

## Update of the Distribution Records for the Arkansas River Darter, *Etheostoma cragini*, Gilbert, in Northwestern Oklahoma

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In 1985 we reported the presence of the Arkansas River darter in the mainstream of the Cimarron River and its tributaries in Harper and Beaver counties in NW Oklahoma. We described and discussed the aquatic habitats in which this species was found (*J*). Since 1985 we have continued our monitoring of the river and its tributaries for this darter. This note reports the location of a new site for this darter and the increases in numbers of this species in the mainstream.

On 12 May 1990, we collected a single specimen from the Cimarron River (S07 TS28N R20W IM) at the U.S. Highway 64 crossing, 18 mi (29 km) E of Buffalo at the Woods County line. This site is 43 mi (69 km) downstream from the last reported location for this darter. On 3 June 1992, we collected another darter, the second recorded in 49 collections at this site since 1976.

In the mainstream S of Englewood, KS, on U.S. Highway 283 in Harper County (S21 TS29N R26W IM) (Table 1), this darter has been collected each year since 1983. In 1992 and 1993 the average number per collection has more than doubled (Table 1).

In 1988 we found this darter in the Cimarron mainstream 6 mi (10 km) W on U.S. Highway 64, and 7 mi (11 km) N of Knowles at the Ron Judy Ranch in Beaver County (S21 TS29N R26W CM) (Table 1). This site was 20 mi (32 km) upstream from the Englewood, KS site. Since 1988 we have found this darter in small numbers (7 to 26 specimens) at this site. An Oklahoma State University survey team found it in 1989 but not in 1991 (2).

The Cimarron River was dry during one of our visits in 1984, 1985, 1986, and 1991. In walking up/down the dry stream bed, we found this darter in nine isolated

TABLE 1. Collection records of the Arkansas River darter at five sites in the Cimarron River and its tributaries between 1976 and 1993.

Year	Knowles <sup>a</sup>		Crooked Cr.		Horse Cr.		Englewood <sup>b</sup>		Buffalo <sup>a</sup>	
	N.C. <sup>c</sup>	N.I. <sup>d</sup>	N.C.	N.I.	N.C.	N.I.	N.C.	N.I.	N.C.	N.I.
1976	—	—	—	—	—	—	—	—	1	0
1977	—	—	—	—	—	—	—	—	2	0
1978	—	—	—	—	—	—	—	—	3	0
1979	—	—	—	—	—	—	—	—	3	0
1980	—	—	—	—	—	—	—	—	3	0
1981	—	—	—	—	—	—	1	0	3	0
1982	—	—	—	—	—	—	2 <sup>e</sup>	0	3	0
1983	—	—	—	—	—	—	2	4	3	0
1984	—	—	3	5	3	156	2 <sup>e</sup>	37	3	0
1985	—	—	—	—	—	—	2 <sup>e</sup>	10	3	0
1986	—	—	—	—	—	—	2 <sup>e</sup>	5	3	0
1987	—	—	1	57	—	—	2	6	2	0
1988	1	3	—	—	1	60	2	8	3	0
1989	1	2 <sup>f</sup>	—	—	—	—	3	8 <sup>f</sup>	3	0
1990	1	12	—	—	—	—	2	41	3	1
1991	2	1	5	316 <sup>f</sup>	—	—	4 <sup>e</sup>	9	3	0
1992	2	41	—	—	—	—	2	136	3	1
1993	2	48	—	—	1	8	2	96	3	0

— No collection was attempted.

<sup>a</sup> Oklahoma. <sup>b</sup> Kansas. <sup>c</sup> N.C. = number of collections. <sup>d</sup> N.I. = number of individuals. <sup>e</sup> Site was dry during one visit.

<sup>f</sup> Includes collections by B. Larson and A.A. Echelle (2).

scour pools. Most of these pools were in side channels maintained by subsurface seepages. These pools varied from 30 to 61 cm deep and were approximately 0.5 m<sup>2</sup> in area (60 × 90 cm); the habitat characteristics were similar to those previously described for the Arkansas River darter (*I*). However, the temperature of the water was high (30 - 35 °C), its concentration of dissolved oxygen was variable (1-12 mg/l), and its conductivity was high (3276 - 4788 μS/cm).

### REFERENCES

1. Pigg, J., Harrison, W., and Gibbs, R., Records of the Arkansas River Darter, *Etheostoma cragini*, Gilbert, in Harper and Beaver Counties in Oklahoma. *Proc. Okla. Acad. Sci.* **65**, 61-63 (1985).
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