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New Late Cretaceous microvertebrate assemblage from the Campanian–Maastrichtian Williams Fork Formation, northwestern Colorado, USA, and its paleoenvironmental implications

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We describe a microvertebrate assemblage from the J&M site, of the Upper Cretaceous (Campanian–Maastrichtian) Williams Fork Formation. Breakdown of fossil bearing matrix was achieved with the use of heated dimethyl sulfoxide. Nine of the recovered taxa are new to both the J&M site and the Williams Fork Formation. The sharks *Lonchidion griffisi*, *Chiloscyllium* sp., and *Cantioscyllium markaguntensis* are the first non-batoid elasmobranchs reported from the Williams Fork Formation and are all represented by teeth. The rays *Cristomylus* and *Psuedomyledaphus* are also newly reported from teeth. The most common identifiable fossils were teeth of indeterminate amiids, most likely belonging to *Melvius*. Osteichthyan fossils new to the Williams Fork Formation include teeth of *Paralbula*, an indeterminate pycnodontid tooth plate fragment, and an indeterminate lungfish tooth fragment. A tooth of the teiid *Peneteius* is also the first reported from within the Williams Fork Formation. Alligatoroid teeth are relatively common and are extremely similar to those of the contemporaneous durophage *Brachychampsa* but are generically indeterminate. Terrestrial taxa were recovered in much smaller numbers. Theropod dinosaur fossils included isolated tooth fragments belonging to an indeterminate dromaeosaurid and, possibly, to *Richardoestesia*. We recovered both multituberculate and metatherian fossils in the form of isolated teeth. Some of these taxa are known from marine and estuarine deposits and, given that so many of these marine associated taxa have been recovered together, it seems likely that the J&M site is recording marine or estuarine influence within at least part of its depositional history. The mammalian taxa suggest a Judithian–Lancian age for the site, while records of the squamate *Peneteius* and the ray *Myledaphus*, suggest that the J&M site may be temporally transitional between other late Campanian and late Maastrichtian-aged localities.

Key words: Chondrichthyes, Osteichthyes, Dinosauria, Lepidosauria, Mammalia, Euselachii, paleoenvironment, microvertebrate, fluvial, Judithian, Lancian, North America.

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