

totonacus from northeastern Mexico].

KAUFFELD, C. F., AND H. K. GLOYD. 1939. Notes on the Aruba rattlesnake, *Crotalus unicolor*. *Herpetologica* 1(6):156–160.

BOOKS BY CARL KAUFFELD

CURRAN, C. H., AND C. KAUFFELD. 1937. *Snakes and Their Ways*. Harper & Brothers, New York. [reprinted 2003 by Krieger Publ. Co.].

KAUFFELD, C. 1957. *Snakes and Snake Hunting*. Hanover House, Garden City, New York. [reprinted 1995 by Krieger Publ. Co., now out-of-print].

———. 1969. *Snakes: The Keeper and the Kept*. Doubleday, Garden City, New York. [reprinted 1995 by Krieger Publ. Co., limited copies available].

HUSBANDRY

KAUFFELD, C. F. 1943. Growth and feeding of newborn Price's and green rock rattlesnakes. *Amer. Midl. Natur.* 29:607–614.

———. 1953. Methods of feeding captive snakes. *Herpetologica* 9:129–131.

———. 1953. Newer treatment of mouthrot in snakes. *Herpetologica* 9:132.

———. 1953. Removal of abnormal snake eggs by sectioning. *Herpetologica* 9:161–163.

———. 1954. Mites and ticks in captive snakes with remarks on cage sanitation. *Herpetologica* 10:103–107.

———. 1954. Manipulation of odor as an aid in feeding captive snakes, with special reference to king cobras. *Herpetologica* 10:108–110.

———. 1969. The effect of altitude, ultraviolet light, and humidity on captive reptiles. *Inter. Zoo Yearb.* 9:8–9.

GENERAL

KAUFFELD, C. F. 1943. Field notes on some Arizona reptiles and amphibians. *Amer. Midl. Natur.* 29:342–359.

———. 1960. The search for *subocularis*. *Bull. Philadelphia Herpetol. Soc.* 8(2):13–19. [in two parts, second installment in 8(3):9–15].

———. 1961. Massasauga land. *Bull. Philadelphia Herpetol. Soc.* 9(3):7–13.

———. 1963. More at home with cobras. *Bull. Philadelphia Herpetol. Soc.* 11(1–2):49–52.

———. 1965. The rattlesnake collection at Staten Island Zoo. *Inter. Zoo Yearb.* 5:168–170.

BOOKS OF NOTE

In 2002, R. Frankham, J. D. Ballou, and D. A. Briscoe published “Introduction to Conservation Genetics” (Cambridge University Press, Cambridge), an exceptional book summarizing the history of genetic management. Jonathan Ballou is a population biologist at Smithsonian National Zoological Park (SNZP). Twenty-three years earlier, Jon and his colleagues published a landmark paper on inbreeding and juvenile mortality in small populations of ungulates (1979. *Science* 206:1101–1103) which has led to a major change in the captive management of zoo animals.

Elliott Jacobson, veterinary pathologist at the University of Florida, has edited a book on green iguanas (2003. *Biology, Husbandry, and Medicine of the Green Iguana*. Krieger Publishing Co., Malabar, Florida 2003) which includes chapters by zoo workers. Allison Alberts and John (Andy) Phillips from the Center for Reproduction of Endangered Species at the San Diego Zoo in California and Nancy Pratt-Hawkes from Disney's Animal Kingdom in Lake Buena Vista, Florida describe the ontogeny of captive and wild iguanas by focusing on hormonal, morphological, and behavioral changes from birth to first reproduction. Mary Allen and Olav Oftedal from SNZP cover nutrition in captivity, based in large part on research conducted at the Zoo. They evaluate the quality of commercial diets, importance of ultraviolet light, and recommend nutritionally balanced diets. Frederick Antonio, general curator at the Central Florida

Zoological Park in Lake Monroe, joined several other authors in outlining husbandry and management protocols. Kelly Helmick from the El Paso Zoo in Texas coauthored a chapter on drug dosages and chemotherapeutics.

In the new SSAR book “Islands and the Sea: Essays on Herpetological Exploration in the West Indies,” Allison describes her experiences working with the reptiles of Guantanamo Bay, Cuba. Retired curator Richard Sajdak from the Milwaukee County Zoo details his experiences in studying vine snakes (*Uromacer*) on Hispaniola in 1980. Charles Knapp from the John G. Shedd Aquarium in Chicago writes about his work with iguanas (*Cyclura*) in the Bahamas.

—James B. Murphy, Section Editor

Herpetological Review, 2004, 35(1), 8–13.

© 2003 by Society for the Study of Amphibians and Reptiles

Johann Matthäus Bechstein: The Father of Herpetoculture

LUCIAN HEICHLER

502 Culler Avenue, Frederick, Maryland 21701, USA

e-mail: LHeichler@msn.com

and

JAMES B. MURPHY

Department of Herpetology, Smithsonian National Zoological Park

3001 Connecticut Ave., N.W., Washington DC 20008, USA

e-mail: jbmurphy2@juno.com

“HOWEVER, I BELIEVE THAT HERE IT MUST BE ATTEMPTED TO PRESENT EVERYTHING FOR EVERYONE, AND THERE ARE PROBABLY ENOUGH READERS WHO, ATTRACTED BY SUCH A BOOK, WILL WANT TO SEEK THE PLEASURE OF OBSERVING AN AMPHIBIAN [HERE INCLUDING REPTILES] AND A FISH, YEA, EVEN AN INSECT OR A WORM WHICH CAN TOLERATE THE AIR IN A ROOM, AND WHO ENJOY THE STUDY OF NATURE.”

TRANSLATED FROM JOHANN MATTHÄUS BECHSTEIN (1797)

Johann Matthäus (or Matthaecus) Bechstein was born on 11 July 1757 in Waltershausen in Thuringia (today, part of Germany) and was interested in nature at an early age. He studied at the “*Gymnasium Illustre*” in Gotha, where languages and natural science, physics and mathematics were taught. After completing his studies at the *Gymnasium* he studied theology from 1778 to 1781 at the University of Jena. Four years later, he taught mathematics and natural history in his native Schnepfenthal, but focused on teaching forestry after 1793. After Bechstein completed a public examination in the spring of 1795, conducted by senior forestry master Friedrich August Ludwig von Burgdorf (1747–1802) at the Forestry School in Berlin, he founded a private re-



Johann Matthäus Bechstein.

FIG. 1. Portrait of Johann Matthaecus Bechstein. Courtesy of Kraig Adler.



FIG. 2. Engraved title page and printed title page of “Naturgeschichte; oder, Anleitung zur Kenntniß und Wartung der Säugethiere, Amphibien, Fische, Insecten und Würmer, welche man in der Stube halten kann” by Johann Matthäus Bechstein in 1797. Courtesy of Smithsonian Institution Libraries, Washington, DC.

search institute and the “Society for Forestry and Hunting Lore” in Waltershausen. Because of insufficient financial support, his institute closed in 1799. That year Duke Georg von Meiningen installed him as forestry councilor with the purpose of creating the forestry school in Dreissigacker; it was opened in 1801 and elevated in 1803 to the status of a forestry academy. In 1806 the University of Erlangen bestowed on him the degree of a doctor of philosophy. Bechstein died 23 February 1822 in Dreissigacker bei Meiningen, Thuringia.

Bechstein was a prolific author and some of his translated titles are as follows: “Natural History of Germany for the Common Use in all Three Kingdoms” (published between 1789 and 1795); “Natural History of Birds for the Home” (1795); “Natural History or Guide to Knowledge and Care of Mammals, Amphibians, Fishes, Insects and Worms which can be Kept at Home” (1797); transla-

tion of the Natural History of the Amphibians by B. G. E. de Lacepède under the title “Mr. de la Cepede’s Natural History of the Amphibians or the Oviparous Four-legged Animals and the Snakes—a Continuation of Buffon’s Natural History (1800–1802),” in five volumes; and “The Science of Forestry and Hunting in all its Parts” (32 volumes between 1818 and 1835). His book “Cage and Chamber-Birds, Their Natural History, Habits, Food, Diseases, Management, and Modes of Capture” was translated from the German in 1864.

Bechstein’s book on captive care of reptiles and amphibians was entitled “Naturgeschichte; oder, Anleitung zur Kenntniß und Wartung der Säugethiere, Amphibien, Fische, Insecten und Würmer, welche man in der Stube halten kann.” In it, he covered five herp taxa: European pond turtle (*Testudo orbicularis*, now *Emys orbicularis*), common tree frog (*Rana arborea*, now *Hyla*



FIG. 3. Illustration of common tree frog (*Hyla arborea*) in Reverend Gregory Climenson Bateman's "The Vivarium," published in 1897. This was the first book on herpetoculture in English. Courtesy of Smithsonian Institution Libraries, Washington, DC.

arborea), sand lizard (*Lacerta agilis*), great crested newt (*Lacerta palustris* and *lacustris*, now *Triturus cristatus*), and European grass snake (*Coluber Natrix*, now *Natrix natrix*). The terms aquarium, terrarium, or vivarium had not yet been coined, so Bechstein used descriptors like little boxes, buckets, sugar glasses, containers made of porcelain, stoneware, and so on. Bechstein adheres closely to the rules of systematic zoology already introduced 40 years earlier by the Swede Carl von Linné. Bechstein's "Amphibien" is equivalent to Linnaeus's "Amphibia"; thus he is referring to all herpetofauna. We had the opportunity to examine this rare book in the Smithsonian Institution (SI) Special Collections Department of the Joseph F. Cullman 3rd Library of Natural History and an English translation of the section called "Amphibien" is provided below.

TRANSLATION OF "AMPHIBIANS, WHICH MAY BE KEPT IN THE HOUSE"

Introduction.—There are also amphibians which the amateur can keep in his room for his pleasure; to be sure, in contrast to birds and mammals, only very few. Also, they offer the pleasure not for long and are kept mainly because of their rarity or beauty; a few show some capacity for training, and only the tree frog is raised to serve as weather prophet.

Generally speaking, the exterior of the amphibians—even of the most beautiful forms and colors—has something repellent and suspicious about it so that they must be struck from the list of beautiful and inviting creatures. However, this results usually from an error in upbringing as careful observations show.

The characteristics of these animals differs in the wild, therefore also in the room, since some live in dry climates, others in the water; thus there is a difference also in the home, and since they are few in number, it is best to describe each animal in a few words. Just as different as their environment is also:

The nourishment of the household amphibians. Most of them are fed worms and insects. They don't chew anything but make the food slippery with their saliva and then swallow it whole. They digest slowly and can go without food for extraordinary lengths of time because they perspire very little. It is said that turtles can fast for a whole year. In general the vitality of these animals is admirably great, so much so that some still live after their heart has been ripped out; some die only very slowly if they are not suffocated, and even replace body parts cut off or almost lost.

Reproduction in the home is unthinkable; in that case one would have to allow the eggs of these animals to be brooded by the sun in order to discover the step-by-step development toward completion of the organism.

1. Crawling Amphibians

1. The Ordinary River Turtle (European Turtle)

[*Testudo orbicularis* Lin., now *Emys orbicularis*]

Description.—People usually keep several kinds of turtles, even from the most distant regions of the world, in water buckets, but more for food than pleasure. In Middle or Northern Germany, however, these are kept preferably for pleasure. With head and tail extended, the animal grows to a length of about one foot. The head is small, and when it is retracted, it is covered by a black, wrinkled skin which seems to form a cap. The snout comes to a point, and even though the mouth is toothless, the sharp jaws fit together so perfectly that the animal is thus enabled to crush and tear apart its food. The tail is relatively long, round and gradually ends in a point; while the feet are webbed, they clearly have toes. Such turtles are called *river turtles* to differentiate them from other families, of which some are named *land turtles* (with true toes) and the others *sea turtles* (with feet similar to flippers). Our turtle has four toes (aside from the webbing) on the fore feet but only two toes on the hind feet; both are covered with shiny black scales which have yellow points. The animal is able to hide head and tail under the carapace; for it is enclosed in two roundish shells. The lower is flat, yellow, and covered with black stripes; each one is composed of several pieces, and the edges thereof are smooth and not serrated.

Sojourn

a) At liberty: This turtle is encountered in the southern and moderate parts of Europe. It is but rarely found in Germany. It lives in fresh water on the bottom in the mud and spends the winter asleep.

b) In captivity: They are placed either in small ponds in gardens, or in the house and courtyard in buckets.

Nourishment

a) At liberty: They feed on water insects, snails, and foliage, etc.

b) In captivity: Here one can feed them for long times with bran, flour, bread, and other remnants from the kitchen.

Reproduction

They lay hard-shelled eggs similar in size to pigeon eggs and bury them in the ground.

Capture

They are fished with a net from the fresh water mud.

Commendable Characteristics

It cannot be said that their movements are varied or beautiful, or that these animals may be counted among those which are en-

tertaining; however, their very rarity, and the desire to have something alive also from this class of animals under one's care and supervision makes them attractive to the amateur. They can also be fattened up so as to make use of their tasty (even though hard to digest) meat, once the eyes have been satisfied by their sight. Already clever experiments have been made with these animals: Mr. Merz in Paris shut the mouth of one with wire and closed up the nostrils with sealing wax; nevertheless the animal lived another 30 days without food or breathing. This reveals the tenacious vitality which these animals possess.

2. The Tree Frog (Ordinary Tree Frog)
[*Rana arborea* Lin., now *Hyla arborea*]

Description.—This pretty little frog, which is particularly attractive because of the rare cleanliness of its skin, its coloration, and the delicate body structure, measures about 1.5 inches¹ in length. The upper body is green; the lower parts yellowish-white. The latter are covered with small raised warts which are nothing other than glands containing a caustic fluid; if you catch a tree frog with bare hands and then touch your eyes without first washing them (which happened to me frequently) this moisture irritates painfully for a long time. In complete condition the green color of the body is grass-green; however, once the mucous skin has been shed—as these amphibians frequently do—the body color changes to blackish or dark reddish-gray with white spots and thereupon becomes yellowish-green and is separated from the lighter lower body by a light yellow stripe with brown edges. We recognize the males by their yellowish throat which, when they croak, they blow up into a round bubble nearly as large as the entire body. Instead of nails, the toes bear little plates shaped like shields which enable them to attach themselves to the underside of leaves and to glass.

Sojourn

a) At liberty: During the summer we encounter this little frog on shrubs, trees, in the grass and in grain. When the sun is shining, they hang from the underside of leaves. In the fall they wander into ponds and swamps and mate there until June, and then climb up again to the trees and shrubs. During the evenings in May and June we can hear over a distance of half an hour the timorous croaking from the swamps where these animals mate in innumerable quantities. From far away this sounds like the ringing of sled bells.

b) In the room: The animals are placed in the window—but in such a way that they are not exposed to direct sunlight—in water glasses equipped with a small ladder and tied at the top with paper with holes in it, or they are put in clear wire cages laid out with moist sod or grasses. Both the water in the glasses as well as the sod and grass in the cages must be changed from time to time so that these little creatures can feel well.

Nourishment

a) At liberty: Here they catch with amazing speed flies and other insects from the leaves of trees, bushes, and weeds and grasses.

b) In the room: There they are given from time to time a living fly. However, they hesitate to touch dead insects.

Reproduction

These frogs sometimes mate for as long as three days. Like all our frog species, the female lays small eggs; these first develop into tadpoles without, and later then with feet; finally the tail falls



DESCRIPTION DU JARDIN.

FIG. 4. Illustration of common ring-snake of Europe (*Natrix natrix*) in M. Boitard's "Le Jardin des Plantes. Description et Moeurs des Mammifères" in 1845. Courtesy of Smithsonian Institution Libraries, Washington, DC.

off, and the small, graceful little tree frog is complete. The animal remains in the water until full development; only as a true frog it climbs up on trees and shrubbery.

Commendable Characteristics

We usually employ the frog as weather forecaster. It announces changes in the weather a considerable time in advance; preferably through loud crowing and croaking. Also, when rainy or otherwise bad weather is about to occur, it goes into the water and behaves there in a restless manner; when the frog anticipates pleasant, dry weather, it climbs to the higher region of the glass or up the ladder. Its croaking makes it rather unpleasant.

3. The Green Lizard
(Common Lizard, Copper Lizard, Leaper)
[*Lacerta agilis* Lin.]

Description.—A commonly known, very agile and beautifully marked animal. It measures between 5 and 10 inches. Its color varies. As a rule they should be of golden hue on top, with brown and black spots on the sides, and copper-colored or yellowish-white on the lower body. The scales on the throat are longer than the norm and more pointed, and they form kind of a double necklace; the shields on the belly are square; the thick hind legs bear a row of horny warts, and the long tail is ringed and sharply scaled. In catching these animals, it is necessary to proceed with caution so as not to injure the tail which breaks so easily. The tail also possesses great reproductive power, for if it is cut off, a new one grows, albeit very incomplete. The feet have five toes with sharp nails.

Sojourn

a) At liberty: These lizards inhabit the warmer climates of Eu-

rope as well as both Indies and the South Sea islands. The further south they are found, the larger, more colorful and more beautiful they are. They remain in the forested regions, and in gardens, walls and rocks which are found in such regions. In the summertime they seek a cave under a shrub, root, or stone; in the winter they retreat further into holes, especially in dense shrubbery and in hedges where they are covered by a heavy blanket of leaves and grass.

b) In the house: Here one may either allow them to run around freely by setting a small box into a corner equipped from time to time with moist substrate and makes sure that they don't escape from the room by the door. Normally one places them into a wide sugar glass and adds moist moss and soil.

Nourishment

a) At liberty: Flies and other insects, worms, snails, small frogs, and other little lizards, even of their own species. In front of low beehives they often also prey on bees in the sunshine.

b) In the room: They may be given only one of the above-named foods in order to maintain them for a long time; even if they are only occasionally given a fly, they are content.

Reproduction

The female lays eight and more dirty white, blunt-round eggs, which shine for a while in the darkness under the rocks, often in the midst of large black ants which, however, do not attack them. The young are brooded by the warmth of the sun, with each egg containing only one animal, hatch in August and even as late as September; for two years they look green and multicolored brown.

Positive Properties

It is only a matter of becoming accustomed to the sight of these: Like all amphibians, we will undoubtedly find them appealing and beautiful. They are also distinguished by exceptional vitality, speed, and alert appearance. Finally they get to know the amateur, and he is able to play with them as with other animals in the house. These animals also lead us to admire the great reproductive force of nature, as entire limbs grow anew (even if not completely). It is also noteworthy that this harmless little animal has the characteristic to reveal the most subtle and concealed poison of the animals from this class in that it dies with cramps of the whole body if it has been bitten by another.

4. The Marsh Salamander

(Water Salamander, Water Newt, Water Lizard)

[*Lacerta palustris* and *lacustris* Lin., now *Triturus cristatus*]

Description.—The appearance of these animals is not exactly appealing; yet they can be kept easily in a glass in the room, often changing the water, and occasionally throwing in a fly as nourishment. The reproductive urge of these animals is notable by such phenomena: as soon as they are placed in a larger vessel, their gentle motions in swimming and the flatteries and caresses exchanged by males and females. Usually we don't know these animals well enough and mistake males, females, and young for different species. Hence I want to describe them somewhat more specifically:

Males: The length measures five inches from the tip of the mouth to the end of the tail. Up to the ears the head measures 1/2 inches, flat on top, rounded bluntly in front, blown up on the cheeks; the round nostrils are located in front, far distant from each other; the

eyes are large, the iris golden-yellow but divided by a dark-brown circle so that it appears to consist of two rings. The eyebrows are raised. The eyes are closer to the mouth than to the ears. The raised skin back seam begins between the eyes and ends on the hind feet; it is serrated in the shape of a saw, most profoundly in the middle of the back, most finely at the end of the back and in the neck; between the hind feet one feels only the seam without the skin; the raised skin begins again with the tail, but it is bluntly serrated. This skin can float and adheres again immediately when the animal is not in the water but looks beautiful in swimming. The front feet have four toes with two spheres [dumbbell-shaped phalanges]; small warts and dull points, and the back five also with such round warts and points. The forelegs measure 3/4 inches to the toes, and the hind ones are almost 1 inch long. The entire upper body and the sides are covered with small raised warts; the lower body more with fine seams and furrows. The upper body is dark-olive green; from a distance it looks black, with isolated, catered black spots. The sides begin at the lower jaws; they are black with fine white points. The lower body is orange-yellow, on the chest from the vent and on the sides large black spots with all kinds of longitudinal figures. The throat and the soles of the feet are light yellow; the form spotted dark brown and spotted in white and can be blown up to a large size; the pointed half of the toes are also yellow with black bands. Other than that, the feet are like the upper body: The broad tail is shaped like a lancet, has a yellow spot behind the vent, is olive-brown above and below with white points on the sides of the root; nearly in the center marked on both sides with a bluish-white stripe which becomes pure-white after the point. In the water appears beautifully light, almost transparent.

The female is larger than the male by nearly one third, with a length of 7.5 inches; the head is somewhat thicker and engorged, especially at the point; the entire body somewhat thicker and more plump, especially in April and May, when the belly contains eggs; the color of the back is somewhat lighter, hence the black points are more prominent; the lower body is of a beautiful orange-yellow color and also marked with beautiful broad black spots of various shapes and forms; this yellow color continues uninterrupted to the tip of the tail. The serrated back skin is missing, and only the tail has several flat notches. The blue-white center stripe is not clearly visible because in fact it is mixed in a dirty-dark-ash-like manner with the other colors. The bands above the toes are not visible everywhere; other than that, everything is the same.

As for the two-year-old male, 2.5 inches long, the back skin starts in the neck and is dull; the upper body is olive-green, beautifully spotted with black and olive-brown spots; from the top and the sides the head has similar stripes; the throat is dirty-white with olive-brown spots; the remaining lower body has the color of egg yolk all the way to the end of the tail with isolated similar round spots. The narrow blue-white stripe runs along the sides of the yellow lower underbody. In relation to the adult (older) male the tail is somewhat broader, and the toes of the hind legs are also somewhat broader; the points of the front foot toes are black, and the legs are only vaguely formed.

The two-year-old female, somewhat exceeding the above-described male in size, matches the older female in every detail but deviates strongly in color; for this reason it is often taken for a different species. The upper body is olive green with a fine dark-brown line along each side of the back; throat, sides and legs are

dirty-yellow; the belly butter-yellow.

Oddities

In April and May the females lay their eggs in the water, where old and young permanently stay; especially in stagnant swamps, ponds, and fountains. At times these eggs are of a jelly- or glasslike consistency containing the white-yolk-looking like a white radish seed.

These animals feed on flies and on all manner of water insects; they do not inflict the great damage on the fish harvest of which they are accused; they prefer to eat their own brood rather than fish. In the spring, when one fishes muddy ponds, especially in forested areas, one can catch these animals in large quantities.

II. Crawling Amphibians

5. The Ringed Snake (House Snake)

[*Coluber Natrrix* Lin., now *Natrix natrix*]

Description.—This is the most common native species of snake, and completely harmless; for this reason one may see swindlers walk around with them; they put them in their mouths and cause them to perform all manner of tricks under the pretense that these are poisonous snakes which they are able to control in such a way that they can do no harm. I have seen them at a length of four feet and longer. The female is always larger and thicker than the male. Normally one counts 170 broad belly plates and 60 ventral tail scales but the number is not so exact. The upper body is either blue-green, iron gray, or rust-gray; on the sides spotted in white with individual blackish points; the lower body is black, with white interruptions along the sides and under the belly so that it gives the impression of having black stripes. On both sides of the neck the male has a yellow spot and the female a whitish-yellow spot in the shape of a necklace or neck ring; hence the name.

Sojourn

a) At liberty: We find them in the highest mountains as well as the lowest valleys, in dry as well as swampy places—in places where they can never enter the water as well as sites where they can swim daily in the water, on the banks of ponds and rivers. Usually they seek out shady spots because they love the warmth of the sun only at certain times, e.g., when they have shed the old skin. They like to stay in stables, cellars, and garbage dumps.

b) In the house: In the room one allows them to run around and gives them a little box with wheat bran where they go to sleep.

Nourishment

a) At liberty: Their food consists of toads, frogs, lizards, snails, mice, worms, etc. Often I have cut open a snake which had swallowed a frog, and the frog jumped out again.

b) In the house: In the room the snake is content with milk and wheat bran.

Reproduction

The ringed snake deposits its eggs in compost beds, garbage dumps, stale places in stables. The gray-white-skinned eggs are linked together like pearls. At mating time the male and female exude an unpleasant odor, some say like a billygoat, but I cannot agree; I find it a unique, sweetish odor. Each egg contains one young the length of a finger when it hatches and looks cute.

Capture

They can be caught anywhere, especially when they are young

when they also look their best—in compost heaps, also the heaps of garden trash which are raked together in the spring in gardens and meadows. Here they are often found by the hundreds.

Positive Properties

These are certainly endearing animals which can be trained to dance with a stick and the pipe, and to play dead.

My friend Mr. D. Vognetz has a ringed snake which is so tame that she crawls up and down in the room like a domestic bird, often climbs up on him, crawling up the arms and into the bosom. But it does not easily approach anyone else. He puts it in his pocket, goes into the garden with it and as soon as he emits a loud whistle, similar to the tone with which at mating time they call their mates, it comes to him, crawls up on him, lets him put it in his pocket and remains there without moving until he takes it out again. Since these crawling amphibians often grow exceptionally large, this has provided opportunity for all kinds of fables.

They can go for long periods without food but also grow extremely slowly.²

Footnotes:

¹ The old German *Zoll*, translated here as inch, seems to have been slightly longer than the American inch, but we have not been able to determine the exact ratio. - Translator

² It is also possible to tame the common viper (*Coluber berus*, now *Vipera berus*) and at times to remove their venom by letting them bite a cloth or piece of leather, so that it does not easily damage its master who feeds them. But I advise against it because one can never be sure; hence I also have not added a description.

Acknowledgments.—In 2001, Werner Rieck wrote a comprehensive biography of Johann Matthäus Bechstein and much of our material on his life and importance to the history of maintaining captive amphibians and reptiles is excerpted from that publication.

Smithsonian National Zoological Park Librarian Alvin Hutchinson was instrumental in arranging a meeting with Leslie Overstreet and Daria Wingreen from the SI Special Collections Department of the Joseph F. Cullman 3rd Library of Natural History so that we could see Bechstein's book. Judith Block and Kraig Adler reviewed early drafts of this manuscript. We are indebted to the staff of SI Behind-the-Scenes Volunteer Program, especially Amy Lemon, for courtesies extended to us. Dale Miller from the SI Office of Imaging and Photographic Services provided the image of the title page from Bechstein's book.

LITERATURE CITED

- BATEMAN, G. C. 1897. *The Vivarium, Being a Practical Guide to the Construction, Arrangement, and Management of Vivaria, Containing Full Information as to all Reptiles Suitable as Pets, How and Where to Obtain Them, and How to Keep Them in Health.* L. Upcott Gill, London.
- BECHSTEIN, J. M. 1797. *Naturgeschichte; oder, Anleitung zur Kenntniss und Wartung der Säugethiere, Amphibien, Fische, Insecten und Würmer, welche man in der Stube halten kann* [Natural History; or, Guide to the Knowledge and Care of Mammals, Amphibians, Fish, Insects and Worms Which Can Be Kept in the Home]. C. W. Ettinger, Gotha.
- RIECK, W. 2001. Johann Matthäus Bechstein (1757–1822). In W. Rieck, G. T. Hallmann, and W. Bischoff (eds.), *Die Geschichte der Herpetologie und Terrarienkunde im deutschsprachigen Raum* [History of Herpetology and Terrarium Science in German-Speaking Areas]. *Mertensiella* 12:415–418. Deutsche Gesellschaft für Herpetologie und Terrarienkunde e.V. (DGHT).