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Peggy Rae Dorris
Henderson State University

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PEGGY RAE DORRIS
Department of Biology, Henderson State College, Arkadelphia, Arkansas 71923

ABSTRACT

The Mississippi Delta flooded in the spring of 1973. Spider collections made in a Delta area of Mississippi in 1972 are compared with those made in 1973 during the flood and after it subsided. Because many egg cases and immature and mature spiders were destroyed by the flood, the spider population was diminished.

Flooding in the Mississippi Delta last year brought about adverse effects on various animal populations. The area selected for research and observation was around Holly Bluff, Rolling Fork, Greenwood and Vicksburg, Mississippi. Many animals lost their lives during the flood in March, April and May 1973 throughout at least 750 mi surrounding these Mississippi Delta towns.

Swollen rivers collected backwater; torrential rains covered much of the United States and on 18 March Big Black River flooded. On the same day Sunflower River at Holly Bluff, the writer's Mississippi residence, was standing at 93.66 ft with flood stage at 99.0 ft.

Flooding on the Sunflower River at Holly Bluff continued for about two months. The water rose from 93.66 ft on 18 March 1973 to a crest of 102.89 ft (about 3 ft above flood stage) on 18 May, then receded to 95.43 ft by 9 June. Flooding at other collection points followed a similar pattern.

The spider population during and after the flood was compared with collections made by Dorris and McGaha (1967) and Dorris (1972) from the same areas in previous years. The writer has made collections from 1960 to 1974, and in no year have populations been so scant as in 1973 and 1974. Apparently, high waters destroyed many egg cases and both immature and adult spiders. The area is not totally devoid of spiders because some species found refuge in houses and trees which were not totally submerged. The spider population is slowly returning, as Table I shows, but spiders such as members of the Lycosidae and Salticidae, which usually seek refuge in holes and under stones and boards because they depend upon attack methods for capturing food, are very scantily distributed. Families of spiders commonly found in houses such as the Theridiidae, Filistatidae and Pholcidae were not as diminished in numbers. Without spiders to prey upon certain insect predators, man will see adverse effects in his cotton fields and other areas (Dorris, 1970).

Table I. Numbers of Spiders Collected in Vicinity of Holly Bluff, Mississippi

Family	11 June 1972	31 May 1972	18 June 1973	23 July 1973
Lycosidae	159(6)	2(2)	5(3)	17(5)
Salticidae	173(5)	3(1)	7(2)	9(3)
Araneidae	166(8)	5(2)	10(3)	17(5)
Linyphiidae	78(3)	0(0)	4(2)	6(3)
Filistatidae	12(1)	6(1)	8(1)	12(1)
Dictynidae	89(3)	0(0)	2(1)	4(2)
Pholcidae	12(2)	2(1)	4(1)	7(2)
Gnaphosidae	11(3)	0(0)	1(1)	4(3)
Clubionidae	64(5)	0(0)	2(1)	5(3)
Anyphaenidae	41(3)	1(1)	3(2)	4(2)
Agelenidae	113(3)	4(2)	10(2)	13(3)
Theridiidae	39(3)	10(1)	15(2)	18(2)
Oxyopidae	85(2)	2(1)	7(2)	10(2)
Tetragnathidae	118(4)	8(1)	15(3)	15(3)
Pisauridae	92(3)	5(2)	12(2)	14(3)
Uloboridae	10(1)	0(0)	2(1)	3(1)
Ctenizidae	1(1)	0(0)	0(0)	0(0)
Thomisidae	23(6)	1(1)	3(2)	8(3)

Numbers in parentheses are numbers of species represented in each total.

Spider collections were made in a wide area along the Mississippi Delta and in most areas around Greenwood, Vicksburg and Rolling Fork; flood conditions were comparable to those around Holly Bluff. Previously, the writer could take a few collecting materials such as heavy-duty sweepnets, Berlease funnels, sifters and spot light into the Mississippi Delta and within five or six hours bring home more than a thousand spiders. As indicated by Table I, this is no longer true because of the devasting effects of the 1973 flood waters. Table I compares numbers of species collected in the vicinity of Holly Bluff, Mississippi, in 1972 with those collected in May, June and July of 1973. Collections made after flood waters receded indicate that numbers of spiders are gradually returning. Followup studies should show the rapidity with which spiders will again occupy the Delta habitat.

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