
Argulus spp. (Crustacea: Branchiura) on Fishes from Arkansas and Oklahoma: New Geographic Distribution Records

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The genus *Argulus* Müller contains about 129 species and subspecies that are ectoparasites, primarily on fishes in freshwater or marine habitats (Poly 2008). However, there has not been a good taxonomic treatment of *Argulus* in the U.S. since Cressey (1972) and the genus is badly in need of revision. Most species are pancontinental in North and South America, Africa, and Eurasia.

There are only a few reports of *Argulus* spp. infesting fishes in Arkansas and Oklahoma. In Arkansas, Spotted Gar (*Lepisosteus oculatus*) has been reported as a host of *A. nobilis* Thiele (Hoffman 1999), and Warmouth (*Lepomis gulosus*), Bluegill (*L. macrochirus*), and Largemouth Bass (*Micropterus salmoides*) have been reported as hosts for *A. mississippiensis* C. B. Wilson (Becker and Cloutman 1975; Cloutman 1975; Becker et al. 1978). In Oklahoma, there is a report of *A. flavescens* C. B. Wilson on Common Carp (*Cyprinus carpio*) from Lake Texoma (Roberts 1957) and *Argulus* sp. were found in the stomachs of four of 176

White Crappie (*Pomoxis annularis*), as well as on Flathead Catfish (*Pylodictis olivaris*) and White Bass (*Morone chrysops*) in Lake Carl Blackwell, Payne County (Spall 1970). Here we provide new distributional records for some *Argulus* spp. on native fishes from Arkansas and Oklahoma.

During October 2015, a single adult (not measured) Bowfin (*Amia calva*) was collected with a backpack electrofisher from Dorcheat Bayou at US 82 bridge, Columbia County, Arkansas (33.35881°N, 93.413554°W). Between February and March 2016, an adult (640 mm total length [TL]) *P. olivaris* and an adult (380 mm TL) *M. salmoides* were collected by MKH with fishing gear from Broken Bow Lake, McCurtain County, Oklahoma (34.3347°N, 94.5864°W). Lice immediately observed on the body of each fish were collected and placed in individual vials containing 70% (v/v) ethanol. Specimens were forwarded to WJP and DGC for identification. Voucher specimens of fish lice are on deposit in the collection of the California

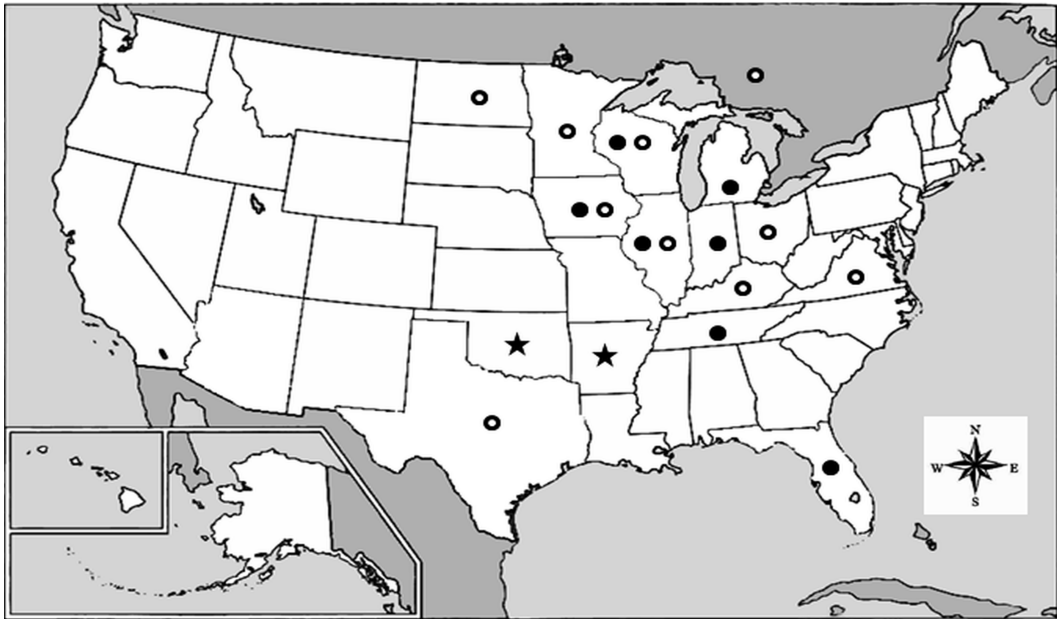


Figure 1. Records of *Argulus americanus* (solid dots) and *A. appendiculosus* (open dots) in North America. Stars = new records.

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Fishes were found to harbor *Argulus* spp., as follows:

***Argulus americanus* C. B. Wilson, 1902**

A single adult female *A. americanus* infested *A. calva*. This louse has been reported previously from *A. calva* as well as other fishes, including those in the genera *Cyprinus*, *Ictalurus*, *Lepomis*, and *Umbra* from Florida, Illinois, Indiana, Iowa, Michigan, Tennessee, and Wisconsin (Fig. 1) and is a frequent host/parasite association (Wilson 1916; Meehan 1940; Bangham and Venard 1942; Shimura and Asai 1984; Poly 1998a; Hoffman 1999). We report *A. americanus* from Arkansas for the first time.

***Argulus appendiculosus* C. B. Wilson, 1907**

One adult female *A. appendiculosus* was taken from *P. olivaris*. It has been found previously on Flathead Catfish (Poly 1998a, b) and other hosts including a variety of fishes in the families Catostomidae, Centrarchidae, Clupeidae, Ictaluridae, Lepisosteidae, Percidae, and Sciaenidae from Illinois, Iowa, Kentucky, Minnesota, North Dakota, Ohio, Texas, Virginia,

and Wisconsin and Ontario, Canada (Fig. 1) (see Hoffman 1999). It has been erroneously reported in Great Britain according to Fryer (1982). We document a new geographic record for *A. appendiculosus* in Oklahoma.

***Argulus* sp.**

An adult female *Argulus* sp. was found on *M. salmoides*. However, it could not be identified to species. There are several previous reports of *Argulus* spp. on Largemouth Bass, including *A. appendiculosus*, *A. flavescens*, and *A. mississippiensis* (Hoffman 1999).

In summary, we document two new distributional records for a species each of *Argulus* in Arkansas and Oklahoma. These would bring to three each, the number of *Argulus* spp. reported from fishes of Arkansas and Oklahoma. With 167 native species of Oklahoma fishes (Miller and Robison 2004), it is obvious that additional studies are warranted on the fish lice of the state. From such research, we would predict additional new distributional records as well as new host records and the possibility of discovery of new species.

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