Distributional Summary of the Amphibians and Reptiles of Vigo County, Indiana

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Abstract

Of 45 species of amphibians and reptiles collected since 1963, 4 are new county records. Eleven species taken in the 1890's were not collected. Uplands are characterized by eastern and southern forest elements while lowlands are characterized by southern fluvial and austroriparian elements. Species whose ranges are either widespread or to the southwest of Vigo County have generally fared well with civilization while many species of other faunal groups appear to have diminished in numbers or become extinct in the county.

Introduction

In the 1890's, W. S. Blatchley reported 52 species of amphibians and reptiles from Vigo County (1, 2). Recent collecting and examination of specimens collected by Blatchley that are now housed at the Museum of Comparative Zoology at Harvard indicate that his records of *Siren lacertina*, *Bufo americanus*, and *Kinosternon subrubrum* were probably misidentifications based on *Siren intermedia*, *Bufo woodhousei*, and *Sternothaerus odoratus*, respectively. Since 1963, 45 species have been collected. Four of these, *Plethodon dorsalis*, *Scaphiopus holbrooki*, *Bufo americanus*, and *Eumeces laticeps*, are new county records while 11 species collected by Blatchley are not represented. Of the total of 56 species known to occur or to have recently occurred in Vigo County, 14 are salamanders, 13 are frogs, 9 are turtles, 2 are lizards, and 18 are snakes. Their distribution in the county and their success under the changes of civilization may be correlated with the faunal groups to which they belong.

Description of Vigo County

The Wabash River runs southwesterly through Vigo County, a 416.5 square mile area in west-central Indiana. The river served as a Wisconsinan glacial spillway and the stratified outwash and valley train deposits produced a sandy loam soil which originally supported prairie vegetation (3, 5, 6). These deposits, which range in width from about 3 to 6 miles, and the present river valley are collectively known as the lowlands. Much of the rest of the county, the uplands, is covered by a clay loam soil derived from Illinoian drift deposits and was originally forested. The Shelbyville substage of the Wisconsinan glacial advance entered only a small area in the northwest corner of the county.

Methods

Forty-two localities were visited, some repeatedly, for the express purpose of collecting amphibians and reptiles. Collection was by hand and by use of 15 and 30-foot, one quarter-inch mesh seines. Distribution of localities was biased towards uplands, the northern half of the county,

and the east side of the Wabash River but coverage was augmented by donations, road kills, and collection of specimens at other localities while seining for fish. Some river turtles were taken using the Indiana Department of Natural Resources 230 v shocker boat.

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Herpetofaunal Distribution and the Effects of Civilization

Modifying the system of Smith and Minton (8), the amphibians and reptiles of Vigo County may be classed as widespread, northern, eastern, southern forest, southern fluvial, austroriparian, and southwestern indicating their general geographical and ecological distribution relative to the Vigo County area. County distribution of species by these faunal groupings is presented in Table 1.

TABLE 1. *Distribution of the Amphibians and Reptiles of Vigo County, Indiana.*[1]

A. Species Collected Only in Uplands
Eastern—*Plethodon cinereus* [12], *Eurycea bislineata* [12], *Rana clamitans* [18], *R. sylvatica* [8], *Eumeces fasciatus* [3], *Thamnophis sauritus* [2], *Diadophis punctatus* [3].
Southern Forest—*Plethodon dorsalis* [1], *P. glutinosus* [10], *Eumeces laticeps* [3], *Carphophis amoenus* [1], *Opheodrys aestivus* [4], *Lampropeltis getulus* [8].
Widespread—*Bufo americanus* [1].

B. Species Collected Only in Lowlands
Southern Fluvial—*Siren intermedia* [1], *Pseudemys scripta* [6].
Austroriparian—*Scaphiopus holbrooki* [4].
Southwestern—*Trionyx muticus* [1].
Widespread—*Necturus maculosus* [2], *Ambystoma tigrinum* [5].

C. Species Collected in Both Uplands and Lowlands
Eastern—*Terrapene carolina* [14-3], *Elaphe obsoleta* [9-8].
Southwestern—*Ambystoma texanum* [13-6], *Rana areolata* [2-2], *Lampropeltis calligaster* [6-6].
Widespread—*Bufo woodhousei* [15-12], *Acris crepitans* [25-11], *Hyla crucifer* [13-3], *H. versicolor* [4-5], *Pseudacris triseriata* [24-9], *Rana catesbeiana* [23-8], *R. pipiens* [21-9], *Chelydra serpentina* [7-4], *Sternothaerus odoratus* [1-3], *Chrysemys picta* [4-4], *Trionyx spinifer* [4-2], *Natrix sipedon* [12-7], *Storeria dekayi* [5-1], *Thamnophis sirtalis* [3-3], *Heterodon platyrhinos* [8-6], *Coluber constrictor* [8-9], *Lampropeltis triangulum* [2-1].

D. Species Collected Only at Juncture of Uplands and Lowlands
Northern—*Clonophis kirtlandi* [1].
Eastern—*Ambystoma maculatum* [1], *Notophthalmus viridescens* [1].

E. Species Collected by Blatchley But Not Recently
Hemidactylium scutatum, Ambystoma jeffersonianum, A. opacum, Rana palustris, Regina septemvittata, Storeria occipitomaculata, Eurycea longicauda, Natrix rhombifera, Graptemys pseudogeographica, Thamnophis proximus, Graptemys geographica.

[1]Numbers in brackets indicate number of localities. When collected in both situations, number of upland localities is given first.

Uplands are characterized by eastern and southern forest species. All of the latter and all but 2 of the former appear to be restricted to uplands or upland-lowland juncture. Only 1 eastern species, *Elaphe obsoleta*, is common in the lowlands. In contrast, the lowlands are characterized by southern fluvial and austroriparian species. *Trionyx muticus*, the only southwestern species restricted to lowlands, is a fluvial form.

Widespread and southwestern species generally occur in both uplands and lowlands. For widespread species, distribution and relative abundance (as indicated in Table 1 by number of localities) probably reflects wide ecological tolerances. Distribution of southwestern species may in part reflect expansion as a result of civilization with land clearing and cultivation increasing the amount of available prairie-type habitat. For example, while Blatchley (2) collected a single specimen of *Lampropeltis calligaster*, it has recently been taken at 12 localities, 6 of which are in uplands.

Where uplands and lowlands meet, there appears to be a greater diversity of amphibians and reptiles than elsewhere. Blatchley (2) collected 35 species at "Sand Hill", a juncture locality where Deming Park now exists. At a corresponding locality, 1½ miles E of Sandcut, I collected 21 species. These data probably reflect a greater diversity of habitat in these areas than in strictly uplands or lowlands. Also, because these intermediate areas have sandy soil, they provide excellent habitat for burrowers such as the mole salamanders (*Ambystoma*), *Scaphiopus*, and *Heterodon*.

The 11 species listed as having been collected by Blatchley but not recently (Table 1) include 1 northern, 5 eastern, 1 southern forest, 1 southern fluvial, 2 southwestern, and 1 widespread species in that order. Widespread species, with 20 of 21 recently collected, seem little affected by civilization. While 2 of 6 southwestern elements have not been recently collected, both were rare in the 1890's (2). Considering the comments already made about distribution, the southwestern elements have also done well under the impact of man. Other groups have not fared so well. Eastern and southern forest elements (collectively 6 of 23 species not recently collected) have probably been adversely affected by clearing of upland forests. Southern fluvial elements have been affected by drainage of lowland ponds and sloughs and other associated agricultural practices in the lower Wabash bottomlands. Of 3 southern fluvial species, 2 have been recently collected and 1 of these (*Siren*) is rare as opposed to early reports (1, 2) of its great abundance. Of 2 northern elements in Vigo County, *Clonophis* is known only from 2 juncture localities (1 Blatchley record, 1 recent record), while *Hemidactylium*, a relict in the Vigo County area, is probably extinct there.

Three county records are particularly interesting in regard to total distribution. These include *Scaphiopus*, representing a northwest extension of the known range (4), *Notophthalmus*, which has not been recently taken in central Illinois (7), and *Bufo americanus*, which is

usually shown as absent from west-central Indiana and east-central Illinois.

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