Megalograptus is a <u>genus</u> of <u>eurypterid</u>, an extir of *Megalograptus* have been recovered in deposi America. The genus contains five species: *M. alv*

APPROVED By Harry Abad

welchi and M. williamsae, all based on fossil material found in the <u>United States</u>. Fossils unassigned to any particular species have also been found in <u>Canada</u>. The generic name translates to "great writing" and originates from the mistaken original belief that <u>Megalograptus</u> was a type of <u>graptolite</u>, often given names ending with -graptus (meaning 'writing').

Megalograptus was a large predatory megalograptid eurypterid, with the largest and best known species, *M. ohioensis*, reaching lengths of 78 centimeters (2 ft 7 in). Some species were substantially smaller, with the smallest, belonging to a hitherto undetermined species, only growing to about 10 cm (3.9 in) in length. Morphologically, Megalograptus was highly distinct. The two most distinctive features of Megalograptus were its massive and spined forward-facing appendages, far larger than similar structures in other eurypterids, and its telson (the last division of the body). The sharp spike-shaped telson of Megalograptus was not venomous, but it was specialized in that it was surrounded by unique cercal blades, capable of grasping. Certain fossils of three different species, *M. ohioensis*, *M. shideleri* and *M. williamsae*, are so well-preserved that researchers have been able to infer the coloration they might have possessed in life. All three were deduced to have been brown and black in color, with *M. ohioensis* being darker than the others.

First described by Samuel Almond Miller in 1874, based on fragmentary fossil remains of the species *M. welchi, Megalograptus* being a graptolite was not formally questioned until 1908, when Rudolf Ruedemann recognized the fossils as eurypterid remains. *Megalograptus* was noted as being similar to *Echinognathus* by August Foerste in 1912 and the two genera have been considered closely related since then, and have been grouped together in the Megalograptidae since 1955. In 2015, the genus *Pentecopterus* was also assigned to the family. Kenneth E. Caster and Erik N. Kjellesvig-Waering revised *Megalograptus* in 1955, owing to the discovery of more complete fossil material of the new species *M. ohioensis*. Caster and Kjellesvig-Waering conducted further work on *Megalograptus* over the following years. In 1964, they named the species *M. shideleri* and *M. williamsae* and reclassified the fragmentary eurypterid *Ctenopterus* alveolatus as a species of *Megalograptus*.

Megalograptus lived in near-shore marine environments, where it used its large appendages, and possibly its telson and cercal blades, to capture prey. Possible <u>coprolites</u> (fossilized dung) are known from *M. ohioensis*, which contain fossil <u>trilobite</u> fragments as well as fragments of *M. ohioensis* itself. This suggests that *Megalograptus* might have been <u>cannibalistic</u> at times, like many modern <u>chelicerates</u>.