Recent Records and Status of Amphibians and Reptiles in Indiana

SHERMAN A. MINTON, Indiana University School of Medicine, Indianapolis, Indiana 46223
JAMES C. LIST, Ball State University, Muncie, Indiana 47306
and
MICHAEL J. LODATO, 925 Park Plaza Drive, Evansville, Indiana

Introduction

The purpose of this paper is to review the status of Indiana amphibians and reptiles since the publication of the last comprehensive work on the group (4). Our principal goal is to present observations on changes in abundance of species over the past decade and to report new records representing extensions of range or occurrence at new sites within the presumed Indiana range. We have accumulated a large number of such records, most of them supported by preserved specimens or color photographs. Most of the identifications in this account have been made by one of us; however in some cases we have accepted reports of reliable and well qualified observers. While most of the evidence we present is anecdotal, we are long-term Indiana residents who have spent a significant part of our professional lives making field observations of the state herpetofauna and advising and directing others in faunal studies. We feel that impressions gained over the years may partially compensate for lack of quantitative data on populations we have observed. A secondary goal is to recognize recent changes in taxonomy and nomenclature that have affected Indiana species of amphibians and reptiles.

Finally, by inference as well as statement, this review offers a comment on the environment that provides the habitat for the Indiana herpetofauna. The past two decades have witnessed a growing concern with environmental change and its effect on local biotas. In many ways, amphibians and reptiles are sensitive indicators of such environmental change. Many have exacting requirements for moisture, temperature, shelter, and food during all or part of their life cycles. Nearly all have poor powers of dispersal, spending their entire lives within an area of a few hectares, sometimes much less. Many are quite sensitive to chemical toxicants such as pesticides, herbicides, and industrial wastes. While much remains to be learned, the ecology of many common North American species is sufficiently well known to allow them to serve as indicators of environmental deterioration.

Accounts of Species

Cryptobranchus a. alleganiensis (Hellbender): A study of Indiana populations of this species by William Kern has confirmed its presence only in Blue River where it has been found as far as southern Washington County. A specimen was collected about 1963 in the Whitewater River, Franklin County.

Necturus m. maculosus (Mudpuppy): Small populations apparently persist in most major streams and natural lakes in Indiana, but there is little new information. New county records: Brown, Delaware, Lagrange, Randolph, Whitley.

Ambystoma jeffersonianum (Jefferson's Salamander): New populations have been in Jennings County (Muscatatuck Wildlife Refuge) and Perry County (1.5 miles ne. Oriole). Females from Bartholomew County (4 miles sw. Columbus; Taylorsville) may belong to this species or the triploid *platineum*.

Ambystoma laterale (Blue-spotted Salamander): No new Indiana populations of this species have been identified.

Ambystoma platineum, A. tremblayi (Triploid all-female populations of the *jeffersonianum* complex): Populations identified on the basis of erythrocyte size occur in Wayne Township, Allen County; Bryan Nature Preserve, Clinton County; and Moraine Nature Preserve, Porter County. A St. Joseph County population (Kern Road, 6 miles sw. South Bend) is tentatively assigned to this group since a sample of 9 individuals contains no males. A single immature specimen from 2 miles south of Mentone, Kosciusko County is assigned to this group on the basis of erythrocyte size. The Boone County colony of *platineum* (4 miles e. of Whitestown) has been destroyed by habitat modification. The Clinton County specimens are typical of *platineum* and the St. Joseph County specimens typical *tremblayi*, however the Allen and Porter County specimens cannot definitely be assigned to either form but seem closer to *platineum*.

Ambystoma texanum (Small-mouth Salamander): This species is regularly associated with *jeffersonianum* complex triploids in breeding ponds as well as with typical diploid *jeffersonianum*. New county records: Franklin, Henry, Jennings, Montogomery, Randolph, Warrick.

Ambystoma maculatum (Spotted Salamander): No significant new information. New county records: Franklin, Henry, Jennings, Laporte, Vanderburgh.

Ambystoma t. tigrinum (Eastern Tiger Salamander): Apparently more plentiful in extreme southern Indiana than previously believed. New county records: Clark, Clinton, Floyd, Harrison, Henry, Lagrange, Randolph, Warrick.

Ambystoma opacum (Marbled Salamander): No significant new information or county records. Northern and eastern limits of the state range are poorly known.

Notophthalmus viridescens (Newt): New county records: Crawford, Delaware, Franklin, Henry, Perry, Porter, St. Joseph, Switzerland. The Crawford and Perry County specimens, mostly efts, are typical of the eastern subspecies, *N.v. viridescens*; Delaware, Henry, and St. Joseph County specimens are more typical of the central subspecies, *N.v. louisianensis*.

Desmognathus f. fuscus (Northern Dusky Salamander): Locally abundant. Recent new records extend the range into southern Henry County and eastern Lawrence County.

Hemidactylium scutatum (Four-toed Salamander): A colony of this uncommon salamander is located in a woodland swamp 1.5 miles south of Springport, Henry County and an attempt is being made to protect this site. Other new Indiana localities are Pigeon River Fish and Wildlife Area, Lagrange County and an unspecified locality in northwestern St. Joseph County.

Plethodon g. glutinosus (Slimy Salamander): A generally common woodland salamander in southern Indiana. No new county records.

Plethodon cinereus (Redback Salamander): A common small vertebrate in most Indiana woodland. At the southern end of the Knobstone Escarpment in Floyd and Clark Counties, this species seems to have increased in numbers since about 1975, while the closely related *P. dorsalis* has decreased. During the 1946-55 period when one of us (S.A.M.) was collecting regularly near New Albany, *P. dorsalis* was repeatedly listed as numerous with as many as 5 being found under one rock, while only 2 individuals of *P. cinereus* were mentioned in a nine-year period. One of these was collected 15 May 1948 near Renn's Spring on Bald Knob along with 8 *P. dorsalis*. At this same locality on 27 April 1979, 10 *cinereus* and 2 *dorsalis* were found and on 21 February 1981, about 12 *cinereus* and 1 *dorsalis*. New

county records: Clark, Delaware, Dubois, Grant, Perry, Posey, Washington, Warrick.

Plethodon dorsalis (Zigzag Salamander): No significant new information except as noted under *P. cinereus*. New county records: Greene, Posey.

Plethodon richmondi (Ravine Salamander): A recent record from Fayette County narrows the gap between Ohio valley populations and those in Wayne and Henry Counties.

Pseudotriton r. ruber (Eastern Red Salamander): First reported from Indiana by Wilson (9) on the basis of two specimens collected in Floyd County 4 miles northwest of New Albany. No others have been reported. The collection area is now largely suburban, but the species may still survive in small, spring-fed streams.

Eurycea b. bislineata (Two-lined Salamander): Common in many rocky brooks of southern Indiana. New county records: Delaware, Grant, Huntington, Ohio.

Eurycea l. longicauda (Long-tailed Salamander): A record from bluffs near West Franklin on the Posey-Vanderburgh County line extends the range into the Wabash lowland. Other new county records: Dubois, Franklin, Greene, Jackson.

Eurycea lucifuga (Orange Cave Salamander): Associated with *E. longicauda* at the West Franklin locality.

Siren intermedia nettingi (Western Lesser Siren): Locally and seasonally common in extreme southwestern Indiana; recently recorded at Jasper-Pulaski State Fish and Wildlife Area. New county records: Jasper, Posey, Vanderburgh, Warrick.

Scaphiopus h. holbrooki (Eastern Spadefoot): Indiana distribution very spotty and activity unpredictable. The only new record is a single adult female collected near Oriole, Perry County.

Bufo americanus (American Toad): Presence of two forms of the American toad in Indiana has been recognized for several decades. One is reddish-brown in life with little dorsal spotting, light ventral pigmentation, and small size (males 50-65 mm body length, females 60-75). The other is yellowish to greyish brown with prominent dark spots, heavy ventral dark pigmentation, and large size (males 65-80 mm body length, females 75-87). Differences are most apparent when specimens from the northwestern muck prairie are compared with individuals from the southern central hill country. The former belong to the large, spotted form, the latter to the small reddish form. Toads from the central and northeastern part of the state are generally intermediate in size, pattern, and ventral pigmentation, however those from the Indiana Dunes and northwestern sand prairie tend to be small with little dorsal spotting but heavy ventral pigmentation. The small, light-bellied toads of southern Indiana may represent the subspecies *charlesmithi* and the larger toads of northern and central Indiana the nominate subspecies, however ranges and zones of intergradation remain to be defined. There are still no records of *americanus* from the lower Wabash valley counties of Indiana and Illinois. New county records: Clark, Crawford, Decatur, Delaware, Henry, Howard, Jasper, Jay, Madison, Randolph, Shelby, Spencer.

Bufo woodhousei fowleri (Fowler's Toad): The degree of hybridization between Fowler's toad and the American toad in Indiana remains undetermined. Ottys Sanders (pers comm.) notes subtile differences between *fowleri* of Indiana and Illinois, the former being more brownish with less divergent interorbital crests, features that could indicate the genetic influence of *americanus*. New county records: Blackford, Crawford, Delaware, Franklin, Jay.

Acris crepitans blanchardi (Cricket Frog): It is our impression that this species

has greatly decreased in numbers in central Indiana. In southwestern Indiana it remains plentiful about the margins of borrow pits and shallow strip mine lakes. New county records: Franklin, Lagrange, Perry, Randolph, Shelby.

Pseudacris triseriata (Striped Chorus Frog): This small frog, extremely plentiful throughout most of the state in the 1940's and 1950's, has decreased greatly in numbers in the last decade. In 1966 there were 10 populations of *Pseudacris* in marshy spots within a 3-mile radius in northesastern Marion County; in 1981 there were none. In some cases, habitats have been destroyed, but in others at least marginal habitat remains. On the night of April 2, 1982, one of us (S.A.M.) drove 69 miles on secondary roads in Clay, Owen, and Putnam Counties and heard a single *Pseudacris* at close range, perhaps three others at a distance. Many *Hyla crucifer* and *Bufo americanus* were calling. New county records: Delaware, Henry, Lagrange, Randolph, Steuben.

Hyla c. crucifer (Spring Peeper): Seems to be increasing in numbers, particularly where *Pseudacris* has become uncommon. It is thriving near old strip mine spoil areas that were reclaimed by reforestation. New county records: Delaware, Henry, Jennings, Randolph, St. Joseph, Warrick.

Hyla versicolor and *H. chrysoscelis* (Eastern Grey Treefrog): Since these species can be distinguished only by voice and chromosome count, their Indiana ranges are poorly known. *H. chrysoscelis* seems to be the dominant form in the southern part of the state, ranging north at least to Delaware County; *versicolor* is known only from Indianapolis northward. New county records: Delaware, Franklin, Henry, Lagrange.

Rana clamitans melanota (Green Frog): Generally common in woodland. New country records: Delaware, Franklin, Henry, Jay, Randolph.

Rana catesbeiana (Bull Frog): Common in most permanent streams, ponds and lakes. New county records: Delaware, Franklin, Henry, Jackson, Jay, Jennings.

Rana areolata circulosa (Crawfish Frog): Some colonies in Vanderburgh and Warrick Counties have been destroyed by surface mining, drainage, and urban expansion. A report from near Monrovia, Morgan County extends the range slightly but requires confirmation.

Rana pipiens (Northern Leopard Frog), *R. utricularia* (Southern Leopard Frog), and *R. blairi* (Plains Leopard Frog): Minton (4) treated *pipiens* and *sphenocephala* (*utricularia*) as subspecies. Map 31 shows roughly the distribution of these two species in Indiana save that the zone of intergradation is actually a zone of overlap. The recently described *Rana blairi* is definitely known in Indiana only from Benton and Vigo Counties. Study of leopard frog systematics is particularly needed in southeastern and west central Indiana. Leopard frogs are among the formerly plentiful amphibian species that have decreased markedly in numbers since about 1970. This is particularly true of the northern species.

Rana palustris (Pickerel Frog): No significant new information. New county records: Jennings, St. Joseph.

Rana sylvatica (Wood Frog): One of us (J.C.L.) has noted the disappearance of a population of these frogs in a 100-acre woods in Delaware County. The last specimen was seen in 1959. The reason for their disappearance is unknown.

Chelydra serpentina (Snapping Turtle): Commercial turtle hunters report a marked decrease in snapping turtles in central Indiana since 1970. New county records: Delaware, Henry, Lagrange, Randolph.

Macroclemys temmincki (Alligator Turtle): A newspaper account with photographs

reports capture of two large specimens in a slough off the Ohio River in western Kentucky in May, 1980. This gives reason to believe this huge turtle may still be found in the lower Wabash and adjacent Ohio.

Sternotherus odoratus (Musk Turtle): No significant new information. New county records: Delaware, Henry, Madison, Steuben, Vanderburgh.

Kinosternon s. subrubrum (Eastern Mud Turtle): Road-killed turtles were collected in Posey County near Hovey Lake in 1974 and near Griffith in 1976. The Indianapolis Children's Museum had a specimen allegedly collected in Newton County in 1979.

Clemmys guttata (Spotted Turtle): This small, attractive turtle is rare in Indiana largely as a result of destruction of its marsh and bog habitat and the collection of specimens for the pet trade. It has recently been reported from near Delphi, Carroll County, Pigeon River Fish and Wildlife Area, Lagrange County, and Potato Creek Recreation Area, St. Joseph County.

Emdoidea blandingi (Blanding's Turtle): Status similar to that of the spotted turtle but seems less severely threatened. New county records: St. Joseph, Tippecanoe.

Terrapene c. carolina (Eastern Box Turtle): Distinctly less plentiful today than in the 1950's. New county records: Henry, St. Joseph.

Terrapene o. ornata (Ornate Box Turtle): Few recent records, all from relict sand prairies in northwestern Indiana.

Graptemys geographica (Map Turtle): No significant new information. New county records: Delaware, Elkhart, Henry.

Graptemys pseudogeographica (Midland Sawback Turtle) and *G. ouachitensis* (Ouachita Sawback Turtle): Vogt (7) considers these turtles distinct species. In Indiana they appear to be sympatric, although further studies of distribution and ecology are badly needed. Ewert (2) has reported extension of the Indiana Range of *ouachitensis* in the White River drainage to Columbus and in the Ohio to Jeffersonville. New county records: Bartholomew, Clark, Jackson, Warrick, Vanderburgh.

Chrysemys picta marginata (Midland Painted Turtle): Common in ponds throughout the state. New county records: Henry, Jennings, Randolph, St. Joseph.

Chrysemys scripta elegans (Red-eared Turtle): Recent records (2, 6) indicate this turtle may occur in all the Ohio valley counties of Indiana and throughout most of the White River system as well. New county records: Bartholomew, Floyd, Harrison, Owen, Perry, St. Joseph, Shelby, Vanderburgh.

Chrysemys concinna hieroglyphica x *P. floridana hoyi* (Hieroglyphic Turtle): This interesting turtle population apparently persists in extreme southwestern Indiana. In July, 1972 an adult male was collected at the junction of Black River with the Wabash near New Harmony. In 1973, the shell of an adult was found in Point Township, Posey County.

Trionyx s. spinifer (Eastern Spiny Softshell): No significant new information. New county records: Jay, Randolph, Shelby.

Trionyx m. muticus (Midland Smooth Softshell): Ewert (2) reported extension of the species range in the east fork of the White River. New county records: Bartholomew, Jackson, Shelby.

Sceloporus undulatus hyacinthinus (Northern Fence Lizard): Generally plentiful in open woods and forest edge in southern Indiana.

Ophisaurus a. attenuatus (Western Ophisaur): Always apparently uncommon in Indiana, this lizard persists in the northwestern sand prairies. Recent records include 4 individuals at Jasper-Pulaski State Fish and Game Area in 1971, a road-kill in northern Jasper County in May, 1977, and an individual photographed in Clark and Pine Dune and Swale in Lake County in April, 1981.

Cnemidophorus s. sexlineatus (Six-lined Racerunner): Finding of a small colony near Owensville, Gibson County confirms southwestern Indiana records about a century old. A sight record at a gravel prairie remnant near Wea Creek, Tippecanoe County evidently indicates a small relict population in the till plains. On the knobs north of New Albany, the racerunner is decreasing in numbers apparently due to increased growth of vegetation on the formerly almost bare claystone slopes. At the northernmost colony of the Floyd-Clark County line, no lizards have been identified since 1971. None have been seen at the Dug Knob colony since about 1950. The two southern colonies, Renn's Knob and Moser Knob, still have populations apparently in part because of construction of a large power line that keeps sections of the area relatively open.

Scincella laterale (Ground Skink): New records include three localities in Perry County.

Eumeces fasciatus (Five-lined Skink): Common in the southern region; rare north of Indianapolis. New county records: Allen, Delaware, Dubois, Fayette, Franklin, Jay, Jennings, Henry, Madison.

Eumeces laticeps (Broad-headed Skink): Widely distributed but uncommon. No new county records.

Nerodia sipedon (Banded Watersnake): Generally plentiful throughout Indiana. An unusual specimen was collected near Hovey Lake, Posey County by Robert Herrington in 1973. It was dark yellow with about 25 unbroken sooty black crossbands and reddish ventral spots arranged in parallel rows. *N. sipedon* is not a common snake in Posey County, but the few I have seen have been quite typical of *N. s. pleuralis* of southern Indiana and adjacent Kentucky and Illinois and quite different from the Herrington specimen which resembles a hybrid between *N. sipedon* and *N. fasciata*. New county records: Delaware, Dubois, Henry, Jay, St. Joseph.

Nerodia erythrogaster neglecta (Northern Copperbelly): Destruction of swamp forest has virtually eliminated this species in northeastern Indiana; the most recent report is of a specimen taken "northeast of Angola" in 1974. A fairly large population remains on the Muscatatuck Wildlife Refuge in south central Indiana. There are several colonies of the species in extreme southwestern Indiana. New county records: Jennings, Warrick.

Nerodia r. rhombifera (Diamondback Watersnake): No significant new information. New county records: Pike.

Regina septemvittata (Queen Snake): No significant new information. New county records: Delaware, Jay, Henry, Randolph.

Clonophis kirtlandii (Kirtland's Snake): This little snake has disappeared from most urban and suburban habitats in the Indianapolis area where it was once common. Fewer than a dozen have been found in the last decade. A record from Valeene, Orange County extends the range about 55 miles south on the Mitchell Plain. Additional new county record: Blackford.

Storeria dekayi wrightorum (Midland Brown Snake): No significant new information. New county records: Allen, Jennings, Lagrange, Laporte, Madison, Perry, Washington.

Storeria o. occipitomaculata (Northern Redbellied Snake): Records from Griffith Prairie, Lake County (5), Grabill, Allen County, and Kingsbury State Fish and Wildlife Area, Laporte County indicate a wide albeit spotty distribution in northern Indiana. Northern Indiana specimens do not differ significantly in scale counts and pattern from those of southern Indiana. New southern county records: Scott, Spencer.

Virginia valeriae elegans (Western Earth Snake): No significant new information. New county records: Clark, Monroe, Perry.

Thamnophis s. sirtalis (Eastern Garter Snake): No significant new information. New county records: Dearborn, Madison, Perry.

Thamnophis r. radix (Plains Garter Snake): No significant new information.

Thamnophis butleri (Butler's Garter Snake): Recorded from Kendallville, Noble County on the basis of specimens supplied by a commercial dealer in 1973. The urban colony in Kokomo probably has been destroyed. Only *Storeria dekayi* was found there in the spring of 1976, and no snakes were found in the spring of 1979.

Thamnophis sauritus (Ribbon Snake): Specimens from Coffee Bayou, Gibson County and the Muscatatuck Wildlife Refuge have been identified as the Eastern Ribbon Snake (*T. s. sauritus*) while specimens from the fish hatcheries near Martinsville, Morgan County, Warren Township, Putnam County, and the Pigeon River Fish and Wildlife Area are typical of the Northern Ribbon Snake (*T. s. septentrionalis*).

Thamnophis p. proximus (Western Ribbon Snake): There have been no definite Indiana records of this species since 1963. Its status requires reevaluation.

Coluber constrictor (Racer): Most recent workers recognize the blue racer of northern Indiana and adjacent Illinois, Ohio, and Michigan as a distinct subspecies, *C. c. foxi*. The area of intergradation between the blue and black racer in Indiana is slightly wider than shown in Minton (4, map 67). New county records: Delaware, Henry, Jay.

Elaphe obsoleta (Rat Snake): Acquisition of additional specimens from extreme southwestern Indiana causes us to refer snakes of Posey, Vanderburgh, Gibson, and Warrick Counties to the subspecies *spiloides* as currently defined. Intergradation with *E. o. obsoleta* occurs throughout most of southern Indiana north through Parke, Morgan, and Dearborn Counties. New county records: Delaware, Henry, Pike, St. Joseph, Shelby, Warrick.

Elaphe v. vulpina (Western Fox Snake): Records from Clinton County and north central St. Joseph County slightly extend the eastern limits of the state range.

Pituophis melanoleucus sayi (Bull Snake): No significant new information.

Lampropeltis c. calligaster (Prairie Kingsnake): The virtual absence of records from the Ohio valley counties of southwestern Indiana is difficult to explain. Anthony Wilson reported collecting a specimen near New Albany about 1972.

Lampropeltis getulus niger (Black Kingsnake): Records from Lovett Township, Jennings County represent a slight extension of the range to the northeast.

Lampropeltis triangulum (Milk Snake): Williams (8) considers most of southern Indiana a zone of intergradation between the northern milk snake (*L. t. triangulum*) and the red milk snake (*L. t. syspila*). Recent collections from southern Indiana indicate the population in Harrison and eastern Perry Counties is intergrade rather than *syspila*. However, typical specimens of *syspila* have been found in Knox, Martin, and Orange Counties. The milk snake is rare in extreme southwestern Indiana. New county records: Delaware, Henry, Jay, Jennings, Lagrange, St. Joseph, Whitley.

Cemophora coccinea copei (Scarlet Snake): No additional specimens of this snake have been collected. Areas in Floyd County where specimens were taken are now suburban, however this is a species that adapts well to disturbed habitats.

Opheodrys aestivus (Rough Green Snake): Found regularly in the southern hill country but no longer plentiful. New county record: Daviess.

Opheodrys vernalis blanchardi (Smooth Green Snake): A specimen found 9 miles east of Fowler near the Benton-White County line in 1973 represents the most recent Indiana record known to us. There are occasional reports of small green snakes from near Indianapolis, but we have seen no specimens. Holman and Richards (3) reported vertebrae of this species from a cave in southwest Monroe County associated with late Pleistocene mammal remains. Within historic times, *O. vernalis* has been reported from Brown, Knox and Posey Counties, however these records are nearly a century old.

Diadophis punctatus edwardsi (Northern Ringneck Snake): A common small snake in southern Indiana woodland. New county records: Franklin, Jackson, Perry, Wayne.

Tantilla coronata (Crowned Snake): We have not recorded this species from Indiana since 1967, however its habitat in Floyd and Clark Counties does not seem to be seriously disturbed.

Carphophis amoenus helenae (Worm Snake): No significant new information. New county records: Dubois, Franklin.

Heterodon platyrhinos (Eastern Hognose Snake): No significant new information. New county records: Delaware, Fayette, Lagrange, St. Joseph.

Agkistrodon contortrix mokeson (Northern Copperhead): Although numbers seem to be reduced, the Indiana range of the copperhead remains essentially the same. A recent report from Franklin County confirms its presence there. New county records: Gibson, Jennings, Warrick.

Sistrurus c. catenatus (Eastern Massasauga): A report from Carroll County in 1981 indicates persistence of at least one till plains colony. Other reports in the last five years are for Kosciusko, Lagrange, Laporte, St. Joseph and Steuben Counties.

Crotalus h. horridus (Timber Rattlesnake): Rattlesnakes are reported regularly from Brown, Monroe, and Morgan Counties, rarely from other southern Indiana localities. New county records: Harrison, Perry.

Summary

In 1972, 82 species of amphibians and reptiles were reported to inhabit Indiana. Two species have been exterminated apparently within historic time, the mud snake (*Farancia abacura*) about 1900 and the alligator snapping turtle (*Macroclemys temmincki*) about 1935. Both had very small ranges in the southwest tip of the state. Since 1972, five species have been added, one (*Pseudotriton ruber*) by discovery; the others by definition of previously unrecognized sibling species. Five species (*Pseudotriton ruber*, *Rana blairi*, *Chrysemys concinna*, *Cemophora coccinea*, and *Tantilla coronata*) have minute Indiana ranges consisting of small parts of 3 or fewer counties. All are species at the extreme periphery of more extensive continuous ranges. All are still believed to occur in Indiana although *Cemophora* has not been recorded since 1957. Ten species have conspicuously disjunct and probably relictual Indiana ranges; six of these (*Hemidactylium scutatum*, *Kinosternon subrubrum*, *Nerodia erythrogaster*, *Thamnophis butleri*, *Thamnophis proximus*, and *Opheodrys vernalis*) have had their numbers markedly reduced through habitat

modification. Of 7 additional species whose ranges extend but a short distance into Indiana, *Cryptobranchus alleganiensis* has been virtually eliminated within the past 50 years while *Ophisaurus attenuatus* is rare but apparently was never plentiful. Species formerly widespread in Indiana whose numbers have declined markedly in the state since 1950 include *Pseudacris triseriata*, *Rana pipiens*, *Rana areolata*, *Clemmys guttata*, *Emydoidea blandingi*, *Clonophis kirtlandi*, and *Sistrurus catenatus*. The decrease has been marked enough to justify threatened status for *Clemmys* and *Sistrurus*. Less marked but probably significant decreases in numbers have been noted for *Necturus maculosus*, *Chelydra serpentina*, *Terrapene carolina*, *Opheodrys aestivus*, and *Thamnophis sauritus*.

Christiansen (1) estimates that ranges of 69 percent of Iowa's reptiles and amphibians are decreasing and 15 percent are in imminent danger of extinction in the state. Destruction of prairie marshes and woodland ponds and loss of the prairie-forest ecotone have been major factors contributing to the decline of populations. Salamanders, snakes, and lizards are affected more severely than frogs and turtles. Of 57 amphibian and reptile species common to the two states, 33 appear to be faring at least marginally better in Indiana while 4 are better in Iowa. *Opheodrys vernalis* is considered a threatened species in both states; *Nerodia erythrogaster* and *Sistrurus catenatus* are listed as threatened in Indiana, endangered in Iowa.

Note added in proof: In May, 1983 *Agkistrodon piscivorus leucostoma* (Western Cottonmouth) was recorded from Indiana for the first time at Buffalo Bottoms near Jasper, Dubois County. This increases the number of species in the state to 88.

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