NEW STATE RECORD OF THE MAYFLY
_BAETISCA LAURENTINA_ McDUNNOUGH FOR WEST VIRGINIA (EPHEMEROPTERA: BAETISCIIDAE) AND NEW COUNTY RECORDS FOR SPECIES OF _BAETISCA_ IN KENTUCKY AND WEST VIRGINIA, U.S.A.

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ABSTRACT: _Baetisca laurentina_ McDunnough is reported for the first time from West Virginia. One male imago was collected near Twelvemole Creek, Wayne County, West Virginia. This record extends the range of this species eastward to the Mid-Atlantic coastal region. New distributional records (57) of _Baetisca_ spp. are reported for Kentucky (15) and West Virginia (42). The following county records have been added to the list of _Baetisca_ spp. from the two states: _Baetisca bernerii_ Tarter and Kirchner (KY/1 and WV/13), _B. carolina_ Traver (WV/3), _B. gibbera_ (WV/1), _B. lacustris_ McDunnough KY/14 and WV/22), _B. laurentina_ McDunnough (WV/1), and _B. rubescens_ Provancher (WV/2). _Baetisca lacustris_ is the most widespread baetiscid in West Virginia (26 counties) and Kentucky (25 counties). This species was found in six drainage basins (I, II, IV, V, VI, VII) in West Virginia. Only one baetiscid mayfly, _B. rubescens_, was recorded for drainage basin III.

KEY WORDS: Ephemeroptera, _Baetisca_, state and county records, Kentucky, West Virginia


_Baetisca_ specimens used in this investigation were deposited at the following agencies/institutions: Biological Systems Consultants (Lexington, Kentucky), Colorado State University, Marshall University (West Virginia Bentholological Survey), Morehead State University, United States Army Corps of Engineers (Huntington District), West Virginia Department of Environmental Protection (Watershed Assessment Section), and West Virginia University.

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Mailed on November 14, 2007
DISTRIBUTIONAL RECORDS

West Virginia

Janssen (1973) divided the state into the following drainage basins (Fig. 1): I. Ohio River (industrialization and farming), II. Monongahela River (high elevations and some acid mine pollution), III. Potomac River (farming, little pollution), IV. Little Kanawha River (slow, low gradient streams), V. Kanawha River (industrialization), VI. Guyandot River (heavy acid mine pollution) and VII. Big Sandy River (mining, low gradient streams). All baetiscid records are listed by drainage basin and county.

Figure 1. Janssen’s (1973) drainage basins in West Virginia.

*Baetisca bernerii* Tarter and Kirchner 1978

Tarter and Kirchner (1978) described mature nymphs from Laurel Fork of Pigeon Creek in Mingo County (drainage basin VII). Pescador and Berner (1981) reported this species from the Morgantown area in Monongalia County (drainage basin II). The following counties (13) are added to the distribution of this species (Fig. 2): Drainage basins II, V, VI, VII (Boone Co.: Bennett Fk., 23-14-97/Left Fk. of Joes Cr., 07-X-97 and Spicelick Fk., 17-IX-97; Clay Co.: Sycamore Cr., 11-IX-02; Kanawha Co.: Bells Cr., 16-VII-03/Slaughter Cr., 26-IX-01/Bradley
Fig. 2. County distribution records of *Baetisca bernerii* in West Virginia.

**Baetisca callosa** Traver 1931

Traver (1931) described *B. callosa* from a tributary of the Potomac River in West Virginia. However, Pescador and Berner (1981) studied the paratype nymphs from Preston and Mineral counties from West Virginia and concluded that the enigmatic species is not recognizable. From the examination of immature nymphs of the species of *Baetisca*, they reported that *B. callosa* Traver represents a very young stage of some species already described – perhaps *B. carolina* Traver or *B. bernerii* Tarter and Kirchner. One author (Tarter) has collected
and identified young and mature nymphs of *Baetisca* spp. for 30 years in West Virginia and has identified *B. callosa* from 10 counties. He disagrees with suggestions that *B. callosa* is a young stage of *B. carolina* Traver or *B. berner* Tarter and Kirchner. Efforts are being made to collect and rear specimens from the type locality and other counties in drainage basin III to resolve the taxonomic problem associated with this enigmatic species.

**Baetisca carolina** Traver 1931

Pettry and Tarter (1985) reported the ecological life history of this species from Panther Creek, Nicholas County, West Virginia (drainage basin V). Needham et al. (1935) recorded this species from Monongalia County in West Virginia (drainage basin II). The following counties (3) are added to the distribution of this species (Fig. 2): Drainage Basin V (Greenbrier Co.: North Fk. of Cherry River, 25-VII-75; Pocahontas Co.: Tea Cr. of Williams River, 02-VIII-73; Webster Co.: Cranberry River, 05-VIII-77).

Fig. 3. County distribution records of *Baetisca carolina* in West Virginia.
**Baetisca gibbera** Berner 1955

Nymphs of *B. gibbera* have been recorded from the cool mountain streams of the Appalachian Mountains and the warm waters of the Coastal Plain (Pescador and Berner, 1981). Burgess and Tarter (1989) recorded this from Indian Creek in Monroe County, West Virginia (drainage basin V). The following county is added to the distribution of this species (Fig. 4): Drainage basin V (Summers Co.: Indian Cr., 28-III-83).

![County distribution records of *Baetisca gibbera* in West Virginia.](image)

**Baetisca lacustris** McDunnough 1932

*Baetisca lacustris* (= *B. bajkovi* Neave) has been collected from the Great Lakes region and across the United States and Canada to the eastern slope of the Rocky Mountains (Burks, 1953; Pescador and Berner, 1981). This species has been reported from following counties in West Virginia (drainage basins I, II, VI, VII): Lewis, Lincoln, Pleasants, Wayne (Olson, 1971; Faulkner and Tarter, 1977). Chaffee and Tarter (1979) reported the life history and ecology of this species from Beech Fork in Wayne County. The following counties (22) are
added to the distribution of this species (Fig. 5): Drainage basins I, IV, V, VI, VII (Boone Co.: Big Horse Cr., 25-XI-75/Spruce Laurel Fk., 25-IX-97 and Laurel Cr., 07-X-97; Braxton Co.: Coon Cr., no date/Falls Run, 25-IX-80 and Knaw Cr., 17-XI-77; Cabell Co.: Mill Cr., of Mud River, 12-IX-71 and Charley Cr., 16-IX-03; Calhoun Co.: no locality data: Clay Co.: Elk River, 22-VI-73; Doddridge Co.: Toms Fk., 16-IX-03 and Meathouse Fk., 16-IX-03; Gilmer Co.: Steer Run, 25-IV-74; Jackson Co.: Right Fk. of Sandy Cr., 15-IV-99; Kanawha Co.: Kanawha River, 13-IV-82 and Davis Cr., 06-V-02; Logan Co.: Hoover Fk. 04-V-98 and Seng Camp Cr., 07-VIII-02; Mason Co.: Jerry’s Run, 17-IV-74; Mingo Co.: East Fk. of Twelvepole Cr., 28-IV-03/Tug Fk. River, 24-IX-03/Guyandotte River, 21-IV-82 and West Fr. of Twelvepole Cr., 03-V-00; Pocahontas Co.: Douthat Cr., 19-V-72/Mullenax Run, 20-VII-99/Little River of West Fk. of Greenbrier River, 29-VII-99 and East Fk. of Greenbrier River, 20-VII-00; Putnam Co.: Coon Cr., 19-III-73 and Clymer Cr., 24-II-73; Raleigh Co.: Marsh Fr. of Big Coal River, 13-XI-86; Ritchie Co.: South Fk. of Hughes River, no date and Indian Cr., 13-V-99; Roane Co.: Green Cr., 28-IX-97 and Big Sandy Cr., 10-IX-02; Tyler Co.: Middle Island Cr., 15-IX-99 and Indian Cr., 09-IX-03; Webster Co: Left Fk. of Holly River, 09-VII-78; Wetzel Co.: South Fk. of Fishing Cr., 26-IV-99; Wood Co.: Worthington Cr., no date and Walker Cr., no date; Wyoming Co.: Guyandotte River, 21-IV-82 and Measle Fk., 05-IX-00.

Fig. 5. County distribution records of *Baetisca lacustris* in West Virginia.
Baetisca laurentina McDunnough 1932

Baetisca laurentina is widely distributed in many areas of eastern North America, the Great Plains, through Canada into the Northwest Territories (Pescador and Berner, 1981; Randolph and McCafferty, 1998). On 13 May 1990, one male imago of B. laurentina was collected near Twelvepole Creek (Rt. 75, Shoals) in Wayne County, West Virginia (drainage basin VII (by Kondratieff, Welch, and Kirchner) (Fig. 6). This record extends the range of this species eastward to the mid-Atlantic coastal region. Randolph and McCafferty recorded this species from nearby Ohio (Adams, Highland, and Lawrence counties).

Fig. 6. County distribution records of Baetisca laurentina in West Virginia.

Baetisca rubescens Provancher 1876

Tarter and Pettry (1983) reported this species from Red Creek, Tucker County, West Virginia (drainage basin II). The following counties (2) are added to the distribution of this species (Fig. 7): Drainage basin III, V Pendleton Co.: Seneca Cr., 07-X-00; Pocahontas Co.: East Fk. of Greenbrier River, 26-IV-87.
Kentucky

Two species of baetiscids, *B. berner* and *B. lacustris*, have been reported from Kentucky (Pescador and Berner, 1981; Randolph and McCafferty, 1998). Based on collections from Ohio (Randolph and McCafferty, 1998) and western West Virginia, *B. laurentina* may also be found in Kentucky. Randolph and McCafferty (1998) reported B. obesa from southwestern Ohio, suggesting that it also may occur in Kentucky.

*Baetisca berner* Tarter and Kirchner 1978

Prior to this investigation, *B. berner* had been reported only from one drainage in Kentucky (Letcher County) (Randolph and McCafferty, 1998). On 19 October 1999, nymphs were collected from Brownies Creek in Harlan County.

*Baetisca lacustris* McDunnough 1932

Prior to this study, *B. lacustris* had been reported from 11 counties (Breathitt, Elliott, Floyd, Jackson, Knott, Lawrence, Lewis, Morgan, Pike, Pulaski, Wolfe)
in Kentucky (Pescador and Berner, 1981; Randolph and McCafferty, 1998). The following records (14) are added to the distribution of this species (http://www/nws/noaa.gov/mirs/public/prods/maps/cnty_fips_kentucky.htm): Boyd Co.: East Fork of Little Sandy River, 14-XI-78; Carter Co.: no locality data; Clay Co.: Goose Cr., 17-X-78 and Redbird River, 03-III-00; Estill Co: Station Camp Cr., 18-IV-02, Johnson Co.: Little Paint Cr., 09-X-85/Paint Fk., 26-IX-77 and Open Fk. of Paint Creek, 21-XI-75; Lee Co.: Ross Cr., 04-X-00; Letcher Co.: Colliers Cr., no date; Magoffin Co.: Lick Cr., 12-X-00; Martin Co., Horse-Pin Cr., 18-V-04; Menifee Co.: Gladie Cr., 23-X-00; Owsley Co., Wild Dog Cr., 04-X-00; Powell Co.: Fishtrap Br., 05-III-01; Rowan Co.: Elk Lick Fk., 16-II-06; Whitley Co.: Mud Cr., 12-X-04.

ACKNOWLEDGMENTS

The authors are grateful to the following persons for the loan of Baetisca specimens and help in field work: Mr. Kerry Bledsoe (Marshall University), Dr. Linda Butler (West Virginia University), Jack Humphreys (Marshall University), Mr. Fred Kirchner (US Army Corps of Engineers, Huntington District), Mr. Ed Kirk (Research Environmental & Industrial Consultants, Inc), Dr. Boris Kondratieff (Colorado State University), Dr. Sean O'Keefe (Morehead State University) and Mr. James Robinson (Biological Systems Consultants). Special thanks to Drs. Boris Kondratieff (Colorado State University) and Mike Little (Marshall University) for suggestions on the prepublication review of the manuscript.

LITERATURE CITED


