Aquatic Polyphaga (Coleoptera) State Records from the Missouri Prairie Region

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Introduction and Methods

Faunistic investigations are fundamental and essential precursors upon which studies of biogeography, community ecology, and conservation biology are based (Wilson, 2000). Studies of the Nearctic aquatic Coleoptera fauna have been published for various regions of the continent throughout the latter half of the 20th century. More specifically, these studies include taxonomic treatments of family level taxa for Alberta (Larson, 1975), California (Leech and Chandler, 1956; Challet and Brett, 1998), Florida (Young, 1954; Epler, 1996), Illinois (Woolridge, 1967), Manitoba and Minnesota (Wallis, 1973; Gunderson and Otrema, 1988), Mississippi (Testa and Lago, 1994), Utah (Anderson, 1960), Virginia (Matta, 1974, 1976; Michael and Matta, 1977), and Wisconsin (Hilsenhoff and Brigham, 1978; Hilsenhoff, 1980, 1990, 1992, 1993a, b, c, 1994, 1995). The aquatic beetle fauna of Missouri, however, is poorly documented, and due to the state’s central geographic position, elements of northern, southern, eastern, and western faunas and floras overlap within the state’s political borders. As part of a more detailed study on the biogeography, community structure, and mesohabitat affinities of the aquatic beetle fauna in Missouri’s Prairie Region (sensu Steyermark, 1963), presented here are nine new state records of aquatic Coleoptera in the families Hydrophilidae, Chrysomelidae, and Curculionidae collected from ponds within the Prairie Region of Missouri in 1998 and 1999. All material from this study was collected with an aquatic D-net from 105 anthropogenic ponds within the boundaries of various conservation areas owned and operated by the Missouri Department of Conservation and the University of Missouri. All specimens have been deposited in the Enns Entomology Museum, University of Missouri-Columbia (UMC), unless noted otherwise. Other material collected from the Prairie Region prior to the present study, now housed in UMC, also was examined.

Results and Discussion

Detailed data on collection locality, distribution, and habitat association are presented for eight species of aquatic Polyphaga that previously have not been recorded from Missouri. The phylogenetic ordination of suborders, families and subfamilies listed below follows that of Downie and Arnett (1996).

Suborder POLYPHAGA Emery
Hydrophilidae Latreille
Subfamily Hydrophilinae Latreille
Hydrophilus triangularis Say

Distribution and remarks: This species was previously reported from New York south to Florida, and west to Texas and California. In the Prairie Region of Missouri, H. triangularis is widespread and commonly collected near lights at night, but not commonly collected from small ponds.

Habitat associations: Hydrophilus triangularis was collected in association with species of Polygonum, Cyperaceae, and Poaceae.

Other material examined: MISSOURI: BARTON CO.: Mon-Shon Prairie Cons. Ar., 27-IX-1999, Blacklight, Landwer and Whiteman (1); Dorris Creek Cons. Ar., 8-VI-1999, Blacklight, Landwer and Whiteman (1); BOONE CO.: 12-IX-1972, Aldrich (2); Columbia, 21-IX-1935, R. Froeschner (1); Columbia, 2-VIII-1934, T. E. Birkett (1); Columbia, 6-V-1953, Grabau (1); Columbia, 15-IX-1953, M. C. Grabau (3); Columbia, 7-VIII-1952, M. C. Grabau (1); Columbia, 10-V-1953, M. Grabau (3); Columbia, 15-IX-1936, H. E. Brown (1); Columbia, V-VIII-1940, W. S. Craig (1); Columbia, 16-IX-1939, W. S. Craig (1); Columbia, 26-III-1994, at car park lights, B. Nichols (5); CALLAWAY CO.: Tucker Prairie, 18-VII-1969, Light Trap (1); ST. LOUIS CO.: 17-VII-1935, Wm. M. Gordon (1); Ranken, 23-III-1930, E. P. Meiners (1), Ranken, 2-X-1938, E. P. Meiners (1); St. Louis, USDA Traps, 2-VII-1935 (1); St. Louis, USDA Traps, 2-VII-1935 (1); St. Louis, USDA Traps, 14-VIII-1935 (1); St. Louis, 26-IX-1954, E. P. Meiners (1); St. Louis, USDA Traps, 5-VIII-1935 (1).

*Helocombus bifidus* (LeConte)

**Distribution and remarks:** This species was previously reported from Labrador south to Florida and Mississippi. In the Prairie Region of Missouri, *H. bifidus* is extremely uncommon and only one individual was collected from one pond in Lincoln County.

**Habitat associations:** This specimen was collected in association with emergent sedges (Cyperaceae).


*Berosus pantherinus* LeConte

**Distribution and remarks:** This species was previously reported from West Virginia south to Texas, and north to Nebraska and Wisconsin. In the Prairie Region of Missouri, *B. pantherinus* is widespread and common.

**Habitat associations:** *Berosus pantherinus* was collected in association with a variety of submerged macrophytes and emergent vegetation, including species of *Chara, Juncus, Ludwigia, Polygonum, Potamogeton, Salix* (root mats), *Typha*, Cyperaceae, and Poaceae.


**Berosus striatus** (Say)

**Distribution and remarks:** This species is widely distributed in North America and was previously reported from the Northwest Territories east to Quebec, and south to California and Florida. In Missouri, *B. striatus* is widespread, although very few individuals were collected from each site listed below.

**Habitat associations:** *Berosus striatus* was collected in association with a variety of plants, including species of *Alisma, Juncus, Polygonum, Salix* (root mats), Cyperaceae, and Poaceae.


**Derallus alatus** (LeConte)

**Distribution and remarks:** This species was previously reported from New Jersey south to Florida, and west to Texas. In the Prairie Region of Missouri, *D. alatus* is known only from one pond in Boone County, where two individuals were collected.

**Habitat associations:** *Derallus alatus* was collected from marginal pond vegetation. Bald cypress trees (*Taxodium distichum* L.) were present at the collecting locality.


**Anacaena limbata** (Fabricius)

**Distribution and remarks:** This species was previously reported from across southern Canada, south to California, east to Mississippi and Arkansas. In the Prairie Region of Missouri, *A. limbata* is extremely uncommon and only one individual was collected from one pond in Barton County, at the southern limit of the Prairie Region.

**Habitat associations:** *Anacaena limbata* was collected in association with *Ludwigia* sp.

**Material collected:** MISSOURI: BARTON CO.: Mon-Shon Prairie Cons. Ar., 8 June 1999, Pond 87: *Ludwigia* sp. C, Landwer and Whiteman (1).

**CHRSOMELIDAE** Latreille

Subfamily Donaciinae Kirby

**Donacia palmata** Olivier

**Distribution and remarks:** This species was previously recorded from Nova Scotia west to Ontario, and south to Alabama and North Carolina (Marx, 1957). In the Prairie Region of Missouri, this species was collected from two ponds in Vernon and Barton Counties, both in the Osage Prairie in southwest Missouri. Riley and Enns (1979) listed six additional species of *Donacia* from Missouri.
Habitat associations: Donacia palmata was collected in association with Nelumbo lutea (Willdenow) Persoon and Nuphar spp.


Other material examined: MISSOURI: BARTON CO.: SE Lamar, 21 June 1978, on Nuphar, S. Quisenberry (1).

Cyperaceae Latreille
Subfamily Curculioninae Latreille
Barilepton quadricolle LeConte

Distribution and remarks: This species was previously recorded from New York, New Jersey, Michigan, Indiana, Illinois, Nebraska, and Kansas. In the Prairie Region of Missouri, B. quadricolle is widespread, although not commonly collected.

Habitat associations: Barilepton quadricolle was collected in association with species of Juncus, Cyperaceae, and multispecific stands of marginal vegetation.


Onychylis nigrirostris (Boheman)

Distribution and remarks: This species is widespread and was previously reported from New Hampshire west to Minnesota, and south to Florida and Texas. In the Prairie Region of Missouri, O. nigrirostris is widespread.

Habitat associations: Onychylis nigrirostris was collected in association with species of Ludwigia, Polygonum, Typha, Cyperaceae, and Poaceae.


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Literature Cited


