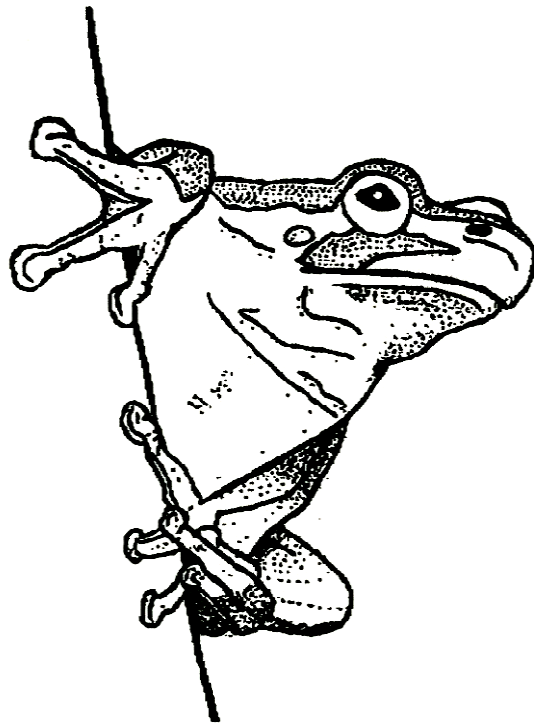


**Missouri Herpetological
Association**

Newsletter



Number 1

1988

INTRODUCTION

The First Annual Meeting of the Missouri Herpetological Association took place on 8 and 9 October 1988 at the Reis Biological Station near Steelville in Crawford County, Missouri. This organization is designed to provide herpetologists in Missouri and surrounding states with an opportunity to meet and exchange ideas regarding current efforts in research and other professional activities. High on the list of priorities is to provide students, involved in research at either the graduate or undergraduate levels, 1) the chance to interact with senior herpetologists and 2) an outlet to present, in a semi-formal setting, the results of their labors.

This Newsletter is the result of a decision made at the inaugural meeting to provide a means of publicly acknowledging papers presented at this and subsequent Annual Meetings. Further, it will serve to inform the herpetological community of new distributional and maximum size records of Missouri's herpetofauna. Other items of interest may be included in future editions.

At this time the Association would like to acknowledge the efforts of Tom R. Johnson, of the Missouri Department of Conservation, in bringing the MHA to life, and of Dr. Nevin Aspinwall, of the Reis Biological Station, for allowing us the use of the Station's excellent facilities.

ANNOUNCEMENT

Second Annual Meeting of the Missouri Herpetological Association

The Second Annual Meeting of the Missouri Herpetological Association will be held on 30 September and 1 October 1989 at the Reis Biological Station. Registration forms and calls for papers will be mailed at a later date. For more information please contact Tom R. Johnson at 314-751-4115 or write:

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**Abstracts of Papers presented at the First Annual Meeting
of the
Missouri Herpetological Association**

8-9 October 1988

THE HERPETOFAUNA OF OSAGE PRAIRIE - A PROGRESS REPORT

Robert Powell
Avila College, Kansas City, Missouri 64145

After a full year of surveying the composition and relative abundance of the herpetofauna of Osage Prairie in Vernon County, Missouri, by means of drift fencing and haphazard surveys, a total of 21 species of amphibians and reptiles were found. Five anuran, four turtle, three lizard, and nine snake species were represented. Two additional species of anuran, one turtle, and two snakes are of probable occurrence based on an evaluation of available habitat and sightings by other parties. The majority of individuals were associated with open prairie or bodies of water. Few specimens were found in wooded areas. Data are too scanty to evaluate responses of the herpetofauna to different prairie management methods.

**CANNIBALISM AND SIZE RELATIONS IN A COHORT OF LARVAL RINGED
SALAMANDERS**

Robert Wilkinson, Jackie Hutcherson, and Steve Nyman
Southwest Missouri State University, Springfield, Missouri 65804

We examined size variability, body growth, and allometric growth in head dimensions in relationship to cannibalism in a cohort of larvae of an autumn breeding salamander, *Ambystoma annulatum*. Body size of larvae was bimodally distributed; both small and large larvae preyed on zooplankton and insect larvae, but throughout the larval period some large larvae were cannibals. Larvae of the cannibal size class were the first to metamorphose and were the largest metamorphs found. Comparison of allometric relationships in cannibals and noncannibals suggests that cannibals had relatively larger heads early in development, but that subsequently, head growth was the same in both groups or slightly greater in noncannibals. The mean body length of cannibals was twice that of their conspecific victims. The frequency of cannibalism was positively correlated with the availability of potential victims of a suitable size.

**MOVEMENT AND NATURAL HISTORY OF *SISTRURUS MILIARIUS* IN
SOUTHWEST MISSOURI**

Tom Holder and Don Moll
Southwest Missouri State University, Springfield, Missouri 65804

Individual *Sistrurus miliarius* were monitored with radio telemetry in Christian and Taney Counties in southwest Missouri. Snakes were tracked for period of 1173 days and a total of 319 tracking days. Males exhibited significantly greater movement than females and non-gravid individuals displayed significantly more movement than gravid

individuals. Snakes are active in the spring, but display little average movement until mid-summer through fall with peak seasonal movement reached in September, possibly indicating movement to a winter den site. Except for tail length, *S. miliarius* exhibits little sexual dimorphism. Pygmy rattlesnakes feed mainly on small snakes and lizards, but also prey upon small mammals. Reproduction occurs in late summer and early fall. *S. miliarius* are viviparous and appear to be on a biennial reproductive cycle.

ECOLOGICAL CHARACTERISTICS OF NIANGUA RIVER MAP TURTLES, *GRAPTEMYS GEOGRAPHICA*

Don Moll and Don White
Southwest Missouri State University, Springfield, Missouri 65804

Data concerning reproduction, growth, and diet in Niangua Rivet map turtles were collected from specimens obtained in an approximately 8 km section of the river in Dallas County, Missouri during 1988. These data are currently being analyzed and, while preliminary at this time, indicate trends in these ecological characteristics. Females examined produced 2 to 3 clutches of eggs averaging 10.5 eggs per clutch for a mean annual reproductive potential of 23.1 eggs in the 1988 reproductive season (May-June). Growth rates follow a typical emydid pattern in that growth is rapid in juveniles, but slows progressively until sexual maturity is attained, after which it is slow and irregular. Both reproductive potential and growth rate exceed those observed in Lake Springfield map turtles (Green County, Missouri) and are intermediate when compared to map turtles from several Illinois River habitats. *Goniobasis* snails are extremely abundant in the river and compose a major component of the diet of juveniles and both sexes of adults, with crayfish and insects also being eaten occasionally. The high quality of the diet and abundance of easily captured prey are probably responsible for the relatively high reproductive potential and growth rate of Niangua map turtles. The study will be continued and will be expanded to include other aspects of the status and ecology of map turtles as well as other resident turtle species within the study area.

THE MALE REPRODUCTIVE BIOLOGY OF THE ROUGH GREEN SNAKE *(OPHEODRYS AESTIVUS)*

Robert D. Aldridge and Michael V. Plummer
St. Louis University, St. Louis, Missouri 63103 and
Harding University, Searcy, Arizona 72143

The green snake exhibits post-nuptial spermatogenesis. The testis is quiescent in the spring and peaks both in size and spermatogenic activity in July and August. The sexual segment of the kidney exhibits a cycle of activity opposite from that of the testis. In the sex segment the peak of size and secretory activity occurs in the spring and fall with the nadir occurring in June and July. The plasma testosterone levels parallel the sex segment activity. Mean coeleomic mass decreases from April through June, then rises from June to July and remains at an elevated level to October. The decrease in fat mass in the spring corresponds to the mating period.

NEW RECORDS OF AMPHIBIANS AND REPTILES IN MISSOURI FOR 1988

Tom R. Johnson¹ and Robert Powell²

¹Missouri Department of Conservation, Jefferson City, Missouri 65102

²Avila College, Kansas City, Missouri 64145

The new county or maximum size records listed below are those accumulated or brought to our attention since the publication of *The Amphibians and Reptiles of Missouri* (Johnson 1987). Publication of this list allows us to express appreciation to the many individuals who contributed specimens or information. Further, recipients of this list have the opportunity to update range maps and size maxima listings. Finally, these new records represent information that extends our knowledge of these animals in Missouri.

The specimens listed represent the first records for the given county based on preserved, cataloged voucher specimens (unless indicated as sight-records only). Size records require the deposition of the specimen in an institutional collection. All new records listed here are presented in the standardized format of Collins (1986): common and scientific name, county, specific locality (unless withheld for rare or endangered species), date of collection, collector(s), and place of deposition and catalog number (if applicable). If the record was published elsewhere, the citation is given. New size maxima are presented in accordance with criteria established by Powell et al. (1982) and are expressed in both metric and English units.

The following acronyms apply to institutional collections in which specimens are deposited: BWMC - Bobby Witcher Memorial Collection, Avila College, Kansas City, MO 64145; KU - University of Kansas Museum of Natural History, Lawrence, KS 66045; MDC - Missouri Department of Conservation, Jefferson City, MO 65102; SIUC - Southern Illinois University at Carbondale, Carbondale, Illinois 62901; SIUE - Southern Illinois University at Edwardsville, Edwardsville, Illinois 62026; SMSU - Southwest Missouri State University, Springfield, Missouri 65804.

NEW COUNTY RECORDS

Amphibia: Caudata

MARBLED SALAMANDER (*Ambystoma opacum*)

CHRISTIAN CO: 1.6 km N Garrison HW 125, 5 September 1987, B.D. Greene (SMSU 2492) (Greene 1988).

CENTRAL NEWT (*Notophthalmus viridescens louisianensis*)

CRAWFORD CO: Reis Biological Station Sec 36 T38N R2W, 8 October 1988, S.G. Thornhill (BWMC 3352).

FOUR-TOED SALAMANDER (*Hemidactylium scutatum*)

WASHINGTON CO: locality data withheld, 8 April 1988, T. R. Johnson (MDC).

SOUTHERN REDBACK SALAMANDER (*Plethodon serratus*)

CRAWFORD CO: Reis Biological Station Sec 36 T38N R2W, 8 October 1988, J.S. Parmerlee (BWMC 3351).

Amphibia: Anura

WOODHO USE'S TOAD (*Bufo woodhousii*)

LAFAYETTE CO: HW 224 3.6 mi E HW 131, Sec 7 T50N R27W, 3 May 1988, S.A. Maxey and S.S. Duer (BWMC 3267).

BLANCHARD'S CRICKET FROG (*Acris crepitans blanchardi*)

LAFAYETTE CO: HW FF at Sniabar Creek 1 mi W HW 131, 1 September 1987, S.A. Maxey and S.S. Duer (BWMC 2876). **OSAGE CO:** Pond N Linn Sec 5 T43N R8W, K.L. Jurd and S.A. Maxey (BWMC 3265).

GRAY TREEFROG (*Hyla chrysoscelis*)

CLAY CO: 1 mi N HW 210 3 mi W Missouri City (DOR), 15 June 1982, R. Powell (BWMC 2657). **VERNON CO:** N of Osage Prairie Natural Area Sec 34 T35N R31W, 22 April 1988, S.S. Duer, M.A. Rice, R. Powell (BWMC 3266).

PLAINS LEOPARD FROG (*Rana blairi*)

RAY CO: HW 13, N shore Missouri River, 28 September 1987, S.A. Maxey and S.S. Duer (BWMC 2905).

BULLFROG (*Rana catesbeiana*)

BATES CO: HW 71 1 mi N HW 18 Sec 28 T42N R31W, 15 May 1988, S.A. Maxey and S.S. Duer (BWMC 3272). **MARIES CO:** Dry Fork Creek at HW 28 Sec 31 T40N R7W, 9 October 1988, J.S. Parmerlee and R. Powell (BWMC 3353).

PICKEREL FROG (*Rana palustris*)

BARTON CO: Patton Creek at HW F, .25 mi S HW C, 1 May 1987, Avila Herpetology Class (BWMC 2753).

Reptilia: Testudinata

COMMON SNAPPING TURTLE (*Chelydra serpentina serpentina*)

BATES CO: HW V 1 mi N HW 18 Sec 28 T42N R33W, 15 May 1988, S.A. Maxey and A. Luck (BWMC 3270). **CALLAWAY CO:** HW 63 5 mi NW Missouri River Sec 29 T45N R11W (DOR), 9 October 1988, R. Powell and J.S. Parmerlee (BWMC 3366).

STINKPOT (*Sternotherus odoratus*)

CASS CO: Harrisonville, Camp Reeder, 14 May 1987, S.S. Duer (BWMC 2824).

DALLAS CO: Niangua River, 4 mi downstream from Moon Valley, 25 April 1987, A.M. Scott (BWMC 2748).

WESTERN PAINTED TURTLE (*Chrysemys picta belli*)

CALDWELL CO: Farm pond 6 mi W Polo off Caldwell/Ray County Line Rd, 11 April 1987, F. Pallas (BWMC 2823).

FALSE MAP TURTLE (*Graptemys pseudogeographica pseudogeographica*)

FRANKLIN CO: Meramec State Park, Meramec River, 23 September 1988, D. Drees (MDC).

THREE-TOED BOX TURTLE (*Terrapene carolina triunguis*)

BARTON CO: 1.4 km W jct HW 71 and HW 126, 12 September 1987, J.T. Collins and

S.L. Collins (KU208463). **BATES CO:** HW H 1 mi N Vernon Co line Sec16 T38N R33W, 15 May 1988, S.S. Duer and R. Powell (BWMC 3269). **DALLAS CO:** HW 64 .25 mi E HW 73, 25 April 1987, A.M. Scott (BWMC 2749).

ORNATE BOX TURTLE (*Terrapene ornata ornata*)

CEDAR CO: HW 39 100 m S HW Y West Sec 14 T33N R27W, 9 July 1988, R. Powell and S.S. Duer (BWMC 3275).

RED-EARED SLIDER (*Trachemys scripta elegans*)

RAY CO: Sunshine Lake SW of Henrietta, 17 May 1987, D.D. Smith (BWMC 2822).

WESTERN SPINY SOFTSHELL (*Trionyx spinifer hartwegi*)

CLAY CO: Smithville Reservoir near dam, June 1986, R. Gay (BWMC 2751).

DALLAS CO: Niangua River 4 mi downstream from Moon Valley, 25 April 1987, A.M. Scott (BWMC 2747). **WORTH CO:** Denver, Big Rock Creek, September 1986, D. Gebaur (BWMC 2750).

Reptilia: Squamata: Sauria

NORTHERN FENCE LIZARD (*Sceloporus undulatus hyacinthinus*)

JACKSON CO: Kansas City, 30 July 1985, K. Hemenway (BWMC 2382). Probably an escaped "pet" from the Ozarks, however a population has become established subsequent to the collection of this specimen.

SOUTHERN COAL SKINK (*Eumeces anthracinus pluvialis*)

DADE CO: HW Y 1 mi E Stockton Lake, 1 May 1987, Avila Herpetology Class (BWMC 2777).

GROUND SKINK (*Scincella lateralis*)

VERNON CO: Bellamy, dump S of town, 1 May 1987, Avila Herpetology Class (BWMC 2779).

WESTERN SLENDER GLASS LIZARD (*Ophisaurus attenuatus attenuatus*)

VERNON CO: W of Osage Prairie Natural Area, 17 October 1987, S.S. Duer (BWMC 2922).

Reptilia: Squamata: Serpentes

BLACK RAT SNAKE (*Elaphe obsoleta obsoleta*)

BARTON CO: HW C 100 m E HW F, 1 May 1987, Avila Herpetology Class (BWMC2858).

EASTERN HOGNOSE SNAKE (*Heterodon platyrhinos*)

DEKALB CO: Maysville, 3 May 1988, K. Carrol (MDC).

PRAIRIE KINGSSNAKE (*Lampropeltis calligaster calligaster*)

MISSISSIPPI CO: 8 km S Charleston HW 102 (DOR), 28 April 1984, M.A. Morris and M.B. Morris (SIUC R-1797) (Morris and Morris 1984).

SPECKLED KINGSNAKE (*Lampropeltis getulus holbrooki*)

COLE CO: RR crossing at Moniteau Creek and Missouri River Sec 10 T46N R13W, S.A. Maxey (BWMC 3264). **DADE CO:** HW Y 1 mi E Stockton Lake, 1 May 1987, Avila Herpetology Class (BWMC 2776). **VERNON CO:** S of Osage Prairie Natural Area Sec 4 T33N R31W, 14 May 1988, R. Powell and A. Luck (BWMC 3268).

EASTERN COACHWHIP (*Masticophis flagellum flagellum*)

DOUGLAS CO: HW 14 7 mi W HW 95 (DOR), 8 October 1983, R. Powell (BWMC 2105).

YELLOWBELLY WATER SNAKE (*Nerodia erythrogaster flavigaster*)

BATES CO: HW 71 1 mi N HW 18 Sec 28 T42N R31W, 15 May 1988, R. Powell and S.S. Duer (BWMC 3271).

NORTHERN WATER SNAKE (*Nerodia sipedon sipedon*)

CASS CO: HW D 9 mi S HW Y, 14 May 1987, S.S. Duer, S.A. Maxey, A.M. Scott (BWMC 2857). **SCHUYLER CO:** Lancaster City Reservoir, 10 May 1985, J.S. Parmerlee and R. Powell (BWMC 2369).

ROUGH GREEN SNAKE (*Opheodrys aestivus*)

LAFAYETTE CO: 4 mi S Bates City (DOR), 9 May 1987, D.D. Smith (BWMC 2820).

WESTERN RIBBON SNAKE (*Thamnophis proximus proximus*)

CAMDEN CO: 6 mi W Laurie Sec 35 T40N R18W, 29 May 1988, R. Powell (BWMC 3273).

RED-SIDED GARTER SNAKE (*Thamnophis sirtalis parietalis*)

VERNON CO: SW Osage Prairie Natural Area, 17 October 1987, S.G. Thornhill and R. Powell (BWMC 2910).

OSAGE COPPERHEAD (*Agkistrodon contortrix phaeogaster*)

CEDAR CO: Stockton State Park Sec 11 T33N R26W (DOR), 9 July 1988. R. Powell and S.S. Duer (BWMC 3274).

WESTERN COTTONMOUTH (*Agkistrodon piscivorus leucostoma*)

PULASKI CO: Bald Ridge Creek, 4.21 km S – 1.61 km E of crossroads in Big Piney, 3 May 1986, B. Murphy and J. Ettlting (SIUE 2679) (Ettlting 1988).

NEW MAXIMUM SIZE RECORDS

Amphibia: Anura

NORTHERN LEOPARD FROG (*Rana pipiens*)

ATCHISON CO: 9.6 km SW Hamburg (Iowa) and 2.4 km S County Rd V, Sec 11 T66N, R43W, 30 May 1985, T.R. Johnson (KU 204084). Snout-vent length: 70 mm (2.8 in).

Reptilia: Testudinata

THREE-TOED BOX TURTLE (*Terrapene carolina triunguis*)

JACKSON CO: Kansas City near Holmes Rd and Blue Ridge Blvd, 17 July 1983, D.A. Bromeier (BWMC 2119) (Smith et al. 1983). Carapace length: 146 mm (5.7 in).

RED-EARED SLIDER (*Trachemys scripta elegans*)

RAY CO: Sunshine Lake SW of Henrietta, 17 May 1987, D.D. Smith (BWMC 2822). Carapace Length: 256 mm (10.1 in).

WESTERN SPINY SOFTSHELL (*Trionyx spinifer hartwegi*)

JACKSON CO: Lees Summit, Little Blue River, 11 May 1987, J. Howen (BWMC 2821). Carapace Length: 358 mm (14.1 in).

Reptilia: Squamata: Serpentes

WESTERN WORM SNAKE (*Carphophis amoenus vermis*)

SCOTLAND CO: Memphis City Lake, 15 May 1986, R. Powell and J.S. Parmerlee (BWMC 2590). Snout-vent length: 333 mm (13.1 in), total length: 376 mm (14.8 in).

BLACK RAT SNAKE (*Elaphe obsoleta obsoleta*)

JACKSON CO: Kansas City, Blue Parkway at Blue River Rd (DOR), 12 June 1983, E.I. Smith (BWMC 2117) (Smith et al. 1983). Snout-vent length: 1567 mm (61.7 in), total length: 1872 mm (73.7 in). Anderson (1965) reported a larger specimen which has not been examined by the authors.

NORTHERN WATER SNAKE (*Nerodia sipedon sipedon*)

SCHUYLER CO: Lancaster City Reservoir, 10 May 1985, J.S. Parmerlee and R. Powell (BWMC 2369). Snout-vent length: 920 mm (36.2 in), total length: 1163 mm (45.8 in).

MIDLAND BROWN SNAKE (*Storeria dekayi wrightorum*)

LEWIS CO: Lewistown City Lake, 14 May 1986, J.S. Parmerlee and R. Powell (BWMC 2592). Snout-vent length: 290 mm (11.4 in), total length: 365 mm (14.4 in).

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