

Alberta Palaeontological Society

More than Monsters: Mesozoic marine reptiles

Keynote Speaker: Dr. Hallie Street

Location: B108, Mount Royal University

Time: November 17, 2023, 7:30 pm MST

Abstract:

During the Mesozoic, while dinosaurs roamed the continents, marine reptiles diversified in the seas. Shallow seaways from this time were inhabited by three main groups of now-extinct marine reptiles: ichthyosaurs, plesiosaurs, and mosasaurs. These groups of reptiles evolved from different terrestrial ancestors, but each faced similar challenges when they returned to an aquatic lifestyle. These reptiles independently developed modifications to their limbs and bodies that allowed them to move efficiently in an aquatic setting. Fossils from around the world, including right here in Alberta, inform us about the diversity of species that could be found in these seas and about how they lived. Ichthyosaurs are known for their shark-like silhouettes, and different species of this lineage grew to massive sizes or hunted in deep, dark water. Plesiosaurs had the most disparate range of body forms, which indicates that different species inhabited different ecological niches. Some of these body forms, including the elongated necks of the iconic elasmosaurs, evolved multiple times within this diverse group of reptiles. Mosasaurs diversified rapidly toward the end of the Mesozoic, and many of the adaptations exhibited by these reptiles are directly related to their feeding preferences. Ancient marine reptiles were not dinosaurs, but they can help us understand life under the sea millions of years ago.

Biography:

Hallie Street is currently an instructor for the Department of Biological Sciences at MacEwan University in Edmonton, Alberta. Her first exposure to palaeontology came as a child, when her parents took her walking along riverbanks in eastern Virginia, looking for fossil shark teeth. Hallie studied geology and environmental sciences at the College of William and Mary, where she realized that many of her term papers for her upper-level geology courses were about palaeontological topics – even for her class about igneous and metamorphic rocks. Hallie went on to receive a Master's degree at Marshall University, where she described a plesiosaur from Wyoming with an unusually flattened body shape. Hallie moved to Edmonton to pursue her Doctorate at the University of Alberta, studying mosasaurs with Dr. Michael Caldwell. Following her Ph.D., Hallie spent three years as a curatorial assistant at the Royal Saskatchewan Museum's T. rex Discovery Centre. Hallie has been teaching introductory biology and zoology courses at MacEwan for two years, and she continues to research ancient marine reptiles.

Information:

This event is presented jointly by the Alberta Palaeontological Society, the Department of Earth and Environmental Sciences at Mount Royal University, and the Palaeontology Division of the Canadian Energy Geoscience Association. For details or to present a talk in the future, please contact CEGA Palaeontology Division Chair Jon Noad at jonnoad@hotmail.com or APS Program Coordinator Lacey Holoboff at programs1@albertapaleo.org. Visit the APS website for confirmation of event times and upcoming speakers: <http://www.albertapaleo.org/>.