
Two New Distributional Records for Caddisflies (Trichoptera: Philoptamidae, Helicopsychidae) in Eastern Oklahoma

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Abstract: Our knowledge of the caddisflies (Trichoptera) of Oklahoma is in its early stages. Previous reports have provided some initial foundational information but there remains a need for additional surveys of this state's caddisfly biota. Here, we provide new state records for two species of caddisflies from Robber's Cave State Park, Latimer County. Our purpose is to help fill gaps in our limited biological knowledge of this fauna that should help in future surveys and observations conducted in the state.

Introduction

Caddisflies (Trichoptera) are an integral part of the biota of many regions of North America (see Holzenthal et al. 2007) and those that occur in Oklahoma are no exception. However, up to 1970, only about 50 species had been reported from the state, most by H. H. Ross (Ross 1938a, b, c, 1941). Since then, four studies have increased our knowledge of this group of Oklahoma insects, including Resh et al. (1978) from Lake Texoma, Bowles and Mathis (1992) with emphasis from the mountainous regions of the state, Moulton and Stewart (1996) from the Interior Highlands, and Zuellig et al. (2006) from Fort Sill. In toto, these studies brought to about 165 species within 16 families of caddisflies known from Oklahoma. Here, we document two species of caddisflies in the state for the first time.

Methods

On 8 August 2019, five blacklight (15 watt long-wave fluorescent bulb) traps were set along the banks of Fourche Maline Creek in Robber's Cave State Park, Latimer County (35° 00' 17.5206"N, 95° 20' 05.6934"W). The site is dominated by oak-pine-hickory woodlands of the Sans Bois Mountains. Traps were set at sunset and picked up about one hr later. Specimens were placed in containers of 70% (v/v) ethanol and shipped to BCK. Identifications were confirmed using Ross (1944), Morse (1975), Lago and Harris (1987), Moulton and Stewart (1996), and Johanson (2002). Voucher specimens were deposited in the C. P. Gillette Museum of Arthropod Diversity, Colorado State University, Fort Collins, Colorado.

Results

At least nine species of caddisflies were

collected including two males and two females of *Chimarra obscura* (Walker, 1852), one male of *C. parasocia* Lago and Harris, 1987, one male of *Helicopsyche mexicana* Banks, 1901, two males and nine females of *Hydropsyche arinale* Ross, 1938, a female of *Cheumatopsyche* sp., two males of *Macrosternum carolina* (Banks, 1909), two males and one female of *Ceraclea transversa* (Hagen, 1861), two females of *Setodes* sp., and four females of *Triaenodes* sp. All of these have been reported previously from Oklahoma, except *C. parasocia* and *H. mexicana*. The two new state records described herein are reported below in an annotated format as follows.

**Arthropoda: Insecta: Trichoptera:
Philoptamidae**

***Chimarra parasocia* Lago and Harris, 1987 (Little Black Sedge)** – A single male specimen was collected. The male terminalia is identical to original illustrations provided by Lago and Harris (1987) and expert identified voucher material at the C. P. Gillette Museum of Arthropod Diversity. This is primarily a southeastern species but regionally reported from Arkansas (Lago and Harris 1987; Bowles and Mathis 1989; Moulton and Stewart 1996; Cooper and Morse 1998; Etnier 2010), Missouri (Lago and Harris 1987; Armitage 1991; Mathis and Bowles 1992; Moulton and Stewart 1996; Cooper and Morse 1998), and Texas (Bowles et al. 1993; Abbott et al. 1997; Moulton and Stewart 1997; Cooper and Morse 1998).

Helicopsychidae

***Helicopsyche mexicana* Banks, 1901 (Snail-Case Caddisfly)** – a single male specimen was collected. The male terminalia of this specimen is identical to the concept presented by Johanson (2002). Regionally, this species has been reported from New Mexico by Johanson (2002) and Texas by Ross (1944), Edwards (1973), Wiggins (1996), and Meyerhoff and Lind (1987), and Moulton and Stewart (1997).

Discussion

Previous studies on the caddisfly fauna of Oklahoma include an early study by Resh et

al. (1978) at Lake Texoma near the University of Oklahoma Biological Station, Marshall County. They reported 26 species of caddisflies within six families. Bowles and Mathis (1992) reported 145 species within 15 families from 26 counties of the state. Moulton and Stewart (1996) documented caddisflies from the Interior Highlands (Ozarks and Ouachitas) of eastern Oklahoma and listed 146 species. The most recent survey was conducted by Zuellig et al. (2006) at Fort Sill Military Reservation in Comanche County in southwestern Oklahoma. In all, these surveys have brought the total number of caddisflies of the state to about 165 species within 16 families.

Bowles and Mathis (1992) reported 16 species of caddisflies from two sites (their sites 25–26) within Robber’s Cave State Park. Of these, we did not share similar collections except for the possibility that two females of *Cheumatopsyche* and 73 females of *Hydroptila* could represent *C. analis* (Banks, 1903) and *H. grandiosa* Ross, 1938, respectively, that was collected in the park by Bowles and Mathis (1992).

In summary, we provide new state records for two species of caddisflies from Latimer County, Oklahoma, that brings to about 167, the number known from the state. Because the state contains nine major physiognomic regions, several areas are quite diverse climatologically, vegetatively, and topographically (Caire et al. 1998). Therefore, we suggest that additional surveys should be conducted in various parts of the state where little collecting has been done which should result in additional new geographic records for caddisflies.

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