Implications and Considerations Concerning the Status, Habitat and Distribution of the Least Brook Lamprey, Lampetra aepyptera (Abbott) (Pisces: Petromyzontidae) in Arkansas

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The least brook lamprey, *Lampetra aepyptera* (Abbott), is described by Eddy (1969) as a small lamprey in small streams of the upper Ohio River drainage, from the Potomac to Neuse River drainages along the east coast, and in some Gulf Coastal streams. Schwartz (1959) reported that the species in West Virginia is apparently more confined to small brooks than other lampreys, and Trautman (1957) suggested that spawning occurs in Ohio in streams less than 4.6 m wide, when water temperature reached 10°C. The species was reported by Robison (1974) as rare in Arkansas based partly on the fact that only three specimens had been collected in Arkansas at that time. *L. aepyptera* was not included in the Arkansas ichthyofauna by Buchanan (1973), but was included in a list of species most likely to be added to the state species list.

The first record of *L. aepyptera* in Arkansas was collected by Harp and Matthews (1975) from Mill Pond Branch in the South Fork of the upper Spring River, and from Piney Creek in the White River drainage. Since then, *L. aepyptera* has been reported by several researchers in north central Arkansas (Table 1).

![Table 1. Recent records of the least brook lamprey, *Lampetra aepyptera* in Arkansas.](image-url)

A single 99 mm (TL) male specimen of *L. aepyptera* was collected in Rock Creek, Sharp County, Arkansas (T.8N, R.4W, Sec. 4) during routine electroshocking operations on 16 March 1979. The collection site was a rocky shoal, with 10-15 cm of water. Further shocking produced no additional animals; however, this specimen extends the known range of *L. aepyptera* into the Rock Creek drainage of the lower Springs River. These recent records confirm Pfieger's (1975) assumption that additional collecting efforts would reveal a more extensive range than has been previously reported for the species. The record brings to 19 the total number of specimens located by the authors.

All known records of *L. aepyptera* in Arkansas are within a six-county area. Of the 19 located specimens, 15 (78.95%), were taken in Fulton, Izard, and Sharp counties. At the present time, 12 watershed projects are in some stage of planning or operations within this six-county area (Ozark Foothills RC&D Council, 1977).

Watershed lakes are indicated as primary drainage solution measures in these project areas. Varying degrees of channelization, and resulting instream flow increases, are often incorporated in watershed projects (Funk, 1973), and result in decreased species diversity, reduced nesting areas and simplified food webs (Mauney and Harp, 1979). Seversmith (1953) and Pfieger (1975) reported that during their development, ammocoetes of *L. aepyptera* were found in different environments within east coast and Missouri drainages, respectively. In each case, the larval period indicated was three years, and in each case, debris and sediment accumulations protected from the full force of stream flow were preferred larval habitat, especially in late winter and early spring. These areas would be particularly endangered during progressions on the existing watershed plan.

Robison (1974) referred to species whose "continual survival is unlikely without the implementation of protected measures" as endangered. Considering the larval habitat degradation accompanying progress on planned watershed measures, endangered status is considered warranted for the least brook lamprey should watershed activities resume within its range.

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ADDENDA

Since this manuscript went to press we have acquired additional information concerning *Lampetra aepyptera* in Arkansas. Thirteen *L. aepyptera* were collected with a standard dip net in isolated pools of North and South Sylamore Creeks in Stone County, Arkansas, on 30 March 1980 (Mike Wooten, pers. comm.). Specimens are deposited in the North Texas State University Fish Collection (NTSU MDZ#601-613). These additional specimens bring to 32, the total number of *L. aepyptera* located by the authors.

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