

Zaitzevia posthonia Brown, 2001 (Coleoptera: Elmidae): New state record and range extension

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ABSTRACT: Two males and a female of *Zaitzevia posthonia* Brown 2001 were collected from a shallow riffle in a swift, second-order stream west of the continental divide near Lincoln, Montana. This new record confirms the presence of the species in the state, and extends the range of the species 267 km northeast of the nearest previously known record.

The riffle beetle genus *Zaitzevia* Champion 1923 ranges from 1.9-2.4 mm in length and can be distinguished from other adult Nearctic Elmidae by the eight segmented antennae. The coloration of the pronotum and elytra is highly variable and ranges from testaceous to rufus (Figure 1a). Prior to 2001, two distinct species were reported from western North America: *Zaitzevia parvula* (Horn, 1870) and *Zaitzevia thermae* Hatch, 1938 (Brown 1972). In 2001, Brown published a synopsis of the Nearctic genus in which he reduced *Z. thermae* to a subspecies of *Z. parvula* based on the lack of genitalic differences and ecomorphic variations found among other elmids species, and he described *Zaitzevia posthonia* Brown, 2001. Several thousand specimens from western North America, including Montana, were examined to establish the known geographic range for the new species. From this it was determined that specimens from Montana were representatives of *Z. parvula*.

Zaitzevia posthonia can be distinguished from other North American *Zaitzevia* species by the basally broadened median lobe of the male genitalia (Figure 1b) and the moderately incised apical margin of the 5th abdominal ventrite (Figure 1c). The intraspecific length, width and color vary highly among populations and localities (Brown 2001).

During bioassessment sampling in August of 2010, two males and a female *Z. posthonia* were collected from Willow Creek in western Montana (46°59'45.6" N, 112°21'14.3994" W; 1,695 m) using a Surber sampler. Willow Creek is a cobble-bottomed, second-order stream draining a forested watershed, with varied land use including hard-rock mining, silviculture and residential. The three dominant insect taxa co-occurring at the location were *Orthocladus* sp., *Simulium* sp. and *Hydropsyche* sp.; with *Zaitzevia* sp. larvae being the fourth most abundant taxon in the sample. This new record confirms the species within the state of Montana and extends the range 267 km to the northeast of previously published records (Brown 2001).

The specimens are deposited in the Essig Museum of Entomology, University of California, Berkeley, and can be found under catalogue numbers EMEC67, 342 and EMEC67, 343.

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FIGURE 1. *Zaitzevia posthonia* found in Willow Creek, Montana, USA: a) dorsal habitus b) median lobe of male genitalia c) 5th ventrite of male.

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