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Abstract

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FISHES OF THE SOUTH FORK OF THE KENTUCKY RIVER, WITH NOTES AND RECORDS FROM OTHER PARTS OF THE DRAINAGE[1]

by

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ABSTRACT — Distributional data are given for 85 fish species, unequally divided between 16 families and 33 genera, from the South Fork of the Kentucky River (43 collecting stations) and from various creeks (162 stations) tributary to the main Kentucky River. Three hybrid sunfishes are reported.

INTRODUCTION

Recently, a team of Kentucky biologists attempted to computerize the published distributional records for the aquatic plants and animals of Kentucky, including habitat requirements and the physico-chemical characteristics of the waters from which the organisms had been collected. When these data were displayed on maps and computer readouts it became obvious that there were broad hiatuses in our distributional knowledge for all plant and animal categories, including the fishes. A committee established by the Kentucky Academy of Science (Branson et al. 1981) to produce a list of the Threatened and Endangered organisms of Kentucky was severly hampered in accomplishing that task by the lack of published data.

One of the reasons for these shortages is the tendency for many biologists to "stockpile" valuable data for many years. without any real plans for publication, and the present authors are no exception. We have been accumulating fish data for the last 17 years, some of it resulting from various class field trips and student projects, other portions resulting from institutionally supported research projects. Cumulatively, these data represent a significant contribution to an understanding of fish distribution in several river drainages, in this instance the Kentucky River drainage.

Although several authors (Blankenship and Crockett 1971; Branson and Batch 1974, 1981; Horseman and Branson 1973; Kuehne 1962; and Williams 1974) have published reports on the fishes of various parts of the lower Kentucky River, many areas remain poorly known, and the upper Kentucky River drainage has never been thoroughly investigated. Burr (1980) included many Kentucky River citations, but without exact locality data. Brewer (1968, 1970) listed sites for the muskellunge and several other species from the South Fork system, as did Clay (1975), Lee et al. (1980), Evermann (1918), Harker et al. (1979) and Woolman (1892). The most extensive inventory of South Fork fishes is that of Jones (1973). All these publications list fishes mostly from third order or larger streams.

This contribution reports the results of inventories conducted at 43 stations distributed throughout the South Fork system, from first order streams to the mouth just east of Beattyville. The South Fork of the Kentucky River comprises approximately 1,904 km² of the total 8,811 km² drainage of the Kentucky River drainage. In addition, data are presented for 67 fish species collected at 162 Kentucky River drainage sites outside the South Fork system. Most material reported upon here is housed in the Eastern Kentucky University fish collection

The collecting stations are numbered consecutively, and in the annotated list that follows species and specimens are referred to appropriate stations according to number. Complete chemical and temperature data are available, but were omitted here for the sake of brevity. The species are numbered and arranged in the same phylogenetic sequence as they appear in the 1980 American Fisheries Society checklist. For the rarer species the number of individuals per station are indicated in parentheses; for the more common species only station numbers are indicated.

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COLLECTING STATIONS

1. Goose Creek, 3.4 km SE of Brightshade, CR 718, Clay Co.; 7 March 1970. Riffles and pools, 1.2-3.2 m wide, 10-30 cm deep; bottom of rocks and gravel. Heavily impacted by strip mining; no fishes collected.

2. Ashners Crek (at mouth), tributary to Goose Creek, 1.2 km SE of Brightshade, CR 1524, Clay Co.; 7 March 1970. Riffles and pools, 3.0-9.0 m wide, 7.6-46 cm deep; bottom of sand, gravel and small rocks. Species: 6, 9, 16, 21, 22, 26, 29, 33, 36, 58, 66, 68, 70, 71.

3. Goose Creek, at Brightshade, Clay Co.; 14 March 1970. Riffles and pools, 6.0-13.7 m wide, 7.6-61 cm deep; bottom sandstone and small to medium rocks. Species: 6, 9, 16, 21, 23, 24, 25, 29, 40, 54, 58, 66, 68, 70, 71, 81.

4. Goose Creek, 1.3 km N of Brightshade, CR 718, Clay Co.; 14 March 1970. Riffles and pools, 6-9 m wide, 7.6-46 cm deep; bottom of sandstone and small to medium rocks. Species: 6, 9, 16, 21, 23, 29, 33, 35, 68, 71.

5. Otter Creek, Otter Creek Road, 1.3 km SW of junction with CR 718, 3.2 km N Brightshade, Clay Co.; 14 March 1970. Riffles and pools, 3-4 m wide, 15-76 cm deep; bottom gravel and small rocks. Species: 6, 9, 16, 21, 29, 33, 53, 70.

6. Goose Creek, 1.5 km S of Botto, SR 718, Clay Co.; 14 March 1970. Riffles and pools, 6-9 m wide, 60-90 cm deep; bottom gravel and small rocks. Species: 6, 9, 21, 29, 68, 70, 79.

7. Red Bird Creek, 3.6 air km S of Creekville, SR 66, Clay Co.; 23 May 1970. Riffles and pools, 4.6-9 m wide, 20-61 cm deep; bottom of sand, gravel, pebbles, rocks. Species: 6, 14, 21, 23, 24, 26, 29, 33, 35, 39, 58, 60, 61, 66, 67, 68, 70, 77.

8. Red Bird Creek, at Marcum, SR 66, Clay Co.; 23 May 1970. Riffles and pools, 9-12 m wide, 31 cm-1.8 m deep; bottom gravel and sand. Species: 6, 9, 21, 22, 23, 26, 29, 33, 40, 58, 66, 67, 68.

9. Red Bird Creek, 1.6 km N of Marcum, Clay Co.; 30 May 1970. Riffles and pools, 9-18 m wide, 15 cm-1.5 m deep; bottom sand, gravel, small rocks. Species: 6, 9, 14, 21, 22, 23, 26, 29, 33, 35, 53, 57, 58, 66, 67, 68, 70, 71, 76, 77, 79, 82.

10. Red Bird Creek, at mouth of Double Creek, SR 66, Clay Co.; 30 May 1970. Riffles and pools, 9-18 m wide, 15 cm-1.5 m deep; bottom sand, gravel, rocks. Species: 3, 6, 21, 22, 23, 24, 26, 29, 57, 58, 60, 66, 67, 68, 70, 71, 75, 76, 77, 79.

11. Red Bird Creek, at Eriline, SR 66, Clay Co.; 6 June 1970. Riffles and pools, 4.5-7.6 m wide, 45 cm-1.2 m deep; bottom bedrock and gravel. Species: 6, 9, 16, 21, 23, 24, 25, 29, 35, 38, 66, 67, 68, 70, 71, 75, 77.

12. Bullskin Creek, 0.7 km E of Oneida, CR 1482, Clay Co.; 6 June 1970. Riffles and pools, 4.5-7.6 m wide, 15 cm-1.1 m deep; bottom bedrock and gravel. Species: 6, 9, 16, 21, 23, 24, 25, 29, 35, 38, 66, 67, 68, 70, 71, 75, 77.

13. Goose Creek, 2.8 km SE of Manchester, US 421, Clay Co.; 10 June 1970. Riffles and pools, 6-9 m wide, 5 cm-1.1 m deep; bottom gravel and small rubble. Species: 6, 9, 16, 21, 23, 29, 33, 34, 35, 47, 53, 58, 66, 68, 70, 71, 79, 82.

14. Collins Fork, 5.2 km SW of Manchester, SR 11, Clay Co.; 10 June 1970. Riffles and pools, 6-7.6 m wide, 30 cm-1.4 m deep; bottom sand, silt, organic debris. Species: 6, 16, 21, 29, 33, 39, 44, 47, 53, 56, 58, 60, 61, 70, 71, 77, 79, 82.

15. Little Goose Creek, 1.2 km W of Manchester, CR 687, Clay Co.; 27 June 1970. Riffles and pools, 3-9 m wide, 15 cm-1.1 m deep; bottom gravel, small rocks, silt. Species: 33, 54, 57, 58, 61.

16. Horse Creek, at Pigeonroost, SR 80, Clay Co.; 27 June 1970. Riffles and pools, 3-7.6 m wide, 20 cm-0.8 m deep; bottom gravel and small rocks. Species: 6, 9, 16, 21, 29, 33, 35, 38, 42, 53, 54, 58, 61, 68, 70, 71, 77.

17. Horse Creek, 7.6 km SW of Manchester, SR 80, Clay Co.; 27 June 1970. Riffles and pools, 0.3-0.8 m deep; bottom gravel, mud, small rocks. Species: 6, 9, 21, 29, 33, 34, 35, 53, 54, 58, 61, 71, 72.

18. Laurel Creek, 6.5 km N of Manchester, SR 11, Clay Co.; 14 July 1970. Riffles and pools, 4.6-9 m wide, 15-46 cm deep; bottom gravel, sand. Species: 6, 9, 21, 23, 29, 33, 34, 35, 39, 58, 68, 70, 71, 72, 79.

19. Sextons Creek, 2.4 km W of Chestnutberg, SR 11, Clay Co.; 4 July 1970. Riffles and pools, 10.6-13.7 m wide, 30.5 cm-0.9 m deep; bottom sand, gravel, small rocks. Species: 6, 9, 16, 21, 29, 33, 34, 35, 39, 41, 53, 56, 57, 58, 60, 61, 68, 70, 71, 77.

20. Goose Creek, 7.2 km NE of Manchester, SR 11, Clay Co.; 4 July 1970. Riffles and pools, 10.6-13.7 m wide, 30.4 cm-0.9 m deep; bottom sand, gravel, small rocks. Species: 6, 21, 23, 29, 35, 47, 53, 58, 60, 61, 66, 67, 70, 71, 75, 79.

21. South Fork of Kentucky River, at Oneida, SR 66 and 11, Clay Co.; 18 July 1970. Riffles and pools, 18-24 m wide, 61 cm-1.8 m deep; bottom mud, sand, gravel. Species: 6, 11, 14, 17, 18, 19, 21, 23, 24, 26, 29, 35, 39, 46, 47, 48, 53, 56, 58, 60, 61, 65, 67, 68, 70, 71, 75, 76, 77, 79, 84.

22. Goose Creek, at Manchester, Clay Co.; 25 July 1970. Riffles and pools, 12.7 cm-1.1 m deep; bottom rocks, sand, debris. Species: 14, 16, 23, 29, 33, 34, 35, 42, 53, 57, 58, 61, 68, 70, 71, 79, 81.

23. South Fork of Kentucky River, 3.2 km S of Clay-Owsley co. line in Clay Co., SR 11; 1 August 1970. Riffles and pools, 9-36.6 m wide, 20 cm-1.8 m deep; bottom gravel, mud, rocks. Species: 2, 10, 14, 21, 23, 27, 29, 35, 61, 70, 71, 75, 76, 77.

24. South Fork of Kentucky River, 0.8 km N of Clay-Owsley co. line in Owsley Co., SR 11; 12 September 1970. Pools and riffles, 18-30.4 m wide, 15 cm-0.9 m deep; bottom sand, gravel, rocks. Species: 14, 21, 23, 26, 29, 35, 56, 57, 58, 60, 66, 67, 71, 75, 76.

25. South Fork of Kentucky River, at SR 30, Booneville, Owsley Co.: 12 December 1970. Pools and riffles, 24-30 m wide, 46 cm-2.4 m deep; bottom gravel, rocks, rubble. Species: 1, 2, 5, 11, 14, 18, 22, 23, 24, 26, 27, 29, 35, 39, 46, 47, 53, 56, 57, 58, 60, 61, 67, 68, 70, 71, 75, 76, 77.

26. Cow Creek, 1.3 km E of Eversole, SR 28, Owsley Co.; 16 January 1971. Riffles and pools, 6-7.6 m wide, 20-61 cm deep; bottom bedrock, gravel, sand. Species: 21, 33, 34, 35, 67, 68, 70.

27. Meadow Creek, 1.9 km E of Booneville, SR 30, Owsley Co.; 16 January 1971. Riffles and pools, 6-7.0 m wide, 30.4 cm-1.1 m deep; bottom gravel, small rocks, rubble. Species: 6, 9, 21, 26, 29, 33, 35, 56, 57, 68, 70, 71.

28. Union Buffalo Creek and Laurel Fork, at Sebastian, CR 1768, Owsley Co.; 16 January 1971. Riffles and pools, 1.2-4.6 m wide, 7.6-25 cm deep; bottom gravel, rocks, rubble. Species: 6, 9, 16, 21, 23, 28, 33, 46, 48, 70, 72.

29. Buffalo Creek, 4.8 km S of Ricetown, CR 1768, Owsley Co.; 23 January 1971. Riffles and pools, 3-9 m wide, 25 cm-1.7 m deep; bottom bedrock, gravel. Species: 6, 9, 16, 21, 23, 24, 25, 26, 29, 33, 35, 56, 58, 66, 67, 68, 70, 71, 75.

30. Right Fork of Buffalo Creek, 6.8 km S of Ricetown, Mistletoe county road, Owsley Co.; 20 February 1971. Pools and riffles, 4.6-7.6 m wide, 1.2-1.7 m deep; bottom redrock, gravel. Species: 9, 16, 21, 23, 24, 25, 28, 29, 33, 68, 70, 71, 83.

31. Indian Creek, at confluence with South Fork of Kentucky River, 5.1 km S of Booneville, SR 11, Owsley Co.; 20 February 1971. Pools and riffles, 4.6-6.6 m wide, 15 cm-1.2 m deep; bottom gravel, sand, rock rubble. Species: 6, 9, 21, 23, 24, 28, 29, 33, 34, 35, 66, 67, 68, 70, 71.

32. Sextons Creek, 7.2 km NE of Chestnutburg, CR 577, Clay Co.; 27 February 1971. Pools and riffles, 21-24 m wide, 61 cm-2.1 m deep; bottom gravel, sand, rocks. Species: 1, 6, 16, 21, 22, 23, 29, 33, 35, 40, 56, 66, 67, 68, 70, 75, 76, 77, 79.

33. Sextons Creek, 2.4 km SW of Taft, CR 577, Owsley Co.; 6 March 1971. Pools and riffles, 21-24 m wide, 31 cm-1.1 m deep; bottom gravel, rocks. Species: 6, 23, 26, 29, 33, 35, 56, 66, 67, 68, 70, 71, 75, 76.

34. Island Creek, at Conklin, SR 11, Owsley Co.; 6 February 1971. Pools and riffles, 9-12 m wide, 30 cm-0.8 m deep; bottom gravel, sand, rubble. Species: 17, 18, 21, 22, 23, 24, 29, 53, 56, 57, 58, 67, 68, 70, 71, 75, 76, 79.

35. White Oak Creek, at confluence with South Fork of Kentucky River, SR 11, Owsley Co.; 10 March 1971. Pools and riffles, 6-9 m wide, 30 cm-1.8 m deep; bottom gravel. Species: 6, 9, 21, 23, 24, 26, 27, 28, 29, 33, 34, 35, 47, 53, 56, 57, 58, 66, 67, 68, 70, 71, 76, 79.

36. Buck Creek, 4 km W of Booneville, CR 847, Owsley Co.; 10 March 1971. Pools and riffles, 3-7.6 m wide, 15 cm-1.4 m deep; bottom gravel, sand. Species: 28.

37. Buck Creek, at Booneville, Owsley Co.; 10 March 1971. Pools and riffles, 3-6 m wide, 15 cm-1.8 m deep; bottom silty gravel. Species: 6, 9, 10, 11, 14, 21, 22, 23, 26, 27, 29, 33, 35, 39, 45, 53, 57, 58, 60, 66, 67, 68, 69, 70, 71, 74, 75, 76, 78.

38. South Fork of Kentucky River, 4.8 km SE of Booneville, SR 11, Owsley Co.; 19 June 1971. Riffles and pools, 37-46 m wide, 30 cm-1.8 m deep; bottom gravel, rubble. Species: 6, 11, 14, 21, 23, 26, 27, 29, 35, 39, 54, 58, 60, 61, 65, 66, 67, 69, 70, 74, 75, 81.

39. Cow Creek, at confluence with South Fork of Kentucky River, SR 11, Owsley Co.; 26 June 1971. No physical data taken. Species: 66, 67, 68, 69, 70, 74, 75, 76, 78, 82.

40. South Fork of Kentucky River, 1.0 km N of Booneville, CR 1475, Owsley Co.; 26 June 1971. Riffles and pools. No physical data taken. Species: 2, 6, 11, 21, 23, 27, 29, 33, 38, 40, 44, 45, 47, 53, 54, 58, 60, 66, 67, 68, 69, 70, 71, 75, 76, 77, 78, 80, 82, 84.

41. South Fork of Kentucky River, 3.6 km SE of Congleton, SR 411, Lee Co.; 27 June 1971. Pools and riffles, 15-31 m wide, 61 cm-1.8 m deep; bottom gravel, rubble. Species: 2, 4, 6, 9, 12, 18, 20, 22, 24, 26, 29, 33, 35, 58, 60, 62, 67, 68, 70, 82.

42. South Fork of Kentucky River at confluence of Lower Buffalo Creek, Lee Co.; 3 July 1971. Riffles and pools, 24-30 m wide, 30 cm-2.4 m deep; bottom gravel, bedrock. Fish collected but subsequently lost through accident.

43. South Fork of Kentucky River, River km 1.6-16, Lee Co.; 3 July-7 August 1971. Pools and riffles, 24-31 m wide, 70 cm-2.4 m deep; bottom gravel, sand, rocks. Species: 3, 18, 21, 29, 39, 40, 56, 57, 58, 61, 63.

44. Muddy Creek, 1.6 km above mouth, Madison Co.; 1 September 1973, 3 March 1978. Pools 7.5 m wide, 0.3-1.5 m deep; bottom rock rubble, sand, silt. Species: 2, 6, 12, 18, 21, 24, 29, 30, 33, 35, 37, 39, 46, 50, 54, 58, 68.

45. Muddy Creek, 1.9 km SE of Union City, Madison Co.; 1 September 1973, 3 March 1978. Pool, 0.6 m deep; bottom bedrock. Species: 6, 9, 16, 18, 21, 24, 29, 33, 34, 35, 39, 41, 53, 58, 60, 61, 68, 70.

46. Muddy Creek, 2.2 km E of Union City, Madison Co.; 1 September 1973, 12 March 1978. Pools and riffles, 0.5-1.0 m deep; bottom bedrock, mud, silt. Species: 6, 9, 16, 18, 21, 24, 29, 30, 33, 34, 35, 41, 57, 58, 62, 70, 71, 73.

47. Muddy Creek, at CR 32, Madison Co.; 8 September 1973. Pool, 1.0 m deep; bottom mud. Species: 6, 9, 16, 21, 24, 29, 30, 33, 34, 39, 41, 43, 54, 57, 58, 67, 70, 71, 73.

48. Muddy Creek, at middle of east boundary of Blue Grass Ordinance, Madison Co.; 15 September 1973. Pool; bottom sand, mud. Species: 6, 9, 16, 21, 29, 30, 33, 34, 39, 41, 43, 54, 55, 57, 59A, 67, 70, 71, 73.

49. Muddy Creek, 5.2 km S of Moberly, Madison Co.; 18 September 1973. Pools and riffles, 0.2-1.5 m deep; bottom sand, gravel, rocks. Species: 6, 9, 16, 21, 29, 30, 33, 54, 55, 58.

50. Muddy Creek, 6.0 km NE of Union City, Madison Co.; 18 September 1973. Pools and riffles, 15 m wide, 0.1-0.6 m deep; bottom sand, gravel, rocks. Species: 6, 9, 18, 21, 29, 30, 33, 35, 62, 70, 71, 73.

51. Muddy Creek, 2.2 km SE of Kingston, Madison Co.; 25 September 1978. Pools and riffles, 1.0 m wide, 0.1-0.5 m deep; bottom rubble, small rocks. Species: 6, 9, 21, 29, 30, 43, 71, 73.

52. Red Lick Creek, at SR 594, Madison Co.; 16 March 1972, 31 March 1972, 16 April 1978. Pools and riffles; bottom small rocks. Species: 6, 9, 16, 18, 21, 25, 28, 33, 35, 39, 40, 47, 51, 57, 68, 70, 71, 77.

53. Middle Fork of Station Camp Creek, at SR 89, Estill Co.; 16 March 1972, 31 March 1972, 8 September 1978. Pools and riffles; bottom gravel, mud. Species: 6, 9, 16, 21, 28, 29, 30, 33, 35, 40, 58, 60, 67, 68, 70, 71, 85.

54. Station Camp Creek, 3 km N of Sand Gap, Jackson Co.; 16 March 1972, 28 April 1972. Pools and Riffles; bottom bedrock. Species: 6, 9, 16, 21, 28, 29, 33, 35, 58, 67, 68, 70, 71, 75, 85.

55. South Fork of Station Camp Creek, at confluence of Dry Fork, Jackson Co.; 1 September 1978. Pools and riffles; bottom boulders, rocks, bedrock. Species: 6, 9, 14, 16, 21, 22, 29, 33, 35, 57, 60, 68, 71, 76.

56. Cavanaugh Creek, 0.26 km above mouth, Jackson Co.; 23 March 1972. Pools and riffles; bottom gravel. Species: 16, 21, 22, 29, 33, 66, 67, 68, 70.

57. South Fork of Station Camp Creek, at SR 89, Jackson Co.; 23 March 1972, 1 September 1978. Pools and riffles; bottom rocks, gravel. Species: 6, 9, 16, 21, 22, 23, 29, 33, 35, 51, 53, 58, 66, 67, 68, 70, 71, 79.

58. Red Lick Creek, 7.2 km above mouth, Estill Co.; 31 March 1972, 6 April 1978. Pools and riffles; bottom gravel. Species: 6, 9, 16, 21, 24, 25, 29, 33, 34, 35, 38, 39, 40, 54, 58, 61, 67, 68, 70, 71, 77.

59. War Fork Creek, Turkey Foot Recreation Area, Jackson Co.; 30 March 1972, 6 April 1972. Pools and riffles. Species: 5, 6, 21, 24, 28, 29, 32, 33, 34, 68, 71, 85.

60. War Fork Creek, at confluence of Jacks Branch, Jackson Co.; 6 April 1972, 1 September 1978. Pools and riffles; bottom rocks, mud. Species: 6, 28, 29, 33, 34, 35, 54, 68, 70, 71, 79, 85.

61. Rock Lick Creek, 0.2 km above mouth, Jackson Co.; 6 April 1972. Pools and riffles; bottom rocks and gravel. Species: 6, 16, 21, 29, 33, 35, 68, 70.

62. South Fork of Station Camp Creek, 0.3 km above confluence of Rock Lick Creek, Jackson Co.; 6 April 1972. Riffles; bottom rocks. Species: 6, 14, 21, 29, 67, 68, 70, 85.

63. Station Camp Creek, at confluence of Searcy Branch, Estill Co.; 6 April 1972. Pools and riffles; bottom sand and gravel. Species: 6, 20, 21, 22, 28, 33, 35, 58, 67, 68, 70, 71, 85.

64. Station Camp Creek, 3.3 km below confluence of War Fork, Estill Co.; 6 April 1972, 8 September 1978. Pools and riffles; bottom gravel, sand. Species: 6, 9, 10, 14, 16, 21, 22, 23, 29, 34, 51, 53, 60, 68, 70, 71, 85.

65. Clear Creek, 3.4 km W of Irvine, Estill Co.; 31 March 1972. Pools and riffles; bottom gravel, rocks, mud. Species: 6, 16, 21, 22, 71.

66. Station Camp Creek, 4.0 km W of Irving, Estill Co.; 31 March 1972, 8 September 1978. Pools and riffles; bottom gravel, sand, mud. Species: 14, 16, 21, 23, 29, 30, 35, 40, 54, 70, 71.

67. Middle Fork of Station Camp Creek, Jackson Co. line; 7 April 1972. Pools and riffles; bottom rocks, gravel. Species: 58, 70, 77.

68. Station Camp Creek, 6.5 km above confluence of Middle Fork, CR 1209, Estill Co.; 13 September 1972, 8 September 1978. Species: 6, 21, 22, 28, 29, 70, 71.

69. Blue Lick Creek, 1.6 km above mouth, Madison Co.; 9 September 1978. Species: 6, 9, 16, 21, 28, 29, 33, 34, 35, 54, 57, 70, 71.

70. Red Lick Creek, 0.4 km above confluence of Blue Lick and Cowbell creeks, Madison Co.; 12 November 1976. Riffles, 45 m wide, 15.3-91 cm deep; bottom gravel. Species: 6, 9, 16, 21, 26, 33, 34, 54, 57, 66, 67, 68, 70, 71.

71. Red Lick Creek, 2.2 km below confluence of Blue Lick and Cowbell creeks, Madison Co.; 15 October 1976. Riffles 45 m wide, 15-90 cm deep; bottom rocks, mud, debris. Species: 6, 9, 16, 21, 26, 29, 33, 34, 39, 40, 53, 58, 60, 61, 66, 67, 68, 70, 71.

72. Red Lick Creek, 7.6 km below confluence of Blue Lick and Cowbell creeks, Madison Co.; 28 September 1976, 6 March 1978. Pools and riffles, 11 m wide, 1.5 cm-1.6 m deep. Species: 6, 16, 18, 21, 25, 26, 28, 29, 30, 33, 34, 35, 39, 40, 47, 51, 53, 54, 57, 58, 60, 61, 66, 67, 68, 70, 71, 77, 79.

73. Red Lick Creek, 12.4 km below confluence of Blue Lick and Cowbell creeks, Madison Co.; 6 March 1978. Pools and riffles, 12 m wide, 1.0 cm-2 m deep. Species: 6, 16, 21, 25, 26, 29, 33, 34, 38, 39, 40, 47, 51, 53, 54, 57, 58, 59B, 66, 67, 68, 70, 71, 77.

74. Red Lick Creek, at SR 594, Madison Co.; 6 March 1978. Pools and riffles, 7.6 m wide, 31 cm-1.8 m deep; bottom mud, rubble. Species: 6, 9, 16, 21, 25, 29, 33, 34, 35, 39, 40, 47, 53, 54, 58, 61, 66, 67, 68, 70, 71, 77.

75. Red Lick Creek, 4.8 km below SR 594 crossing, Madison Co.; 12 November 1976, 3 April 1978. Pools and riffles, 8 m wide, 5 cm-1.8 m deep; bottom mud, debris, gravel. Species: 6, 9, 16, 18, 21, 25, 29, 33, 35, 39, 40, 51, 53, 54, 58, 61, 66, 67, 68, 70, 71, 77.

76. Red Lick Creek, at mouth, Madison Co.; 12 November 1976. Pools and riffles, 7 m wide, 5 cm-1.6 m deep; bottom silty mud. Species: 3, 6, 9, 16, 21, 23, 29, 33, 40, 47, 51, 53, 57, 58, 61, 66, 67, 68, 70, 71, 77.

77. Cowbell Creek, just above mouth, Madison Co.; 6 April 1978. Riffles, 1.5 m wide, 2.5 cm-0.5 m deep; bottom sandy clay, gravel. Species: 6, 9, 16, 21, 24, 28, 29, 33, 54, 57, 58, 70, 71.

78. Red Lick Creek, 7.2 km below SR 594 crossing, Estill Co.; 6 October 1973. Pools and riffles, 7.5 m wide, 1.6 m deep; bottom sand, gravel, mud. Species: 16, 21, 24, 29, 33, 35, 39, 54, 58, 68, 71.

79. Red Lick Creek, at confluence with Bicknell Branch, Estill Co.; 4 September 1973. Pools and riffles, 8.2 m wide, 1.7 m deep; bottom sand, gravel, rocks, mud. Species: 6, 16, 21, 24, 29, 51, 57, 58, 68.

80. Red Lick Creek, 3.2 km below confluence with Bicknell Branch, Estill Co.; 4 September 1973. Pools and riffles, 7.5 m wide, 15 cm-2 m deep; bottom mud, rocks, debris. Species: 9, 16, 21, 24, 29, 33, 35, 39, 47, 51, 54, 58, 61, 68, 70, 77.

81. Upper Howard Creek, at Schoolsville Road, Clark Co.; 2 February 1975. Species: 6, 16, 21, 29, 33, 61.

82. Upper Howard Creek, 3.2 km below headwaters, Clark Co.; 17 March 1975, 1 September 1976. Riffles. Species: 9, 33, 34, 54, 61, 70.

83. Upper Howard Creek, at confluence with Little Howard Creek, Clark Co.; 17 March 1975, 1 September 1976. Species: 6, 9, 21, 29, 33, 34, 54, 58, 70, 71.

84. Upper Howard Creek, at SR 15, Clark Co.; 17 March 1975, 11 September 1976. Species: 6, 9, 16, 18, 21, 29, 30, 33, 35, 58, 68, 70, 71.

85. Upper Howard Creek, 14.5 km SE of Winchester, SR 89, Clark Co.; 23 March 1975, 10 October 1976. Species: 6, 9, 16, 18, 21, 29, 33, 54, 58, 62, 68, 70, 71, 77.

86. Upper Howard Creek, just above mouth of Dry Fork, Clark Co.; 6 April 1975, 10 October 1976. Species: 6, 9, 16, 21, 29, 30, 33, 54, 57, 58, 68, 70, 71.

87. Upper Howard Creek, just below mouth of Dry Fork, Clark Co.; 6 April 1975. Species: 6, 9, 16, 21, 29, 33, 68, 70, 71, 77.

88. Upper Howard Creek, just above confluence with Howard Creek, Clark Co.; 6 April 1975. Species: 3, 6, 16, 18, 21, 29, 68, 70, 71.

89. East Fork of Sugar Creek, at extreme headwaters, Garrard Co.; 17 February 1978. Riffles; bottom gravel, rubble. Species: 6, 9, 16, 21, 29, 30, 33, 68.

90. East Fork of Sugar Creek, 1.62 km downstream from headwaters, Garrard Co.; 17 February and 26 April 1975. Pools and riffles; bottom sand, gravel. Species: 6, 9, 16, 21, 29, 33, 34, 54, 70.

91. East Fork of Sugar Creek, 4.7 km downstream from headwaters, Garrard Co.; 28 February and 26 April 1975. Species: 6, 9, 21, 29, 30, 34, 68, 70.

92. East Fork of Sugar Creek, at confluence of Middle and West forks, Garrard Co.; 28 February 1975. Species: 6, 9, 16, 21, 29, 30, 33, 34, 68, 70.

93. Middle Fork of Sugar Creek, midway between headwaters and mouth, Garrard Co.; 14 March 1975. Species: 6, 9, 21, 23, 29, 30, 33, 35, 57, 70, 73.

94. West Fork of Sugar Creek, midway between headwaters and mouth, Garrard Co.; 5 April 1975. Species: 6, 9, 16, 21, 29, 33, 68, 70.

95. Sugar Creek, at confluence of East, Middle and West forks, Garrard Co.; 13 April 1975. Species: 6, 9, 16, 21, 29, 30, 33, 34, 35, 68, 70.

96. Sugar Creek, 4.5 km downstream from Station 52, Madison Co.; 13 April 1975. Species: 6, 9, 16, 21, 29, 30, 33, 34, 67, 68, 70, 73.

97. Scott Branch of Sugar Creek, 1.5 km above the confluence, Garrard Co.; 27 April 1975. Species: 6, 9, 21, 29, 33, 68, 70, 73.

98. Sugar Creek, at mouth, Garrard Co.; 27 April 1975. Species: 9, 16, 18, 21, 29, 33, 39, 68.

99. Paint Lick Creek, at SR 21, Garrard-Madison Co. line; 6 April 1972, 10 October 1976. Pools and riffles, 2.5 m wide, 2.5-12 cm deep; bottom gravel, sand, small rocks. Species: 6, 9, 16, 21, 29, 33, 35, 67, 68, 70, 71.

100. Paint Lick Creek, at SR 931, Garrard-Madison Co. line; 6 April 1972. Pools and riffles, 2.0-5 m wide, 7.0 cm-1.5 m deep; bottom bedrock, sand, gravel, small rocks. Species: 6, 9, 16, 26, 29, 70.

101. White Lick Creek, at mouth, Garrard-Madison cos; 6 April 1972. Pools and riffles, 8 m wide, 0.7-2 m deep; bottom silt, bedrock, sand, gravel, small rocks. Species: 6,9, 26, 29, 30, 54, 58, 68, 70, 71, 73.

102. White Lick Creek, at CR 1002, Garrard-Madison cos; 13 April 1972. Pools and riffles, 3.6-6 m wide, s.0 cm-3.0 m deep; bottom bedrock, sand, gravel. Species: 6, 9, 16, 21, 26, 28, 29, 57, 58, 68, 73.

103. Walnut Branch, at SR 595, Garrard-Madison cos; 13 April 1972. Pools and riffles, 2.0-5.0 m wide, 7.0 cm-1.5 m deep; bottom silt, sludge, gravel, small rocks, bedrock. Species: 6, 9, 16, 29, 68, 70, 71, 73.

104. White Lick Creek, at CR 1002, Garrard-Madison cos; 19 April 1972. Species: 6, 9, 16, 21, 29, 54, 70.

105. Paint Lick Creek, at SR 936, Garrard-Madison cos; 20 1972, 10 October 1976. Pools and riffles, 1.2-4.0 m wide, 3.0 cm-1.5 m deep; bottom bedrock, gravel. Species: 6, 9, 16, 19, 21, 29, 30, 33, 35, 54, 58, 70.

106. Lowel Branch, at SR 929, Garrard-Madison cos; 20 April 1972. Pools and riffles, 1.2-2.0 m wide, 7.0 cm-1.5 m deep; bottom bedrock, gravel, small rocks. Species: 6, 29, 30, 54, 70, 73.

107. Henderson Branch, at mouth, Garrard-Madison cos; 20 April 1972. Pools and riffles, 7.0 m wide, 8.0 cm-1.5 m deep; bottom bedrock, gravel, small rocks. Species: 6, 16, 19, 21, 29, 33, 54, 68, 70.

108. Paint Lick Creek, at Paint Lick, Madison Co.; 10 October 1976. Pools and riffles, 7.0-8.0 m wide, 12 cm-1.0 m deep; bottom bedrock, gravel. Species: 16, 19, 21, 29, 30, 35, 38, 58, 62, 68, 71.

109. East Fork of Back Creek, at SR 52, Garrard-Madison cos; 27 April 1972, 18 October 1976. Pools and riffles, 2.2 m wide, 3.0 cm-1.2 m deep; bottom bedrock, gravel, silt. Species: 6, 16, 19, 21, 29, 30, 60, 70, 71, 73.

110. Back Creek, at Point Leawell, Garrard-Madison cos; 27 April 1972. Pools and riffles, 2.5-3.5 m wide, 5.0 cm-1.0 m deep; bottom bedrock, gravel, rocks, silt. Species: 6, 29, 30, 34, 70, 73.

111. Back Creek, at Hackley, Garrard-Madison cos; 27 April 1972. Pools and riffles, 2.0-3.0 m wide, 10 cm-2.0 m deep; bottom bedrock, silt, gravel, rocks. Species: 6, 9, 16, 29, 33, 70, 71.

112. Paint Lick Creek, at CR 1295, Garrard-Madison cos; 4 May 1972. Pools and riffles, 3.0-9.0 m wide, 10 cm-2.0 m deep; bottom bedrock, gravel, rocks. Species: 6, 9, 16, 19, 21, 29, 38, 58, 68, 70, 71.

113. Paint Lick Creek, at confluence of Cincinnati Branch, Garrard-Madison cos; 12 November 1976. Pools and Riffles, 2.5-8.0 m wide, 10 cm-2.5 m deep. Species: 6, 9, 10, 16, 18, 19, 21, 24, 29, 33, 34, 54, 68, 70, 71.

114. Beach Grove Creek, at mouth, Garrard-Madison cos; 4 May 1972. Pools and riffles, 7.0-10 m wide, 8.0 cm-2.0 m deep; bottom bedrock, gravel, rocks, silt. Species: 6, 9, 16, 19, 21, 24, 29, 30, 35, 54, 57, 58, 68, 70.

115. Wheeler Branch, at mouth, Garrard-Madison cos; 4 May 1972. Pools and riffles, 10 m wide, 15 cm-1.0 m deep; bottom bedrock, silt, gravel, rocks. Species: 6, 9, 16, 19, 21, 30, 54, 58, 68, 70.

116. Paint Lick Creek, 0.6 km above mouth, Madison Co.; 12 November 1976. Pools and riffles, 12.0-15.0 m wide, 15 cm-2.5 m deep; bottom rocks, sand. Species: 10, 18, 24, 29, 30, 35.

117. Tates Creek, 3.2 km above mouth, Madison Co.; 3 April 1966, 30 October 1976. Pools and riffles, 8.0 m wide, 1.0 m deep; bottom mud, rocks. Species: 3, 18, 34, 54.

118. Tates Creek, 3.4 km above mouth, Madison Co.; 3 April 1966, 23 October 1976. Pools and riffles, 6.0-8.0 m wide, 1.0-2.0 m deep; bottom rocks, silt. Species: 3, 6, 9, 15, 18, 21, 29, 30, 34, 35, 50, 54, 58, 68, 70.

119. Tates Creek, 4.8 km above mouth, Madison Co.; 3 April 1966, 23 October 1976. Pools and riffles, 4.0 m wide, 8.0 cm-1.5 m deep; bottom rocks, silt. Species: 6, 9, 18, 21, 29, 33, 34, 35, 54, 58, 60, 62, 68, 70.

120. Tates Creek, 6.2 km above mouth, Madison Co.; 3 April 1966, 23 October 1976. Pools and riffles, 3.5 m wide, 1.5 m deep; bottom bedrock. Species: 6, 9, 21, 29, 30, 33, 35, 54, 68, 70.

121. Tates Creek, 9.2 km above mouth, Madison Co.; 10 April 1966, 16 October 1976. Pools and riffles, 2.0 m wide, 2.5 cm-2.0 m deep; bottom rocks, mud. Species: 6, 9, 21, 29, 30, 33, 35, 54, 67, 68, 70.

122. Tates Creek, 10.8 km above mouth, Madison Co.; 10 April 1966, 16 October 1976. Riffles and pools 2.0 m wide, 2.5 cm-2.0 m deep; bottom rocks, mud. Species: 6, 9, 21, 29, 33, 34, 39, 41, 54, 57, 67, 68, 70.

123. Tates Creek, 12.2 km above mouth, Madison Co.; 10 April 1966, 16 October 1976. Pools and riffles, 2.5 m wide, 1.5 m deep; bottom mud, rocks, debris. Species: 6, 9, 21, 29, 30, 33, 34, 41, 54, 68, 70.

124. Tates Creek, 13.7 km above mouth, Madison Co.; 17 April 1966, 16 October 1976. Pools and riffles, 3.0-4.0 m wide, 1.5 m deep; bottom gravel, rocks. Species: 6, 21, 29, 30, 33, 34, 40, 67, 68, 70.

125. Tates Creek, 15.3 km above mouth, Madison Co.; 24 April 1966. Pools and riffles, 2.0 m wide, 1.5 m deep; bottom rocks, mud. Species: 6, 29, 33, 54, 68, 70.

126. Tates Creek, 16.9 km above mouth, Madison Co.; 24 April 1966. Pools and riffles, 1.5 m deep, 0.5-1.5 m deep; bottom rocks, sand. Species: 21, 29, 30, 33, 54, 68, 70.

127. Tates Creek, 18.3 km above mouth, Madison Co.; 1 May 1966. Pools and riffles, 1.0 m wide, 10-15 cm deep; bottom mud, gravel. Species: 29, 30, 33, 54, 68, 70.

128. Tates Creek, 19.6 km above mouth, Madison Co.; 1 May 1966. Pools and riffles, 1.5 m wide, 10 cm deep; bottom mud, gravel. Species: 29, 30, 67, 68, 70.

129. Cedar Creek, 0.5 km above mouth, Owen Co.; 1 November 1976. Species: 6, 18, 19, 24, 25, 26, 27, 29, 31, 52, 57, 58, 67, 68, 70, 73.

130. Cedar Creek, 2.4 km above Monterey, Owen Co.; 20 September 1976. Species: 52, 57, 58, 67, 68, 70, 73.

131. Cedar Creek, at SR 607, Owen Co.; 20 September 1976. Species: 6, 9, 16, 19, 29, 35, 42, 54, 58, 60, 61, 67, 70, 71, 73.

132. Cedar Creek, at mouth of Kays Branch, Franklin Co.; 12 October 1976. Species: 6, 16, 19, 29, 33, 39, 54, 58, 61, 67, 70, 71.

133. Cedar Creek, at confluence of Oakland Branch, Franklin Co.; 17 October 1976. Species: 6, 9, 16, 19, 29, 54, 58, 61, 67, 71.

134. Cedar Creek, at SR 368, Franklin Co.; 17 October 1976. Species: 6, 29, 30, 33, 54, 73.

135. Boone Creek, at Combs Ferry Road, Fayette Co.; 12 October 1979. Pools and riffles, 0.9 m wide, 0.15-0.61 m deep; bottom silt, mud. Species: 29, 30, 34, 41, 50.

136. Boone Creek, at Sulphur Well Road, Fayette Co.; 12 October 1979. Pools and riffles, 9 m wide, 0.6-1.2 m deep; bottom silt, mud. Species: 21, 29, 34, 41, 58.

137. Boone Creek, at Grimes Mill Road, Fayette Co.; 19 October 1979. Pools and riffles, 6 m wide, 20-38 cm deep; bottom mud, silt. Species: 6, 16, 24, 29, 33, 67, 68, 85.

138. Boone Creek, 0.8 km downstream from Grimes Mill Road crossing, Fayette Co.; 19 October 1979. Pools and riffles, 9 m wide, 0.2-1.5 m deep; bottom rocks, mud, gravel. Species: 6, 16, 21, 29, 30, 33, 54, 85.

139. Boone Creek, 1.6 km above mouth, Fayette Co.; 26 October 1979. Pools and riffles, 1.5-6.0 m wide, 0.1-0.9 m deep; bottom bedrock, gravel, sand, mud. Species: 6, 18, 21, 29, 30, 33, 57, 60, 67, 68, 70, 71.

140. Boone Creek, at mouth, Fayette Co.; 30 October 1979. Pools, 6.0-9.0 m wide, 1.2-3.7 m deep; bottom silt, mud. Species: no fishes collected.

141. Otter Creek, at mouth, Madison Co.; 15 September 1973. Pool, 2 m deep; bottom mud. Species: 3, 6, 9, 18, 21, 29, 39, 53, 57, 58, 59A, 62, 70, 77.

142. Otter Creek, at second Redhouse Road crossing E of Richmond, Madison Co.; 15 September 1973. Pools and riffles, 10 cm-0.5 m deep; bottom gravel, rocks, sand, debris. Species: 6, 9, 18, 21, 29, 33, 41, 51, 58.

143. Otter Creek, at confluence of East Fork, Madison Co.; 21 September 1973. Pools and riffles, 10 cm-1.5 m deep; bottom gravel, rocks, debris. Species: 6, 9, 18, 21, 29, 30, 34, 57, 68, 70.

144. Otter Creek, at first Redhouse Road crossing E of Richmond, Madison Co.; 21 September 1973. Pool, 1.0-1.5 m deep; bottom bedrock. Species: 6, 9, 16, 21, 29, 30, 33, 57, 62, 70.

145. Otter Creek, at Union City Road, Madison Co.; 24 September 1973. Pools and riffles, 9.0-15.0 cm deep; bottom gravel, mud, sand. Species: 6, 9, 21, 29, 30, 33, 50, 54, 57, 62, 68.

146. Otter Creek, at Four Mile Road, Madison Co.; 4 October 1973. Pools and riffles, 10 cm-1.0 m deep; bottom sand, gravel, mud. Species: 6, 8, 9, 16, 21, 29, 33, 34, 42, 50, 54, 55, 57, 58, 62, 68, 70.

147. Otter Creek, below Lake Reba dam, Madison Co.; 14 October 1973. Pools and sluggish riffles, 5.0 cm-0.5 m deep; bottom bedrock, gravel, mud. Species: 6, 9, 16, 21, 29, 30, 33, 34, 50, 53, 54, 57, 62, 68, 70, 73.

148. Drowning Creek, at SR 791, Estill Co.; 3 March 1975, 15 September 1979. Riffles, 3 m wide, 0.3 m deep; bottom bedrock, gravel. Species: 16, 18, 21, 29, 33, 34, 54, 57, 58, 70, 71.

149. Drowning Creek, at SR 499, Estill Co.; 2 March 1975, 15 September 1979. Pools and riffles, 4 m wide, 0.3 m deep; bottom bedrock, gravel, sand. Species: 6, 9, 16, 21, 22, 29, 33, 35, 57, 58, 67, 70, 71.

150. Drowning Creek, 1.6 km upstream from SR 52 crossing, Madison Co.; 28 February 1975, 8 October 1979. Pools and riffles, 11 m wide, 1.5 m deep; bottom bedrock, rubble. Species: 6, 9, 16, 18, 21, 29, 42, 67, 68, 70, 71.

151. Drowning Creek, at SR 52, Madison Co.; 28 March 1975, 8 October 1979. Pools, 12 m wide, 1.0-1.5 m deep; bottom bedrock. Species: 6, 9, 18, 21, 29, 34, 40, 57, 58, 60, 77.

152. Drowning Creek, 2.2 km below SR 52 crossing, Madison Co.; 28 March 1975, 21 October 1979. Pools and riffles, 5 m wide, 0.5 m deep; bottom gravel, sand. Species: 6, 9, 16, 18, 21, 22, 24, 29, 35, 54, 57, 58, 59C, 67, 68, 70, 71.

153. Drowning Creek, at mouth, Madison Co.; 28 March 1975, 20 October 1979. Pools, 15 m wide, 3-5 m deep; bottom mud. Species: 4, 8, 22, 51, 54, 60, 61, 62, 63.

154. Small unnamed tributary to Drowning Creek, just N of SR 52, Madison Co.; 12 February 1975. Riffle over mud. Species: 29, 71.

155. West Hickman Creek, below dam, Mt. Tabor Road, Fayette Co.; 5 October 1976. Pools and riffles, 2 m wide, 5-10 cm deep; bottom sand, gravel, mud. Species: 6, 29, 33, 54, 57, 62, 70.

156. East Hickman Creek, at Delong Road, Fayette Co.; 5 October 1976. Pools and riffles, 0.7-3.0 m wide, 7-15 cm deep; bottom silt, mud. Species: 18, 21, 29, 30, 50, 57, 58, 68.

157. West Hickman Creek, at Wilson-Downing Road, Fayette Co.; 5 October 1974. Pools and riffles, 3 m wide, 12-30 cm deep; bottom mud, gravel, rocks. Species: 3, 6, 21, 29, 32, 33, 50, 57, 62, 70, 73.

158. East Hickman Creek, at CR 1974, Fayette Co.; 5 October 1976. Pools and riffles, 6.0 m wide, 0.5-1.5 m deep; bottom rocks, mud, bedrock. Species: 6, 16, 21, 29, 35, 50, 58, 68, 71.

159. West Hickman Creek, at CR 1980, Jessamine Co.; 17 October 1976. Pools and riffles below sewage treatment plant, 10 m wide, 1.0 cm-0.3 m deep; bottom mud, debris, gravel. Species: 6, 16, 21, 22, 29, 32, 33, 34, 50, 54, 68, 70, 71.

160. Hickman Creek, at confluence of West and East forks, Jessamine Co.; 17 October 1976. Pools and riffles, 3 m wide, 10 cm-1.5 m deep; bottom silt, gravel. Species: 6, 16, 29.

161. Hickman Creek, at Bethany Road, Jessamine Co.; 24 October 1976. Pools and riffles, 27 m wide, 15 cm-2.0 m deep; bottom bedrock, gravel, silt, organic debris. Species: 6, 9, 16, 18, 19, 21, 22, 29, 35, 50, 53, 54, 57, 67, 68, 70, 71.

162. Hickman Creek, at SR 39, Jessamine Co.; 24 October 1976. Pools and riffles, 10 m wide, 1.5-2.0 m deep; bottom bedrock, rocks, sand. Species: 6, 9, 16, 18, 19, 21, 33, 35, 40, 67, 68, 70, 71.

163. Hickman Creek, at CR 1268, Jessamine Co.; 1 November 1976. Pools and riffles, 10-15 m wide, 1.5-3.0 m deep; bottom rocks, sand, gravel. Species: 6, 22, 35, 57, 68.

164. West Hickman Creek, at Gainsway Sewage Treatment Plant on Armstrong Hill Road, Fayette Co.; 17 March 1972. Pools and riffles; bottom rocks, silt. Species: 29, 30, 32, 33, 34, 41, 51, 54, 57, 70, 73.

165. West Hickman Creek, 4.2 km below Reservoir 3, Tates Creek Road, Fayette Co.; 17 March 1972. Pools and riffles; bottom gravel, sand. Species: 29, 30, 32, 51, 54, 57.

166. West Hickman Creek, 7.3 km below Reservoir 3, Ash Grove Pike, Jessamine Co.; 24 March 1972. Pools and riffles; bottom sand, silt. Species: 29, 30, 33, 54, 57, 62, 70.

167. West Hickman Creek, at Lexington water plant, Ash Grove Pike, Jessamine Co.; 1 October 1972. Pools and riffles; bottom sand, rocks, silt. Species: no fishes collected.

168. West Hickman Creek, at mouth, Jessamine Co.; 1 October 1972. Pools and riffles; bottom sand, rocks, silt. Species: 21, 33.

169. North Fork of Elkhorn Creek, at confluence with South Fork, Switzer Road, Scott Co.; 15 March 1968. Riffles, 0.9-2.2 m deep. Species: 16, 21, 23, 24, 29, 34, 40, 60, 67, 70, 73.

170. North Fork of Elkhorn Creek, at SR 460, near Georgetown, Scott Co.; 15 March 1968. Pools and riffles, 0.4-2.4 m deep. Species: 6, 15, 16, 21, 23, 24, 29, 30, 34, 43, 51, 53, 58, 63, 67, 85.

171. North Fork of Elkhorn Creek, at SR 353, Scott Co.; 22 March 1968. Pools and riffles, 0.5-1.5 m deep; bottom gravel, rocks, vegetation. Species: 6, 15, 16, 21, 23, 26, 29, 34, 39, 53, 67, 68, 70.

172. North Fork of Elkhorn Creek, at U.S. 68, Scott Co.; 22 March 1968. Pools and riffles, 0.5-1.0 m deep; bottom mud, rocks, debris. Species: 6, 16, 21, 23, 29, 30, 35, 49, 51, 54, 55, 58, 62, 63, 64, 67, 70, 71.

173. South Fork of Elkhorn Creek, at U.S. Fish Hatchery, U.S. 460, Fayette Co.; 22 March 1968. Pools and riffles, 0.5-1.0 m deep; bottom rocks, gravel. Species: 6, 7, 16, 21, 24, 60, 62, 85.

174. South Fork of Elkhorn Creek, at Elkchester Pike, Fayette Co.; 29 March 1968. Riffles, 0.3-0.5 m deep; bottom gravel, vegetation. Species: 16, 21, 29, 58, 68, 70, 71, 85.

175. South Fork of Elkhorn Creek, at mouth, Fayette Co.; 29 March 1968. Pools and riffles, 0.3-2.5 m deep; bottom silt. Species: 13, 16, 18, 21, 23, 24, 29, 30, 33, 53, 54, 62, 70.

176. Elkhorn Creek, 3.2 km below union of North and South forks, Franklin Co.; 3 April 1968. Pools and riffles, 1.6-2.4 m deep; bottom rocks, gravel. Species: 6, 16, 21, 22, 23, 24, 29, 35, 53, 58, 60, 62, 67, 70, 73.

177. Elkhorn Creek, at mouth, Franklin Co.; 10 April 1968. Pools, 1.8-4.5 m deep; bottom gravel, rocks, mud. Species: 16, 22, 24, 77.

178. Small tributary to North Fork of Elkhorn Creek, 3.0 km W of Georgetown, U.S. 460, Scott Co.; 10 March 1972. Pools and riffles, 5.0 cm-2.0 m deep; bottom gravel. Species: 16, 53, 57, 58, 70, 73, 85.

179. North Fork of Elkhorn Creek, 0.3 km N of U.S. 460, 3.4 km W of Georgetown, Scott Co.; 10 March 1972. Pools and riffles, 20 m wide, 5.0 cm-1.2 m deep; bottom mud, silt, gravel. Species: 6, 16, 21, 23, 24, 29, 30, 54, 67, 70, 73, 85.

180. Cave Run, at mouth, Scott Co.; 17 March 1972. Pools and riffles, 15 m wide, 15 cm-1.8 m deep; bottom gravel, mud. Species: 6, 15, 16, 21, 29, 30, 33, 41, 54, 57, 70, 71.

181. Cave Run, 3.0 km above mouth, Scott Co.; 17 March 1972. Pools and riffles, 15 m wide, 15 cm-1.9 m deep. Species: 16, 18, 21, 30, 33, 54, 57, 73.

182. Cave Run, at headwaters, 12.5 km above mouth, Scott Co.; 17 March 1972. Pools and riffles, 1.0 m wide, 5.0 cm-1.0 m deep; bottom soft mud. Species: 16, 34, 58, 70, 73.

183. Dry Run, at U.S. 25, Scott Co.; 17 March 1972. Pools and riffles, 3.3 m wide, 5.0 cm-1.0 m deep; bottom bedrock, sand, mud. Species: 30, 34, 57, 73.

184. Lanes Run, at U.S. 460, Scott Co.; 17 March 1972. Pools and riffles, 1.6 m wide, 15 cm-1.5 m deep; bottom rocks, mud. Species: 16, 26, 30, 41, 62, 70, 73, 85.

185. Boyd Run, at Carrick Road, Scott Co.; 24 March 1972. Pools and riffles, 1.5 m wide, 1.5-2.0 m deep; bottom sand, bedrock, vegetation. Species: 6, 16, 21, 33, 34, 41, 54, 57, 73, 85.

186. Goose Creek, at mouth, Scott Co.; 24 March 1972. Pools and riffles, 2.0 m wide, 10 cm-1.2 m deep; bottom mud, rocks. Species: 6, 16, 21, 41, 70, 73, 85.

187. Goose Creek, at Russell Cave Road, Scott Co.; 24 March 1972. Pools and riffles, 2.0 m wide, 10 cm-1.2 m deep; bottom mud, rocks. Species: 16, 29, 62, 70, 73, 85.

188. Small tributary to North Fork of Elkhorn Creek, at junction of Russell Cave and Greenwick roads, Scott Co.; 2 April 1972. Pools and riffles, 1.5 m wide, 10 cm-1.5 m deep; bottom mud, silt. Species: 29, 30, 32, 33, 34, 54, 73, 85.

189. David Fork, at mouth, Scott Co.; 2 April 1972. Riffles, 2 m wide, 15 cm deep; bottom gravel, mud. Species: 30, 33, 34, 54, 57, 73.

190. North Fork of Elkhorn Creek, in extreme headwaters, Scott Co.; 2 April 1972. Riffles, 3 m wide, 15 cm deep; bottom gravel, mud. Species: 8, 21, 29, 30, 33, 42, 50, 54, 57, 63, 73.

191. North Fork of Elkhorn Creek, at I-64, Fayette Co.; 13 March 1978. Pools and riffles, 1.8-2.4 m wide, 0.6 m deep. Species: 21, 29, 30, 33, 34, 41, 54, 57, 58, 68, 73.

192. North Fork of Elkhorn Creek, 1.4 km downstream from Hume Road, Fayette Co.; 24 March 1978. Riffles, 1.5-1.8 m wide, 0.6-1.2 m deep; bottom sand, gravel, shale. Species: 16, 18, 21, 29, 33, 34, 54, 58, 68, 70, 73.

193. North Fork of Elkhorn Creek, at SR 922, 0.6 km N of New Zion, Scott Co.; 24 March 1978. Pools and riffles, 12 m wide, 1.2-1.5 m deep; bottom gravel. Species: 10, 16, 21, 22, 29, 33, 41, 53, 54, 55, 57, 58, 85.

194. North Fork of Elkhorn Creek, at U.S. 227, Scott Co.; 25 March 1978. Pools and riffles, 7.5 m wide, 0.6-1.0 m deep; bottom gravel, sand. Species: 6, 16, 21, 22, 41, 42, 67, 85.

195. North Fork of Elkhorn Creek, at U.S. 227, 1.2 km E of I-75, Scott Co.; 7 April 1978. Pools, 7.5 m wide, 0.9-3.0 m deep; bottom mud, debris. Species: 16, 21, 22, 23, 29, 57, 58, 62.

196. North Fork of Elkhorn Creek, at U.S. 227, 0.8 km N of U.S. 460, Scott Co.; 7 April 1978. Pool, 12 m wide, 0.3-0.6 m deep; bottom clay, silt. Species: 6, 15, 16, 18, 21, 22, 29, 39, 57, 58, 59, 62, 64, 67.

197. South Fork of Elkhorn Creek, at Clays Hill Road, Scott Co.; 9 April 1972. Pools and riffles, 2 m wide, 0.3-0.6 m deep; bottom clay, silt. Species: 18, 21, 29, 30, 32, 63, 70, 73.

198. South Fork of Elkhorn Creek, at CR 1267, Fayette Co.; 6 April 1972. Pools and riffles, 5 m wide, 1.0 m deep; bottom rocks, sand, mud. Species: 6, 16, 21, 29, 32, 34, 54, 57, 62, 70, 73, 85.

199. South Fork of Elkhorn Creek, at Fort Springs Road, Fayette Co.; 6 April 1972. Pools nd riffles, 6.5 m wide, 1.0-1.8 m deep; bottom rocks, silt. Species: 16, 21, 29, 34, 71, 85.

200. South Fork of Elkhorn Creek, Paynes Mill Road, Woodford Co.; 6 April 1972. Pools and riffles, 10 m wide, 2.5-3.5 m deep; bottom silt, mud. Species: 16, 21, 29, 54, 57, 70, 71, 73, 85.

201. South Fork of Elkhorn Creek, at Old Frankfort Pike, Woodford Co.; 9 April 1972. Pools, 10 m wide, 1.0 m deep; bottom mud, gravel. Species: 16, 21, 29, 30, 54, 57, 73, 85.

202. Town Branch, above sewage treatment plant, at Viley Road, Fayette Co.; 9 April 1972. Pools and riffles, 10 m wide, 1.5 m deep; bottom rocks, sand, detritus. Species: 29, 32.

203. Town Branch, below sewage treatment plant, at Yarnallton Road, Fayette Co.; 6 April 1972. Riffles, 10 m wide, 1.0 m deep; bottom sludge, rocks. Species: no fishes collected.

204. Steele Run Creek, 1.6 km above mouth, at Redd Road, Fayette Co.; 6 April 1972. Pools and riffles, 3.2 m wide, 1.3 m deep; bottom rocks, gravel. Species: 16, 21, 29, 32, 68, 70, 85.

205. South Fork of Elkhorn Creek, 16 km below Station 201, at Fishers Mill Road, Scott-Woodford county line; 9 April 1972. Pools and riffles, 10 m wide, 1.5-2.5 m deep; bottom mud, debris. Species: 16, 24, 29, 32, 50, 54, 57, 68, 85.

ANNOTATED LIST OF FISHES

The common and scientific names and the numerical arrangement of species employed herein follow Robins et al. (1980). An "A" following species numerical designations indicate that the authors did not secure specimens, but that the species has been recorded in the literature. Some of the species so indicated undoubtedly are resident in the Kentucky River drainage, but in other cases the alleged records are highly questionable and likely are based on misidentifications.

Family Petromyzontidae (Lampreys)

The distribution of Kentucky lampreys in general, and Kentucky River species specifically, is poorly known. There are few records from the South Fork. Harker et al. (1979) recently reported the northern brook lamprey, *Ichthyomyzon fossor* Reighard and Cummins, from Goose Creek at the confluence of Mud Creek near Lipps, Kentucky. Our own collections turned up only three specimens of a single species.

1. *Lampetra aepyptera* (Abbott) — least brook lamprey
Collections: 25 (1), 32 (2).

The three specimens, 150, 151, and 160 mm in TL, respectively, are typical of the species. The species' distribution in the upper Kentucky River drainage, particularly in the South Fork, has suffered greatly because of breeding-ground destruction involving strip-mine silt and acid.

Family Lepisosteidae (Gars)

Although four gar species are known from Kentucky (Clay 1975), only one, the longnose gar, occurs in the upper Kentucky River, and it is scarce in collections made above Lock 7. Neither Jones (1973) nor Harker et al. (1979) collected it, and Woolman (1892) found the species only in Horse and Big creeks of the South Fork drainage.

2. *Lepisosteus osseus* (Linnaeus) — longnose gar
Collections: 23(1), 25 (2), 40 (4), 41 (1), 44 (1).

These nine specimens were all immatures, the longest being 189.5 mm TL; the others measured 44.2-84.1 mm. Payne and Pearson (1981) published an excellent study on the feeding preferences of postlarval longnose gars in the Ohio River.

Family Anguillidae (Freshwater eels)

2A. *Anguilla rostrata* (Lesueur) — American eel.
Collections: none.

The eel is not particularly uncommon in the Kentucky River drainage, but is difficult to collect by usual field methods. The only record from the South Fork system is that of Brewer (1970) from Big Goose Creek.

Family Clupeidae (Herrings and Shads)

The environmental conditions of the South Fork are such that clupeid fishes either avoid the stream, or strip-mine pollution has decimated the populations. Woolman (1892) and Brewer (1970) failed to collect specimens, and Jones' (1973) only South Fork records were from the mouth of Sexton Creek. We collected only three specimens from the South Fork, but more from downstream sites.

3. *Dorosoma cepedianum* (Lesueur) — gizzard shad
Collections: 10 (2), 43 (1), 76 (3), 88 (80), 117 (289), 118 (49), 141 (1), 157 (1).

Family Hiodontidae (Mooneyes)

Records for the goldeye, *Hiodon alosoides* (Rafinesque), and mooneye are sporadic to lacking in a large portion of the Appalachian Province of Kentucky (Clay 1975), and our collecting turned up but four specimens.

4. *Hiodon tergisus* Lesueur — mooneye
Collections: 41 (1), 153 (3).

Family Salmonidae (Trouts)

5. *Salmo gairdneri* Richardson — rainbow trout
Collections: 59 (1).

Family Esocidae (Pikes, Pickerels and Muskellunge)

5A. The only records for esocid fishes from the South Fork of the Kentucky River are those of Brewer (1968, 1970) for the muskellunge, *Esox masquinongy* Mitchill.

Family Cyprinidae (Carps, Minnows and Chubs)

This family dominates the ichthyofauna in terms of biomass. Some cyprinids, such as the carp, are abundant members of the downstream fauna, particularly in the dam-and-lock sections, but are rare or lacking in the upper reaches of the river.

6. *Campostoma anomalum* (Rafinesque) — central stoneroller
Collections: 2-14, 16-22, 25, 27-29, 31-33, 35, 37-38, 44-45, 57-65, 68-77, 79, 81, 83-97, 99-107, 109-115, 118-126, 129-134, 137-139, 141-147, 149-152, 155, 157-163, 170-173, 176, 179-180, 185-186, 194, 196, 198; and one from Red Bird River, 14 km S of Booneville, Owsley Co.

Woolman (1892) reported stonerollers from Horse, Goose, Hector and Big creeks and from Red Bird River; Jones (1973) from Sexton, Buffalo, Bullskin and Goose creeks and the Red Bird River; and Harker et al. (1979) from Goose and Buck creeks.

7. *Carassius auratus* (Linnaeus) — goldfish
Collections: 173 (1).

8. *Cyprinus carpio* (Linnaeus) — carp
Collections: 146, 153 (common), 190 (common).

9. *Ericymba buccata* Cope — silverjaw minnow
Collections: 2-6, 8-9, 11-13, 16-19, 22, 27-31, 35, 37, 41, 45-55, 57-58, 64, 69-71, 74-77, 80, 82, 83-87, 89-105, 111-115, 118-123, 130-131, 133, 141-147, 149-152, 161-162; also, 12 specimens from mouth of Meadow Creek, at Booneville, Owsley Co.

A peculiar distributional pattern discerned in the above data is the apparent lack of silverjaw minnows from Elkhorn Creek in Fayette and adjacent counties.

10. *Hybopsis amblops* (Rafinesque) — bigeye chub
Collections: 23 (1), 37 (1), 64 (rare), 113 (rare), 116 (rare), 193 (11).

There are few records for the bigeye chub in the South Fork, both Jones (1973) and Harker et al. (1979) failing to secure specimens. Woolman (1892) collected a few individuals from

Goose and Hector creeks and from the Red Bird River.

11. *Hybopsis dissimilis* (Kirtland) — streamline chub

Collections: 21 (2), 25 (1), 37 (3), 38 (7), 40 (1); also, one from Red Bird River, 14 km S of Booneville, Owsley Co.

Clay (1975) reported the streamline chub from the South Fork, and Woolman's (1892) record for *Erimystax watauga* (Jordan and Evermann) from Red Bird River was doubtless based upon specimens of this species. Jones (1973) records for the closely related blotched chub (*Hybopsis insignis)* from Sexton Creek and Red Bird River almost certainly were based on streamline chubs. streamline chubs.

12. *Hybopsis storeriana* (Kirtland) — silver chub

Collections: 41 (1), 44 (11).

Since this is a large-stream fish, the lack of specimens from the headwaters or lower-drainage tributaries is not surprising.

13. *Nocomis biguttatus* (Kirtland) — hornyhead chub

Collections: 175 (7).

This species is extremely rare in Kentucky, and has previously been known only from four collections, all from a closely adjacent area in the Elkhorn Creek system (Lachner and Jenkins 1971b).

14. *Nocomis micropogon* (Cope) — river chub

Collections: 7, 9, 21-25, 37-38, 55, 62, 64, 66; also, one from Red Bird River, 14 km S of Booneville, Owsley Co.

Woolman (1892) found this large minnow to be abundant in Horse, Hector, and Big creeks and Red Bird River; Jones (1973) reported specimens from Sexton and Buffalo creeks and Red Bird River, Owsley County, and Goose Creek in Clay County; and Lachner and Jenkins (1967) recorded it, (the only *Nocomis* in the Upper Kentucky River drainage [Lachner and Jenkins 1971a]), from 17 Kentucky River sites. The species is much more abundant in the Middle and North forks of this stream.

15. *Notemigonus crysoleucas* (Mitchill) — golden shiner

Collections: 118, 171-172, 180, 196.

16. *Notropis ardens* (Cope) — rosefin shiner

Collections: 2-5, 11-14, 16, 19, 22, 28-30, 32, 45-49, 52-58, 61, 64-66, 69-81, 84-90, 92, 94-96, 98-100, 102-105, 107-109, 111-115, 130-133, 137-138, 144, 146-150, 152, 158-162, 169-182, 184-187, 192-196, 198-201, 204-205.

Jones (1973) reported this common species from Bullskin and Horse creeks, in Clay County, and Harker et al. (1979) took it from Goose Creek at the confluence of Mud Lick Creek. Woolman's (1892) records for *N. umbratilis* from the Red Bird River and Bull Creek were probably based on this species.

17. *Notropis ariommus* (Cope) — popeye shiner

Collections: 21 (9), 34 (8).

The popeye shiner is very rare in the South Fork system; the fish is listed as of Undetermined status (Branson et al. 1981) in Kentucky. It once was common in Red Bird River (Evermann 1918, Woolman 1892). Gilbert (1969), in his discussion of the systematics and distribution of the species, studied specimens from Red Bird River and Goose Creek, Clay County, and Jones (1973) took specimens from the mouth of Sexton Creek and Buffalo Creek, in Clay County. The University of Louisville museum has specimens from the Middle Fork, but none from the South Fork.

18. *Notropis atherinoides* Rafinesque — emerald shiner

Collections: 21, 25, 34, 41, 43, 44-46, 50, 52, 72, 75-76, 84-85, 88, 98, 113, 116-119, 129, 139, 141-143, 148, 150-152, 156, 161-162, 175, 181, 192, 196-197.

Our specimens were taken almost entirely from turbid backwaters and downstream pools with minimal current. Evermann (1918) reported the fish from Red Bird River (as *N. arge);* Woolman (1892) found the species abundant in Horse, Goose, Hector and Big creeks and in Red Bird River; and Jones (1973) took it from Sexton and Goose creeks and Red Bird River.

18A. *Notropis blennius* (Girard) — river shiner

Collections: none.

Notropis blennius is almost entirely a large-river fish, seldom taken in creeks, and has not otherwise been recorded from interior streams in Kentucky (Gilbert 1980). Older (i.e. pre-1926) records are usually based on both *Notropis stramineus* and *N. volucellus,* and this probably is the basis for Evermann's (1918) record from the South Fork system. Jones' (1973) record from Red Bird River, which cannot be confirmed, is almost certainly based on a misidentification.

19. *Notropis boops* Gilbert — bigeye shiner

Collections: 21 (25), 105, 107-109, 112-115, 129-133, 161-162.

The bigeye shiner is rare in the South Fork, the above being the only published record for the system. It is less rare at downstream sites, but cannot be considered common.

20. *Notropis buchanani* Meek — ghost shiner

Collections: 41 (26).

There are no other published records for this big-stream fish from the South Fork system.

21. *Notropis chrysocephalus chrysocephalus* (Rafinesque) — northern striped shiner

Collections: 2-14, 16-21, 23-24, 26-35, 37-38, 41, 43, 44-59, 61-66, 68-81, 83-99, 102, 104-105, 107-109, 112-114, 118-124, 126, 136-139, 141-150, 152, 156-159, 161-162, 168-176, 179-181, 185-186, 190-201, 204.

Woolman (1892) found this species to be abundant at all collecting sites in the South Fork system; Jones (1973) took specimens from Buffalo Creek in Owsley County, Bullskin, Goose, and Horse creeks and Red Bird River in Clay County; and Harker et al. (1979) reported it from Goose and Buck creeks.

21A. *Notropis (Opsopoeodus) emiliae emiliae* (Hay) — northern pugnose minnow

Collections: none.

As indicated by Clay (1975), the pugnose minnow is a lowland species in sluggish waters, and it is restricted to western Kentucky (Gilbert and Bailey 1972). Jones (1973) record from the mouth of Sugar Creek thus presumably results from a misidentification.

22. *Notropis photogenis* (Cope) — silver shiner

Collections: 2, 8-11, 25, 32, 34, 37, 41, 55-57, 63-64, 68, 149, 152-153, 159, 161, 163, 169-170, 176-177, 193-196.

The silver shiner is not an uncommon fish in third order or larger streams. Jones (1973) took specimens from the mouth of Sexton Creek, and Harker et al. (1979) reported the fish from Goose Creek.

23. *Notropis rubellus* (Agassiz) — rosyface shiner

Collections: 3-4, 7-13, 18, 20-25, 28-35, 37-38, 40, 57, 64, 66, 76, 93, 169-172, 175-176, 179, 195.

As abundant as this handsome minnow is in the South Fork drainage, it is difficult to understand why most previous collectors failed to find it. Harker et al. (1979) reported it from Goose Creek at the confluence of Mud Lick Creek.

23A. *Notropis spectrunculus* (Cope) — mirror shiner

Collections: none.

Woolman (1892) reported this distinctive fish from Red Bird River, a record reiterated by Evermann (1918). This record is well outside the range of the species, which has never otherwise been recorded from the state (Gilbert and Burgess 1980). A closely related undescribed species (the sawfin shiner) is known from Kentucky, in the Little South Fork of the Cumberland River and a few creeks in the vicinity (Branson and Schuster 1982), but this is also outside the Kentucky River drainage and probably is not the basis for Woolman's (1892) record.

24. *Notropis spilopterus* (Cope) — spotfin shiner

Collections: 3, 7, 9-10, 12, 21, 25, 29-31, 34-35, 41, 44-47, 58-59, 77-80, 113-114, 116, 129, 152, 169-170, 173, 175-177, 179, 205; also, one male from mouth of Meadow Creek at Booneville, Owsley County.

Published reports include records from Buffalo (Owsley County), Bullskin (Clay County), Goose Creek (Clay County), and from Red Bird River, Owsley County (Jones 1973).

25. *Notropis stramineus* (Cope) — sand shiner

Collections: 3, 12, 29-30, 52, 58, 72-75, 129-130; also five from Red Bird River, 14 km S of Booneville, Owsley County.

The sand shiner is not an abundant species in much of the Kentucky River drainage, having a markedly sporadic occurrence. Woolman (1892) reported it from Bull Creek, and Jones (1973)

recorded it from the mouth of Sexton Creek, from Buffalo Creek (Owsley County), and from Goose Creek in Clay County. Harker et al. (1979) secured specimens from Goose Creek, at the confluence of Mud Lick Creek; and Burr, Retzer and Mayden (1980) reported it from "the South Fork of the Kentucky River."

26. *Notropis volucellus* (Cope) — mimic shiner
Collections: 2, 7-11, 21, 24-25, 27, 29, 33, 35, 37-38, 41, 70-73, 100-102, 129, 171, 175, 184; also, one from Red Bird River, 14 km S of Booneville, Owsley County.

The mimic shiner is only locally abundant, being scarce to rare in much of the South Fork system. Jones (1973) reported it from Sexton Creek, and Brewer recorded it (1970) from Big Goose Creek.

27. *Notropis whipplei* (Girard) — steelcolor shiner
Collections: 1, 23, 25, 35, 37-38, 40, 129-130; also, three from mouth of Meadow Creek, at Booneville, and two from Red Bird River, 14 km S of Booneville, Owsley County.

Woolman (1892) reported the steelcolor shiner from Horse, Goose; Hector and Big creeks and from Red Bird River. Since this species was, at that time, not distinguished from the closely related and more common spotfin shiner (*Notropis spiloptrus),* some or most of Woolman's records may have been based on that species. Jones (1973) took specimens from Sexton Creek.

28. *Phoxinus (Chrosomus) erythrogaster* (Rafinesque) — southern redbelly dace
Collections: 11, 28, 30-31, 35-36, 52-54, 59-60, 63, 68-69, 72, 77, 102.

Essentially a headwater fish, the redbelly dace is uncommon to lacking in third-order streams or larger, except at points where springs occur. Harker et al. (1979) reported it from Buck Creek, Owsley County.

29. *Pimephales notatus* (Rafinesque) — bluntnose minnow
Collections: 2-10, 12-14, 16-25, 27, 29-35, 37-38, 40-41, 43, 44-66, 68-69, 71-81, 83-114, 116, 118-139, 141-152, 154-162, 164-166, 169-172, 174-176, 179-180, 187-188, 190-193, 195-202, 204-205; also, two from mouth of Meadow Creek, Owsley County.

The bluntnose minnow has the widest distribution of any minnow in the drainage and occupies a wide variety of habitats. The subpopulation at Station 21 exhibited a high incidence of anchor worms.

30. *Pimephales promelas* Rafinesque — fathead minnow

Collections: 44, 46-51, 53, 65-66, 72, 84, 86, 89, 91-93, 95-96, 101, 105-106, 108-110, 114-116, 118, 120-121, 123-124, 126-128, 134-135, 138-139, 143-145, 147, 156, 164-166, 170, 172, 175, 176-181, 183-184, 188-191, 197, 201.

Daniel Barrett, U.S. Army Corps of Engineers, secured two specimens from the mouth of Meadow Creek at Booneville, Owsley County, on 14 April 1968. At the same time, he found one adult specimen of *Culaea inconstans* (the brook stickleback), a species that is often seen in the vats of bait dealers in the area. Both species were probably released by bait-bucket dumping at this site. Although common at downstream sites, the fathead minnow is very rare in much of the upper Kentucky River.

31. *Pimephales vigilax* Baird and Girard — bullhead minnow
Collections: 129 (4).

32. *Rhinichthys atratulus meleagris* Agassiz — western blacknose dace
Collections: 59, 157, 159, 164-165, 188, 197-198, 202, 204-205.

Common at downstream sites, the blacknose dace is very scarce in the upper Kentucky River drainage. It has not been reported from the South Fork.

33. *Semotilus atromaculatus* (Mitchill) — creek chub
Collections: 4-5, 7-9, 11, 13-19, 22, 26-33, 35, 37, 40-41, 44-50, 52-61, 63, 69-78, 80-87, 89-90, 92-99, 105, 107, 111, 113, 118-127, 132, 134, 137-139, 142, 144-149, 155, 157, 159, 162, 164, 166, 168, 175, 180-181, 185, 188-193.

In addition to our records, the literature includes the following: Big Goose Creek (Brewer 1970), Red Bird River near Oneida, Owsley County, and Goose and Horse creeks, Clay County (Jones 1973, Woolman 1892).

Family Catostomidae (Suckers)

Buffalo *(Ictiobus)* and carpsuckers *(Carpiodes)* avoid the upland sections of the Kentucky River. Our collections contain records for five upland species (stations 1-43), and there are also literature reports for one additional species from this area. Data are presented for several other species from downstream sections of the river.

33A. *Carpiodes velifer* (Rafinesque) — highfin carpsucker
Records: none.

The only record of this species in the South Fork system is from Red Bird River (Woolman 1892).

34. *Catostomus commersoni* (Lacepede) — white sucker
Collections: 13, 17-19, 22, 26, 31, 35, 45-48, 58-60, 64, 67-74, 82-83, 90-93, 95-96, 110, 113, 117-119, 122-124, 136-137, 143, 146-148, 151, 159, 164, 169-171, 182-183, 185, 188-189, 191-192, 198-199.

Additional records for the white sucker in the South Fork system are from Hector, Bull and Goose creeks (Woolman 1982), Goose Creek and Buck Creek (Harker et al. 1979), and Horse Creek (Jones 1973).

35. *Hypentelium nigricans* (Lesueur) — northern hog sucker
Collections: 4, 7, 9, 12-13, 16-27, 29, 32-33, 35, 37-38, 41, 44-46, 50, 52, 53-55, 57-58, 60-61, 63, 66, 69, 72, 74-75, 78, 80, 84, 93, 95, 99, 105, 108, 114, 116, 118-121, 130-131, 149, 152, 158, 161-163, 173, 176.

35A. *Minytrema melanops* (Rafinesque) — spotted sucker
Collections: none.

Brewer (1970) reported this species from the South Fork system.

36. *Moxostoma anisurum* (Rafinesque) — silver redhorse
Collections: 2 (1).

This handsome sucker is scarce to rare throughout much of its range in Kentucky. The few records from the Kentucky River drainage are mostly from lower areas, since the preferred habitat is large streams.

37. *Moxostoma carinatum* (Cope) — river redhorse
Collections: 44 (1).

Relatively scarce in Kentucky, this sucker is listed as of Special Concern (Branson et al. 1981).

38. *Moxostoma duquesnei* (Lesueur) — black redhorse
Collections: 12 (1), 16 (4), 40 (1), 52 (1), 58 (2), 73 (10), 74 (6), 108 (rare), 112 (rare).

Additional records from the South Fork drainage are from Horse, Goose and Big creeks, and Red Bird River (Woolman 1892); and from Goose Creek at the confluence of Mud Lick Creek (Harker et al. 1979).

39. *Moxostoma erythrurum* (Rafinesque) — golden redhorse
Collections: 7, 14, 18-19, 21, 25, 37-38, 43, 44-45, 47-48, 52, 58, 71-75, 78, 98, 122, 130, 132, 141, 171, 196.

Additional published records for this species are those of Brewer (1970) from Big Goose Creek; Jones (1973) from Buffalo, Bullskin, Goose and Horse creeks and Red Bird River; and Harker et al. (1979) from Goose Creek.

40. *Moxostoma macrolepidotum* (Lesueur) — shorthead redhorse
Collections: 3, 8, 32, 40, 43, 52-53, 66, 71-76, 124, 162, 169.

The only other verified record from the South Fork system is that of Brewer (1970) from Big Goose Creek.

Family Ictaluridae (Bullhead catfishes)

Although we collected specimens of three genera and seven species of catfishes, members of the genus *Ictalurus* are scarce to absent from much of the South Fork system. Harker et al. (1979) and Woolman (1892) failed to collect specimens from that drainage, and Brewer (1970) took only a few individuals of the channel catfish from Goose Creek. Jones (1973) reported channel and flathead catfishes and black and yellow bullheads from the Red Bird River near Oneida, Owsley County. There are several published records for madtoms (see below).

41. *Ictalurus melas* (Rafinesque) — black bullhead
Collections: 19 (1), 45-46, 48, 122-123, 135-136, 142, 164, 180, 184-186, 191, 193-194.

Although Clay (1975) stated that yellow and black bullheads are about "equally common in the state," our observations do not support that conclusion in the uplands. The yellow bullhead is much more frequently encountered in the upper Kentucky River drainage (although the reverse is true in the main stream), at the mouths of major tributaries where disturbances have caused siltation.

42. *Ictalurus natalis* (Lesueur) — yellow bullhead
Collections: 16, 22, 131, 146, 150, 190, 194.

The yellow bullhead is more tolerant of currents than the black bullhead, and more susceptible to extirpation and decimation by siltation. Because of mining disturbance in the uplands, many South Fork populations have been eliminated.

43. *Ictalurus nebulosus* (Lesueur) — brown bullhead
Collections: 48 (1), 51 (1), 170 (3).

44. *Ictalurus punctatus* (Rafinesque) — channel catfish
Collections: 14 (1), 40 (2).

This species is nearly restricted to the larger segments of the upper Kentucky River and to the main stream.

45. *Noturus eleutherus* Jordan — mountain madtom
Collections: 37 (1), 40 (1).

The only other published record for the mountain madtom in the Kentucky River drainage is that of Clay (1975) from the Middle Fork. Jones (1973) recorded specimens of *Noturus* (which may have been this species) from the Red Bird River at Oneida, Owsley County, but the specimens were not preserved.

46. *Noturus flavus* Rafinesque — stonecat
Collections: 21 (2), 25 (2), 38 (2), 44 (1); also, one from mouth of Meadow Creek, Owsley County.

Although widespread in the Kentucky River drainage, the stonecat does not appear to be abundant. Jones (1973) reported it from the South Fork, Buffalo Creek, Owsley County, and Goose Creek, Clay County; and Harker et al. (1979) collected a few specimens from Buck Creek, in Owsley County.

47. *Noturus miurus* Jordan — brindled madtom
Collections: 11, 13-14, 20-21, 25, 35, 40, 52, 72-74, 76, 80.

This is the most characteristic and abundant madtom of the upper Kentucky River drainage. The habitat is mostly in debris and rocks over mud bottoms, mostly in quietly running water close to the banks. Previous South Fork records include Horse Creek (Woolman 1892, Taylor 1969); Red Bird River near Oneida, Owsley County, and Goose Creek, Clay County (Jones 1973); and Goose Creek at Lipps (Harker et al. 1979).

48. *Pylodictis olivaris* (Rafinesque) — flathead catfish
Collections: 21 (1).

Although considered rare in the upper branches of the Kentucky River (Branson and Batch 1974), young individuals are often secured from deep riffles over large rocks in the main stream. The single individual reported here measured 21.6 mm SL.

Family Cyprinodontidae (Killfishes)

One of the characteristic features of the upper Kentucky River fish fauna is the scarcity of atheriniform fishes of the families Cyprinodontidae and Poeciliidae. None of the collectors cited herein reported specimens from the South Fork, and we (Branson and Batch 1974) found *Gambusia affinis* at only two locations in the Red River. No specimens were taken from the South Fork during this survey, and only a few were collected at downstream localities.

49. *Fundulus notatus* (Rafinesque) — blackstripe topminnow
Collections: 171 (2).

Family Poeciliidae (Livebearers)

50. *Gambusia affinis affinis* (Baird and Girard) — western mosquitofish
Collections: 44, 118, 135, 145-147, 156-159, 161, 190, 205.

Family Atherinidae (Silversides)

51. *Labidesthes sicculus sicculus* (Cope) — northern brook silverside
Collections: 14, 21, 24-25, 27, 29, 32-35, 38, 43, 52, 57, 64, 72-73, 75-76, 79-80, 142, 153, 164-165, 170, 172; also, one from mouth of Meadow Creek, Owsley County.

Additional published records for this fish in the South Fork include Big Goose Creek (Brewer 1970); Sexton Creek and Red Bird River, Owsley County, and Horse Creek, Clay County (Jones 1973); and Horse, Goose and Big creeks and Red Bird River (Woolman 1892).

Family Percichthyidae (Temperate basses)

There are no previous records of any species of this family from the South Fork system, and no specimens were taken during our work. The specimens recorded below were taken farther down in the Kentucky River drainage.

52. *Morone chrysops* (Rafinesque) — white bass
Collections: 129 (5).

Family Centrarchidae (Sunfishes)

53. *Ambloplites rupestris* (Rafinesque) — rock bass
Collections: 3, 5, 9, 11, 13-14, 16-17, 19-22, 25, 34-35, 37, 40, 45, 57, 64, 71-76, 141, 147, 161, 170-171, 175-176, 178, 193.

The rock bass is the second most frequently encountered centrarchid in upland segments of the Kentucky River drainage, attaining its largest populations where crayfish develop thriving communities. Woolman (1892) did not find the species to be abundant in Goose and Big creeks or in Red Bird River. Brewer (1970) reported it from Big Goose Creek; Jones (1973) from the mouth of Sexton Creek, Buffalo Creek and Red Bird River, Owsley County, and Goose and Horse creeks, Clay County; and Harker et al. (1979) from the mouth of Mud Lick Creek.

54. *Lepomis cyanellus* Rafinesque — green sunfish
Collections: 15-17, 38, 40, 44, 48-49, 58, 60, 66, 69-70, 72-75, 77-78, 80, 82-83, 85-86, 90, 101, 104-107, 113-115, 117-123, 125-127, 131-134, 138, 145, 147-148, 152-153, 155, 159, 161, 164-166, 172, 175, 179-181, 185, 188-193, 198, 200-201, 205.

The principal habitats of this species are also in the lowlands. All specimens from the South Fork reported herein were collected from backwaters and pools. Jones (1973) reported the fish from the mouth of Sexton Creek, Owsley County, and from Horse Creek, Clay County. Green sunfish-bluegill hybrids are not uncommon in the Kentucky River drainage.

55. *Lepomis (Chaenobryttus) gulosus* (Cuvier) — warmouth
Collections: 47 (1), 48 (1), 49 (1), 146 (1), 172 (3), 193 (1).

Another principally lowland species, the warmouth was not collected by us during work in the South Fork. Jones (1973), however, secured specimens from Red Bird River near Oneida, Owsley County, and Brewer (1970) from Big Goose Creek.

56. *Lepomis humilis* (Girard) — orangespotted sunfish
Collections: 19 (1).

Clay's (1975) comments to the contrary (i.e., that the orangespotted sunfish occurs throughout the state but is most common in the eastern portion), this species is rare or entirely lacking in most of the upper Kentucky River drainage.

57. *Lepomis macrochirus* Rafinesque — bluegill
Collections: 9-10, 15, 19, 22, 24-25, 27, 34-35, 37, 43, 46-48, 52, 55, 69-70, 72-73, 76-77, 79, 86, 93, 102, 114, 122, 129, 139, 141-149, 151-152, 155-157, 161, 163-166, 178, 180-181, 183, 185, 189-191, 193, 195-196, 198, 200-201, 205.

Although widespread in the drainage, the bluegill is abundant only in pools of the main stream and in the mouths of larger tributaries. Woolman (1892) did not collect specimens from the South Fork system, although Brewer (1970) reported some from Big Goose Creek; Jones (1973) found them in Buffalo Creek, Owsley County, and Horse Creek, Clay County; and Harker et al. (1979) took specimens from Buck Creek, Owsley County.

58. *Lepomis megalotis megalotis* (Rafinesque) — longear sunfish
Collections: 2-3, 7-11, 13-22, 24-25, 29, 34-35, 37-38, 40-41, 43, 44-47, 49, 53-54, 57-58, 63, 67, 71-76, 78-80, 83-86, 101-102, 105, 108, 112, 114-115, 118-119, 129-133, 136, 141-142, 146, 148-149, 151-152, 156, 158, 170, 172, 174, 176, 178, 182, 191-193, 195-196.

The longear sunfish is the most widespread and abundant member of its genus throughout the upper Kentucky River drainage, including the South Fork. Woolman's (1892) observations were similar to ours, since he reported the species from all sites visited in the drainage. Brewer (1970) reported the species from Big Goose Creek; Jones (1973) from Buffalo Creek, Owsley County, and Bullskin, Horse and Goose creeks, Clay County; and Harker et al. (1979) from the mouth of Mud Lick Creek.

59. *Lepomis microlophus* (Günther) — redear sunfish
Collections: 196 (1).

Hybrid Sunfishes in *Lepomis*

59H-1. *Lepomis cyanellus* X *L. megalotis*
Collections: 12 (2), 16 (1), 48 (1).

59H-2. *Lepomis cyanellus* X *L. macrochirus*
Collections: 48 (1).

59H-3. *Lepomis macrochirus* X *L. megalotis*
Collections: 141 (1), 152 (1).

60. *Micropterus dolomieui* (Lacepede) — smallmouth bass
Collections: 7, 10, 14, 19-21, 24-25, 37-38, 40-41, 45, 53, 55, 64, 71-72, 109, 119, 131, 139, 151, 153, 169, 173, 176.

The smallmouth bass, as is true also for the spotted bass, is common only in areas of moderate to high gradient. It appears to be lacking entirely in segments afflicted by strip-mine drainage, in places where Woolman (1892) found it to be common. Additional published records are from Sexton and Buffalo creeks and Red Bird River, Owsley County, and Bullskin Creek, Clay County (Jones 1973), Big Goose Creek (Brewer 1970), and Goose and Buck creeks (Harker et al. 1979).

61. *Micropterus punctulatus* (Rafinesque) — spotted bass
Collections: 7, 14-17, 19-23, 25, 38, 43, 45, 58, 71-76, 80-82, 130-133, 153.

In the South Fork system, the spotted bass essentially has the same habitat and distribution as the smallmouth bass, although Woolman (1892) failed to collect the species from this drainage. Jones (1973) secured specimens from Sexton Creek and Red Bird River, Owsley County, and from Horse Creek, Clay County. Brewer (1970) took specimens from Big Goose Creek, and Harker et al. (1979) reported the species from Goose Creek, at the mouth of Mud Lick Creek.

62. *Micropterus salmoides salmoides* (Lacepede) — northern largemouth bass
Collections: 41, 46, 50, 85-86, 108, 119, 141, 144-147, 153, 155, 157, 166, 172-173, 175-176, 184, 187, 195-196, 198.

Since the largemouth bass is essentially a lowland species, it was not surprising that we collected it only in the lower part of the South Fork system. It was much more common farther down in the Kentucky drainage. Woolman (1892) took few specimens (Goose and Bull creeks and Red Bird River), and Jones (1973) and Harker et al. (1979) failed to collect the species. The only other published records from the South Fork are those of Brewer (1970) from Big Goose Creek.

63. *Pomoxis annularis* Rafinesque — white crappie
Collections: 43 (1), 153, 170, 172, 190, 197.

The specimen from Station 43 is the only published record of crappies from the South Fork system. Most habitat conditions are not suitable for either species.

64. *Pomoxis nigromaculatus* (Lesueur) — black crappie
Collections: 172 (2), 196 (1).

Family Percidae (Perches and Darters)

65. *Ammocrypta pellucida* (Agassiz) — eastern sand darter
Collections: 21 (11), 38 (1).

Listed as Threatened (Branson et al. 1981) in Kentucky, the eastern sand darter is approaching Endangered status in most of Kentucky. Clay (1975) pointed out, "The many streams arising in the sandy highlands of eastern Kentucky formerly provided an ideal habitat for this darter, but silt and chemical pollution have eliminated it from many of its former habitats." He should have added dams that release cold water, for recent examinations of streams of the Licking River below those structures demonstrated the complete absence of sand darters at sites where we previously collected them in abundance.

Woolman (1892) found sand darters abundant in Red Bird River, and Williams (1975) reported sites in Red Bird River; Goose Creek near Oneida, Clay County; and the South Fork of the Kentucky River, Owsley County. Jones (1973) took a few specimens from the mouth of Sexton Creek.

66. *Etheostoma baileyi* Page and Burr — emerald darter
Collections: 2 (2), 3 (1), 7 (1), 8 (2), 9 (3), 10 (11), 11 (6), 12 (4), 13 (6), 20 (2), 29 (2), 31 (1), 32 (2), 33 (1), 35 (1), 37 (1), 38 (1), 39 (3), 40 (1), 56 (2), 57 (1), 70 (2), 71 (2), 73 (4), 74 (3), 75 (3), 76 (5).

This darter is widespread throughout the upper Kentucky and upper Cumberland river drainages. It was reported from Red River and Bullskin creeks by Woolman (1892), and from Goose and Buck creeks by Harker et al. (1979).

67. *Etheostoma blennioides blennioides* Rafinesque — greenside darter

Collections: 7-12, 20-21, 24-26, 29, 31-35, 37-41, 47-48, 53-54, 56-58, 62-63, 70-76, 96, 99, 121-122, 124, 128-133, 137, 139, 149-150, 152, 161-162, 169-172, 176, 179, 194, 196; also, one from Red Bird River, 14 km S of Booneville, Owsley County.

In addition to these records, Woolman (1892) recorded specimens from Horse, Goose and Big creeks and Red Bird River; Jones (1973) from Sexton, Buffalo and Goose creeks and Red Bird River; and Harker et al. (1979) from Goose and Buck creeks. According to Miller (1968), all upper Kentucky River specimens are referable to the typical subspecies.

68. *Etheostoma caeruleum* Storer — rainbow darter

Collections: 2-4, 6-13, 18-22, 25-35, 37, 39-41, 44-45, 52-64, 66-68, 70-80, 84-89, 91-92, 94-99, 101-103, 107-108, 112-115, 118-130, 137, 139, 143, 145-147, 150, 152, 156, 158-159, 161-163, 171, 174, 191-192, 204-205.

This is one of the most widespread and common darters in Kentucky, and in the upper Kentucky River drainage it shares dominancy with *E. nigrum* and *E. flabellare*. Woolman (1892) found it at all of his South Fork stations, Jones (1973) reported it as common in Red Bird River and Goose Creek, as did Harker et al. (1979) in Goose and Buck creeks.

69. *Etheostoma camurum* (Cope) — bluebreast darter

Collections: 37 (13: 11 sent to Leslie Knapp, U.S. National Museum: USNM 212021), 38 (16), 39 (1), 40 (4); also, one from Red Bird River, 14 km S of Booneville, Owsley County.

In the upper Kentucky River drainage, the bluebreast darter is rare to scarce, and has a very discontinuous distribution. At some localities where it was previously common it has been extirpated by strip-mine wastes. Zorach (1972) reported a few specimens from the Middle and South forks, and Jones (1973) collected a specimen from Red Bird River near Oneida, Owsley County. The species is Threatened or Endangered in this part of Kentucky, although it has not been listed for the entire state.

70. *Etheostoma flabellare flabellare* Rafinesque — fantail darter

Collections: 2-3, 5-7, 9-14, 16, 18-23, 25-35, 37-41, 45, 48, 50, 52-54, 56-58, 60-64, 66-78, 80, 82-88, 90-97, 99-101, 103-107, 109-115, 118-132, 139, 141, 143-144, 146-150, 152, 155, 157, 159, 161-162, 164, 166, 169, 171-172, 174-176, 178-180, 182, 184, 186-187, 192, 197-198, 200, 204; also, ten from Red Bird River, 14 km S of Booneville, Owsley County.

Aditional records from South Fork are: Goose and Hector creeks and Red Bird River (Woolman 1892), Big Goose Creek (Brewer 1970), Sexton and Buffalo creeks, Goose Creek, Red Bird River (Jones 1973), and Goose and Buck creeks (Harker et al. 1979).

71. *Etheostoma nigrum nigrum* (Rafinesque) — johnny darter

Collections: 2-4, 9-14, 16-25, 27, 29-31, 33-35, 37, 40, 46-48, 50-55, 57-60, 63-65, 68-78, 83-88, 99, 101, 103, 108-109, 111-113, 130-133, 139, 148-150, 152, 154, 158-159, 161-162, 172, 174, 180, 199-200; also, one from mouth of Meadow Creek at Booneville, Owsley County.

Woolman (1892) found johnny darters at all his South Fork stations except Goose Creek; Brewer (1970) reported it from Big Goose Creek; Jones (1973) found it abundant in Buffalo, Sexton, Goose and Horse creeks; and Harker et al. (1979) reported it from Goose and Buck creeks.

72. *Etheostoma sagitta spilotum* (Gilbert) — arrow darter

Collections: 11 (1), 17 (1), 18 (1), 28 (1).

The arrow darter (both subspecies) is Threatened in Kentucky (Branson et al. 1981), principally because of strip-mine pollution in the headwaters. Additional records from the South Fork system are from Horse and Big creeks and Red Bird River (Woolman 1892) and Buck Creek (Harker et al. 1979).

73. *Etheostoma spectabile spectabile* (Agassiz) — orangethroat darter

Collections: 46-48, 50-51, 93, 96-97, 101-103, 106, 109-110, 129-131, 134, 147, 157, 164, 169, 176, 178-179, 181-192, 197-198, 200-201.

74. *Etheostoma tippecanoe* Jordan and Evermann — tippecanoe darter

Collections: 37 (12), 38 (2), 39 (4); also, one from Red Bird River, 14 km S of Booneville, Owsley County.

This small darter, considered Endangered in Kentucky (Branson et al. 1981), is not only very seasonal in abundance, but it also has a very discontinuous distribution. In habitat selection, we have always found the species living in relatively deep (1.0-1.5 m) riffles in swiftly running water over pea-sized gravel. Zorach (1969) reported specimens from the South Fork of the Kentucky River and from Sexton Creek, Owsley County, and Clay (1975) from the South Fork at CR 12, Owsley County.

75. *Etheostoma variatum* Kirtland — variegate darter

Collections: 10, 12, 20-21, 23-25, 29, 32-34, 37-40, 54 (1); also, two from the mouth of Meadow Creek, Owsley County.

This darter is not common in the lower Kentucky River drainage, and it is entirely lacking in some of the western tributaries. Woolman (1892) reported it from Red Bird River, and Jones (1973) from Sexton, Buffalo and Goose creeks and Red Bird River.

76. *Etheostoma zonale* (Cope) — banded darter

Collections: 9-10, 21, 23-25, 32-35, 37, 39-40, 55; also, one from Red Bird River, 14 km S of Booneville, Owsley County.

This is a scarce species in the lower Kentucky River drainage. Woolman (1892) reported it from all of his South Fork stations except Hector Creek, and Jones (1973) took specimens from Sexton Creek and Red Bird River.

77. *Percina caprodes caprodes* (Rafinesque) — logperch
Collections: 7, 9-10, 12, 14, 16, 19, 21, 23, 25, 32, 40, 52, 57-58, 66-67, 72, 74-76, 80, 85, 87, 141, 151, 177.

Although widespread in Kentucky, the logperch has a discontinuous distribution and is easily missed in general surveys. Woolman (1892), for example, failed to find specimens in the South Fork drainage. Brewer (1970) took it from Big Goose Creek; Jones (1973) from Sexton, Buffalo, Bullskin and Goose creeks and Red Bird River; and Harker et al. (1979) from Goose Creek.

78. *Percina copelandi* (Jordan) — channel darter
Collections: 11 (2), 37 (1), 39 (1), 40 (5).

Listed as of Special Concern in Kentucky (Branson et al. 1981), the channel darter as now recognized may actually be a complex of species, a problem that is being considered by R.D. Suttkus, Tulane University. This does not affect the nomenclature of Kentucky populations, however. The species is very uncommon in the upper Kentucky River drainage (Branson and Batch 1974, Clay 1975, Jones 1973), ours being the only published records from the South Fork.

79. *Percina (Odontopholis)* species n. sp. cf *cymatotaenia* (Gilbert and Meek) — bluestripe darter
Collections: 6 (2), 9 (1), 10 (1), 11 (5), 13 (2), 14 (2), 18 (1), 20 (22), 21 (1), 22 (1), 32 (1), 34 (1), 35 (1), 57 (1), 60 (2), 64 (1), 72 (1).

Most of these specimens, including a mature male and female in nuptial condition (14 March 1970) from Station 6, were studied by Bruce A. Thompson, Tulane University, in his as yet unpublished study of the species. We (Branson et al. 1981) have listed it as of Special Concern. Jones (1973) took a few specimens from Goose Creek, Clay County, although Woolman (1892) did not find it there. Harker et al. (1979) reported it from Buck Creek, Owsley County, and Goose Creek, Clay County. The summer habitat is mostly in relatively shallow water (9-15 cm) running through beds of vegetation over gravel and organic debris.

80. *Percina evides* (Jordan and Copeland) — gilt darter
Collections: 40 (1).

This single male (46 mm SL) represents the only record of the gilt darter from the South Fork, and one of the few records from the whole Kentucky River drainage. Clay (1975) reported a specimen from the Middle Fork, and Jones (1973), Brewer (1970), Harker et al. (1979), and Woolman (1892) missed the species entirely. It is listed as of Special Concern in Kentucky (Branson et al. 1981) at present, but its status may have to be re-evaluated shortly.

81. *Percina macrocephala* (Cope) — longhead darter
Collections: 3 (1), 22 (12), 38 (1).

Listed as Threatened in Kentucky (Branson et al. 1981), the longhead darter is quite rare throughout its range. The specimens reported here have mysteriously vanished from the EKU museum, according to a thorough search by staff members of the Kentucky Nature Preserves Commission (Melvin Warren and Ronald Cicerello).

82. *Percina maculata* (Girard) — blackside darter
Collections: 9, 11, 13, 14, 39-41, 66, 72, 74, 76.

The blackside darter in the upper Kentucky River drainage differs considerably from that in the Cumberland River and westward, particularly in dorsal coloration. Our specimens are being studied by Lawrence Page and associates. The species was reported by Woolman (1892) from Goose and Big creeks, Sexton, Buffalo, Bullskin and Goose creeks and Red Bird River by Jones (1973), Big Goose Creek by Brewer (1970), and Goose and Buck creeks by Harker et al. (1979).

83. *Percina oxyrhyncha* (Hubbs and Raney) — sharpnose darter
Collections: 30 (1).

Although not uncommon in the lower portions of the Kentucky River, the species is rare to lacking in the upper divisions (Thompson 1980). Ours is the only report from the South Fork. Kentucky populations of this species have previously been referred to as *P. phoxocephala,* but that species is now known to be mostly confined to the western half of the state (Thompson 1980).

84. *Percina sciera* (Swain) — dusky darter
Collections: 21 (1), 40 (4); also, two from mouth of Meadow Creek at Booneville, Owsley County.

Clay (1975) reported specimens from the South Fork in Breathitt and Owsley counties.

Family Sciaenidae (freshwater drums)

84A. *Aplodinotus grunniens* Rafinesque — freshwater drum
Collections: none.

The only published record for this large species from the South Fork is that of Brewer (1970).

Family Cottidae (sculpins)

85. *Cottus carolinae* (Gill) — banded sculpin
Collections: 53-54, 59-60, 62-64, 137-138, 170, 173, 174, 178-179, 184-188, 193-194, 198-201, 204-205.

The most startling finding of this project was our failure to collect *Cottus* from the South Fork. At first, we thought this was a reflection of pollution conditions. However, since previous investigators (Woolman 1892, Brewer 1970, Jones 1973, Harker et al. 1979) also failed to find specimens, we are inclined to believe that the genus is naturally lacking in that part of the Kentucky River, although it is present in other segments, as demonstrated by the records cited above.

CONCLUSIONS

The fish fauna of the South Fork of the Kentucky River is not a particularly diverse one, although it contains several interesting species, including some that are Threatened and/or Endangered. The stream is relatively shallow, often turbid, has been severely degraded by strip-mine pollution, and is somewhat impoverished as compared with other eastern Kentucky streams of equal size. The basic relationships of the fauna are with the Tennessee-Mississippi river drainages, with a few species being of northern origin and a few others being derived from the old Teays system and the Cumberland River.

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