

## The Year of the Hognose

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(all photographs by the author)

Eastern hog-nosed snakes (*Heterodon platirhinos*) have always fascinated me. Perhaps it is the challenge of finding a snake that is not often found by flipping cover items, is often superbly camouflaged, and that spends much of its time underground. Perhaps it is the physical aspects of eastern hognoses that draw me—the ability of this snake to flatten its body to the extreme, its impressive cobra-like hood with large eyespots, an amazing array of colors and patterns, the comical gaping exposing the tiny rear fangs. Or perhaps it is the endearing characteristics, the ones that so often tempt people, myself included, to anthropomorphize—the upturned nose, large eyes, smiling countenance, chubby appearance, slow and deliberate movements, tightly coiled tail, “big bad wolf” huffing and puffing. (Hognoses are the only snake I’ve ever kept that my wife has called “cute”!)

As a young boy in the 1970s, I found a pair of adult eastern hognoses and some hatchlings in Iron Mountain, Michigan. To me, they were a treasure, though my ophidiophobic youngest brother tried to pelt them with rocks! (When he was younger, a neighborhood bully had chased him holding a live garter snake, and my brother has never gotten over the fright!)

It wasn’t until a few years ago that I saw my next wild eastern hog. Ernie Guevara, past president of the Wisconsin Herpetological Society, took me to a Sauk County, Wisconsin, location known for producing easterns, and promptly flipped a large gravid



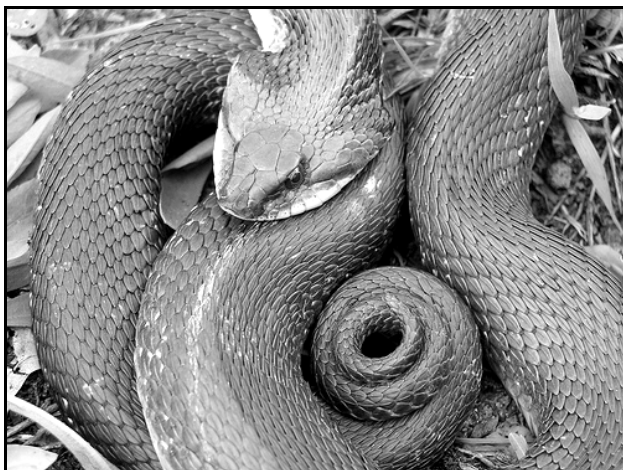
One of several eastern hognoses the author found this past year in southeastern Wisconsin. This attractive specimen was seen on October 12, an unseasonably warm day.

female under tin. (She laid 45 eggs a couple weeks later!) Ernie has since become a good friend and field companion.

This past spring and summer (2008), I had the good fortune to find several easterns and to witness some fascinating behavior. In the spring, after reading a couple of field-herping posts which indicated that eastern hogs were being found in an area in Waukesha County, Wisconsin, where I frequently herped, I made a concerted effort to find my own hog there.

I found the first one on June 21. It was quite large, though it didn’t appear gravid. This snake went through the typical defensive behaviors of the species, including hooding, gaping and noisily expelling air, lunging sideways without attempting to bite, and eventually, death feigning. It was a beautiful specimen, uniformly chocolate brown dorsally with jet black eyespots on its “hood,” and immaculate cream ventrally. The snake was well over 30 inches long and in perfect condition.

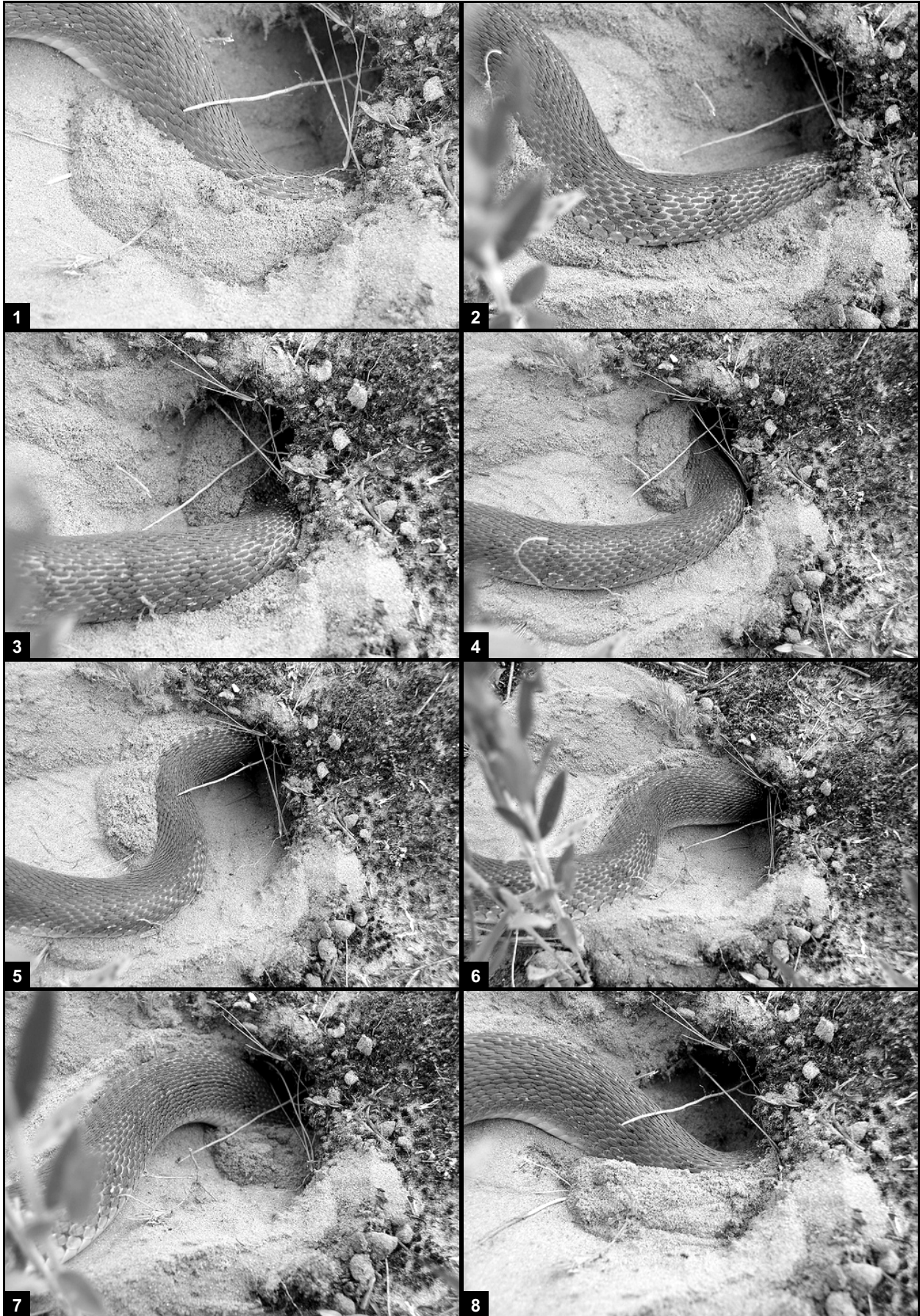
I found the second hog on June 24. This one was burrowing, and was gravid (she laid 23 eggs a few weeks later). I was with my good friend Jamie DeBoer when I came upon this snake. When I posted on FieldHerpForum.com (FHF) regarding this animal, I received replies indicating a strong interest in its burrowing behavior, including one from a well known figure in the herp world, Bill Love. On a subsequent outing (July 1), I came upon another eastern, well advanced in the process of digging.



The first hognose the author found during a very productive season.



The first picture taken of a hognose that eventually burrowed completely underground.



This sequence of photos showing the burrowing behavior was taken at 6- to 20-second intervals.



A wash of sand radiates out from the entrance to the burrow.

I decided to sit down and observe this snake's progress, and for the next two-and-a-half hours, I photographed the animal burrowing until it completely disappeared underground.

One of the most fascinating things I observed was the snake's method of removing sand from the burrow. As has been noted elsewhere, eastern hogs use their spade-shaped heads like a shovel to scoop soil as they dig. This snake would scoop with its head, which was several inches inside the burrow, and then use serpentine motion to push the loosened sand along its body until the sand was pushed out of the burrow. This formed an ever-expanding wash of sand radiating out from the entrance hole. The sequence on the facing page shows this process. The photos were taken at 6- to 20-second intervals.

As I sat watching the burrower, another adult eastern crawled right up to where I was sitting before noticing me. This was a banner day!

This second snake that "crashed the party" turned out to be another gravid female (the next day she made two more appearances at the same spot, despite my having examined and photographed her). As the burrowing hog continued, it got to a point where it stopped for a few minutes, seemingly exhausted, lying with about one-third of its body still out of the burrow. Then, it suddenly began to pull out of the burrow, coming out until I could see the dark eye-spots behind the head. I stayed abso-



A second hognose crawled into view as the author photographed the first.

lutely still, hoping the snake wouldn't become aware of me. The animal never came completely out of the burrow, however, but instead began its digging anew. This sequence of digging, pulling out, and digging again was repeated twice more. At 9:00 P.M., the snake disappeared completely underground, the sand filling in behind it.

The following morning when I returned, the burrow had been vacated. I dug carefully with my fingers, following the burrow, expecting to encounter eggs. I dug to a length of four feet, but did not find any eggs.

I excitedly posted my photos and my account of what I had seen and received many enthusiastic responses. One response came from Steve Barten, DVM, who wrote, "I grabbed my copy of Ernst and Ernst (2003) and they document that *H. platirhinos* will 'wander extensively during the day and usually burrow into the soil for the night wherever they happen to be when darkness approaches.' They also write 'When not foraging or searching for a mate, *H. platirhinos* usually burrows into loose soil,' and then give a description of head motions, but not the lateral body motions and the backing in and out of the burrow that you saw. *H. nasicus* also spends the night 'in a temporary burrow the snake constructs in loose soil.' I agree that what you saw seems like too much effort for a temporary shelter."

I also received a response from a Canadian FHF member, Jon Wedow, who wrote, "I spent some time this weekend in the field with a biologist observing this same behaviour. They are burrowing to lay eggs, but the eggs should only be present after the entrance is filled back in. They can be found digging these burrows over the period of a few days—apparently they get too hot in the process and will leave what seems to be a partially completed burrow only to return the next day or when weather conditions are better. Another interesting thing I learned was that younger females will often follow the lead of an older female when choosing a suitable nesting area."

On July 8 I returned to this spot, which I had now dubbed the "Hog Prairie," with Jamie DeBoer and another FHF member, Anton Sorokin. I spied the rear portion of a hog sticking out of a burrow and it had the obvious flaccidity of a snake that had recently laid eggs. Unfortunately, as Jamie and Anton came over to see the snake, it slipped into the burrow.



Jamie DeBoer photographs one of the hognoses.



Avery Fritsch holds the large hognose.

On July 10 I returned to the Hog Prairie with another herper friend, Philip Fritsch, and his two children, Avery and Nora. Interestingly, we came upon another hog burrowing into the same hole of the spent female Anton, Jamie, and I had seen the other day. This suggested use of a communal burrow. This snake also appeared gravid, and was quite large. It measured over 3 feet long.

This proved to be the last burrowing female I would see this season, though not the last hog. Based on the date the first gravid female laid her eggs, I expected to see signs of hatching beginning around the end of August. During the interim, I found a juvenile eastern hog under cover which was in a shed cycle, as well as smooth green snakes, blue-spotted and tiger salamanders, and central newts of the larval, eft, and adult forms. This was a very productive area! Add to this a variety of prairie flora, and you can see why I always looked forward to visiting the Hog Prairie.

I found my first hog eggshells on September 13. I found my first hatchling on September 24. This little snake went through the full repertoire of hognose defensive behaviors, including regurgitating a central newt eft. I discovered the next hatchling



Eastern hognose eggshells, discovered by the author on September 13.

on September 28. This one regurgitated a spring peeper. I continued to find new piles of hognose eggshells beside vacated nests. On an unseasonably warm day, October 12, I found a beautiful adult hog to cap off an extremely successful year.

This certainly was a season of rich discovery for me regarding the habits of the eastern hognose. Burrowing behavior, multiple specimens to examine, hatchling prey items, and the possibility of communal nesting all added up to a tremendous herpetological experience with *Heterodon platirhinos*, the fascinating eastern hog-nosed snake. I can't wait to see what next season brings!

#### Acknowledgments

Special thanks to the members of FHF for their encouragement and enthusiasm; Rob Carmichael, for his mentoring and patience over the years with a very green field herper; Ernie Guevara, Jamie DeBoer, and Anton Sorokin for companionship in the field; Jason Hood of the Chicago Herpetological Society for encouraging me to write this article; and Mike Dloogatch, for his excellent editing and layout work with this article.

#### Recommended Reading

- Ernst, C. H., and E. Ernst. 2003. Snakes of the United States and Canada. Washington, D.C.: Smithsonian Institution Press.
- Platt, D. R. 1969. Natural history of the hognose snakes *Heterodon platyrhinos* and *Heterodon nasicus*. University of Kansas Publications, Museum of Natural History 18(4):253-420.
- Tyning, T. F. 1990. Stokes guide to amphibians and reptiles. Boston: Little, Brown and Company.



Central newt eft, found at the Hog Prairie. These were found to be one of the prey items of neonate eastern hognoses.



This eastern hognose neonate was found by the author on September 28.