

NB = 45 ^{pts}

Coll 26 x 4 ^{pts}

Ichthyology Field Notebook

Josh Cussimano

Biol. 533

Ichthyology

Dr. James Triplett

Salmo trutta

Salmo gairdneri

Order: Esociformes

Family: Esocidae

Esox americanus

Order: Cyprinodontiformes

Family: Cyprinodontidae

Gambusia affinis holbrooki

Gambusia affinis holbrooki

Gambusia affinis holbrooki

Gambusia affinis holbrooki

Gambusia affinis holbrooki

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I. Order: Acipenseriformes
Family: Polydontidae
Polyodon spathula

Order: Lepisostiformes
Family: Lepisosteidae
Lepisosteus oculatus
Lepisosteus osseus

> Both pictures are longnose

Order: Clupeiformes
Family: Clupeidae
Dorosoma cepedianum

Order: Salmoniformes
Family: Salmonidae
Salmo trutta
Salmo gairdneri

Order: Esociformes
Family: Esocidae
Esox americanus

Order: Cypriniformes
Family: Cyprinidae
Campostomata anomalum
Campostomata oligolepis
Carassius auratus
Ctenopharyngodon idella
Cyprinus carpio
Dionda nubila
Hybopsis amblops
Hybopsis dissimilis
Phoxinus erythrogaster
Nocomis asper
Nocomis biguttatus
Nocomis biguttatus
Notropis cardinalis
Notropis chrysocephalus
Notemigonus crysoleucas
Notropis galacturus

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Notropis lutrensis
Notropis pilsbryi
Notropis rubellus
Notropis telescopus
Notropis umbratilis
Notropis zonatus
Phenacobius mirabilis
Pimephales notadus
Pimephales promelas
Semotilus atromaculatus

Family: Catostomidae

Carpionotus velifer
Carpionotus carpio
Cyprinotus elongatus
Catostomus commersoni
Hypentelium nigricans
Ictiobus bubalus
Moxostoma duquesnei

Family: Cyprinodontidae

Fundulus catenatus
Fundulus notatus
Fundulus olivaceus

Family: Poeciliidae

Gambusia affinis

Order: Siluriformes

Family: Ictaluridae

Ictalurus furcatus
Ictalurus melas
Ictalurus natalis
Ictalurus punctatus
Noturus albater
Noturus exilis
Noturus flavus — can't tell
Noturus exilis

Order: Atheriniformes

Family: Atherinidae

Labidesthes sicculus

Order: Scorpaenidae

1. *Phragmites australis*
2. *Scirpus americanus*
3. *Eleocharis acicularis*
4. *Sagittaria arifolia*
5. *Alisma plantago-aquatica*
6. *Sparganium angustifolium*
7. *Najas*
8. *Chara*

9. *Hydrocotyle*
10. *Potamogeton*
11. *Utricularia*
12. *Wolffia*
13. *Salvinia*
14. *Monarda*
15. *Asplenium*
16. *Adiantum*
17. *Polypodium*
18. *Marattia*
19. *Psaronius*
20. *Phyllocladus*
21. *Wolffia*
22. *Salvinia*
23. *Utricularia*
24. *Potamogeton*
25. *Hydrocotyle*
26. *Phragmites*
27. *Scirpus*
28. *Eleocharis*
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31. *Sparganium*
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34. *Hydrocotyle*
35. *Potamogeton*
36. *Utricularia*
37. *Wolffia*
38. *Salvinia*
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45. *Phyllocladus*
46. *Wolffia*
47. *Salvinia*
48. *Utricularia*
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50. *Hydrocotyle*
51. *Phragmites*
52. *Scirpus*
53. *Eleocharis*
54. *Sagittaria*
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68. *Marattia*
69. *Psaronius*
70. *Phyllocladus*
71. *Wolffia*
72. *Salvinia*
73. *Utricularia*
74. *Potamogeton*
75. *Hydrocotyle*
76. *Phragmites*
77. *Scirpus*
78. *Eleocharis*
79. *Sagittaria*
80. *Alisma*
81. *Sparganium*
82. *Najas*
83. *Chara*
84. *Hydrocotyle*
85. *Potamogeton*
86. *Utricularia*
87. *Wolffia*
88. *Salvinia*
89. *Monarda*
90. *Asplenium*
91. *Adiantum*
92. *Polypodium*
93. *Marattia*
94. *Psaronius*
95. *Phyllocladus*
96. *Wolffia*
97. *Salvinia*
98. *Utricularia*
99. *Potamogeton*
100. *Hydrocotyle*

Family: Cottidae
Cottus bairdi
Cottus carolinae

Order: Perchiformes

Family: Percichthyidae
Morone chrysops

Family: Centrarchidae
Ambloplites rupestris
Lepomis cyanellus
Lepomis gibbosus
Lepomis macrochirus
Lepomis megalotus
Lepomis microlophus
Micropterus dolomieu
Micropterus punctulatus
Micropterus salmoides
Pomoxis annularis

Family: Percidae
Etheostoma blenniodes
Etheostoma caeruleum
Etheostoma cragini
Etheostoma euzonum
Etheostoma flabellare
Etheostoma juliae
Etheostoma microperca
Etheostoma stigmaeum
Etheostoma zonale
Percina caprodes
Percina phoxocephala

Family: Sciaenidae
Aplodinotus grunniens

II.

1. 3/7/92

Drywood Creek

Directly Behind Farlington Fish Hatchery

T27S, R24E, Section 32

Crawford County, KS

Habitat: Stream

Species collected:

- a) Notemigonus crysoleucas (Golden Shiner) (3)
- b) Pimphales notadus (Bluntnose minnow) (3)
- c) Catostomus commersoni (White sucker) (1)
- d) Labidesthes sicculus (Brook silversides) (3)
- e) Lepomis macrochirus (Bluegill) (3)
- f) Lepomis megalotis (Longear sunfish) (1)
- g) Lepomis microlophus (Redear sunfish) (3)
- h) Micropterus salmoides (Largemouth bass) (3)
- i) Percina caprodes (Logperch) (3)

Collectors: Josh Cussimano, Ben Mense, David Jenkins, Jason Troike

2. 3/26/92

Lightening Creek

T30S, R23E, Sections 8, 10

Crawford County, KS

Habitat: Stream

Species Collected:

- a) Dorosoma cepedianum (Gizzard Shad) (1)
- b) Fundulus notatus (Blackstripe minnow) (1)
- c) Lepomis humilis (Orangespotted sunfish) (4)
- d) Pomoxis annularis (White crappie) (4)

Collectors: Josh Cussimano, Ben Mense, David Jenkins, Jason Troike

3. 3/27/92

Spring River

Behind dam in Riverton, KS

T34S, R25E, Section 29

Cherokee County, KS

Habitat: River

Species collected:

- a) Cyprinus carpio (Carp) (1)
- b) Notropis camurus (Bluntnose shiner) (1)
- c) Notropis cardinalis (Cardinal shiner) (2)
- d) Semotilus atromaculatus (Creek chub) (1)
- e) Ictiobus bubalus (Smallmouth buffalo) (1)

Habitat: Stream
Species collected:

- a) *Notropis cyathopterus* (Golden Shiner) (3)
- b) *Pimephales notropis* (Bluntnose minnow) (3)
- c) *Catostomus commersoni* (White sucker) (1)
- d) *Lepomis gibbosus* (Blackchin shiner) (3)
- e) *Lepomis macrochirus* (Pumpkinseed) (3)
- f) *Lepomis microlophus* (Longear sunfish) (1)
- g) *Lepomis microlophus* (Longear sunfish) (3)
- h) *Micropogonias undulatus* (American bass) (3)
- i) *Percina caprodes* (Rock bass) (3)

Collector: Josh Casselman, Ben Menze, David Jenkins, Jason Troike

3-28-92
Lighting Creek
T08, P23E, Section 8, 10
Crawford County, KS
Habitat: Stream
Species collected:

- a) *Dorosoma cepedianum* (Crawford shiner) (1)
- b) *Fundulus notatus* (Blackchin minnow) (1)
- c) *Lepomis gibbosus* (Blackchin shiner) (4)
- d) *Pomoxis annularis* (White sucker) (2)

Collector: Josh Casselman, Ben Menze, David Jenkins, Jason Troike

3-27-92
Spring River
Behind dam in Riverton, KS
T04E, P25E, Section 29
Crawford County, KS
Habitat: River
Species collected:

- a) *Cyprinostomus punctatus* (Carp) (1)
- b) *Notropis caeruleus* (Bluntnose shiner) (1)
- c) *Notropis caeruleus* (Bluntnose shiner) (2)
- d) *Squalius biwaensis* (Creek chub) (1)
- e) *Squalius biwaensis* (Creek chub) (1)

Jason Troike

- f) Micropterus punctulatus (Spotted bass) (2)

Collectors: Josh Cussimanio, Ben Mense, David Jenkins, Jason Troike.

4. 3/28/92

Niangua River
R18W, T34, Section 31
Dallas county, MO

Habitat: Stream

Species collected:

- a) Salmo gairdineri (Rainbow trout) (2)
b) Salmo trutta (Brown trout) (2)

Collectors: Josh Cussimanio, Brad Stanley

5. 4/1/92

Shoal Creek
3 miles S. of Galena, KS
T34S, R25E, Section 35
Cherokee County, KS

Habitat: Stream

Species collected:

- a) Campostoma anomalum (Central stoneroller) (3)
b) Ambloplites rupestris (Rock bass) (3)
c) Hypentelium nigricans (Northern hogsucker) (4)
d) Noturus nocturnus (Freckled madtom) (4)
e) Cottus carolinae (Banded sculpin) (5)
f) Micropterus dolomieu (Smallmouth bass) (2)
g) Etheostoma blenniodes (Greenside darter) (3)
h) Etheostoma flabellare (Fantail darter) (3)
i) Etheostoma spectabile (Orangethroat darter) (3)
j) Etheostoma zonale (Banded darter) (3)
k) Percina copelandi (Channel darter) (2)

Collectors: Josh Cussimanio, Ben Mense, David Jenkins, Jason Troike.

6. 4/4/92

Neosho River
Chetopa Dam, Chetopa, KS
Cherokee County, KS

4. *Micropterus punctulatus* (Spotted bass) (2)

Collector: Josh Cassman, Ben Miller, David Jenkins, Jason Troike

5. *Micropterus punctulatus* (Spotted bass) (2)

6. *Micropterus punctulatus* (Spotted bass) (2)

7. *Micropterus punctulatus* (Spotted bass) (2)

8. *Micropterus punctulatus* (Spotted bass) (2)

9. *Micropterus punctulatus* (Spotted bass) (2)

10. *Micropterus punctulatus* (Spotted bass) (2)

11. *Micropterus punctulatus* (Spotted bass) (2)

12. *Micropterus punctulatus* (Spotted bass) (2)

13. *Micropterus punctulatus* (Spotted bass) (2)

14. *Micropterus punctulatus* (Spotted bass) (2)

15. *Micropterus punctulatus* (Spotted bass) (2)

16. *Micropterus punctulatus* (Spotted bass) (2)

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29. *Micropterus punctulatus* (Spotted bass) (2)

30. *Micropterus punctulatus* (Spotted bass) (2)

31. *Micropterus punctulatus* (Spotted bass) (2)

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33. *Micropterus punctulatus* (Spotted bass) (2)

34. *Micropterus punctulatus* (Spotted bass) (2)

35. *Micropterus punctulatus* (Spotted bass) (2)

36. *Micropterus punctulatus* (Spotted bass) (2)

Habitat: River

Species Collected:

- a) Polydon spathula (Spoonbill) (3)

Collectors: Josh and Richard Cussimanio

7. 4/5/92

Farlington Fish Hatchery

T27S, R24E, Section 32

Crawford County, KS

Habitat: Pond

Species collected:

- a) Pimephales promelas (Fathead Minnow) (5)
b) Ctenopharyngodon idella (Grass carp) (4)

Collectors: Ben and Steve Mense

8. 4/8/92

Jason Troikes' Pond

One mile west of Hepler, KS

T27s, R22E, Section 29

Crawford County, KS

Habitat: Pond

Species collected:

- a) Ictalurus melas (Black bullhead) (4)
b) Ictalurus natalis (Yellow bullhead) (4)

Collectors: Josh Cussimanio, Ben Mense, David Jenkins, Jason Troike

9. 4/25/92

Current River

Under Hwy. 60 bridge

Van Buren, MO

T27N, R1W, Section 24

Cater County, MO

Species collected:

- a) Esox Americanus (Grass Pickerel) (10)
b) Campostoma oligolepis (Lg. Scale Stoneroller) (11)
c) Dionda nubila (Ozark Minnow) (19)

[illegible]

- d) Hybopsis amblops (Bigeye Chub) (8)
- e) Hybopsis biguttatus (Hornyhead chub) (13)
- f) Notemigonus crysoleucas (Golden Shiner) (1)
- g) Notropis boops (Bigeye Shiner) (8)
- h) Notropis chrysocephalus (Striped shiner) (7)
- i) Notropis galacturus (Whitetail shiner) (4)
- j) Notropis rubellus (Rosyface Shiner) (6)
- k) Notropis telescopis (Telescope shiner) (4)
- l) Notropis zonatus (Bleeding Shiner) (19)
- m) Pimephales promelas (Fathead Minnow) (6)
- N) Eriyzmon oblongus (Creek Chubsucker) (7)
- o) Moxostoma duquesnei (Black Redhorse) (4)
- p) Fundulus catenatus (Northern Studfish) (17)
- q) Fundulus olivaceus (Blackspotted topminnow) (1)
- r) Gambusia affinis (Mosquitofish) (3)
- s) Noturus albater (Ozark Madtom) (13)
- t) Labidesthes sicculus (Brook silversides) (2)
- u) Cottus bairdi (Mottled Sculpin) (5)
- v) Cottus carolina (Banded Sculpin) (13)
- w) Lepomis humilis (Orangespotted sunfish) (1)
- x) Lepomis macrochirus (Bluegill) (3)
- y) Lepomis microlophus (Redear sunfish) (2)
- z) Micropterus punctulatus (Spotted Bass) (2)
- aa) Etheostoma caeruleum (Rainbow Darter) (32)
- bb) Etheostoma euzonum (Arkansas Saddled Darter) (1)
- cc) Etheostoma zonale (Banded Darter) (4)

Collectors: Dr. James Triplett, Kevin Asburu, Kevin Walters, Josh Cussimano, bill Porter, John Murray, Jeff Borchardt, Paul Van Gorden, Chad Holt, Matt smith, and Ben Mense.

10. 4/25/92

Black River

Under Highway 34 Bridge

T24N, R26E, Section 2

Butler County, MO

Habitat: River

Species collected:

- a) Esox americanus (Grass Pickeral) (4)
- b) Campostoma oligolipis (Large scale Stoneroller) (4)

- d) Dionda nubila (Ozark Minnow) (1)
- e) Notropis boops (bigeye Shiner) (5)
- f) Notropis chrysocephalus (Striped Shiner) (1)
- g) Notropis galacturus (Whitetail Shiner) (1)
- h) Notropis telescopus (Telescope Shiner) (3)
- i) Notropis umbratilis (Redfin Shiner) (5)
- j) Notropis zonatus (Bleeding Shiner) (1)
- k) Pimephales notadus (Bluntnose Minnow) (1)
- l) Fundulus olivaceus (Blackspotted Topminnow) (17)
- m) Labidesthes sicculus (Brook Silverside) (1)
- n) Lepomis cyanellus (Green Sunfish) (3)
- o) Micropterus punctulatus (Spotted Bass) (1)
- p) Etheostoma caeruleum (Rainbow Darter) (32)
- q) Etheostoma spectabile (Orangethroat Darter) (2)

Collectors: Dr. James Triplett, Kevin Asbury, Kevin Walters, Josh Cussimano, Bill Porter, John Murray, Jeff Borchardt, Paul Van Gorden, Chad Holt, Matt Smith, and Ben Mense.

11. 4/26/92

North Fork of the White River

Highway H

T23N, R12W, Section 25

Ozark county, MO

Habitat: River

Species collected:

- a) Salmo gairdneri (Rainbow Trout) (5)
- b) Dionda nubila (Ozark Minnow) (1)
- c) Nocomis biguttatus (Hornyhead chub) (1)
- d) Notropis pilsbryi (Duskystripe Shiner) (19)
- e) Phoxinus erythrogaster (Southern Red Belly Dace) (9)
- f) Hypentelium nigricans (Northern Hogsucker) (1)
- g) Nocturnus albatris (Ozark Madtom) (2)
- h) Cottus bairdi (Mottled Sculpin) (21)
- i) Cottus carolinae (Banded Sculpin) (2)
- j) Etheostoma caeruleum (Rainbow Darter) (24)
- k) Etheostoma spectabile (Orangethroat Darter) (11)
- l) Percina caprodes (Logperch) (3)

Collectors: Dr. James Triplett, Kevin Asbury, Kevin Walters, Josh

2007-08-01

Hsiao, H.

ONLINE ONLY

主 要 詞 語

45/50

Cussimano, Bill Porter, John Murray, Chad Holt, Matt Smith, Paul Van Gorden, Jeff Borchardt, and Ben Mense.

12. 4/26/92

James River

Just South of Highway 248,13 Bridge

T24N, R23W, Section 7

Stone County, MO

Habitat: River

Species collected:

- a) Dionda nubila (Ozark Minnow) (7)
- b) Hybopsis dissimilis (Streamline Chub) (3)
- c) Notropis rubellus (Rosyface Shiner) (5)
- d) Notropis pilsbryi (Duskystripe Shiner) (1)
- f) Notropis galacturus (Whitetail Shiner) (5)
- g) Moxostoma duquesnei (Black Redhorse) (3)
- h) Gambusia affinis (Mosquitofish) (7)
- i) Fundulus catenatus (Northern Studfish) (10)
- j) Noturus albater (Ozark Madtom) (4)
- k) Lepomis cyanellus (Green Sunfish) (1)
- l) Lepomis megalotis (Longear Sunfish) (1)
- m) Etheostoma juliae (Yoke Darter) (2)
- n) Etheostoma spectabile (Orangethroat Darter) (2)

Collectors: Dr. James Triplett, Kevin Asbury, Kevin Walters, Josh Cussimano, Bill Porter, John Murray, Jeff Borchardt, Paul Van Gorden, Chad Holt, Matt Smith, and Ben Mense.

13. 4/26/92

Center Creek

Under Highway 66 Bridge

T27N, R29W, Section 9

Sarcoxie, MO

Jasper County, MO

Habitat: Stream

Species Collected:

- a) Nocomis asper (Redspot Chub) (13)
- b) Notropis pilsbryi (Duskystripe Shiner) (16)
- c) Phoxinus erythrogaster (Southern Redbelly Dace) (2)
- d) Hypentelium nigricans (Norhtern Hogsucker) (1)

Cushman, Bill Porter, John Murrey, Chad Holt, Matt
Smith, Paul Van Gorden, Jeff Borchardt, and Ben Menze

12 4-28-92

- James River
Just South of Highway 248.13 Bridge
1241.123W, Section 7
Stone County, MO
Habitat: River
Species collected:
a) *Blarina brevicauda* (Ozark Minnow) (3)
b) *Hydropsyche* (Stygian Caddis) (3)
c) *Notropis rubellus* (Rocky Mountain Shiner) (1)
d) *Notropis bairdi* (Ducktail Shiner) (1)
e) *Notropis californicus* (Ventral Shiner) (5)
f) *Notropis dorsalis* (Black Redhorse) (3)
g) *Gambusia affinis holbrooki* (Mosquitofish) (1)
h) *Fundulus heteroclitus* (Common Golden Shiner) (10)
i) *Notropis alatus* (Ozark Madfish) (4)
j) *Leuciscus cyanellus* (Green Sunfish) (1)
k) *Leuciscus medius* (Longear Sunfish) (1)
l) *Etheostoma caeruleum* (Yoke Darter) (2)
m) *Etheostoma caeruleum* (Orange Darter) (2)

Collector: Dr. James Porter, Kevin Asbury, Kevin Walters, Josh
Cushman, Bill Porter, John Murrey, Jeff Borchardt,
Paul Van Gorden, Chad Holt, Matt Smith, and Ben Menze

13 4-28-92

- Center Creek
Under Highway 66 Bridge
1241.123W, Section 9
Searcy County, MO
Habitat: Stream
Species Collected:
a) *Notropis asper* (Redspot Caddis) (13)
b) *Notropis bairdi* (Ducktail Shiner) (12)
c) *Notropis rubellus* (Rocky Mountain Shiner) (2)
d) *Notropis dorsalis* (Black Redhorse) (1)

- e) Noturus exiliis (Slender Madtom) (12)
- f) Etheostoma blennoides (Greenside Darter) (1)
- g) Etheostoma cragini (Arkansas Darter) (1)
- h) Etheostoma flabellare (Fantail Darter) (8)
- i) Etheostoma microperca (Least Darter) (11)
- j) Etheostome spectabile (Orangethroated Darter) (8)
- k) Etheostoma stigmaeum (Speckled Darter) (5)

Collectors: Dr. James Triplett, Kevin Asbury, Kevin Walters, Josh Cussimano, Bill Porter, John Murray, Jeff Borchardt, Paul Van Gorden, Chad Holt, Matt Smith, and Ben Mense.

14. 5/10/92

Neosho River

Under Bridge 2 Miles West of St. Paul, KS.

T29S, R20E, SW Sec. 22

Neosho County, KS

Habitat: River

Species Collected:

- a) Lepisosteus oculatus (Spotted Gar) (3)
- b) Lepisosteus osseus (Longnose Gar) (2)
- c) Cyprinus carpio (Carp) (2)
- d) Carassius auratus (Goldfish) (2)
- e) Phenacobius mirabilis (Suckermouth Minnow) (3)
- f) Pimephales notadus (Bluntnose Minnow) (2)
- g) Semotilus atromaculatus (Creek Chub) (2)
- h) Notemigonus crysoleucas (Golden Shiner) (3)
- i) Notropis lutrensis (Red Shiner) (5)
- j) Cycleptus elongatus (Blue Sucker) (3)
- k) Carpodes carpio (River Carpsucker) (2)
- l) Carpodes velifer (Highfin Carpsucker) (1)
- m) Ictiobus bubalus (Smallmouth Buffalo) (1)
- n) Noturus flavus (Stonecat) (1)
- o) Noturus placidus (Neosho Madtom) (2)
- p) Ictalurus furcatus (Blue Catfish) (2)
- q) Percina phoxocephala (Slenderhead Darter) (4)
- r) Aplodinotus grunniens (Freshwater Drum) (3)

e) *Notropis exilis* (Starlet Madam) (12)
 f) *Notropis leucostictus* (Golden Darter) (1)
 g) *Notropis albus* (Arkansas Darter) (1)
 h) *Notropis heterodon* (Piedmont Darter) (2)
 i) *Notropis microdon* (Least Darter) (1)
 j) *Notropis coarctatus* (Constricted Darter) (6)
 k) *Notropis albiguttatus* (Spotted Darter) (2)

Collectors: Dr. James Threlk, Kevin Asbury, Kevin Waller, Josh
 Cusumano, Bill Rother, John Murry, Jeff Borchardt,
 Paul Van Gorder, Chad Holt, Matt Smith, and Bob Moore

14. 5/10/92
 Neosho River
 Under Bridge 2 Miles West of St Paul, KS
 T20E, R20E, S1V, Sec. 22
 Neosho County, KS
 Neosho River
 Species Collected:

a) *Leucostictus ocellatus* (Spotted Gar) (13)
 b) *Leucostictus osseus* (Longnose Gar) (2)
 c) *Cyprinus carpio* (Carp) (2)
 d) *Carassius auratus* (Goldfish) (2)
 e) *Emmelomys nigrus* (Blackchin Minnow) (3)
 f) *Pimephales notatus* (Bluntnose Minnow) (2)
 g) *Semotilus atromaculatus* (Rock Bass) (2)
 h) *Notropis crysoleucas* (Golden Shiner) (3)
 i) *Notropis heterodon* (Piedmont Darter) (2)
 j) *Notropis albiguttatus* (Spotted Darter) (2)
 k) *Carassius auratus* (Goldfish) (2)
 l) *Carassius auratus* (Goldfish) (2)
 m) *Carassius auratus* (Goldfish) (2)
 n) *Notropis heterodon* (Piedmont Darter) (2)
 o) *Notropis albiguttatus* (Spotted Darter) (2)
 p) *Notropis albiguttatus* (Spotted Darter) (2)
 q) *Notropis albiguttatus* (Spotted Darter) (2)
 r) *Notropis albiguttatus* (Spotted Darter) (2)

Collectors: Josh Cussimano, Matt Smith, David Jenkins, Jason Troike.

III.

Kansas:

- 1) Polyodon spathula (Spoonbill)
- 2) Lepisosteidae oculatus (Spotted Gar)
- 3) Lepisosteidae osseus (Longnose Gar)
- 4) Dorosoma cepedianum (Gizzard Shad)
- 5) Campostoma anomalum (Central Stoneroller)
- 6) Campostoma oligolepis (Largescale Stoneoller)
- 7) Cyprinus carpio (Carp)
- 8) Carrassius auratus (Goldfish)
- 9) Ctenopharyngodon idella (Grass Carp)
- 10) Notemigonous crysoleucas (Golden Shiner)
- 11) Notropis camurus (Bluntnose Shiner)
- 12) Notropis cardinalis (Cardinal Shiner)
- 13) Notropis lutrensis (Red Shiner)
- 14) Pimephales notadus (Bluntnose Minnow)
- 15) Pimephales promelas (Fathead Minnow)
- 16) Phenacobius atromaculatus (Suckermouth Minnow)
- 17) Semotilus atromaculatus (Creek Chub)
- 18) Cycleptus elongatus (Blue Sucker)
- 19) Ictiobus bubalus (Smallmouth Buffalo)
- 20) Carpionotus velifer (Highfin Carpsucker)
- 21) Carpionotus carpio (River Carpsucker)
- 22) Hypentelium nigricans (Northern Hogsucker)
- 23) Catostomus commersoni (White Sucker)
- 24) Ictalurus punctatus (Channel Catfish)
- 25) Ictalurus furcatus (Blue Catfish)
- 26) Ictalurus natalis (Yellow Bullhead)
- 27) Ictalurus melas (Black Bullhead)
- 28) Noturus flavus (Stonecat)
- 29) Noturus placidus (Neosho Madtom)
- 30) Fundulus notatus (Blackstripe Minnow)
- 31) Labidesthes sicculus (Brook Silverside)
- 32) Morone chrysops (White Bass)
- 33) Micropterus salmoides (Largemouth Bass)
- 34) Micropterus dolomieu (Smallmouth Bass)
- 35) Lepomis cyanellus (Green Sunfish)

1. The first of these is the fact that the...

2. The second is the fact that the...

3. The third is the fact that the...

4. The fourth is the fact that the...

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16. The sixteenth is the fact that the...

17. The seventeenth is the fact that the...

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21. The twenty-first is the fact that the...

22. The twenty-second is the fact that the...

23. The twenty-third is the fact that the...

- 36) Lepomis megalotis (Longear Sunfish)
- 37) Lepomis macrochirus (Bluegill)
- 38) Lepomis gibbosus (Pumkinseed)
- 39) Amploplites rupestris (Rock Bass)
- 40) Pomoxis annularis (White Crappie)
- 41) Percina caprodes (Logperch)
- 42) Percina phoxocephala (Slenderhead Darter)
- 43) Etheostoma blennioides (Greenside Darter)
- 44) Etheostoma zonale (Banded Darter)
- 45) Etheostoma flabellare (Fantail Darter)
- 46) Aplodinotus grunniens (Freshwater Drum)

Missouri:

- 1) Salmo trutta (Brown Trout)
- 2) Salmo gairdneri (Rainbow Trout)
- 3) Esox americanus (Grass Pickerel)
- 4) Dionda nubila (Ozark Minnow)
- 5) Hybopsis amblops (Bigeye Chub)
- 6) Hybopsis dissimilis (Streamline Chub)
- 7) Nocomis asper (Rddspot Chub)
- 8) Nocomis biguttatus (Hornyhead Chub)
- 9) Notropis boops (Bigeye Shiner)
- 10) Notropis chrysocephalus (Striped Shiner)
- 11) Notropis galacturus (Whitetail Shiner)
- 12) Notropis pilsbryi (Duskystripe Shiner)
- 13) Notropis rubellus (Rosy-faced Shiner)
- 14) Notropis telescopus (Telescope Shiner)
- 15) Notropis umbratilis (Redfin Shiner)
- 16) Notropis zonatus (Bleeding Shiner)
- 17) Phoxinus erthrogaster (Southern Redbelly Dace)
- 18) Erimyzon oblongus (Creek Chubsucker)
- 19) Moxostoma duquesnei (Black Redhorse)
- 20) Fundulus catenatus (Northern Studfish)
- 21) Fundulus olivaceus (Blackspotted Topminnow)
- 22) Gambusia affinis (Mosquitofish)
- 23) Noturus albatel (Ozark Madtom)
- 24) Etheostoma caerulum (Rainbow Darter)
- 25) Etheostoma cragini (Arkansas Darter)
- 26) Etheostoma euzonum (Arkansas Saddled Darter)
- 27) Etheostoma juliae (Yoke Darter)

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- 100) ...

- 28) Etheostoma microperca (Least Darter)
- 29) Etheostoma stigmaeum (Speckled Darter)

IV.

Jar 1-KS Fish:

- 1) Campostoma anomalum (Central Stoneroller)
- 2) Campostoma oligolepis (Largescale Stoneroller)
- 3) Carrassius auratus (Goldfish)
- 4) Ctenopharyngodon idella (Grass Carp)
- 5) Notemigonous crysoleucas (Golden Shiner)
- 6) Notropis camurus (Bluntnose Shiner)
- 7) Notropis cardinalis (Cardinal Shiner)
- 8) Notropis lutrensis (Red Shiner)
- 9) Pimephales notadus (Bluntnose Minnow)
- 10) Pimephales promelas (Fathead Minnow)
- 11) Phenacobius atromaculatus (Suckermouth Minnow)
- 12) Semolitus atromaculatus (Creek Chub)
- 13) Carpoides carpiodes (River Carpsucker)
- 14) Hypentelium nigricans (Northern Hogsucker)
- 15) Ictalurus punctatus (Channel Catfish)
- 16) Ictalurus furcatus (Blue Catfish)
- 17) Noturus flavus (Stonecat)
- 18) Fundulus notatus (Blackstripe Topminnow)
- 19) Labidesthes sicculus (Brook Silverside)
- 20) Morone chrysops (White Bass)
- 21) Micropterus salmoides (Largemouth Bass)
- 22) Micropterus dolomieu (Smallmouth Bass)
- 23) Lepomis cyanellus (Green Sunfish)
- 24) Lepomis megalotis (Longear Sunfish)
- 25) Lepomis macrochirus (Bluegill)
- 26) Lepomis gibbosus (Pumpkinseed)
- 27) Ambloplites rupestris (Rock Bass)
- 28) Pomoxis annularis (White Crappie)
- 29) Percina caprodes (Logperch)
- 30) Percina phoxocephala (Slenderhead Darter)
- 31) Etheostoma blennioides (Greenside Darter)
- 32) Etheostoma zonale (Banded Darter)
- 33) Etheostoma flabellare (Fantail Darter)
- 34) Aplodinotus grunniens (Freshwater Drum)

1. The first of these is the
fact that the...

2. The second is the fact that...

3. The third is the fact that...

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22. The twenty-second is the fact that...

23. The twenty-third is the fact that...

24. The twenty-fourth is the fact that...

25. The twenty-fifth is the fact that...

26. The twenty-sixth is the fact that...

27. The twenty-seventh is the fact that...

28. The twenty-eighth is the fact that...

29. The twenty-ninth is the fact that...

30. The thirtieth is the fact that...

31. The thirty-first is the fact that...

32. The thirty-second is the fact that...

33. The thirty-third is the fact that...

34. The thirty-fourth is the fact that...

35. The thirty-fifth is the fact that...

Jar 2-MO Fish

- 1) Salmo trutta (Brown Trout)
- 2) Salmo gairdneri (Rainbow Trout)
- 3) Esox americanus (Grass Pickerel)
- 4) Dionda nubila (Ozark Minnow)
- 5) Hybopsis amblops (Bigeye Chub)
- 6) Hybopsis dissimilis (Streamline Chub)
- 7) Nocomis asper (Redspot Chub)
- 8) Nocomis biguttatus (Hornyhead Chub)
- 9) Notropis boops (Bigeye Shiner)
- 10) Notropis chrysocephalus (Striped Shiner)
- 11) Notropis galacturus (Whitetail Shiner)
- 12) Notropis pilsbryi (Duskystripe Shiner)
- 13) Notropis rubellus (Rosyface Shiner)
- 14) Notropis telescopus (Telescope Shiner)
- 15) Notropis umbratilis (Redfin Shiner)
- 16) Notropis zonatus (Bleeding Shiner)
- 17) Phoxinus erthrogaster (Southern Redbelly Dace)
- 18) Erimyzon oblongus (Creek Chubsucker)
- 19) Moxostoma duguesnei (Black Redhorse)
- 20) Fundulus catenatus (Northern Studfish)
- 21) Fundulus olivaceus (Blackspotted Topminnow)
- 22) Noturus albatel (Ozark Madtom)
- 23) Etheostoma caeruleum (Rainbow Darter)
- 24) Etheostoma cragini (Arkansas Darter)
- 25) Etheostoma euzonum (Arkansas Saddled Darter)
- 26) Etheostoma juliae (Yoke Darter)

Vile 1

- 1) Etheostoma microperca (Least Darter)

Vile 2

- 2) Gambusia affinis (Mosquitofish)

Pictures

- 1) Polyodon spathula (Spoonbill)
- 2) Lepisosteidae oculatus (Spotted Gar)

*Picture is of a
longnose as well*

[illegible]

1. You have a lot of good ideas. (1)
 2. You have a lot of good ideas. (2)
 3. You have a lot of good ideas. (3)
 4. You have a lot of good ideas. (4)
 5. You have a lot of good ideas. (5)
 6. You have a lot of good ideas. (6)
 7. You have a lot of good ideas. (7)
 8. You have a lot of good ideas. (8)
 9. You have a lot of good ideas. (9)
 10. You have a lot of good ideas. (10)

[illegible]

1994

[illegible]

1. *Chlorophyll a* and *Chlorophyll b* were determined by the method of Arar and Collins (1971).

[illegible]

1400

[illegible]

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- 3) Lepisosteidae osseus (Longnose Gar)
- 4) Cyprinus carpio (Carp)
- 5) Cycleptus elongatus (Blue Sucker)
- 6) Ictiobus bubalus (Smallmouth Buffalo)
- 7) Carpionodes velifer (Highfin Carpsucker)
- 8) Noturus placidus (Neosho Madtom)

*Picture is of
a longnose*

Located in Other Peoples' Collection

- 1) Dorosoma cepedianum (Gizzard Shad)-Matt Smiths' Collection
- 2) Catostomus commersoni (White Sucker)-Ben Menses' Collection
- 3) Ictalurus natalis (Yellow Bullhead)-Jason Troikes' Collection
- 4) Ictalurus melas (Black Bullhead)-Jason Troikes' Collection

