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Arctic Terns Podcast Script and Scientist Interview

Sterna paradisaea

The Arctic tern (*Sterna paradisaea*) makes an incredible migration each year. These small birds travel distances of more than 50,000 miles, from pole to pole, crossing through temperate and tropical regions along the way. Carsten Egevang used geo-locator tags to track some of these terns, and he shares their story with us in this Google Earth tour video.

The Arctic Tern Google Earth Tour is narrated by Ari Daniel Shapiro. Produced by Atlantic Public Media and Eduardo Garcia Milagros.

Transcript

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

I'm about to tell you a story for your ear. But you should know that you can visit eol.org, and watch this story too. We made it into a Google Earth tour that lets you follow this journey on a map. Ok, now for the story.

Arctic terns, or *Sterna paradisaea*, have stubby legs so they're clumsy on land, but in the sky – well, that's a different story.

Egevang: It's very elegant bird in the air. It's made for life in the sky.

Ari: And, says Carsten Egevang – a researcher at the Greenland Institute of Natural Resources – Arctic terns put that flying ability to good use.

Egevang: It conducts this extremely long migration.

Ari: A migration from the Arctic to the Antarctic – and back – every year. Egevang wanted to know more about that journey – how they get from the very north to the very south, and where they stop along the way.

So in July of 2007 Egevang headed up to Sand Island, off the coast of Greenland. That's where he could find a thousand breeding pairs of Arctic terns. His plan was to attach little geo-locator bracelets to the legs of the birds...to log their flight paths. But that was easier said than done.

Egevang: There was absolutely no protection to – towards storms, so we had some really, really bad weather where our tents blew into the sea.

Ari: Wait, your tents blew into the sea – didn't you need those tents to sleep?

Egevang: Yeah, yeah, they would get just devastated by the storms.

Ari: And if the cold and wet weren't enough – and the noise – they were also under attack.

Egevang: The Arctic terns are very good at defending their colonies so they would attack us all the time from behind where you didn't notice them and peck us in the head with their really pointy beaks.

Ari: And yet, despite the frosty elements and getting hammered in the back of the head over and over again by the very birds he was trying to study, Egevang was able to set up a handful of traps.

Egevang: Trap that we would place over the nest. And once the bird comes back to incubate the eggs, the trap will catch the bird, and we're able to handle the bird.

Ari: Egevang managed to trap 50 Arctic terns, and attach the bracelets to them. And within days, the birds took off in small flocks, and began their migratory odyssey. To retrieve the data, Egevang had to get those geo-locators back. So he waited a whole year for the birds to return. And when they did –

Egevang: We had to find the exact same individual that we marked the year before. We would look up in the air at several hundred birds at the same time and look for that one bird that would have a small logger on the leg, so that was really time-consuming.

Ari: Egevang would track the bird back to its nest, and set up that same trap to retrieve his geo-locator.

Egevang: Well, we are really far away into the Greenland wilderness, so we don't have all that much to celebrate with apart from a bottle of whiskey. So we had a whiskey when we caught a bird.

Ari: All told, he tagged 10 birds, and drank 10 shots of whiskey. He expected to find the birds would be in a hurry to get where they were going. But after leaving the breeding grounds, the birds spent a month hanging out in the middle of the north Atlantic.

Egevang: This was completely unknown that the birds would do that.

Ari: Most of what's driving their migratory path is food, so they hang around spots where there are lots of small fish to eat. They start flying south again in September.

Egevang: And then something really surprising happened around equator.

Ari: There's a migratory divide – a split.

Egevang: About half the bird would follow the coast of Africa whereas the other half would cross the Atlantic and then follow the coast of South America. But all of them came back to spend the winter in the Weddell Sea down at Antarctica where they will find an iceberg and rest and just fish and eat.

Ari: From November to April. And then within a week, all the birds take off to begin their northward return flight.

Egevang: Instead of following the same routes as they did when they migrated south, they would pick a totally different S-shape pattern flying towards Africa, crossing the equator and then reaching almost as far as the Caribbeans before they would start flying towards Greenland.

Ari: The birds were able to take advantage of a strong tailwind so they covered a lot of ground – over 300 miles per day.

Egevang: It's like the birds were in a hurry to get back to the breeding grounds, and they more or less just went as fast as they could.

Ari: He can say something now about hot spots in the ocean – places that are especially rich in food not just for Arctic terns – but for other sea birds and marine mammals too. That can be helpful in deciding which parts of the ocean require extra conservation attention.

And Egevang has calculated that all the flying an Arctic tern does during its life –

Egevang: It's equal to if the Arctic terns were to fly to the moon and back three times – that's really amazing if you look at it that way.

Ari: What's amazing to me is that the birds really have to be adapted to the whole globe.

Egevang: That's true.

Ari: So do you have new respect for these birds after seeing the results?

Egevang: Yeah, absolutely – I mean, they are really, really tough small birds.

Ari: And because of where Arctic terns spend their time, says Egevang, in a year they not only see more of our planet, but also more daylight, than any other creature on Earth.

Don't forget to visit eol.org where you can find a Google Earth tour of our story. It's got images and videos of the terns, and animations of the flight paths driven by Egevang's data.

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 Carsten Egevang, the scientist featured in the Arctic Tern podcast:



Where do you work?

The Greenland Institute of Natural Resources.

What do you study?

Breeding ecology and migration of Arctic seabirds in Greenland.

What are three titles you would give yourself?

Biologist, Photographer, Dad.

What do you like to do when you are not working?

My big interest is photography and I'm an awarded wildlife photographer specialized in images from Greenland.

What do you like most about science?

I like to identify unknown issues in the life cycle of Arctic seabirds and when find appropriate methods to gain this information and increase our present knowledge on Greenland wildlife.

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