

Showcase of Nova Scotia Fossils & Geology - Jurassic Fossils

Dr. Neil Shubin, University of Chicago. Original seminar was recorded on April 17, 2020.
Host: Tim Fedak, Nova Scotia Museum Co-Host: Luke Allen, Citadel High School

Introduction

- 1:30 Introductions: Tim Fedak, Luke Allen and Dr. Neil Shubin
- 1:30 - 3:00 Background Context: 1983 and Triassic/Jurassic Transition
- 3:00 - 6:00 Geologists and Nova Scotians, Paul Olsen and Eldon George

Presentation Part 1 - Nova Scotia and Newark Supergroup

- 6:00 - 9:00 Geology overview (Newark Supergroup), planning fossil expeditions.
- 9:00 - 10:00 Dr. Paul Olsen, geology studies and collaboration
- 10:00 - 15:00 Tides near Parrsboro and early discoveries in unexpected places.
- 15:00 - 18:00 Fossil skeletons: Sphenodontians (lizards) and Tritheledonts, *Protosuchus*, and dinosaur footprints.

- 18:40 - 21:45 Discussion: Fundy Geological Museum, Fossil Protection (Special Places Legislation) and importance of rift basin geology.

Presentation Part 2 - Tiktaalik and Fish to Tetrapod transition

- 21:45 - 26:45 Rocks of right age, right environment. Planning expeditions, Ellesmere Island, geology sites of Devonian age. Flat headed fish, arm bones.
- 26:45 - 28:45 Initial work and discovery.
- 28:45 - 29:45 *Tiktaalik* - transition fins to limbs.
- 29:45 - 31:00 Additional and future work coming up.

Student Questions and Dr. Shubin Answers

- 31:00 - 33:20 **When did you know you wanted to become a palaeontologist?**
Volunteering at museums and early learning.
- 33:20 - 35:00 **Where else have you worked around the world?** Morocco, Greenland, and now all seven continents.
- 33:50 - 36:10 **What was your favourite discovery?**
- 36:10 - 36:48 Many specimens, now returned to Canadian Museum of Nature.
- 35:50 - 36:20 **How have you used palaeontology with other sciences?** Geology and fossils, but also DNA and genomes of currently living animals, comparative anatomy, functional anatomy.
- 36:20 - 39:05 Teamwork and collaboration.
- 39:05 - 41:20 **How does palaeontology help us understand or modern world?**
Climate change and the past, what causes extinction, and advances in studies of human disease, model organisms.
- 41:20 - 41:50 **Thanks and Conclusion.**