

Gash

1966

A LIST OF FISHES KNOWN FROM  
SOUTHEASTERN KANSAS AND ENVIRONS

ORDER PETROMYZONTIFORMES

Family Petromyzontidae

Ichthyomyzon castaneus Girard-- Neosho River tributaries

ORDER AMIIFORMES

Family Amiidae

Amia calva  
~~Amia nana~~ (Linnaeus) Neosho-Spring River system

ORDER LEPISTOSTEIFORMES

Family Lepisosteidae

Lepisosteus platostomus (Rafinesque) most of eastern Kansas  
Lepisosteus osseus (Linnaeus) most of eastern Kansas.  
Lepisosteus oculatus (Rafinesque) Neosho River  
SPOTTED  
ORDER CLUPEIFORMES

Suborder Clupeoidei

Family Clupeidae

Dorosoma cepedianum (LeSueur) most of Kansas

Suborder Salmonoidei

Family Salmonidae

Salmo gairdnerii (Richardson) "escapes" in Shoal Creek, planted elsewhere

Suborder Notopteroidei

Family Hiodontidae

Hiodon alosoides (Rafinesque) larger streams of eastern Kansas

ORDER CYPRINIFORMES

Suborder Cyprinoidei

Family Catostomidae

Cycaleptus elongatus (LeSueur) Neosho River  
Ictiobus cyprinella (Valenciennes) eastern Kansas  
Ictiobus niger (Rafinesque) eastern Kansas  
Ictiobus bubalus (Rafinesque) eastern Kansas



SAVING THE KANSAS AND THE DOG

THE KANSAS DOG

Family: *Canidae*

*Canis latrans* (Linnaeus) - *Canis latrans*

ORDER: *Carnivora*

Family: *Canidae*

*Canis latrans* (Linnaeus) - *Canis latrans*

ORDER: *Carnivora*

Family: *Canidae*

*Canis latrans* (Linnaeus) - *Canis latrans*

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ORDER: *Carnivora*

Family: *Canidae*

Family: *Canidae*

*Canis latrans* (Linnaeus) - *Canis latrans*

*Canis latrans* (Linnaeus) - *Canis latrans*

*Canis latrans* (Linnaeus) - *Canis latrans*



Carpodes carpio (Rafinesque) all of Kansas  
Carpodes velifer (Rafinesque) Neosho River  
Moxostoma carinatum (Cope) Spring River-Shoal Creek drainage (uncommon)  
Moxostoma aureolum Shoal Creek  
Moxostoma macrolepidotum piscilabrum (Trautman) Spring River-Neosho River  
Moxostoma duquesnii (LeSueur) Spring River-Shoal Creek  
Moxostoma erythrum (Rafinesque) eastern Kansas  
Minytrema melanops (Rafinesque) southeastern and mideastern Kansas  
Catostomus commersoni (Lacepede) Shoal Creek  
Hypentelium nigricans (LeSueur) Spring River-Neosho River

#### Family Cyprinidae

Cyprinus carpio (Linnaeus) all of Kansas  
Carassius auratus (Linnaeus) locally introduced  
Notemigonus crysoleucas (Mitchill) all of Kansas  
Semotilus atromaculatus (Mitchill) Spring River-Neosho River  
Chrosomus erythrogaster (Rafinesque) Spring River, Neosho River  
Hybopsis biguttata (Kirtland) eastern Kansas  
Hybopsis amblops (Rafinesque) Spring River, Neosho River  
Hybopsis storeriana (Kirtland) eastern Kansas  
Hybopsis x-punctata (Hubbs and Crowe) Neosho River, Spring River  
Phenacobius mirabilis (Girard) all of Kansas  
Notropis paracrobromus (Cope) most of Kansas  
Notropis rubellus (Agassiz) eastern Kansas  
Notropis umbratilis (Girard) eastern Kansas  
Notropis chrysocephalus (Rafinesque) (N. cornutus) Spring River, uncommon  
Notropis pilsbryi (Fowler) Spring River, eastern tributaries of Neosho River (N. zomale)  
Notropis boops (Gilbert) southeastern Kansas  
Notropis camurus (Jordan and Meek) southeastern Kansas  
Notropis spilopterus (Cope) Neosho and Spring Rivers  
Notropis lutrensis (Baird and Girard) all of Kansas  
Notropis topeka (Gilbert) Dry Wood Creek  
Notropis volucellus (Cope) southeastern Kansas  
Notropis bethanani (Meek) eastern Kansas  
Notropis stramineus (Cope) Spring and Neosho Rivers  
Hybognathus placita (Girard) uncommon in Spring-Neosho River drainage  
Dionda nubila (Forbes) Spring River, Shoal Creek  
Pimephales tenellus (Girard) southeastern Kansas  
Pimephales vigilax (Baird and Girard) southeastern Kansas  
Pimephales notatus (Rafinesque) most of eastern Kansas  
Pimephales promelas (Rafinesque) most of Kansas  
Campestris anomalum (Rafinesque) all of Kansas

NOTROPIS CORNUTUS-SHOAL CK.

black  
ventral bar

#### Suborder Siluridae

#### FAMILY: ICTALURIDAE

Ictalurus punctatus (Rafinesque) all of Kansas  
Ictalurus punctatus natalis (LeSueur) eastern Kansas  
Ictalurus melas (Rafinesque) all of Kansas  
Ictalurus nebulosus (LeSueur) introduced, uncommon in Shoal Creek  
Pylodictis olivaris (Rafinesque) most of Kansas  
Noturus flavus (Rafinesque) eastern Kansas  
Noturus nocturnus (Jordan and Gilbert) southeastern Kansas  
Noturus exilis (Nelson) Spring and Neosho River drainages  
Noturus miurus (Jordan) Spring and Neosho Rivers

#### ORDER ANGUILLIFORMES

#### Family Anguillidae







Anguilla rostrata (LeSueur) Neosho and Spring Rivers

ORDER CYPRINODONTIFORMES

Suborder Cyprinodontoides

Family Cyprinodontidae

Fundulus notatus (Rafinesque) eastern Kansas

Fundulus sciadicus (Cope) not yet taken in Kansas; Shoal Creek, Missouri

Fundulus catenatus (Storer) Shoal Creek, south of Joplin, Mo.; Dry Wood Creek, Max

Family Poeciliidae

Gambusia affinis (Baird and Girard) all of eastern and southeastern Kansas

ORDER MUGILIFORMES

Family Atherinidae

Labidesthes sicculus (Cope) all of southern Kansas

ORDER PERCIFORMES

Suborder Percoides

Family Serranidae

Roccus chrysops (Rafinesque) Spring and Neosho Rivers

Family Centrarchidae

Micropterus dolomieu (Lacepede) Spring and Neosho River systems

Micropterus punctulatus (Rafinesque) all of southern Kansas

Micropterus salmoides (Lacepede) all of Kansas

Chaenobryttus glaucus (Cuvier) eastern Kansas

Lepomis cyanellus (Rafinesque) all of Kansas

Lepomis microlophus (Gunther) introduced, uncommon in Shoal Creek

Lepomis megalotis (Rafinesque) eastern Kansas

Lepomis humilis (Girard) all of Kansas

Lepomis macrochirus (Rafinesque) all of Kansas

Ambloplites rupestris (Rafinesque) Spring and Neosho Rivers

Pomoxis nigromaculatus (DeSueur) all of Kansas

Pomoxis annularis (Rafinesque) all of Kansas

Family Percidae

Stizostedion canadense (Smith) Neosho and Spring Rivers

Percina phoxocephala Nelson) southeastern Kansas

Percina caprodes (Rafinesque) eastern Kansas

Percina shumardi (Girard) Neosho and Spring Rivers

Percina copelandi (Jordan) southeastern Kansas

Etheostoma stigmaeum (Jordan) Spring and Neosho Rivers

Etheostoma nigrum - subsp. Spring River, Shoal Creek, Dry Wood Creek

Etheostoma chlorosomum (Hay) Neosho and Spring Rivers



Amphibia (Lacerta) Lacerta and Spring River

ORDER CYPRINODONTIFORMES

Suborder Cyprinodontiformes

Family Cyprinodontidae

Brachydanio rerio (Rafinesque) eastern Kansas

Brachydanio rerio (Günther) not yet taken in Kansas; Shoal Creek, Missouri  
Brachydanio rerio (Günther) Shoal Creek, south of Topeka, Mo.; Dry Wood Creek, Tex.

Family Poeciliidae

Gambusia affinis (Baird and Girard) all of eastern and southern Kansas

ORDER MOLLUSCOFORMES

Family Acanthinoidae

Acanthinoides alpestris (Günther) all of southern Kansas

ORDER REMIPEDIFORMES

Suborder Remipediformes

Family Serripidae

Remipes caryocarpus (Rafinesque) Spring and Neosho Rivers

Family Centrarchidae

Micropterus dolomieu (Lacépède) Spring and Neosho River systems

Micropterus dolomieu (Rafinesque) all of southern Kansas

Micropterus dolomieu (Lacépède) all of Kansas

Micropterus dolomieu (Günther) eastern Kansas

Micropterus dolomieu (Rafinesque) all of Kansas

Micropterus dolomieu (Günther) introduced, introduced to Shoal Creek

Micropterus dolomieu (Rafinesque) eastern Kansas

Micropterus dolomieu (Günther) all of Kansas

Micropterus dolomieu (Rafinesque) all of Kansas

Micropterus dolomieu (Rafinesque) Spring and Neosho Rivers

Micropterus dolomieu (Günther) all of Kansas

Micropterus dolomieu (Rafinesque) all of Kansas

Family Percidae

Micropterus dolomieu (Günther) Spring and Neosho Rivers

Micropterus dolomieu (Rafinesque) southern Kansas

Micropterus dolomieu (Lacépède) eastern Kansas

Micropterus dolomieu (Günther) Spring and Neosho Rivers

Micropterus dolomieu (Jordan) southeastern Kansas

Micropterus dolomieu (Jordan) Spring and Neosho Rivers

Micropterus dolomieu - introduced, introduced to Shoal Creek, Dry Wood Creek

Micropterus dolomieu (Ray) Neosho and Spring Rivers



Etheostoma zonale (Cope) Spring and Neosho Rivers  
Etheostoma blenniodes subsp. Spring River, Shoal Creek  
Etheostoma whipplii (Girard) southeastern Kansas  
Etheostoma punctulatum (Agassiz) Spring River, Shoal Creek  
Etheostoma cragini (Gilbert) southeastern Kansas  
~~Etheostoma~~ Etheostoma spectabile (Agassiz) most of Kansas  
Etheostoma flabellare (Rafinesque) Spring and Neosho Rivers  
Etheostoma gracile (Girard) Spring River drainage  
Etheostoma microperca (Jordan and Gilbert) Shoal Creek, just inside Missouri

Family Sciaenidae

Aplodinotus grunniens (Rafinesque) most of Kansas

Suborder Cottoidei

Family Cottidae

Cottus caroliniae (Gill) Spring River And Neosho River



*Echinochloa polystachya* (Guss.) Spring and West River  
*Echinochloa polystachya* (Guss.) Spring River, Small Creek  
*Echinochloa polystachya* (Guss.) Spring River, Small Creek  
*Echinochloa polystachya* (Guss.) Spring River, Small Creek  
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*Echinochloa polystachya* (Guss.) Spring River, Small Creek

Family Echinochloaceae

*Echinochloa polystachya* (Guss.) Spring River, Small Creek

Subfamily Echinochloinae

Family Echinochloaceae

*Echinochloa polystachya* (Guss.) Spring River, Small Creek



## A LIST OF FISHES KNOWN FROM SOUTHEASTERN KANSAS AND ENVIRONS

- small stream fish soft integument.*
1. Ichthyomyzon castaneus Girard Chestnut lamprey-Neosho river tributaries
  2. Amia calva Linnaeus Bowfin-Neosho and Spring River systems  
*PRIMITIVE line form. Ganooid scales - homocercal tail*
  3. Lepisosteus platostomus Rafinesque Shortnose gar-most of eastern Kansas  
*fin yellowish. spots on 50cm GAR 1.5cm. in DIA.*
  4. Lepisosteus osseus (Linnaeus) Longnose gar - most of eastern Kansas  
*Spanning in later May-June. BEAK 2-2.5X that of shortnose*
  5. Lepisosteus oculatus (Cope) Spotted gar - Neosho River system  
*first specimen (Spring) 1963. St. Paul Refuge.*
  6. Dorosoma cepedianum (LeSueur) Gizzard shad - most of Kansas  
*perlen sense Threadfin chub*
  7. Salmo gairdnerii Richardson Rainbow trout - escaped to Shoal Creek
  8. Hiodon alosoides (Rafinesque) Goldeye - larger streams and lakes  
*OSAGE R. soft rays, deep skin covers scales - large teeth*
  9. Cycoreus elongatus (LeSueur) Blue sucker - Neosho River system  
*PA. fin smallmouth blue sucker*
  10. Ictiobus cyprinella (Valenciennes) Bigmouth buffalofish - eastern Kansas  
*MAX - 20-30 lbs*
  11. Ictiobus niger (Rafinesque) Black buffalofish - eastern Kansas
  12. Ictiobus bubalus (Rafinesque) Smallmouth buffalofish - eastern Kansas  
*hard to distinguish*
  13. Carpionodes carpio (Rafinesque) River carpsucker-all of Kansas  
*of dorsal fin extended, head at apex of lower lip. - 5 lbs max*
  14. Carpionodes velifer (Rafinesque) Highfin carpsucker-Neosho River system  
*hump on anterior third of dorsal fin. coloration similar*
  15. Moxostoma carinatum (Cope) River redhorse-Spring River/Shoal Creek  
*14-20 lbs 2 1/2 ft in length good eaters - breeding colors beautiful*
  16. Moxostoma aureolum (LeSueur) Shorthead redhorse-Shoal Creek
  17. Moxostoma macrolepidotum pisolabrum (Trautman) Eastern redhorse-Spring and Neosho River systems
  18. Moxostoma duquesnii (LeSueur) Black redhorse-Spring River and Shoal Creek
  19. Moxostoma erythrurum (Rafinesque) Golden redhorse-eastern Kansas
  20. Mnytrema melanops (Rafinesque) Spotted sucker-eastern Kansas  
*well defined melanistic spots - mauling in bands*
  21. Catostomus commersoni (Lacepede) White sucker-eastern Kansas
  22. Hypentelium nigricans (LeSueur) Northern hogsucker-Spring and Neosho River systems
  23. Cyprinus carpio Linnaeus All of Kansas
  24. Carassius auratus (Linnaeus) Goldfish-introduced
  25. Notemigonus crysoleucas (Mitchill) Golden shiner-all of Kansas  
*teeth 1-50*
  26. Semotilus atromaculatus (Mitchill) Creek chub-Spring and Neosho Rivers Marmaton and Osage River systems
  27. Chrosomus erythrogaster (Rafinesque) Southern Redbelly Dace-Spring and Neosho River systems



# GAR'S.

(3-5): SPAWNING: Typically for every ♀, there will be 2 ♂, swimming in tandem.

Spawning takes place in weeds. ♀ spin when releasing eggs. Eggs are pellets. **TOXIC!!! FATAL.**  
Egg covers highly toxic.

8 - surface feeders - insectivorous; 8-10 ft deep.  
Clear water - length to .5 meters, to 30-40

all suckers have cycloid scales

~~5~~ Calostomidae - no spine

- in dorsal fin 10+ rays.

inferior mouth, lips thickened

pharyngeal teeth 1 row typically 16+

Cyprinidae - at least 1 fin w/ <sup>usually</sup> spines  
usually not more than 2 spines

dorsal fin 10 or less rays

lips typically thinner

mouth - not inferior - teeth 8 or less

~~Cyprinidae~~



28. Hybopsis biguttata (Kirtland) Hornyhead chub-eastern Kansas
29. Hybopsis amblops (Rafinesque) Bigeye chub-Spring and Neosho Rivers
30. Hybopsis storeriana (Kirtland) Silver chub-eastern Kansas
31. Hybopsis x-punctata Huobbs and Crowe Gravel chub-Neosho and Spring Rivers
32. Phenacobius mirabilis (Girard) Suckermouth minnow-all of Kansas
- X 33. Notropis percobromus (Cope) Plains shiner-most of Kansas
34. Notropis rubellus (Agassiz) Rosyface shiner-eastern Kansas
35. Notropis umbratilis (Girard) <sup>scales deep-smooth</sup> Redfin shiner-eastern Kansas
36. Notropis chrysocephalus (Rafinesque) (cornutus) Common shiner-Spring R.
37. Notropis pilsbryi Fowler Spring River; eastern tributaries of Neosho R.
38. Notropis boops Gilbert Bigeye shiner-southeastern Kansas <sup>cold fast water - specific preferences</sup>
39. Notropis camurus (Jordan and Meek) bluntface shiner-southeastern Kansas
40. Notropis spilopterus (Cope) Spotfin shiner-Neosho and Spring Rivers
41. Notropis lutrensis (Baird and Girard) <sup>usually 20-30 cm deep still water</sup> Red shiner-all of Kansas
- X 42. Notropis volucellus (Cope) Mimic shiner-southeastern Kansas
43. Notropis buchmanii Meek Ghost shiner-eastern Kansas
44. Notropis topeka Gilbert Topeka shiner-eastern Kansas
45. Notropis stramineus (Cope) Spring and Neosho Rivers
46. Hybognathus placita Girard Plains minnow-Spring and Neosho Rivers <sup>usually moderately heavily pigmented</sup>
47. Dionda nubila (Forbes) Ozark minnow-Spring River and Shoal Creek <sup>8-10 cm distinct separation of pigment on lat. line</sup>
48. Pimephales tenellus (Girard) <sup>resembles P. notatus in color, V-shaped caudal spot.</sup> Slim minnow-southeastern Kansas
49. Pimephales vigilax (Baird and Girard) Bullhead minnow-southeastern Kansas
50. Pimephales notatus (Rafinesque) Bluntnose minnow-eastern Kansas <sup>NO 3 DL 3-11-68</sup>
51. Pimephales promelas Rafinesque Fathead minnow-most of Kansas
52. Campostoma anomalum (Rafinesque) Stoneroller <sup>small scales, very smooth skin.</sup> (rotgut) minnow-Kansas
53. Ictalurus punctatus (Rafinesque) <sup>MAX. 30 lbs (APPROX.)</sup> Channel catfish-all of Kansas
54. Ictalurus furcatus (LeSueur) <sup>HARD TO DISTING.</sup> Blue <sup>hump on back of head - B/G.</sup> catfish-Neosho and Spring Rivers
55. Ictalurus natalis (LeSueur) Yellow bullhead-all of Kansas
56. Ictalurus melas (Rafinesque) Black bullhead-all of Kansas

*Handwritten signature/initials*



Ictalurus - prominent adipose fin  
dorsal ray - Bullheads A. 25+  
other Ictalurids A. 19 or fewer

~~sub~~ flesh in Bullheads remains red after skinning.

DORSAL  
VENTRAL



69. Roccus caryops - regius sandy bottom -  
depth 6-20 ft. must be on some  
kind of pennant.  
strictly predatory.



mottled

57. Ictalurus nebulosus (LeSueur) Brown bullhead-Introduced; uncommon in Shoal Creek and in Lake Farlington
58. Pyiodictis olivaris (Rafinesque) Flathead catfish-widely distributed  
(YELLOW CAT)... non-migrating head shape - - larger bodies of males 109/bs
59. Noturus flavus Rafinesque Stonecat-all of Kansas
60. Noturus nocturnus Jordan and Gilbert Freckled madtom-southeastern Kansas
61. Noturus exilis Nelson Slender madtom-Spring and Neosho River drainages  
6 known protein toxins on spines - \*3 Drywood 3-11-66
62. Noturus miurus Jordan Brindled madtom-Neosho and Spring Rivers
63. Anguilla rostrata (LeSueur) Neosho, Spring and Verdigris Rivers  
SPAW AT SARGASSO SEA, BURMUDA. American eel
64. Fundulus catenatus (Storer) Northern studfish-Shoal Creek, south of Joplin Mo.; not yet taken from Kansas Drywood  
WIDE HABITAT RANGE
65. Fundulus sciadicus (Cope) Plains topminnow-Shoal Creek east of state line; not taken from Kansas #3, 1965
66. Fundulus notatus (Rafinesque) Blackstripe topminnow-eastern Kansas - 3 Dry W. 7-11-66
67. Gambusia affinis (Baird and Girard) Mosquitofish-eastern and southern Kansas  
(wide spread Genus) Kansas not in strip pits
68. Labidesthes sicculus (Cope) Brook silverside-all of southern Kansas #3. D.W. 3-11-66
69. Roccus chrysops (Rafinesque) White bass-Spring and Neosho Rivers
70. Micropterus dolomieu Lacepede Smallmouth bass-Spring and Neosho River systems
71. Micropterus punctulatus (Rafinesque) Spotted bass-southern Kansas
72. Micropterus salmoides (Lacepede) Largemouth bass-all of Kansas
73. Chaenobryttus gulosus (Cuvier) Warmouth sunfish-eastern Kansas
74. Lepomis cyanellus Rafinesque Green sunfish-all of Kansas
75. Lepomis microlophus (Gunther) Redear sunfish-introduced; Shoal Creek some strip pits and probably Lake Farlington
76. Lepomis megalotis (Rafinesque) Long-ear sunfish-eastern Kansas #3. Dry Wood 5-11-66
77. Lepomis humilis (Girard) Orange-spot sunfish-all of Kansas
78. Lepomis macrochirus Rafinesque Bluegill sunfish-all of Kansas
79. Ambloplites rupestris Rafinesque Rockbass-Spring and Neosho Rivers  
East Cow Creek
80. Pomoxis nigromaculatus (LeSueur) Black crappie-all of Kansas
81. Pomoxis annularis Rafinesque White crappie-all of Kansas
82. Stizostedion canadense (Smith) Sauger-Neosho and Spring River drainages
83. Percina phoxocephala (Nelson) Slenderhead darter-southeastern Kansas
84. Percina caprodes (Rafinesque) Logperch-eastern Kansas #3 Dry Wood Mar. 11, 1966

PERCIDAE - no swim bladder - require -  
high O<sub>2</sub> level - 6-8 ppm D.O<sub>2</sub>



L. siculus ends at start of brackish  
water (salinity).

Menidia audens -

highly saline waters  
swim is shorter.



- 4
85. Percina shumardi (Girard) River darter-Neosho and Spring River systems
  86. Percina copelandi (Jordan) Channel darter-southeastern Kansas
  87. Etheostoma stigmaeum (Jordan) Speckled darter-Spring and Neosho Rivers  
*ETHEOSTOMA - Regular lateral line system*
  88. Etheostoma nigrum Rafinesque Johnny darter-Spring River, Shoal and Drywood Creeks (subsp.)  
*leaf beds in winter*  
*#3 D.W. 3-11-66*
  89. Etheostoma chlorosomum (Hay) Bluntnose darter-Neosho and Spring Rivers
  90. Etheostoma zonale (Cope) Banded darter-Spring and Neosho Rivers
  91. Etheostoma blennioides Rafinesque Spring River and Shoal Creek (subsp.)
  92. Etheostoma whipplei (Girard) Redfin darter-southeastern Kansas
  93. Etheostoma punctulatum (Agassiz) Stippled darter-Spring River and Shoal Creek  
*Shoal Creek*
  94. Etheostoma cragini Gilbert Arkansas darter-southeastern Kansas
  95. Etheostoma spectabile (Agassiz) Orangethroat darter-most of Kansas  
*#3 D.W. MAR. 11, 1966*
  96. Etheostoma flabellare Rafinesque Fantail darter-Spring and Neosho Rivers  
Drywood Creek
  97. Etheostoma gracile (Girard) Slough darter-Spring River drainage
  98. Etheostoma microperca Jordan and Gilbert Shoal Creek, immediately east of state line
  99. Aplodinotus grunniens Rafinesque Freshwater drum-most of Kansas
  100. Cottus carolinae (Gill) Banded sculpin-Spring and Neosho Rivers  
*+ SHOAL CREEK.*

Branley A. Branson 1963

J. Carl Bass  
KSCP - 1966

$$D.O_2 = \frac{1}{T}$$



BIOLOGY 333  
 ICHTHYOLOGY

Blair, F. W., A. P. Blair, P. Brodkorb, F. R. Cagle and G. A. Moore  
 VERTEBRATES OF THE UNITED STATES 1957; McGraw-Hill Co., New York.

Classification structure relating to fishes of North America and  
 specifically to Southeast Kansas:

Phylum CHORDATA

Subphylum CRANIATA (VERTEBRATA)

Superclass AGNATHA

Class Petromyzontes

p. 37

Order Petromyzontiformes

p. 37

Family Petromyzontidae

Ichthyomyzon castaneus

chestnut lamprey

p. 42

Superclass GNATHOSTOMATA

Class Teleostomi

Order Acipenseriformes

p. 51

Family Polydontidae paddlefish

Acipenseridae sturgeon

Order Amiiformes

p. 53

Family Amiidae bowfin

Order Lepisosteiformes

p. 54

Family Lepisosteidae gar-fishes

Order Clupeiformes

p. 56

Family Elopidae tarpon

Clupeidae herrings and shad

Engraulidae anchovies

Salmonidae salmon, trout, char

Coregonidae whitefish

Thymallidae grayling

Osmeridae smelt

Umbridae mudminnow

Esocidae pickerel, pike, muskellunge

Hiodontidae mooneye

Order Cypriniformes

p. 74

Family Catostomidae suckers

Cyprinidae minnows (p. 93)

Ictaluridae catfishes (p. 139)

Order Anguilliformes

p. 145

Family Anguillidae eels

Order Beloniformes needlefish (coastal)

p. 146

Family Belonidae needlefish

Order Gadiformes

p. 146

Family Gadidae burbot

Order Gasterosteiformes

p. 146

Family Gasterosteidae stickleback

Order Syngnathiformes

p. 147

Family Syngnathidae pipefishes

Order Cyprinodontiformes

p. 148

Family Amblyopsidae blindfishes

Cyprinodontidae killifish

Poeciliidae livebearers

Order Percopsiformes

p. 159

Family Percopsidae troutperch

Aphredoderidae pirateperch

Order Mugiliformes

p. 161

Family Atherinidae silversides

Mugilidae mullet



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## Order Perdiiformes

p. 162

- Family Centropomidae snook (coastal)
- Serranidae basses
- Centrarchidae sunfishes
- Percidae perch, darters
- Sciaenidae drum
- Sparidae porgy, sheephead
- Cichlidae cichlids (Rio Grande perch)
- Embiotocidae surfperch
- Eleotridae sleeper (coastal)
- Gobiidae goby
- Cottidae sculpins

## Order Pleuronectiformes

p. 205

- Family Pleuronectidae flounder (coastal)
- Achiridae sole (coastal)







## COLLECTION DATA

ICHTHYOLOGY 333, Spring, 1966

Area Second Cow Creek Station No. 1 Date Feb. 24, 1966  
 Location Sec. 9, T. 30 S., R. 23 E., Crawford Co., Kansas  
 Water Temp.(F.) 39° Air Temp.(F.) 48° Turbidity(ft.) 5-6  
 Rate of Flow(cu. ft./min.) 3-4 Type of Drainage grassland, some trees  
 Habitat rock bottom, heavy leaf cover, little aquatic plant growth  
 Specimens Taken

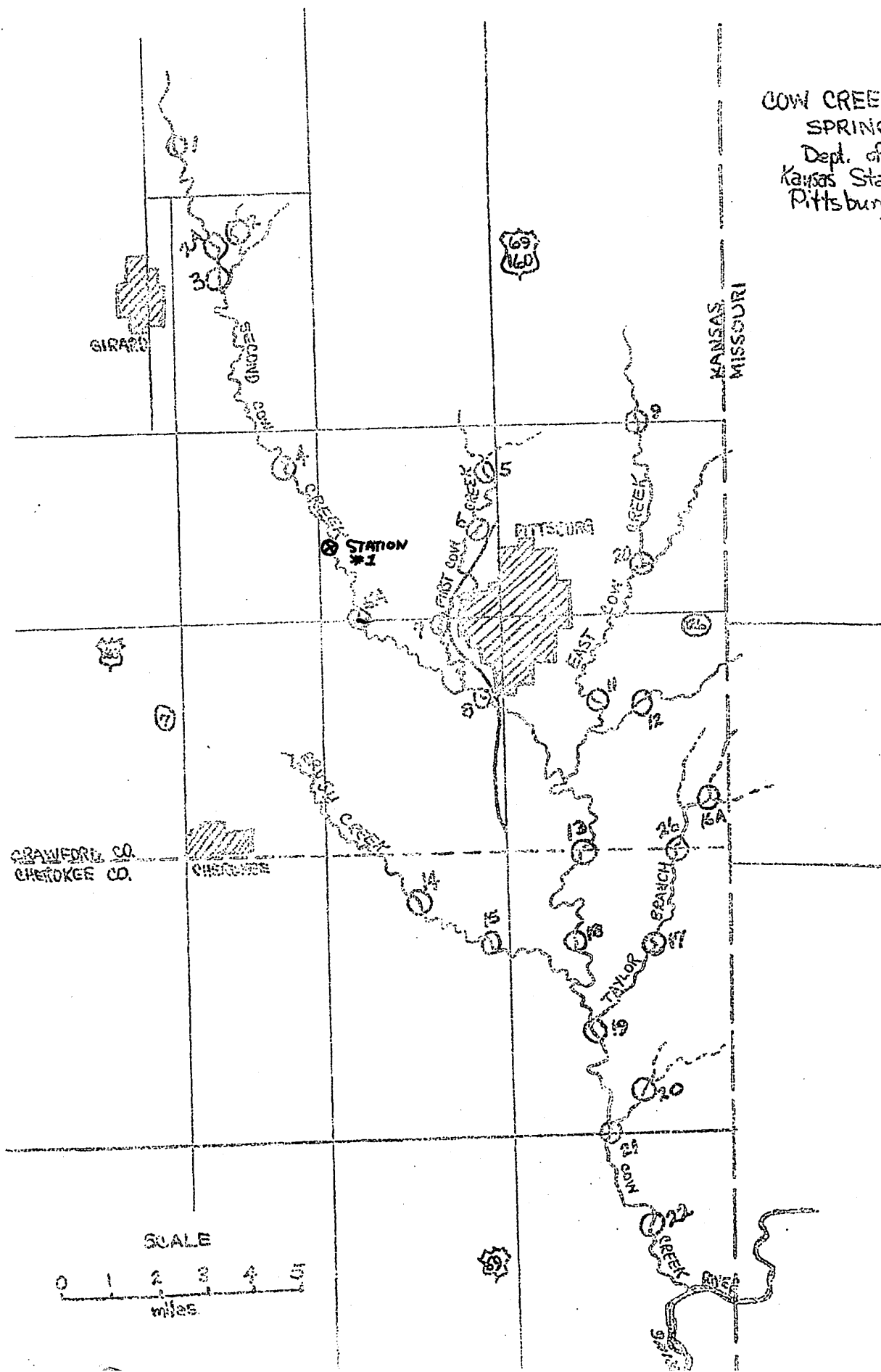
ORDER	FAMILY	Species	Remarks
CYPRINIFORMES	Cyprinidae	<u>Phenacobius mirabilis</u> <u>Notropis umbratilis</u> <u>Pimephales notatus</u>	
CYPRINODONTIFORMES	Cyprinodontidae	<u>Fundulus notatus</u>	
	Poeciliidae	<u>Gambusia affinis</u>	
MUGILIFORMES	Atherinidae	<u>Labidesthes sicculus</u>	
PERCIFORMES	Centrarchidae	<u>Lepomis cyanellus</u>	



1997



COW CREEK SURVEY  
 SPRING 1963  
 Dept. of Biology  
 Kansas State College  
 Pittsburg, Kansas









## COLLECTION DATA

ICHTHYOLOGY 333, Spring, 1966

Area Dry Wood Creek Station No. 1 Date Mar. 3, 1966  
 Location Sec. 7, T. 28 S., R. 23 E., Crawford Co., Kansas  
 Water Temp.(F.) 48 Air Temp.(F.) 58 Turbidity(ft.) 4 ft.  
 Rate of Flow(cu. ft./min.) 24 Type of Drainage grassy-wooded area  
 Habitat rock bottom, much aquatic vegetation, especially Spirogyra; some organic  
debris in riffles, i.e., sticks, etc.  
 Specimens Taken

ORDER	FAMILY	Species	Remarks
CYPRINIFORMES	Cyprinidae	<u>Notemigonus crysoleucas</u> <u>Notropis lutrensis</u>	
	(Siluroidei)		
	Ictaluridae	<u>Ictalurus melas</u>	
CYPRINODONTIFORMES	Cyprinodontidae	<u>Fundulus notatus</u>	
MUGILIFORMES	Poeciliidae	<u>Labidesthes sicculus</u>	
PERCIFORMES	Centrarchidae	<u>Micropterus salmoides</u>	
		<u>Lepomis cyanellus</u>	
		<u>Lepomis megalotis</u>	
		<u>Lepomis macrochirus</u>	
		<u>Percina caprodes</u>	
	Percidae	<u>Etheostoma spectabile</u>	



1911

1940



## COLLECTION DATA

ICHTHYOLOGY 333, Spring, 1966

Area Dry Wood Creek Station No. 2 Date March 3, 1966  
 Location Sec. 32, T. 27 S., R. 23 E., Crawford Co. Kansas  
 Water Temp.(F.) 47° Air Temp.(F.) 59° Turbidity(ft.) 4-5 ft.  
 Rate of Flow(cu. ft./min.) 30 Type of Drainage forest-grassland  
 Habitat rock bottom, rapid current, few aquatic plants

## Specimens Taken

ORDER	FAMILY	Species	Remarks
CYPRINIFORMES	Cyprinidae	<u>Semotilus atromaculatus</u> <u>Notropis umbratilis</u> <u>Pimephales notatus</u> <u>Campostoma anomalum</u>	
CYPRINODONTIFORMES	Cyprinodontidae Poeciliidae	<u>Fundulus notatus</u> <u>Gambusia affinis</u>	
PERCIFORMES	Centrarchidae Percidae	<u>Micropterus salmoides</u> <u>Etheostoma nigrum</u> <u>Etheostoma spectabile</u> <u>Etheostoma flabellare</u>	



# COLLECTOR DATA

ICHTHYOLOGICAL 333, Spring, 1968

Station No. 2 Date Jan 2, 1968

Location Sec. 32, T. 29 N., R. 23 E., Crawford Co., Kansas

Water Temp. (F.) 59° Air Temp. (F.) 59° Turbidity (ft.) 1-2 ft.

Rate of Flow (cu. ft. min.) 30 Type of Drainage Forest-prairie

Habitat rock bottom, small stream, few aquatic plants

Specimens Taken

ORDER	FAMILY	Species	Remarks
CYPRINIDAE	Cyprinidae	<u>Notropis atramaculatus</u>	
		<u>Notropis umbellatus</u>	
		<u>Notropis notatus</u>	
		<u>Notropis anogenus</u>	
CYPRINIDAE	Cyprinodontidae	<u>Leuciscus notatus</u>	
		<u>Leuciscus albus</u>	
CYPRINIDAE	Cyprinidae	<u>Leuciscus albus</u>	
		<u>Leuciscus albus</u>	
		<u>Leuciscus albus</u>	
		<u>Leuciscus albus</u>	



## COLLECTION DATA

ICHTHYOLOGY 333, Spring, 1966

Area Dry Wood Creek Station No. 3 Date March 10, 1966Location Sec. 32, T. 27 S., R. 23 E., Crawford Co., KansasWater Temp.(F.) 59° Air Temp.(F.) 65° Turbidity(ft.) 4Rate of Flow(cu. ft./min.) 40 (approx.) Type of Drainage farmed grassland,Habitat mud bottom, few rocks; oak overhang provides leaf covering of bottom in  
some spots

Specimens Taken

ORDER	FAMILY	Species	Remarks
CLUPEIFORMES	Clupeidae	<u>Dorsoma cepedianum</u>	
CYPRINIFORMES	Catostomidae	<u>Ictiobus bubalus</u>	
		<u>Catostomus commersonii</u>	
	Cyprinidae	<u>Cyprinus carpio</u>	
		<u>Notemigonus crysoleucas</u>	
		<u>Notropis umbratilis</u>	
		<u>Notropis lutrensis</u>	
		<u>Pimephales notatus</u>	
		<u>Camptostoma anomalum</u>	
	Ictaluridae	<u>Ictaluris natalis</u>	
		<u>Ictaluris melas</u>	
		<u>Noturus exilis</u>	
CYPRINODONTIFORMES	Cyprinodontidae	<u>Fundulus notatus</u>	
MUGILIFORMES	Atherinidae	<u>Labidesthes sicculus</u>	
PERCIFORMES	Centrarchidae	<u>Micropterus salmoides</u>	
		<u>Lepomis cyanellus</u>	
		<u>Lepomis megalotus</u>	
		<u>Lepomis humilis</u>	
		<u>Lepomis macrochirus</u>	
		<u>Pomoxis nigromaculatus</u>	
		<u>Pomoxis annularis</u>	
		<u>Percina caprodes</u>	
		<u>Etheostoma nigrum</u>	
		<u>Etheostoma spectabile</u>	
		<u>Etheostoma flabelare</u>	







ICHTHYOLOGY 333, Spring, 1966

Location Sec. 30, T. 27 S., R. 24 E., Crawford Co., Kansas

Rate of Flow(cu. ft./min.) ? - swift Type of Drainage wooded hills- typical Ozarkian area

Habitat limestone bottom, heavy filamentous algae growth

Remarks

CYPRINIFORMES	Ictaluridae	<u>Ictaluris melas</u>	taken by R. Streeter
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GENERAL INFORMATION

2000

2010-11-19



## COLLECTION DATA

ICHTHYOLOGY 333, Spring, 1966

Area Kansas State Quail Farm Station No. - Date March 16, 1966Location Sec. 23, T. 30 S., R. 24 E., Crawford Co., KansasWater Temp.(F.) 55° Air Temp.(F.) 73° Turbidity(ft.) 2-3Rate of Flow(cu. ft./min.) 0 Type of Drainage strip mine lakeHabitat shale bottom and bank, moderate vegetation in water; little overhang by trees in area, rapidly descending banks

Specimens Taken

ORDER	FAMILY	Species	Remarks
PERCIFORMES	Centrarchidae	<u>Micropterus salmoides</u>	SL: 87 mm, wt.: 12.7g hit 1" top-water plug time: 2-3: P.M. wind: 0-5 mph NNW partly cloudy
		<u>Chaenobryttus gluosus</u>	April 7, 1966

11.

WATER QUALITY DATA

STATION NO. 1000

DATE: 10/10/55

LOCATION: Sec. 23, T. 30 S., R. 24 E., Crawford Co., Kansas

WATER TEMP. 61.2° F. AIR TEMP. 61.0° F. WIND: 0-5 mph NW

TYPE OF FLOW: 0

REMARKS: slight bottom sand bank, moderate vegetation in water; little overbank flow

WATER IN AREA, rapidly descending banks

Specimens Taken

ORDER	FAMILY	SPECIES	REMARKS
Centropomidae	Centropomidae	<i>Micropterus salmoides</i>	10: 20 m. wt.: 12.75 lit 1" top-water plant time: 2-3: 2.15 wind: 0-5 mph NW partly cloudy April 17, 1955
		<i>Micropterus salmoides</i>	



## COLLECTION DATA

ICHTHYOLOGY 333, Spring, 1966

Schemerhorn

Area Shoal Creek

Station No. Park Date March 17, 1966

Location Sec. 35, T. 34 S., R. 25 E., Cherokee Co., Kansas

Water Temp.(F.) 64° Air Temp.(F.) 75° Turbidity(ft.) 2-3

Rate of Flow(cu. ft./min.) very rapid Type of Drainage rocky wooded hill country

Habitat rock bottom, loose gravel-size particles; some large boulders

## Specimens Taken

ORDER	FAMILY	Species	Remarks
CYPRINIFORMES	Catostomidae	<u>Moxostoma erythrum</u>	
		<u>Minytrema melanops</u>	
	Cyprinidae	<u>Semotilus atromaculatus</u>	
		<u>Hybopsis x-punctata</u>	
		<u>Notropis umbratilis</u>	
		<u>Notropis pilsbryi</u>	
		<u>Notropis lutrensis</u>	
		<u>Notropis boops</u>	
		<u>Pimephales notatus</u>	
		<u>Campostoma anomalum</u>	
CYPRINODONTIFORMES	Cyprinodontidae	<u>Fundulus notatus</u>	
	Poeciliidae	<u>Gambusia affinis</u>	
PERCIFORMES	Centrarchidae	<u>Micropterus <del>salmoides</del> punctulatus</u>	
		<u>Micropterus salmoides</u>	
		<u>Lepomis cyanellus</u>	
		<u>Lepomis megalotus</u>	
		<u>Lepomis humilis</u>	
		<u>Lepomis macrochirus</u>	
		<u>Percina caprodes</u>	
		<u>Etheostoma nigrum</u>	
	Percidae	<u>Etheostoma spectabile</u>	

1897-1898

Specimens Taken



## COLLECTION DATA

ICHTHYOLOGY 333, Spring, 1966

State Line

Area Shoal Creek (1 M. west of St. line) Station No. Station Date March 19, 1966

Location Sec. 35, T. 34 S., R. 25 E., Cherokee Co., Kansas

Water Temp.(F.) 58° Air Temp.(F.) 75° Turbidity(ft.) 2-3

Rate of Flow(cu. ft./min.) swift Type of Drainage rock-oaken hills

Habitat limestone bottom, little vegetation in water

## Specimens Taken

ORDER	FAMILY	Species	Remarks
CYPRINIFORMES	Cyprinidae	<u>Semotilus atromaculatus</u> <u>Chrosomus erythrogaster</u> <u>Hybopsis x-punctata</u> <u>Notropis umbratilis</u> <u>Notropis pilsbryi</u> <u>Notropis lutrensis</u> <u>Campostoma anomalum</u>	
CYPRINODONTIFORMES	Cyprinodontidae	<u>Fundulus notatus</u>	
PERCIFORMES	Percidae	<u>Etheostoma flabellare</u>	

next enclosed



## COLLECTION DATA

ICHTHYOLOGY 333, Spring, 1966

Area Shoal Creek - Reddings Mill Station Station No. - Date March 19, 1966

Location Sec. 6, T. 35 S., R. 33 W., Newton Co., Missouri

Water Temp.(F.) 58° Air Temp.(F.) 75° Turbidity(ft.) 2-3

Rate of Flow(cu. ft./min.) swift Type of Drainage rocky, wooded hills

Habitat limestone bottom, little vegetation in water; much leaves on bottom

## Specimens Taken

ORDER	FAMILY	Species	Remarks
CYPRINIFORMES	Catostomidae	<u>Moxostoma erythrum</u>	
	Cyprinidae	<u>Notemigonus crysoleucas</u>	
		<u>Notropis umbratilis</u>	
	Ictaluridae	<u>Notropis lutrensis</u>	
		<u>Ictaluris melas</u>	
PERCIFORMES	Centrarchidae	<u>Lepomis megalotus</u>	
		<u>Lepomis humilis</u>	
		<u>Lepomis macrochirus</u>	
		<u>Pomoxis nigromaculatus</u>	
		<u>Pomoxis annularis</u>	

# CONTINUED DATA

INSTRUMENTAL DATA, Spring, 1966

Site: Shoal Creek - Rabbits Hill Station Station No. - Date: March 12, 1966

Location: Sec. 6, T. 35 S., R. 33 W., Newton Co., Missouri

Water Temp. (F.) 58° Air Temp. (F.) 72° Turbidity (F.) 2-3

Rate of Flow (cu. ft./min.) Swift Type of Bottom: rocky, wooded hills

Habitat: Limestone bottom, little vegetation in water; much leaves on bottom

## Specimens Taken

ORDER	FAMILY	Species	Remarks
CYPRINIDAE	Gambusia	Gambusia affinis holbrooki	
	Gambusia	Gambusia affinis holbrooki	
	Gambusia	Gambusia affinis holbrooki	
	Gambusia	Gambusia affinis holbrooki	
	Gambusia	Gambusia affinis holbrooki	
CYPRINIDAE	Gambusia	Gambusia affinis holbrooki	
	Gambusia	Gambusia affinis holbrooki	
	Gambusia	Gambusia affinis holbrooki	
	Gambusia	Gambusia affinis holbrooki	
	Gambusia	Gambusia affinis holbrooki	



## COLLECTION DATA

ICHTHYOLOGY 333, Spring, 1966

Area Shoal Creek - Tipton Ford Station Station No. - Date March 19, 1966Location Sec. 15, T. 26 N., R. 32 W., Newton Co., MissouriWater Temp.(F.) 58° Air Temp.(F.) 75° Turbidity(ft.) 2-3Rate of Flow(cu. ft./min.) swift Type of Drainage rocky-wooded hillsHabitat limestone bottom, little vegetation in water; a few leaves on bottom

## Specimens Taken

ORDER	FAMILY	Species	Remarks
CYPRINIFORMES	Catostomidae	<u>Hypentelium nigricans</u>	
	Cyprinidae	<u>Hybopsis biguttata</u>	
		<u>Notropis pilsbryi</u>	
		<u>Notropis cornutus</u>	
		<u>Notropis buchanani</u>	
		<u>Campostoma anomalum</u>	
CYPRINODONTIFORMES	Poeciliidae	<u>Gambusia affinis</u>	
PERCIFORMES	Centrarchidae	<u>Micropterus dolomieu</u>	
		<u>Ambloplites rupestris</u>	
	Percidae	<u>Etheostoma nigrum</u>	
		<u>Etheostoma spectabile</u>	
		<u>Etheostoma flabellare</u>	
	Cottidae	<u>Cottus carolinae</u>	

Spokane Falls



## COLLECTION DATA

ICHTHYOLOGY 333, Spring, 1966

Area Shoal Creek - Low Water Bridge Station Station No.            - Date March 22, 1966Location Sec. 36, T. 34 S., R. 33 W., Newton Co., MissouriWater Temp.(F.) 58° Air Temp.(F.) 75° Turbidity(ft.) 2-3Rate of Flow(cu. ft./min.) swift Type of Drainage typical ozarkianHabitat limestone bottom., much aquatic vegetation

## Specimens Taken

ORDER	FAMILY	Species	Remarks
CYPRINIFORMES	Cyprinidae	<u>Notropis boops</u> <u>Notropis camurus</u>	
PERCIFORMES	Centrarchidae	<u>Micropterus dolomieu</u>	
	Percidae	<u>Lepomis microlophus</u> <u>Etheostoma zonale</u> <u>Etheostoma blenniodes</u>	

# INSTRUCTIONS

NOVEMBER 1955, Spring 1956

Location Sec. 36, T. 35 N., R. 33 W., Newton Co., Missouri

Water Temp. (°C) 20.0 (°F) 68.0

Date of Flow (m. l. rain) 5/11/55

Type of drainage typical of area

Habitat: limestone bottom, much aquatic vegetation

Specimens Taken

ORDER FAMILY Species Remarks

	Psephenidae	Psephenus	<u>Psephenus dorsalis</u>
			<u>Psephenus conspersus</u>
			<u>Psephenus bifasciatus</u>
			<u>Psephenus obscurus</u>
	Leuctridae	Leuctra	<u>Leuctra scabra</u>
			<u>Leuctra clauseni</u>
			<u>Leuctra obscura</u>
			<u>Leuctra clauseni</u>



## COLLECTION DATA

ICHTHYOLOGY 333, Spring, 1966

Area Shoal Creek - Grand Falls Station Station No. - Date March 26, 1966

Location Sec. 35, T. 34 S., R. 34 W., Newton Co., Missouri

Water Temp.(F.) 58° Air Temp.(F.) 65° Turbidity(ft.) 2-3

Rate of Flow(cu. ft./min.) rapid to very swift Type of Drainage typical ozarkian

Habitat moderatly heavy aquatic vegetation, very rocky, rocks large; current over falls drops 6-10 feet, good darter habitat

Specimens Taken

ORDER	FAMILY	Species	Remarks
CYPRINIFORMES	Cyprinidae	<u>Semotilus atromaculatus</u>	
		<u>Notropis pilsbryi</u>	
		<u>Notropis camurus</u>	
		<u>Notropis lutrensis</u>	
		<u>Campostoma anomalum</u>	
PERCIFORMES	Centrarchidae	<u>MICROPTERUS PUNCTULATUS</u>	
		<u>Lepomis macrochirus</u>	
	Percidae	<u>Lepomis humilis</u>	
		<u>Percina copelandi</u>	
		<u>Etheostoma stigmaeum</u>	
		<u>Etheostoma blenniodes</u>	
PERCIFORMES	Centrarchidae	<u>Etheostoma punctulatum</u>	
		<u>Chaenobryttus gluosus</u>	April 6, 1966

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## COLLECTION DATA

ICHTHYOLOGY 333, Spring, 1966

Area Dry Wood Creek - Lone Star School Station No. 11 Date March 31, 1966Location Sec. 29, T. ~~28~~<sup>33N.</sup> S., R. ~~25~~<sup>32W</sup> E., Barton Co., MissouriWater Temp.(F.) 63° Air Temp.(F.) 80° Turbidity(ft.) 1-2Rate of Flow(cu. ft./min.) slow to moderately fast Type of Drainage rocky, wooded hillsHabitat heavy leaf cover on bottom, (large) limestones on bottom; heavy sulfur compounds in water and salts on rocks on banks. probably polluted- no fresh waterSpecimens Taken mollusks in area.

ORDER	FAMILY	Species	Remarks
CYPRINIFORMES	Catostomidae	<u>Catostomus commersoni</u>	
		<u>Cyprinus carpio</u>	
	Cyprinidae	<u>Semotilus atromaculatus</u>	
		<u>Notropis umbratilis</u>	
		<u>Notropis boops</u>	
		<u>Notropis topeka</u>	
		<u>Campostoma anomalum</u>	
		<u>Noturus exilis</u>	
	Ictaluridae		
MUGILIFORMES	Atherinidae	<u>Labidesthes sicculus</u>	
PERCIFORMES	Centrarchidae	<u>Micropterus salmoides</u>	
		<u>Lepomis cyanellus</u>	
		<u>Lepomis megalotus</u>	
		<u>Lepomis humilis</u>	
		<u>Lepomis macrochirus</u>	
		<u>Pomoxis annularis</u>	
	Percidae	<u>Etheostoma spectabile</u>	





## COLLECTION DATA

ICHTHYOLOGY 333, Spring, 1966

Area Neosho River Station No. - Date April 10, 1966  
Location low water bridge at south edge of Miami, Okla. city park  
Water Temp.(F.) 58° Air Temp.(F.) 65° Turbidity(ft.) 1-2 Rate of Flow mod. swift  
Type of Drainage populated area, flat, rocky drainage  
Habitat river bed very rocky, some organic debree in water  
Specimens Taken

ORDER	Family	Species	Remarks
PERCIFORMES	Serranidae	<u>Roccus chrysops</u>	taken on hook and line using minnow for bait male, not yet spawned.





## COLLECTION DATA

ICHTHYOLOGY 333, Spring, 1966

Area Dry Wood Creek Station No. 12 & 13 Date April 14, 1966  
 Location Sec. 9, T. 33 N., T. 32 W., Barton Co., Missouri (#12=west, #13=east)  
 Water Temp.(F.) 50° Air Temp.(F.) 65° Turbidity(ft.) 1-2  
 Rate of Flow(cu. ft./min.) slow Type of Drainage rocky wooded hills and flat farm land on one side  
 Habitat bottom covered by flat sandstones and clay; much brush in water  
 Specimens Taken

ORDER	FAMILY	Species	Remarks
CYPRINIFORMES	Catostomidae	<u>Catostomus commersoni</u>	
		<u>Notemigonus crysoleucas</u>	
	Cyprinidae	<u>Semotilus atromaculatus</u>	
		<u>Notropis umbratilis</u>	
		<u>Notropis lutrensis</u>	
		<u>Notropis topeka</u>	
		<u>Campostoma anomalum</u>	
		<u>Ictaluris melas</u>	
		<u>Noturus exilis</u>	
	Ictaluridae		
CYPRINODONTIFORMES	Cyprinodontidae	<u>Fundulus notatus</u>	
MUGILIFORMES	Atherinidae	<u>Labidesthes sicculus</u>	
PERCIFORMES	Centrarchidae	<u>Micropterus salmoides</u>	
		<u>Lepomis cyanellus</u>	
		<u>Lepomis megalotus</u>	
		<u>Lepomis humilis</u>	
		<u>Pomoxis annularis</u>	
	Percidae	<u>Etheostoma spectabile</u>	

# INVERMOUNT NATIONAL MONUMENT

Geological Survey, U.S. Department of the Interior

Location Sec. 2, T. 33 N., R. 32 W., Barton Co., Missouri (12=West, 13=East)

Water Temp. (F.) 52 (12=West, 13=East)

Rate of Flow (ft./sec.) 1.1

Bottom covered by flat sandstones and clay; much brush in water  
 Flat farm land on one side

Specimens taken

ORDER FAMILY SPECIES

<u>Catostomus commersoni</u>	Catostomidae	Catostomidae
<u>Catostomus commersoni</u>	Cyprinidae	Cyprinidae
<u>Catostomus commersoni</u>		
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## COLLECTION DATA

ICHTHYOLOGY 333, Spring, 1966

Area Neosho River Station No. - Date April 16, 1966Location Sec. 29, T. 30 S., R. 20 E., Neosho Co., KansasWater Temp.(F.) 54° Air Temp.(F.) 65° Turbidity(ft.) 0-1 Rate of Flow swiftType of Drainage slightly wooded hills and farm landHabitat limestone bottom, some silt and debree on bottom and in water

## Specimens Taken

ORDER	Family	Species	Remarks
CYPRINIFORMES	Cyprinidae	<u>Notropis lutrensis</u>	
		<u>Pimephales notatus</u>	
		<u>Campostoma anomalum</u>	
	Ictaluridae	<u>Ictaluris punctatus</u>	
PERCIFORMES	Centrarchidae	<u>Lepomis humilis</u>	
	Percidae	<u>Percina phoxocephala</u>	

Nebraska River, Dec. 10, 1933

Dec. 10, 1933, Nebraska Co., Kansas

3-10-33

slightly wooded hills and farm land

limestone bottom, some silt and clay on bottom and in water

Cyrtolus luteus  
Cyrtolus niger  
Cyrtolus niger

Cyrtolus niger

Cyrtolus niger

Cyrtolus niger

Cyrtolus

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ICHTHYOLOGY 333, Spring, 1966

Location 1 $\frac{1}{4}$  miles southwest of New Strawn, Coffey Co., Kansas

Water Temp.(F.) ? Air Temp.(F.) ? Turbidity(ft.) ? Rate of Flow ?

Type of Drainage\_\_\_\_\_?

Habitat ?

### Specimens Taken

ORDER	Family	Species	Remarks
PERCIFORMES	Sciaenidae	<u>Aplodinotus grunniens</u>	

**DISPOSITIONS**



## COLLECTION DATA

ICHTHYOLOGY 333, Spring, 1966

Area Spring River Station No. - Date May 5, 1966  
 Location Sec. 19, T. 34 S., R. 25 E., Cherokee Co., Kansas  
 Water Temp.(F.) 58° Air Temp.(F.) 75° Turbidity(ft.) 1-2 Rate of Flow moderately swift  
 Type of Drainage wooded hills; drainage somewhat rocky, flat bottom land  
 Habitat very rocky, with large boulders in water, quite a bit of aquatic debris in water  
 Specimens Taken

ORDER	Family	Species	Remarks
CYPRINIFORMES	Catostomidae*	<u>Catostomus commersoni</u>	
	Cyprinidae	<u>Notropis rubellus</u> <u>Notropis umbratilis</u> <u>Notropis pilsbryi</u> <u>Notropis boops</u> <u>Notropis lutrensis</u> <u>Notropis buechanani</u> <u>Chrosomus erythrogaster</u> <u>Pimephales notatus</u> <u>Pimephales vigilax</u>	
CYPRINODONTIFORMES	Cyprinodontidae	<u>Fundulus notatus</u>	
	Poeciliidae	<u>Gambusia affinis</u>	
MUGILIFORMES	Atherinidae	<u>Labidesthes sicculus</u>	
PERCIFORMES	Centrarchidae	<u>Micropterus punctulatus</u> <u>Micropterus salmoides</u> <u>Lepomis cyanellus</u> <u>Lepomis megalotus</u> <u>Lepomis humilis</u> <u>Lepomis macrochirus</u> <u>Pomoxis annularis</u>	
	Percidae	<u>Percina caprodes</u> <u>Percina copelandi</u> <u>Etheostoma spectabile</u>	
			*(additions)
CYPRINIFORMES	Catostomidae	<u>Ictiobus bubalus</u> <u>Moxostoma erythrum</u>	

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## COLLECTION DATA

ICHTHYOLOGY 333, Spring, 1966

Area Dry Wood Creek Station No. - Date May 12, 1966Location Sec. 9, T. 34 N., R. <sup>32</sup>~~33~~ W., Vernon Co., MissouriWater Temp.(F.) 50° Air Temp.(F.) 52° Turbidity(ft.) 0 Rate of Flow mod. swiftType of Drainage flat, sparsely wooded farm land; water backed up into roadside ditches, and reached a considerable depthHabitat (hard to determine due to flood conditions) mostly mud and silt bottom with few rocks; much plant debris in water at this time;Specimens Taken many land organisms in water due to (?) recent storm, especially Insecta and Arachnida, (mostly Fam. Lycosidae.)

ORDER	Family	Species	Remarks
CYPRINIFORMES	Cyprinidae	<u>Notropis umbratilis</u> <u>Notropis lutrensis</u>	
PERCIFORMES	Centrarchidae	<u>Lepomis humilis</u> <u>Lepomis macrochirus</u> <u>Lepomis megalotus</u>	

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## COLLECTION DATA

ICHTHYOLOGY 333, Spring, 1966

Area Crawford Co. St. Lake # 2 (Farlington) Station No. - Date August 10, 1966Location Sec. 5, 6, & 7; T. 28 S., R 23 E., Crawford Co., KansasWater Temp.(F.) 81 Air Temp.(F.) 80 Turbidity(ft.) 3.75 Rate of Flow 0Type of Drainage Wooded hills and flat lands, mostly wooded on perimeter of lakeHabitat Clear, man-made impoundment (1934-CCC); little vegetation except along shore-lineCollectors: Hartmann, Tripplett, and Gash

Specimens Taken

ORDER	Family	Species	Remarks
CYPRINIFORMES	Ictaluridae	<u>Ictalurus nebulosis</u>	Taken by electro-fishing  Total no. taken: 9; SL ranges from _____ mm to _____ mm.





## COLLECTION DATA

ICHTHYOLOGY 333, Spring, 1966

Area Elk City Reservoir Station No. - Date August 16, 1966Location Water Temp.(F.)  Air Temp.(F.)  Turbidity(ft.)  Rate of Flow Type of Drainage Habitat 

Specimens Taken Collectors: Hartmann and Tripplet.

ORDER	Family	Species	Remarks
Lepisosteiformes	Lepisosteidae	<u>Lepisosteus osseus</u>	
Cypriniformes	Catostomidae	<u>Ictiobus bubalus</u>	
Perciformes	Percidae	<u>Stizostedion vitreum</u>	
	<u>Cyprinidae</u>	<u>Cyprinus carpio</u>	

1. The purpose of this study is to determine the effect of the treatment on the response of the subjects.

2. The subjects of this study are the patients who have been treated with the drug.

3. The results of the study are as follows:

4. The data were analyzed by the method of the t-test.

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## COLLECTION DATA

ICHTHYOLOGY 333, Spring, 1966

Area Otter Creek Station No. 2 Date June 28, 1966Location SW  $\frac{1}{4}$  of NE  $\frac{1}{4}$  of Sec. 16, T. 33 S., R. 8 E., Cowley Co., KansasWater Temp.(F.) - Air Temp.(F.) - Turbidity(ft.) - Rate of Flow -Type of Drainage Flint hills (Chautauqua hills extention).Habitat Clear, smooth rock bottom.

## Specimens Taken

ORDER	Family	Species	Remarks
Cypriniformes	Ictaluridae	<u>Noturus flavus</u> <u>Noturus nocturnus</u>	SL: 74 mm SL: 57 mm

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OFFICE OF THE ASSISTANT SECRETARY FOR  
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ICHTHYOLOGY 333, Spring, 1966

Location

Type of Drainage Wooded hills

Habitat mud bottom - few rocks & vegetation

ORDER	Family	Species	Remarks
CYPRINIFORMES	ICTALURIDAE	<u>Pylodictis</u> <u>divaris</u>	1 of 2 taken
			1967

THE UNITED STATES OF AMERICA

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BUREAU OF LAND MANAGEMENT

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ICHTHYOLOGY 333, Spring, 1966

Location OTTOWA Co, OKLAHOMA

Water Temp. (F.) — Air Temp. (F.) — Turbidity (ft.) — Rate of Flow —

Type of Drainage \_\_\_\_\_

Habitat Collected by C. OLIVER

### Specimens Taken

ORDER	Family	Species	Remarks
CYPRINIFORMES	CIATOSTOMIDAE	<u>MINYTREMA</u> <u>MELANOPS</u>	SL = 120mm

*Journal of Management Studies*, 19(6), 709-728.

DATE: 10/10/2013 TIME: 10:00 AM PAGE: 10

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Robert van Lierde

2017-2018

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## COLLECTION DATA

ICHTHYOLOGY 333, Spring, 1966

Area Brazos River Station No. - Date Aug. 17, 1967Location 15 miles west of Bryan, Texas Brazos County.Water Temp.(F.) - Air Temp.(F.) - Turbidity(ft.) - Rate of Flow -Type of Drainage -Habitat Rocky bottom, rate of flow only moderate; period of drought.

## Specimens Taken

ORDER	Family	Species	No.	Remarks SL range
Cypriniformes	Cyprinidae	<u>Hybopsis aestivalis</u>	2	21-29 mm
		<u>Pimephales vigilax</u>	3	35-50 mm
		<u>Notropis dorsalis</u> ?	1	35 mm
		<u>Notropis potteri</u>	15	27-45 mm
		<u>Notropis lutrensis</u>	14	21-36 mm
	Ictaluridae	<u>Ictalurus punctatus</u>	2	161-236mm
		<u>Ictalurus furcatus</u>	2	174-196mm
Collection Note: Minnows were collected by seining a shallow (0.5 m) riffle; catfishes were collected by hook-and-line method.				





## COLLECTION DATA

ICHTHYOLOGY 333, Spring, 1966

Area Navasota River Bottom (slough) Station No. - Date Aug. 14, 1967Location Robertson Co., Texas known locally as "Lake Wilburn".Water Temp.(F.) - Air Temp.(F.) - Turbidity(ft.) - Rate of Flow -Type of Drainage Extremely muddy isolated hole.Habitat Pasture-land drainage, but periphery of lake with dead trees.

## Specimens Taken

ORDER	Family	Species	Remarks
Amiiformes	Amiidae	<u>Amia calva</u>	1 taken SL _____ mm male, with conspicuous dorsal spot on tail.
Collection Note: Collected by seining.			
+ Same trip - <u>Elanone</u> <u>zonale</u>			

The first part of the report (1940-1941) was a general survey of the situation in the country. It was followed by a detailed study of the economic situation, which was the main subject of the report. The study was based on a series of interviews with officials of the Ministry of Finance, the Ministry of Commerce, and the Ministry of Industry. The results of the study are presented in the following chapters.

General	Economic	Social	Political
<p>The general situation in the country is characterized by a high degree of economic and social development. The country has a well-developed infrastructure, a high level of literacy, and a strong sense of national identity. The government is committed to the development of the country and the improvement of the living standards of its people.</p>	<p>The economic situation is characterized by a high level of growth and development. The country has a strong industrial base, a well-developed agricultural sector, and a growing service sector. The government is committed to the development of the economy and the improvement of the living standards of its people.</p>	<p>The social situation is characterized by a high level of literacy and a strong sense of national identity. The country has a well-developed education system, a high level of health care, and a strong sense of community. The government is committed to the development of the social sector and the improvement of the living standards of its people.</p>	<p>The political situation is characterized by a high level of stability and a strong sense of national identity. The country has a well-developed political system, a high level of democratic participation, and a strong sense of national identity. The government is committed to the development of the political sector and the improvement of the living standards of its people.</p>



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### Specimens Taken

ORDER	Family	Species	Remarks
Anguilliformes	Anguillidae	<u>Anguila</u> <u>rostrata</u>	1972

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Station No. \_\_\_\_\_ Date \_\_\_\_\_

Location \_\_\_\_\_

Water Temp. (F.) \_\_\_\_\_ Air Temp. (F.) \_\_\_\_\_ Visibility (ft.) \_\_\_\_\_ Rate of Flow \_\_\_\_\_

Type of Drainage \_\_\_\_\_

Habitat \_\_\_\_\_

Specimens Taken \_\_\_\_\_

ORDER	Family	Species	Remarks



## COLLECTION DATA

ICHTHYOLOGY 333, Spring, 1966

Area Stony Creek Station No. 6 Date 16 Apr. 1972Location Dauphin Co., PennsylvaniaWater Temp.(F.) 52 Air Temp.(F.) 70 Turbidity(ft.) - Rate of Flow -Type of Drainage -Habitat -

## Specimens Taken

ORDER	Family	Species	Remarks
Clupeiformes	Esocidae	Esox niger E. americanus	Caught by angler -Sized Mar. 72.
Cypriniformes	Cyprinidae	<u>Semotilus</u> <u>corporeus</u>	- many in Stony Ck. Collections.

1. The first part of the report is a general statement of the purpose and scope of the study. It is followed by a brief review of the literature on the subject. The third part of the report is a description of the methods used in the study. This is followed by a presentation of the results of the study. The final part of the report is a discussion of the results and their implications.

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3. The first part of the report is a general statement of the purpose and scope of the study. It is followed by a brief review of the literature on the subject. The third part of the report is a description of the methods used in the study. This is followed by a presentation of the results of the study. The final part of the report is a discussion of the results and their implications.

1. General Statement of Purpose and Scope	2. Review of Literature	3. Description of Methods	4. Presentation of Results