

$$47 \times 4 = 188$$

$$\begin{array}{r} 188 \\ 38 \\ \hline 223 \end{array}$$

NB=35

Where are
specimens
located?
Fish collection
sheets?

Collected Fish in each State (Total 62 species)

MISSOURI

- Gizzard shad (*Dorosoma cepedianum*)
- Central stoneroller (*Campostoma anomalum*)
- Largescale stoneroller (*Campostoma oligolepis*)
- Whitetail shiner (*Cyprinella galctura*)
- Streamline chub (*Erimystax dissimilis*)
- Cardinal shiner (*Luxilus cardinalis*)
- Striped shiner (*Luxilus chrysocephalus*)
- Bleeding shiner (*Luxilus zonatus*)
- Redspot chub (*Nocomis asper*)
- Hornyhead chub (*Nocomis biguttatus*)
- Golden shiner (*Notemigonus crysoleucas*)
- Bigeye shiner (*Notropis boops*)
- Ozark minnow (*Notropis nubilus*)
- Rosyface shiner (*Notropis rubellus*)
- Sand shiner (*Notropis stramineus*)
- Telescope shiner (*Notropis telescopus*)
- Mimic shiner (*Notropis volucellus*)
- Southern redbelly dace (*Phoxinus erythrogaster*)
- Bluntnose minnow (*Pimephales notatus*)
- Fathead minnow (*Pimephales promelas*)
- Bullhead minnow (*Phimephales vigilax*)
- Creek chub (*Semotilus atromaculatus*)
- Rock bass (*Ambloplites rupestris*)
- Smallmouth bass (*Micropterus dolomieu*)
- Longear sunfish (*Lepomis megalotis*)
- Orangespotted sunfish (*Lepomis humilis*)
- White crappie (*Pomoxis annularis*)
- Ozark madtom (*Noturus albater*)
- Slender madtom (*Noturus exilis*)
- Stonecat (*Noturus flavus*)
- Grass pickerel (*Esox americanus*)
- Chain pickerel (*Esox niger*)
- Brook silverside (*Lavidesthes cicculus*)
- Blackspotted topminnow (*Fundulus olivaceus*)
- Northern studfish (*Fundulus catenatus*)
- Plains killifish (*Fundulus zebrinus*)
- Mottled sculpin (*Cottis bairdi*)
- Banded sculpin (*Cottis carolinae*)
- Greenside darter (*Etheostoma blennioides*)
- Rainbow darter (*Etheostoma caeruleum*)
- Arkansas darter (*Etheostoma cragini*)
- Arkansas saddled darter (*Etheostoma euzonum*)
- Fantail darter (*Etheostoma flavellare*)
- Stippled darter (*Etheostoma punctulatum*)
- Orangethroat darter (*Etheostoma spectabile*)
- Missouri saddled darter (*Etheostoma tetrazonum*)
- Logperch (*Percina caprodes*)
- Channel darter (*Percina copelandi*)
- Slenderhead darter (*Percina phoxocephala*)
- Northern hogsucker (*Hypentelium nigricans*)
- Smallmouth buffalo (*Ictiobus bubalus*)
- River redhorse (*Moxostoma carinatum*)

MISSOURI (cont.)

Black redhorse (*Moxostoma duquesnei*)
Golden redhorse (*Moxostoma erythrum*)
Shorthead redhorse (*Moxostoma macrolepidotum*)

KANSAS

Gravel chub (*Erimystax x-punctatus*)
Banded darter (*Etheostoma zonale*)
Redspot chub (*Nocomis asper*)
Green sunfish (*Lepomis cyanellus*)
Bigeye shiner (*Notropis boops*)
Bluntnose minnow (*Pimephales notatus*)
Striped shiner (*Luxilus chrysocephalus*)
Emerald shiner (*Notropis atherinoides*)

OKLAHOMA

Orangespotted sunfish (*Lepomis humilis*)
Green sunfish (*Lepomis cyanellus*)
Blackstripe topminnow (*Fundulus notatus*)
Cardinal shiner (*Luxilus cardinalis*)
Rosyface shiner (*Notropis rubellus*)
Central stoneroller (*Campostoma anomalum*)
Spotted bass (*Micropterus punctulatus*)
Smallmouth bass (*Micropterus dolomieu*)
Ozark minnow (*Notropis nubilus*)
Golden shiner (*Notemigonus crysoleucas*)
Redspot chub (*Nocomis asper*)
Longear sunfish (*Lepomis megalotis*)
Golden redhorse (*Moxostoma erythrum*)
Rockbass (*Ambloplites rupestris*)
Logperch (*Percina caprodes*)
Mosquito fish (*Gambusia affinis*)
Orangethroat darter (*Etheostoma spectabile*)

Schimerhorn Park, Cherokee Co. KS. T34S R25E S35

- Gravel chub (*Erimystax x-punctatus*)
- Banded darter (*Etheostoma zonale*)
- Redspot chub (*Nocomis asper*)
- Green sunfish (*Leopis cyanellus*)
- Bigeye shiner (*Notropis boops*)
- Bluntnose minnow (*Pimephales notatus*)
- Striped shiner (*Luxilis chrysocephalus*)
- Emerald shiner (*Notropis atherinoides*)

Collectors

5-mile beach, OK. T29N R25E S22

- Orangespotted sunfish (*Lepomis humilis*).....1
- Green sunfish (*Lepomis cyanellus*).....1
- Blackstripe topminnow (*Fundulus notatus*).....1
- Cardinal shiner (*Luxilis cardinalis*).....2
- Rosyface shiner (*Notropis rubellus*).....6
- Central stoneroller (*Campostoma anomalum*).....2
- Spotted bass (*Micropterus punctulatus*).....2
- Smallmouth bass (*Micropterus dolomieu*).....3
- Ozark minnow (*Notropis nubilus*).....3
- Golden shiner (*Netemigonus crysoleucas*).....1
- Redspot chub (*Nocomis asper*).....2
- Longear sunfish (*Lepomis megalotis*).....2
- Golden redhorse (*Moxostoma erythrum*).....1
- Rockbass (*Amploplites rupestris*).....1
- Logperch (*Percina caprodes*).....1
- Mosquito fish (*Gambusia affinis*).....1
- Orangethroat darter (*Etheostoma spectabile*).....2

- Collectors:
- Dr. James Triplett
 - Shannon Thompson
 - Matt Lawrence
 - Charles Menghini
 - Matt Quick
 - Chad Johnson
 - Stan Sullivan
 - Noriyuki Otsuka
 - Matt Buchanan

Missour class trip

Gizzard shad (<i>Dorosoma cepedianum</i>).....released.....	1
Central stoneroller (<i>Campostoma anomalum</i>).....	4
Largescale stoneroller (<i>Campostoma oligolepis</i>).....	3
Whitetail shiner (<i>Cyprinella galctura</i>).....	2
Streamline chub (<i>Erimystax dissimilis</i>).....	4
Cardinal shiner (<i>Luxilis cardinalis</i>).....	12
Striped shiner (<i>Luxilis chrysocephalus</i>).....	7
Bleeding shiner (<i>Luxilis zonatus</i>).....	15
Redspot chub (<i>Nocomis asper</i>).....	2
Hornyhead chub (<i>Nocomis biguttatus</i>).....	1
Golden shiner (<i>Notemigonus crysoleucas</i>).....	1
Bigeye shiner (<i>Notropis boops</i>).....	2
Ozark minnow (<i>Notropis rubilus</i>).....	13
Rosyface shiner (<i>Notropis rubellus</i>).....	8
Sand shiner (<i>Notropis stramineus</i>).....	5
Telescope shiner (<i>Notropis telescopus</i>).....	6
Mimic shiner (<i>Notropis volucellus</i>).....	3
Southern redbelly dace (<i>Phoxinus erythrogaster</i>).....	7
Bluntnose minnow (<i>Pimephales notatus</i>).....	7
Fathead minnow (<i>Pimephales promelas</i>).....	1
Bullhead minnow (<i>Phimephales vigilax</i>).....	2
Creek chub (<i>Semotilus atromaculatus</i>).....	4
Rock bass (<i>Ambloplites rupestris</i>).....	7
Smallmouth bass (<i>Micropterus dolomieu</i>).....	5
Longear sunfish (<i>Lepomis megalotis</i>).....	2
Orangespotted sunfish (<i>Lepomis humilis</i>).....	1
White crappie (<i>Pomoxis annularis</i>).....	1
Ozark madtom (<i>Noturus albater</i>).....	8
Slender madtom (<i>Noturus exilis</i>).....	1
Stonecat (<i>Noturus flavus</i>).....	3
Grass pickerel (<i>Esox americanus</i>).....	2
Chain pickerel (<i>Esox niger</i>).....	1
Brook silverside (<i>Lavidesthes cicculus</i>).....	3
Blackspotted topminnow (<i>Fundulus olivaceus</i>).....	9
Northern studfish (<i>Fundulus catenatus</i>).....	1
Plains killifish (<i>Fundulus zebbrinus</i>).....	2
Mottled sculpin (<i>Cottis bairdi</i>).....	4
Banded sculpin (<i>Cottis carolinae</i>).....	2
Greenside darter (<i>Etheostoma blennioides</i>).....	1
Rainbow darter (<i>Etheostoma caeruleum</i>).....	8
Arkansas darter (<i>Etheostoma cragini</i>).....released.....	1
Arkansas saddled darter (<i>Etheostoma euzonum</i>).....	10
Fantail darter (<i>Etheostoma flavellare</i>).....	3
Stippled darter (<i>Etheostoma punctulatum</i>).....	3
Orangethroat darter (<i>Etheostoma spectabile</i>).....	3
Missouri saddled darter (<i>Etheostoma tetrazonum</i>).....	2
Logperch (<i>Percina caprodes</i>).....	6
Channel darter (<i>Percina copelandi</i>).....	1
Slenderhead darter (<i>Percina phoxocephala</i>).....	1
Northern hogsucker (<i>Hypentelium nigricans</i>).....	1
Smallmouth buffalo (<i>Ictiobus bubalus</i>).....released.....	1
River redhorse (<i>Moxostoma carinatum</i>).....	1

MISSOURI (cont.)

Black redborse (*Moxostoma duquesnei*).....5
 Golden redborse (*Moxostoma erythrum*).....released..... 1
 Shorthead redborse (*Moxostoma macrolepidotum*).....3

Collectors:

- Dr. James Triplett
- Kim Divine
- Kristi Evenson
- Jennifer Minkler
- Charles Menghini
- Bryan Spencer
- Tom Silva
- Brain Dick
- Steven Watson
- Doug Cole
- Matt Buchanan
- Bryan Johnson
- J.R. Booth
- Isaac Vanez
- Jae McClintock
- Denise Woodard
- Justin Spencer

Phylogenetic Tree

Should be Section 1

88?

Longer

Order Clupeiformes
Family clupeidae

1 Gizzard shad (*Dorosoma cepedianum*).....released.....1

Order Cypriniformes
Family Cyprinidae

- 2 Central stoneroller (*Campostoma anomalum*).....4
- 3 Largescale stoneroller (*Campostoma oligolepis*).....3
- 4 Whitetail shiner (*Cyprinella galctura*).....2
- 5 Streamline chub (*Erimystax dissimilis*).....4
- 6 Cardinal shiner (*Luxilus cardinalis*).....12
- 7 Striped shiner (*Luxilus chrysocephalus*).....7
- 8 Bleeding shiner (*Luxilus zonatus*).....15
- 9 Redspot chub (*Nocomis asper*).....2
- 10 Hornyhead chub (*Nocomis biguttatus*).....1
- 11 Golden shiner (*Notemigonus crysoleucas*).....1
- 12 Bigeye shiner (*Notropis boops*).....2
- 13 Ozark minnow (*Notropis nubilus*).....13
- 14 Rosyface shiner (*Notropis rubellus*).....8
- 15 Sand shiner (*Notropis stramineus*).....5
- 16 Telescope shiner (*Notropis telescopus*).....6
- 17 Mimic shiner (*Notropis volucellus*).....3
- 18 Southern redbelly dace (*Phoxinus erythrogaster*).....7
- 19 Bluntnose minnow (*Pimephales notatus*).....7
- 20 Fathead minnow (*Pimephales promelas*).....1
- 21 Bullhead minnow (*Pimephales vigilax*).....2
- 22 Creek chub (*Semotilus atromaculatus*).....4
- 23 Emerald shiner
- 24 Gravel chub

Family Catostomidae

- Northern hogsucker
- Smallmouth buffalo
- River redhorse
- Black redhorse
- Golden redhorse
- Shorthead redhorse

Order Siluriformes
Family Ictaluridae

- 23 Ozark madtom (*Noturus albater*).....8
- 24 Slender madtom (*Noturus exilis*).....1
- 25 Stonecat (*Noturus flavus*).....3

Order Salmoniformes
Family Esocidae

- 26 Grass pickerel (*Esox americanus*).....2
- 27 Chain pickerel (*Esox niger*).....1

Order Antheiformes
Family Antheridae

22 Brook silverside (*Lavidesthes cicculus*).....3

Family Fundulidae

29 Blackspotted topminnow (*Fundulus olivaceus*).....9
30 Northern studfish (*Fundulus catenatus*).....1
31 Plains killifish (*Fundulus zebbrinus*).....2
Mosquito fish

Order Scorpaeniformes
Family Cottidae

32 Mottled sculpin (*Cottis bairdi*).....4
33 Banded sculpin (*Cottis carolinae*).....2

Order Perciformes
Family Centrarchidae

Rock bass (*Ambloplites rupestris*)
Smallmouth bass (*Micropterus dolomieu*)
Longear Sunfish (*Lepomis megalotis*)
Orangespotted sunfish (*Lepomis humilis*)
White crappie (*Pomoxis annularis*)
Spotted bass
Green Sunfish

Family Percidae

37 Greenside darter (*Etheostoma blennioides*).....1
35 Rainbow darter (*Etheostoma caeruleum*).....8
36 Arkansas darter (*Etheostoma cragini*).....released.....1
37 Arkansas saddled darter (*Etheostoma euzonum*).....10
38 Fantail darter (*Etheostoma flavellare*).....3
39 Stippled darter (*Etheostoma punctulatum*).....3
40 Orangethroat darter (*Etheostoma spectabile*).....3
41 Missouri saddled darter (*Etheostoma tetrazonum*).....2
42 Logperch (*Percina caprodes*).....6
43 Channel darter (*Percina copelandi*).....1
44 Slenderhead darter (*Percina phoxocephala*).....1

Family Catastomidae

45 Northern hogsucker (*Hypentelium nigricans*).....1
46 Smallmouth buffalo (*Ictiobus bubalus*).....released.....1
47 River redhorse (*Moxostoma carinatum*).....1

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