



The Animated Life of A. R. Wallace

[MUSIC PLAYING]

[Evolution by Natural Selection]

ANDREW BERRY: Evolution by natural selection. This is an idea that has been sought after since the dawn of human thought.

[Where do we come from?]

ANDREW BERRY: And it was a theory that was discovered by two people, and we've blithely forgotten one of them. What on Earth has happened to poor old Alfred Russel Wallace?

[The Animated Life of A.R. Wallace. Narrated by George Beccaloni, Ph.D., Natural History Museum, London, and Andrew Berry, Ph.D., Harvard University]

[Part 1: Beginnings]

GEORGE BECCALONI: Alfred Russel Wallace was born in 1823 in a small cottage by the banks of the river Usk in Wales.

ANDREW BERRY: And he works with his brother, and they're surveying the British countryside. He becomes interested in plants. And this is Britain. There's not even that much to become interested in. I say that with a certain amount of national pride. And in 1844, he meets Henry Walter Bates.

[Henry Walter Bates]

GEORGE BECCALONI: Bates turned out to be a really keen beetle collector.

ANDREW BERRY: So OK, here we are collecting beetles in miserable Britain. We can do better than this. We can do real science.

GEORGE BECCALONI: He suggested to Bates that they both go off to Brazil and collect mainly insects, but also birds.

ANDREW BERRY: These are two know-nothings. They don't have any money. They've been nowhere. And they decide to go to the tropics. I mean, this was equivalent today of going to Mars. It's just so unimaginably bold.

[Part 2: Fantastic gaudy things. 1848]

GEORGE BECCALONI: They headed off to Brazil, worked together for a while, and then decided to split up and concentrate on different areas of the Amazon.

[*Tabebuia serratifolia*]

ANDREW BERRY: Wallace was the modern equivalent of the backpacker, basically traveling by himself. He's dependent upon local help. Everything's stuffed into a dug-out canoe.

[*Egretta thula*]

ANDREW BERRY: And yet he's trying to do science. And collecting stuff, which is the worst kind of science to do under those circumstances because you're just accumulating enormous amounts of stuff—spider monkeys, toucans, parrots, fantastic, gaudy things.

So he has this vision. He's going to walk into a London scientific salon with a toucan on his arm. He's not going to be a nobody. He's going to be a somebody.

[Wallace returns to Britain]

GEORGE BECCALONI: What happened next was at 26 days into the voyage when the ship was in the middle of the Atlantic, it caught fire.

ANDREW BERRY: Ship's on fire. It's going up like a tinderbox.

GEORGE BECCALONI: And they watch the ship sink.

ANDREW BERRY: Wallace got to visualize the collections which he'd nearly died for, those living animals, those pets that were his passport to the big time, he watches everything go up literally in flames.

GEORGE BECCALONI: Ten days later, they were very luckily rescued by an old leaky ship that was going back to England.

ANDREW BERRY: And he writes this poignant letter, as one would. It's nice to be back. I'm never going to sea again. But if he wants to realize that ambition to become, quote, "a scientist," he's got to do it again.

GEORGE BECCALONI: Wallace decided, where next?

[Part 3: The Malay Archipelago. 1854]

ANDREW BERRY: He's off again, this time to Southeast Asia.

[*Rafflesia arnoldii*]

GEORGE BECCALONI: He collected an astonishing total of 126,000 specimens of natural history. And out of all the specimens he collected, several thousand were new to science.

[*Cicinnurus regius*]

ANDREW BERRY: He's doing the backpacker thing again. He's struggling to survive.

[*Heterometrus spinifer*]

ANDREW BERRY: He's getting attacked by—his specimens keep getting stolen by dogs. And yet he's still finding time in between bouts of malaria to really think big picture.

[4 years later]

GEORGE BECCALONI: He was in a little village racked by malarial fits. During this illness, Wallace was really thinking about natural history and the distribution of plants and animals in space and time.

ANDREW BERRY: The notion was that species changed one into another through time. And for whatever reason, ping, yes, there was his Eureka moment.

GEORGE BECCALONI: Wallace realized that, basically, there's constant death and struggle in the natural world.

ANDREW BERRY: There's finite resources. Therefore, competition. So who's going to win that competition? Well, the best endowed.

GEORGE BECCALONI: And this provided a mechanism driving evolution—natural selection.

ANDREW BERRY: If you want a Eureka moment, that's pretty Eureka-ry.

[Part 4: Co-Discovery]

ANDREW BERRY: Famously, as soon as he's capable of holding a pen, he writes out his manuscript.

GEORGE BECCALONI: Because he knew that Charles Darwin was interested in evolution, he posted the scientific essay off to Darwin. When Darwin opened Wallace's essay and started to read it, he was absolutely shocked.

ANDREW BERRY: Darwin wrote, "Wallace could have seen one of my manuscript and used its chapter headings as his topic sentences." Darwin cobbles together a set of notes to be presented alongside Wallace's.

[In 1858, Darwin's colleagues present the theory of natural selection at the Linnean Society of London.]

[Darwin and Wallace share the credit]

ANDREW BERRY: The next thing that happened, of course, was it galvanized Darwin into scribble, scribble, scribble. The *Origin of Species*, published in November 1859, does mention Wallace in the preface, but, it's my theory. This is—here it is.

And look, to a certain extent, fair enough. He's been working on this for a long time. Does Wallace go through and count the number of times he's referred to? Does Wallace get—excuse me! No. Wallace loves the book, says, God, look. Darwin knows so much. I couldn't have done this.

[Part 5: Legacy]

GEORGE BECCALONI: I suppose I hate injustice, and I feel that, at the moment, the history of biology has a very Darwino-centric view. People like Wallace actually made massive contributions, and they deserve to be remembered as well.

ANDREW BERRY: It's the greatness of the idea that they had which should give him prominence, which is this idea that everyone's been seeking forever—where we come from and how we relate to the rest of the natural world.

[MUSIC PLAYING]

[Alfred Russel Wallace, 1823-1913]