eol podcasts

Encyclopedia of Life
eol.org

Ediacaran Fossils II Podcast and Scientist Interview
Trepassia wardae

Ari: For the Encyclopedia of Life, I'm Ari Daniel Shapiro. And this is: One Species at a Time.

In Portugal Cove South in southern Newfoundland, there's a story of two vanished species, and how people had to turn from depending on one to depending on the other.

Powers: This is the only place in the world where you lock your boat, and you hang your key next to the lock.

Ari: Cause it's so safe.

Powers: Yes, indeed, and it is.

Ari: Charlene Powers and her family harvested cod for generations. That is, until the fishery collapsed in the early 90s.

Powers: Now you can't get a fish out here to eat. There's no cod in our area.

Ari: But there used to be.

Powers: But there used to be lots of cod, yep. It's just like it vanished.

Ari: The collapse of the fishery, and the resulting moratorium on cod fishing, ricocheted through this community.

Powers: Enrollment in school has declined. Supermarkets closed. There's nothing here. People were afraid. They didn't know what was going to happen. We watched our community go downhill.

Ari: Almost half the nearly 400 residents in the area moved away and never came back.

Ward: You're losing friends. You're losing neighbors. And oh, I don't know…part of you is missing.

Ari: That's Kit Ward, a retired schoolteacher, and she was determined to keep her community intact. So she teamed up with a few friends to promote the area. Among their ideas –

Ward: A wonderful fossil site, which we knew was important…

Ari: A fossil site important both scientifically and economically. First, the science. Kit Ward was told by a couple paleontologists doing research in the area that the fossils are from the first complex animals that appeared on our planet during the Ediacaran period – that is, over half a billion years ago.

Ward: On talking to them, we saw, oh, gosh, we only had a surface knowledge. So this could be big. Wow. And it's right here on our doorstep.

Ari: About a 5 minute drive from Kit Ward's house is the Mistaken Point Ecological Reserve. This part of the Newfoundland coastline is jagged. It looks like a series of red tennis courts angling out of the water.

Narbonne: We are standing on a 580 million year old sea bottom.

Ari: Guy Narbonne is a paleontologist at Queen's University in Ontario. He stoops down to point out a treasure of a fossil. It looks like a long fern frond, but it's not a plant. It's an animal that lived on the bottom of the ocean where the light couldn't penetrate.

Narbonne: I'm gonna follow it along.

Ari: Narbonne runs his finger along the length of the fossil.

Narbonne: And it ends right here. That's my height. We're looking at, bar none, the oldest large multi-cellular creature on Earth.

Ari: And these creatures are drawing a crowd.

Narbonne's become part of some significant economic development in the area, and he says it's as gratifying as all the science he's done here. Proof of this success is here, at the nearby Trepassey Motel and Lodge. They've got 15 rooms, and can seat up to 60 for meals.

Devereaux: We have people who come here to have our fish and chips, or to have our pan-fried cod dinner.

Ari: That's Mary Devereaux, the co-owner and manager. When they first opened 20 years ago, she says most of their business came from the people connected to the fishery.

Devereaux: The bleakest time was immediately after the cod moratorium when we could've shut our doors.

Ari: They managed to stay open – barely – and today business is good again. A resurgence in the fishery – this time it's crabbing – has helped. The fossils are playing a big role too.

Devereaux: We often say, "What brought you here?" And 30 to 40% of the time, it's the fossils of Mistaken Point.

Ari: Besides fossil tourism, the fossils have created jobs too. Informal estimates suggest about a quarter of the jobs in the area now stem directly or indirectly from the reserve.

Sarah Tweedt is a graduate student in paleontology at the University of Maryland. She's spent several nights at the Trepassey Motel and Lodge, and has eaten more than a few meals here. This visit is her first time seeing the fossils of Mistaken Point.

Tweedt: Fossils are representatives of the history of life, and that's a heritage to which we all belong. Mistaken Point is a shining example of how sharing that history actively can help rebuild and support a community.

Ari: It's also an example of how the locals can give back to the scientists. That fossil that's as tall as a person – it was a local resident who found this specimen. His name is Bradley Ward – Kit Ward's son.

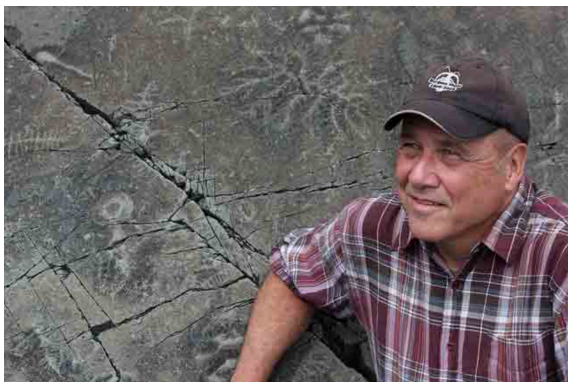
Ward: Oh, yes, I'm a very proud mom. Very proud mom.

Ari: In her home, she has a framed photograph of the fossil, which was given the scientific name *Trepassia wardae*. In honor of the Ward family. Kit Ward smiles when she sees the inscription under the photograph. The scientists credit her family for being tireless guardians of their fossil heritage. Not to mention guardians of their community's economic and civic future.

Ari: Our series, One Species at a Time, is produced by Atlantic Public Media in Woods Hole, Massachusetts. I'm Ari Daniel Shapiro.

Meet the Scientist

Meet Dr. Guy Narbonne, who was featured in the Fossil's podcast:



Where do you work?
Professor and Research Chair, Department of Geological Sciences and Geological Engineering, Queen's University, in Ontario, Canada.

What do you study?
I study the early evolution of animals and their ecosystems.

What are three titles you would give yourself?
Paleontologist, geologist, husband and father. I'm also a gourmet cook, but mostly for my family.

What do you like to do when you are not working?
Research on Ediacaran life requires a lot of fieldwork in remote areas around the world, which provides a nice counterpoint to my teaching and lab work in a university setting.

What do you like most about science?
I immensely enjoy the thrill of scientific discovery, and the joy of communicating these new discoveries through scientific publications, lectures, and public outreach. Teaching my 1st year course in History of Life to students from every department across campus also provides me with a great deal of joy.

MUSEUM OF COMPARATIVE ZOOLOGY

HARVARD UNIVERSITY

The One Species at a Time podcast series is supported by the Harvard Museum of Comparative Zoology.