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Karisa Boyer

Pittsburg State University, karisaboyer@joplinschools.org

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Gash

A LIST OF FISHES KNOWN FROM
SOUTHEASTERN KANSAS AND ENVIRONS

1966

ORDER PETROMYZONTIFORMES

Family Petromyzontidae

Ichthyomyzon castaneus Girard- Neosho River tributaries

ORDER AMIIFORMES

Family Amiidae

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

ORDER LEPISOSTEIFORMES

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

Cypleptus elongatus (LeSueur) Neosho River

Ictiobus cyprinella (Valenciennes) eastern Kansas

Ictiobus niger (Rafinesque) eastern Kansas

Ictiobus bubalus (Rafinesque) eastern Kansas

RAYBURN, KANSAS AND DISTRICTS

ORDER CYPRINIFORMES

Family Cyprinidae

Leuciscus (Leuciscus) (Leuciscus) (Leuciscus) (Leuciscus) (Leuciscus)

ORDER SALMOTRIDAE

Family Salmonidae

Salmo (Salmo) (Salmo) (Salmo) (Salmo) (Salmo)

ORDER PERCIFORMES

Family Percidae

Percina (Percina) (Percina) (Percina) (Percina) (Percina)

Perca (Perca) (Perca) (Perca) (Perca) (Perca)

Micropterus (Micropterus) (Micropterus) (Micropterus) (Micropterus) (Micropterus)

ORDER Gobiiformes

Suborder Gobioidae

Family Gobiidae

Gobionellus (Gobionellus) (Gobionellus) (Gobionellus) (Gobionellus) (Gobionellus)

Suborder Eleotridae

Family Eleotridae

Eleotris (Eleotris) (Eleotris) (Eleotris) (Eleotris) (Eleotris)

Suborder Sisorididae

Family Sisoridae

Sisorus (Sisorus) (Sisorus) (Sisorus) (Sisorus) (Sisorus)

ORDER CYPRINIFORMES

Suborder Cyprinoidae

Family Cyprinidae

Notropis (Notropis) (Notropis) (Notropis) (Notropis) (Notropis)

Notemigonus (Notemigonus) (Notemigonus) (Notemigonus) (Notemigonus) (Notemigonus)

Notropis (Notropis) (Notropis) (Notropis) (Notropis) (Notropis)

Notropis (Notropis) (Notropis) (Notropis) (Notropis) (Notropis)

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 percobromus (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 CORNUTUS-SHOAL CK.
Notropis buchanani (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
Campostoma anomalum (Rafinesque) all of Kansas

- black
 - ventral bar

Suborder Siluridae

FAMILY: ICTALURIDAE

Ictalurus punctatus (Rafinesque) all of Kansas
Ictalurus ~~punc~~ 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 Cyprinodontoidel

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 Percoidel

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 gluosus (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 (Jordan) - Missouri and Spring Rivers

ORDER AMPHIBIA

Suborder Gymnophiona

Family Gymnophionidae

Amphiuma (Günther) - Missouri and Spring Rivers

Amphiuma (Günther) - Missouri and Spring Rivers

Amphiuma (Günther) - Missouri and Spring Rivers

Family Amphiumidae

Amphiuma (Günther) - Missouri and Spring Rivers

ORDER AMPHIBIA

Family Amphiumidae

Amphiuma (Günther) - Missouri and Spring Rivers

ORDER AMPHIBIA

Suborder Anura

Family Anuridae

Amphiuma (Günther) - Missouri and Spring Rivers

Family Anuridae

Amphiuma (Günther) - Missouri and Spring Rivers

Amphiuma (Günther) - Missouri and Spring Rivers

Amphiuma (Günther) - Missouri and Spring Rivers

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Family Anuridae

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Amphiuma (Günther) - Missouri and Spring Rivers

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Amphiuma (Günther) - Missouri 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

Hydrocotyle verticillata (L.) Link. Spring and West River
Hydrocotyle verticillata (L.) Link. Spring River, Small Creek
Hydrocotyle verticillata (L.) Link. Spring River, Small Creek
Hydrocotyle verticillata (L.) Link. Spring River, Small Creek
Hydrocotyle verticillata (L.) Link. Spring River, Small Creek
Hydrocotyle verticillata (L.) Link. Spring River, Small Creek
Hydrocotyle verticillata (L.) Link. Spring River, Small Creek
Hydrocotyle verticillata (L.) Link. Spring River, Small Creek
Hydrocotyle verticillata (L.) Link. Spring River, Small Creek
Hydrocotyle verticillata (L.) Link. Spring River, Small Creek

Family Solanaceae

Apollonia grandiflora (Mill.) Benth. west of Kansas

Suborder Cottochae

Family Cactaceae

Cylindropuntia acanthodes (Mill.) Spring River and Neosho River

A LIST OF FISHES KNOWN FROM SOUTHEASTERN KANSAS AND ENVIRONS

- 1. ^{small stream fish soft integument.} Ichthyomyzon castaneus Girard Chestnut lamprey-Neosho river tributaries
- 2. ^{PRIMITIVE irreg form. Ganooid scales - homocercal tail} Amia calva Linnaeus Bowfin-Neosho and Spring river systems
- 3. ^{skin yellowish. spots on 50cm GAR 1.5cm. 1W DIA.} Lepisosteus platostomus Rafinesque Shortnose gar-most of eastern Kansas
- 4. ^{Spanning in later may-June.} Lepisosteus osseus (Linnaeus) Longnose gar - most of eastern Kansas
↳ BEAK 2-2.5X that of shortnose
- 5. Lepisosteus oculatus (Cope) Spotted gar - Neosho river system
- 6. ^{first specimen (Spring) 1963. St. Paul Refuge.} Dorosoma cepedianum (LeSueur) Gizzard shad - most of Kansas
- 7. ^{peterson sense Thread fin chael} Salmo gairdnerii Richardson rainbow trout - escaped to Shoal Creek
- 8. ^{OSAGE R. soft rays, deep skin covers scales -} Hiodon alosoides (Rafinesque) Goldeye - larger streams and lakes large teeth
- 9. ^{♀ A. fin} Cyctleptus elonatus (LeSueur) Blue sucker - Neosho River system ^{do have smallmouth bony mouth}
- 10. Ictiobus cyprinella (Valenciennes) Bigmouth buffalofish- eastern Kansas
- 11. ^{MAX - 20-30 lbs} Ictiobus niger (Rafinesque) Black buffalofish - eastern Kansas
- 12. ^{hard to distinguish} Ictiobus bubalus (Rafinesque) Smallmouth buffalofish - eastern Kansas
- 13. Carpoides carpio (Rafinesque) River carpsucker-all of Kansas ^{antenna ray of dorsal fin extended, beads at apex of lower lip. - 5 lbs max}
- 14. Carpoides velifer (Rafinesque) Highfin carpsucker-Neosho River system
- 15. ^{hump on anterior third of dorsal fin. coloration similar} Moxostoma carinatum (Cope) River redhorse-Spring River/Shoal Creek
- 16. ^{14-20 lbs 2 1/2 ft in length good eaters - breeding colors beautiful} 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. ^{well defined melanotic spots - mottling in bands} Mnytrema melanops (Rafinesque) Spotted sucker-eastern Kansas
- 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. ^{teeth: 58} Notemironus crysoleucas (Mitchill) Golden shiner-all of Kansas
- 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

Red-tary - teeth in both jaws. gill breathing inadequate.

GAR'S.

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

Spawning takes place in weeds. ♀ spin when releasing eggs. Egg gran pellet. **Toxic!!! FATAL.**
Egg covers highly toxic.

8 - surface feeders - insectivorous; 8-10ft deep.
Clear water - length to .5 meters
+ 30-40
all suckers have cycloid scales

~~5~~ Catostomidae - no spine

- in dorsal fin 10+ rays.

inferior mouth, lips thickened

pharyngeal teeth 1 row typically 16+

Cyprinidae - at least 1 fin w/ ^{usually} spines
usually not more than 2 spines

dorsal fin 10 or less rays

lips typically thinner

mouth - not inferior - ~~with scales~~



~~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) Redfin shiner-eastern Kansas
scale deep - smooth
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
cold fast water - specific preferences
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) Red shiner-all of Kansas
usually 20-30 cm deep still water
- X 42. Notropis volucellus (Cope) Mimie shiner-southeastern Kansas
43. Notropis buchani 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
usually moderately heavily pigmented
47. Dionda nubila (Forbes) Ozark minnow-Spring River and Shoal Creek
8-10 cm distinct separation of pigment on lat. line.
resembles P. notatus in center, V-shaped caudal spot.
48. Pimephales tenellus (Girard) Slim minnow-southeastern Kansas
49. Pimephales vigilax (Baird and Girard) Bullhead minnow-southeastern Kansas
50. Pimephales notatus (Rafinesque) Bluntnose minnow-eastern Kansas
NO 3 DW 2-11-66
51. Pimephales promelas Rafinesque Fathead minnow-most of Kansas
52. Campostoma anomalum (Rafinesque) Stoneroller (rotgut) minnow-Kansas
small scales, very smooth skin.
53. Ictalurus punctatus (Rafinesque) Channel catfish-all of Kansas
MAX. 30 lbs (APPROX)
54. Ictalurus furcatus (LeSueur) Blue catfish-Neosho and Spring Rivers
HARD TO DISTING. hump on back of head, -B/G!
55. Ictalurus natalis (LeSueur) Yellow bullhead-all of Kansas
56. Ictalurus melas (Rafinesque) Black bullhead-all of Kansas

B. G.

Ictalurus - prominent adipose fin
dorsal ray - Bullheads A. 25+

others Ictalurids A. 19 or fewer

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

DORSAL
VENTRAL



69. Roccus cnysope - requires 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. Pylodictis olivaris (Rafinesque) Flathead catfish-widely distributed ^{> APALOSA "} ^{non migrating} ^{head strip - - larger bodies of water} -109/lbs
- 59. Noturus flavus Rafinesque Stonecat-all of Kansas ^(YELLOW CAT)
- 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) ^{SPAW AT SARGASSO SEA, BERMUDA.} Neosho, Spring and Verdigris Rivers ^{American eel}
- 64. Fundulus catenatus (Storer) Northern studfish-Shoal Creek, south of Joplin Mo.; ^{WIDE HABITAT RANGE} not yet taken from Kansas Drywood
- 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) ^{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 ^{east Cow Creek}
- 79. Ambloplites rupestris Rafinesque Rockbass-Spring and Neosho Rivers
- 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 O₂ level - 6-8 ppm D.O₂

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

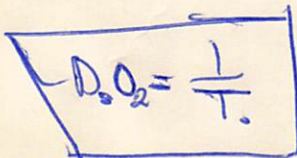
Memidia audens -

highly saline waters
swamp is shorter.

- 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 - Regulum 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 whipplii (Girard) Redfin darter-southeastern Kansas
- 93. Etheostoma punctulatum (Agassiz) Stippled darter-Spring River and Shoal Creek
Chassal fu -
- 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



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 Perdifformes

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)

105

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105

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COLLECTION DATA

ICHTHYOLOGY 333, Spring, 1966

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

Specimens Taken

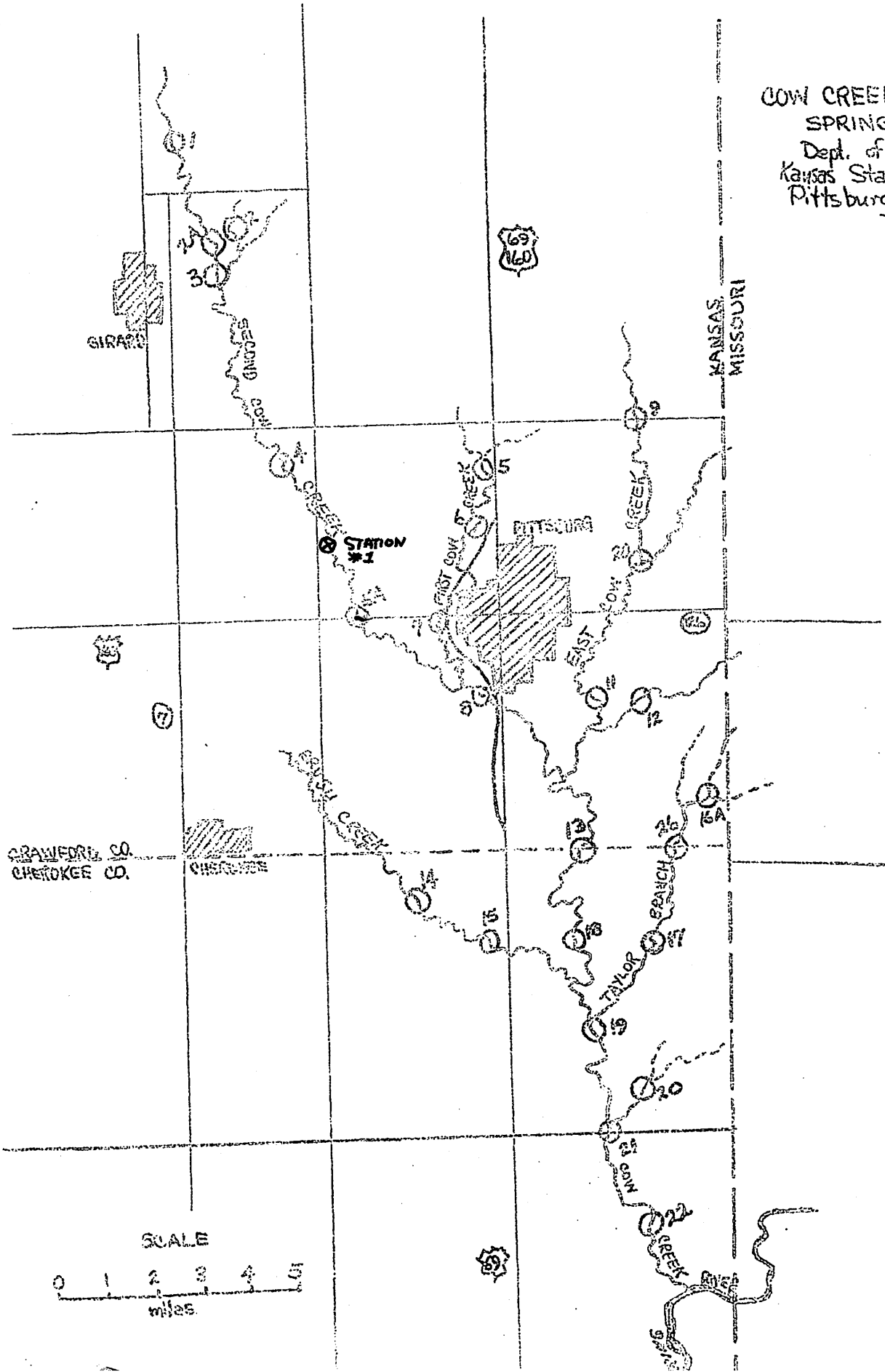
ORDER	FAMILY	Species	Remarks
CYPRINIFORMES	Cyprinidae	<u>Phenacobius mirabilis</u> <u>Notropis umbratilis</u> <u>Pimephales notatus</u>	
CYPRINODONTIFORMES	Cyprinodontidae Poeciliidae	<u>Fundulus notatus</u> <u>Gambusia affinis</u>	
MUGILIFORMES	Atherinidae	<u>Labidesthes sicculus</u>	
PERCIFORMES	Centrarchidae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

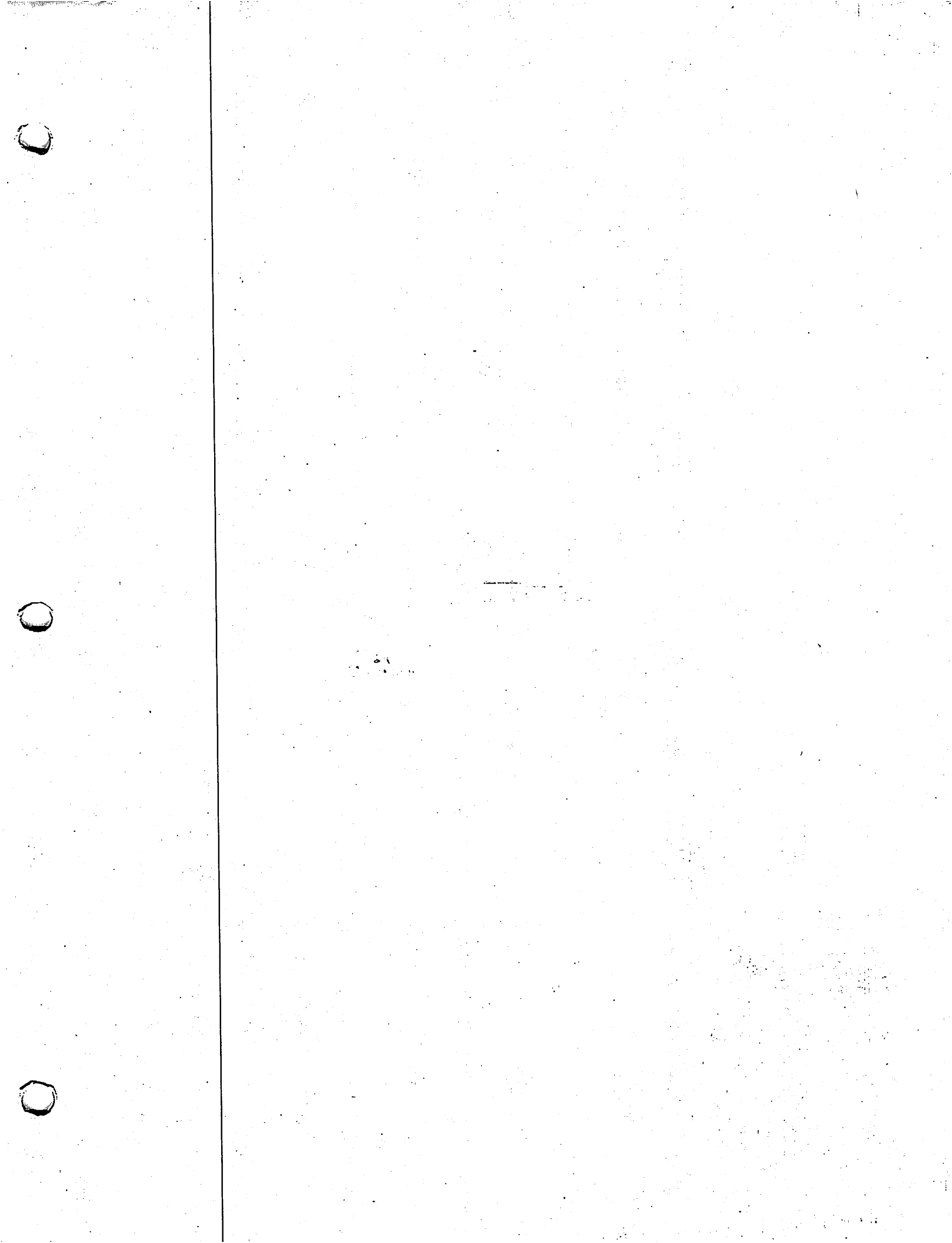
UNIVERSITY OF CALIFORNIA
 HERBARIUM
 3150 LATHROP DRIVE
 BERKELEY, CALIF. 94720

Date: _____
 Locality: _____
 Collector(s): _____
 No. of sheets: _____
 No. of plants: _____
 Type of material: _____
 Date of flowering: _____
 Height of plant: _____
 Habitat: _____
 Associated plants: _____
 Other notes: _____

ORDER	FAMILY	SPECIES	REMARKS
CYPERACEAE	Cyperaceae	<u>Pharusia stricta</u> <u>Pharusia stricta</u> <u>Pharusia stricta</u>	
CYPERACEAE	Cyperaceae	<u>Pharusia stricta</u> <u>Pharusia stricta</u>	
MURICIACEAE	Muriciaceae	<u>Pharusia stricta</u>	
POACEAE	Poaceae	<u>Pharusia stricta</u>	

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 crysoleucus</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>		
	Percidae	<u>Percina caprodes</u> <u>Etheostoma spectabile</u>	

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 SURVEY, Spring, 1968

Station No. 2 Date Jan 2, 1968

Location Sec. 29, 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-woodland

Habitat rock bottom, slight current, few aquatic plants

Specimens Taken

ORDER	FAMILY	Species	Remarks
CYPRINIFORMES	Cyprinidae	<u>Notropis atronotatus</u> <u>Notropis umbellus</u> <u>Lepomis gibbosus</u> <u>Desmognathus</u>	
CYPRINIFORMES	Cyprinodontidae Poeciliidae	<u>Lepomis gibbosus</u> <u>Gambusia affinis</u>	
PISCIFORMES	Centrarchidae Percidae	<u>Lepomis gibbosus</u> <u>Desmognathus</u> <u>Lepomis gibbosus</u> <u>Desmognathus</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>Campostoma anomalum</u>	
		<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	Percidae	<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>			

COLLECTION DATA

ICHTHYOLOGY 333, Spring, 1966

Area Dry Wood Creek Station No. 5A Date March 15, 1966Location Sec. 30, T. 27 S., R. 24 E., Crawford Co., KansasWater Temp.(F.) 70° Air Temp.(F.) 58° Turbidity(ft.) 3Rate of Flow(cu. ft./min.) ? - swift Type of Drainage wooded hills- typical Ozarkian areaHabitat limestone bottom, heavy filamentous algae growth

Specimens Taken

ORDER	FAMILY	Species	Remarks
CYPRINIFORMES	Ictaluridae	<u>Ictaluris melas</u>	taken by R. Streeter

PROCEEDINGS

ANNALS OF THE ENTOMOLOGICAL SOCIETY OF AMERICA

Vol. 52, No. 1, February 1961

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

Water Temp. (°C) 7.0 Air Temp. (°C) 23.0

Rate of Flow (cm. H₂O/min.) 2 - 3

Habitat: Limestone bottom, heavy filamentous algae growth

Specimens taken

ORDER: PANTHER SPECIES: *Ictalurus*

TAKEN BY	SPECIES	SEX	DATE
taken by E. Streeter	<u><i>Ictalurus</i></u>		

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

KANSAS STATE COLLEGE OF AGRICULTURE
 HONORARY SPRING, 1925

Kansas State Coll. Farm Station No. _____
 Location Sec. 23, T. 30 S., R. 21 W., Crawford Co., Kansas

Water Temp. 4.12 °C Air Temp. 12.0 °C Humidity (%) 5-8

Date of Flow (w. r. rain) 0 Type of Drainage across lake

Notes: Main bottom and bank, moderate vegetation in water; little overhanging trees in area; rapidly descending banks

Specimens from

ORDER	FAMILY	Species	Remarks
TRICHOPTERA	Ceratophlebia	<u>Micropterna ephraesia</u>	Alt. 27 m. w. 12.75 lit in top-water pipe time: 2-2: 2.15 wind: 0-2 mph NW partly cloudy April 17, 1925
		<u>Micropterna albos</u>	

COLLECTION DATA

ICHTHYOLOGY 333, Spring, 1966

Area Shoal Creek Station No. Park Date March 17, 1966
SchemerhornLocation Sec. 35, T. 34 S., R. 25 E., Cherokee Co., KansasWater Temp.(F.) 64° Air Temp.(F.) 75° Turbidity(ft.) 2-3Rate of Flow(cu. ft./min.) very rapid Type of Drainage rocky wooded hill
countryHabitat 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 salmoides 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>	
	Percidae	<u>Etheostoma nigrum</u>	
		<u>Etheostoma spectabile</u>	

COLLECTION DATA

ICHTHYOLOGY 333, Spring, 1966

State Line

Area Shoal Creek (1 M. west of St. line) Station No. Station Date March 19, 1966Location Sec. 35, T. 34 S., R. 25 E., Cherokee Co., KansasWater Temp.(F.) 58° Air Temp.(F.) 75° Turbidity(ft.) 2-3Rate of Flow(cu. ft./min.) swift Type of Drainage rock-oaken hillsHabitat limestone bottom, little vegetation in water

Specimens Taken

ORDER	FAMILY	Species	Remarks
CYPRINIFORMES	Cyprinidae	<u>Semotilus atromacutatus</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>	

COLLECTOR'S DATA

TOURNAMENT CREEK, Kansas, 1966

Station 110

Location (1/4 sec. west of St. line) Station No. 110, 1966

Location Sec. 22, T. 34 N., R. 22 W., Cherokee Co., Kansas

Water Temp. (F.) 58 Air Temp. (F.) 75 Humidity (%) 75

Habitat limestone bottom, little vegetation in water

Specimens taken

Remarks	Species	FAMILY	ORDER
	<u>Lemnaea streptomorpha</u>	Cyprinidae	CYPRINIFORMES
	<u>Hydrilla verticillata</u>		
	<u>Wolffia x-landata</u>		
	<u>Utricularia vulgaris</u>		
	<u>Utricularia alata</u>		
	<u>Utricularia latifolia</u>		
	<u>Utricularia americana</u>		
	<u>Hydrilla verticillata</u>	Cyprinodontidae	CYPRINODONTIFORMES
	<u>Hydrilla verticillata</u>	Hydrillidae	CHARACIFORMES

COLLECTION DATA

ICHTHYOLOGY 333, Spring, 1966

Area Shoal Creek - Reddings Mill Station Station No. - Date March 19, 1966Location Sec. 6, T. 35 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 rocky, wooded hillsHabitat 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, Series, 1966

Location: Road 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) _____ Air Temp. (°F) _____ Turbidity (F.U.) _____

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

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

Specimens Taken

ORDER	FAMILY	Species	Remarks
GASTROPODA	Gastropodidae	<i>Littoridinopsis</i>	
		<i>Littoridinopsis</i>	
	Littoridinidae	<i>Littoridinopsis</i>	
		<i>Littoridinopsis</i>	
		<i>Littoridinopsis</i>	
GASTROPODA	Gastropodidae	<i>Littoridinopsis</i>	
		<i>Littoridinopsis</i>	
		<i>Littoridinopsis</i>	
		<i>Littoridinopsis</i>	
		<i>Littoridinopsis</i>	

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 buchmanii</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>	
	Cottoidei	Cottidae	<u>Cottus carolinae</u>

Area: Brook - Station No. Station No. Date: March 19, 1964

Location: No. 12, W. 32 St., New York, N.Y.

Water Temp. (F.) 52 Air Temp. (F.) 75 Turbidity (F.) 3-3

Rate of Flow (cu ft./min.) 500 Type of Bottom: rocky-sanded silt

Number of Specimens: 1000 Little vegetation in water, a few leaves on bottom

Equipment Used:

ORDER FAMILY Species Remarks

ORDER	FAMILY	Species	Remarks
CYPRIDIA	Cyprididae	<i>Paratropis alveolata</i>	
		<i>Cypridus dentatus</i>	
		<i>Cypridus affinis</i>	
		<i>Cypridus caryocarpus</i>	
		<i>Cypridus lucasensis</i>	
CYPRIDIA	Cyprididae	<i>Paratropis affinis</i>	
		<i>Paratropis alveolata</i>	
CYPRIDIA	Cyprididae	<i>Cypridus dentatus</i>	
		<i>Cypridus affinis</i>	
		<i>Cypridus caryocarpus</i>	
		<i>Cypridus lucasensis</i>	
		<i>Cypridus alveolata</i>	
CYPRIDIA	Cyprididae	<i>Cypridus dentatus</i>	
		<i>Cypridus affinis</i>	

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>	

DISTRIBUTION MAP

NORTHINGTON 333, Spring, 1964

Location Sec. 36, T. 38 N., R. 33 W., Lincoln Co., Missouri

Water Temp. (°C) _____

Date of Flow (or, if rain) _____

Habitat: _____

SPECIES	FAMILY	SPECIES	REMARKS
<i>Hydrurus</i>	Hydruridae	<i>Hydrurus</i>	
<i>Hydrurus</i>	Hydruridae	<i>Hydrurus</i>	
<i>Hydrurus</i>	Hydruridae	<i>Hydrurus</i>	
<i>Hydrurus</i>	Hydruridae	<i>Hydrurus</i>	

COLLECTION DATA

ICHTHYOLOGY 333, Spring, 1966

Area Shoal Creek - Grand Falls Station Station No. - Date March 26, 1966Location Sec. 35, T. 34 S., R. 34 W., Newton Co., MissouriWater Temp.(F.) 58° Air Temp.(F.) 65° Turbidity(ft.) 2-3Rate of Flow(cu. ft./min.) rapid to very swift Type of Drainage typical ozarkianHabitat moderately 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> <u>Etheostoma punctulatum</u>	
PERCIFORMES	Centrarchidae	<u>Chaenobryttus gluosus</u>	April 6, 1966

COLLECTION DATA

ICHTHYOLOGY 333, Spring, 1966

Area Dry Wood Creek - Lone Star School Station No. 11 Date March 31, 1966Location Sec. 29, T. ~~28~~^{33N.} S., R. ~~25~~^{32W} 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>		

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COLLECTION DATA

ICHTHYOLOGY 333, Spring, 1966

Area Neosho River Station No. - Date April 10, 1966Location low water bridge at south edge of Miami, Okla. city parkWater Temp.(F.) 58° Air Temp.(F.) 65° Turbidity(ft.) 1-2 Rate of Flow mod. swiftType of Drainage populated area, flat, rocky drainageHabitat 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.

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1961 Jan 1	<u>Balance forward</u>	0.00	0.00
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May 15
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Jul 15
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Aug 15
Aug 31
Sep 15
Sep 30
Oct 15
Oct 31
Nov 15
Nov 30
Dec 31

COLLECTION DATA

ICHTHYOLOGY 333, Spring, 1966

Area Dry Wood Creek Station No. 12 & 13 Date April 14, 1966Location 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.) 1-2Rate of Flow(cu. ft./min.) slow Type of Drainage rocky wooded hills andHabitat bottom covered by flat sandstones and clay; much brush in water flat farm land on one side

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>	
		<u>Ictaluridae</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>Pomoxis annularis</u>	
	Percidae	<u>Etheostoma spectabile</u>	

UNITED STATES GEOLOGICAL SURVEY

WATER RESOURCES DIVISION

Report No. 12 of 13 Date April 14, 1966

Location No. 12 of 13, Fortson, Ga., (12=water, 13=soil)

Water Temp. (F) 68.0 (12) 68.0 (13) 68.0

Rate of flow (ft. per sec.) slow
 Habitat bottom covered by flat sandstones and clay; much brush in water
 Flat farm land on one side

Specimens taken

ORDER FAMILY SPECIES

ORDER	FAMILY	SPECIES
CYPRIDACEA	Cyprididae	<i>Cypridus cypridus</i>
		<i>Cypridus cypridus</i>
	Trotidae	<i>Trotus trota</i>
		<i>Trotus trota</i>
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		<i>Trotus trota</i>
		<i>Trotus trota</i>
	Trotidae	<i>Trotus trota</i>
		<i>Trotus trota</i>
Pyrrhocoridae	<i>Pyrrhocoris pyrrhocoris</i>	
	<i>Pyrrhocoris pyrrhocoris</i>	
Aphididae	<i>Aphis aphidis</i>	
	<i>Aphis aphidis</i>	
Lenticulidae	Lenticulidae	<i>Lenticula lenticula</i>
		<i>Lenticula lenticula</i>
		<i>Lenticula lenticula</i>
		<i>Lenticula lenticula</i>
		<i>Lenticula lenticula</i>

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>	

1953, July 10, 1953 - ...

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COLLECTION DATA

ICHTHYOLOGY 333, Spring, 1966

Area Neosho River - John Redman Dam Station No. - Date April 24, 1966Location 1 $\frac{1}{4}$ miles southwest of New Strawn, Coffey Co., KansasWater 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>	

1938, 10 June 1938 -

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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>	
CYPRINIFORMES	Catostomidae	<u>Ictiobus bubalus</u>	
		<u>Moxostoma erythrum</u>	

*(additions)

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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. ~~33~~³² W., Vernon Co., MissouriWater Temp.(F.) 50° Air Temp.(F.) 52° Turbidity(ft.) 0 Rate of Flow mod. swiftType of Drainage flat, sparcely 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 debree 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, Triplett, 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.

1951, 22 days 1951 - (1951-1952) S. 1951. 22 days 1951

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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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COLLECTION DATA

ICHTHYOLOGY 333, Spring, 1966

Area DRYWOOD CREEK Station No. _____ Date APR. 19, 1967


Location _____

Water Temp.(F.) 65 Air Temp.(F.) 60 Turbidity(ft.) 0 Rate of Flow very rapid flood cond.

Type of Drainage Wooded hills

Habitat mud bottom few rocks + vegetation

Specimens Taken

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

THE UNITED STATES OF AMERICA

DEPARTMENT OF THE INTERIOR

BUREAU OF LAND MANAGEMENT

WATER RESOURCES DIVISION

WATER RIGHTS SECTION

WATER RIGHTS APPLICATION

WATER RIGHTS APPLICATION

Applicant

Location

Section

Range

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COLLECTION DATA

ICHTHYOLOGY 333, Spring, 1966

Area 5 - MILE CREEK Station No. — Date AUG. 25, 1967Location OTTOWA Co, OKLAHOMAWater 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 MELANOPS</u>	SL = 120mm

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.

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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>zavala</u>	

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COLLECTION DATA

ICHTHYOLOGY 333, Spring, 1966

Area Susquehanna R. Station No. — Date 7 MAY, 1972
 Location From Philadelphia Electric's fish trap, below Conowingo R. Dam
 Water Temp.(F.) 63 Air Temp.(F.) 50 Turbidity(ft.) — Rate of Flow 105,000 c.f.s.
 Type of Drainage —
 Habitat —
 Specimens Taken

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

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	<i>Esox niger</i> <i>E. americanus</i>	Caught by angler -Sized Mar. 72.
Cypriniformes	Cyprinidae	<i>Semotilus corporalis</i>	- many in Stony Ck. Collections.

