THE HERPETOFAUNA OF MINNESOTA:

I. A SURVEY OF THE SPECIES

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Introduction

The herpetofauna of Minnesota has received little attention in the literature during the past three decades. Studies of Breckenridge (1944). although supplying a substantial groundwork, posed several questions which have not yet been satisfied, on the one hand, during the meantime becoming decidedly outdated. Both problems require a serious effort,as do attendant factors, such as the status of certain rare and restricted species.

This initial report deals with three major items: 1) a review of specimens supplementing those known to exist in collections, 2) a report of field observations of specimens during the duration of this study, and 3) a suggestion of some problems requiring study in view of the presence, ranges, and taxonomic situations concerning amphibians and reptiles in the state. The report is part of an effort to make full assessment of specimens available in various museum collections, and the varifiability of certain written records. Specimens collected during work other than that at present are reported here, but a compilation of field observations thereunto pertaining is not given, other than those made during the course of the present work

Funds have been made available for this survey through the Minnesota Natural Heritage Program.

Field Notes of Study

The notes given here are summary. meant to bring up to date the collective locality data for amphibians and reptiles in Minnesota. County records indicated are simply those which differ from those of Breckenridge (1944). A more comprehensive treatment is planned, in order to make current in published form the data available, setting the groundwork for further faunistic research.

Field notes associated with the present project are presented, except as they relate specifically to the projects regarding the Hyla versicolor complex. and the rare and restricted amphibians, in which case, more complete notes are to be found in those reports.

May 8, 1980 - Eastward from Cambridge at mid-evening. Extensive marshes near North Branch; no anuran sounds.

May 9 - southward on rte. 61:

16105.0 depart Hastings southward - 10:00 a.m. , sunny

16113.9 hillside, hardwood forest; turned logs, etc., dry under logs. nothing found

16125.0 - extensive riverbottom floodplain forest; still moist from receded water; as with W. Tennessee (see notes 1975) ground rather clean - blooming violets, some other herbs and grass. I turned numerous logs and stripped bark; nothing seen in this situation; A DOR Myotis lucifigus on bridge.

16140.0 REDWING

16145.0 visited residence with high bluff frontage. Resident

reported that a large snake was coiled on her front steps some years previous. She is acquainted with some of the snakes, so that there is a possibility of its having been Elaphe obsoleta.

16146.6 Chrysemys picta DOR

16150.0 FRONTENAC

16163.5 roadside ponds - 2 enormous Chrysemys picta basking on a log

16168.0 READS LANDING

evening

Hokah, Houston, Co.: I checked many ponds and pools at sunset and dusk. No anuran sounds. After dark, a fair chorus of Hyla crucifer began with a few scattered members of Rana pipiens. Collected a Hyla. In another large pond, a few scattered Hyla crucifer were heard singing.

May 17 - mild and overcast most of the day. At dark it began to rain along the St. Croix. Frog collecting this evening, but only Hyla crucifer heard.

Washington Co.: St. Croix River at Chisago Co. line

4 Bufo americanus, 3 Hyla crucifer, 1 Rana pipiens

Chisago Co.:

8 mi. SW Taylors Falls

3 Hyla crucifer, 2 Pseudacris triseriata, 1 Bufo americanus

W. edge of Taylors Falls (on steep slope)

Rana sylvatica, Hyla crucifer, Rana pipiens

westward on Minn. rte. 95

Almelund - Bufo americanus

16788.4 adult Pituophis melanoleucus DOR

16794.0 NORTH BRANCH

May 20, 1980 - toads have just recently been noticed to be active. Tonight choruses of Bufo americanus malse were heard near Soderville, Anoka Co. (with Hyla crucifer) and at Lake Vadnais, Ramsey Co.

May 21 - Southeastern Minnesota

16940.0 depart Miesville southward

16949.5 forested bottomlands of the Canon River; much growth of nettles (to 2 ft. high), though little or none less than 2 weeks ago.

Nothing found under logs or bark; Heavy daylight choruses of Bufo americanus

16955.5 REDWING (city center)

southward from this point

16982.8 FRONTENAC

17000.0 READS LANDING

17000.6 Elaphe vulpina DOR

17002.1 WABASHA

17065.6 Bufo americanus DOR

17070.6 BROWNSVILLE

night - choruses of Bufo americanus are heard ringing from ponds at several localities

North of the Iowa border, choruses of Hyla versicolor and Bufo americanus

return northward at this point

17090.7 choruses of Hyla versicolor, along with distant choruses of Bufo americanus

A duckweed-choked cattail marsh. Mucky bottom, though water only 1 ft. deep. Hyla versicolor collected here.

17091.3 Minn. rte. 249

17092.3 RENO

choruses of Bufo americanus

May 22 - I drove to Hoka this morning to inspect prospective sites; 2.5 mi. NE Hokah I collected 8 specimens of Bufo americanus

Toads are actively singing and mating in the middle of the pond.

A few Rana pipiens seen.

southward on Minn. rte. 26

17118.2 Thamnophis sirtalis

17118.5 Nerodia sipedon juvenile

17122.3 BROWNSVILLE

17127.5 rocky downhill stream in hardwood forest. Looks potential for salamanders, ring-necked snakes, etc. I searched the region for over ½ hr. without a bit of success.

It is a verdant spot which should be inspected at other dates

17129.0 RENO

I came here expressly in search of Cnemidophorus sexlineatus, But a long search provided me with nothing.

However. in the process I looked along the banks of the Mississippi backwater here. There is a great deal of debris - logs, old boat hulls, small floating platforms, etc. Several medium-sized Graptemys and two Chrysemys picta are sunning. A very large Nerodia sipedon was

basking on the end of a log near shore. As I watched, I saw two or three other medium-sized (2½ ft. or so) Nerodia swimming about. In fact, one ascended the sunning site of the large individual. causing the latter to depart shortly to seek a private perch. Numerous carp were spawning, churning up the water with constant splashing and swirling.

17130.3 westward toward Caledonia

17130.4 Nerodia sipedon DOR

17130.7 clear meadow stream, 1-2 ft. deep

A Rana clamitans seen, but missed. Rana pipiens common; 2 collected

17131.8 Thamnophis sirtalis DOR

17135.6 FREEBURG

nighttime

17179.5 eastward from Mabel, Fillmore Co.

17181.0 small pond - Bufo americanus calling; collected 10 for county record.

May 23-25 - East-central Minnesota; refer to the report on the *Hyla versicolor* complex for these notes.

June 2-3 - refer to the report on the *Hyla versicolor* complex for notes of this period.

June 14 - refer to the report on the rare and restricted amphibians for field notes of this period.

Annotated List of Species

In the following list, notes are given only where it would seem of value regarding the range, occurence, or habitat of a particular species. Reference numbers are those of the authors field numbers.

CAUDATA

Ambystoma laterale

ISANTI CO: Springvale (352-53, 403-04, 414, 419, 3884-85, 4070-71, 4554, 4558, 4928-29).

Ambystoma tigrinum

DAKOTA CO.: Co. rd. 63, 0.2 mi. S U.S. rte. 100 (595-96); RAMSEY CO.: N. St. Paul (610-611); ISANTI CO.: Springvale (346, 422, 612-14, 4236, 4240. 4301, 4884); 1-2 mi. W Stanchfield (608-09); Cambridge (3736, 4534-43, 4552, 4555-57); 1-3 mi. NW Cambridge (2667-68, 3679, 4927); 3-5 mi. NW Cambridge (2669, 2673, 2687); 2.5 mi. E Cambridge (4886); 3 mi. N Cambridge (4887); 2.4 mi. W Grandy (4038); 1.5 mi. N Isanti (3926); 1.5 mi. S Dalbo (4898).

Plethodon cinereus

COOK CO.: Cascade River at Hwy. 61 (583).

ANURA

Bufo americanus

AITKIN CO.: 3.5 mi.N , 1.6 mi. W Glen (3827); ANOKA CO.: Soderville (voice); CHISAGO CO.: Almelund (5372); 8 mi. SW Taylors Falls (5358); FILLMORE CO.: 1.5 mi. E Mabel (5394-5403); GOODHUE CO.: 5 mi. NW Redwing (voice); HOUSTON CO.: 2.5 mi. NE Hokah (5381-86, 5392-93); 5 mi. N Brownsville (5374); ISANTI CO.: Springvale (395-97, 2660 2826, 3357-58, 3363-64, 3371), 1-4 mi. NW Cambridge (3751, 3889), 4.5 Mi. W Stanchfield (3752), Stanchfield Lake (3888); MILLE LACS CO.: 3.5 mi. E Princeton (voice); ST. LOUIS CO.: Ely (2836); SHERBURNE CO.: 4 mi. S Princeton (voice); STEARNS CO.: Sauk Centre (voice); WASHINGTON CO.: St. Croix River at Chisago Co. Line (5347-50).

Pseudacris triseriata

CHISAGO CO.: 8 mi. SW Taylors Falls (5359-60); ISANTI CO.: Springvale (394, 411, 2972-74); KANDIYOHI CO.: 2.1 mi. W. New London (voice); SWIFT CO.: 10.9 mi. E Benson(voice).

Hyla crucifer

*AITKIN CO.: 3.5 mi. W, 1.6 mi. N Glen (3819-20); *ANOKA CO.: Soderville (voice);*CHISAGO CO: 8 mi. SW Taylors Falls(5355-57), W. Taylors Falls (5365, 5368-69); *HOUSTON CO.: Hoka (4807), 0.5 mi. W Reno (5406-07); *ISANTI CO.: Springvale (392-93, 402, 417-18, 3266, 3877-82), 5 mi. NW Cambridge (2665-66); MILLE LACS CO.: 3.5 mi. E Princeton (5412); *WASHINGTON CO.: St. Croix River at Chisago Co. line (5352-54).

Hyla chrysoscelis

This species has not heretofore been reported from Minnesota. All of the counties constitute records, and should be compared with notes on the following species.

*ISANTI CO.: Springvale (3365-66, 3369-70), 1.2 mi. W Cambridge (5408-11); *BENTON CO.: 12.2 mi. W Princeton (voice); *KANDIYOHI CO.: (0.7 mi. E Sunburg (5428-30), 2.3 mi. E Sunburg (5431-32), 8.9 mi. W New London (5433-34); *MILLE LACS CO.: 3.5 mi. E Princeton (5416); *SHERBURNE CO.: 4 mi. S Princeton (5419); *SWIFT CO.: 16.7 mi. E Benson (5427).

Hyla versicolor

Although there is much reference to this species from within the state, the recent discovery and preliminary work with the foregoing species makes it necessary to reconsider such reports. It is because of the problems and the obvious need for thorough re-working with the entire species complex that each county record given here must be considered the only counties of record for the species.

*BENTON CO.: 12.2 mi. W Princeton (voice); *HOUSTON CO.: 1.6 mi. S Reno (5375-78), 0.5 mi. W Reno (5404-05); *ISANTI CO.: Springvale (2976-78, 3265, 3367-68), Stanchfield (388-91), 5 mi. NW Cambridge (2664);*MILLE LACS CO.: 3.5 mi. E Princeton (5413-14).

Rana clamitans

HOUSTON CO.: (0.5 mi. W Reno (voice), 4.9 mi. E Freeburg (sight).

Rana pipiens

CHISAGO CO.: W. Taylors Falls (5366). HOUSTON CO.: 1.6 mi. S Reno (5377-80), 4.9 mi. E Freeburg (5389-91); MILLE LACS CO. 3.5 mi. E Princeton (5415); WASHINGTON CO.: St. Croix River at Chisago Co. line (5351).

Rana sylvatica

*CHISAGO CO.: W. Taylors Falls (5361-64, 5367); SHERBURNE CO.: 4 mi. S Princeton (5417-18).

SERPENTES

Elaphe vulpina
This is a common snake in southeastern Minnesota, probably more so than records indicate.

WABASHA CO. 0.6 mi. SE Reads Landing (5373); WASHINGTON CO.: 15.8 mi. SW Reads Landing (DOR).

Pituophis melanoleucus
The bullsnake, although often verbally reported by residents, is not as abundant or as widespread as is often considered to be the case.

*CHISAGO CO.: 1 mi. SE Sunrise(4890), 5.6 mi. E North Branch (5370).

Nerodia sipedon
HOUSTON CO.: 3.8 mi. N Brownsville (5388).

Thamnophis sirtalis
HOUSTON CO.: 4.1 mi. N Brownsville (5387)

TESTUDINATA

Emydoidea blandingi
*ANOKA CO.: 4 mi. N Soderville (3735), 2 mi. SE Bethel (sight); *ISANTI CO.: Springvale (4413), Cambridge (4574); 12 mi. E Isanti (4889).

Chrysemys picta
GOODHUE CO.: 3.4 mi. N Frontenac (4806);
KANDIYOHI CO.: 20 .4 mi. E Benson (5421); SWIFT CO.: 8.9 mi. E Benson (5422), 10.9 mi. E Benson (5423).

PERTINENT WEATHFR NOTES ON SEASON COLLECTING - The weather had a great deal of effect upon the activity of the herpetofauna, inasmuch as much of the area was dry - Houston County remained so - during most of the earlier part of the study. Temperatures were cooler than was ideal for anuran breeding, so that most of the species began calling late.

NEEDS FOR FURTHER SURVEY WORK

There are manv specific requirements for the continued field sork and other labors attendant to the early stages. Some of these are that involved persons have longer terms of engagement, and that there be discussion of goals in order to pool efforts and resources. Furthermore, it will be necessary that more intensive and thorough summary of exsiting data be made; this in order to have a grasp of what the situation is, as well as to aid in concentrating efforts on problem situations. Within this activity should be a generalized, but quite intensive survey and updating of field situated populations and factors surrounding them. Lastly, at least at this writing, it will be important to gain a thorough acquaintence with the literature extant.