

## SCIENTIFIC NOTE:

**NEW DISTRIBUTIONS FOR  
*RAPTOHEPTAGENIA CRUENTATA* AND *AMETROPUS NEAVEI*  
(EPHEMEROPTERA: HEPTAGENIIDAE, AMETROPODIDAE)<sup>1</sup>**R.D. Waltz<sup>2</sup>, G. F. Edmunds, Jr.<sup>3</sup>, Gary Lester<sup>4</sup>

Large river habitats possess some of the least known mayfly species in North America (McCafferty et al. 1990). Difficulty in sampling such habitats has undoubtedly contributed to the report of widely disjunct distributions of large river species. Decline in the quality of large river habitat has also possibly contributed to localized extirpations and further increased the apparent disjunction of reported distributions (see Whiting and Lehmkuhl 1987, McCafferty et al. 1990). Herein, two large river species, which are rarely collected, are newly reported from Montana. One of these two species is also newly reported from Minnesota.

*Raptoheptagenia cruentata* (Walsh) has been reported previously from nine states or provinces in North America based on available literature (see Whiting and Lehmkuhl 1987, Edmunds and Waltz 1995). Reports of larval collections cited in the preceding papers include Arkansas, Illinois, Indiana, Montana, Ohio, and Saskatchewan. McCafferty (1988) designated the neotype of *R. cruentata* based on a larva in Indiana, which is housed in the Purdue Entomological Research Collection (PERC), West Lafayette, IN. Adult collections have been reported from Illinois, Indiana, Nebraska, Tennessee, and Manitoba.

Two *R. cruentata* larvae taken in the Powder River, by G. Romero, with the following collection data: MT: Custer Co., Powder R., 11-XI-1976 (1 larva), and same locale, 11-VIII -1976 (2 larvae) were the source of the previously unpublished Montana record reported by Edmunds and Waltz (1995). In addition a single, nearly mature larva of *R. cruentata* was recently taken in collections made at the Montana state line in the Little Missouri River at MT: Carter Co., Little Missouri River, Sec 12, T 6S, R 62E, 17-VII-1996. An additional new state distribution report for *R. cruentata* is herein given for Minnesota as MN: Sibley Co., Minnesota R. (drift net), 30-VI-1974, C.M. Haynes (1 young larva).

The more rarely reported species *Ametropus neavei* McDunnough, was also collected in the Powder River from MT: Custer Co., Powder River, 11-XI-1976, G. Romero (1 larva). *A. neavei* was previously known from the type locality in Alberta and from Saskatchewan, Canada (Allen and Edmunds 1976) and Michigan (Steven and Hilsenhoff 1979).

The recording of distributions of rare or rarely collected species is important 1) in order to provide data to adequately assess species rarity (e.g., see McCafferty and Edmunds 1997), and 2) to provide local and regional regulatory personnel and ecologists with data potentially critical to large stream management decision making.

The above habitats in Montana are large streams with firm sand substrates. We do not have data characterizing the Minnesota habitat. However, detailed data from the Little Missouri River site is available through monitoring activities reported to us by Warren Kellogg, Watershed Specialist, USDA NRCS, Helena, MT. Kellogg's data characterizes the Little Missouri at this site as

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an intermittent, warm water stream. Channel catfish and carp were present in the immediate area. Physical characters available include: pH 8.6; temp 27<sup>o</sup> C; nitrates < 0.01 mg/l; TKN - 0.2 mg/l; OP-0.014 mg/l; TP-0.03mg/l; TSS-26mg/l. The specimen of *R. cruentata* taken was collected by means of a kick screen. The riparian vegetation includes patches of large cottonwoods (*Populus deltoides*) and willows (*Salix* spp.) encroaching on the sand/silt bars. There was little or no shade at the collection site.

We thank Warren Kellogg for providing this data characterizing the collection site.

Vouchers originating from the personal collection of George F. Edmunds, Jr., and the larva from Little Missouri River are deposited at the Purdue University Entomological Research Collection (PERC), West Lafayette, Indiana.

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