechert.)

The November 1991 photograph showed many timber rattlesnakes jammed into two small boxes, crowded and without water. An accompanying hand-scrawled statement said, in part: "We will be collecting many poisonus [sic] snakes in the future as there's much money to be made! In case you're wondering, there are 62 snakes in the boxes (2 days hunting)." Soon after their receipt, Brown turned over this photograph and communication to USFWS law enforcement agents.

During this period, on 10 October 1991 and 19 August 1992, Komarek was twice arrested for illegal possession of timber rattlesnakes in New York within the boundaries of state parks. Arraigned before local courts, he received fines of \$500 per conviction. (Under state law he could have received a maximum fine of \$1000 per offense plus \$250 per animal, or 15 days in jail.) Komarek never fully paid the first fine and skipped bail on the second offense. He currently is a fugitive with outstanding arrest warrants in Rockland and Orange counties, New York. Much credit must go to Environmental Conservation Officers Mark Mazurkiewicz and Richard Head, the arresting officers. On the first occasion, Officer Mazurkiewicz stated in a memorandum to NYDEC law enforcement superiors (14 November 1991): "The uncooperative Komarek would not allow the officer to check his backpack or vehicle. With the assistance of New York State Park Police, the trunk contents of Komarek's vehicle yielded snake tongs, and three live timber rattlesnakes concealed in cloth sacks."

The Federal Government's Case Against Komarek

On 7 April 1992 the USFWS started its investigation when it learned that Rudy Komarek had sold wild-caught *Crotalus horridus* to an accomplice in New York State. The buyer, Robert D. Bowker of South Salem, Westchester County, New York, was allegedly a herp enthusiast who had offered timber rattlesnakes for sale. These animals were acquired by Bowker from Komarek. On 31 August 1992, Bowker contacted the Miami Serpentarium in Punta Gorda, Florida, via telephone and offered the timber rattlesnakes for purchase or trade. During several telephone contacts between 31 August and 20 October 1992, an agreement was reached between Bowker and the Miami Serpentarium. This negotiation resulted in a trade in which Bowker agreed to ship 22 *C. horridus* to the serpentarium in return for a shipment of 22 juvenile American alligators (*Alligator mississippiensis*) to him.

On 21 October 1992, Bowker was apprehended by special agents of the USFWS at New York's La Guardia Airport. The agents were operating under a grand jury indictment and warrant for Bowker's arrest. Bowker had picked up two boxes of live juvenile American alligators and had them in his possession. Earlier that morning, Bowker had shipped two boxes of live timber rattlesnakes from New York to Florida via Delta Air Cargo. These snakes were bound for the Miami Serpentarium.

On 23 October 1992, Bowker signed an agreement with the USFWS to cooperate fully with the investigation. On 24 October 1992, Rudy Komarek advised Bowker via telephone that he (Komarek) now possessed more timber rattlesnakes. Further, Komarek stated that the snakes were located in the trunk of his vehicle. On the evening of 25 October 1992, Komarek arrived at Bowker's residence to sell the additional timber rattlesnakes that he had collected. Komarek opened his bags in Bowker's basement and counted out the snakes, all the while making extensive comments regarding their collection sites. Finally, Komarek accepted a personal check from Bowker for the purchase of the timber rattlesnakes. A videotape recording of the entire transaction was made by USFWS undercover agents.

On 27 October 1992, these last timber rattlesnakes purchased by Bowker from Komarek were shipped to the Miami Serpentarium via Delta Air Cargo. The specimens were received and unpacked at the serpentarium, and it was discovered that several of the snakes were in very poor condition (dehydrated and emaciated). At least one gravid female had aborted a litter of stillborn neonates (Figure 1). Komarek's total disdain for state and federal wildlife laws and his lack of sensitivity to the specimens he removed from the wild were well known. Komarek reportedly had left live snakes, including gravid females, unattended and without water, for long periods, and he is reputed to have abandoned sealed bags of live timber rattlesnakes in remote areas never to be retrieved because he perceived immediate pursuit by wildlife officers.



Figure 1. Dead neonate timber rattlesnakes (*Crotalus horridus*) upon their arrival at the Miami Serpentarium from an illegal shipment. The snakes were part of the evidence in a federal felony conviction of Rudy Komarek, a notorious poacher of timber rattlesnakes and other reptiles and amphibians.

On both 27 and 28 October 1992, Komarek contacted the Miami Serpentarium by telephone, advising of his springtime collection plans and how the serpentarium staff should respond to any questions they might have regarding their newly-acquired timber rattlesnakes.

On 12 March 1993, Bowker pleaded guilty to federal wild-life charges and was fined \$2500 and sentenced to a three-year probationary period and 100 hours of community service.

The USFWS received a grand jury indictment and arrest warrant for Rudy Komarek on 4 November 1992. Komarek was apprehended outside his New Jersey residence the next day, on 5 November 1992. Komarek pleaded guilty to federal charges on 23 April 1993 and was sentenced to four months imprisonment. Komarek was incarcerated in federal prison (Allenwood, Pennsylvania) on 25 June 1993 and served the four-month sentence.

At his sentencing in federal court, Komarek's attorney stated that his client should not be punished for "removing these vile creatures from areas where the public may contact them." This attitude was not shared by the USFWS, the prosecuting U.S. attorneys, or the court; all involved in Komarek's prosecution recognized the significance of this case.

Komarek's Impact on the Timber Rattlesnake

In New York and Massachusetts Rudy Komarek has been a chief cause of the timber rattlesnake's recent decline and the depletion of existing populations. This individual's exploitation has gone on virtually unchecked for some 45 years (ca. 1945 to the present). Stechert (1980) initially estimated that Komarek had taken approximately 4,000 timber rattlesnakes, mainly from New York, Massachusetts and Connecticut. In New York, snake collecting and bounty hunting appear to have reduced this species to about 50% of its historical numbers (Stechert, 1982, 1992; Brown, 1993). The percentage depletion in Massachusetts, where the snake's distribution is more limited, is estimated to have been even higher. Timber rattlesnakes in Connecticut and New Jersey have suffered severe but apparently somewhat lesser degrees of exploitation.

A careful compilation of den-by-den data by Randy Stechert, in part derived from information related to him by Komarek himself, shows the high toll of Komarek's persecution (Table 1). Through Stechert's surveys at the dens tabulated, and through his conversations with Komarek, taking into account Komarek's questionable veracity, Stechert modified these estimates by using realistic and conservative reductions to account for boasting or inflation by Komarek. Estimates are based on Stechert's years of experience at these dens and on his judgment of the timber rattlesnake's apparent level of depletion from its probable former numbers. In eight counties in southeastern New York encompassing some 27 dens where Komarek operated, he is estimated to have taken between 100 and 250 rattlesnakes from each of twenty of the hardest-hit dens and between 40 and 80 rattlesnakes from each of seven other dens, for a total of approximately 2,900 rattlesnakes taken (Table 1). Among the 27 dens tabulated, two (7%) are

Table 1. Numbers of timber rattlesnakes (*Crotalus horridus*) taken for the live animal trade by one illicit collector, Rudy Komarek, over a period of approximately 45 years (ca. 1945–1990) in eight counties in New York. Data on numbers of dens and snakes provided by Randy Stechert (see text).

County	Number of dens heavily exploited	Estimated number of snakes taken
Putnam	1	120
Rockland	2	200
Orange	2	200
Columbia	2	400
Dutchess	4	300
Sullivan	4	400
Delaware	6	650
Ulster	6	670
Totals:	27	2940

classified as "average — not severely depleted," three (11%) are labeled as "critically depleted," and 22 (81%) are designated as "depleted" under Stechert's qualitative rating system. In addition, Komarek is strongly suspected to have taken smaller numbers of timber rattlesnakes from a number of other dens in the eight counties listed in Table 1, and from other parts of New York not listed in Table 1 (i.e., from some of the 15 other counties in New York where *C. horridus* occurs but which are not included in Table 1). From adjoining states, we estimate he has removed approximately 100 rattlesnakes from one den area in Connecticut, 300 from two dens in Massachusetts, 100 from one den area in Pennsylvania and an unknown number from several dens in New Jersey.

Even though Komarek's "take" may never be known exactly, we believe it is important to point out that the effects of this single individual on this native species have been extremely harmful. Brown (1993) stated: "...commercial collecting can be devastating to timber rattlesnake populations — and it should be stressed that the task can be accomplished by a single motivated individual." Still, one may ask whether it is indeed possible for a *single* human to cause such a high level of depletion. Our argument for the high single-human impact relies on the data we present here for the first time (Table 1) and on the following factual assessment.

In modern times, once a den location is discovered, any experienced woodsman can, with time and practice, learn the movement patterns and basking habits of a local timber rattlesnake population. If timber rattlesnakes are caught alive and removed, the effect is exactly the same as if they had been killed outright. With an economic or monetary incentive to kill or take the snakes, a single individual human can endanger an entire population, particularly if repeated hunting pressure is brought to bear over a number of years. This has happened to *Crotalus horridus* in other locations too, notably in New Hampshire (Taylor and Soha, 1992, and pers. com.) and in Minnesota (Keyler and Oldfield, 1992) where in each of these states *one* primary snake hunter accounted for the snake's decline and approach to extirpation.

In the northeastern states, Komarek, lacking permanent employment, uneducated, and with an outlaw mentality, has been able to cause severely reduced numbers in many populations of timber rattlesnakes. Over many years, Komarek has inflicted great damage on this species by relentlessly focusing most of his seasonal and daily energies on taking *Crotalus horridus*. Komarek is totally unconcerned about this, and in fact seems even to relish the idea of his power to exact a devastating toll on this species.

Two herpetologists who wrote to the U.S. Attorney in the Komarek case made telling points when they said:

I was amazed at his obsession and his attitude towards the state laws and his incorrect but perceived "right" to remove rattlesnakes from their dens and sell them for profit. I always try to be fair with people and not prejudge them based upon what others tell you about them, or listen to gossip, but Rudy seemed to live up to his reputation. He is set in his ways and brags of his ability to sneak onto a mountain and remove rattlesnakes. (Robert T. Zappalorti, 1 April 1993)

During my entire career, I've known Rudy Komarek through state biologists, conservation officers, fellow herpetologists, and through "leak" channels. I know him as a convicted felon, stolen telephone-credit-card user, commercial animal-dealer, endangered-wildlife smuggler, and a person whose declared mission in life is to deplete rattlesnake populations throughout the northeast and frustrate those who try to conserve them. (John L. Behler, 13 April 1993).

Humans Who Threaten Our Native Biota: Combating the Freedom to Exploit

In his famous essay on human overpopulation and exploitation of resources, "The Tragedy of the Commons," Garrett Hardin (1968) argues forcefully for limitations (coercion, mutually agreed upon) on personal freedoms when such freedoms are shown to be ruinous to the long-term survival of a renewable resource, such as a species. It is in society's best interest, he said, to restrict individual freedoms for the good of all and to prevent extinction of a resource once its replacement capacity has been exceeded.

Much of wildlife conservation is devoted to legal restrictions — shutting down an individual's freedom to exploit. Hardin (1968) uses an example of bank robbing to make this point: "The social arrangements that produce responsibility are arrangements that create coercion, of some sort. Consider bank robbing. The man who takes money from a bank acts as if the bank were a commons. How do we prevent such action? Certainly not by trying to control his behavior solely by a verbal appeal to his sense of responsibility...we insist that a bank is not a commons; we seek the definite social arrangements that will keep it from becoming a commons. That we thereby infringe on the freedom of would-be robbers we neither deny nor regret." So it is with wildlife poachers.

Our laws' role in protecting amphibians and reptiles susceptible to human taking must at least include strict penalties against the freedom to exploit these species for personal gain. Our economic system in which humans may freely "consume" living things by purchasing them maintains markets for exploiters. Komarek took what consumers wanted. Commercial businesses involved in buying amphibians and reptiles from collectors and those involved in selling wild-caught animals to consumers are fundamentally culpable.

USFWS Special Agent Charles Bepler supervised the investigation and had been well aware of Komarek's unlawful activities for a number of years. Bepler knew that among herpetological professionals and conservation officials throughout the northeast, Komarek had been something of a nightmarish legend and was widely despised. His total disdain for state and federal wildlife laws, ruthless harassment of researchers, and lack of sensitivity to the animals he removed from the wild were well known. As we acknowledge above, the Miami Serpentarium cooperated fully with the investigation, acting as a buyer in order to obtain evidence necessary to prosecute and convict the defendant.

Even after his release from federal prison late in October 1993, Komarek soon was calling persons and bragging about his exploits. In a telephone message taped on 4 November 1993 by R. T. Zappalorti, Komarek said: "Too bad I missed you, got a lot of info, got a lot of new places especially along some good bluffs along some rivers. Plus, saved a lot of money eating on taxpayers' expense. Gettin' ready to move south. 'Lot of places in Kentucky, 'lot of places in West Virginia, 'lot of places in Indiana. And Pennsylvania and New York State, western part. All to my knowledge now. Know it all."

We have argued that the malefactor described here has had an extremely harmful impact on timber rattlesnake populations in two northeastern states (New York and Massachusetts) and a harmful impact in two others (Connecticut and New Jersey). The timber rattlesnake may recover in some areas, but only very slowly (over a period of decades) and only if illicit collectors such as Komarek are prevented from further poaching. Although the immediate case of the federal government against the defendant has been concluded successfully with a felony conviction, the poacher himself, unfortunately, seems undeterred.

We urge all readers and conscientious, conservation-minded herpetologists to be vigilant. If you see Komarek (or others of his ilk) in the woods, notify your state conservation officer or other law enforcement personnel immediately. This nefarious hominid will, we predict, be hunting snakes again with the return of warm weather.

Literature Cited

- Brown, W. S. 1993. Biology, status, and management of the timber rattlesnake (*Crotalus horridus*): A guide for conservation. SSAR Herpetological Circular 22:1-78.
- Hardin, G. 1968. The tragedy of the commons. Science 162:1243-1248.

- Keyler, D. E., and B. L. Oldfield. 1992. Status of the timber rattlesnake (*Crotalus horridus*) in Minnesota. P. 7. In: T. F. Tynning, editor, Conservation of the timber rattlesnake in the Northeast. Lincoln, MA: Massachusetts Audubon Society.
- NYDEC (New York State Department of Environmental Conservation). 1983. Traffic in endangered species of fish and wildlife. New York State Register 5(6):7-9 (9 February 1983).
- Stechert, R. 1980. Observations on northeastern snake dens. Bull. New York Herpetol. Soc. 15:7-14.
- _____. 1981. Status of the timber rattlesnake (*Crotalus horridus*) populations in New York State. Unpublished Report to New York State Dept. of Environmental Conservation, Endangered Species Unit, Delmar, NY. 49 pp.
- _____. 1982. Historical depletion of timber rattlesnake colonies in New York State. Bull. New York Herpetol. Soc. 17:23-24.
- _____. 1992. Distribution and population status of *Crotalus horridus* in New York and northern New Jersey. P. 1. In: T. F. Tynning, editor, Conservation of the timber rattlesnake in the Northeast. Lincoln, MA: Massachusetts Audubon Society.
- Taylor, J. T., and A. Soha. 1992. The status of the timber rattlesnake in New Hampshire. P. 4. In: T. F. Tynning, editor, Conservation of the timber rattlesnake in the Northeast. Lincoln, MA: Massachusetts Audubon Society.
- Tynning, T. F., editor. 1992. Conservation of the timber rattlesnake in the Northeast. Lincoln, MA: Massachusetts Audubon Society. 40 pp.



Book Review: *The Care and Use of Amphibians, Reptiles and Fish in Research*
edited by Dorcas O. Schaeffer, D.V.M., M.S., Kevin M. Kleinow, D.V.M., Ph.D., and Lee Krulisch
1992. Scientists Center for Animal Welfare, Bethesda, MD.
[Available from the CHS Book Service]

Kathy Bricker
4914 Flint Drive
Bethesda, MD 20816

Most meeting attendees hope to carry home ideas and insights to share with colleagues who could not attend. This edited volume of conference papers will fill any gaps for participants at the April 1991 conference, "The Care and Use of Amphibians, Reptiles and Fish in Research." At the same time it provides valuable insights on care in captivity for all responsible herpetoculturists. Jointly sponsored by the Scientists Center for Animal Welfare and the Louisiana State University School of Veterinary Medicine, the gathering sought to advance knowledge of techniques with these lower vertebrates and encourage scientists to work more closely with private breeders and keepers.

In the introduction, David L. Huxsoll, D.V.M., Ph.D., promotes the three Rs of Reduction, Refinement, and Replacement: using as few animals as needed; improving methodology to reduce suffering; and developing ways to avoid using live animals. Since fewer mammals are being used, researchers increasingly will substitute other animals such as amphibians, reptiles and fish. Dr. Huxsoll foresees the day when lower vertebrates will receive the same scrutiny as "higher" animals.

The book's four sections cover "Regulations and Guidelines," "Amphibians," "Reptiles" and "Fish." First, Charles R. McCarthy, Ph.D., of the National Institutes of Health praises efforts to establish an accepted level of care. At present, the Public Health Service leaves much latitude for professional judgment. Since species' needs vary widely, Dr. McCarthy recommends self-policing within the research community, with control regulations kept as general and flexible as possible. F. Harvey Pough, Ph.D., explains that the 22,000 species of fish, 4,000 of amphibians and 6,000 of reptiles together make up nearly 70% of the species of living vertebrates. Whereas many generations of birds and mammals have bred in captivity under caged conditions, these amphibians and reptiles are basically wild animals likely to react adversely to captivity itself. Dr. Pough urges researchers to understand that these animals are ectotherms (so appropriate heat sources and choices must be offered), are small (needing high humidity), and are secretive (easily susceptible to stress). For instance, since too-frequent cleaning disrupts normal behavior by destroying pheromone smells, he recommends the "nose test" for cleaning cages.

So far relatively few lower vertebrates are used in research. James H. Wong, D.V.M., cites Canadian figures that in 1989 only 22,081 of two million animals used for research were amphibians or reptiles. Joseph T. Bielitzki, M.S., D.V.M., insists that all local permits and restrictions be meticulously obeyed. He also calls for full discussion of failures as well as

successes in laboratory husbandry.

In the amphibian section Robert G. Jaeger, Ph.D., reviews housing, handling, and nutrition of salamanders. Dr. Jaeger worries that collecting wild animals for research may exacerbate population declines, especially for species already at risk. He urges scientists to keep experimental animals healthy. Specific care ideas include changing one-third of the water of aquatic salamanders every two to three days to clear nitrogenous wastes.

Dudley D. Culley, Ph.D., details bullfrog research colonies. He teaches how to tell when female bullfrogs are ready to ovulate, flow-through guidelines for raising fertilized eggs, a diet to enable tadpoles to metamorphose in only eight weeks, and how regular cleaning of tadpole aquaria causes excess coelomic fat accumulation (it's best to clean at irregular times). Dr. Culley cautions that geographic origin of bullfrogs may influence their behavior, and describes nutritional diseases, anaesthesia and euthanasia.

Looking more generally at amphibian diseases, Graham J. Crawshaw, B.V.M., M.S., M.R.C.V.S., advocates close observation of healthy animals to provide a measure for determining when they are sick. He describes various problems, including infectious diseases caused by viruses, bacteria, and fungi, and the symptoms of nutritional deficiencies and parasites. James H. Johnson, D.V.M., points out how little is known about pain and its prevention in the lower vertebrates and discusses anaesthesia and euthanasia methods.

Roy W. McDiarmid, Ph.D., summarizes how amphibians can provide useful data, such as the importance to developmental biology of studying amphibian eggs. David E. Scott, M.S., discusses capture, handling, marking and measuring techniques. A reliable alternative to toe-clipping is sought: while this field identification method once located a 13-year-old mole salamander, in many species the clipped toes grow back too quickly to be useful markers over time.

Ronald A. Coulson, D.V.M., leads the section on reptiles with a short paper on metabolic rates and care of crocodylians. Neil B. Ford, Ph.D., superbly reviews captive care and handling of snakes, encouraging researchers to communicate with reptile breeders and obtain needed specimens from them. He explains that snakes have been used to study such varied problems as kidney function in vertebrates, reproductive endocrinology, the evolution of feeding and reproductive behavior, mechanisms of chemical perception, and the ecology of thermoregulation and defensive behavior.

Robert Mason, Robert Hoyt, Lewis Pannell, Edward Wellner and Bela Demeter describe a useful cage configuration for

arboreal reptiles: design the cage with a plate inserted horizontally, placing a branch in the top half. While the animal lies on this perch, one can clean the floor of the cage with minimal disturbance.

Especially excellent is "The Saurian Psyche Revisited: Lizards in Research" by Neil Greenberg, Ph.D. Besides detailed care instructions, Dr. Greenberg presents tables on attributes of suitable research species, reptilian needs, thermoregulatory strategies, aspects of sociability, hierarchy of research needs and ethical considerations in animal research. He promotes animal welfare (not animal rights), advocating research only for information that transcends the particular species. In an appendix on green anoles, Dr. Greenberg gives specific tips on this common research species, such as that anoles need very high humidity (60 to 85%) to reproduce and that loose sphagnum moss at the bottom of the cage encourages active foraging for crickets. He includes anaesthesia and euthanasia techniques.

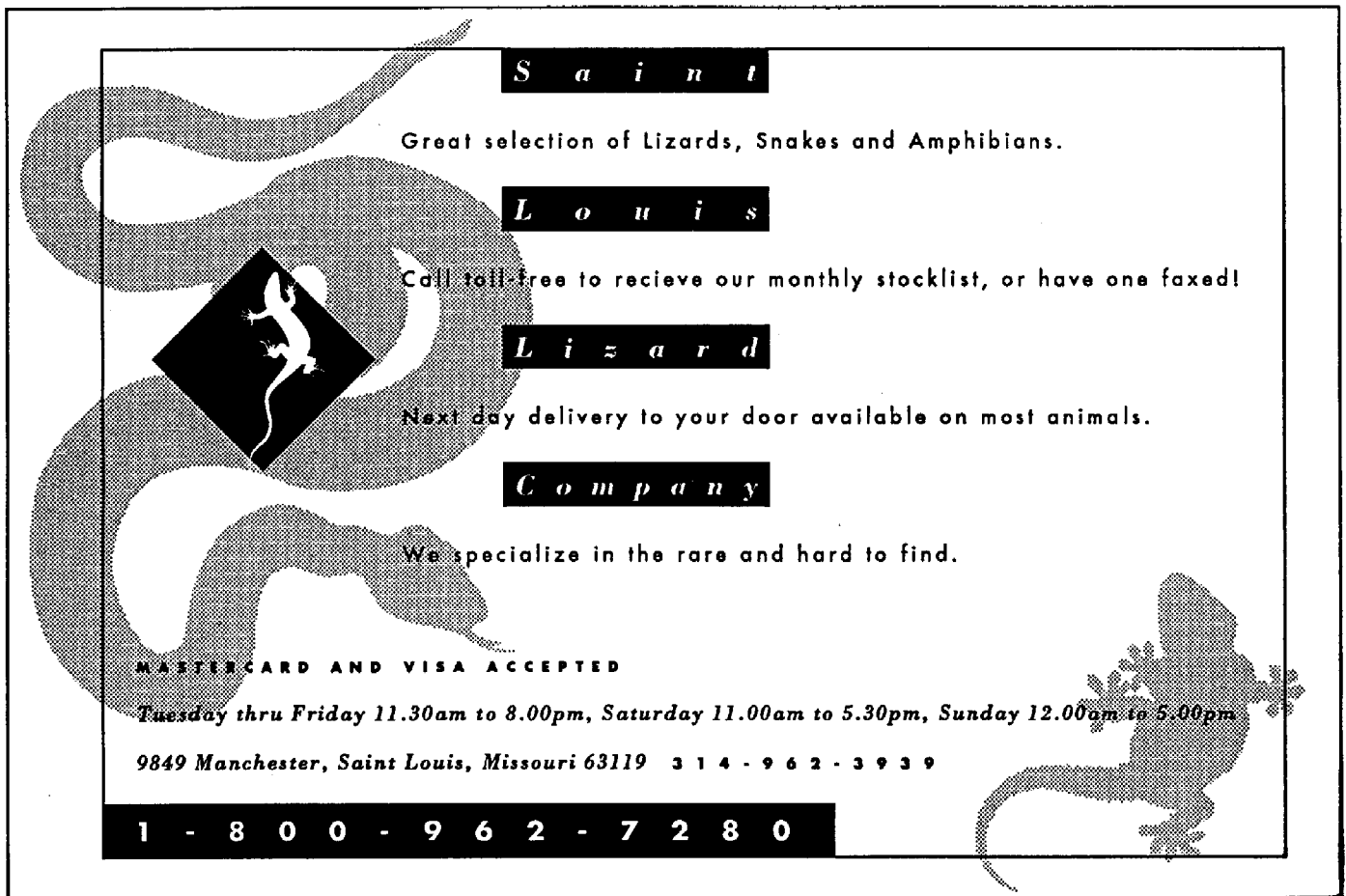
Joseph P. Flanagan, D.V.M., illustrates the need for this conference by citing a Houston hospital which keeps turtles in the refrigerator "until needed," then covers proper turtle housing and diet. Dorcas O. Schaeffer, D.V.M., M.S., dis-

cusses medicine and diseases of reptiles. Since sudden temperature changes can lower immune system efficiency, he strongly discourages cooling reptiles as a means of anaesthesia. Valentine A. Lance, Ph.D., discusses acute and chronic stress in reptiles. Some studies show that brief handling even of reptiles habituated to humans can cause dramatic hormonal changes.

Anton D. Tucker, M.S., addressing reptile field research, advocates covering pitfall traps to prevent desiccation. In the spirit of sharing failures as well as successes, Mr. Tucker reviews hurdles to developing lifetime tags for turtles.

The section on fish includes both commercially grown food fish and research animals. It cautions that all changes in water quality and even light and noise levels be made slowly. Transfer is always stressful, best done with aquatic traps with natural hiding places to minimize human handling. Although little is known about the perception of pain in fish, hypothermia or simple air suffocation make poor euthanasia techniques, since the brain can continue to function.

Each chapter lists extensive, valuable references. I highly recommend the entire volume to herpetoculturists caring for a variety of animals.



S a i n t

Great selection of Lizards, Snakes and Amphibians.

L o u i s

Call toll-free to receive our monthly stocklist, or have one faxed!

L i z a r d

Next day delivery to your door available on most animals.

C o m p a n y

We specialize in the rare and hard to find.

MASTERCARD AND VISA ACCEPTED

Tuesday thru Friday 11.30am to 8.00pm, Saturday 11.00am to 5.30pm, Sunday 12.00am to 5.00pm

9849 Manchester, Saint Louis, Missouri 63119 314-962-3939

1 - 8 0 0 - 9 6 2 - 7 2 8 0

Helpful Herp Hints

by Dennis Engler

In my January 1994 column [Helpful Herp Hints. Bull. Chicago Herp. Soc. 29(1):7], I wrote about the care given to a small Chaco tortoise. This month's column is a similar report on the care of an aquatic turtle with an apparent respiratory problem. I would like to encourage all members to contribute articles, ideas or suggestions of any length. This article was submitted by George A. Trey of Evanston, Illinois.

§

The occurrence of colds, which can easily lead to respiratory infections, in aquatic turtles is often caused by poor husbandry. Given this, I was quite surprised when a very healthy male aquatic turtle in my collection began to develop the initial symptoms of this malady early in December 1993. The usual causes are improper heat and insufficient quantities of vitamin C. In this particular case I believe that a vitamin deficiency was the cause.

Unlike other aquatic turtles that I keep, this particular specimen was reluctant to take fresh green matter. I didn't think much of it because the floating reptile sticks that I feed all my turtles contain a relatively good range of vitamins and minerals. There is a problem, however, with vitamin breakdown in such products. I learned recently that vitamin A is usually the first to degrade. Based on this information I surmised vitamin A deficiency to be the cause of the problem.

The initial symptom was matted eyes. I responded to this symptom by administering Turtle Eye Rinse, which served to temporarily unclog the turtle's eyes. By repeating this procedure on a daily basis, I was able to prevent the turtle from going off food. At this stage, however, I was not thinking in terms of vitamin A deficiency and did not take action to remedy that problem.

After approximately a week, the turtle's condition seemed to decline. It became lethargic, kept its eyes closed a great deal of the time and lost interest in food. I continued to use the eye rinse and also began to administer liquid reptile vitamins. My hesitancy to force-feed the turtles the vitamins was most likely a mistake at this stage. There is always a risk involved in forcibly opening the jaws of a small reptile. Injuries sustained by the animal could possibly do more harm than the treatment does good. So at this point I simply held the turtle upright and put vitamin drops around its mouth. It seemed to be taking in some of the liquid, so I continued with this for approximately a week.

The response was positive up to a point. There was a noticeable improvement in the condition of the eyes but the appetite remained poor and the turtle continued to behave lethargically. In addition to this I noticed that when floating in the water its posture was somewhat lopsided. This is the result of an imbalance in lung volume, which is in turn a sure sign of respiratory infection. Due to the seriousness of this condition, I felt it was worth the risk to begin force-feeding the liquid vitamins to ensure that the turtle was receiving sufficient quantities.

The technique that I used for this was crude but effective. Holding the turtle upright caused it to extend its neck. Once extended, the head could be gripped behind the jaws. From

there I pried open the mouth with my fingers and dropped in the liquid vitamins. I was able to do this by myself but the procedure would have been easier with assistance. The increased vitamin dosage brought about relatively rapid responses. The turtle began to move more ably and the eye condition all but disappeared. In my judgment, at this point, the primary problem that remained was getting the turtle back on food.

This problem had persisted for some time and the turtle was obviously becoming weak. My solution to this was to include an appetite stimulant (Tetra Terrafauna Stimulap—a concentrated liquid with vitamin B complex) with the daily vitamin dose. This was administered for a week with no noticeable effect. At the end of the week, however, the turtle began to take an interest in food again. Initially it ate cautiously, but within two days it was voraciously consuming anything that I put in the tank: goldfish pellets, reptile sticks and supplemented wax worms and crickets.

At this point I ceased administering liquid vitamins and began supplementing the live food with powdered vitamins. The turtle quickly regained strength and has made a full recovery.

In retrospect I feel that it might have been wiser for me to seek veterinary assistance when I became quite sure that the condition had degraded into a respiratory infection. I believe that I came perilously close to losing a very nice turtle. It's a difficult call with reptiles as the symptoms are often difficult to detect and equally difficult to interpret. In order to avoid a recurrence of this problem I have continued to supplement the turtle's diet with vitamin-coated live foods. This seems to be working quite nicely. I was informed throughout this process by the available literature on reptile disorders. I found this quite helpful and recommend that anyone dealing with a problem such as this consult a range of sources.

§

Thank you, George.

If you too would like to share a bit of knowledge that has helped you in taking care of herps, you can send it to: Chicago Herpetological Society, Helpful Herp Hints, 2001 N. Clark Street, Chicago IL 60614. Happy Herping!

Producing Quality Pythons, Boas, Tortoises and Other Select Reptiles

Send \$3.00 for price list, which includes all future lists, featuring several color photos.

DICK GOERGEN

P.O. Box 225
Alden, NY 14004
Tel: (716) 681-4518



HerPET-POURRI

by Ellin Beltz

What they meant was . . .

CHS member Gordon Rodda who has worked long and hard on the *Boiga irregularis* problem on Guam writes: "I couldn't help noticing the paragraph on Brown Tree Snakes in the February *Bulletin*. It is my understanding that the point being made about snake-sniffing dogs by [Vice President Albert] Gore's reinventing government committee was not that snake-sniffing dogs are a bad idea, but that it was unnecessary and undesirable for Congress to specify that exactly \$100,000 was to be spent on this task. Gore's group would prefer that Congress dictate goals (such as the protection of Hawaii's wildlife) and the Department of the Interior be given authority to decide whether snake-sniffing dogs deserve more or less than \$100,000. The controversy is over the relative power and specificity of the executive and legislative branches of government, rather than being a herpetological policy question. Gore's group did not argue that the dogs are a bad idea. Unfortunately, the issue was simplified in some of the media coverage."

Alleged toad smokers to fight charges

• Robert and Connie Lin Shepard, former residents of Angels Camp, California, and alleged toad venom smokers have engaged James Webster, an attorney from Sonora to defend them. Webster said, "If they (police) thought we could all get high on banana peels I guess we could all be arrested on that these days." He said he would ask the judge to dismiss the toad charge as legally defective since the toads, not the defendants, produced the hallucinogen. The lawyer also pointed out that the cacti which allegedly produce mescaline are the kind "you can buy at PayLess Drug Store." Webster said that he would like some of the charges to be dismissed and the remainder reduced to misdemeanors. The Tuolumne County judge postponed the Shepards' hearing until March 21, at which time Webster said his clients would plead not guilty. Police claim that in addition to the toads, they found LSD, mescaline-producing cacti, morphine and *Cannabis sativa*. "He's not just on this toad kick," one officer was quoted as saying. Until the arrest Mr. Shepard, 41, taught at a nature camp outside Sonora run by the local school district. Mrs. Shepard worked in a child-care center. Since their arrest, Mr. Shepard has been working at manual labor and Mrs. Shepard is unemployed; they have moved from the area. The toads will soon be moved to Steinhart Aquarium in San Francisco. [Sacramento, CA *Bee*, March 2, 1994, from Bruce Hannem]

• An opinion piece in the Phoenix, AZ *Gazette* from Tom Taylor of Tempe suggests that the drive for legalization of toad venom may be led by CROAK (Committee Reacting to Our Amphibian Kinships), GROSS (Group Recommending Organized Slime Sucking) and BARF (Biting Amphibians is Really Fun).

• Few media circuses have as many "legs" as this story has as it has hopped around the world. I think the number of clippings I have received is probably the most I have ever gotten for any amphibian story. Recent contributions in date order are: February 7, Phoenix, AZ *Gazette* from Tom Taylor; February 17, Albuquerque, NM *Journal* from James N. Stuart, Leesburg, FL *Daily Commercial* from Bill Burnett, New

Orleans, LA *Times-Picayune*, Baton Rouge, LA *The Advocate* both from Ernie Limer; February 20, *Chicago Tribune* from Rob Carmichael and Claus Sutor, *New York Times* from P. L. Beltz; February 22, Sandusky, OH *Register* from Matt Meade; and March 7 *The Wall Street Journal*, from Mike Zelenski.

More amphibians in the news

• After several years of reporting amphibian decline, the press really went overboard on the recent announcement that one study had linked disappearing frogs and an increase in ultraviolet-B rays due to a thinning ozone layer. Andrew Blaustein and John Hays of Oregon State University, in an article in the *Proceedings of the National Academy of Sciences* (March 1, 1994) report that ultraviolet radiation is killing the eggs of frogs in the Cascade mountains of the Pacific Northwest. In addition, they found that species in decline have a limited ability to repair damage from the ultraviolet radiation which causes change in their DNA or genetic coding molecule due to the absence of a protective enzyme. "Showing damage to an animal means there probably will be an effect on humans. So I think that it's very important that people listen to this warning signal," Blaustein said. One species studied, the Pacific tree frog [= Pacific chorus frog, *Pseudacris regilla*], was found to have six times as much of the enzyme as the other two species, the western toad (*Bufo boreas*) and the Cascades frog (*Rana cascadae*), both of which are in decline. [March 1, 1994, South Bend, IN *Tribune* from Garrett Kazmierski, Memphis, TN *Commercial Appeal* from Bill Burnett, *Chicago Tribune* from Claus Sutor, Phoenix, AZ *Gazette* from Tom Taylor, March 2 Orlando, FL *Sentinel* from Bill Burnett, and March 6 *Chicago Tribune* from P. L. Beltz]

• In the continuing story of conflict over the Houston toad (*Bufo houstonensis*) in Bastrop County, Texas, a recent report [*Elgin Courier*, February 16, 1994, from Bill Montgomery] states that a task force has been appointed to study the toads' impact on the county. A member of the commissioners' court said, "There are approximately 7,000 acres of public land available for the toad and I feel that is sufficient. This would eliminate the need for buying private land."

• The U.S. Fish and Wildlife Service has proposed that the California red-legged frog (*Rana aurora draytonii*) be considered for inclusion on the federal list of endangered species. The species has disappeared from 75 percent of its historic range as the result of the introduction of non-native competitive species—especially the bullfrog—as well as more familiar threats including agriculture, urbanization, water diversion and irrigation projects, livestock grazing and logging. The last red-legged frogs in the Sierra Nevada vanished after the 1987-1992 drought. [Sacramento, CA *Bee*, February 4, 1994, from Bruce Hannem]

• According to an AP report picked up by the Hammond, IN *Times* [March 12, 1994, from Philip Drageske], 300,000 toads get squashed every year on British roads. However, hundreds of volunteers at 500 sites around England are dedicated to helping the toads achieve their breeding ponds without significant flattening along the way. Mick Durant, co-founder of the

Surrey Wildlife Protection Group said, "You just need a bucket, a strong torch and to be very fast and dodge the traffic. You can get some very irate drivers." He's been toad-ally involved with the project for 11 years. He said, "I just went down the lane one day when it was wet and warm . . . and I saw all these poor little animals on the ground just splattered everywhere. I mean, I'm a builder, and builders are supposed to be strong. But driving home one night and seeing all the dead toads, I just sat in my car and cried."

- A salamander in the George Washington National Park is the first species to be protected under a new federal plan to keep species from becoming endangered. The Cow Knob salamander lives only on Shenandoah Mountain along the Virginia-West Virginia line. The new approach is an attempt to stabilize rare species and avoid controversies such as the spotted owl debacle of the Bush-Clinton campaign. The new agreement limits logging and certain other human activities as well as seeking more research into the elusive animal's habits. CHS member and University of Richmond ecologist Joseph C. Mitchell said that the agreement is "the first of its kind and is likely to become the model for the rest of the country." [Richmond, VA *Times-Dispatch*, January 26, 1994 from Mr. Laverne A. Copeland]

Yucky stuff

- On March 19 Burhop's Seafood at Plaza Del Lago, 1515 Sheridan Road, Wilmette IL 60091, presented a cooking demonstration for alligator balls, turtle gumbo, and frog legs Provençal. This lovely item was reported by Lezli Bitterman in her Chicago *Sun-Times* "Bits and Pieces" column [March 3, from Steve Spitzer], 401 N. Wabash, Chicago IL 60611.
- A Hanover, Ontario, man has been jailed for 90 days for one count of cruelty to animals after firefighters found a two-day-old piglet in the corner of a tank in which an alligator was regularly kept. The man had rescued the gator when the fire started, but left the food item behind. The mammal was later destroyed and the alligator has since died. [Hamilton, Ontario, Canada *Spectator*, February 10, 1994] Contributor Brian Bankowski wrote: "There's no reason generally for use of live foods and this article just proves it! What we don't need is this kind of negative publicity making herpers look like a gang of sadistic perverts."

See you later, alligator?

- Yolo County Animal Control confiscated a 5-foot caiman from a Phi Delta Theta fraternity house at University of California, Davis. The brothers reportedly had two caimans, but had let the other one go at an undetermined location when it got too big. Keeping caimans is illegal in the state, whether in an "animal house" or not. [Sacramento, CA *Bee*, January 1, 1994, from Bruce Hannem]
- Alice, the alligator who was removed from her loving family after a 42-year uneventful residence in a house, was "pardoned" by Illinois Governor Jim Edgar after massive radio publicity embarrassed the Department of Agriculture. The "ag-guys" decided that under the law Alice was a life-threatening reptile, so as Pearl and Mel ("Swede") Pedersen looked on helplessly they scooped her into a bag and carried her away. The governor said it shouldn't have happened,

"Those people should be allowed to keep their pet. Forty-two years is a good track record of not being dangerous." Ever since they got her as a 10-inch baby, the alligator had been part of the family. Alice took bubble baths with the four Pedersen children, then joined them in the shower as they grew. She took long naps by the water heater and snuggled into bed with Mrs. Pedersen. Alice begged table scraps by sitting up on her tail and was housebroken, doing her duty in a bathtub partially filled with water. The Pedersens have decided that Alice should go to a zoo and are working on plans to send her to a facility run by John Mellyn near San Antonio, Texas. Meanwhile, Alice is on display in a Wauconda pet shop. It's not that the Pedersens don't want her back, but as 77-year-old Swede said, "Alice was going to outlive us. We needed to find a good home for her." [Chicago *Tribune*, March 13, 1994, from K. S. Mierzwa]

- An alligator briefly occupied the East Room of the White House during the presidency of John Quincy Adams. [*National Enquirer*, February 15, 1994]
- Winston, the three-legged alligator, was freed from a St. Petersburg, Florida, drainpipe in which he had been stuck for more than a week. City workers removed a grate and a trapper moved the 7' 3" critter to Alligator Lake near Safety Harbor. Residents of a condo complex had petitioned the mayor of the town to free the gator: "[he] has committed no crime other than making a critical wrong turn on his journey through life." [December 31, 1993, Leesburg, FL *Daily Commercial* and Orlando *Sentinel*, from Bill Burnett]

Snake stories

- Two Maryland mechanics turned snake charmers to coax a python from a car after a high school student lost it while returning from his girlfriend's house the night before. Monty the Python (how original!) had escaped from a knotted pillowcase, then worked his way into a heating vent and wrapped himself around the steering column. It cost the student \$125 to have his dashboard in and out to get the snake free. [Havre de Grace, MD *Record*, February 25, 1994, from Mark Witwer]
- A 3-foot boa escaped into the auto of its owner, an AP writer relocating from New York to New Orleans. The writer had put the snake in a zippered duffel bag in the front seat. After a rest stop in Georgia, she noticed that the bag was unzipped about half an inch and "Emmeline" was gone. A mechanic checked the instrument panel and found that the snake had broken both the speedometer and odometer. The writer was later able to extricate Emmeline somewhere in Mississippi. Incidentally, the AAA does not send out mechanics to get snakes out of dashboards. [Pittsburgh, PA *Tribune Review*, March 6, 1994, no name but greatly appreciated!]
- A Chesterfield County, Virginia, man was bitten by his pet cobra (yes, another one) and will now face charges of violating the county's wild and exotic animal ordinance. The snake was destroyed. [Richmond, VA *Times-Dispatch*, January 25, 1994 from Mr. Laverne A. Copeland]
- NASA will use snakes in a study of how blood circulatory systems work. It is not a frivolous question for a space agency; blood circulation problems are a plague for astronauts. Without gravity, bodies seem to be unable to prevent blood

from spilling downward. Returning astronauts faint when they try to stand up. Thirty tree-climbing yellow rat snakes in long skinny tubes will be spun on a centrifuge to simulate gravity loading at the California space laboratory. In addition, researchers are writing a proposal to fly the snakes on a shuttle mission and monitor their blood flow in microgravity. [Sacramento, CA *Bee*, February 28, 1994, from Bruce Hannem]

- Neighbors of Mark Bell's proposed snake farm in the Golden Gate Estates in Collier County, Florida, have begun a legal suit against the land owners and the county to try to stop the project. The lawsuit seeks to have the building permits granted to Bell revoked contending that county zoning laws do not permit a snake farm in that particular neighborhood. According to the January 4, 1994, *Bonita News-Press* [from Alan Rigerman] Bell expressed bewilderment about his neighbors attitudes during a public hearing. He said, "I don't know what all the fuss is about."

Tortoise issues

- Gopher tortoises have stopped a 52-unit farm-labor housing development in Sebring, Florida. Well, actually it was a law that stopped the development until the tortoises (*Gopherus polyphemus*) are either relocated or a \$28,000 mitigation fee is paid into the Florida Game and Fresh Water Fish Commission Trust Fund. [Leesburg, FL *Daily Commercial*, December 23, 1993, from Bill Burnett]

- The federal government announced that it plans to designate 6.4 million acres of desert as critical habitat for the desert tortoise (*Gopherus agassizii*). Included in the area is a proposed nuclear dump site in Ward Valley. The move is opposed by (is anyone surprised?) the California Cattlemen's Association, mining groups, off-road vehicle users and real estate developers. The whole process had been a tightrope walk between special interest groups, the government and the tortoises. Certain areas were placed in, then out, of the protected zone. In the end, even the Fish and Wildlife Service knew the compromise was less than perfect. David Klinger a press liaison officer with FWS said, "Critical habitat doesn't prohibit anything . . . [but] it could have the effect of limiting a certain project . . . Since 1979 there have been 118,000 consultations regarding proposed activities within areas designated as critical habitat. Only 33 projects were halted." [Las Vegas *Review-Journal*, February 8, 1994, from Bob Pierson, *The Wall Street Journal* February 9, and Chicago *Sun-Times* February 10, from M. A. Dloogatch]

- Meanwhile, a plan being considered by the Steering Committee of Clark County, Nevada, would permit land developers to kill desert tortoises by grading property, and permit authorities to kill them by lethal injection "if all relocation options are exhausted." If this plan is approved, it will still require the approval of FWS. Chris Brown, the southern Nevada director of Citizen Alert, said at a public meeting that the 30-year plan being considered by the county's Desert Tortoise Steering Committee leans more toward satisfying developers than it does toward preserving the wild environment of tortoises. [Las Vegas *Review-Journal*, February 10, 12 and 15, from Bob Pierson]

- A rather snotty British opinion piece by A. A. Gill [*Sunday Times* of London, February 13, from R. J. Olsen] makes fun

of the acreage set aside in a feeble attempt to protect the desert tortoise: "The tortoise sanctuary, stretching across California, Utah and Nevada is 6.5 million acres. That's the same size as Great Britain. Land's End to John o' Groats with nothing in it but tortoises. Imagine taking the kids to see the nature reserve." "America is down to its last 2 million [tortoises]. Now you and I might well think that 2m tortoises was an embarrassment, a veritable plethora, a plague, even." In my opinion, Gill is just jealous that we colonials can set aside an area as big as his whole country for anything, let alone tortoises.

CHS member's snakes stolen!

Thomas Moxley, the Bartlett, Tennessee, Animal Control Officer, had 26 of his snakes stolen in a burglary in the early hours of February 25, according to a report in the *Bartlett Express* [March 10, 1994, from Bill Burnett]. Moxley said, "These were 'snake people' all right, they knew exactly which ones to take." Stolen animals include tricolor bullsnakes and several albinos. The total financial loss to Moxley could be more than \$1,800 not counting lost offspring since the snakes stolen were his breeders.

I want one too

A new auto ornament from the U.S. Southwest is apparently exciting a lot of comment. Shaped like the ubiquitous fish symbol found on the back of fundamentalist Christian vehicles, but with legs and the word "Darwin" inside, it is intended as a tongue-in-cheek reminder that not everyone is a Creationist these days. They're manufactured by Evolution Design, a one-woman Austin, Texas, company that does not advertise. The designer, Chris Gilman, had the idea about a decade ago, but only made the prototype in 1989. He said that the effect was immediate: "People would honk their horn and I'd think, uh-oh. But they'd be yelling, 'That fish! Where did you get it?'" [*The Wall Street Journal*, February 2, 1994, from J. H. Schoenfelder] For a big laugh, type "Creationist" and see what your spell-checking program offers as a replacement!

The taxman cometh

Herpetologists of Illinois can make a positive contribution to the fauna of the state by putting a donation on line 15a of their IL-1040 state income tax form. Your gift will support the Illinois Wildlife Preservation Fund. Last year, \$170,000 was raised and the fund has provided more than \$2 million for conservation since 1984. In addition, the fund is the primary source of money for the Division of Natural Heritage, Illinois Department of Conservation. Your accountant can advise you on the tax-deductible nature of this contribution. [*WaterShedd*, March 1994, from Karen Furnweger]

Next month — lots of turtles! Due to the overwhelming volume of contributions this month, I ran over my usual length and have many nifty turtle tales to share. Do not stop sending clippings just because we have a one-month surplus! Contribute by sending clippings with the date and publication slug firmly attached with your name to: Ellin Beltz, 1647 N. Clybourn Avenue, Chicago, IL 60614-5507. Letters, cards and photos are appreciated and will be acknowledged. Additional contributors this month are: J. H. Schoenfelder, Ernie Liner, Mark Witwer, J. N. Stuart, P. L. Beltz, and Bob Pierson. Thanks to everyone who contributed!

NEWTLINE

Hard core herpetologists made their way in four-wheel-drive vehicles through the heavy snowfall and subfreezing temperatures to the February 23, 1994, meeting of the Chicago Herpetological Society. Understandably, many were forced to remain in hibernation.



President **Marcia Rybak** welcomed us and predicted that, with such a small turnout, raffle prizes could easily be won as there were more prizes than attendees. **Ron Humbert** announced that the annual CHS Salamander Walk would take place on April 10. Due to the Boy Scouts having not renewed their lease on Camp Kiwanis, we will not be able to meet there this year. This year's meeting place will be announced at the March meeting. Adoption Chairperson **Ben Entwisle** reported that he has many animals awaiting adoption. Interested members were told to leave their names and any specific requests with him during the break. Membership Secretary **Steve Spitzer** reported that there are 1,918 members.

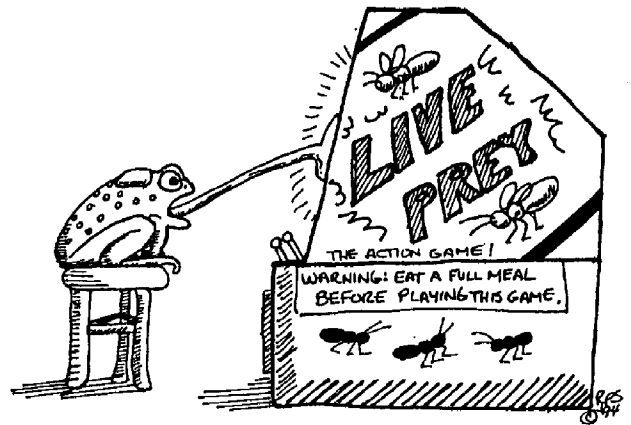
Marcia Rybak presented sign-up sheets for the CHS Expo to be held June 4-5 at Triton College in River Grove, Illinois. She announced that \$100 cash prizes would be awarded for the best animal, best display, most unusual animal, and largest number of species displayed by a single member. The Expo committee is calling for an educational poster session. The Expo also plans to feature an educational display exhibit on the husbandry of feeder crickets.

Unfortunately, due to merchandiser **Joan Moore's** absence, there was no merchandise for sale. Even more unfortunate was the absence of the library cart. **Lisa Koester** explained that Joan had the only key to the storage room.

Following a slight break, the featured speaker, **Nicholas Roster**, a graduate student at Central Michigan University, presented his program on the feeding response of frogs and toads under controlled situations using a video simulator.

The presentation began with slides of the eyes of frogs and toads. A common thread among amphibians is their very large eyes, useful for detecting prey. The amphibian retina is similar to the human retina but it lacks a pit (the fovea centralis) which enables fine focus. In simple terms, if the prey isn't moving, they don't see it. We learned of four categories of receptor cells in the frog's retina, red-sensitive rods, green-sensitive rods, single cones and double cones. For those unfamiliar with ophthalmological studies, this means that frogs absorb different wavelengths of light and can see in color. Using a laser pointer, Mr. Roster explained the concepts of sustained edge detection, convex edge detection, changing contrast detection, dimming detection and darkness detection, all of which play a part in the anuran visual system.

Mr. Roster conducted experiments in frog vision using animated 3-dimensional geometric shapes, small cylinders and live prey images. His questions, "Do frogs and toads respond to video images?" and "What are the best stimuli?" were answered through the help of a Commodore Amiga 3000 computer. A photo of a live cricket was enhanced through color animation. This 3-dimensional graphic was then downloaded to a Macintosh computer and transferred to video. The result was an animated lifelike 3-D cricket with actual shadows. The video was presented to 30 specimens of American toad, southern toad, green frog and leopard frog on a tiny Sony Watchman television. Viewing video from a separate camera, we were able to see an American toad and green frog lurch toward the cricket on the Sony Watchman. While both could clearly see the image, the responses were different. The frog attacked that the image with its face, while the toad relied on its tongue to snap at the glass screen. When the image was moved off the screen, the toad hopped to the side of the unit to see where the cricket had gone.



This method could be valuable for an array of species. This nonfatal experiment allows for a controlled environment where a species may be tested for behavioral and morphological responses.

Mr. Roster plans to conduct future experiments on feeding response by moving the stimulus to different areas of the screen, by changing the behavior of the stimulus, and by changing the morphology of the stimulus (perhaps a plaid cricket).

While the captive frogs and toads in the experiment were fed a diet of live crickets, Nicholas believed that they might go for "a video of a guy on a unicycle juggling hams — if it was small enough, they probably would attack it."

We suggested that Nicholas submit his video to the television program America's Funniest Home Videos. Perhaps his winnings could fund future versions or visions of this amazing study.

We stay in touch, so you stay in touch.

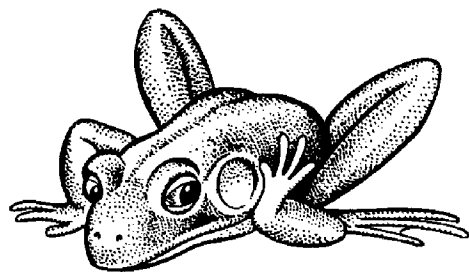
Respectfully yours,

NEWT

The Tympanum

A LETTER FROM THE CHS PRESIDENT

Have you heard about the Chicago Herpetological Society's Live Reptile and Amphibian Expo that will be held June 4-5 at Triton College? If not, there are two inserts in this month's *Bulletin* that can help you to learn about the Expo and become a participant.



Your Expo committee has put in long hours, dotting every "i" and crossing every "t," to insure that this event is a success. The only part left is the contribution you can make. In the remainder of this letter I want to outline the steps each of you can take to make our Expo the premier herp-related educational event in the Midwest.

- 1) Look at the enclosed flyer and make note of the date, hours and location of the Expo.
- 2) Ask your local pet shop, school, veterinarian or grocery store to display the flyer in a window or on a bulletin board. Additional flyers can be obtained at the general meetings or by requesting them from a board member.
- 3) Complete the exhibitor application, volunteering to display as many different species as you can. This is probably the most important contribution you can make to the Expo. In order to help you display your herps, we are coordinating transportation and additional display cages for those who need them.
- 4) Volunteer to help out whether or not you are bringing animals. The Expo is a big event. Volunteers are needed at the raffle booth, the photo booth, the information booth, the consumer corner, the membership table and to help out with admissions and security.
- 5) Attend the Expo and bring your family and friends.

The CHS is providing its own security staff to watch animals and people, since many of us will not be able to sit with our herps. We are even having security staff members sleep overnight in the hall itself to insure that all animals staying overnight will feel secure too. As a reward for this unselfish act, the security staff will be provided with custom-made red T-shirts imprinted with the word "MONITOR" and a picture of the appropriate lizard.

Exhibitors will automatically be entered in a contest. There are four categories with a cash prize of \$100 for the winner in each. The four categories are best herp, best display most unusual specimen, and most different species shown by one exhibitor. Be a winner and be an exhibitor! **Marcia Rybak**

With a Little Help from Our Friends

Care in Captivity, the publication issued by CHS, is in the process of being revised and updated. Input from interested reptilians and/or their primary care-givers will be welcomed

and carefully considered.

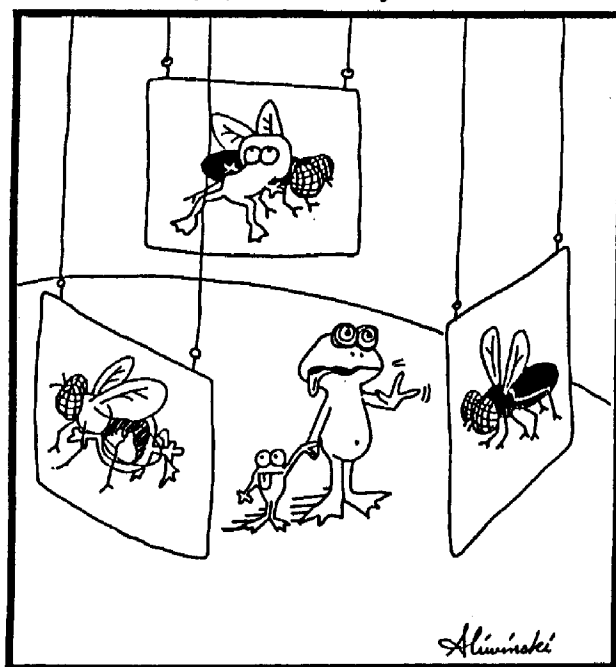
Items of interest or innovative material regarding the maintenance of reptiles and amphibians will most certainly be reviewed for inclusion in the reworked presentation of this booklet. **SHARE WITH US.** Experience is truly the best teacher.

Please send any and all information to **Marlene Golin**, 3 Timberleaf Lane, Riverwoods IL 60015, or call (708) 945-4346.

This month's "HerPET-POURRI" features a section entitled "Yucky Stuff," in which columnist Ellin Beltz mentions a *Chicago Sun-Times* column describing a cooking demonstration at Burhop's Seafood, Plaza Del Lago, Wilmette, Illinois, that featured recipes for items such as alligator balls, turtle gumbo and frog legs Provençal. Ms. Beltz refers to the *Sun-Times* article as "this lovely item."

It always amazes me that herpetoculturists are so appalled by the use as food items of reptiles and amphibians. These same people walk right into a grocery store and purchase a slab of cow or pig wrapped in cellophane without a second thought, and probably wouldn't bat an eye over delicacies such as pheasant under glass or wild venison, both of which are often found on the menus of fashionable restaurants around town. The food animals used in the Burhop's cooking demonstration are not endangered species, and probably are killed in a more humane manner than are cows and pigs in most meat-processing plants. What's the problem? Just wondering, **Jill Horwich**, 1618 W. Cornelia Avenue, Chicago IL 60657.

TIME—OUT © '93 By: Robert Silwinski



The Frog Museum of Holographic Art

Herpetology 1994

In this column the editorial staff presents short abstracts of herpetological articles we have found of interest. This is not an attempt to summarize all of the research papers being published; it is an attempt to increase the reader's awareness of what herpetologists have been doing and publishing. The editors assume full responsibility for any errors or misleading statements. JCM

HATCHLING TURTLE DEFENSE MECHANISMS

C. A. Britson and W. H. N. Gutzke [1993, Copeia 2:435-440] note that populations of hatchling turtles are assumed to be under intense predation pressure until the individuals reach a size where they can no longer be taken by gape-limited predatory fish. This assumption is based solely on the physical capability of adult fish to engulf hatchlings and their co-occurrence with turtles in many habitats. It would appear that opportunistic feeders would take advantage of an influx of hatchlings upon emergence from a nest. However, there are only incidental accounts (unpublished) of hatchlings found in stomach contents of predatory freshwater fish. Apparently hatchlings possess an effective, but previously undetermined antipredator mechanism. Using largemouth bass (*Micropterus salmoides*) as a model predator, the objective of this experiment was to identify the mechanism(s) (taste, morphology or behavior) used by hatchling turtles to avoid predation. Six experimental food treatments (ground internal organs and meat, ground shell and skin, ground whole turtle, dead hatchlings, anesthetized hatchlings, and active hatchlings) from two turtle species, the red-eared slider (*Trachemys scripta*) and painted turtle (*Chrysemys picta*), and one control (ground fish cubes) were randomly presented to individually housed bass. Fish ate all treatments except active hatchlings which were attacked but subsequently egested unharmed. The authors came to the conclusion that hatchling behavior (e.g., clawing, biting, etc., which may be harmful to the gill apparatus or digestive tract of bass) provides defense against predation. Through the course of the experiment, bass also exhibited learned avoidance of hatchlings. These fish may be associating the bright plastral colors and patterns common in these hatchlings with the behavior of the turtle. This is the first reported case of the "noxious" aspect of aposematic prey being associated with a behavioral rather than a chemical or a morphological defense.

THE LARGEST FLATBACK TURTLE ROOKERY

C. J. Limpus et al. [1993, Mem. Queensland Mus. 33(1):277-289] report Crab Island in the northeastern Gulf of Carpentaria supports the largest nesting population of the endemic Australian flatback sea turtles, *Natator depressus*, and a low density of nesting *Eretmochelys imbricata*. The reproductive status of the flatback turtle at Crab Island is reassessed after 12 years by a survey conducted in July 1991. *N. depressus* hatchling productivity from the island continues to be high. The characteristic small size of nesting females and egg diameters of *N. depressus* suggest the population is a different breeding unit from the southern Great Barrier Reef. The feeding areas supplying turtles to the Crab Island rookeries extend as far north as southern Irian Jaya.

WATER UPTAKE IN THE AUSTRALIAN DESERT-DWELLING THORNY DEVIL LIZARD

P. Withers [1993, J. Herpetology 27(3):265-270] describes the skin of the thorny devil, *Moloch horridus*, as readily absorbing water like "blotting paper." The volume of water held in the cutaneous capillary system is about 3.7% of the body mass. Water is conveyed to the mouth by the cutaneous capillary system, where it is imbibed. The low permeability of the skin to evaporative water loss and lack of dyed water absorption suggests that there is not any transcutaneous water absorption across the skin itself. Intercellular channels about 5-50 μm wide, and an overlapping shelf around the edges of the scales that forms a sub-scalar channel, appear to be the primary cutaneous surface features that are responsible for the "blotting-paper" action of the skin. The capillary head is not consistent with the inter-scalar capillarity channel dimension of about 5-50 μm , but to about 220 μm . One ecological role of the "blotting paper" skin of the thorny devil is clearly the direct uptake of rain that falls on the skin or from puddles. In addition, the cutaneous capillary system of the thorny devil enables water absorption from moist sand.

MORE ON DRINKING IN THORNY DEVILS

W. C. Sherbrooke [1993, J. Herpetology 27(3):270-275] reports that during natural and simulated rainfall, *Moloch horridus* uses the cutaneous surface of the integument as a water-harvesting system to capture rainwater for drinking. Circumstantial behavioral evidence, in combination with experimental studies (Withers, 1993), suggests that the capillary, interscalar, water-transport system of *Moloch* is also used to absorb water for drinking from rain-moistened substrates. Lizards rub their venters against wet substrates and dig sand onto their backs. This is a previously unreported behavior for water acquisition by lizards inhabiting arid regions. No stereotypic behavioral stance for rain harvesting, as seen in *Phrynocephalus helioscopus* and *Phrynosoma cornutum*, is observed in *Moloch horridus*.

BEACH-FORAGING LIZARDS

M. Heisig [1993, Salamandra 29(1):65-81] observes a population of the lizard *Tropidurus atacamensis* on the Isle of Santa Maria off the desert coast of northern Chile. The omnivorous species fed in the supra-littoral zone on marine algae, crustaceans, molluscs and insects. Activity during the day depended on soil temperature; at temperatures above 22°C all animals were active. Males are territorial, defending females and foraging areas. The size of the territory was related to the size of the harem, which ranged from 1 to 10 females. Juveniles preferred living on the beach while adults preferred rocks near the shorelines.

Unofficial Minutes of the CHS Board Meeting, March 18, 1994

The meeting was called to order by President Marcia Rybak at 8:09 P.M. Board members Mike Dloogatch, Gary Fogel, Tony Rattin, Jack Schoenfelder and Claus Sutor were absent.

Officers' Reports:

The minutes of the February board meeting were read and approved.

Treasury: There is approximately \$28,000 in the CHS treasury.

Membership: There are currently 1,874 CHS members.

Standing Committee Reports:

Shows: Tower Productions' Chicagoland Family Pet Show, at which the CHS will have two booths, is scheduled for March 25-27.

Budget: There was no budget report.

Taxes: There was no report on taxes.

Monthly Raffle: The February raffle netted \$125.

Expo: Marcia Rybak displayed samples of the three flyers that will be used to promote the Expo, one designed by Don Wheeler and two by Bob Hilger. The Expo committee is busy working on publicity and fund-raising. All CHS members are encouraged to participate by exhibiting animals at the Expo, June 4-5.

Adoptions: Ben Entwisle handed out a report on the past month's adoption activity.

Old Business:

Show Contracts: Jill Horwich presented a supply of CHS Show Contracts and Single-Person CHS Representative Show Contracts for use at all exhibits and shows done by or in the name of the CHS. CHS members who need these forms should call Jill Horwich or Mike Dloogatch.

NHA: Mike Dloogatch, Marcia Rybak and Jill Horwich

attended the organizational meeting of the National Herpetological Alliance in Dallas, February 19-20. The Alliance's goals are (1) to lobby for reasonable regulatory legislation regarding the captive maintenance, breeding and selling of herptiles, and (2) to set an example for responsible herpetoculture. Marcia Rybak was elected to serve as Secretary of the NHA, and Mike Dloogatch was elected to serve as Treasurer. Jill Horwich was asked to write a press release/memorandum of the meeting.

Kemp's ridley: Jill Horwich has sent a letter to the House Committee on the Environment, expressing the CHS's qualified support for continuing the National Marine Fisheries Service headstarting program, but emphasizing the need for stricter enforcement of existing TED regulations.

Director of Sales' Report:

Software: Marcia Rybak and Joan Moore have reviewed a variety of software packages and recommend Booklog. This software can be operated using existing CHS equipment, thereby making last month's \$1500 allocation for an upgrade unnecessary. Jill Horwich moved and Jim Gaspar seconded that the CHS allocate \$2500 to purchase the basic Booklog package together with its Book Fair module. The motion passed unanimously.

Inventory: The Director of Sales has not completed an inventory of all merchandise currently owned by the CHS, and has decided not to publish any book lists until such inventory is completed and computerized.

New Business:

The CHS has received a suggestion from the Victorian Herpetological Society in Australia that the CHS and the VHS become "sister-societies." Marcia Rybak will investigate this possibility.

The meeting adjourned at 9:30 P.M.

Respectfully submitted, Jill Horwich, Recording Secretary



SERPENT CITY, INC.
SNAKE HUSBANDRY SINCE 1968



- **DISPOSABLE REPTILE CAGE LINERS**
 - State-of-the-Art Cage Sanitation
 - Huge labor savings over newspapers or wood shavings
 - 100% biodegradable
 - safe, non-toxic, no dyes
- **FLEXWATT HEAT TAPE**

- **CAPTIVE-BRED SNAKES**
 - 30-day guarantee
- **FROZEN FEEDER RODENTS**
- **HUSBANDRY EQUIPMENT**
- **CALL OR SEND S.A.S.E. FOR FREE 1994 CATALOG**

SCOTT J. MICHAELS, DVM
P.O. Box 657 • Island Lake, IL 60042 USA • 815-363-0290



THE GOURMET RODENT

RATS AND MICE FOR YOUR HERPS

BILL BRANT
6115 SW 137th Ave.
ARCHER, FL 32618
(904) 495-9024

Advertisements

Accrue more herpetological knowledge: Connect with your peers throughout North America and abroad. The HERPETOLOGY ONLINE NETWORK is active 24 hours/day. Any computer modem can access Herp-Net via (215) 464-3562 (300-1200 baud 8-N-1) or (215) 698-1905 (9600+ V32, V42bis.) Submit news via FAX: (215) 464-3561 any time.

Attention: \$50 cash for the best reptile bumper sticker slogan. Write for specific details. Jim Hatfield, P.O. Box 102, Lake Oswego OR 97034-0014.

Attention: the Varanid Information eXchange is a society of herpetoculturists sharing an interest in MONITOR LIZARDS. Members receive the bimonthly newsletter, *VaraNews*. Annual membership is: U.S., \$10; foreign, \$12 surface/\$15 air. For a free copy, send a legal-size SASE to: Varanix, 8726D S. Sepulveda Boulevard, #243, Los Angeles CA 90045.

Fauna classifieds: monthly classified publication for reptiles, amphibians, food items & supplies, literature and more. Excellent information source, worldwide circulation. Subscription \$14/year. Free sample & info. Write: FAUNA, 2379 Maggio Circle Unit C, Lodi CA 95240.

For sale: *WILLARD'S RODENT RANCH*—tell 'em Ben sent ya! Live or fresh-frozen mice and rats—mice; pinks to hoppers \$.35 each or 3/\$1.00; weanlings to adults \$.50 each; jumbos \$.75 each—rats; pinkies to chubbies \$.50 each; fuzzies \$1.00 each; small \$1.50 each; medium \$2.25 each; large \$3.00 each; jumbo \$4.00 each. Discounts available on large one-time orders. Prices subject to change without notice, availability may vary. Pick-up or delivery at the CHS meeting, shipping available for large frozen orders. Contact Mike Miller (days) at (708) 974-2600.

For sale: **HIGH QUALITY FEEDER ANIMALS PRODUCED FROM THE BEST LAB DIETS AVAILABLE.** Tenth year of production and supply of frozen feeder animals. All feeders can be removed one at a time from the bag; they are not frozen together. All orders **will arrive frozen.** Now offering seven sizes of mice: small newborn pinks, medium size pinks, large fuzzy pinks, extra large fuzzies/small hoppers, juvenile mice, young adults, and large adults. Also available are pinkie rats, baby chicks, and quail chicks. Orders sent special delivery, postage extra. **Free pricelist.** Kelly Haller, 4236 SE 25th Street, Topeka KS 66605, (913) 234-3358, after 6 P.M. Central Time on weekdays, all day Saturday and Sunday.

For sale: *THE GOURMET RODENT*: rats and mice—pinkies, fuzzies and adults. Quantity discounts. Please send a SASE for pricelist or call Bill Brant, 6115 SW 137th Avenue, Archer FL 32618, (904) 495-9024.

For sale: top quality mice, rats and Chinese dwarf hamsters. All sizes at competitive prices. Gary W. Allison, 919 Wyandotte Street, Bethlehem PA 18015, (215) 974-8975.

For sale: murine-pathogen-free rats and mice available in all sizes, live or frozen: pinkies, fuzzies, crawlers, small, medium and large. Frozen crawler mice in lots of 2000, \$.17 each. Also available, full grown hairless mice. FOB shipping point. Master Card accepted. Call (518) 537-2000 between 8:00 A.M. and 5:00 P.M. or write SAS Corporation, 273 Hover Avenue, Germantown NY 12526 for prices and additional information.

For sale: high quality feeder mice. Shipped UPS Next Day Air. All mice are properly processed to insure a quality product. Fourth year of production and supply of frozen feeder mice. Prices: pinks, \$25/100; fuzzies, \$30/100; weanlings, \$35/100. Also available are 4 oz. + rats, \$100/100. Quantity discounts available. The Mouse Factory, P.O. Box 85, Alpine TX 79831, (915) 837-7100, Ray Queen.

For sale: rodents and reptiles, Dallas-Ft. Worth Metroplex. J.R.'s Cowtown Critters, 1002 Harrison Avenue, Arlington TX 76011, (817) 460-RATS.

For sale: live or frozen feeder mice and rats, all sizes available, from pinkies to adults. Quantity discounts. Lowe Labs, (708) 749-RATS.

For sale: Pearlico ceramic heating elements, come in 60w, 100w and 150w, \$25 each or 2/\$48 plus shipping; drip systems for reptile and amphibian enclosures, two styles, \$10-12 plus shipping. Frozen rodents always available. Mice: pinks-weanlings, 3/\$1; subadult, 50¢; adults, 60¢; large adults, 75¢. Rats: small, 75-90¢; medium, \$1.50-2.00; large, \$2.25-2.75; jumbo, \$3.25-3.50. Call on quantity discounts [note: discount on orders picked up at CHS meetings]. Live rodents available at a higher price. 1994 catalog finally finished—send SASE. Scott J. Michaels, D.V.M., Serpent City, P.O. Box 657, Island Lake IL 60042, (815) 363-0290.

For sale: mice and rats of all sizes. Also frozen toads. Call or write for price sheet. Keith Simpson, Rt. 3, Box 903, Knox IN 46534, (219) 772-5606.

For sale: I'm back, Steve's Rodent Farm. Rats only, small and medium, live or frozen, quantity discounts. Shipping available. Call or write for price list. Steve Waldrop, c/o Steve's Rodent Farm, Rt. 7, Box 1154, Haleyville AL 35565, (205) 486-8876.

For sale: mice, \$1; rats, \$1. Steve, (312) 271-0912, 5 P.M. - 9 P.M.

For sale: FROZEN RODENTS. Mice pinks, \$25/100; adults, \$35/100; breeders, \$55/100; rats, \$75/100 and up, jumbo available occasionally. KJ's Rodents, R.R. 1, Box 266, Detroit Lakes MN 56501, (218) 439-6999.

For sale: frozen rats, quarter-pound rats, \$1 each. Steven Bostwick, Helser 4825 Firkins, Ames IA 50012, (515) 296-5793 or (515)967-5716.

For sale: SUPERWORMS, *Zoophobias morio*, ultimate food for reptiles, birds, fish; \$18.95/lb., plus \$3 shipping. Keeps 8-10 months at room temperature, far less chitin for complete digestability. Send SASE for information to Joe Sutter, P.O. Box 59119, Birmingham AL 35259, (205) 871-5570, 4 P.M. - 7 P.M. Central Time.

For sale: large selection of captive born reptiles and amphibians, books and supplies. Send S.A.S. business-size envelope for complimentary price list or \$5 for a 1 year subscription (bi-monthly), to Twin Cities Reptiles, 540 Winnetka Avenue North, Golden Valley MN 55427, (612) 593-0298.

For sale: reptile cage disinfectant and deodorant. Kills many types of infectious disease detrimental to herps. \$3.91 for 2 oz (makes 1 gallon). Wholesale and quantity prices available. Make checks payable to Bengal Pets, Inc., 1088 Chapman Road, Jesup GA 31545, (912) 530-6384.

For sale: collection of 120 different outdated antivenom/snakebite kits from all over the world, \$600. Also, collector's item—snake catching box made and used by Carl Kauffeld. This is the box Carl used on his collecting trips to South Carolina, 30"l x 20"h x 12"w, three compartments, top opens and two side compartments. Box was never cleaned out and still has (unsoiled) *Staten Island Sunday Advance* newspapers dated April 17, 1977. See book *Snakes and Snake Hunting* for picture of box, \$500. Steve, (516) 957-3624. [NY]

For sale: stained glass suncatchers, panels, windows and lamps with herp themes. Work from your photo or choose one of my designs. Immortalize your favorite animals in a family heirloom. Paul Braun, Splendor in the Glass, 51 Jefferson, Valparaiso IN 46383, (219) 464-8778.

For sale: Tired of getting bitten while collecting, feeding or maneuvering animals? Try my Whitney tongs—10% discount to herp society members—2', \$65 each; 2½', \$66 each; 3', \$67 each; 3½', \$68 each; 4', \$69 each; 5', \$85 each; 6', \$90 each. Will ship U.P.S. extra. Send money order or cashier's check to Don Lunsford, 5661 Walkerton Drive, Cincinnati OH 45238.

For sale: 1993 HERPETOLOGICAL DIRECTORY. A valuable information source containing private and commercial breeders, foreign exporters, U.S. and foreign herp societies, wholesalers, and sources for rodents & other food items, supplies & equipment and publications. Send \$15 to FAUNA, 2379 Maggio Circle Unit C, Lodi CA 95240.

For sale: overstock sale. Phillips plastic boxes (aka Wilson; Wilhold; Stillwell). Shoe boxes, \$2.00 each; high sweater boxes, \$6.15. Prices will rise every month until they reach our regular price. Serpent City, (815) 363-0290.

Advertisements (cont'd)

For sale: set of five posters first published by Army Air Forces Tactical Center for easy identification and habits of venomous snakes of the world, \$9 postpaid; *Field Guide to the Snakes of South Vietnam* by Simon Campden Main, \$10 postpaid; *Batrachia of North America* by E. D. Cope, \$16 postpaid; *Laboratory Anatomy of the Iguana* by J. C. Oldham and H. M. Smith, \$17 postpaid; *Time of the Turtle* by J. Rudloe, \$5 postpaid; *Atlas of Amphibians and Reptiles of New Zealand* by C. P. Pickard and D. R. Towns, \$18 postpaid. Catalog of over 4000 herpetological titles sent free upon request. Herpetological Search Service & Exchange, 117 E. Santa Barbara Road, Lindenhurst NY 11757, (516) 957-3624.

For sale: IHS videotapes. 1993 **Photographing Herps**—simple but professional techniques for photographing herps, Jim Bridges. Tape prices for 1993: \$24.95 for standard VHS, \$29.95 for S-VHS. Shipping \$2.95. Make check or money order to Mark Silver Productions, P.O. Box 15731, Seattle WA 98115-0231, (206) 527-0135. For complete list of 1991, 1992 & 1993 IHS tapes please send name, address and telephone number. Fifty percent of the net profits go to the IHS, Inc.

For sale: *Rattlesnake Hunting*, a 60-minute video by a 30-year veteran collector. Don't miss this one! It's as close to being in the field as you can get. (Not a slick commercial production.) Send check or money order for \$19.95 plus \$3 postage & handling to: D. Wheeler, 2705 Sunset Trail, Riverwoods IL 60015. Allow 4-6 weeks for delivery.

For sale: **STACKING CAGE UNIT**, professionally made using melamine, 3 cages, each cage measuring 4' x 3' x 2', and wired with two incandescent light fixtures, less than 5 months old, beautiful, paid \$575, will sell unit for \$300 (or best offer). Rob, (708) 615-4388 leave message on voice mail.

For sale: used, custom-made reptile cages, one unit measuring 5'1 x 3'w x 2'h, one unit measuring 4'1 x 2'w x 18"h. Large unit has viewing window with two doors on each side for easy animal removal and cleaning. Includes heat pads, light fixture, hide box, water bowl, temperature and humidity readout, and attachment for your humidifier. Ideal for breeding boas and pythons, \$350. Smaller unit is wooden, comes with divider and glass doors, \$125. All prices are negotiable. Mike Harazim, (708) 652-1862. If unavailable, please leave a message. All calls will be returned.

For sale: Large aquarium and stand, small aquariums, lights, heaters, two filters. Call for specs. Marie, (708) 432-7824.

For sale: *Madagascar and Mauritius* by C. Keller, \$18; *Galapagos* by D. Steadman, \$18; *Les Savanes du Sud-ouest de Madagascar* by P. Marat (in French), an excellent guide to the flora of Madagascar, \$10. All books in very good condition. Shipping—\$2 for the first book and \$.50 each for any additional items. Philip A. Tremper, Jr., P.O. Box 264, Clintonville WI 54929, (715) 823-5873.

For sale: 8" female *Hieremys annandalei* (temple turtle), rare, \$125. R. J. Brown, (813) 286-0643. [FL]

For sale: 4' female green iguana, perfect condition, \$150 o.b.o. John or Corinne, (708) 858-7928.

For sale: rhinoceros iguanas; Cuban iguanas; green iguanas; *Geochelone sulcata*; *G. elephantopus* (Florida sales only). D. J. or Sam, (305) 680-8492. [FL]

For sale: male Arizona mountain kingsnake, c.b. '93, \$125. Mike Harazim, (708) 652-1862, leave message—all calls will be returned.

For sale: Cal. kingsnake, \$35; albino Sonoran gopher snake, \$35; heterozygous Sonoran gopher snake, \$25. Both gophers for \$55. All are juveniles. (708) 597-6172 evenings.

For sale: *Chicago area pick-up only!* "Adorable" '93 c.b. Kenya sand boas, feeding on live chubby/fuzzy mice, \$70 each; c.b. black & white banded Cal. kingsnakes (from mixed parents), only \$20-25. Janice, (708) 484-7307. Please leave a message if I can't get to the phone and I will call you back!

For sale: captive hatched *Pituophis deppei jani*, unrelated pairs available, a rare and absolutely beautiful *Pituophis*, photos available on request; three male *Epicrates cenchria cenchria*, c.b. '93, parents bright orange "Lamar" strain. Alan Kardon, (210) 623-4311 after 6 P.M. Central. [San Antonio TX]

For sale: 3' male and 2'+ female carpet python, *Morelia spilotes bredli*, \$600/pair. Steve Hummel, (203) 239-9484. [CT]

For sale: male Suriname redtail boa, \$450; one male and one female Peruvian redtail boas, \$700/pair; one male and one female mid-Baja rosy boas, *Lichanura trivirgata saslowi* (*myriolepis*), \$500/pair; male Pueblan milksnake, \$100; one heterozygous male and one albino female San Diego gopher snakes, \$250/pair. All are adults and captive bred. Marty Bjerke or Gary Sherman, (701) 281-9918. [ND]

For sale: Suriname redtail boas, long term captive raised, feeding on large rats and rabbits, two males, 4½' and 6', two females, 6½' and 7½', \$900/pair, both females for \$1100; two male Borneo blood pythons, c.b. '93, \$225 each. Phil, (816) 252-1293. [MO]

For sale: Amazon tree boas, *Corallus e. enydris*, c.b. '93, red phase, \$125 each; one male and two female Timor monitors, *Varanus timorensis*, long-term captives, \$750/trio o.b.o.; super leopard gecko babies, adults grow to 13", 150 g, with yellow that glows in the dark, free photos, \$100 each. Call to get our free quarterly price list. Steven Bostwick, Helser 4825 Firkins, Ames IA 50012, (515) 296-5793 or (515) 967-5716.

For sale: green tree pythons. 1994 babies have arrived and are ready to go to a good home. All are well established, have shed and are feeding on their own. Different color phases and genetic lineages available. \$750 each, discount on quantity purchases. Other c.b.&b. boas and pythons available. Eugene Bessette, (904) 495-3075, Archer FL.

For sale: nice selection of quality pythons, boas and tortoises from longtime breeder (23 years). Some species expected in '94 are: jungle carpets, green tree pythons, Children's, bloods (various colors), rings and wormas. Also Hogg Island boas, Brazilian rainbows, Argentines, Dumeril's and Bolivian red-tail boas among others. To get on the mailing list, please send \$3 for all future lists (see display ad). Dick Goergen, P.O. Box 225, Alden NY 14004.

For sale: red female *Epicrates cenchria cenchria*, c.b. 5/93, 2½-3' long, \$250; three Colombian boas, 4-7', one is a male breeder, \$180 each. Will consider trades for a young male *Epicrates cenchria cenchria*. Josh, (314) 230-3029. [MO]

For sale: 5' male boa constrictor, \$150; two male boa constrictors, c.b. 7/91 and 6/92, \$90 each. Jack Phillips, (708) 724-4552.

For sale: Argentine boas, *Boa constrictor occidentalis*, born 6/23/92, from unrelated parents, \$1500/pair. Bill Brant, (904) 495-9024. [FL]

For sale: one male and one female c.b. '92 Bolivian *amarali*, 4'+ silver phase, \$2500/pair; one male Bolivian *amarali*, '91, short, stocky, unrelated to above, \$750; 6' male Kerry King south Brazilian *amarali*, was a keeper, \$1000; two male and one female Madagascar ground boas, '91/'92, 4-6', \$13,500 (will split); 8'+ female Brazilian redtail, has bred, very light in color, short, short tail pattern, classic saddling, \$850; 7'+ female Marrjo Island Brazilian redtail, rare and unusual, gold in color, short tail pattern, aberrant saddling, \$850; male green tree python, c.b. '91, Sipperly stock, has retained lots of yellow, \$2250; one male and one female Malaysian blood pythons, female is gold/orange, male is Appaloosa phase, this is the most unusual blood to be found, \$2250/pair; one male and one female black bloods, c.b. '93, \$850; one female diamond python, c.b. early '93, strong feeder, \$3500; two male and two female *knoblochi*, c.b. '93, well established, \$950/pair. ROSY BOAS: one male and one female *saslowi*, San Mateas Canyon, c.b. '93, \$550/pair; one male and one female *myriolepis*, San Gabriel, c.b. '93, \$700/pair; one male and three female *trivirgata trivirgata*, San Ignacio, c.b. '93 picks, \$60 each; two male and three female *trivirgata trivirgata* breeding group, proven breeders, \$1000/group; Arizona choc's, *Lichanura trivirgata gracia*, mottled dark chocolate with cream, beige and pearl interspaces, prettier than Kofas, c.b. '93, \$700/pair. Bill Tropp, 63 Calle Industrias #487, San Clemente CA 92672, (714) 366-0208.

Advertisements (cont'd)

Pet-sitting service: Complete in-home pet and plant care, specializing in reptiles and other unique pets. Dogs and cats welcome with open arms, midday dog walking. Experienced and dependable service by devoted animal lovers, serving Chicago and suburbs, reasonable prices, fully insured and bonded. Ask about our habitat consultation and custom-made cages. Exotics & More, (312) 728-5457 or page us at (708) 750-3688.

Wanted: IHS Symposium Proceedings Number 12 (New York, 1988). Will pay top dollar for publication that is in good shape. Philip A. Tremper, Jr., P.O. Box 264, Clintonville WI 54929, (715) 823-5873.

Wanted: someone to share a hotel room at the IHS in New Orleans. Michael Murphy, 2004 B Bradford Court, Tallahassee FL 32303, (904) 386-5010.

Wanted: alligator snapping turtle [permit required in Illinois], Florida box turtle and mata mata turtle. Will pay great price. Scott, (708) 918-1118.

Wanted: adults of the following: female inland bearded dragon (*Pogona vitticeps*); male Berber skink (*Eumeces algeriensis*); male *Geomyda spengleri*; female *Emydura subglobosa*. Also, any age female pallid milksnake (*Lampropeltis triangulum multistriata*), rodent feeder. Henry Cohen, 24 St. Johns Place, Buffalo NY 14201, (716) 881-6724.

Wanted: albino or leucistic land turtles or tortoises. Also, breeding pair of Indian star tortoises. Will purchase or trade. R. J. Brown, (813) 286-0643. [FL]

Wanted: adult female radiated tortoises. Top prices or will take on breeding loan. Also, willing to trade adult male radiated tortoise for subadult or adult female radiated. R. J. Brown, (813) 286-0643. [FL]

Line ads in this publication are run free for CHS members — \$2 per line for nonmembers. Any ad may be refused at the discretion of the Editor. Submit ads to: Michael Dloogatch, 6048 N. Lawndale Avenue, Chicago IL 60659, (312) 588-0728 evening telephone or (312) 782-2868 fax.

News and Announcements

RAFFLE DONATIONS AT THE FEBRUARY 23 MEETING

The following is a listing of those individuals and businesses who generously donated items for our monthly raffle at the February 23 meeting. The donated items are shown in parentheses.

Aquascape, Inc.—Bannockburn IL (reptile cage carpet); Top Hat Cricket Farms (cricket dispensers); Brian Weber (Critter Cage); Jack Schoenfelder (turtle planter); Jill Horwich (video, stuffed iguana); Wardley (Reptile Ten food); Pretty Pets (iguana food); California Zoological Supply (drip system); Ghann's Cricket Farm (gift certificate); Marlene Golin (rock water bowl); Marcia Rybak (snake book); Steve Swanson ("The Grove" T-shirt); Mardel Laboratories (IsoRep); Critter Company (herp bumper sticker, herp stationery); Don Wheeler (pen & ink drawing, wildlife poster); Scott Michaels (plastic boxes with liners); Tetra Terrafauna (sulfa block); Terrarium Art (rock cave); Ilene Sievert (potted plants); Brian Jones (hair care products).

SECOND ANNUAL HERP ART SHOW

A Second Annual Herp Art Show will be sponsored by and held at the International Herpetological Symposium (IHS), June 16–19, at the Clarion Hotel in New Orleans. A jury will judge the show and award prizes of \$200, \$125 and \$75. There will also be a \$100 "people's choice" award, to be decided by a vote of those attending. A 20% commission will be retained for all artwork sold at the show, with 10% going to the IHS and 10% going to cover the costs of the show. To apply, send up to three views of each artwork (slides are preferred), along with a written description (title, medium, size and a brief statement about it). Include SASE for return of slides or photos. Each piece accepted will require a \$10 entrance fee. Deadline is May 1. Send to: David Stone, P.O. Box 633, Chimacum WA 98325.

CANADIAN NATIONAL HERPETOLOGICAL SYMPOSIUM

The first Canadian National Herpetological Symposium on Captive Propagation and Husbandry will be held September 30 – October 2, 1994, in Drumheller, Alberta, Canada. Speakers will include Robert G. Sprackland, author of *Giant Lizards*; Thomas Huff, former director of the Reptile Breeding Foundation; and Eileen Castle, of the Oklahoma City Zoo. Registration, which includes the banquet, is \$85; discounted to \$65 if postmarked by June 15. To register, or for information, write to Reptile World, P.O. Box 1087, Drumheller, Alberta, Canada, T0J 0Y0, or phone (403) 823-8623.

ST. LOUIS REPTILE BREEDERS EXPO AND SALE

The Second Annual St. Louis Reptile Breeders Expo and Sale will take place Sunday, August 28, 1994, 9 A.M. to 4 P.M., at the Kirkwood Community Center, 111 Geyer Road. Admission is \$4 for adults, children 10 and under free with paid adult. Animals allowed with paid vendors only. Vendor tables (8') are \$20 each. Captive bred or farm raised animals only. Absolutely *no* Missouri species or venomous animals allowed. For vendor registration send check to James Brumley, 4341 Telegraph, St. Louis MO 63129. For questions call James at (314) 892-6605 or (314) 845-2038.

UPCOMING MEETINGS

The next meeting of the Chicago Herpetological Society will be held at 7:30 P.M., Wednesday, April 27, at the Field Museum of Natural History, Roosevelt Road at Lake Shore Drive, in Chicago. Our speaker will be **Dr. Sherman Minton, Jr.**, Professor Emeritus at the University of Indiana School of Medicine and author of numerous books and articles on herpetological topics. Dr. Minton, an authority on venomous reptiles, will talk on the incidence, distribution and treatment of venomous snakebite in man. Bites of both native and exotic species will be discussed. Some graphic slides may be included in the presentation. Dr. Minton's talk is titled "An Update of the Epidemiology and Treatment of Venomous Snakebite in Man." He has graciously offered to autograph copies of his books following his presentation.

The CHS Library will not be available to members at the April meeting because our librarian will be on vacation. **Sandra Barnett**, Senior Herpetologist at the National Aquarium in Baltimore, will speak at the May 25 meeting. Sandra's talk is entitled "The Husbandry of Arboreal Iguanids." She will discuss in detail the captive requirements of several species of tree-dwelling iguanid lizards.

We are required to use the entrance on the west side of the museum. The main entrances at the north and south ends of the building will not be open. We have permission to use the staff parking lot to the west of the museum. Entrance to this lot is from McFetridge Drive, the wide street just to the south which lies between the museum and Soldier Field. There is also ample free parking available in the lot to the north of the museum.

The #146 CTA bus goes directly to the museum. Unfortunately, it does not operate after 9:00 P.M. However, after the program anyone needing a ride to a CTA stop will have no trouble finding one—just ask any board member.

Turtle Club

The Chicago Turtle Club will meet Sunday, April 24, 1:00–3:30 P.M., at the Emerson Park Field House, 1820 W. Granville Avenue, in Chicago.

APRIL 30 TOLEDO ZOO CHARTER BUS TRIP

A few seats are still available for the Chicago Herpetological Society's Toledo Zoo charter bus trip. The trip is scheduled for April 30, and will feature a behind-the-scenes tour of the zoo's outstanding amphibian and reptile collection. The motorcoach (equipped with reclining seats, six television monitors, V.C.R., stereo and rest room) will depart the Field Museum's north parking lot at 5:00 A.M. and will return at 10:00 P.M. Registration is limited to the first 47 paying individuals. Tickets are \$30 each (nonrefundable) and will be on sale at the April general meeting. If you wish to mail your payment, please send a check or money order, payable to 'CHS,' to Tony Rattin, 18135 Avon Court, Wildwood IL 60030. Be sure to include a current return address so that tickets and detailed information brochures can be forwarded to you.

PRELIMINARY ANNOUNCEMENT AND CALL FOR PAPERS

The Northern California Herpetological Society will present its Seventh Conference on the Captive Propagation and Husbandry of Reptiles and Amphibians, February 18–20, 1995, at the University of California at Davis. Academics, zoo professionals, breeders and enthusiasts who are interested in presenting at the conference are encouraged to submit abstracts and papers to: Conference Program Committee, Northern California Herpetological Society, P.O. Box 1363, Davis CA 95616-1363.

THE ADVENTURES OF SPOT



NONPROFIT ORG.
U.S. POSTAGE
PAID
PERMIT NO. 9869
CHICAGO, ILLINOIS

CHICAGO HERPETOLOGICAL SOCIETY

Affiliated with the Chicago Academy of Sciences

2001 North Clark Street • Chicago, Illinois 60614
