

Ochthyology

at

Pittsburg State University

Pittsburg, Kansas

Spring 1986

Professor James Triplett

Student: Sandra Curran

Collection of fish from

Kansas, Oklahoma, Arkansas  
and Missouri



Collegiate

at

University of Illinois

Urbana, Illinois

Spring 1981

Department of English

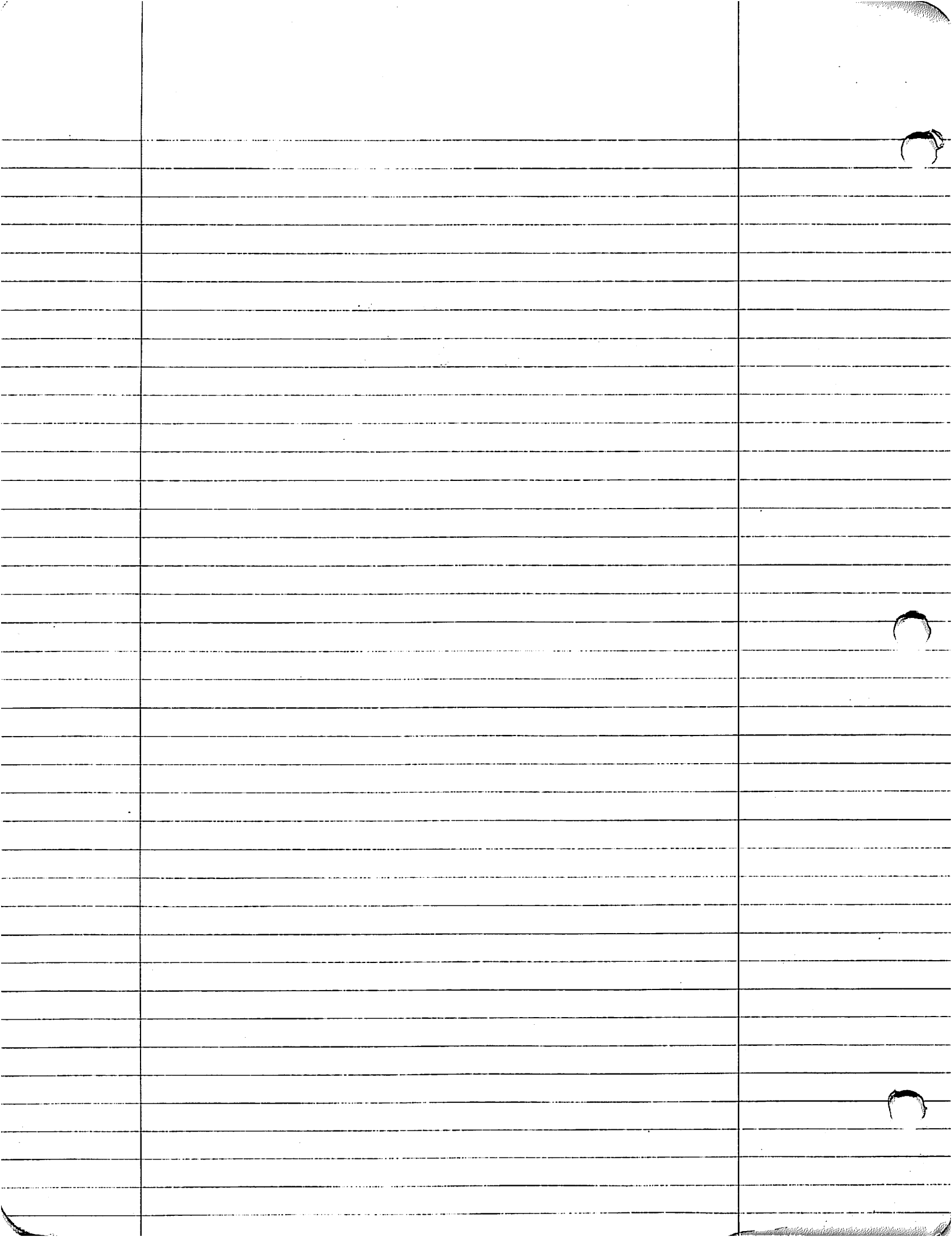
English 101

Section 001

Professor [illegible]

Student [illegible]

*List of Species*  
-- *In Phylogenetic Order* --





1. Ichthyomyzon castaneus - Black River Public Access; (Wayne County) Leeper, Mo; below Hwy 39 Bridge  
MAY 4, 1986 Collectors: Ichthyology Class  
Missouri Trip
2. Lepisosteus osseus - Board Camp Creek (POLK COUNTY);  
10 miles-east of Mena, Arkansas  
Collectors: Ichthyology Class  
Oklahoma-Arkansas Trip -- RELEASE  
At site.  
April 20, 1986
3. Dorosoma cepedianum - Spring River; NW 1/4 of SW 1/4 of  
Section 6; T. 35 S; R. 25 E  
Collectors: Steve & Sundee Curran,  
Rhonda Simpson & Craig Kasjaka  
April 27, 1986
4. Salmo trutta - Spring River State Fish Hatchery on Hwy 342  
Fulton County, ARKANSAS  
Collectors: Rhonda & Dave Simpson  
May 8, 1986
5. Salmo gairdneri - Spring River State Fish Hatchery on Hwy  
342; Fulton County, Arkansas  
Collectors: Rhonda & Dave Simpson  
May 8, 1986
6. Salmo gairdneri x Salmo ? - Spring River State Fish  
Hatchery on Hwy 342; Fulton County,  
ARKANSAS. Collectors: Rhonda & Dave  
Simpson -- May 8, 1986
7. Salmo clarki - Spring River State Fish Hatchery on Hwy  
342; FULTON COUNTY, ARKANSAS.  
Collectors: Rhonda & Dave Simpson  
May 8, 1986.

1. The first part of the paper is a review of the literature on the topic of the paper. It is a very good review and it is very well organized. It is a very good review and it is very well organized.

2. The second part of the paper is a review of the literature on the topic of the paper. It is a very good review and it is very well organized. It is a very good review and it is very well organized.

3. The third part of the paper is a review of the literature on the topic of the paper. It is a very good review and it is very well organized. It is a very good review and it is very well organized.

4. The fourth part of the paper is a review of the literature on the topic of the paper. It is a very good review and it is very well organized. It is a very good review and it is very well organized.

5. The fifth part of the paper is a review of the literature on the topic of the paper. It is a very good review and it is very well organized. It is a very good review and it is very well organized.

6. The sixth part of the paper is a review of the literature on the topic of the paper. It is a very good review and it is very well organized. It is a very good review and it is very well organized.

7. The seventh part of the paper is a review of the literature on the topic of the paper. It is a very good review and it is very well organized. It is a very good review and it is very well organized.

8. Esox americanus - Flat Creek - Junction of Hwy 39 & 248  
Barry County, Missouri; SE 1/4 of  
SW 1/4 of Section 19; T. 24N; R. 25W  
Collectors: Ichthyology Class - Mo  
Trip. May 3, 1986
9. Carassius auratus - Mammoth Springs National Fish Hatchery  
Hwy 63; Fulton County, ARKANSAS  
Collectors: Rhonda & Dave Simpson  
May 8, 1986
10. Ctenopharyngodon idella - Farlington State Fish Hatchery  
(rearing ponds 14 & 17) NE 1/4 of  
SW 1/4 Section 32; T. 27S; R. 24E.  
Collectors: Geff Lettrell & Tom Silvovsky  
March 24, 1986
11. Notemigonus crysoleucas - Pumpkin Creek: SW 1/4 of SW 1/4 of  
Section 35; T. 32S; R. 18E  
Collectors: Sandee & Steve Curran; & Mike &  
Donna Curran  
March 29, 1986
12. Phoxinus erythrogaster - Five Mile Creek; Ottawa Creek, OK  
NE 1/4 of Section 22; T. 29N; R. 25E  
Collectors: Craig Kasjaka, John Bolin, Tom  
Silvovsky, Dr. Triplett  
March 1, 1986
13. Pimephales notatus - Labette Creek NE 1/2 of Section 34; T. 32S;  
R. 20E. Collectors: Sandee & Steve Curran  
March 27, 1986
14. Pimephales promelas - Sweet Water Hollow; Grand Lake, OK  
(DELAWARE COUNTY) 10 miles southwest of  
Grove, OK. Section 17; T. 24S; R. 23S.  
April 12, 1986  
Collectors: Dave & Rhonda Simpson



1. The first part of the paper is devoted to a discussion of the general principles of the theory of the structure of the atom. It is shown that the structure of the atom is determined by the laws of quantum mechanics, and that the laws of quantum mechanics are in agreement with the experimental facts.

2. In the second part of the paper, the author discusses the problem of the structure of the nucleus. It is shown that the structure of the nucleus is determined by the laws of quantum mechanics, and that the laws of quantum mechanics are in agreement with the experimental facts.

3. In the third part of the paper, the author discusses the problem of the structure of the molecule. It is shown that the structure of the molecule is determined by the laws of quantum mechanics, and that the laws of quantum mechanics are in agreement with the experimental facts.

4. In the fourth part of the paper, the author discusses the problem of the structure of the crystal. It is shown that the structure of the crystal is determined by the laws of quantum mechanics, and that the laws of quantum mechanics are in agreement with the experimental facts.

5. In the fifth part of the paper, the author discusses the problem of the structure of the liquid. It is shown that the structure of the liquid is determined by the laws of quantum mechanics, and that the laws of quantum mechanics are in agreement with the experimental facts.

6. In the sixth part of the paper, the author discusses the problem of the structure of the gas. It is shown that the structure of the gas is determined by the laws of quantum mechanics, and that the laws of quantum mechanics are in agreement with the experimental facts.

7. In the seventh part of the paper, the author discusses the problem of the structure of the plasma. It is shown that the structure of the plasma is determined by the laws of quantum mechanics, and that the laws of quantum mechanics are in agreement with the experimental facts.

15. Nocomis biguttatus - Center Creek; SW  $\frac{1}{4}$  of NW  $\frac{1}{4}$  of Sec. 9; T. 27N; R. 29W -- Jasper Co., MO

AND  
Flat Creek -- Junction of Hwy 39 & 248. (BARRY COUNTY, MO); SE  $\frac{1}{4}$  of SW  $\frac{1}{4}$  of Sec. 19; T. 24N; R. 25W.

Collectors: Ichthyology Class on Mo Trip. date: May 3, 1986

16. Nocomis asper - Center Creek; SW  $\frac{1}{4}$  of NW  $\frac{1}{4}$  of Sec 9; T. 27N; R. 29W -- Jasper County, MO

Collectors: Ichthyology Class Mo Trip May 3, 1986

17. Hybopsis amblops - CURRENT RIVER at U.S. 60 bridge; Van Buren, MO City (Limits) River Access CARTER COUNTY; SE  $\frac{1}{4}$  of SW  $\frac{1}{4}$  of Section 24; T. 27N; R. 1W.

Collectors: Ichthyology Class Mo Trip May 4, 1986

18. Campostoma anomalum - Labette Creek NE  $\frac{1}{2}$  of S. 34; T. 32S; R. 20E. Collectors: Sandee & Steve Curran; March 27, 1986

AND

DRYWOOD CREEK SW  $\frac{1}{4}$  of SW  $\frac{1}{4}$  of SECTION 32; T. 27S; R. 24E.

Collectors: Geff Luttrell, Sandee Curran Pat Terry, Dr. Triplett, Rich Johnson, Craig Kasjaka -- January 25, 1986

19. Campostoma oligolepis - Black River Public Access below Hwy 34 bridge Leeper (Wayne County), MO

Collectors: Ichthyology Class Missouri Trip May 4, 1986

1. The first thing I noticed when I stepped out of the plane was the cold air. It felt like a giant hand reaching out to grab me.

2. The second thing I noticed was the silence. It was a heavy, oppressive silence that seemed to be waiting for me.

3. The third thing I noticed was the smell. It was a mix of old wood, fresh paint, and something that I couldn't quite identify.

4. The fourth thing I noticed was the people. They were all looking at me with different expressions of curiosity and suspicion.

5. The fifth thing I noticed was the time. It was late in the afternoon, and the sun was setting behind the mountains.

6. The sixth thing I noticed was the sound. It was the sound of a small town, with its streets and buildings all so close together.

7. The seventh thing I noticed was the feeling. It was a sense of being lost, of being in a place that I had never been before.



20. Notropis nubilus - Flat Creek -- Junction of Hwy 39  
§ 248 Barry County, Missouri; SE 1/4 of  
SW 1/4 of S. 19; T. 24N; R. 25W  
Collectors: Ichthyology Class on  
Missouri Trip May 3, 1986
21. Phenacobius mirabilis - Labette Creek NE 1/2 of Section 34;  
T. 32S; R. 20E. Collectors: Sandee &  
Steve Curran. March 27, 1986
22. Semotilus atromaculatus - Little Missouri Falls; Albert's Pike  
Campground; Runs into Little Mo River.  
Collectors: Ichthyology Class on OK-ARK  
TRIP. April 20, 1986.
23. Notropis ozarcanus - James River near junction of Hwy  
248 & 13 at Gelena, MO (Stone County)  
SW 1/4 of SW 1/4 of Section 6; T. 24N; R. 23W.  
Collectors: Ichthyology Class on  
MO TRIP. May 3, 1986
24. Notropis umbratilis - Irish Branch (tributary to the Little  
Osage River). Blue Mound (Linn Co), Ks.  
Property of L.D. Curran. W 1/2 of the NE 1/4  
of 18-23-22. Collectors: Sandee & Steve  
Curran. April 12, 1986
25. Notropis lutrensis - Irish Branch (trib to the Little Osage  
River). Blue Mound, Linn County, Ks.  
Property of L.D. Curran. W 1/2 of the  
NE 1/4 of 18-23-22.  
Collectors: Sandee & Steve Curran  
April 12, 1986
26. Notropis galacturus - Black River Public Access below Hwy 34  
bridge keeper (Wayne County), MO.  
Collectors: Ichthyology Class on MO  
TRIP. May 4, 1986

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27. Notropis rubellus - Five Mile Creek, Ottawa Creek, OK  
NE  $\frac{1}{4}$  of Section 22; T. 29N; R. 25 E  
Collectors: Craig Kasjaka, John Bolin,  
Tom Silvesky, Dr. Triplett  
March 1, 1986
28. Notropis atherinoides - Spring River NW  $\frac{1}{4}$  of SW  $\frac{1}{4}$  of S. 6;  
T. 35S; R. 25E. Collectors: Sandee;  
Steve Curran, Rhonda Simpson, Craig Kasjaka.  
April 27, 1986
29. Notropis telescopus - Current River; Van Buren, MO  
City River Access (City Limits)  
Carter County at U.S. 60 Bridge  
SE  $\frac{1}{4}$  of SW  $\frac{1}{4}$  of S. 24; R. 1W; T. 27N  
Collectors: Ichthyology Class Mo. Trip  
May 4, 1986
30. Notropis zonatus - Current River at U.S. 60 Bridge; Van Buren, MO  
City River Access (City Limits) -- Carter  
County -- SE  $\frac{1}{4}$  of SW  $\frac{1}{4}$  of Section 24; R. 1W;  
T. 27N. Collectors: Ichthyology Class  
Missouri Trip. May 4, 1986
31. Notropis pilsbryi - Upper Spavinaw - Tributary, OKLAHOMA  
(Delaware County) 2.6 miles south of  
Hwy 10 bridge over Lake Eucha  
Site #1 on OK-ARK TRIP  
Collectors: Ichthyology Class  
April 19, 1986
32. Notropis chrysocephalus - Flat Creek - Junction of Hwy 39 +  
248. Barry County, MO.  
SE  $\frac{1}{4}$  of SW  $\frac{1}{4}$  of S. 19; T. 24N; R. 25W  
Collectors: Ichthyology Class Mo Trip  
May 3, 1986



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33. Notropis beops - Albert's Pike Campground -- Swimming Area -- Upper Little Missouri by Ouachita Lake (Montgomery County, ARK)  
Collectors: Ichthyology Class OK-ARK TRIP  
April 20, 1986
34. Notropis volucellus - Irish Branch - trib. of the Little Osage. Blue Mound (Linn Co), Ks. Property of L.D. Curran. W $\frac{1}{2}$  of the NE $\frac{1}{4}$  of 18-23-22.  
Collectors: Sandee & Steve Curran.  
April 12, 1986
35. Hypentelium nigricans - White River (NORTH FORK) Ozark County, Missouri -- Hwy PP BRIDGE 3 miles east of Hwy 160.  
Collectors: Ichthyology Class Mo TRIP  
May 3, 1986
36. Catostomus commersoni - Flat Creek Junction of Hwy 39 & 248. BARRY COUNTY, MO. SE $\frac{1}{4}$  of SW $\frac{1}{4}$  of Section 19; T. 24N; R. 25W.  
Collectors: Ichthyology Class May 3, 1986
37. Moxostoma duquesnei - Flat Creek Junction of Hwy 39 & 248. BARRY COUNTY, MO. SE $\frac{1}{4}$  of SW $\frac{1}{4}$  of Sec. 19; T. 24N; R. 25W  
Collectors: Ichthyology Class  
May 3, 1986
38. Ictalurus punctatus - Drywood Creek - SW $\frac{1}{4}$  of SW $\frac{1}{4}$  of Section 32; T. 27S; R. 24E.  
Collectors: Geff Luttrell, Pat Terry, Sandee Curran, Rich Johnson, Craig Kasjaka, Dr. Triplett  
January 25, 1986
39. Pylodictis olivaris - Irish Branch - trib of the Little Osage Blue Mound (Linn Co), Ks. W $\frac{1}{2}$  of the NE $\frac{1}{4}$  of 18-23-22. Collectors: Sandee & Steve Curran  
April 12, 1986

1. The first step in the process of the scientific method is to ask a question. This question should be based on something you have observed or something you are curious about. For example, you might ask, "Does the amount of water I drink affect my energy levels?"

2. The second step is to do background research. This involves looking up information related to your question. You can find this information in books, articles, or online. For example, you might read about the effects of hydration on energy levels.

3. The third step is to form a hypothesis. A hypothesis is a statement that predicts the outcome of your experiment. It should be based on the information you gathered in the previous steps. For example, you might hypothesize, "If I drink more water, then my energy levels will increase."

4. The fourth step is to design and conduct an experiment. This involves creating a plan to test your hypothesis. You should identify the variables you are testing and how you will measure the results. For example, you might decide to drink different amounts of water over a period of time and then measure your energy levels using a scale from 1 to 10.

5. The fifth step is to analyze the data and draw a conclusion. This involves looking at the results of your experiment and determining whether they support your hypothesis. You should also consider any limitations of your experiment and how you might improve it in the future.

6. The final step is to communicate your findings. This involves sharing your results with others, either through a presentation or a written report. This step is important because it allows others to learn from your work and potentially replicate your experiment.



40. Ictalurus melas - Irish Branch; Blue Mound (Linn Co),  
Kansas. W $\frac{1}{2}$  of the NE $\frac{1}{4}$  of 18-23-22  
Collectors: Sandee & Steve Curran  
April 12, 1986
41. Noturus exilis - Center Creek - SW $\frac{1}{4}$  of NW $\frac{1}{4}$  of Sec 9;  
T. 27N; R. 29W. Jasper County, MO.  
Collectors: Ichthyology Class Mo.  
TRIP MAY 3, 1986
42. Noturus flavus - Center Creek; SW $\frac{1}{4}$  of NW $\frac{1}{4}$  of Sec 9;  
T. 27N; R. 29W. Jasper County, MO.  
Collectors: Ichthyology Class  
MISSOURI TRIP May 3, 1986
43. Fundulus catenatus - Albert's Pike Campground  
Swimming Area - Upper Little Mo.  
(Montgomery Co) by Lake Ouachita.  
Collectors: Ichthyology Class OK-ARK TRIP  
April 20, 1986
44. Fundulus similis - Laguna Madre, So. Padre opposite  
Andy Bowie Park, Texas  
Collectors: Ichthyology Class TEXAS TRIP  
March 12, 1986
45. Fundulus olivaceus - McQuire Public Access Area  
Ouachita River; 10 miles east of  
Mena, ARKANSAS.  
Collectors: Ichthyology Class Mo. TRIP  
April 20, 1986
46. Fundulus notatus - Drywood Creek SW $\frac{1}{4}$  of SW $\frac{1}{4}$   
Section 32; T. 27S; R. 24E.  
Collectors: Pat Terry, Geoff Luttrell,  
Sandee Curran, Rich Johnson, Craig  
Kasjaka, DR. TRIPLETT  
January 25, 1986  
AND Blue Mound, Ks.

41. *Noturus exilis* - Center Creek - SW 1/4 of NW 1/4 of Sec 14, T. 24N, R. 24W, Jasper County, MO.  
Collector: Ichthyology Class  
Trip: May 3, 1986  
April 12, 1986

42. *Noturus flavus* - Center Creek - SW 1/4 of NW 1/4 of Sec 14, T. 24N, R. 24W, Jasper County, MO.  
Collector: Ichthyology Class  
Trip: May 3, 1986

43. *Fundulus heteroclitus* - Albert's Pike Campground - Jasper County, MO.  
Collector: Ichthyology Class  
Trip: May 3, 1986

44. *Fundulus similis* - Jasper County, MO.  
Collector: Ichthyology Class  
Trip: May 3, 1986

45. *Fundulus olivaceus* - Jasper County, MO.  
Collector: Ichthyology Class  
Trip: May 3, 1986

46. *Fundulus notatus* - Jasper County, MO.  
Collector: Ichthyology Class  
Trip: May 3, 1986

47. *Fundulus notatus* - Jasper County, MO.  
Collector: Ichthyology Class  
Trip: May 3, 1986

47. Gambusia affinis - Center Creek; SW $\frac{1}{4}$  of NW $\frac{1}{4}$  of Sec. 9; T. 27N; R. 29W Jasper County, MO.  
Collectors: Ichthyology Class MO Trip.  
May 3, 1986

48. Labidesthes sicculus - Drywood Creek; SW $\frac{1}{4}$  of SW $\frac{1}{4}$  of Sec 32; T. 27S; R. 24E.  
Collectors: Geff Luttrell, Pat Terry, DR. TRIPLETT, Craig Kasjaka, Sandee Curran, Rich Johnson -- January 25, 1986

49. Membras martinica - Boca Chica Beach, Texas -- mouth of the Rio Grande River  
Collectors: Ichthyology Class Texas trip  
March 11, 1986.

50. Syngathus louisianae - Laguna Madre, South Padre opposite Andy Bowie Park, Texas  
Collectors: Ichthyology Class - Texas trip  
March 12, 1986

51. Syngathus scovelli - Laguna Madre, South Padre opposite Andy Bowie Park, TX.  
Collectors: Ichthyology Class -- Texas Trip  
March 12, 1986

52. Cottus bairdi - North Fork of White River, Ozark County, Missouri - Hwy PP Bridge 3 miles east of Hwy 160. Collectors: Ichthyology Class MO Trip. May 3, 1986

53. Cottus carolinae - Center Creek; SW $\frac{1}{4}$  of NW $\frac{1}{4}$  of Sec 9; T. 27N; R. 29W. Jasper County, MO.  
Collectors: Ichthyology Class MO Trip.  
May 3, 1986.

54. Micropterus salmoides - Irish Branch; Blue Mound (Linn Co.), Ks, W $\frac{1}{2}$  of the NE $\frac{1}{4}$  of 18-23-22. Collectors: Sandee & Steve Curran. April 12, 1986.

[illegible]
$$A \cup B = \{a, b, c, d, e, f, g, h, i, j, k, l, m, n, o, p, q, r, s, t, u, v, w, x, y, z\}$$

22-107-10

ST 10 Nov 62 22:00

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1. 1993-1994	2. 1995-1996	3. 1997-1998	4. 1999-2000	5. 2001-2002	6. 2003-2004	7. 2005-2006	8. 2007-2008	9. 2009-2010	10. 2011-2012	11. 2013-2014	12. 2015-2016	13. 2017-2018	14. 2019-2020	15. 2021-2022	16. 2023-2024	17. 2025-2026	18. 2027-2028	19. 2029-2030	20. 2031-2032	21. 2033-2034	22. 2035-2036	23. 2037-2038	24. 2039-2040	25. 2041-2042	26. 2043-2044	27. 2045-2046	28. 2047-2048	29. 2049-2050	30. 2051-2052	31. 2053-2054	32. 2055-2056	33. 2057-2058	34. 2059-2060	35. 2061-2062	36. 2063-2064	37. 2065-2066	38. 2067-2068	39. 2069-2070	40. 2071-2072	41. 2073-2074	42. 2075-2076	43. 2077-2078	44. 2079-2080	45. 2081-2082	46. 2083-2084	47. 2085-2086	48. 2087-2088	49. 2089-2090	50. 2091-2092	51. 2093-2094	52. 2095-2096	53. 2097-2098	54. 2099-2100	55. 2101-2102	56. 2103-2104	57. 2105-2106	58. 2107-2108	59. 2109-2110	60. 2111-2112	61. 2113-2114	62. 2115-2116	63. 2117-2118	64. 2119-2120	65. 2121-2122	66. 2123-2124	67. 2125-2126	68. 2127-2128	69. 2129-2130	70. 2131-2132	71. 2133-2134	72. 2135-2136	73. 2137-2138	74. 2139-2140	75. 2141-2142	76. 2143-2144	77. 2145-2146	78. 2147-2148	79. 2149-2150	80. 2151-2152	81. 2153-2154	82. 2155-2156	83. 2157-2158	84. 2159-2160	85. 2161-2162	86. 2163-2164	87. 2165-2166	88. 2167-2168	89. 2169-2170	90. 2171-2172	91. 2173-2174	92. 2175-2176	93. 2177-2178	94. 2179-2180	95. 2181-2182	96. 2183-2184	97. 2185-2186	98. 2187-2188	99. 2189-2190	100. 2191-2192	101. 2193-2194	102. 2195-2196	103. 2197-2198	104. 2199-2200	105. 2201-2202	106. 2203-2204	107. 2205-2206	108. 2207-2208	109. 2209-2210	110. 2211-2212	111. 2213-2214	112. 2215-2216	113. 2217-2218	114. 2219-2220	115. 2221-2222	116. 2223-2224	117. 2225-2226	118. 2227-2228	119. 2229-2230	120. 2231-2232	121. 2233-2234	122. 2235-2236	123. 2237-2238	124. 2239-2240	125. 2241-2242	126. 2243-2244	127. 2245-2246	128. 2247-2248	129. 2249-2250	130. 2251-2252	131. 2253-2254	132. 2255-2256	133. 2257-2258	134. 2259-2260	135. 2261-2262	136. 2263-2264	137. 2265-2266	138. 2267-2268	139. 2269-2270	140. 2271-2272	141. 2273-2274	142. 2275-2276	143. 2277-2278	144. 2279-2280	145. 2281-2282	146. 2283-2284	147. 2285-2286	148. 2287-2288	149. 2289-2290	150. 2291-2292	151. 2293-2294	152. 2295-2296	153. 2297-2298	154. 2299-2300	155. 2301-2302	156. 2303-2304	157. 2305-2306	158. 2307-2308	159. 2309-2310	160. 2311-2312	161. 2313-2314	162. 2315-2316	163. 2317-2318	164. 2319-2320	165. 2321-2322	166. 2323-2324	167. 2325-2326	168. 2327-2328	169. 2329-2330	170. 2331-2332	171. 2333-2334	172. 2335-2336	173. 2337-2338	174. 2339-2340	175. 2341-2342	176. 2343-2344	177. 2345-2346	178. 2347-2348	179. 2349-2350	180. 2351-2352	181. 2353-2354	182. 2355-2356	183. 2357-2358	184. 2359-2360	185. 2361-2362	186. 2363-2364	187. 2365-2366	188. 2367-2368	189. 2369-2370	190. 2371-2372	191. 2373-2374	192. 2375-2376	193. 2377-2378	194. 2379-2380	195. 2381-2382	196. 2383-2384	197. 2385-2386	198. 2387-2388	199. 2389-2390	200. 2391-2392	201. 2393-2394	202. 2395-2396	203. 2397-2398	204. 2399-2400	205. 2401-2402	206. 2403-2404	207. 2405-2406	208. 2407-2408	209. 2409-2410	210. 2411-241
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1. What is the main purpose of the study?

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	218	219	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	241	242	243	244	245	246	247	248	249	250	251	252	253	254	255	256	257	258	259	260	261	262	263	264	265	266	267	268	269	270	271	272	273	274	275	276	277	278	279	280	281	282	283	284	285	286	287	288	289	290	291	292	293	294	295	296	297	298	299	300	301	302	303	304	305	306	307	308	309	310	311	312	313	314	315	316	317	318	319	320	321	322	323	324	325	326	327	328	329	330	331	332	333	334	335	336	337	338	339	340	341	342	343	344	345	346	347	348	349	350	351	352	353	354	355	356	357	358	359	360	361	362	363	364	365	366	367	368	369	370	371	372	373	374	375	376	377	378	379	380	381	382	383	384	385	386	387	388	389	390	391	392	393	394	395	396	397	398	399	400	401	402	403	404	405	406	407	408	409	410	411	412	413	414	415	416	417	418	419	420	421	422	423	424	425	426	427	428	429	430	431	432	433	434	435	436	437	438	439	440	441	442	443	444	445	446	447	448	449	450	451	452	453	454	455	456	457	458	459	460	461	462	463	464	465	466
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1942-43	2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100
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1. *Chlorophyll a* (Chl a) and *Chlorophyll b* (Chl b) are the two main photosynthetic pigments in green plants. They are responsible for capturing light energy and converting it into chemical energy through the process of photosynthesis. Chl a is the primary pigment, while Chl b acts as an accessory pigment, transferring energy to Chl a.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	218	219	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	241	242	243	244	245	246	247	248	249	250	251	252	253	254	255	256	257	258	259	260	261	262	263	264	265	266	267	268	269	270	271	272	273	274	275	276	277	278	279	280	281	282	283	284	285	286	287	288	289	290	291	292	293	294	295	296	297	298	299	300	301	302	303	304	305	306	307	308	309	310	311	312	313	314	315	316	317	318	319	320	321	322	323	324	325	326	327	328	329	330	331	332	333	334	335	336	337	338	339	340	341	342	343	344	345	346	347	348	349	350	351	352	353	354	355	356	357	358	359	360	361	362	363	364	365	366	367	368	369	370	371	372	373	374	375	376	377	378	379	380	381	382	383	384	385	386	387	388	389	390	391	392	393	394	395	396	397	398	399	400	401	402	403	404	405	406	407	408	409	410	411	412	413	414	415	416	417	418	419	420	421	422	423	424	425	426	427	428	429	430	431	432	433	434	435	436	437	438	439	440	441	442	443	444	445	446	447	448	449	450	451	452	453	454	455	456	457	458	459	460	461	462	463	464	465	466
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Condition	Control (%)	MCI (%)	AD (%)
A	~85	~75	~65
B	~80	~70	~60
C	~75	~65	~55
D	~70	~60	~50

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28/01/2019

55. Micropterus punctulatus - Center Creek - SW $\frac{1}{4}$  of NW $\frac{1}{4}$  of Sec. 9; T. 27N; R. 24W. Jasper County, MO. Collectors: Ichthyology Class MO TRIP. May 3, 1986

56. Lepomis cyanellus - Drywood Creek; SW $\frac{1}{4}$  of SW $\frac{1}{4}$  of Section 32; T. 27S; R. 24E.  
Collectors: Geoff Ruttrell, Pat Jerry, Dr. Triplett, Craig Kasjaka, Sandee Curran, Rich Johnson - January 25, 1986  
AND  
Irish Branch - Blue Mound, Ks.  
W $\frac{1}{2}$  of the NE $\frac{1}{4}$  of 18-23-22.  
Collectors: Sandee & Steve Curran  
April 12, 1986

57. Lepomis humilis - IRISH BRANCH; Blue Mound (Linn Co), Ks.  
W $\frac{1}{2}$  of the NE $\frac{1}{4}$  of 18-23-22.  
Collectors: Sandee & Steve Curran  
April 12, 1986

58. Lepomis megalotis - Pumpkin Creek; SW $\frac{1}{4}$  of SW $\frac{1}{4}$  of Sec. 35; T. 32S; R. 18E.  
Collectors: Steve, Sandee, Mike & Donna Curran  
March 29, 1986

59. Lepomis macrochirus - Pumpkin Creek; SW $\frac{1}{4}$  of SW $\frac{1}{4}$  of Sec. 35; T. 32S; R. 18E.  
Collectors: Steve, Sandee, Mike & Donna Curran  
March 29, 1986  
AND  
IRISH BRANCH; Blue Mound (Linn Co), Ks.  
W $\frac{1}{2}$  of the NE $\frac{1}{4}$  of 18-23-22.  
Collectors: Sandee & Steve Curran  
April 12, 1986

1. The first part of the paper - introduction and background - 10% of the total score

2. The second part of the paper - literature review - 20% of the total score  
3. The third part of the paper - methodology - 15% of the total score  
4. The fourth part of the paper - results - 25% of the total score  
5. The fifth part of the paper - discussion - 20% of the total score  
6. The sixth part of the paper - conclusion - 10% of the total score

7. The seventh part of the paper - references - 10% of the total score

8. The eighth part of the paper - appendix - 10% of the total score

9. The ninth part of the paper - glossary - 10% of the total score

10. The tenth part of the paper - index - 10% of the total score

60. Lepomis macrochirus x Lepomis cyanellus<sup>(?)</sup> -

Spring River State Fish Hatchery  
Hwy 342 - Fulton County, Ark

Collectors: DAVE & RHONDA SIMPSON  
MAY 8, 1986.

61. Amploplites rupestris - Center Creek; SW $\frac{1}{4}$  of NW $\frac{1}{4}$  of S. 9;  
T. 27N; R. 29W. Jasper County, MO.

Collectors: Ichthyology Class Mo TRIP

May 3, 1986. Co-collector

\* Species found in Rhonda Simpson's Collection

62. Pomoxis annularis - Irish Branch; Blue Mound (Linn Co),  
KANSAS. W $\frac{1}{2}$  of the NE $\frac{1}{4}$  of 18-23-22.

Collectors: Sandee & Steve Curran  
April 12, 1986

63. Stizostedion vitreum - Mammoth Springs National

Fish Hatchery on Hwy 63; Fulton

County, ARKANSAS. Collectors: Rhonda

& DAVE SIMPSON. May 8, 1986

64. Percina caprodes - Labette Creek; NE $\frac{1}{2}$  of Sec. 34;

T. 32S; R. 20E. Collectors: Sandee &

Steve Curran. March 27, 1986

65. Percina phoxocephala - Labette Creek NE $\frac{1}{2}$  of Sec. 34;

T. 32S; R. 20E. Collectors: Sandee & Steve

Curran. March 27, 1986

66. Etheostoma nigrum - Center Creek; SW $\frac{1}{4}$  of NW $\frac{1}{4}$  of S. 9;

T. 27N; R. 29W. Jasper Co, MO.

Collectors: Ichthyology Class Mo Trip

May 3, 1986

67. Etheostoma blennioides - Center Creek; SW $\frac{1}{4}$  of NW $\frac{1}{4}$  of S. 9; T. 27N;

R. 29W; Jasper Co, Mo. Collectors: Ichthyology

Class Mo Trip. May 3, 1986



1. The first part of the paper is a review of the literature on the topic of the effect of the environment on the development of the child. This part is divided into two sections: the first section deals with the physical environment and the second section deals with the social environment. The review shows that there is a great deal of evidence to suggest that the environment has a significant effect on the development of the child. This is particularly true in the case of the physical environment, which can affect the child's physical health and development. The social environment can also have a significant effect on the child's development, particularly in the case of the child's emotional and social development.

2. The second part of the paper is a description of the methods used in the study. This part is divided into two sections: the first section describes the sample and the second section describes the data collection methods. The sample consisted of 100 children, aged between 5 and 12 years, who were recruited from a local primary school. The data collection methods included a series of interviews with the children, a series of observations of the children in their natural environment, and a series of questionnaires completed by the children's parents.

3. The third part of the paper is a description of the results of the study. This part is divided into two sections: the first section describes the results of the interviews and the second section describes the results of the observations and questionnaires. The results of the interviews showed that the children had a great deal of knowledge about the environment and its effect on their development. The results of the observations and questionnaires showed that the children's physical health and development were significantly affected by the physical environment, and that their emotional and social development were significantly affected by the social environment.

4. The fourth part of the paper is a discussion of the implications of the study. This part is divided into two sections: the first section discusses the implications for the physical environment and the second section discusses the implications for the social environment. The implications for the physical environment are that the physical environment should be designed to promote the physical health and development of the child. The implications for the social environment are that the social environment should be designed to promote the emotional and social development of the child.

5. The fifth part of the paper is a conclusion. This part summarizes the main findings of the study and discusses the limitations of the study. The main findings of the study are that the environment has a significant effect on the development of the child, and that this effect is particularly strong in the case of the physical environment. The limitations of the study are that the sample was small and that the study was limited to a single school.

6. The sixth part of the paper is a list of references. This list includes all the sources of information used in the study, including books, journals, and other sources. The references are listed in alphabetical order of the author's name.

7. The seventh part of the paper is an appendix. This appendix contains a series of questionnaires that were used in the study. The questionnaires are divided into two sections: the first section contains questionnaires for the children and the second section contains questionnaires for the parents. The questionnaires are designed to collect information about the child's physical health and development, and about the child's emotional and social development.

8. The eighth part of the paper is a list of figures. This list includes all the figures that are used in the study, including tables, graphs, and other figures. The figures are listed in alphabetical order of the figure number.

68. Etheostoma juliae - Black River Public Access below Hwy 34 Bridge (Wayne County) Leeper, MO.  
Collectors: Ichthyology Class MO Trip  
May 4, 1986
69. Etheostoma juliae x Etheostoma spectabile - Flat Creek Junction of Hwy 39 + 248. Barry Co, MO.  
SE 1/4 of SW 1/4 of Sec. 19; T. 24N; R. 25W  
Collectors: Ichthyology Class MO Trip  
May 3, 1986
70. Etheostoma tetrazonum - North Fork of White River, Ozark County, MO. Hwy PP Bridge 3 miles east of Hwy 160.  
Collectors: Ichthyology Class MO Trip  
May 3, 1986  
\* CO-COLLECTOR - Specimen in <sup>DAVE ELLIOTT'S</sup> COLLECTION
71. Etheostoma euzonum - Black River Public Access below 34 Bridge -- Leeper (Wayne Co), MO.  
Collectors: Ichthyology Class MO Trip  
May 4<sup>th</sup>, 1986  
\* CO-COLLECTOR - specimen in Dave Elliott's Collection
72. Etheostoma zonale - Flint Creek (Confluence) & Illinois River 1.2 miles south from (33) OK and (59) US Hwys. in OKLAHOMA. (Adair Co.) Fiddler's Bend Village.  
Collectors: Ichthyology Class OK-ARK Trip.  
April 19, 1986
73. Etheostoma whipplei - Albert's Pike Swimming Area -- Upper Little Mo. River by Ouachita Lake Montgomery County, Arkansas  
Collectors: Ichthyology Class OK-ARK Trip  
April 20, 1986.

	1. <u>What is the purpose of the study?</u>	
1.	The purpose of the study is to investigate the effect of the independent variable on the dependent variable.	
2.	The study aims to determine the relationship between the independent variable and the dependent variable.	
3.	The study seeks to explore the impact of the independent variable on the dependent variable.	
4.	The study intends to examine the effect of the independent variable on the dependent variable.	
5.	The study aims to investigate the relationship between the independent variable and the dependent variable.	
6.	The study seeks to explore the impact of the independent variable on the dependent variable.	
7.	The study intends to examine the effect of the independent variable on the dependent variable.	
8.	The study aims to investigate the relationship between the independent variable and the dependent variable.	
9.	The study seeks to explore the impact of the independent variable on the dependent variable.	
10.	The study intends to examine the effect of the independent variable on the dependent variable.	

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74. Etheostoma flabellare - Drywood Creek SW $\frac{1}{4}$  of SW $\frac{1}{4}$  of Section 32; T. 27S; R. 24E  
Collectors: Geoff Luttrell, Rich Johnson, Pat Terry, Sandee Curran, De. Triplett, Craig Kasjaka  
 January 25, 1986
75. Etheostoma punctulatum - Center Creek; SW $\frac{1}{4}$  of NW $\frac{1}{4}$  of S. 9; T. 27N; R. 29W. Jasper County, MO.  
Collectors: Ichthyology Class MO Trip  
 May 3, 1986
76. Etheostoma cragini - Center Creek; SW $\frac{1}{4}$  of NW $\frac{1}{4}$  of S. 9; T. 27N; R. 29W. Jasper Co, MO.  
Collectors: Ichthyology Class MO Trip  
 May 3, 1986
77. Etheostoma caeruleum - Current River -- Van Buren (Carter Co), Missouri, City River Access (City Limits)  
 AT U.S Hwy 60 BRIDGE. SE  $\frac{1}{4}$  of SW $\frac{1}{4}$  of S. 24; T. 27N; R. 1W. Collectors: Ichthyology Class MO Trip. May 4, 1986
78. Etheostoma spectabile - Labette Creek; NE  $\frac{1}{2}$  of Sec. 34; T. 32S; R. 20E. Collectors: Sandee & Steve Curran.  
 March 27, 1986
79. Etheostoma microperca - Center Creek; SW $\frac{1}{4}$  of NW $\frac{1}{4}$  of S. 9; T. 27N; R. 29W. Jasper County, Missouri.  
Collectors: Ichthyology Class MO Trip  
 May 3, 1986
80. Aplodinotus grunniens - Shoal Creek, Schermerhorn Park (Cherokee Co.), KS. NE $\frac{1}{4}$  of NW $\frac{1}{4}$  of Sec 35; T. 34S; R. 25E.  
Collectors: Rhonda Simpson, Craig Kasjaka, Steve & Sandee Curran  
 April 27, 1986

1. The first part of the book is a history of the  
the world from the beginning of time to the  
present day. It is a very interesting and  
informative book.

Page 1

2. The second part of the book is a history of  
the world from the beginning of time to the  
present day. It is a very interesting and  
informative book.

Page 2

3. The third part of the book is a history of  
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informative book.

Page 3

4. The fourth part of the book is a history of  
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informative book.

Page 4

5. The fifth part of the book is a history of  
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present day. It is a very interesting and  
informative book.

Page 5

6. The sixth part of the book is a history of  
the world from the beginning of time to the  
present day. It is a very interesting and  
informative book.

Page 6

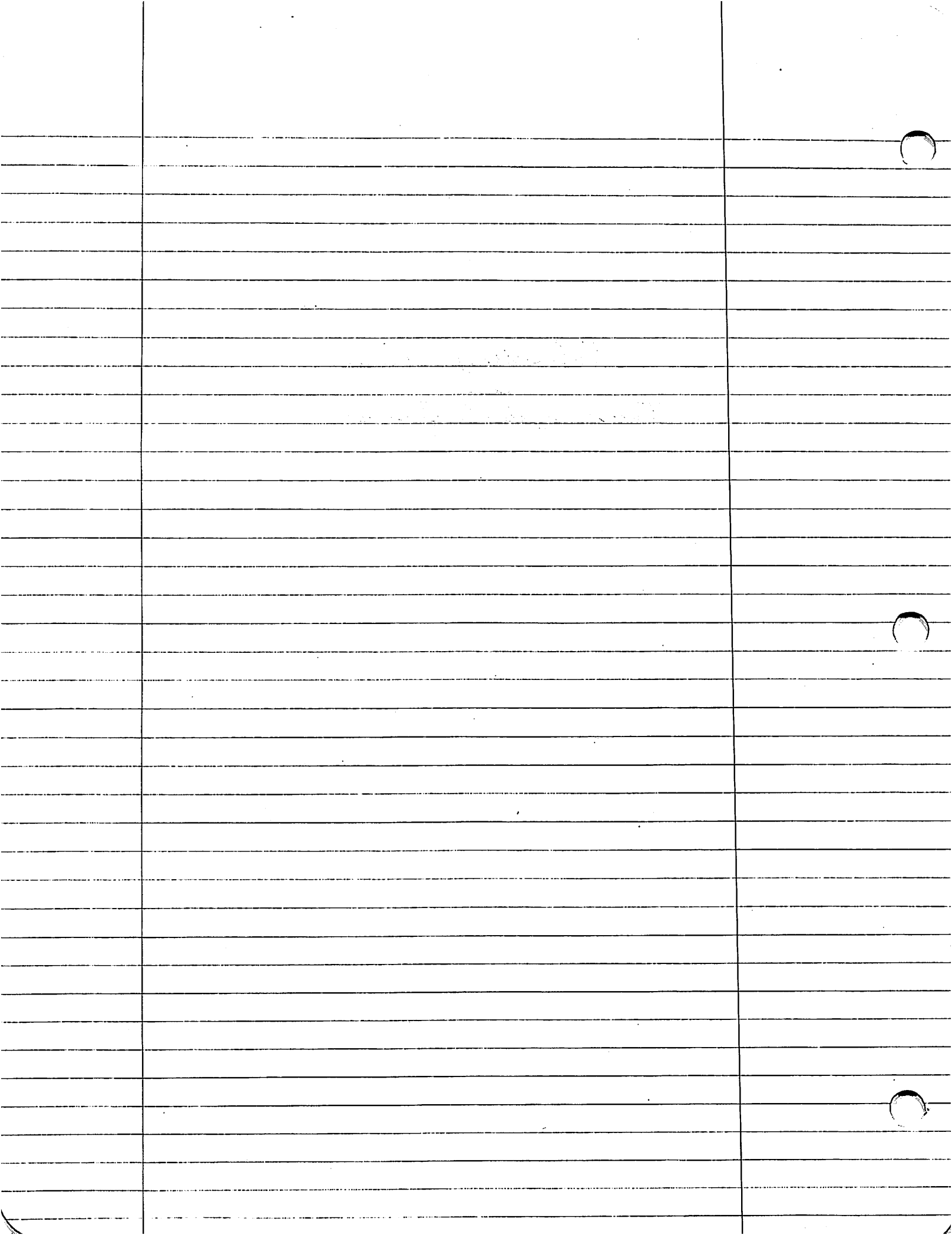
81. Mugil cephalus - Boca Chica Beach, Texas  
Mouth of Rio Grande River  
Collectors: Ichthyology Class TX Trip  
March 11, 1986

82. Blennius cristatus - Jetties - Santiago Pass.  
Isle Blanca County, South  
Padre Island, Texas.  
Collectors: Ichthyology Class TX Trip  
March 13, 1986.





Collecting Sites  
in  
Chronological Order



January 25, 1986

Drywood Creek

SW 1/4 of SW 1/4 of Section 32; T. 27S; R. 24E

Site Description:

Air Temperature: 49°F

Water Temperature: 51°F

Riffles, pools, low turbidity, dam. Low to Moderate water level.

Algae and small plants along bank.

Rock bottom (mostly) some silt bottom.

Collectors:

GEFF LUTTRELL

SANDEE CURRAN

RICHARD JOHNSON

CRAIG KASIAKA

PAT TERRY

DR. TRIPLETT

Collection:

Ictulurus punctatus

Fundulus notatus

Labidesthes sicculus

Lepomis cyanellus

Etheostoma flabellare

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March 1, 1986

Five Mile Creek -- Ottawa Creek, OK  
NE 1/4 of Section 22; T. 29N; R. 25E

WATER TEMPERATURE:

AIR TEMPERATURE:

Site Description

- Shallow, ozarkian stream
- GRAVEL BOTTOM with swift riffles & shallow pools

COLLECTORS:

CRAIG KASTAKA

John Bolin

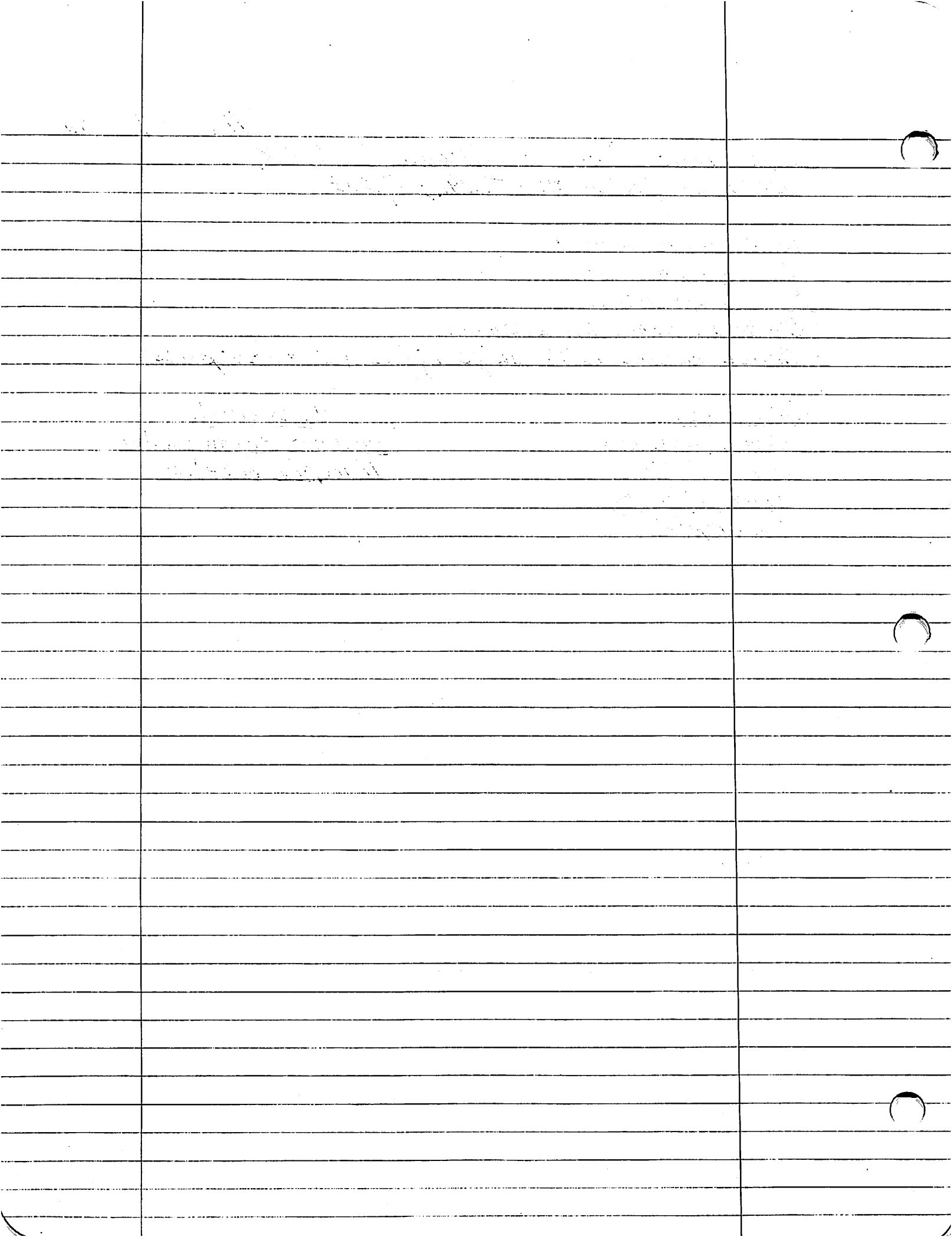
Tom Silowsky

Dr. Triplett

COLLECTION:

Phoxinus erythrogaster

Notropis rubellus



March 11, 1986

Boca Chica Beach, Texas  
Mouth of the Rio Grande River

SITE DESCRIPTION:

NOT PROVIDED

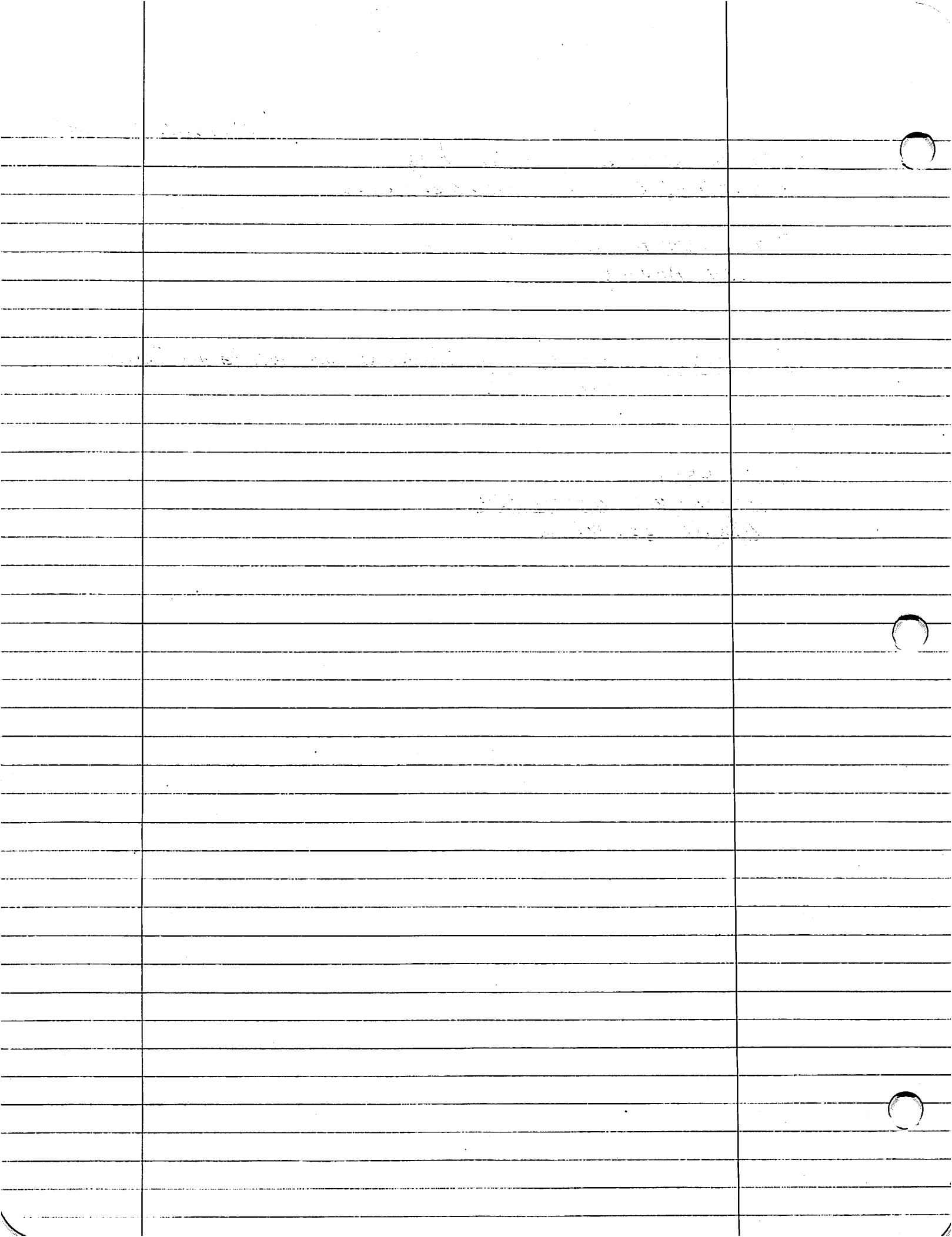
COLLECTORS: Ichthyology students who went on Texas  
Trip

COLLECTION:

Membras martinica

Mugil cephalus





March 12, 1986

Laguna Madre, South Padre  
opposite Andy Bowie Park, Texas

COLLECTORS:

PARTICIPANTS INVOLVED IN THE  
TEXAS TRIP

SITE DESCRIPTION:

NOT PROVIDED

COLLECTION:

Fundulus similis  
Syngathus louisianae  
Syngathus scovelli



March 13, 1986

Jetties of Santiago Pass.

Dsla Blanca County, South Padre Island, TX

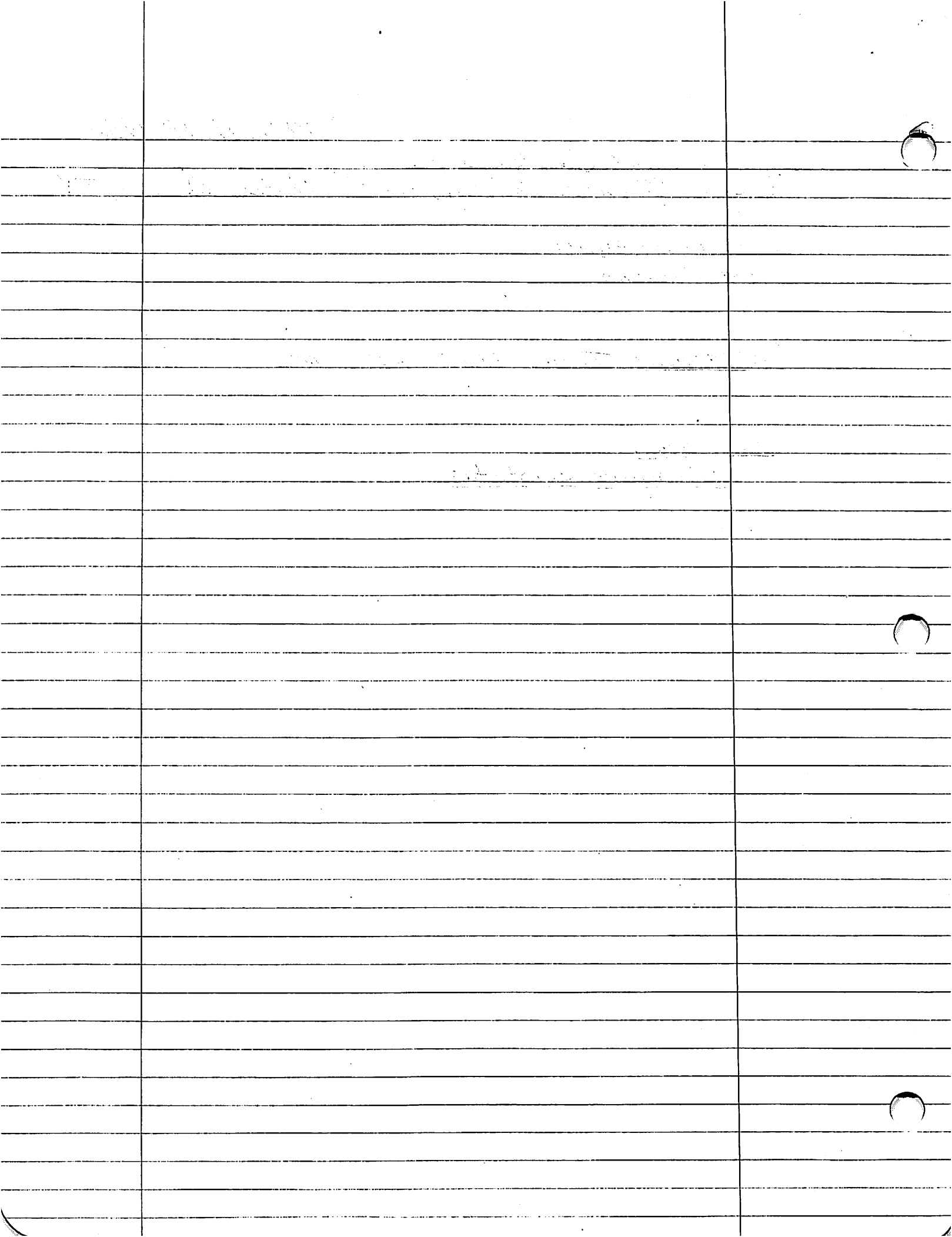
SITE DESCRIPTION:

NOT PROVIDED

COLLECTORS: TEXAS TRIP PARTICIPANTS.

COLLECTION:

Blennius cristatus



March 24, 1986

FARLINGTON STATE FISH HATCHERY -- REARING PONDS #14 & 17  
NE 1/4 of SW 1/4 of Section 32; T. 27S; R. 24E.

Site Description:

- GRAVEL BOTTOM
- MEDIUM DEPTH
- Medium turbidity

AIR TEMPERATURE:

WATER TEMPERATURE:

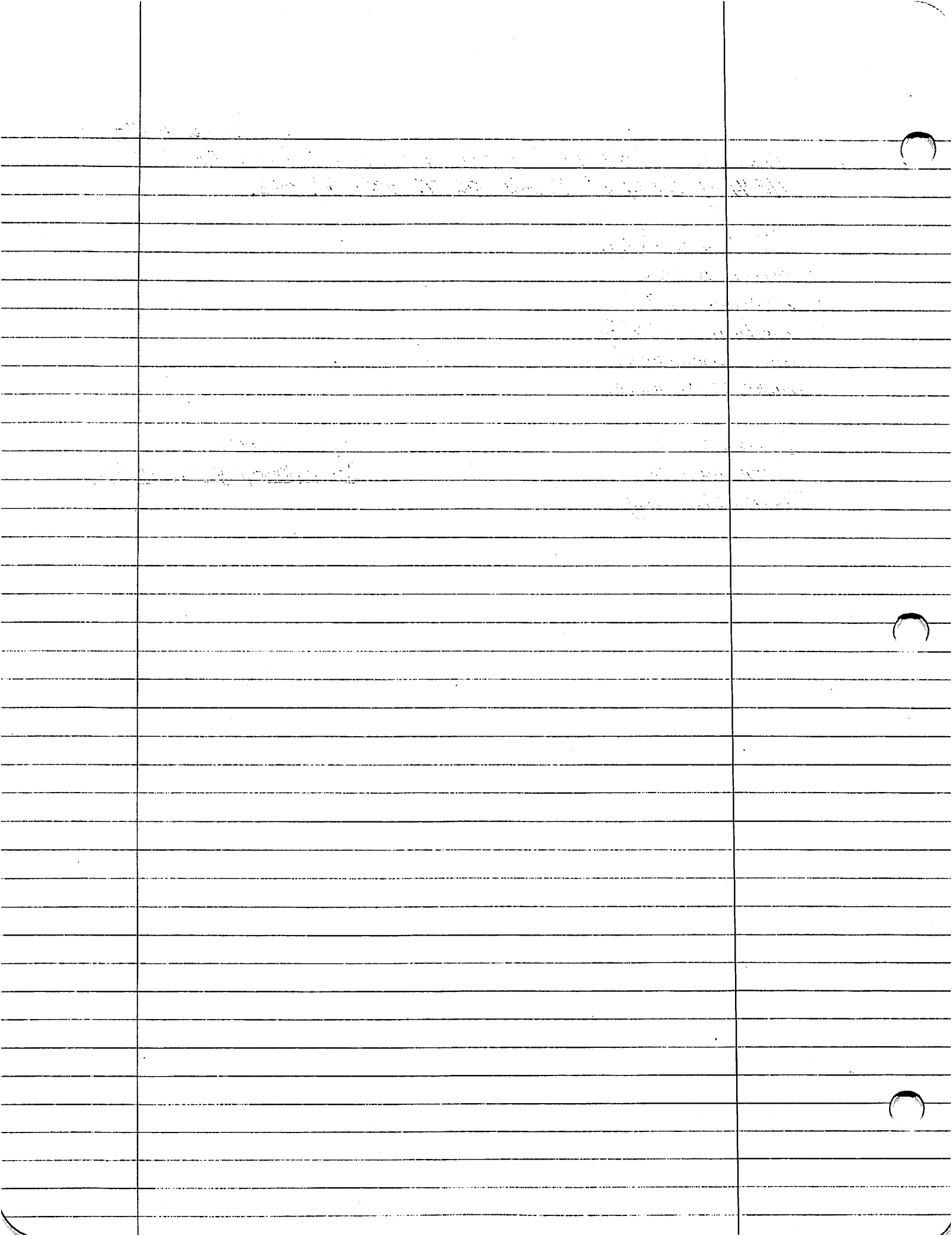
COLLECTORS:

GEFF LUTTRELL

Tom Silvovsky

COLLECTION:

Ctenopharyngodon idella



March 27, 1986

LaBette Creek

NE 1/2 of Section 34; T. 32S; R. 20E

- Rapid moving water
- Ripples, oxbows (backwaters)
- Gravel bottom
- Algae and a lot of very small plant vegetation
- Low turbidity
- Water level low

Air Temp: 75°F

Water Temp: 72°F

Collectors:

SANDRA & STEVE CURRAN

Collection:

Pimephales notatus

Campostoma anomalum

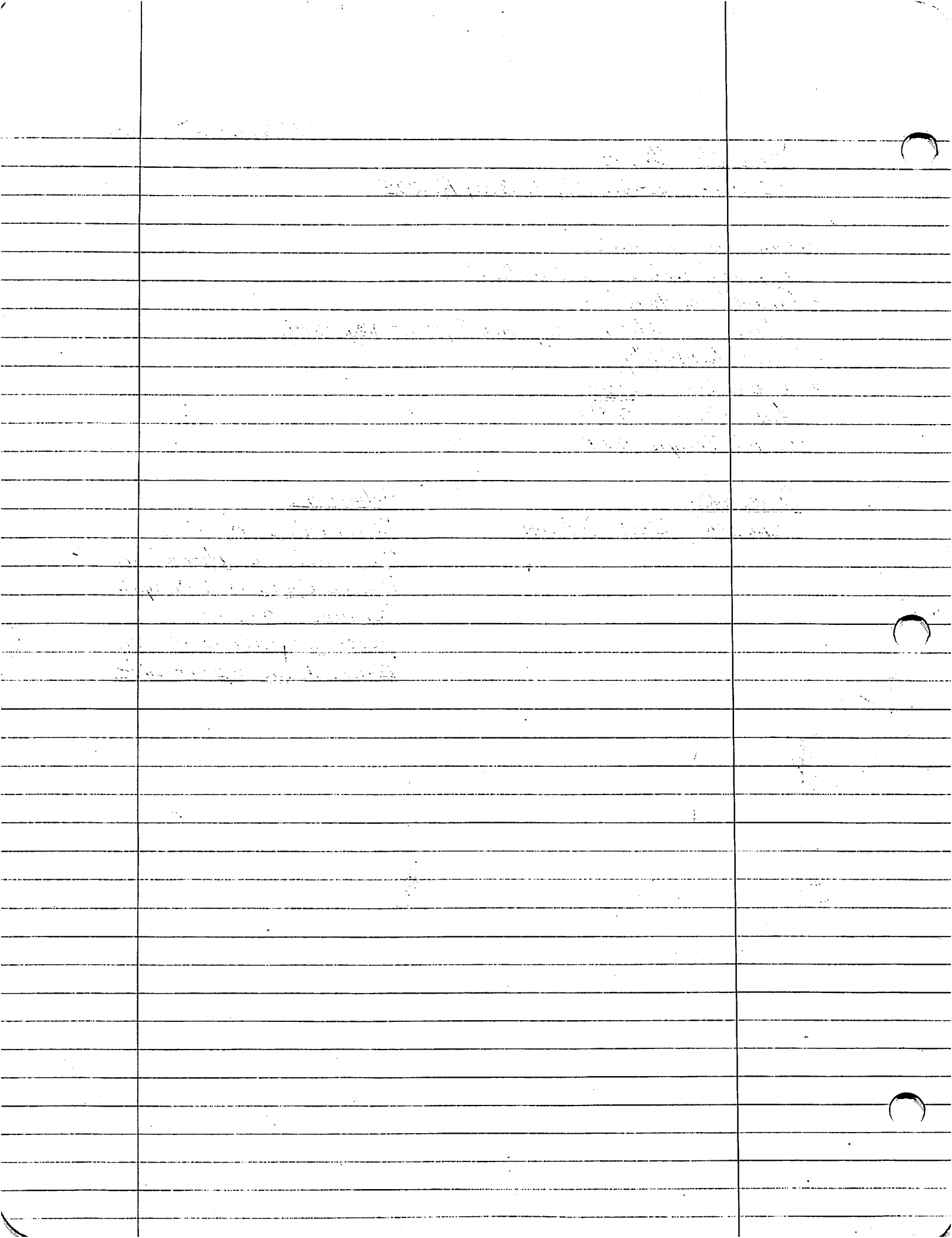
Phenacobius mirabilis

Percina caprodes

Percina phoxocephala

Etheostoma spectabile





March 29, 1986

Pumpkin Creek  
SW 1/4 of SW 1/4 of Section 35; T. 32S; R. 18E

- Pools of water, slow moving water
- Silt & Gravel bottom.
- Algae
- Medium Turbidity
- Water level medium

AIR TEMPERATURE: 80°F

WATER TEMPERATURE: 60°F

COLLECTORS:

STEVE CURRAN

SANDEE CURRAN

DONNA CURRAN

MIKE CURRAN

COLLECTION:

Notemigonus crysoleucas

Lepomis megalotis

Lepomis macrochirus



April 12, 1986  
Sweet Water Hollow; Grand Lake, OK (Delaware Co)  
10 miles southwest of Grove, OK  
Section 17, T. 24S; R. 23S.

Collectors:

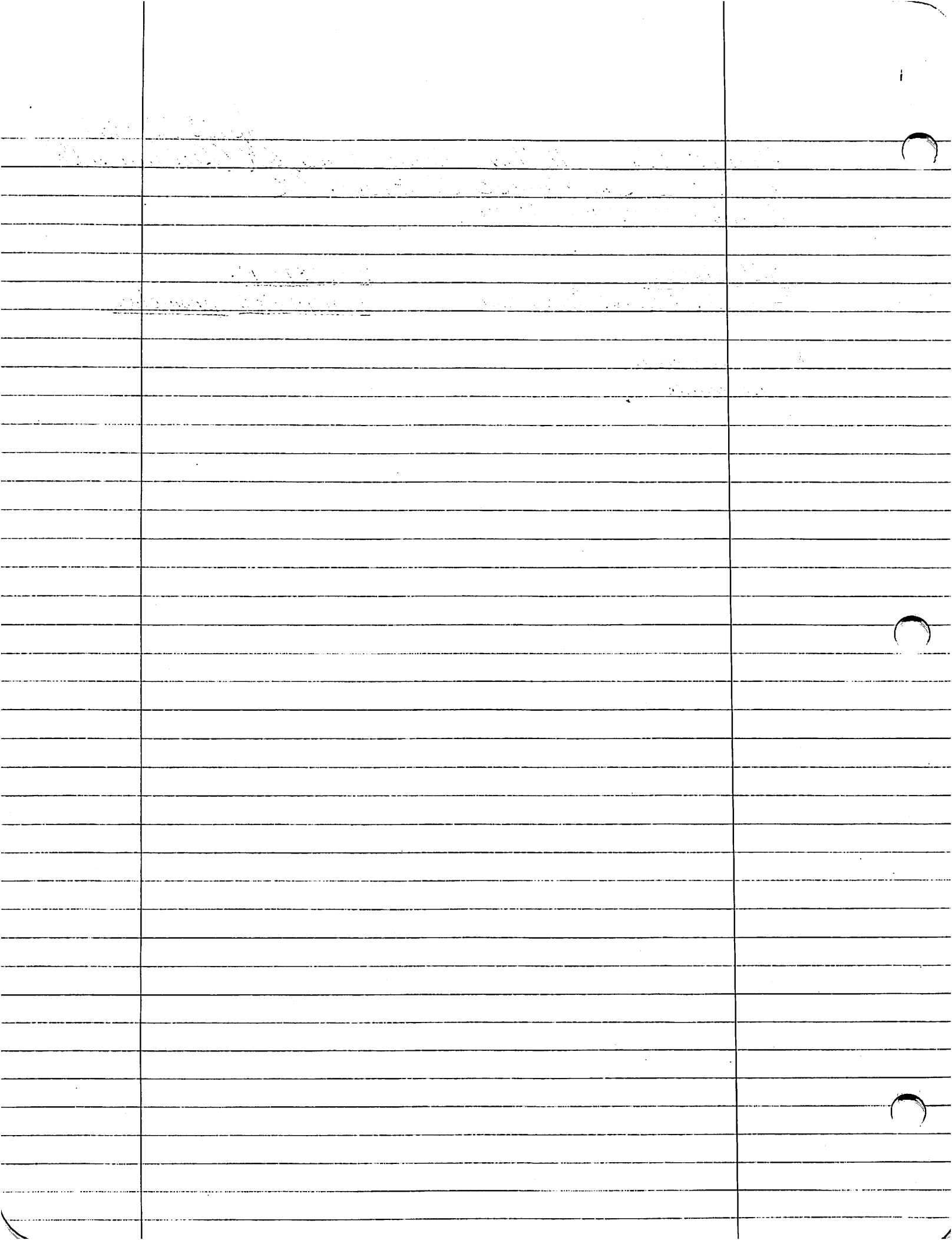
Rhonda & Dave Simpson

COLLECTION:

Pimephales promelas

\* SITE DESCRIPTION:

NOT PROVIDED



April 12, 1986

IRISH BRANCH (Tributary to the Little Osage)  
Blue Mound (Linn County), KS.  
W 1/2 of NE 1/4 of 18-23-22

SITE DESCRIPTION:

WATER TEMPERATURE: 80°F

AIR TEMPERATURE: 66°F

- RIFFLES, POOLS, BACKWATER (OXBOWS).
- CRAYFISH SURPLUS
- Plants along side of Creek.

COLLECTION:

Notropis umbratilis

Notropis lutrensis

Notropis volucellus

Pylodictis olivaris

Ictalurus melas

Micropterus salmoides

Lepomis cyanellus

Lepomis humilis

Lepomis macrochirus

Pomoxis annularis

COLLECTORS:

STEVE CURRAN

SANDEE CURRAN

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Ichthyology Class - OK-ARK TRIP April 19-20, 1986

COLLECTORS:

Dave Elliott

Scott Crupper

Sandee Curran

Geff Luttrell

John Bolin

Craig Kaszika

Rob Friggeri

J. R. Triplett

Richard Johnson

Rhonda Simpson

Scott Popejoy





April 19, 1986

Upper Spavinaw -- tributary, Oklahoma site #1  
(Delaware County) 2.6 miles south of Hwy 10  
~~30~~ bridge over Lake Eucha

° AIR TEMP

° WATER TEMP

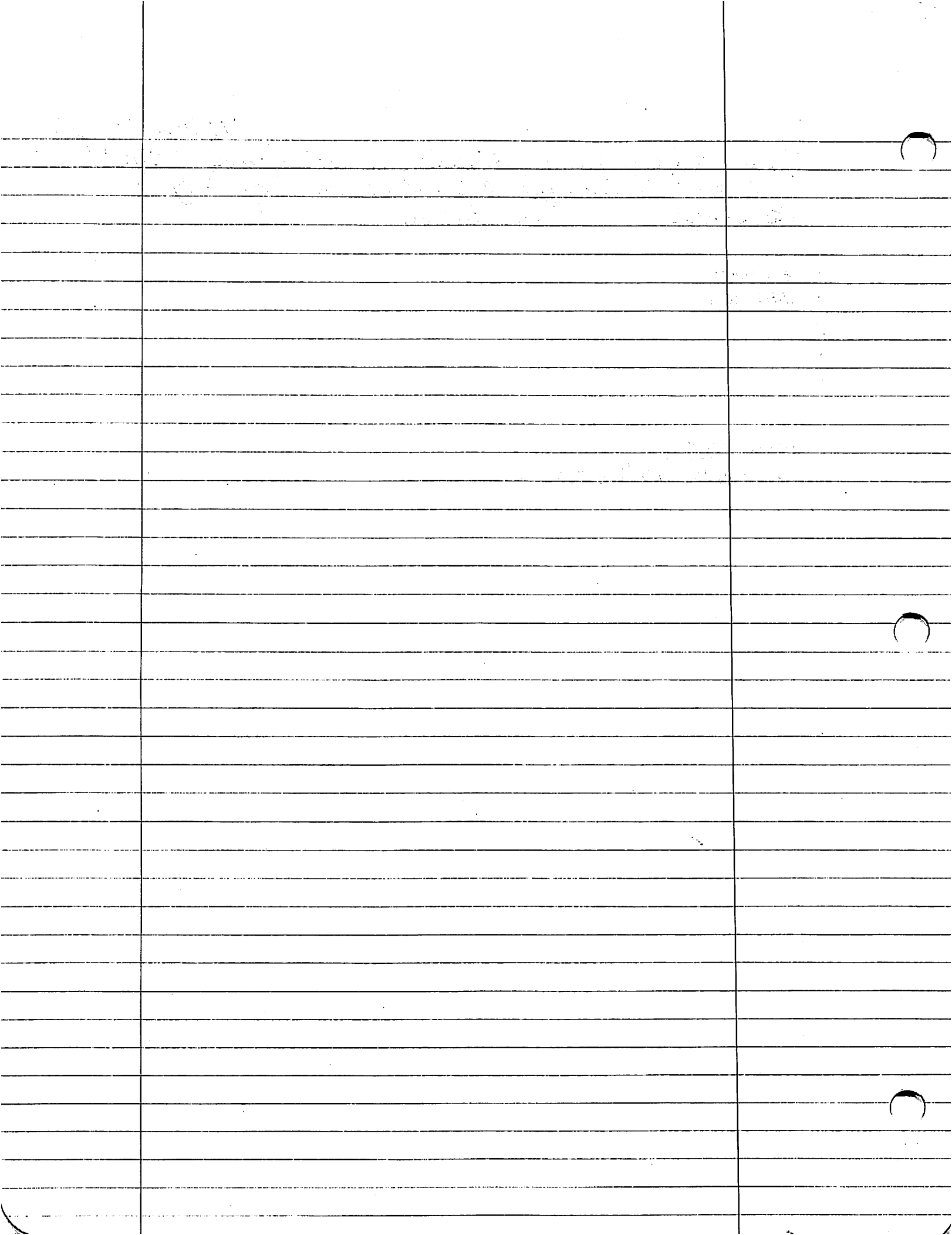
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COLLECTION:

Notropis pilsbryi



SITE #2

April 19, 1986

Confluence of Flint Creek & Illinois River

1.2 miles south from (33) OK and (59) US Hwys  
in OKLAHOMA (ADAIR COUNTY) -- Fiddler's Bend Village

SITE DESCRIPTION:

- WATER DEPTH ABOVE NORMAL
- RIFFLES, VERY SWIFT WATER
- BACK WATERS
- GRAVEL BOTTOM

AIR TEMP

H<sub>2</sub>O TEMP

Collection:

Etheostoma zonale

[illegible]

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2017-2018	2018-2019
2019-2020	2020-2021
2021-2022	2022-2023
2023-2024	2024-2025
2025-2026	2026-2027
2027-2028	2028-2029
2029-2030	2030-2031
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2037-2038	2038-2039
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2107-2108	2108-2109
2109-2110	2110-2111
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2151-2152	2152-2153
2153-2154	2154-2155
2155-2156	2156-2157
2157-2158	2158-2159
2159-2160	2160-2161
2161-2162	


April 20, 1986

SITE #3

Albert's Pike Campground  
Swimming Area -- Upper Little  
Missouri by Ouachita Lake  
(Montgomery County, ARK)

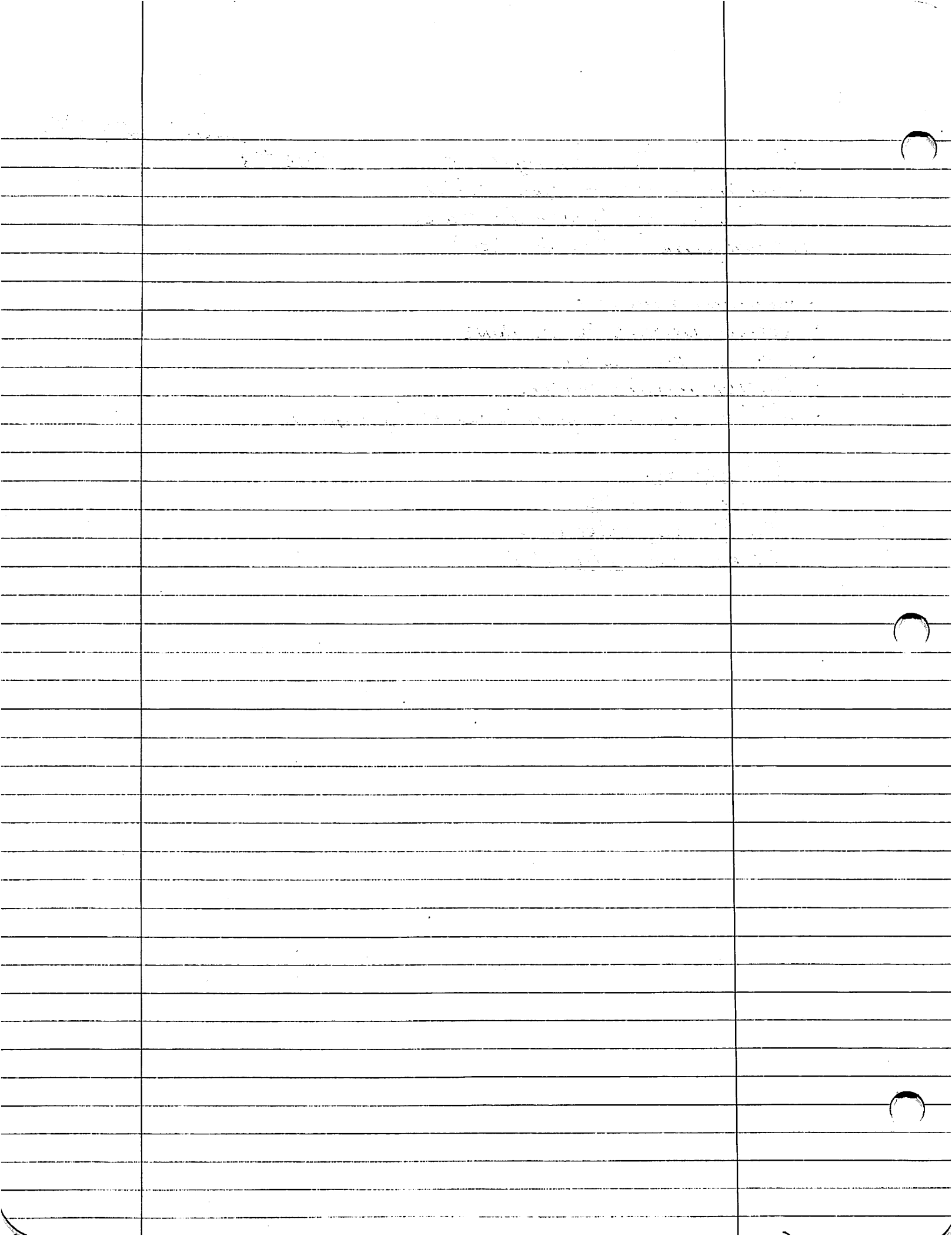
- MEDIUM TURBIDITY
- RIFFLES, OXBOWS, POOLS, RUNS
- GRAVEL & ROCK BOTTOM
- SWIFTLY moving water.
- A lot of aquatic plants especially algae.

COLLECTION:

Notropis boops

Fundulus catenatus

Etheostoma whipplei



April 20, 1986

SITE #4

Little Missouri Falls  
Albert's Pike Campground -- runs into Little Mo. River.  
Montgomery County, Arkansas

Site Description:

AIR TEMPERATURE:

WATER TEMPERATURE:

- <sup>very</sup> Low turbidity
- FAST MOVING
- RIFFLES MOSTLY
- ROCK BOTTOM
- Algae & other plants present - very accessible.

Collection:

Semotilis atromacatus.



[illegible]

McQuire Public Access Area  
Ouachita River - 10 miles east of  
Mena, ARKANSAS

April 20, 1986  
SITE #5

SITE DESCRIPTION:

AIR TEMP.

WATER TEMP.

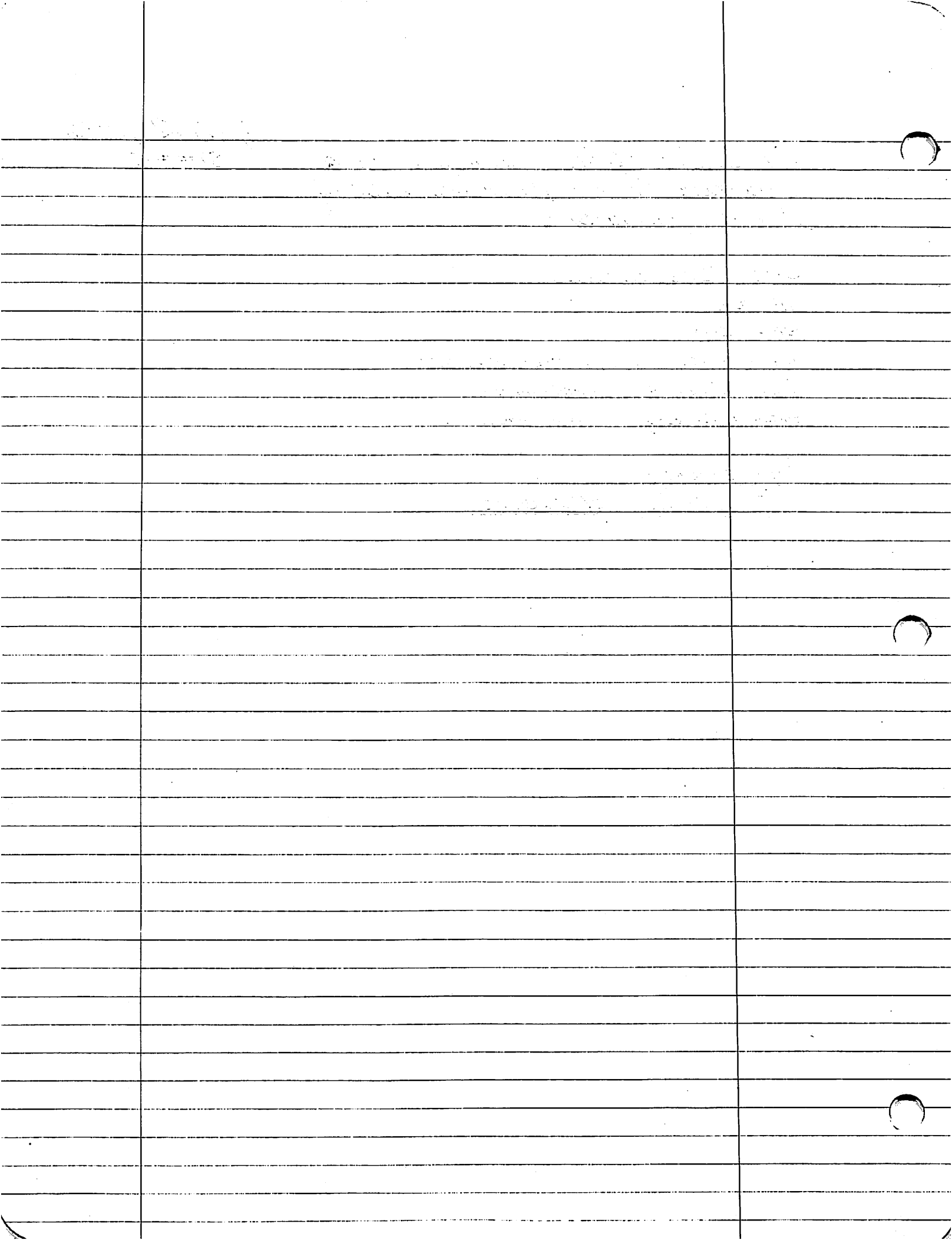
WATER SWIFT MOVING; HIGH TURBIDITY

POOLS, RIFLES, RUNS, BACKWATERS

WATER LEVEL ~~VERY~~ HIGH (JUST RAINED)

COLLECTION:

Fundulus olivaceus



April 20, 1986

BOARD CAMP CREEK (POLK COUNTY)

10 miles east of Mena, ARKANSAS

SITE #5

- Shallow, Low riffles
- Quick moving water (just rained)
- GRAVEL BOTTOM

AIR TEMP:

WATER TEMP:

COLLECTION:

Lepisosteus osseus

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April 27, 1986

Shoal Creek -- Schermerhorn Park - (Cherokee Co., Ks)  
NE 1/4 of NW 1/4 of Sec. 35; T. 34S; R. 25E

SITE Description:

- ° SILT & GRAVEL BOTTOM
  - ° HIGH TURBIDITY
  - ° MEDIUM DEPTH
  - ° FAST WATER, RIPPLES, OXBOWS
  - ° BACK WATERS -
- AIR TEMPERATURE: °  
WATER TEMPERATURE: °

COLLECTORS:

SANDEE CURRAN  
STEVE CURRAN  
CRAIG KASJAKA  
RHONDA SIMPSON

COLLECTION:

Aplodinotus grunniens

April 27, 1986

Spring River  
NW 1/4 of SW 1/4 of S. 6; T. 35S; R. 25E.

- ° SILT BOTTOM
  - ° HIGH TURBIDITY
  - ° BACKWATER
  - ° ALGAE & HIGH WEEDS
- AIR TEMPERATURE: °  
WATER TEMPERATURE: °

COLLECTORS:

SANDEE CURRAN  
STEVE CURRAN  
CRAIG KASJAKA  
RHONDA SIMPSON

COLLECTION:

Dorosoma cepedianum  
Notropis atherinoides

10/12/19

1. The first part of the document is a list of the names of the people who were present at the meeting. The names are listed in alphabetical order.

2. The second part of the document is a list of the topics that were discussed at the meeting. The topics are listed in alphabetical order.

3. The third part of the document is a list of the actions that were taken at the meeting. The actions are listed in alphabetical order.

4. The fourth part of the document is a list of the decisions that were made at the meeting. The decisions are listed in alphabetical order.

5. The fifth part of the document is a list of the recommendations that were made at the meeting. The recommendations are listed in alphabetical order.

6. The sixth part of the document is a list of the conclusions that were reached at the meeting. The conclusions are listed in alphabetical order.

7. The seventh part of the document is a list of the next steps that need to be taken. The next steps are listed in alphabetical order.

8. The eighth part of the document is a list of the people who were responsible for the actions that were taken at the meeting. The people are listed in alphabetical order.

9. The ninth part of the document is a list of the people who were responsible for the decisions that were made at the meeting. The people are listed in alphabetical order.

10. The tenth part of the document is a list of the people who were responsible for the recommendations that were made at the meeting. The people are listed in alphabetical order.

11. The eleventh part of the document is a list of the people who were responsible for the conclusions that were reached at the meeting. The people are listed in alphabetical order.

12. The twelfth part of the document is a list of the people who were responsible for the next steps that need to be taken. The people are listed in alphabetical order.

13. The thirteenth part of the document is a list of the people who were responsible for the actions that were taken at the meeting. The people are listed in alphabetical order.

14. The fourteenth part of the document is a list of the people who were responsible for the decisions that were made at the meeting. The people are listed in alphabetical order.

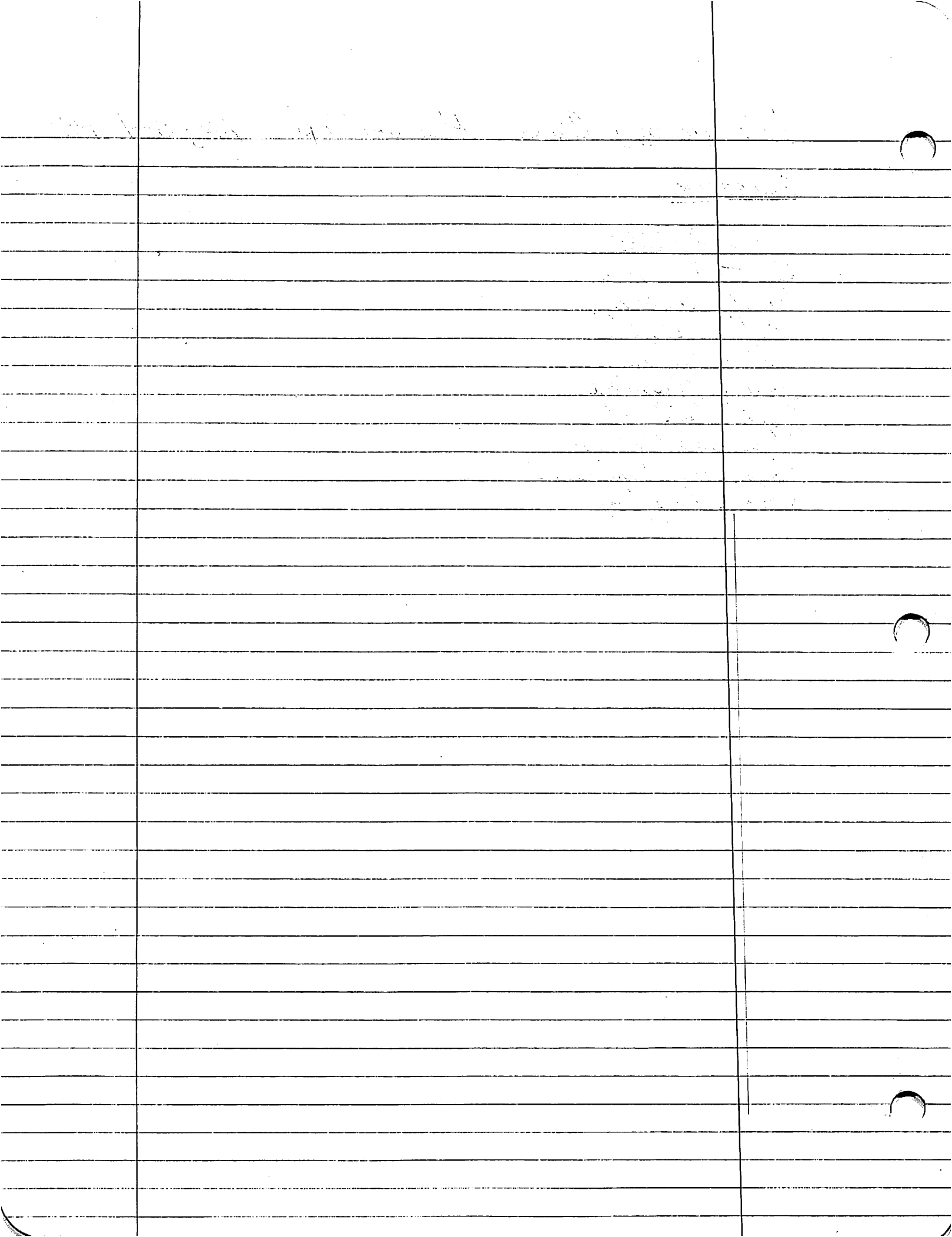
15. The fifteenth part of the document is a list of the people who were responsible for the recommendations that were made at the meeting. The people are listed in alphabetical order.

Ichthyology Class Missouri Trip May 3-4, 1986

COLLECTORS:

Dave Elliott  
Scott Crupper  
Sandel Curran  
Geff Suttrell  
John Bolin  
Craig Kaszika  
J. R. Triplett  
Richard Johnson  
Rhonda Simpson  
Scott Popejoy





May 3, 1986

CENTER CREEK SITE #1  
SW $\frac{1}{4}$  of NW $\frac{1}{4}$  of Section 9; T. 27N; R. 29

Site Description

AIR TEMP:

WATER TEMP:

- RIFFLES, RUNS, OXBOWS,
- MEDIUM TURBIDITY
- ALGAE & Plants in shallow water.

COLLECTION:

Nocomis biguttatus

Nocomis asper

Noturus exilis

Noturus flavus

Gambusia affinis

Cottus caroliniae

Micropterus punctulatus

Amplolites rupestris

Etheostoma nigrum

Etheostoma blennioides

Etheostoma punctulatum

Etheostoma cragini

Etheostoma microperca

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May 3, 1986

Flat Creek Site #2

Junction of Hwy 39 + 248. Barry County, Mo.  
SE 1/4 of SW 1/4 of Sec. 19; T. 24N; R. 25W.

Site Description:

Air Temperature: ~~88~~ 78°F

Water Temperature: 65°F

- Low turbidity (VERY CLEAN)
- Slow moving
- Ripples, pools, oxbows & runs

COLLECTION:

Esox americanus

Nocomis biguttatus

Notropis nubilus

Notropis chrysocephalus

Catostomus commersoni

Moxostoma duquesnei

Etheostoma juliae x Etheostoma spectabile

Page 1

1. The first part of the report is a summary of the work done during the last year.

2. The second part is a detailed account of the experiments carried out, and the results obtained.

3. The third part is a discussion of the results, and an attempt to draw conclusions from them.

May 3, 1983

James River Site #3  
Near junction of Hwy 248 & 13 at  
Helena (Stone Co), Missouri  
SW $\frac{1}{4}$  of SW $\frac{1}{4}$  of Sec. 6; T. 24N; R. 23W

- TURBIDITY MEDIUM
- Ripples, oxbows, backwaters, pools
- gravel & silt bottom

AIR TEMP:

WATER TEMP:

COLLECTION:

Notropis ozarcanus

[illegible]

Time of Day	Sleeping	Resting	Walking	Standing	Sitting	Eating
0-4	45	5	0	0	0	0
4-8	35	10	5	5	45	0
8-12	25	15	15	15	35	0
12-16	20	15	25	20	20	0
16-20	25	10	15	15	35	0
20-24	40	5	0	0	0	0

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[illegible]

W. A. R. 2002

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[illegible]

<p>1. <i>Chlorophyll a</i> (mg/g)</p> <p>2. <i>Chlorophyll b</i> (mg/g)</p> <p>3. <i>Chlorophyll a + b</i> (mg/g)</p> <p>4. <i>Carotenoids</i> (mg/g)</p> <p>5. <i>Protein</i> (mg/g)</p> <p>6. <i>Starch</i> (mg/g)</p> <p>7. <i>Cellulose</i> (mg/g)</p> <p>8. <i>Hemicellulose</i> (mg/g)</p> <p>9. <i>Lignin</i> (mg/g)</p> <p>10. <i>Phenolics</i> (mg/g)</p> <p>11. <i>Flavonoids</i> (mg/g)</p> <p>12. <i>Anthracenes</i> (mg/g)</p> <p>13. <i>Terpenoids</i> (mg/g)</p> <p>14. <i>Alkaloids</i> (mg/g)</p> <p>15. <i>Saponins</i> (mg/g)</p> <p>16. <i>Glycosides</i> (mg/g)</p> <p>17. <i>Enzymes</i> (mg/g)</p> <p>18. <i>Antioxidants</i> (mg/g)</p> <p>19. <i>Antibiotics</i> (mg/g)</p> <p>20. <i>Anticancer</i> (mg/g)</p> <p>21. <i>Antifungal</i> (mg/g)</p> <p>22. <i>Antiviral</i> (mg/g)</p> <p>23. <i>Antiparasitic</i> (mg/g)</p> <p>24. <i>Anticancer</i> (mg/g)</p> <p>25. <i>Antifungal</i> (mg/g)</p> <p>26. <i>Antiviral</i> (mg/g)</p> <p>27. <i>Antiparasitic</i> (mg/g)</p> <p>28. <i>Anticancer</i> 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<p>56. <i>Anticancer</i> (mg/g)</p> <p>57. <i>Antifungal</i> (mg/g)</p> <p>58. <i>Antiviral</i> (mg/g)</p> <p>59. <i>Antiparasitic</i> (mg/g)</p> <p>60. <i>Anticancer</i> (mg/g)</p> <p>61. <i>Antifungal</i> (mg/g)</p> <p>62. <i>Antiviral</i> (mg/g)</p> <p>63. <i>Antiparasitic</i> (mg/g)</p> <p>64. <i>Anticancer</i> (mg/g)</p> <p>65. <i>Antifungal</i> (mg/g)</p> <p>66. <i>Antiviral</i> (mg/g)</p> <p>67. <i>Antiparasitic</i> (mg/g)</p> <p>68. <i>Anticancer</i> (mg/g)</p> <p>69. <i>Antifungal</i> (mg/g)</p> <p>70. <i>Antiviral</i> (mg/g)</p> <p>71. <i>Antiparasitic</i> (mg/g)</p> <p>72. <i>Anticancer</i> (mg/g)</p> <p>73. <i>Antifungal</i> (mg/g)</p> <p>74. <i>Antiviral</i> (mg/g)</p> <p>75. <i>Antiparasitic</i> (mg/g)</p> <p>76. <i>Anticancer</i> (mg/g)</p> <p>77. <i>Antifungal</i> (mg/g)</p> <p>78. <i>Antiviral</i> (mg/g)</p> <p>79. <i>Antiparasitic</i> (mg/g)</p> <p>80. <i>Anticancer</i> (mg/g)</p> <p>81. <i>Antifungal</i> (mg/g)</p> <p>82. <i>Antiviral</i> (mg/g)</p> <p>83. 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<i>Anticancer</i> (mg/g)</p> <p>93. <i>Antifungal&lt;/</i></p>
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Figure 1. The effect of the concentration of the *Agrobacterium* suspension on the transformation efficiency of *Agrobacterium* strains. The number of transformed cells was determined by the number of colonies obtained on the selective medium. The results are the mean of three independent experiments. Error bars represent the standard deviation.

Figure 1 consists of two line graphs. The left graph plots 'Rate of reaction' on the y-axis against 'Temperature (°C)' on the x-axis. The x-axis has markings at 10, 20, 30, and 40. The y-axis has markings at 0, 1, 2, 3, 4, and 5. A straight line starts at (10, 0) and passes through (20, 1), (30, 2), and (40, 3). The right graph also plots 'Rate of reaction' on the y-axis against 'Temperature (°C)' on the x-axis. The x-axis has markings at 10, 20, 30, 40, and 50. The y-axis has markings at 0, 1, 2, 3, 4, and 5. The curve starts at (10, 0), rises to (20, 1), then more steeply to (30, 3), (40, 4), and finally drops to (50, 2).

[illegible]

May 3, 1986  
SITE #5

NORTH Fork of White River

Ozark County, Missouri

Hwy PP bridge 3 miles east of Hwy 160.

AIR TEMPERATURE: 55°F

WATER TEMPERATURE: ?

SITE DESCRIPTION NOT POSSIBLE as far as turbidity

- Riffles, back waters
- Quick moving water
- H<sub>2</sub>O at ave. water level

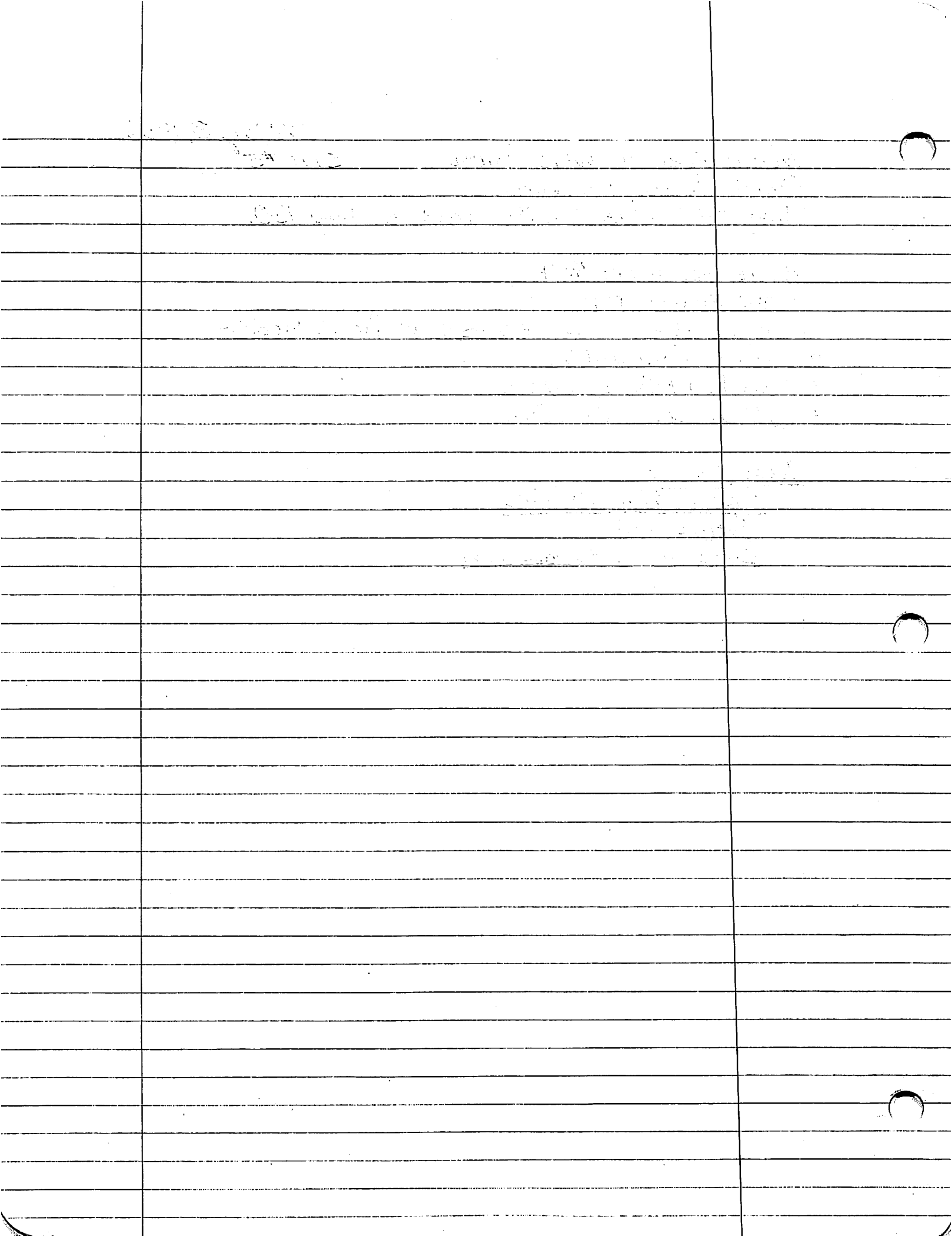
COLLECTIONS:

Hypentelium nigricans

Cottus bairdi

Etheostoma tetrazonum





May 4, 1986  
SITE #6

CURRENT RIVER at U.S. 60 bridge;  
Van Buren (CARTER Co.), Mo. City Limits)

River Access

SE 1/4 of SW 1/4 of Sec. 24; T. 27N; R. 1W.

- Low turbidity
- Pools, riffles, backwaters, gravel bars.
- GRAVEL BOTTOM -- ALOT OF SILT IN SOME PLACES.

AIR TEMP:

WATER TEMP:

COLLECTION:

Hybopsis amblops

Notropis telescopus

Notropis zonatus

Etheostoma caeruleum

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	218	219	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	241	242	243	244	245	246	247	248	249	250	251	252	253	254	255	256	257	258	259	260	261	262	263	264	265	266	267	268	269	270	271	272	273	274	275	276	277	278	279	280	281	282	283	284	285	286	287	288	289	290	291	292	293	294	295	296	297	298	299	300	301	302	303	304	305	306	307	308	309	310	311	312	313	314	315	316	317	318	319	320	321	322	323	324	325	326	327	328	329	330	331	332	333	334	335	336	337	338	339	340	341	342	343	344	345	346	347	348	349	350	351	352	353	354	355	356	357	358	359	360	361	362	363	364	365	366	367	368	369	370	371	372	373	374	375	376	377	378	379	380	381	382	383	384	385	386	387	388	389	390	391	392	393	394	395	396	397	398	399	400	401	402	403	404	405	406	407	408	409	410	411	412	413	414	415	416	417	418	419	420	421	422	423	424	425	426	427	428	429	430	431	432	433	434	435	436	437	438	439	440	441	442	443	444	445	446	447	448	449	450	451	452	453	454	455	456	457	458	459	460	461	462	463	464	465	466
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Figure 1: A schematic diagram of a 1D lattice with  $N$  sites. The lattice is represented by a horizontal line with  $N$  discrete sites marked by dots. The sites are labeled  $1, 2, \dots, N$  from left to right. The lattice is divided into two halves by a vertical line at site  $N/2$ . The left half is labeled "Left" and the right half is labeled "Right". The lattice is connected by horizontal lines representing bonds. The lattice is labeled "1D Lattice" at the bottom.

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A blank coordinate plane with a horizontal x-axis and a vertical y-axis intersecting at the origin. The axes are represented by solid black lines.

May 4, 1986  
Black River Public Access, SITE #17  
below Hwy 39 Bridge -- Leeper (Wayne Co), MO.

SITE DESCRIPTION:

AIR TEMPERATURE: 87°F

WATER TEMPERATURE: 65°F

- LOW TURBIDITY
- WATER LOW; MED SPEED TO FAST MOVING H<sub>2</sub>O
- BACK WATER, RIFFLES
- GRAVEL (SMALL STONES) BOTTOM
- ~~ATR~~ Algal growth & many plants along banks

COLLECTION:

Ichthyomyzon castaneus

Campostoma oligolepis

Notropis galacturus

Etheostoma juliae

Etheostoma euzonum

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May 8, 1986

MAMMOTH SPRINGS NATIONAL FISH HATCHERY  
HWY 63; FULTON COUNTY, ARKANSAS

COLLECTORS: Rhonda ; DAUE SIMPSON

COLLECTION:

Carassius auratus

Stizostedion vitreum

\* SITE DESCRIPTION:

Not provided

[illegible]

May 8, 1986  
Spring River State Fish Hatchery on Hwy 342  
Fulton County, ARKANSAS

COLLECTORS:

RHONDA & DAVE SIMPSON

COLLECTION:

Salmo trutta

Salmo gairdneri x Salmo ?

Salmo clarki

Lepomis macrochirus x Lepomis cyanella

SITE DESCRIPTION:

NOT PROVIDED



May 8 1986

Spring River State Fish Hatchery on Hwy 342  
Valley County, Arkansas

Collection:

Salmo trutta

Salmo gairdneri x Salmo ?

Salmo clarki

Leptostichus x Salmo gairdneri

Site description

Not recorded