

HUDSONIA HARLEM VALLEY BIODIVERSITY MANUAL SUPPLEMENT

Eastern hognose snake (*Heterodon platyrhinos*) NHP G5 S3 NYS SC

Habitats

Open canopy woodlands, brushy fields, high floodplains of large streams, especially with sandy substrates. Also glaciolacustrine sand plains (especially with “pine barrens” vegetation), pine plantations and pine-oak forests.

Study Area Distribution

Known only from the southern half of the study area (southern Dutchess County, Putnam County and Westchester County), but may occur more widely, mostly at low to middle elevations.

Other Relevant Aspects of Ecological Niche and Behavior

A secretive reptile, eastern hognose snake burrows in loose soil or leaf litter in search of toads, its primary prey. Populations appear to be scattered and local, restricted to areas with good breeding habitat for toads. Low levels of development may actually benefit this species by renewing breeding habitat for American toad (large puddles, barren ponds, even ruts and ditches). Hognose snakes bask in woodland openings, edges, and utility corridors, especially in early spring and autumn. When confronted, many individuals will inflate and hiss, spread the neck vertebrae, and strike harmlessly. Handling a snake so aroused may result in the characteristic “playing dead” foil, the snake writhing, going limp on its back with its mouth hanging open.

Description and Identification

Stout-bodied, with upturned rostral (nose tip) scale, giving it a “pig-nosed” appearance. Adults 60-90 cm, rarely over 100 cm. Color and pattern variable, dorsally uniform black, gray, brown or olive, or patterned with dark (black or brown) blotches on a lighter (yellowish to reddish) ground. The pattern consists of three rows of blotches (back and sides), in a rough checkerboard pattern, often skewed or broken, or partially “zig-zagged.” Hatchlings are blotched, some individuals becoming uniform in tone with age, eventually losing the pattern on the scales, but retaining it on the skin between the scales. On such unicolored individuals, the blotch pattern may be revealed when the snake inflates, or show in outline when the snake has freshly shed.

Similar species. Northern water snake and eastern copperhead are stout-bodied and similar in size, but lack the upturned snout, and are patterned differently. Northern water snake may be uniform in color like some hognose snakes, but has more heavily keeled scales, giving a rougher appearance. Eastern milk snake is blotched, but has a small, rounded head and is slimmer. Young black rat snakes and black racers are blotched, but are much slimmer than young hognose snakes. No other snake has the characteristic behavior sequence of hognose snake when disturbed or alarmed, but some individual hognose snakes may not display the entire range of behavior.

Threats and Conservation

The stocky shape and startling behavior have given the hognose snake an undeservedly sinister

reputation. Some people mistake this innocuous reptile for a venomous copperhead or “water moccasin” and kill any individual encountered. Colloquial names (puff adder, black adder, hissing adder) reflect this unfortunate mistake. The eastern hognose snake is habitat-dependent and subject to extirpation from effects of development (direct habitat loss, loss of breeding habitat for amphibian prey, road mortality, collecting, and wanton killing). Conservation efforts should include habitat protection and preservation, for areas with known populations as well as substantial areas of suitable habitat in which the species has not yet been found. Public education efforts might reduce the killing of hognose snakes, especially in residential areas with known hognose snake populations.

Survey Technique Constraints

Searches should be conducted in cool (15-22° C), dry weather in suitable habitat. The use of “cover objects” (e.g. flat boards or corrugated aluminum roofing sheets) may increase the chances of finding snakes by providing shelter for moulting individuals, or secure thermoregulating space. Cover objects should be placed in partially shaded locations where they are unlikely to be found by other people (hikers, local residents, etc.), and checked in early morning, late afternoon and on rainy days. It may take months or longer before cover objects attract snakes. Snakes may be found basking openly on cool, sunny days or warm, overcast days, especially in spring and fall, and after heavy rains. The presence of hognose snake may be confirmed by road-killed young-of-the-year in September and October. Eastern hognose snake is an elusive species; failure to find it should not be regarded as evidence of its absence from any suitable habitat.

References to Identification Literature

Conant, R. 1998. A field guide to reptiles and amphibians of eastern and central North America. Houghton Mifflin Co. Boston, MA. 640 p.

Gibbs, J. P., A. R. Breisch, P. K. Ducey, G. Johnson, J. L. Behler, and R. C. Bothner. 2007. The reptiles and amphibians of New York State. Oxford University Press. New York, NY. 422 p.

Klemens, M. W. 1993. Amphibians and reptiles of Connecticut and adjacent regions (Bulletin Series, No 112). Connecticut State Geological and Natural History Survey. Hartford, CT. 318 p.

New York State Amphibian and Reptile Atlas Project. New York State Department of Environmental Conservation. 2008. <http://www.dec.ny.gov/animals/7140.html>

