BC dinosaur interview: Reporter - Hayley Dunning (**HD**) and Researcher – Victoria Arbour (**VA**)

HD: So you (or someone) found the jaw of a flying dinosaur in BC?

VA: That's right, although it's not actually a dinosaur, it's actually like a pterodactyl, and we call them pterosaurs. They're not dinosaurs, but they're the closest evolutionary cousins to dinosaurs. Dinosaurs and pterosaurs have a common ancestor but they're not the same thing.

The specimen was found by someone called Sharon Hubbard, and the place that it's from is called Hornby Island. At that location you find these little nodules, little concretions of rock and people will go out and look for them and crack them open and sometimes they have fossils inside. A lot of the time you find marine animals like clams or ammonites or crabs of things like that, but this time they cracked it open and it had this jaw inside of it- That's kind of unusual and that's when it got brought to our attention.

HD: When was it discovered?

VA: Probably about 7 or 8 years ago. I got involved with the project in 2007.

HD: I guess you haven't been working just on the jaw, are there some other finds from that area?

VA: Well it's the first thing I've worked on from southern BC, a couple of years ago I actually wrote a paper talking about the first dinosaur remains from BC, and those are from a place north-central called the Sustut Basin. That's why Phil (Currie) asked me to be involved in describing this specimen. Even though I started talking about it in 2007, and it's now 2011, that's because I also work on armoured dinosaurs, that's my thesis, so this has been sort of like a side project. It takes a while to get these things worked on sometimes; we had to prepare it a little bit more because we had to have a bit more detail exposed, and for a long time we didn't know what it was, so it took us a really long time to get on track with what kind of animal it was before we even began writing the paper.

HD: How did you figure out in the end that it was part of a flying reptile, especially when there were no others found in BC?

VA: We basically just read a lot of scientific papers over a long time, and I have a friend here, Derek Larson, and he worked on dinosaur teeth and teeth of other things from different places in Alberta, and one day he just said to me "Well, have you tried any pterosaur papers?" and I said "No, but maybe I should." So I did, and not too long after that suggestion I came across a paper describing a pterosaur from

China from the early Cretaceous, and when I looked at it I thought "You know that looks pretty similar to what we have". I started to re-orient what I was looking at in the specimen – so originally what I thought for a long time might be a lower jaw, when I looked at that specimen I kind of flipped it around and went "Aha! It's an upper jaw." And then things started to move pretty quickly and I found more papers and more animals that looked similar and it just kind of went from there.

HD: What precise time period is this pterosaur from?

VA: So it's from the Late Cretaceous, its rocks from the Campanian, about 70 million years ago. The neat thing is it's about the same age and the famous dinosaur localities in Alberta like Dinosaur Provincial Park. It's from a similar time period but a different geographic location, so it's kind of interesting that there's different things there.

HD: I read that it's the first pterosaur in BC, but are there others elsewhere in Canada?

VA: We have some really fragmental stuff from Dinosaur Provincial Park, but it belonged to a different kind of pterosaur which is a giant pterosaur, so this is the pterosaur that's like the size of a small aeroplane. It's really cool but it's also found in the United States. So we have some of that species in Canada, but this one in BC is the first one that's unique to Canada, so we were pretty excited about that.

HD: I noticed also there was a little controversy about the finder...

VA: Yeah, actually there isn't much controversy; basically what happened was we made a bit of an error in who actually collected the specimen. So in the paper we said that Graham Beard collected it, he's the one that brought in to our attention because he runs a museum out there, and Sharon Hubbard is the collector. So we've been just working to make sure that people understand that she was the one that collected the specimen. But beyond that there isn't really much controversy because it was just a mistake that we feel bad about.

HD: I read that she was a bit angry about it...

VA: Yeah and understandably so, it's important that we give the right credit.

HD: As far as being a new species and being a pterosaur in BC, which you haven't found before, does it say something unique about what kind of environment or what else existed there at that time?

VA: The reason that I'm really excited about it is that it means maybe we're going to find more land-dwelling animals from that time period in that area. A few years ago there was a paper that talked about some fossil bird bones in the same formation,

now we've got pterosaurs, so we're learning a little bit about the animals that were flying around that area, which is pretty cool because we don't normally find that, even in Alberta. If I could wish for something it would be really cool if we did start to find some dinosaur material in that formation. If we're finding pterosaurs and birds, there's a good chance we're going to eventually find a dinosaur. But again its marine sediments which means things have to be washing in or falling in. So it just increases our knowledge of what was living there at the time, and it was something quite unexpected, so that's what got us so excited about it. I would never have guessed that that would be what we would pick up off the beach there.

HD: I noticed some press releases also come with a really nice picture [attached], how did that come about?

VA: That's actually something I drew. The reason we did that is, when we finished writing the paper I knew I wanted to do a press release, because it's a cool find and I wanted people in BC to know about it. But the specimen itself doesn't photograph really well; it's actually not a really pretty specimen to look at. It's cool if you know what it is, but it's quite small and it has long teeth but they're also small, and it's hard to visualise what that animal would have looked like from that fossil unless you're a specialist in the field. So I wanted to have a picture that would give people an idea of the shape of the animal, because all the people know what dinosaurs look like but they might not know what pterosaurs looked like. The drawing is a little bit of a guess, because we only have the tip of the snout, but overall it's probably what the animal looked like in shape.

HD: How big do you think the animal was?

VA: We're got the tip of the snout, which is about 10cm long, so I would estimate the skull is at least 50-60cm, and the wingspan was maybe around 3m. He would be a medium-sized pterosaur.

HD: Is there anything you wanted to add?

VA: It was a lot of fun to work on the project. British Colombia has a lot of really cool fossils that we don't hear as much about because of course here in Alberta we have Dinosaur Provincial Park and all the great dinosaur finds going on, but this shows us that BC has a lot of interesting things going on as well – we should definitely keep looking for stuff. I hope that people are excited about it because I was and it's an interesting find.