



*Ecology and
Evolution of
Darwin's Finches*

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Peter R. Grant

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Variation, adaptation, natural selection, evolution: these ideas developed by Charles Darwin reside so comfortably at the core of evolutionary biology that it is easy to forget the extent to which evolution is a hypothesis. Darwin never saw populations evolving over generations

as they adapted to their environment. That, he assumed, would require living for thousands of years. Instead, he saw a lot of traits, including the differently shaped finch beaks in the Galapagos, that would make sense if adaptation and natural selection were at work.

Almost 150 years after *The Origin of Species*, can we see evolution in action? Peter Grant returned to the same finches that Darwin had observed, and, in this remarkable study, he argued that one could observe evolution happening on a scale of months and years, not millennia. By observing how changes in the islands' harsh and fluctuating environment led to natural selection on the size and shape of finches' beaks, Grant showed that competition and selection can act strongly enough on contemporary populations to produce observable and measurable evolutionary change.

Ecology and Evolution of Darwin's Finches is an extraordinary account of evolution in action. Peter and Rosemary Grant have continued to return to the Galapagos and the finches every year. In 1999, they updated this classic book by employing the new tools of molecular biology to determine the birds' ancestry. A few years from now, they will probably return again with another new edition. This remarkable study has produced an evolving book.