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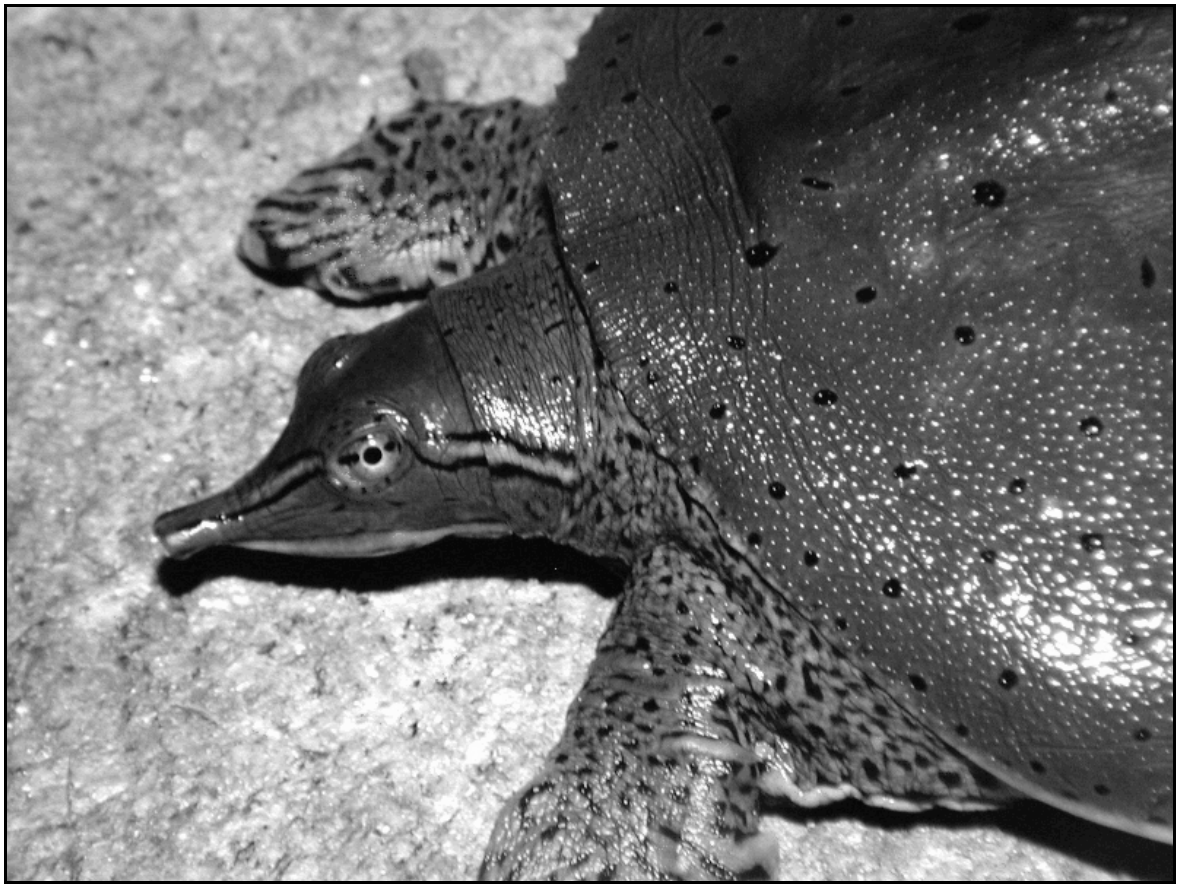

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Cover: Spiny softshell turtle, *Apalone spinifera*. Photograph by Stephen Barten, DVM.

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Annotated Geographic Records for Some Amphibians and Reptiles in Wisconsin

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The distribution of amphibians and reptiles in Wisconsin has been summarized by Vogt (1981) and Casper (1996). The following records include the first published observations of some species of amphibians and reptiles in several counties in Wisconsin. For various reasons, these observations are not backed up by specimens or photographs. However, until such documentation is acquired, the information provided herein provides at least some evidence of the occurrence of these species in time and space. Other records are included here because the species involved are either of special concern or are uncommonly observed.

Ambystoma laterale (Blue-spotted Salamander). BUFFALO CO: Nelson-Trevino Bottoms of the Chippewa River, along abandoned railroad tracks north of State Highway 35 (T23N, R14W,S27). (1) 23 August 1997. Philip A. Cochran and Andrew G. Cochran. Two adults found within 1 m of each other beneath thin rock slabs on shaded slope of railroad embankment. (2) 14 August 1999. Philip A. Cochran and Joseph A. Cochran. Two juveniles beneath separate logs near remnant pool in floodplain forest. First published observation from the county. I failed to find *A. laterale* at this locality until my fifth visit to the site (Figure 1). A Minnesota Herpetological Society field trip to this location in May 1983 also failed to reveal this species (Anonymous, 1983). JACKSON CO: Green Bay and Western railroad right-of-way, within 100 m east of Bartell Road and approximately 100 m north of State Highway 54, west of City Point (T22N,R1E,S34). 13 October 2000. Andrew G. Cochran, Joseph A. Cochran and Christopher Knight. Cochran and Cochran (2001) subsequently obtained a voucher specimen from this locality on 29 May 2001, but an editor inexplicably altered the locality description to include a reference to "Minnesota Rt. 54".

Hemidactylium scutatum (Four-toed Salamander). JACKSON CO: Green Bay and Western railroad right of way within 100 m west of Bartell Road and approximately 100 m north of State Highway 54, west of City Point (T22N,R1E,S34). 29 May 2001. Andrew G. Cochran, with Philip A. Cochran. Juvenile (total length approximately 5 cm) beneath wood chip embedded in bed of moss on slope of ditch between railroad tracks and forest. Vogt (1981) plotted a record for eastern Jackson County with the symbol he used for cases in which he did not actually examine the specimens involved (e.g., previously published records or those from reliable sources). After the current manuscript was first written and submitted, Casper and Kirk (2001) reported the collection of *H. scutatum* at four other sites in Jackson County.

Lampropeltis triangulum (Milk Snake). JACKSON CO: State Highway 54 approximately 200 m north of Spring Creek Road, south of Black River Falls (T21N,R4W,S28). 21 August 1997. Philip A. Cochran. Specimen dead on road and very badly damaged. First published observation for county.

Apalone spinifera (Spiny Softshell). OUTAGAMIE CO: Adult female on sandbar along Wolf River approximately 1 km downstream from Koepke Park (River mile 67.4; T23N,R16E, S8). 18 June 2000. Philip A. Cochran, John Lyons, and Brian Weigel. First published observation for county. Several other records since Vogt (1981) have also extended the known range of this species to the north, including Cochran (1982) in the Namekagon River drainage of the St. Croix River system, Cochran (1991, 1994) in the Green Bay basin, and Casper (2001) in the Flambeau River drainage.

Clemmys insculpta (Wood Turtle). OCONTO CO: State Highway 32 along east side of Anderson Lake, approximately 70 m south of Lakeside Road, not far south of the North Branch of the Oconto River (T31N,R17E,S31). 15 June 1999. Philip A. Cochran and Nelson Ham. Milwaukee Public Museum (MPM 31829). Female (carapace length 138 mm) dead on road. This species, considered threatened in Wisconsin, has been reported previously in Oconto County (Vogt, 1981), and I have observed it elsewhere in the county. I include this record primarily as a reminder of the potential for curbs to increase roadkill mortality of reptiles and amphibians. This particular turtle appeared to have been killed while moving along a recently constructed curb across the highway from the lake.

Acknowledgments

I thank the various people who have accompanied me during my field work or who have let me accompany them

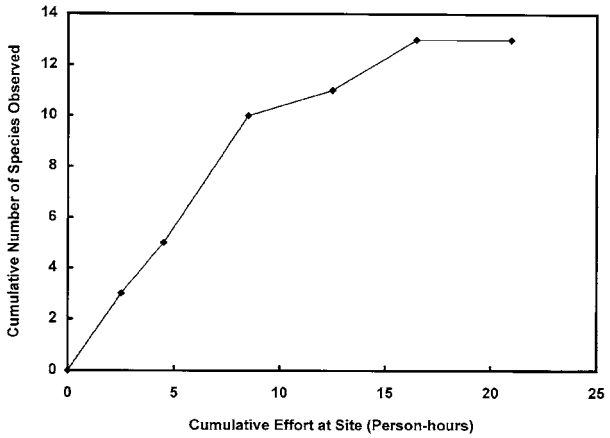

Figure 1. Cumulative number of species observed at the Nelson-Trevino Bottoms of the Chippewa River, Buffalo County, Wisconsin, versus cumulative sampling effort at the site. Each data point represents a visit to the site. Visits were made on 28 June 1980, 9 August 1980, 16 June 1985, 15 June 1988, 23 August 1997, and 14 August 1999, and they ranged from two hours to four hours in duration. In addition to *Ambystoma laterale,* the following species of amphibians and reptiles were recorded: *Rana clamitans*, *R. pipiens*, *R. sylvatica*, *Hyla versicolor*, *Bufo americanus*, *Chelydra serpentina*, *Chrysemys picta*, *Graptemys* sp., *Emydoidea blandingii*, *Thamnophis sirtalis*, *Nerodia sipedon*, and *Sistrurus catenatus*.

during theirs. Their names are listed in the individual species accounts above.

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The Role of Visual and Tactile Cues in the Foraging Behavior of the Florida Banded Watersnake, *Nerodia fasciata pictiventris*

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Introduction

What and how snakes eat have been a source of interest and research topics for many years. This likely stems from the hypothesis that trophic relationships have been and still are driving forces in the diversification and development of snakes (Mushinsky, 1987). Studies on the stimuli governing the feeding behavior of snakes have revealed two main strategies for locating and identifying prey: the use of chemical cues through the tongue-vomeronasal organ system and the use of visual/thermal cues. Large phylogenetic groupings of snakes have often been placed into one or the other of these two categories (Chiszar et al., 1981).

The importance of chemosensation in the feeding behavior of snakes is well documented. Crotaline snakes use this sensory mode to trail prey after striking (Chiszar and Scudder, 1979). Using newborn *Thamnophis* (Natricinae), Burghardt and Hess (1968) demonstrated that neither olfaction (through use of the nostrils) nor vision was critical in generating attack responses to prey extracts. Burghardt and Pruitt (1975) later found that tongue removal in "ingestively naï ve" thamnophiine snakes resulted in an almost complete loss of feeding response. Furthermore, eastern garter snakes (*Thamnophis s. sirtalis*) do not require vision for daily movements or successful foraging in a natural setting, suggesting that chemosensation is of primary importance in performing these tasks (Gillingham et al., 1990).

Chemical cues may well dominate feeding behavior in all types of snakes; however, a number of other sensory modes are important as well (Greene, 1997). As previously mentioned, vision is used by many snakes while foraging. High levels of prey activity (movement) are known to decrease prey location and attack latencies in *Boa constrictor* (MacDonald, 1973). Crotaline snakes will strike on the basis of visual and thermal cues (Chiszar and Scudder, 1979). Shivik (1999) found that brown tree snakes (*Boiga irregularis*) respond more strongly to a combination of visual and chemical signals than to either type of signal alone. A study with western yellow-bellied racers (*Coluber constrictor mormon*) demonstrated a preference for moving rather than nonmoving prey on the part of juvenile snakes (Herzog and Burghardt, 1974). Experiments by Burghardt and Denny (1983) and Chiszar et al. (1981) demonstrated that visual cues can indeed be important in the foraging behavior of *Thamnophis* species. It should be noted, however, that neither study discounted the importance of chemosensation in *Thamnophis*.

Studies with natricine watersnakes (*Nerodia*) have garnered similar results. *Nerodia sipedon* and *N. rhombifer* both use visual cues (in the form of contrast of prey color to background) while foraging (Czaplicki and Porter, 1974). *N. s. sipedon* individuals will attack prey models in the absence of prey odor, and appear to integrate chemical and visual cues (Drummond, 1979). Also, in contrast to earlier studies, Drummond (1985) found that newborn natricine snakes, including *N. s. sipedon*, will attack solely on the basis of visual cues.

Tactile stimulation is also important in the foraging behavior of some snake species and should not be overlooked. Several studies have noted the use of the "open-mouth search" in *Nerodia* species. In this behavior, a snake opens its jaws and swings its head back and forth, striking when it makes contact with prey (Evans, 1942; Bowers, 1966). A number of the aforementioned studies have documented the importance of this behavior; and although it appears to be used in close association with other search methods, it underscores the possible role of tactile cues in foraging (Czaplicki and Porter, 1974; Drummond, 1979).

Although the importance of different sensory modes in foraging has been analyzed for many species of natricine snakes, including several species of *Nerodia*, many species remain to be studied. With that in mind, the goal of this study was to determine the importance of visual and tactile cues in the foraging behavior of the Florida banded watersnake, *Nerodia fasciata pictiventris*. This particular snake is common throughout peninsular Florida in most aquatic habitats (Carr and Goin, 1959) but appears never to have been used in a foraging analysis study.

Materials and Methods

A 37.8-liter aquarium was used as the testing arena. In the trials involving visual foraging, a rock was placed in one corner; and a small pile of gravel was placed on the opposite end of the tank. A half-and-half mixture of tap water and distilled water was then added to a depth of approximately 3 cm. This was enough water to submerge the gravel pile but leave the rock partially exposed. The sides of the aquarium were covered in white paper, making the interior visible only from the top. Three small minnows (*Notropis* sp.) were then added to the arena.

Once fish odor had permeated the arena (2–3 minutes), a snake was placed in the arena on the rock. A timer was started, and a given snake was left in the arena until it either captured a minnow or 11 minutes had elapsed. The entire arena was cleaned thoroughly between each individual trial. All trials were recorded using a Panasonic Palmcorder. Snakes were deprived of food for at least three days prior to each set of trials and were fed only minnows for the duration of the study.

To test the role of vision in the foraging behavior of *N. f. pictiventris*, snakes were placed in the arena either "blinded" or "normal." Blinded snakes had their vision removed by placing a piece of white athletic tape over their eyes. Normal snakes were not experimentally altered in any way. Thus the importance of vision in the foraging behavior of these snakes could be judged by comparing snakes that could see with snakes that could not. A total of ten neonate snakes were tested in each of four sets of trials. Those to be blinded were randomly selected in the first set of trials. In the second set of trials these snakes were left with vision intact, while normal snakes from the first set of trials were blinded. Snakes were alternated in this manner until all sets of trials had been completed. What resulted was each of ten snakes having been tested twice normal and twice blinded.

Attack latency (for successful attacks) and the number of tongue flicks were noted for each snake in each trial. Those snakes that did not capture fish were given an attack latency of 11 minutes. Differences in attack latency and tongue flicks were tested for between blinded and normal snakes using a Wilcoxon Matched Pairs test (Hampton, 1994). Because each snake had been tested twice normal and twice blinded, results for "normal" and "blinded" tests were averaged for each snake before performing the statistical tests. No statistically significant difference between blinded and normal snakes was taken as evidence that removing vision did not affect the foraging behavior of the snakes. The number of attacks made by and the overall attack efficiency of each group were noted for more qualitative comparisons.

The experimental setup was altered in order to test the role of tactile stimulation in the foraging behavior of *Nerodia f. pictiventris*. A sheet of transparent Plexiglas was placed in the arena and secured with silicone, creating a small separate chamber. A rock was again placed in the arena, in the corner opposite the Plexiglas. A tap–distilled water mixture was added to the arena as in the first experiment. Care was taken to ensure that water levels in both chambers (large and small) were equal. White paper was again placed on all sides of the aquarium. The test subjects were same snakes used in the first experiment.

Before placing the snakes in the arena, three minnows (*Notropis* sp.) were placed in the small chamber. A small amount of water from the fish holding tank was poured into the large chamber to introduce fish odor. Snakes were then placed in the large chamber either blinded or normal (as in the first experiment). Each snake therefore had access to either visual and olfactory cues or olfactory cues only. The Plexiglas sheet separating the two chambers prevented tactile stimulation.

Each of ten snakes was tested twice, once blinded and once normal. Blinded snakes in the first set of trials served as normal snakes in the second set of trials, whereas normal snakes from the first trial set were blinded for the second set of trials. Snakes were observed in order to determine whether or not they would strike at the Plexiglas in an attempt to capture fish. Trials lasted five minutes. A Fisher's Exact Probability test (Hampton, 1994) was carried out for each set of trials. Categories were attack/no attack and blinded/normal. No association between categories was taken as evidence that normal snakes did not have an advantage over blinded snakes in terms of predatory ability when tactile stimulation was removed. Decreased attack response overall would be interpreted as demonstrating the importance of tactile cues in foraging.

Results

Trial averages (for each snake normal and blinded) and descriptive statistics for attack latency and tongue flicks can be found in Table 1. The Wilcoxon Matched Pairs test for attack latency revealed no statistically significant difference between normal and blinded snakes (t calculated = 23; t critical = 8). In addition, no statistically significant difference was found between normal and blinded snakes in terms of tongue flicks (t calculated = 26; t critical = 8). Normal snakes made more

attacks overall than blinded snakes (32 versus 22 respectively), and had a lower overall attack success rate (45.4% versus 72.7%). Many snakes, particularly those that had been blinded, appeared to use tactile stimulation as a primary means of prey capture. This occurred both through open-mouth searching and through what appeared to be accidental contact. Oftentimes a fish would make contact with a stationary snake, and this contact would result in a strike by the snake. This was especially true with blinded snakes.

When tactile stimulation was removed, the Fisher's Exact Probability test revealed no association between attack response and visual categories in either set of trials ($P = .333$; $P = 1$). Out of twenty total tests, only twice did a snake strike the Plexiglas. Both of these snakes had vision intact. Several snakes, all with vision intact, appeared to show interest in the fish but did not attack. Overall, attack frequency decreased noticeably in the absence of tactile cues.

Discussion

The results of both experiments indicate that vision does not play a primary role in the foraging behavior of *Nerodia f. pictiventris*. Snakes that had been blinded captured prey as quickly as normal snakes. Furthermore, snakes that could not see did not tongue-flick more often to compensate. When tactile stimulation was removed, snakes that could see did not strike at fish any more than blinded snakes, statistically speaking. This latter situation is especially telling, as one would expect that "normal" snakes in such a situation would strike more often if vision were important.

These results are not necessarily unexpected. As previously mentioned, a number of studies have demonstrated the importance of chemosensation in natricine foraging behavior. Vision is thought to play more of a peripheral role (Burghardt, 1990). Studies have shown that snakes in the wild can survive and even flourish without the use of their eyes (Wharton, 1969; Gillingham et al., 1990; Bonnet et al., 1999).

However, these results should not be taken as discounting the role of vision in the foraging behavior of this snake. Many of the aforementioned studies have demonstrated that vision can play a role in snake foraging, albeit a secondary one in natricines. In this study, snakes that could see made more attacks than blinded snakes and were the only snakes to attack in the absence of tactile cues. This supports the results of previous studies.

Interestingly, snakes that had been blinded were more efficient in capturing prey. These snakes often struck only when a fish made contact with them. Normal snakes, on the other hand, often struck at fish that were farther away. Even though previous studies have stressed the possible importance of synergy between cues (Burghardt, 1979; Shivik, 1999), this does not appear to be the case in this study. In some situations visual cues may hinder more than help the snake in prey capture.

The results of both experiments indicate, at least qualitatively, that tactile cues are utilized when these snakes are foraging. Many snakes in the first experiment used tactile cues to capture fish in one way or another. When tactile stimulation was removed, attack response was clearly suppressed. Other species of *Nerodia* are known to use tactile cues while foraging (Evans, 1942; Brown, 1958; Bowers, 1966; Drummond, 1979), and *N. f. pictiventris* occupies habitats similar to these species (Ashton and Ashton, 1988; Harding, 1997). This result is therefore not unexpected.

What is surprising, however, is the apparent importance of these cues in the foraging behavior of this particular snake species. Drummond (1979) found that tactile search was associated with unsuccessful attacks in *Nerodia sipedon*. However, he included only open-mouth searching in this category. In a confined or murky environment, both of which might be frequently encountered in certain aquatic habitats, a fish "bumping into" a snake (or vice versa) might be an important means of prey location. This might be especially true of inexperienced snakes such as those used in this study.

Furthermore, a study by Savitzsky and Burghardt (2000) revealed that the open-mouth search tactic was relatively underdeveloped in juvenile *Nerodia rhombifer* in comparison to adults. Notably, Drummond used neonate snakes in the aforementioned study. Adults might therefore use tactile search much more to their advantage. This, combined with the apparent importance of tactile cues for the snakes used in this study, strongly suggests that more research be done on this sensory modality in aquatic snakes of all developmental stages.

Ultimately, studies on the foraging behavior of snakes have led to the conclusion that while chemosensation is often critical, visual stimuli may play a role in both orientation and attack (Burghardt, 1990). The results of this study support this conclusion. The study of the role of tactile cues in aquatic snake foraging behavior has just scratched the surface. More research in this area is clearly warranted.

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Searching for Herps in Mexico in the 1930s — VII

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Section Three, 1938–1940—Rozella's Version (cont'd)

April 1, 1940, Tehuantepec.

We returned to central Mexico January 28, and after collecting in various places there we returned to our headquarters in Potrero Viejo, preparing for our trip to Chiapas. We left Potrero Viejo Friday, March 29, and in no time were moving out of Córdoba on the train, shouting last minute things to Dyfrig and waving to Luis. And in a few hours we were in Tierra Blanca again. Every time we make the trip it seems less interesting. No photographs of vendors were possible from the train windows, for very few flocked about.

At Tierra Blanca we ate lunch at the hotel and thus saved our Potrero lunch for dinner. Smitty had a successful skirmish with a *cargador*, refusing to pay an extra peso tacked on by the *cargador*—after which we looked out of the window anxiously for the *cargador* to return accompanied by a soldier—but he didn't. It occurred to me that the next time we passed through Tierra Blanca we should make a contract for the *cargador* to sign.

The Pullman on the Veracruz train was a familiar scene. Toward evening a couple of Americans came on from "first," and although we eyed each other a lot we refrained from opening a conversation. When the berths were made up we got an upper which reminded me very much of the sweat baths we used to make up in high school. Furthermore the train rocked so that Smitty had to hang onto the curtain rod to keep from falling out. They should install safety belts in the uppers. Any sleep that Smitty might have had was further hampered by me grabbing him at every lurch.

At Matias Romero there was a general in the vicinity who enjoyed, I hope, the festive send-off he was being given. It sounded as if a revolution had broken out, indeed.

At six-thirty on an oozing, gray dawn we eased into Ixtepec. Smitty rose to getting up and out in good form, but I was quite grouchy. It made me happier to tear the panties that have been bothering me for so long (the elastic in the top was worn out and only the fact that I'm wearing slacks kept them on at all) into small shreds and tucking the pieces under the mattress. After that I stood on the platform and gloomily smoked a cigarette, enjoying in spite of my ill humor the gray tones of the morning.

Off the train, we edged around a back-slapping reception committee busy greeting a general, and went over to our hotel. Here we sat dopily but in time remembered the little spider monkeys in the patio, and went to take pictures of them.

April 2, 1940, Tehuantepec.

The people in the hotel in Ixtepec welcomed Smitty warmly. In time we had breakfast, and were told that the bus left the square at eight o'clock. So at a quarter to eight we were bag and baggage in the square. There we sat in front of a little pop stand until nine-twenty, when the bus came. Several scenes at the pop stand were illuminating. One gal came over for an *agua saturada* and after taking a hearty swig from the bottle grabbed her nickel back and said "This isn't *agua saturada*, it's *limonada*." Then she and the girl behind the counter solemnly recapped the bottle and returned it to the shelves. Shortly another customer asked for a *limonada*, got about two-thirds of that same bottle in a glass, and the woman behind the counter polished off the rest herself.

Since we were the first people on the bus, we got the front seat with the driver—what a blessing! At a nearby town the Americans who were on the train got onto the bus. They had gone on ahead hoping to get a glimpse of Cárdenas, who was supposed to be flitting around in this area. We learned that they were artists from New York. It seemed impossible that we arrived in Tehuantepec on the same day that we left the train in Ixtepec. After lunch at La Perla, Smitty and I decided to go over to the arroyo where MacDougall had found some ancient pots embedded in the bank. The American couple wanted to go along but we didn't encourage them much so they decided to take a nap. We dashed over by way of Lieza to ask Victoria to make a small blouse for Marian Forbes.

We found the pots in the arroyo easily and two femora sticking out of the bank. We scratched around with a pocket knife for a long time, and in one pot Smitty found a small cuplike object, a tiny pot and a piece of obsidian. And I dug out bones far enough to see that we were going toward the feet, alas. Tired, we finally came home, wading the river.

The Hungarian painter is still here. By this time I'm half convinced he is not a Nazi agent. He acts at least unfamiliar with German literature. He tells us that he lived in New York for four years, but he can't think in dollars, and he won't talk politics. At least he IS a painter. Two other New York artists left the day we came. Everyone is buying idols. Smitty and I have had some arguments and discussions as to whether some are modern or not. Juan settled the doubt in our minds by telling Smitty that these people are chumps because they invariably pick out the modern stuff and don't care for the real antiques.

For a while we couldn't find any of our men. Alejandro seemed to be off on a trip. Wherever we asked, people would say "We don't know him but if we see him we'll tell him." At dinner that evening the Hungarian made the remark that Smitty resembled very much a French movie actor who always played gloomy parts. However, Smitty's gloom (partly brought on by Mr. Barker's detailed accounts of the unreliable nature of Alejandro) was lifted at once by the appearance of Juan, who promised to appear the next morning with the reptiles they had been saving for us.

The following morning I talked the Edelmans and the Hungarian into walking out to the arroyo with the thesis that

any artist would enjoy seeing the pots in the bank, but they weren't much impressed. Upon Smitty's suggestion I took Victor who agreed to meet us at the power house after "daring una vuelta" to get a spade. It was fairly early Sunday morning, and we left Smitty going over specimens with Juan, and crossed the river. Half the town was bathing in the river and I got a nice sneak shot. A bit farther up the river some men were throwing a round net—but after Kormendi and I shot a couple of pictures they moved off. These people are right nice at times.

Victor, waiting at the power house, had only his machete. So with his machete he dug out the remaining bones, but nothing was buried at the feet. We did salvage a broken figurine. Everything in the grave appeared to be broken up. Curiously the metatarsals were broken. We got most of the feet out of a solid lump of earth, and the bones were not only disarticulated but broken.

The other people amused themselves by pulling shards out of the bank, but on the whole they felt rather gypped. After a swim in the river we went home to lunch. Alejandro produced a good array of herps, among them a sea snake (*Pelamis platurus*). A nice lazy afternoon followed. Once Mr. Edelman, who had been in the square, rushed in with news that crowds were gathering and Cárdenas was coming. We excused ourselves in the rush that followed. They were back soon with the news that it was only an epileptic having a fit.

After dinner asked Mrs. Edelman why she was so hepped on Cárdenas, and we were as a result allowed to see the New Yorker on a soap box: the usual tirade—"damn Hearst—damn Standard Oil—damn imperialism." I always get myself into such discussions and should remember that "*una boca cerrada no agarra moscas*" [literally, "a closed mouth gathers no flies," in other words "it pays to be discreet."]

Later we went down to the square to see the dancing. People danced for hours to the tune of "Do I love you—oh my do I love you."

Chillo came to see us—very effusive, like a little dog wagging its tail. Old sour puss was around, too, a bit more genial than usual.

The next morning we prepared to depart, and depart we did, again in the front seat of a rickety bus. The trip was pleasantly shortened for me by the sudden appearance of Ixtepec. I had expected the three-hour trip to take at least seven.

Back to the Aracén once more where we were installed in the our same old room. Smitty got out the snakes to show the little monkey, which was properly impressed. A nap before dinner and dominoes after dinner.

April 2, 1940, en route to Chiapas.

The train *would* be early that morning. We were aboard by 4:45 A.M. The day was monotonous and uncomfortable riding. We were now farther south than we had ever been before. The country was flat and dry, but the brush was higher and the trees larger than they were farther north. We passed several lumber camps, and stopped twice to put out fires on small railroad bridges—fires that were started as the surrounding country was burned off. Dense smoke fills the whole atmosphere.

April 4, 1940.

Yesterday we arrived in Acapetahua and found the bus waiting to go to Escuintla. Our baggage had preceded us, and was safely there except that one corner was broken off of a tin suitcase. In about half an hour, more or less, we were installed in the Hotel Toledo in Escuintla, and in another half hour bathed under a nice shower. A supper of eggs, *bifstek* and beans was delicious as it was practically the first food we had all day. Pullman sandwiches do *not* come under the heading of food. An insurance salesman who ate with us told us that Finca La Esperanza was 24 leagues from Escuintla, two days on horses. Back at the hotel, we found that Matuda's friend who is to make our arrangements to get to La Esperanza was in Tapachula. So we spent the evening talking to a solemn German in an undershirt and smoking a long pipe. We had a beer with him, and he told us that La Esperanza is *two* leagues from Escuintla. The man at the hotel agreed with that estimate, so we arranged for horses ourselves and an oxcart for our luggage. In an hour and a half we were in Matuda's study, where he entertained us with talk and photographs until our little house was swept out.

It was a grand place to work—the best accommodations we have ever had. The little longhouse was divided into three parts by cement ridges on the floor that created an amazing illusion of division. One room was our work room, and each of the others contained a box bed raised on legs, with mosquito netting. While lying on the straw mat on one bed I found a bedbug, which destroyed my sleep for nights to come.

Since there were no rains as yet, the country was dry and terribly hot. There was a haze on the mountains which Matuda told us is smoke, and each morning the sun is a bright red ball until after ten o'clock. But there are little streams with water, and the forest is high, thick and green. We went out twice in the coffee groves, where the ground was not entirely cleared. Scattered in the groves were some very high trees. The ground there was covered quite thickly with leaves in some places, and there were many weeds. It would seem to be nearly or quite impenetrable in the wet season.

We turned lots of logs with little luck, although Smitty found four *Lepidophyma smithi smithi* in one. Under another we found land crabs, and were reminded of the land crabs in Swiss Family Robinson. These were small and elusive. There was one truly huge tree whose trunk was considerably hollowed out as a big, black cave, by fire. Having bats in mind, I ambled over, pushed my face in and focussed on a graceful black lizard poised on the charred convolutions. I stepped back and Smitty came over to catch it. He pulled out the dewlap, demonstrating that it was an *Anolis*. The dewlap was a uniform mauve color. After death it lost its dark color, and other members of the same species that we caught later were much lighter. Actually there WERE bats in the tree cave.

Another rotten log had literally hundreds of pretty little millipedes.

Later today Estéban took us out again to the *cafetal* [coffee plantation], and since we by then had our guns (our luggage was here by seven—wonderful!), we shot 32 ameivas. Once Smitty lunged flat into the leaves and came up with a pretty little *Coniophanes fissidens punctigularis*. Usually after as pretty a little flop into the leaves as you might wish to see, he came up with one of those slippery *Scincella*. We cavorted all over the hill and finally when we came to the place where it was hard climbing we turned back. It is no fun to collect when you have to watch closely every step, for there is no time to look around. Once Estéban called "Come quickly, señora, here is a snake." I rushed to where he was pointing in the leaves and tried to understand his flood of Spanish, the only words of which I could pick out were cabeza and culebra. I was trying to see a little head peeking out from the leaves, and then suddenly made out a bright green periscope with orange skin sticking straight up fully eight inches off the ground. There is a sort of sparkle about a living, alert snake. This one was a beautiful *Drymobius margaritiferus fistulosus*. Later we found a big *Spilotes pullatus mexicanus* in the path. We have found several big snakes in paths; they are beautiful to see. Home again and pickled the boas. Had some meat for supper—resembled gorilla biceps.

April 5, 1940, La Esperanza, Chiapas.

After breakfast we took a turn about the river. At 11:30 I was ready to come home, but Smitty wanted to stay. I might as well have come home, because I found nothing else. But Smitty hurried turning logs and found a salamander, a caecilian and two *Syrrhophus rubrimaculatus*. The salamander, *Bolitoglossa flaviventris*, was an especial beauty. Few were to be found during the dry season. Tomorrow we go back to the same spot. Estéban shot four *Ctenosaura similis* with his shotgun. I knocked one down with my .22 but it ran into a log on the ground, from which we could not extract it.

April 12, 1940, La Esperanza.

We have been collecting around and about all of the time, but nothing especially new turned up. The caecilian, *Dermophis oaxacae*, had four pups. Next week we go to Mount Ovando. I've stayed in the last few days to let my various bites get better. I have 57 on one arm and 52 on the other. The heat is deadening. It is much better in the open, however; in the forest the air is totally still and very oppressive. We were always glad to escape from it.

On the seventh we took horses and rode over to another big river, but got nothing of note except some *Cnemidophorus* new to our list here. Today Smitty is out with Estéban on other rivers. I tried to roll some film today but it was so damp that the film was sticky, so I didn't open my Finopan can at all. I'll bet that my Kodachrome is shot. The days have been awfully hot—over 94°F in the house.

Ovando

Rozella's journal ended with the preceding entry, but she later wrote an account of our trip up Mount Ovando that was published in Fauna of the Zoological Society of Philadelphia, vol. 9, nos. 1 and 2, March and June, 1947. The following is extracted from that account.

The most minute details of coffee time on the day before we hiked to the summit of Mount Ovando are as clearly etched upon my mind, seven years later, as if they had occurred only a few hours ago. Such is the case under circumstances of severe mental shock. We had just learned that, although there were to be mules for our luggage, there would be none for ourselves. We were to walk the entire distance.

It took several gulps of the most superb coffee we shall ever drink—grown, roasted and ground by our host, Eizi Matuda—to give me fortitude enough to raise my eyes. Smitty looked only slightly stunned, and Mr. Matuda casually continued eating his chocolate cake. To him, climbing that mountain was no challenge whatever, for he had walked over virtually every foot of the mountain collecting plants. Gregorio and Pedro, who were to accompany us, were whispering together, no doubt about the occasion when Gregorio was said to have walked to the summit and back in one day.

We could see Ovando through the kitchen window, a seven thousand foot triangular mass with a notch in the top. The actual summit of the mountain was not visible from the ranch, because it was hidden from sight behind the notch. To its rear was a plateau varying in height from three thousand to seven thousand feet in altitude, with a few low mountains scattered over it and many deeply eroded gorges and valleys. Physiographically, this southernmost section of the state of Chiapas is a part of Guatemala, and the Guatemaltecans insist that it should be a political part of their country, too, as it was long ago.

Virtually all of the plants and animals of that little plateau are different from those of the big, central tableland of Mexico, although the two areas are only narrowly separated at the Isthmus of Tehuantepec. The Chiapas plateau is so isolated in many respects that it is a center of a great deal of endemism. The animals we would find on Ovando would be exemplary of the types that occurred on the plateau proper, to which it was connected by a narrow ridge known in various parts of the world as the "devil's backbone." It was a golden opportunity to expand the diversity of our sampling.

As we gazed at the mountain, heavy black clouds rolled over its slopes as they did almost every afternoon. The air was thick and gray from the smoke of wandering fires. Every year the fires are started in the dry season to clear the land and to kill the ticks, but if, as was the present case, the rains were late, much more than unwanted brush was endangered.

I removed my visual focus from Ovando to the graceful arch of red hibiscus blossoms just outside the window. A tiny copper-and-emerald hummingbird hung there in exquisite daintiness, a much more pleasant sight than the foreboding mountain. As the discussion of plans went back and forth around the table, I brought my mental focus back inside. We were to leave Esperanza at five in the morning, a Monday. By nine o'clock our schedule called for us to be at Salto de Agua, where two or three families lived near the head of a small waterfall. By noon we were to reach Las Nubes, approximately halfway up the mountain. A single family resided

there, employed to clear land for its owner. We would have day and night collecting in that vicinity, and continue to the top of the mountain the next morning. Near the summit Mr. Matuda had built a small house for his own convenience and for the collectors who were from time to time fortunate enough to be his guests. We hoped to arrive at the cabin by ten in the morning (Tuesday), returning the following Saturday. If we left the cabin early enough we ought surely to reach the ranch by early afternoon. Such was the schedule, but reality was somewhat different.

We actually did leave at five in the morning. Our four boxes—one for clothing and bedding, one for food, and two for collecting equipment—were on two mules. Smitty and I, with guns and snake sacks, started first, followed by the boys and the mules. It was one of our rare, orderly departures; many were confused or absolutely riotous.

An example of the latter was fresh in mind—our departure from Tehuantepec a few weeks earlier. Since the train to Ixtepec (an hour away) stopped in Tehuantepec for only a few minutes, we had planned to be at the station early to check our baggage in advance. It consisted of eleven wooden boxes, four five-gallon tins, six half-gallon tins, three suitcases, and sundry other items, including turtle traps and rolled-up blankets. Our boy, Alejandro, and various members of his family, arrived early to take our possessions to the station. There on the platform we joined a colorful throng of passengers, onlookers, children, dogs, chickens, and vendors selling coconuts, flowers, tortillas, fruit and cooked foods. Everything was going well.

Then we learned that neither the express office nor the ticket office would be opened until just before the train arrived, and that we were about 15th in a long, jostling line of people. We had little time to contemplate the significance of this discovery before we heard the approaching train whistle.

Probably the following events took place in four or five minutes—busier ones I hope never to have. The boys nervously started moving our luggage about, trying to anticipate where the express car would stop. Alejandro and Smitty disappeared in search of the express man. The train arrived. Everyone on the platform except me climbed onto the train as everyone aboard hurried off. Dogs barked, children cried, and someone passed by carrying a very large, odorous fish. I collected a few personal items and took them to the end of the platform near the portion of the last car marked "first class." Smitty and the boys were nowhere in sight. Our boxes were in a heap farther up the platform. The cars gave a lurch. People aboard exchanged places with people on the platform, among them the owner of the smelly fish. The train began to move off. Alejandro arrived running, and with hardly any decrease in speed leaped onto the rear deck of the last car. As he grabbed our personal luggage on the way, I leaped after him. Alejandro's family and a great many other people (whom we did not know) began to grab our belongings and to throw them onto the deck. The conductor rushed up exclaiming over and over "You can't put those things there! You can't put those things there!" No one paid him the slightest attention. People continued tossing things onto the deck and passing them through the windows to passengers inside who gathered them in the aisle. But the train inexorably reached the end of the platform, whereupon Alejandro jumped off just as Smitty jumped on.

The situation was explained to the conductor as we purchased our tickets, and an inventory revealed that we had but half of our belongings, although in addition Alejandro's hat, his father's luggage strap, pieces of rope and a pair of old shoes whose owner was never found. The boys had been hired to put our boxes on the train, and they had done their best—mostly on their own initiative. If we had not attempted to do the impossible, matters would have been greatly simplified by merely missing the train, leisurely checking our many boxes with the express man, and leaving the following morning.

As it was, however, we arrived in Ixtepec just in time for Smitty to get the bus back to Tehuantepec, where he restored the boy's property to them, paid them, and returned with the remainder of our belongings. Nothing had been lost.

Back at La Esperanza, the morning was serene. The sky was deep blue and, shortly, the sun rose a copper ball as seen through the heavy thickness of the lowland haze. Ovando was clothed in various hues of purple, and all of the color near at hand—the trees with their various vines and parasitic plants, the dead leaves in the trail, the flowers, the birds, and even the little lizards—had a translucent and jewel-like quality—a phenomenon of reflected light that lasted for only a short time at sunrise.

Since we had already been collecting for several weeks near the ranch, the lizards that scurried along the trail were familiar and their species so well represented already in our collection that we did not stop to shoot any. Our revolvers were nevertheless a great boon for collecting lizards we wanted that could not be approached closely enough to be caught by hand or by noose. Onlooking strangers usually were quite impressed with our marksmanship, assuming that we were using bullets instead of a small-caliber shotgun. Their unbounded admiration was always as pleasing to us as it was undeserved, and it was easy to assume much more skill than was justified.

At a fork in the trail, we sat and awaited the boys, who had fallen behind, for directions, and watched a ctenosaur in a tree nearby. We had collected sufficient numbers of these also, and took no more. It was impractical for us to preserve whole such large lizards, or large snakes for that matter, as space was precious in our containers. But when the skin was removed and placed, with head and tail, in formalin, we would have the specimen and could eat it too. The meat was tender, comparable in texture to chicken, with no disagreeable flavor. The only large snake that found its way to the skillet was a boa constrictor. This culinary inspiration came as we watched Smitty skinning the snake. The meat was translucent and of a delicate pink color, looking so tempting that Mrs. Matuda kindly cooked some of it for us. It was, however, contrary to its appearance, as tough as I imagine the biceps of an athletic bull gorilla might be.

The boys appeared and we started up again. Soon Smitty, walking behind, caught the first snake. Words cannot describe

the emotions of a collector who finds that the person following has caught a specimen he himself just passed.

First arriving in the tropics, after experiencing desert collecting, it is easy to imagine that herps must be everywhere in such a luxurious setting. Perhaps they are, but they are a lot easier to spot in the open desert than where cover exists everywhere. The ground is covered with dry leaves to a depth of four or five inches, and any snake or lizard observed may plunge into that layer and disappear in any direction. If it goes into brush or canebrake it may be seen for several seconds where it is impossible to follow.

As the trail began to steepen and zigzag up the mountainside, we found that the dry leaves in the trail were most frustrating to walk on, as half of each step forward was nullified by slipping backwards. The mules had felt kittenish as we left the ranch, making short dashes off the trail trying to rid themselves of their packs by rubbing against trees. By the time the trail steepened they were no longer frisky and instead would lie down at any and every opportunity, as we stopped to look under an occasional stone or log.

We reached Salto de Agua an hour late, at 10 o'clock. Tired and hungry, we were ready for lunch, but the boys insisted that Las Nubes was but a short distance ahead, so we were persuaded to continue on and have our lunch there. Since there was only one trail between Salto de Agua and Las Nubes, and therefore little chance that we would get lost, the boys went on ahead with the mules, while we plodded wearily behind.

To keep my mind from dwelling upon our labors as we toiled up the mountain, I daydreamed about finding quantities of *Eumeces sumichrasti*, a rare lizard (only four known in all museums of the world before our trip) that, like most skinks, is very slick and smooth, as well as very energetic. On the other side of the state we were fortunate enough to find eleven or twelve, and soon after our arrival at La Esperanza we saw another although it escaped. At the time we were little concerned, for if they were as abundant as we found them on the Atlantic side, we would soon have all we needed.

Unfortunately, however, the days passed with no further *sumichrasti* sighted. Furthermore, the local residents seemed not to know them. Eventually, near the river, we finally saw another disappear into a log. Not to be thwarted this time, we cleared the log itself and all the space immediately around it, and systematically started to tear it to pieces. The job completed after an hour or two, but no lizard. Somehow it too had escaped.

Our luck changed a few days later, when we caught two in a row, and bagged them at once with some other lizards. Soon we also found a huge cockroach, which was so intriguing that we went to bag it too along with the lizards. At the same moment one of the *sumichrasti* came sailing out of the bag, its legs fairly beating the air, and dived into the leaves on the ground and escaped. We searched diligently for it, without success. To avoid losing the other skink, we carefully extracted it from the bag, hit its head on a pistol butt, killing it and thus assuring it would not bolt to freedom. Our joyous mood as we returned home turned abruptly sour, however, when we removed all of the some thirty live lizards of various kinds, the cockroach and the skink, and discovered that the cockroach had eaten all of the skink except its rump and tail. It was a hard lesson in proper isolation of our catch in the future. It was a doleful day, but before we left we did get two more, intact specimens for the collection.

As the climb dragged on without sign of the boys or Las Nubes, I shifted my daydreaming to caecilians—a top prize rarely encountered. It was a pleasure to imagine finding them in quantity, and to enjoy the admiration of others less fortunate. In fact, we had found but two—both in the same log that we tore up so diligently hunting for the *Eumeces sumichrasti*. It was, however, a much more fortunate discovery than we knew at the time, for when we came to preserve them, one was found to contain four full-term young, so we wound up with six.

At nearly two o'clock in the afternoon we surmounted a shoulder and saw a house on a corresponding shoulder across a deep little canyon. We couldn't see the bottom of the canyon but we could hear water flowing down it. Continuing around the shoulder, the path dropped down to the stream, and there we found that the boys had tethered the mules and were waiting with lunch unpacked. We fell down and to. After lunch we stretched out comfortably on a flat rock in midstream, quite happy. After a bit the boys became fidgety and asked for collecting bags, whereupon they went whooping down the canyon. We remained a bit on the rock, but as the blackflies became troublesome we gathered our collecting sacks, machetes, guns and camera and moved upstream.

The blackflies are only one of the many insect pests of the region, but are one of the more dangerous ones. They carry onchocerciasis, a disease produced by a special kind of minute parasitic worm. The female lives in nodules that, in man, usually appear on the scalp. The young circulate in the blood stream, and, because they are positively phototropic, they collect in large numbers in the blood vessels of the eye. This condition can lead to blindness, as unfortunately testified by Mrs. Matuda, who could scarcely see.

Some weeks later, when we made another trip back into the hills where onchocerciasis is common, we learned that a government doctor occasionally visits the area and removes the scalp nodules. One evening while there I was spending my time skinning birds, and I had my scalpels, forceps, scissors and tweezers scattered around on the table in front of me as several women and children came in to watch and talk a while. One charming little youngster, about four years old, began to cry the moment he saw the table with all the instruments laid out. "Mi sombrero, mi sombrero," he wailed at the top of his lungs. "Quiero mi sombrero!" As his mother carried him out I asked "Does he think that I have his sombrero?" The women burst into gales of laughter and explained that no, he thought I was a doctor come to remove onchocerciasis nodules, and he would feel much safer if he wore his hat. He returned shortly wearing his sombrero and quite happy. I could see that he had reason to be afraid, because several small scars could be seen

below the brim of his headgear.

In addition to the blackflies on the slopes of Mt. Ovando, there were many kinds of mosquitoes. The malaria carrier was there, as well as the one that transmits yellow fever, and there was another quite pretty little species with a bright metallic blue color. Its bite was exceptionally painful.

Of course, there were ticks, especially at lower elevations. The large ticks, the *garrapatas*, were not especially annoying. It was usually easy to feel them as they began to explore and, if they are not apprehended at that time, there was little difficulty in locating them later when they began to bite. The seed ticks, *pinolillos*, were far more troublesome. They were not easy to find even when they could be felt crawling. They burrowed into the skin and had to be plucked off one by one with a fine pair of forceps. Smitty and I often had to spend an hour or more in the shower hunting *pinolillos* for all the world like monkeys going through each other's fur.

Other pests were fleas, lice and bedbugs. One pest, rather like a flea, called a *nigua*, was said to be abundant in some areas, although we fortunately never encountered them. They lay eggs just at the base of the toe or finger nails, where a tiny pouch is formed when they hatch. Gregorio said that a nearby village was so badly infested that most of the residents had crooked fingers and toes.

After an hour or so we returned to the spot where we had eaten lunch and found the boys awaiting us. Their sacks were bulging and noisy with froggy protests. Amphibians of a number of species are soon taken in sufficient quantities, but we wanted the boys to bring in everything they caught for us to sort through for the more valuable species, releasing those no longer needed.

We climbed the side of the ravine to the house, and met the family with whom we were to spend the night. Hospitality in this part of Mexico we found invariably generous. It seemed that we could approach any dwelling, and if would like to spend the night there, would be welcomed and given food and a place to sleep. Through Mr. Matuda, arrangements had been made with the owner of the ranch for us to spend the night. Although we knew of no means of communication between La Esperanza and Las Nubes, its occupants seemed to be expecting us. The family consisted of man and wife with four little boys. They were said to be Indians who came originally from Guatemala. They were much darker than the other, Mexican Indians, and spoke a different dialect from that of lowland peoples.

The house, like most others in the vicinity, was made of sticks, but this one was distinguished by having a tin roof and two rooms. The family lived in one of the rooms, which was almost bare. Around three sides were shelves for sleeping and in the center a fire, surrounded by flat stones, provided cooking facilities. In one corner stood the ubiquitous Singer sewing machine. The other room seemed to be used only for storage, and in it I was to sleep. Sleeping shelves were to be used by Smitty and the boys. I had brought my soft string hammock which I much preferred to a bed.

While we sorted and pickled the day's catch, Gregorio and Pedro cooked supper. Mr. Matuda had planned the meals for our trip, and since Gregorio had cooked the same fare on many trips, he had the routine well fixed. The meals were all the same, consisting of boiled rice over which we poured a stew made of sun-dried meat, cabbage, onions, and a bit of potato. We also had coffee. This was very substantial fare that did not become monotonous, perhaps in part because the exercise led to considerable hunger.

After we had eaten, Smitty and the boys took our two lanterns and went back to the stream for some night collecting. This is always exciting, for there were more frogs to be found after dark, sometimes salamanders were found, and there were nocturnal snakes that seldom were seen during the day.

While they were gone I luxuriated in the comfort of my hammock, but shortly realized that I had acquired some company that was to make my life miserable for many a day—lice. Lice and fleas I regard as the most pestilential insects infesting man in Mexico. Ticks will settle down and can be apprehended and killed or removed fairly readily, but the wretched lice and fleas kept always on the run. We could not get rid of them until we finally returned to La Esperanza. We had hoped that they would abandon us at higher altitudes, but not so.

Nevertheless the good catch of frogs and snakes that the men brought in was worth the loss of a night's sleep. Las Nubes was rather famous for being haunted by beings that would throw stones on the tin roof at night, but we experienced no strange noises. Nevertheless the night passed slowly as our insect pests remained active throughout. As early light began to give shape to the contents of the room I murmured softly to Smitty "Are you awake," and received no response. The boys heard, however, and leaped from their sleeping shelves, gathered up the pots, pans and food, and dashed out to the stream. There was nothing else to do but unwind our blankets and greet the dawn. Had the day been clear, we would have been able to see across the narrow coastal plain to the Pacific Ocean, but a combination of fog and smoke from unattended brush fires formed an impenetrable screen, and we looked out on an eerie gray sea.

In spite of the dismal weather, our spirits rose after we had eaten breakfast. Gregorio diplomatically waited until breakfast was over to break the bad news that he must have known ever since we arrived at Las Nubes. Very gently, as one would speak of an irksome duty to a child, he revealed that because no one had taken the trail this year to the summit from Las Nubes, it had grown over and was no longer passable. Under no circumstances could our pack mules get though. It would be necessary to return to Salto de Agua and take a different trail that had been kept open to the summit. I objected strenuously at the prospect of descending from halfway up the mountain to start all over again on another trail.

"How near to this trail does the other trail come," asked Smitty. The boys pointed to a ridge a kilometer or so away, certainly much closer than Salto de Agua. After much discussion the Indian in whose home we had stayed volunteered to guide us straight across to the trail on the other ridge, bush-

whacking the entire distance. So the boys decided to take the mules back to Salto de Agua while we worked across country to the other trail. They would no doubt catch up with us before we reached the summit.

Without more ado, we left the boys to pack the mules, and started across country to the other trail. The Indian's wife also went with us, apparently just for the walk. The couple lived a very lonely life in their hut, acting as caretakers for a large plantation. The first few meters, up a burned-off section of the ridge, were easy, but once we hit the trees and brush, our progress was foot by foot as our guide hacked a way with his machete. Each time we stopped, he paused to take his bearings, and in a couple of hours we finally reached the other trail. We were happy to pay him, and then left him and his wife as we followed the trail alone.

We were on another ridge, and for a while the trail was fairly level, although quite narrow. It was bordered on each side by the skeletons of last year's tree ferns that leered down at us, their ghosts whispering about us with the breeze. Then our trail began to zigzag. Sometimes when we glanced upward we could see five or six bends a temptingly short distance ahead. We tried short-cutting only once; the deep leaves were so slick that we could get little traction and slipped backwards almost as far as we tried to step forward.

Although somewhat concerned about rousing venomous snakes in the leaves that we trod, we encountered no snakes that day. For a long time we found no signs of vertebrate life at all. We had the uncanny feeling that we had left the surface of the mountain and, like the children of the Pied Piper, were exploring its gloomy depths. We spent over an hour slip-sliding steeply up a slope covered with oak. The trees intermingled with and finally gave way to scrubby pine. We began to think that we saw the house Matuda had built near the top of the mountain, and from time to time we thought we saw the summit. Endlessly, however, upon reaching the spot there would be a level shoulder, a bit of a level path, and another rise. We were supposed to arrive at the cabin by noon, which was upon us, but there was more to come. We had brought no water with us, and became painfully thirsty. While crossing a ridge once we heard water in a stream below us, but we never saw it as the trail took us away from it. Occasionally the trail dipped sharply into a ravine, and we did not welcome such excursions, for every step down meant two difficult steps up. We finally stopped for lunch at the bottom of one such ravine. The boys had prepared the meal from the remains of the breakfast by combining the rice and stew and patting the mixture into large cakes.

As we began to climb the other side of the ravine we heard dogs barking, and when we emerged we found two houses about fifty feet from the trail. There was no sign of life but, as we were about to pass, two men ran out carrying shotguns. They questioned us in a rather belligerent manner, but were soon mollified by the many questions we asked. They reported that our boys had not passed, we were on the correct trail, Matuda's cabin was only a few kilometers ahead, and they would be only too pleased to guide us. Slinging their guns over their shoulders, they took off on the trail and soon were out of sight.

It was only three in the afternoon, but bitterly cold. A thin fog swirled about us and seemed to drip in dirty slime from the branches of the trees. The effect was enhanced by the long strands of moss hanging from the trees. Once, when we stopped to catch our breath, I rested my hand against some of the moss and instinctively tried to wipe off my fingers before realizing that the vegetation was quite dry. Blooming orchids added a touch of exotic color to the gray and green scene. As the fog became thicker we were reminded of the Doré illustrations in Dante.

Around four o'clock we arrived at another steep dip and rise in the trail. Across from us on a bare, eroded shoulder we could see a little house. To our dismay, when we reached the top of the small hill, we found that it was but one of a cluster of houses. In front of one were several persons, including the two men who had offered to guide us a few hours earlier.

We again asked directions, and were told that we had reached our destination. "Then which is the house of señor Matuda," we asked. They pointed to a small dwelling set to one side. We scarcely believed them and feared that we were lost and had arrived at some other place, because Gregorio and Pedro said they expected to arrive at our goal by noon. However, there was a padlock on the door, which our key easily opened, although we suspected that just about any key would serve the purpose. However, the Japanese newspapers stacked on one side and a plant press gave us all the assurance we needed. We went outside to rest a bit on a log, while the four women of the other houses decided they needed water, thereby giving them the opportunity to look us over as they trudged between spring and home.

Just before dark the atmosphere warmed a bit and was brightened by joyous shouts coming from our boys. The mules were positively staggering, but the boys frolicked up the hill and to the house as though blessed with limitless energy. In ten minutes our things were arranged in the single room the place afforded, a bright fire was burning in the five-gallon oil tin that served as a stove, and the boys were down at the spring washing the rice for supper. We took advantage of their absence to change into clean clothes. A glance at the water supply sufficed to assure us that we would do little or no bathing on Ovando. As we relaxed a bit, Smitty in a chair and I in my hammock, I was immediately reminded that changed clothing provided no surcease from lice, as one crossed a shirt pocket and disappeared into a seam. I plunged in after it, but, like the White Rabbit, it had evidently turned a corner.

That first night near the top of Ovando we let the fire go out—a mistake. The cold was insidiously painful and penetrated with a great ache. Smitty and the boys were sleeping on shelves built against the walls. At four in the morning Smitty arose to renew the fire, but the boys unfortunately took that as a signal to start the day, hurriedly leaving their shelves, rolling their blankets neatly, and shedding four shirts. As they departed toward the stream with an incipient breakfast, they still looked well padded.

Breakfast proved that the world is a sweet and happy place

after all. We were eager to be away for the adventures of the day. Because the occupants of the houses had cleared the trees from the knoll on which they lived, we had a fair view when we stood in the doorway and looked out. To our left was a steep drop to the arroyo and the spring and then an upward slope over which we had arrived the day before. In front of us a sheer hillside, sparsely wooded, indicated that we might have enjoyed a distant vista were it not for the ever-present fog and smoke. Behind us the path led up a slight rise toward the summit—still a thousand feet above. To our right a gentle slope become suddenly very steep to form a wall of the deep canyon that separated Ovando from the plateau of Chiapas.

All we could see of the plateau was a convoluted, blue chain of mountains extending out of sight in each direction. They didn't look particularly high, but we were told that they rose to as much as eleven thousand feet in elevation.

Although we had had our fill of climbing, we thought that, if more must be done at all, it was best to do it while fresh. So we decided to spend the morning working toward the summit. It looked like an excellent place in which to collect. Bromeliads and rotten logs were everywhere.

That morning we were chiefly interested in the bromeliads. These plants, of the pineapple family, have whorls of leaves, spiny in some kinds, like those of the familiar fruit. They are found growing on trees, logs or sometimes on rock fences. To the herpetologist they are a gold mine, for the bases of the leaves form hollows in which rainwater or dew collects and is held during the dry season. They form refuges for frogs and salamanders that can find moisture nowhere else. Snakes are also sometimes found in them, no doubt seeking amphibian prey.

After the rains begin—when water is everywhere—the animals that have been living in bromeliads disperse and are infinitely more difficult to find. That is the reason we made the trip to Ovando before the rains started, for we hoped in that way to find salamanders and frogs in abundance that we would have difficulty finding during the rainy season.

The plants are tough, and their broad leaves with spiny edges would make it difficult to tear them apart if it were not for the fact that if the base of the plant is struck off with a swift stroke of a machete, each leaf can be peeled away one by one, all around the plant to its very heart. Removal of the leaves is the exciting part, for the collector must be alert every moment to grab for a jumping frog, to seize a wiggling salamander, brush away an annoyed spider or centipede, or cope with a snake.

So we walked happily up the eroded path. It was steep and twisting, but without slippery leaves. Smitty and the boys had stopped to look in a bromeliad, and I walked ahead turning logs and lifting bark from fallen trees and stumps, but finding nothing. Removing dead bark is one of my favorite methods of hunting. The bark can be lifted and flicked away with a twist of the machete, leaving the collector a safe distance away from whatever venomous serpent may be coiled underneath—but rarely is.

A most curious experience I had while stripping bark from an old upright stump endeared this method of collecting to me early in our trip. The stump was a large and quite tall one, its bark hanging loosely. Very carefully each piece was removed, revealing nothing at all, until only a small piece was left about six inches square. In disgust I gave that piece a smart whack with the broad side of my machete, and to my intense surprise stunned lizards seemed to rain out from under it. I quickly gathered eight and carefully removed the bark to find another lizard and a treefrog. The little animals had run for shelter as each piece was taken away, before I saw them. Luck was with me, for if I had lifted the last piece of bark as I did the others, I would likely have caught very few if any.

A shout brought me running back along the path to join the others. They were standing over a ruin of bromeliad leaves beaming at a fat black salamander about two inches long and three-eighths of an inch wide. The little fellow was a fit inhabitant of its gray, eerie environment, for his blackness was dulled by a film, as though of mold, and leprous, moss-colored spots were scattered irregularly on the body. It walked about on Smitty's hand with an air of great dignity.

After admiring the specimen at length, we again moved up the trail. As we walked along another ridge, I sent a log tumbling down into the canyon and had the pleasure of seeing a dark, striped ribbon wriggle into the debris where the log had been. I employed my favorite method of capturing small snakes—by putting my foot on it and shouting for Smitty who always arrived in a flash from any distance whenever a snake is involved. This one was a *Rhadinaea* of a quite rare species.

We began to find green spiny lizards, about six inches in length, climbing on the tree trunks. Getting them was much like squirrel hunting, with a person on each side of the tree, one scaring the animal to the other side.

While Smitty and the boys were cutting up bromeliads, I climbed to the top of a hill and saw sunning itself there a lizard of a beautiful, gleaming metallic blue. Knowing that we had never seen anything like it, I moved cautiously out of sight and fell over myself reaching the others. When I am not shooting, I usually let Gregorio carry my heavy pistol, and I wanted to retrieve it from him. Returning to the top of the hill very cautiously, I aimed very carefully with racing thoughts of the rewards of finding a new species, and fired. The lizard tumbled off the log, and racing to the spot I found that it was simply one of the usual green lizards that in the bright sunlight had so refracted the light that it appeared blue. A great disappointment.

Gregorio was right behind me, and with polite words of apology, snatched the revolver from my hand and whisked out of sight behind the trunk of a huge tree. No mind reading of this personification of speedy action was necessary. Knowing that he must have seen a snake, I whisked after him and found him in that curious, half-crouched position he assumed when shooting a revolver, leaping about following the movements of a brightly colored snake that looked for all the world like a coral snake. The snake was wriggling rapidly, seemingly trying frantically to find a hiding place among the roots of the

tree. Coral snakes are quite uncommon, so it was doubly desirable that we not let this one escape, but it was moving so rapidly that Gregorio was having much trouble keeping it in his sights long enough to shoot it. In the meantime I excitedly was warning him not to shoot it in the head, not to pick it up when shot, and to quit stalling. He finally pulled the trigger and hit it, whereupon it started flopping about as we had seen other coral snakes do. I pinned it down with a stick to prevent it from escaping, and Gregorio helped although it took little weight to restrain the snake.

Smitty and Pedro came puffing up the hill to investigate the commotion, seized our beauty behind the head and held it up for close examination. Its face was that of a wide-eyed, frightened creature—large eyes set in a fairly broad head. And it had a long tail. And it was crawling about during the day. None of these attributes characterize coral snakes, yet here it had the exact arrangement of yellow rings bordering both red and black rings in the sequence of red-yellow-black-yellow-red etc. The upshot was that it was our first example of a remarkable coral snake mimic, *Pliocercus elapoides diastemus*, which, of course, completely lacked front fangs as we could see in the opened mouth.

After lunch we arrived at an open spot covered with low trees upon whose branches were thousands of bromeliads. We worked there the rest of the afternoon. Another species of salamander appeared there—a tiny brown one about an inch in length. Every plant contained several. One held 38. Once during the afternoon a salamander was found under a log. It was the only one we found outside of a bromeliad during all the time we spent on the mountain.

Later, we received a letter from a friend who had collected there during the rainy season. He told us that during his stay on Ovando he had discovered only a few salamanders, and all were found under logs, even though they cut up dozens of bromeliads. The plants were completely devoid of amphibian life. Yet that day in the dry season when we were there, we took 360 salamanders, eleven lizards and two snakes.

We returned to the cabin in the foggy part of the afternoon. By that time we were familiar to the inhabitants of the other houses, and they came one by one to call. As people who wished to dwell in isolated places far away from others, it seemed inconsistent that they gathered so regularly as soon as we showed up. Of course they wanted everything we had. When they asked, we did not personally wish to refuse them such staples as our sugar, coffee, and rice (which had been carefully rationed), but instead simply told them to ask the boys for anything they wanted. The boys on the contrary didn't mind refusing them at all.

So our neighbors became reconciled that they were not going to get any of our food, but they did the next best thing and visited us at every meal to watch us eat. As a result we ate rather hastily to avoid rubbing it in. They didn't actually drool at our feet, but the impression was much the same. Had we expected to stay a longer time on the mountain, we would have broken down or put a stop to their visits. As it was, we thought that if it gave them pleasure to watch people eat with a knife and fork, they might as well have it. Fortunately we could share our after-dinner cigarettes, which they always took with solemn dignity and never smoked. We suspected that they intended to chew them later.

On our last night we packed in preparation for our departure the next morning. We were leaving a day earlier than planned, for we wanted to spend another night at Salto de Agua on the way back. Two facts—we were lousy and had had no proper sleep since leaving La Esperanza—heightened our desire to spend our last night in a haven where we might bathe and rest.

The trip down the mountain was easy, and by five o'clock the next afternoon we were in Salto, settled in one side of a large clean house filled with cheerful, happy people. Our supper that night was supplemented with a most delicious wild pig stew, offered by our hostess.

During the evening I remained again in my hammock, while Smitty and the boys collected in the stream. Ironically, I was too tired to sleep, but remained very comfortable in the warm, smoky room under the thatched roof, listening to the night sounds and hearing, from time to time, a shout from Smitty or one of the boys.

They came in about midnight, Smitty with a rapturous expression on his face, Gregorio with a black eye and broken lantern, and Pedro with his usual happy smile. Gregorio had fallen on the slippery rocks of the stream, and, in trying to save the lantern, had received his shiner. Smitty had captured the most beautiful prize of the trip.

It was the most beautiful animal I had ever seen—a frog about an inch and a half long and transparent below. The skin of the dorsum was pale apple green, and translucent enough that the tiny vertebrae and bones of the skull could be seen through it. The under side was colorless so the tiny ruby heart could be seen slowly beating and circulating the blood through delicate vessels, the courses of which could be traced for much of their length. The stomach was an opaque white loop, and the liver appeared as a dark setting for the dull gall bladder. The tiny bones in the legs could be seen plainly. It was an exquisite jewel that might have come directly from the Land of Oz. We sat up with it for a long time until, with much reluctance, Smitty finally pickled it lovingly in the alcohol kept for special things.

Sadly, we discovered the next morning that the alcohol had changed the bright green to a dull gray, and the beautifully transparent venter had become as opaque as the belly of any other frog. That it was a moderately uncommon species was small compensation for the transformation of such a jewel to mediocrity.

An hour after leaving Salto the next morning we were back at La Esperanza. Our time was fast approaching to leave, and we were eager to start studying the thousands of specimens we had acquired in nearly two years. Our spirits soared, but no doubt just as much for being bathed, cleanly clothed, de-ticked and de-loused as for anything else.

This concludes the Smiths' accounts of Mexico in the 1930s.

Book Review: *Ball Pythons: Habitat, Care and Captive Breeding* by Stefan Broghammer

2001. 80 pp. Hardbound. Full color throughout. ISBN 3-9807368-2-2. US$15.00
M&S Reptilien Verlag. Villingen-Schwenningen, Germany. E-Mail: info@ms-reptilien.de

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If you have a fancy for ball pythons and you look at this book, you're gonna want a lot more. While these snakes have become a staple of the pet trade in recent years and are underrated by many herpers, Broghammer's book with its fantastic color photos can only re-ignite interest in them.

Here in Australia these snakes are effectively prohibited and the few keepers allowed to legally keep them guard their snakes jealously. In the U.S. and Europe "normal" phase "balls" are so cheap and common that no one bats an eyelid when they see them. It's a pity really, because a captive born ball python is one of the best snakes for beginners to start with.

Like other species specific books, Broghammer's latest book sticks pretty much to the usual recipe in terms of presenting its information. After the introduction follows a chapter detailing the ball python in terms of taxonomy and related matters. Other early chapters talk about the appearance and habits of these snakes, including in the wild. Broghammer talks about their distribution, habitat and conservation status, before discussing ranching programs in the home countries, population density and even field studies.

All this is an enlightening perspective for a snake that most of us have seen only in tanks in pet shops, reptile fairs and private collections. Broghammer also talks about the economic importance of these snakes to Third World villagers in the countries of origin.

Following this is a chapter on the religious significance of the snakes, before he gets into what most of us think is the more important part of the book.

Here he gets into the details of husbandry and breeding. Broghammer explains everything you'd ever need to successfully keep these snakes. Included are his explanations about the caging, climate, lighting and UV, decorating the cage or terrarium, hibernation or cool phase, feeding problems, forced feeding and other issues of importance.

The chapter on breeding goes through the whole process in a manner that anyone from novice to expert can grab. Broghammer talks about sexing snakes, stimulation, copulation, pregnancy, egg-laying and incubation, eggs and hatching and then rearing young snakes.

There is an extensive chapter detailing color and pattern mutations, which are obviously of great interest to Broghammer, whom many will recall did the earlier *Albinos* books. Broghammer lists all the important color and pattern mutations and explains the how and why of them all. There are too many for me to list here, but suffice to say that it's nothing short of amazing the many variants of ball pythons now available to the hobbyist via the pet trade.

There is a section detailing relevant terms used when breeding and an excellent overview of the genetics of breeding these snakes in order to get particular mutations, frequencies and so on.

The chapter on health problems details all the main diseases a keeper of these snakes is likely to come a cropper against. The medical advice appears to be in line with treatments as practiced by competent keepers and veterinary surgeons who deal with boids.

The latter part of the book has details of what Broghammer calls the ball python's "neighbors," namely African rock pythons (*Python sebae*) and African burrowing pythons (*Calabaria reinhardti*). The book closes with acknowledgments, useful references for further reading and a list of helpful addresses, including useful internet sites.

Broghammer's book is larger in size and format than most other species specific books on the market and is of course a little dearer, but it is so well produced and contains so much information, that few people will object to paying a little extra for the book. After all, it is hard-cover, and plastered with excellent color photos throughout. Printed on quality gloss paper, good clear black type and a perfect balance of modern graphics and text, without going overboard on the graphics, it is a book that exudes quality.

Besides being a worthy addition to any herper's library, Broghammer's book is one of those books that will probably be pulled off the shelf and looked at more often than most others.

HerPET-POURRI

by Ellin Beltz

Spin the 'sauga

Cincinnati's WCPO-9 television station reported: "The eastern massasauga rattlesnake, a rare, poisonous species with an affinity for the banks of southern Illinois' Carlyle Lake, could use a good public relations agent and some protection, state and federal environmental officials say. The snake's bad image bears some of the blame for resistance to a $129,000 management plan for the massasauga, said the U.S. Army Corps of Engineers. The corps has proposed spending part of that sum on a public relations makeover for the endangered species . . . to protect the snake, which is listed among Illinois' endangered species and is a candidate for the federal endangered species list. Concern for the snakes has been blamed for holding up construction of the Kaskaskia Lodge, a $10 million resort planned for the lake's south shore. . . . Road signs urging motorists to `please brake for snakes' have sprouted in the area. . . . The snakes, though poisonous, are seldom encountered, said . . . a natural resource specialist. `They're very hard to see,' he said. `They're very reclusive. They're very docile. Normally, unless you were really trying to kill or attempting to pick it up with your bare hands, these little guys will not bite.' The corps' plan would require studies before new construction can begin in undeveloped areas at the lake. Areas targeted for development will be surveyed over several days in April when the snakes emerge from hibernation. If snakes are found, the plan says, `alternate construction/development sites will be evaluated or appropriate conservation measures will be taken.'" [August 16, 2001, from the wire service] Wish I could convince the style book writers to add one memory sentence, "Its poisonous if you're trying to eat it, and venomous if it's trying to eat you."

Count 'em while they're still there

The National Park Service and Wildlife Conservation Society have a cooperative agreement to inventory amphibians and reptiles at ten national park sites in the northeastern U.S. from Y2000 to Y2002. The broad goals are to inventory and record 90% of the herpetofauna currently estimated to occur at each site, determine the status of species of management concern (endangered, threatened, special concern and other declining species) and identify critical habitat, and provide a basis for development of a long-term monitoring program. Degreed individuals interested in participating in the project for 2002 should contact either John L. Behler, Department of Herpetology, Wildlife Conservation Society, Bronx, NY 10460-1099 <Jbehler@wcs.org>, or David Brotherton, NPS/WCS Crew Chief <dkb4112@yahoo.com>.

What about Haast?

The *Alamogordo Daily News* recently printed this story about the community's annual rattlesnake roundup [in Otero County, New Mexico]. In an ironic twist, the event's organizer . . . was bitten during this year's roundup and required medical attention. Protestors from Animal Protection of New Mexico attended and provided information about rattlesnakes' role in their desert environment. One of the satiric public postings in response to the news article read "And hey, where else can you see the five-time Guiness World Record holder for snake handler get bitten?" [April 26, 2001, from Jim Stuart]

Was the supercroc caiman to gator?

• Interesting web article on cooperative feeding in crocodilians: <http://www.flmnh.ufl.edu/natsci/herpetology/crocbiology/Bartram.htm> [from James N. Stuart]

• "Thousands of South American crocodiles are 'starving to death or being entombed in mud' as the lakes and marshes where they live are drying up due to irrigation diversions from the Pilcomayo River. . . . Some 10,000 of the remaining endangered yacares are now critically imperiled with 40 to 50 dying each day. Rather than stopping the water diversions, the Paraguayan government says a `massive cull' of the larger reptiles, whose hides are used for leather, is needed to 'save the rest.'" [*GreenLines*, August 17, 2001, Issue #1447]

• The *New York Times* reports: "In China . . . while . . . imaginary dragons thrive in art and folklore, what could be called the country's only living dragon appears to be in serious trouble. According to a new study, the Chinese alligator—the animal that may have inspired the mythical creatures and is known as *tu long*, or earth dragon—is barely hanging on in nature. Researchers say fewer than 130 of these animals are left in the wild, though their current habitat in southeastern China can hardly be called wilderness. Once widespread in the lakes and wetlands of the lower Yangtze River Valley, the Chinese alligator, which can reach six feet in length, is now restricted to ponds surrounded by rice paddies and villages. One of the largest and most promising populations consists of 11 stragglers who live in a pond near a video rental shop, farmhouses and a vast expanse of rice paddies." This may be the first crocodilian to go extinct in recorded history. [August 18, 2001, from J. N. Stuart and P. L. Beltz]

• Washington, D.C., "Police called animal control after they stopped a reportedly drunk man on the street who was walking his pet caiman, which was wearing a homemade halter and muzzle. An animal control officer impounded the caiman. It is illegal to own a caiman in Washington." [*Washington Post*, August 16, 2001, from P. L. Beltz]

• "Far from their native swamps in the South, roaming alligators are the target of a crackdown in central Wisconsin's Waushara County. Incidents of pet gators wandering away from home prompted the calls for tighter controls in . . . a rural community of just more than 1,000 people. . . . [The] sheriff . . . said deputies responded to at least three reports since September of runaway alligators from [a single residence.]" County health officials issued an order to the homeowners "to build a stronger, locked pen, extending two feet below ground to six feet above ground, within 30 days for their four gators. Then the County Board, responding to residents' complaints and a petition signed by 73 people, adopted an amendment Tuesday night adding coldblooded creatures,

such as alligators, to the county's animal control laws. Under the old law, the alligators, when caught, were merely returned to the owners who were not held accountable." In line with the existing dog laws, "Under the amended law, people who allow alligators to roam at large could be subject to a fine of $150.50 for a first offense and escalating amounts after that." [*Milwaukee Journal Sentinel*, August 17, 2001, from Dreux Watermolen]

• "Check out <http://www.supercroc.org> the new site for Dr. Sereno's latest described species." Marco Mendez, November 4, 2001.

Turtles win on Grand Banks

"The swordfishing industry has lost its bid to reopen the Atlantic's Grand Banks during the `prime fishing season' pending the outcome of a lawsuit it brought to overturn the closure, says Yahoo, AP 8/21. The area, off the southeastern coast of Newfoundland was closed "to protect endangered leatherback and loggerhead sea turtles from fishing lines and hooks." [*GreenLines*, August 23, 2001]

I guess I do prefer to only think of frogs

• The *Monitor*, of Kampala, Uganda, reported on August 16, 2001: The success of the AES Nile Power will depend on whether World Bank, which is bankrolling the project, will reject environmental pressure from Western conservationists . . . [who] are mounting pressure on the World Bank not to back AES project for a [$500 million/200 MW] dam at Bujagali falls in Jinja. . . . Environmentalists have been increasingly questioning the wisdom of the major dam project in recent years, saying they are of little benefit to the poor and can cause considerable environmental destruction locally. [However] . . . the director of Uganda's Investment Authority told the *Guardian* newspaper recently that the environmentalists are "just crazy." "They think that because the West has spoiled its environment, we shouldn't have power." Ugandans are prepared to sacrifice the beauty spot, which is also a white water rafter's paradise, because of the country's chronic need for electricity, she says. "These Americans don't understand this, they just think, `Oh the frogs, the fish.'" [from Wes von Papineäu]

• Meanwhile in London, *The Guardian* reports: Frogs were declared a hindrance to the economic development of east Germany yesterday: [The German] Chancellor blamed them for the soaring cost of a motorway. Because of pressure from ecologists, a significant slice of the cost of the A20 is going on features to protect the amphibians' environment in the Baltic coastal wetlands. "Nowadays building roads is far more than just concreting over a landscape," the Chancellor said during an 11-day tour of east Germany. "I have nothing against frogs, but sometimes the big fuss they cause is quite incredible." [August 16, 2001, from Wes von Papineäu] Is it the frogs or the environmentalists clamoring, Mr. Chancellor?

• Giant bullfrogs are on the loose attacking local pets in Langley, British Columbia, according to the *Vancouver Sun* [August 15, 2001]. "Specifically . . . giant American bullfrogs that can weigh up to three kilograms and routinely eat native frog species and young waterfowl. . . . One cat was fishing in a pond on the family's half-hectare farm in June when she found out the hard way that bullfrogs are tough customers. . . . The problem is that the American bullfrog is not native to British Columbia. Numbers of them were brought here from the eastern United States and Canada in the early 1930s and '40s by a misguided entrepreneur who wanted to serve their legs in restaurants. But Vancouverites' appetites didn't run to *cuisses de grenouilles* in those days, so the frogs were abandoned to local ponds, where they have been spreading ever since — first throughout the Lower Mainland and now into southern Vancouver Island." The bullfrogs are devastating local wildlife including: "treefrogs, red-legged frogs, northwestern salamanders, endangered Oregon spotted frogs and Pacific water shrews, as well as assorted waterfowl, including ducklings and goslings. In the East, the bullfrog population is kept in check by birds of prey. But here, where herons and hawks weren't accustomed to having them for dinner, they have been allowed to proliferate out of control. It's only recently, she says, that B.C. herons and hawks are starting to realize what a substantial meal they can make. . . . [Local residents lose] sleep because of the sound of the frogs croaking. 'It sounds like a foghorn.'"

• "A large group of scientists now believe that the new chytrid fungus is responsible for the death and decline of amphibians in Africa, South, Central and North America, Europe, Australia and Oceania. . . . According to the University of Georgia's Institute of Ecology, 'This is the first wildlife disease to emerge on a global scale that affects an entire class of vertebrates and is associated with mass mortalities, population declines and species extinctions.'" [*GreenLines*, August 27, 2001]

• "In spite of release of 8,000 captive-bred Wyoming toads, surveys indicate that the population of what may be the most endangered species in North America has dropped from 492 in 1999 to 196 says ENS 9/14. The effort to restore the Wyoming toad to the wild may be in trouble as "few of the animals counted were adults" and scientists confirmed that the chytrid fungus, a `disease which has been implicated in amphibian die offs worldwide' was found among the population." [*Green Lines*, September 26, 2001]

• The Xinhua News Agency reports [September 17] that: Farmers in western China have appealed for 5,000 snakes, 20,000 sparrows and 200,000 frogs to fight a swarm of locusts. [The person who calculated the number of] . . . locust eaters for farmers in Gulao, near Chongqing, [said] the numbers were calculated carefully to solve the problem without resorting to environmentally unfriendly pesticides. It might sound like a lot of frogs, but they could easily be supplied "if each restaurant in China kills one less frog every day," he said. [Eloise Beltz-Decker, who added that "<http://www.snopes2.com/rumors/bert.htm> is worth clicking on. I love Snopes."]

Buy 'em from Hong Kong

Imail reported on August 15, 2001, that Hong Kong "pet lovers have been bitten by snake craze. Youngsters have fallen in love with the idea of having reptiles as pets and are

buying them in surprisingly large numbers. But an expert warned yesterday that reptiles could carry diseases, just like cats and dogs, and urged the government to step up supervision of the importation of these animals. The number of reptiles imported into the SAR in the first seven months of the year totalled 304,571, a huge increase on last year's total of 216,888 and 1999's 177,036, according to the Agriculture, Fisheries and Conservation Department. The reptiles were mainly lizards, snakes and tortoises, a department spokeswoman said. . . . [The] chief editor of *My Pet* Magazine said young people were turning to reptiles because they were easier to keep and did not live as long as dogs and cats. `They also think it's more interesting and trendy to have reptiles as pets, if these pets die or run away, they are easily replaced.' However, some owners let the reptiles go when the novelty wore off, which could be a problem for police and the public, she said."

A "World's Greatest" I could live without

"Ecologist David Suzuki comments on a recent analysis in the journal *Science* by concluding that in addition to altering the environment by consuming resources at a phenomenal rate, humans have also become the world's greatest evolutionary force. . . . [He] argues that humans now drive evolutionary change—and it's costing us immensely in a number of ways such as agricultural chemicals that result in insects and plants that often develop resistance to a pesticide or herbicide within 10 years of its deployment or antibiotics that create drug-resistant super bacteria and viruses." [September 28, 2001, reported by *GreenLines*]

Everyone needs to know this

"An 11-year-old boy became the [Australian] state's first snakebite victim of the season when he was bitten in Melbourne. . . . The boy had been playing in a pond . . . when he noticed two fang marks on his calf. He and a friend flagged down a driver, who took the child to a shopping centre where he telephoned his father. The boy was then taken to a medical clinic before being transported to hospital by ambulance. Metropolitan Ambulance Service spokesman . . . urged people who tended snake bite victims to contact 000 rather than move someone. `The best thing to do is make sure people remain calm. If possible, we'd urge people to stay where they are and get the ambulance to come to their location. . . .' The boy was . . . in a stable condition at the hospital." [*Australian Herald-Sun*, October 2, 2001, from Raymond Hoser]

In the days since the universe changed

"Volume #2 Issue # 4 (Sunday, September 16, 2001) of *HerpDigest* has been canceled. This is because most of the week of September 9 was also canceled. We will be back with Volume # 2 Issue # 5 on September 27, 2001." Allen Salzberg, via E-mail. I congratulate Allen for getting back on track, though because his latest tome, *Confessions of a Turtle Wife*, has finally made it to print. It is the "true story of a man a woman and the turtles that threaten to come between them." You can download the first chapter for free at <http://www.turtlewife.com>. Paper versions can be ordered through <http://www.hatsoffbooks.com> for somewhere around $15–20 with shipping.

A sad tale from Pittsburg ends badly for all

An eight-year-old Pittsburgh, Pennsylvania, girl has been critically injured by her family's 10-foot-long Burmese python which twisted itself around her neck. [The mother] found her daughter, on the kitchen floor and pulled the snake off the girl. The mother had been out running an errand. [The child] was not breathing and had no pulse when paramedics arrived, said . . . [the] captain of the ambulance service. She is in critical condition at a hospital in Pittsburgh. The family owned five snakes—four pythons and a boa constrictor. [The captain] said the snake had escaped from its pen. "The little girl came across it, began to play with it and the snake constricted around her," he said. Police say it is not illegal to own snakes like the python and no charges have been filed against the girl's parents. [London, U.K. Press Association, August 23, 2001] Two days later, the Pittsburgh *Post-Gazette* reported: "The parents of an Irwin girl who was strangled by the family's pet Burmese python were arrested yesterday on charges that their recklessness and negligence led to the girl's death." Both the father and his estranged wife were charged. "An autopsy showed the cause of death was compression of her neck and chest. The python, which is called Moe, weighs about 70 pounds and is roughly 6 inches in diameter. It is one of five large and dangerous snakes [in the house.] Somehow, it had opened the lid on its cage during the night." In 1996, the couple lost a 3-month-old daughter. The father "told investigators that she had been sleeping with him when he rolled onto her. It was ruled an accident." Both children are dead. The mother moved to a different town before she was arrested. The father was arrested and in jail on another charge. The snakes are in an undisclosed location. Neither parent was able to make bail and so both are in the county lockup. [Both from Wes von Papineäu]

Thanks to everyone who has contributed and you'll see more of your contributions in December! Send whole pages of newspaper with reptile and amphibian stories, photos, cartoons and so on to: Ellin Beltz, P.O. Box 934, Ferndale, CA 95536. Email: <ebeltz@ebeltz.net>.

Herpetology 2001

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 editor assumes full responsibility for any errors or misleading statements.

SYSTEMATICS OF AFRICAN TOADS

B. T. Clarke [2001, African Journal of Herpetology 50(1): 19-30] notes that African bufonid toads (especially members of the genus *Bufo*) are a relatively uniform group morphologically, but beneath this apparent uniformity lies a higher level of diversity in habits and lifestyle than is initially evident. Members of the group exhibit considerable variation in size (from the very small *Bufo beiranus* to the very large *Bufo mauritanicus*), habitat preference and reproductive mode. The latter ranges from "normal" oviparity with a large egg clutch and free living tadpole stage, through ovoviviparity to true viviparity with progressive reduction in egg clutch size. It might be expected that this diversity of form, ecological preference and reproductive capability would have been a stimulus to systematists to make bufonid toads one of the most intensively studied groups of African anurans. In fact, both the current state of knowledge of their phylogenetic relationships and the ability to discriminate species and genera remain poor. These deficiencies hamper progress in the study of all aspects of their biology, especially morphology, distribution, behavior, ecology and biogeography. This paper reviews the progress that has been made towards the goal of a natural or phylogenetic classification for the African Bufonidae, and includes suggestions on how this elusive aim may be attained within a reasonable period of time.

EFFECTS OF MARKING SALAMANDERS

T. M. Davis and K. Ovaska [2001, J. Herpetology 35(2): 217-225] note that recognition of individual animals is essential for a wide variety of research and monitoring studies involving amphibians, but little information exists on the effects that marking methods have on survivorship, life history, and behavior. They evaluated toe clipping and subcutaneous injections of a fluorescent-elastomer for individual identification of the western red-backed salamander, *Plethodon vehiculum*, on Vancouver Island, British Columbia. In the laboratory, no confirmed mortality of marked or unmarked (control) salamanders occurred over 64 weeks. The number of toe clips lost as the result of regeneration increased steadily after 35 weeks postmarking, but few fluorescent marks were lost or misidentified. In the field, the authors recaptured more fluorescent-marked (60%) than toe-clipped (40%) salamanders from September 1997 to May 1998 but detected no differences in growth or spatial movements. In a second field experiment (27 April to 31 May 1999), toe-clipped salamanders gained less weight in relation to their initial body size than did fluorescent-marked and control salamanders. These data suggest that toe clipping affects the ability of individuals to take full advantage of optimal foraging conditions that prevail in May, which, in turn, might affect the quantity of stored energy reserves required for survival over adverse, dry periods in summer.

BELIEVABILITY OF LAB RESULTS

P. T. Gregory [2001, Copeia (2):365-371] notes that animals held in the unnatural surroundings of the laboratory sometimes may exhibit unusual behavior, making experimental results difficult to interpret unless the natural history of the species is well understood. Some well-studied species, such as the garter snake *Thamnophis sirtalis*, which usually seem to adapt well to captivity, are therefore commonly used in laboratory experiments and assumed to function normally. However, this assumption may sometimes be unfounded. In this study, captive gravid *T. sirtalis* showed reduced feeding behavior, similar to free-ranging gravid snakes from the same population but showed very different thermoregulatory behavior, choosing low temperatures instead of high. By contrast, gravid congeners, *Thamnophis elegans*, showed similar feeding and thermoregulatory behavior in captivity and in the field. Choice of lower temperature by gravid *T. sirtalis* apparently led to extended periods of parturition for individual females and a high incidence of dead young in litters. Other studies of *T. sirtalis* in captivity also have yielded fairly high proportions of dead offspring, suggesting that (1) this species has a relatively high background rate of natural stillbirth; and/or (2) it is not always as suitable a species for behavioral/reproductive work in the laboratory as it seems to be. Whether or not the first proposition is true, the author concludes that *T. sirtalis* in this study behaved differently from snakes in the field, exacerbating the rate of stillbirth. Thus, laboratory studies of behavior will be most fruitful if informed by field studies.

JUVENILE BLANDING'S TURTLES IN NOVA SCOTIA

N. L. McMaster and T. B. Herman [2000, Chelonian Conservation and Biology 3(4):602-610] examined occurrence, habitat selection, and movement patterns of juvenile (age 1–13 yrs) and subadult (age 17–18 yrs) Blanding's turtles (*Emydoidea blandingii*) in Kejimkujik National Park, Nova Scotia, Canada, by trapping and radio-tracking 22 juveniles and subadults in summer 1995. Juvenile and subadult density correlated positively with adult density and suitable habitat. Juveniles, subadults, and adults occupied similar macrohabitats; however, juvenile and subadult activity was concentrated in areas with moderately to highly dense *Sphagnum* overlain by sweet gale, leather leaf, and/or sedge. *Sphagnum* appears to be the primary indicator of juvenile and subadult Blanding's turtle habitat. Water depth at turtle location was independent of turtle age. Juveniles tended to be more visible than adults, and young juveniles (age 1–7 yrs) were more visible than old juveniles (age 11–13 yrs) and subadults. Total range, displacements between successive captures, and daily movements increased with age, and correlated positively with the amount of suitable habitat in an area. There was little consistent seasonal movement among juveniles and subadults in this population.

CONSTRICTING BEHAVIOR IN GARTER SNAKES

A. de Queiroz and R. R. Groen [2001, J. Herpetology 35(3): 450-460] report that western terrestrial garter snakes (*Thamnophis elegans*) are the only *Thamnophis* known to constrict prey, and previous studies suggest that they are relatively inefficient constrictors. To quantitatively evaluate that perception, the authors compared the constricting behavior of *T. elegans* to that of a more typical constrictor, the gopher snake, *Pituophis catenifer*. They recorded the behavior of snakes preying upon mice under controlled laboratory conditions, focusing on behavioral measures related to the function of efficiently subduing and ingesting prey. Compared to gopher snakes, western terrestrial garter snakes showed the following characteristics indicating they are relatively inefficient constrictors: (1) greater variability in the method of applying constricting coils; (2) a weaker tendency to constrict prey; (3) longer times to subdue prey, (4) a lower frequency of trials in which coils were parallel; and (5) absence of the behavior of releasing the initial bite on the prey prior to the initiation of swallowing. These differences between the two species might be a result of differences in recent selective regimes, because western terrestrial garter snakes rely less heavily than gopher snakes on prey for which constriction is likely to reduce a snake's feeding costs. Another, not mutually exclusive, explanation for the behavioral differences is that they reflect the more recent evolutionary origin of constriction in *T. elegans* than in *P. catenifer*. Despite their relative inefficiency, the Colorado *T. elegans* used in this study nearly always killed the mice they constricted prior to ingesting them. In contrast, previous studies have indicated that *T. elegans* from the Pacific Northwest rarely kill mice they constrict. This difference may represent intraspecific geographic variation in constricting behavior. However, a recent molecular systematic study suggests that Colorado and Pacific Northwest *T. elegans* may represent distinct species in which constriction has independently evolved.

KINSHIP AND DENSITY EFFECTS ON TADPOLES

S. K. Saidapur and S. Girish [2001, J. Herpetology 35(2): 249-254] studied growth and metamorphosis of the toad *Bufo melanostictus* by rearing tadpoles of different sibships in isolation or in groups of siblings and nonsiblings (mixed rearing) under crowded and uncrowded conditions. All tadpoles survived and metamorphosed successfully. Growth rate and duration of metamorphosis of tadpoles reared in isolation were similar among the six sibships regardless of genetic differences. Tadpoles reared in sibling groups metamorphosed in 25 days, whereas those reared with nonsiblings metamorphosed between days 30 and 35. The largest mean body mass at metamorphosis was for sib groups reared in lower densities. When reared with siblings, growth was uniform, resulting in the production of bigger toadlets and a narrow spectrum of size classes. Mixed rearing retarded growth rates, increased larval duration, and produced smaller individuals at metamorphosis, resulting in extreme variability in size classes, especially under crowded conditions. The study shows that both kinship and density affect larval duration and size at metamorphosis in this species.

FOOD CHEMICAL DISCRIMINATION BY OMNIVOROUS SKINKS

W. E. Cooper, Jr. [2000, Herpetologica 56(4):480-488] notes that actively foraging, insectivorous lizards locate and identify prey using chemical cues sampled by tongue-flicking. For two species of lygosomine skinks of the genus *Tiliqua*, the swab method was used to test experimentally the hypothesis that omnivores derived from actively foraging insectivores can discriminate both plant and animal chemicals from control substances. Both *T. scincoides* and *T. rugosa* exhibited significantly stronger responses to plant and animal food chemicals than to control substances. Responses were stronger to prey chemicals than to plant chemicals in both species, but the difference was significant only for *T. scincoides*. The absence of elevated tongue-flicking or biting responses to plant chemicals by an insectivorous, actively foraging lygosomine species suggests that responsiveness to plant chemicals was derived in association with omnivory. Responsiveness to prey chemical cues appears to have been retained from the ancestral condition in actively foraging skinks. The findings are consistent with the hypothesis that dietary shift to omnivory or herbivory induces evolution of chemosensory responsiveness to plant chemicals.

EASTERN RATSNAKE SYSTEMATICS

F. T. Burbrink [2001, Herpetological Monographs 15:1-53] states that the eastern ratsnake, *Elaphe obsoleta*, currently includes seven highly variable and taxonomically confusing subspecies. Recently, maximum likelihood and maximum parsimony phylogenetic analyses of two mitochondrial gene sequences suggested that the complex of *E. obsoleta* (including *E. bairdi*) is composed of four distinct evolutionary lineages found in four geographical areas: 1) an eastern clade located east of the Apalachicola River and the Appalachian Mountains, 2) a central clade located west of the Apalachicola River and the Appalachian Mountains and east of the Mississippi River, 3) a western clade located west of the Mississippi River, and 4) *E. bairdi* in southwest Texas and northeastern Mexico. With respect to this phylogeographic hypothesis, the former seven subspecies of *E. obsoleta* do not represent distinct evolutionary lineages. In this paper, the morphology of *Elaphe obsoleta* and *E. bairdi* is compared to the results of the previous molecular study. Univariate and multivariate analyses of 67 morphological characters scored from 1006 specimens provided statistical support for the recognition of the same four evolutionary lineages identified in the phylogeographic study. Specimens can be classified morphologically by using canonical discriminant function analysis into the four molecular clades more accurately than they can be grouped into subspecific categories. Moreover, the identification of these subspecies proved difficult when using the traditional characters ascribed to them. In light of the corroborating molecular and morphological evidence, it is suggested that the recognition of the subspecies of *E. obsoleta*, be discontinued. Instead, the four molecular clades should be recognized as four species: 1) eastern clade = *E. alleghaniensis*, 2) central clade = *E. spiloides*, 3) western clade = *E. obsoleta*, and 4) *E. bairdi* = *E. bairdi*.

Unofficial Minutes of the CHS Board Meeting, October 12, 2001

The meeting was called to order by Jack Schoenfelder at 7:30 P.M. All board members were present.

Officers' Reports

Recording Secretary: Emily Forcade read the minutes for the September 2001 board meeting. The minutes were accepted as read.

Treasurer: Greg Brim distributed the treasurer's report for September 2001. He suggested that to ensure our long-term viability, we should have a budget. Jack said that he developed one during his first term and he supports the idea. There was some discussion about how a budget would work to accommodate costs that are hard to estimate and about what to do if people spend beyond their budget. Also many times people are spending their own money on certain costs and not requesting reimbursement. Dan suggested that each of the board members or activity coordinators come up with a figure that estimates what they will spend. Jack suggested that Greg begin to lay out a budget and that people begin to give him some estimated expenses. When he produces a budget, the board can vote on it. If someone then needs to go over budget, it becomes an issue for the board to decide. People who use their own funds to cover CHS expenses should inform the Treasurer so that the Treasurer can keep an accurate record of the organization's expenses for budgeting purposes.

Membership Secretary: Mike Dloogatch distributed the membership report. Membership is down to 800.

Vice-president: Lori King said that the December speaker will be Rob Carmichael who will talk about the wildlife center he runs in Lake Forest. The Utila Island Conservation Project will share a table with the CHS at the North American Breeders' Show on October 13–14.

Corresponding Secretary: Steve Spitzer said he didn't write the grant proposal discussed at the last board meeting because it required a past and a future budget, which we don't have.

Publications Secretary: Mike Redmer said he is contributing some additional photos of Illinois herps to the website. He has copies of a publication on Midwestern Ephemeral Wetlands, which he would like to make available for distribution at today's board meeting and at the Midwest symposium. It contains information which includes the definition, protection and preservation of these valuable and threatened areas. Chris Lechowicz has asked for more recent photos from Show and Tell so he can update the website.

Standing Committees

ReptileFest: Darin Croft said that Radio Disney would like us to advertise ReptileFest on their station. They are a national network with local affiliates that do their own advertising. The cost will cover sixty 30-second commercials and a one-hour live presentation at the show with one of their DJs. They will put together the commercial, but if we don't like it we can offer changes. We can also pair up with another company to contribute some of the cost of the advertising. Jenny said that Radio Disney had a big draw at the Arlington pet show. The station is directed at preschool and school age children including teens. Darin distributed some printed info from Radio Disney. There was a general consensus that this was a good idea and that Darin had our support for this if he chose to contract with them.

Shows: Jenny said that Joan Moore and Mike Dloogatch would be attending the Chicago Cultural Center's Halloween show on October 27 with toads, spiders and snakes. Additional volunteers would be welcome. On Saturday, December 1, the Nature Film Festival at the Cultural Center would like a few tables with live animals. Volunteers are welcome.

Raffle: Gary Kostka finishes directing this in October. There have been no volunteers to take over.

Adoptions: Linda said there haven't been too many iguana calls. Rich Crowley said there is an Egyptian uromastyx available as well as a jungle carpet python.

Chicago Wilderness: Tom Anton said that on September 23 there was a field meeting of representatives from the Audubon Society chapters at Nelson Lake Marsh in Kane County. There was talk of expanding field trips to get reptile and amphibian surveys. On September 18, CW sponsored a Conservation Design Forum Meeting. Chicago area herpetologists (including Tom) were invited to discuss where conservation efforts are going for a site. A Herp Evaluation Index was discussed. This would involve how to rate the quality of a site for a future field trip. Although the CHS is a CW member, we didn't have our own biography so, with Jack's approval, he sent one to their website. With Chris Lechowicz's approval we put a reciprocal web link to CW on our home site. Tom also spoke to Will County representatives about our having a salamander safari as well as other activities with them. They were very receptive. The information we collect would be used and would go to a Will County information atlas, in which CHS would get credit for the contribution. Mike Redmer said that the fact that Will County wants us to be involved with them is a step forward. Tom added that Will County passed a $70 million bond referendum to improve their facilities, including access to nature areas.

Ad Hoc Committees

Symposium 2001: Char Haguewood reported that some new fliers will be passed out at this weekend's North American Breeders' Show. In addition to the standard flier, there will be a special flier targeting breeders and another announcing Paul Sereno's Sunday presentation. The public can attend this event alone for a fee. Lori said that our symposium shirts are ready. She encouraged everyone attending the breeders' show to take advantage to talk one-on-one about the symposium. Jack asked Jim Hoffman to put symposium information on the listserve.

Facility: Jack said that the CAS is giving us a reduced rate at the McCormick Room, publicity and a rent reduction when we do a show. They cannot offer us storage space. (Steve Sulli-

van said he could provide enough space in his office to hold the library cart. The group expressed their strong appreciation for this offer.) The group discussed ways to improve the room. Reversing the seating would allow room for a larger screen. Ron Humbert offered to look into the price for a hanging wall screen. Dan Bavirsha said that we haven't had an attendance higher than 80 since he took over monitoring admission, so room size seems adequate. Jack said he would ask the CAS about them mounting the screen.

Nominating Committee: Steve Spitzer asked Lori about the possibility of herp videos during the November general meeting. Lori said that we could get a TV, VCR and a cart from the CAS. Ron Humbert asked if we could improve the mechanics of the program presentation. Lori suggested that cell phones be turned off. Greg volunteered to assist with any AV problems. Mike Dloogatch said that it was nice to see so many of the nominees in attendance at the board meeting.

Salamander Safari: Ron Humbert said he would like to do a field trip outside of Cook County. Tom Anton agreed to work with Ron to develop something. He suggested May as a good month to find herps.

Old Business

Animal of the Month: Ron said there were seven box turtles that were candidates for the September competition. The green iguana will be the animal for October. The boa constrictor was suggested as the animal for November. The judges will be the CHS members at large.

Speakers' Bureau: Jack asked for names at the general meeting. Anyone interested should E-mail or write to him.

CHS Logo Shirts: Jack ordered sweatshirts and more polo shirts. These will be offered for sale at the symposium in the Reptiques booth.

New Business

We need to set board meeting dates for the coming year. The board meeting usually takes place 12 days before the general meeting. Dates were suggested for the board to consider. The October board meeting date will be set after we know the date of next year's Midwest Symposium.

Ideas and Suggestions

Gary Kostka suggested that perhaps we should let the raffle lapse after October, until someone wants it badly enough to decide to direct it. Mike Redmer said that this raises the idea that we don't have enough people who are interested in being involved in the work of the society. Linda Malawy suggested that perhaps we could better sustain members' attention during the business part of the meeting if there could be different speakers when announcements concerned them. Jack thought this was fine but that the speakers needed to take responsibility to be ready to take the podium.

Round Table

Greg Brim said that members' interest in being involved was reflected in the attendance at this board meeting. Bob Bavirsha said he spoke to a reporter in Anchorage, Alaska who was amazed that we had 800 members. Ron welcomed the new people who were attending the board meeting and hoped they would continue to attend. Jack welcomed the attendance of Chris Lechowicz, our Webmaster, and Tom Anton, our second liaison person with Chicago Wilderness.

The meeting was adjourned at 9:30 P.M.

Respectfully submitted by Recording Secretary Emily Forcade

Advertisements

Advertisements (cont'd)

For sale: hi-orange western phase womas, c.b. 4/15/01 and 4/30/01, $2000 per pair or lone males for $850; nice pink and grey Argentine boas, c.b. 6/10, $90 each; yellow anacondas, jet black spots on canary yellow bodies, c.b. 6/01, only $75 each; Amazon tree boas, c.b. beauties, born right here 6/23/01, different colors, $50-200 depending on color; red blood pythons, fat and hardy little monsters, c.b. 5/01, $125 each or $200/pair. Coming soon: red and orange phase Brazilian rainbows and Dumeril's boas both due in August. All babies will be healthy, feeding and captive born. Mark Petros, Strictly Serpents, (847) 836-9426, E-mail: MLPserpent@hotmail.com.

For sale: Send SASE to CRC, P.O. Box 0731, Las Vegas NV 89125-0731 for brochures and list of species available. Limited bookings available for guided tours of herpetological collection sites in Nevada. Call/fax (702) 450-0065. URL http://www.herp.com/crc/ E-mail: crcsafetie@aol.com.

Herp tours: Adventure trips to **Madagascar**! Journey somewhere truly unique to seek and photograph nature on the world's least-studied mini-continent. For maximum herp fun and discovery, join Bill Love as we go where few people will ever venture in their lives. Let his experience assure a comfortable tour finding the most colorful and bizarre species on the planet! Get all the details at Blue Chameleon Ventures' comprehensive new website: <http://www.bluechameleon.org>, E-mail: bill@bluechameleon.org, or call (941) 728-2390.

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Wanted: Setting up breeding colony of fire skinks, *Riopa fernandi*. Need more females but will consider additional male. Vicky Elwood, (573) 761-4056, leave message or E-mail: velwood@mail.ultraweb.net. [MO]

Wanted: Greek tortoise or pair. Former long-time owner of Greek tortoise will provide excellent environment for Greek or other Mediterranean tortoise, including superior medical care and sunny summertime backyard with careful supervision. Leave a message on the machine at (708) 352-3685 or E-mail C. Mambretti at author@MambrettiBooks.com.

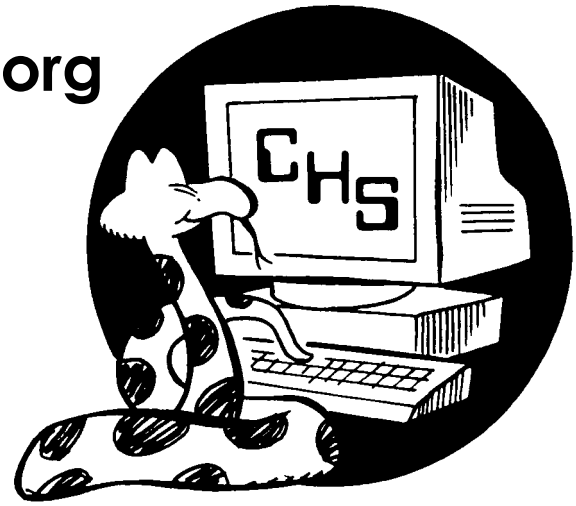
Wanted: west Florida reptile collector would like to hear from other reptile collectors from all parts of the U.S. to trade, buy, sell reptiles of all types. Tony Picheo, 11080 lillian Hiway, Pensacola FL 32506, (850) 453-8133.

Wanted: big-headed turtles; mata mata turtles; Mexican giant mud turtles (*Staurotypus triporcatus*); exceptionally large common snappers (45 lbs. & up); large alligator snappers (over 90 lbs.); spectacled caiman from Trinidad, Tobago and Surinam; dwarf caiman; smooth-fronted caiman; albino turtles (except red-eared sliders). Walt Loose, (610) 926-6028, 9:00 A.M. – 1:00 P.M. or after 11:30 P.M. Eastern Time.

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, (773) 588-0728 evening telephone, (312) 782-2868 fax, E-mail: <MADadder0@aol.com>.

Next time you surf the WorldWide Web, crawl, run, slither, slide, jump, or hop over to the CHS web site!

www.chicagoherp.org



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Chicagoherp.org is accepting applications for banner advertisements or links from herpetoculturists and manufacturers of herp-related products. Visit the site and contact the webmaster for details on how you can sponsor CHS!

HERP OF THE MONTH

To promote attendance at the CHS monthly meetings, the Board of Directors has agreed, on a trial basis, to offer a new monthly feature known as "Herp of the Month." Each monthly meeting will showcase a different herp and CHS members can bring one specimen of the "Herp of the Month" to be judged against other entries from other CHS members. Ribbons and/or trophies will be awarded to the top three winners.

The "Herp of the Month" for the November 28 meeting will be the boa constrictor, *Boa constrictor* ssp.

NEXT YEAR IN PEORIA

Mark your calendars now. In 2002 the 18th annual Midwest Herpetological Symposium will be held October 11–13, at the Holiday Inn Brandywine, 4400 N. Brandywine Drive, Peoria, Illinois, (309) 686-8000, http://www.holiday-inn.com/peoria-north. The event will be sponsored jointly by the Central Illinois Herpetological Society and the Champaign Area Society of Herpetoculturists. For more information, see http://www.midwestsymposium.org or personally contact either Ray Austin, (309) 682-4672, raustin@co.peoria.il.us, or Mike Pingleton, (217) 356-2385, pingleto@ncsa.uiuc.edu.

2002 CHS HERPETOLOGICAL GRANTS PROGRAM

The Chicago Herpetological Society announces the 2002 CHS Herpetological Grants Program to award financial support for herpetological research, education and conservation. Several awards of up to $500 each will be available. Interested parties may apply for a grant in any one of the following categories:

1. Illinois Herpetology
2. Graduate Student Research in Herpetology
3. Undergraduate Research in Herpetology
4. Conservation
5. Captive Management, Husbandry, and Propagation

An attempt will be made to award grants in each category, but depending on the applications received, not all categories may receive awards. Some categories may receive more than one award. The Grants Committee reserves the right to reassign the category under which a given proposal is submitted.

Applicants must be members of the Chicago Herpetological Society as of December 31, 2001. In accepting a grant, the recipient agrees to abide by all state and federal laws, and to acknowledge the Chicago Herpetological Society in any publications that result from the subsidized research. Recipients are encouraged to submit their work as an article for the CHS *Bulletin*, or to present a program at a CHS general meeting.

Applications should include the following:

1. Statement of the objectives of the proposal, and a statement of under which of the above categories the proposal is being submitted.
2. Description of materials and methods.
3. Complete budget, not to exceed $500.
4. Brief resuméof the applicant, if an individual. If the applicant is an organization, background information on that organization should be included.
5. Letters of support from collaborating partners or institutions are encouraged; student applicants must include a letter of support from a faculty adviser.
6. Anticipated completion date for the project.

Applications may be either mailed to the CHS at the address below or submitted by E-mail (letters of support, however, should be sent by mail). Mailed applications must be typed, double spaced, and submitted in duplicate. Applications (aside from supporting materials) should be brief and simple; proposals longer than three to five pages are discouraged. Applications must be received by 31 December 2001, and awards will be announced by 15 February 2002.

Submit typed applications to: Chicago Herpetological Society, Grants Program, 2060 N. Clark Street, Chicago IL 60614. Submit E-mailed applications to CHSGrant@aol.com.

Questions may be directed to Michael Dloogatch, (773) 588-0728, or to Michael Redmer, CHSGrant@aol.com.

UPCOMING MEETINGS

The next meeting of the Chicago Herpetological Society will be held at 7:30 P.M., Wednesday, November 28, at the Peggy Notebaert Nature Museum, Cannon Drive and Fullerton Parkway, in Chicago. This meeting will include the annual election of officers and members-at-large of the CHS Board of Directors. After the voting, videotapes and members' slides will be shown.

At the December 26 meeting, **Rob Carmichael** of the Lake Forest Wildlife Discovery Center will describe the operations of the Center. The program will be illustrated with slides and live animals.

The regular monthly meetings of the Chicago Herpetological Society now take place at Chicago's newest museum—the **Peggy Notebaert Nature Museum**. This beautiful new building is at Fullerton Parkway and Cannon Drive, directly across Fullerton from the Lincoln Park Zoo. Meetings are held the last Wednesday of each month, from 7:30 P.M. through 9:30 P.M. Parking is free on Cannon Drive. A plethora of CTA buses stop nearby.

Board of Directors Meeting
Are you interested in how the decisions are made that determine how the Chicago Herpetological Society runs? And would you like to have input into those decisions? If so, mark your calendar for the December 14 board meeting. For information on where the meeting will take place, call Mike Dloogatch, (773) 588-0728, evenings.

The Chicago Turtle Club

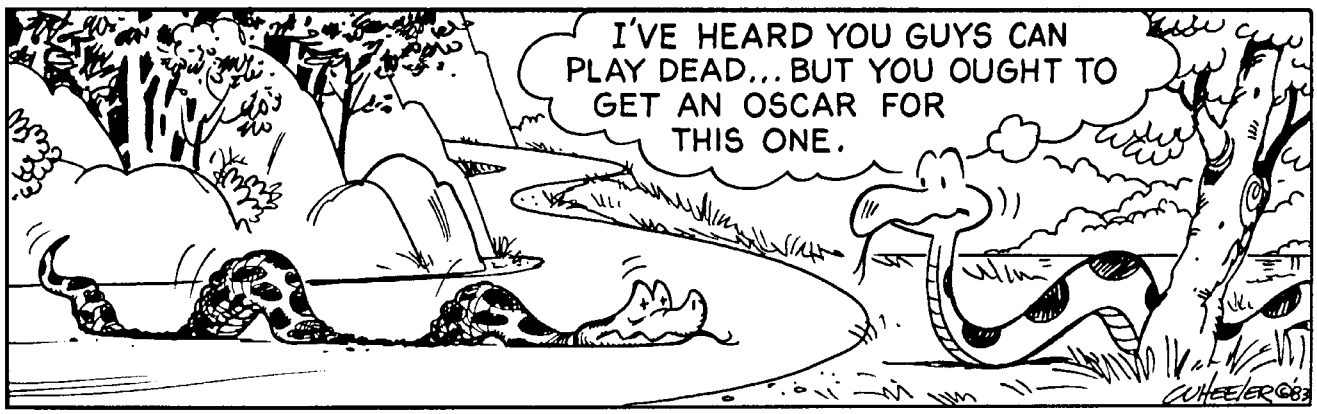
The next meeting of the Chicago Turtle Club will be on Sunday, November 18, 1:00 – 3:30 P.M., at the North Park Village Nature Center, 5801 N. Pulaski, in Chicago. **Darrell Senneke** of Tortoise Trust USA will present two informative programs dealing with tortoise husbandry. Meetings are informal; questions, children and animals are welcome. Parking is free. For more info call Lisa Koester, (773) 508-0034, or visit the CTC website: http://www.geocities.com/~chicagoturtle.

DONATIONS TO THE SEPTEMBER 26 RAFFLE

The following is a listing of those businesses and individuals who generously donated items for our monthly raffle at the September 26 meeting. The donated items are shown in parentheses.

West Indian Iguana Specialist Group (T-shirt); **Rep-Cal** (bearded dragon food); **Super Pet** (Little Critter Kit / Floating Island / Rock Pool Cover / Island Sanctuary / Hanging Gardens cage decor / ceramic dish); **Lixit** (watering station); **Hagen** (OrnamentAlls cage decor / Prime supplement); **Zoo Med** (iguana food); **Timberline** (cricket hydration gel); **John Kostka** (book: *A World of Snakes* / snake plush toy); **Marcia Rybak** (silver lizard pin); **Dr. Gery Herrmann–Mundelein Animal Hospital** (book: Walt Disney's Worlds of Nature); **Fran Kostka–KFK Jewelry** (frog necklace); **Mike Dloogatch** (T-shirt); **Lori King** (herp notebook / herp info-wheels / artist signed wildlife painting); **Jack Schoenfelder–Reptiques** (wildlife literature); **Gary Fogel** (lizard squeaky toy); **Sally Hajek** (herp color prints); **Charlotte Henkle** (collapsible cage / light, fixture and stand); **Dr. Cheryl Roge–Best Friends Animal Hospital** (fluorescent lights / calcium supplement); **CHS** (T- shirts).

THE ADVENTURES OF SPOT



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