

Survivors by Richard Fortey: review

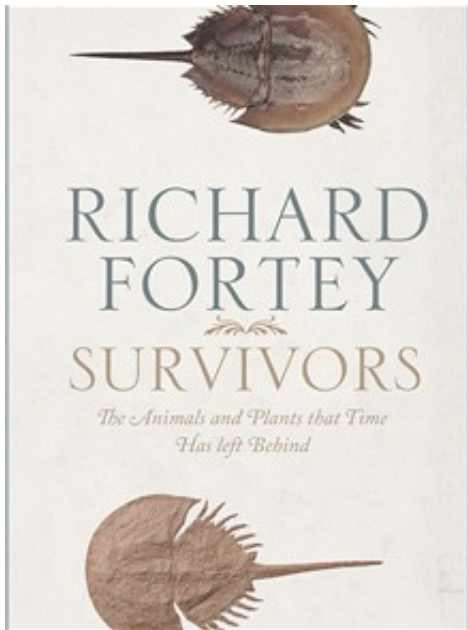
A passionate exploration of the flora and fauna that have stood the test of time



By [Steve Jones \(http://www.telegraph.co.uk/science/steve-jones/\)](http://www.telegraph.co.uk/science/steve-jones/)

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Richard Fortey accumulated lots of air miles and generated a veritable hecatomb of unfinished in-flight meals while writing this book (and as an employee of the Natural History Museum that means economy class cuisine). He visited New Zealand, Alaska and other US states, Ecuador, Hong Kong, Lithuania, Newfoundland (where, off Mistaken Point, the “bones of 50 ships lie offshore, waiting to be fossilised”), Australia, Malaysia, Majorca, Singapore, Germany, Portugal, mainland China, Spitsbergen and even south Wales (where, when we eat laver bread with its primitive seaweed ingredient, we “munch at a Pre-Cambrian trough”).



Everywhere, Fortey is searching for the remnants of days long gone. Fortey does not like the term “living fossil” (although both he and I, fortunate in having spent careers pursuing apparently irrelevant facts about obscure animals, would fit that description in today’s academic world). Instead he goes for those few members of ancient groups that have persisted to the present day.

Survivors is an exploration of the world that went before. Fortey retains his characteristic ability to paint vivid word-pictures of times long ago and places far away. The book begins with a trip to the shores of Delaware, where, once a year, thousands of horseshoe crabs, scarcely changed for more than 100 million years, indulge in group sex. As they heave their way onwards, like battered tanks, Fortey gets the clear message: “Survival is all”. He has spent most of his life studying trilobites, a related group of marine jointed-limb creatures which died off with the dinosaurs, so for him the trip to the horseshoe crabs of Delaware was like a Catholic’s first visit to the holy city of

Rome: a breath of life amid a career otherwise preoccupied with death.

In the old days, history used to be about chaps, geography about maps and the fossil record mainly about gaps. Now, many of those gaps are being filled in – by fossils, but also by the variety of creatures that creep shyly onto these pages. They are, of course, not our ancestors, but they remind us what our ancestors might have been. They include the velvet worms, whose antecedents date back almost unchanged to the Cambrian era. They are

reminders of the earliest days of segmented animals, which include crabs, insects and earthworms. At the other end of the scale is the hellbender, a giant salamander of American streams and, in the vegetable world, the Ginkgo tree – which, although now a familiar inhabitant of London streets, has leaves that have scarcely changed for almost 300 million years.

In the genetic sense, of course, we are all survivors. Just this week there was a report of cell-like structures from almost three and a half billion years ago – a time when the ocean had the temperature of a hot bath, the air was full of methane, and the moon loomed enormous in the skies – from some beds in Australia. They may be the oldest fossils of all – and, although they did not last, almost every living creature on Earth is their descendant.

Most of the heroes of Fortey's pages have stuck to what they like by adopting an obscure and specialised way of life. Many are unfamiliar to non-biologists, and deserve their 15 minutes of fame. As Fortey says, names really matter, but there are perhaps too many here for the average reader. On the way through the evolutionary forests of the almost forgotten we read plenty of Latin, for Fortey does not hesitate to use technical names of plants and animals. He also admits that he does not like just to take the evolutionary trip from A to Z, or even from Z back to A and instead hops alarmingly back and forth through the eras until the incautious reader might be left gasping to discover quite which geological stratum he is in.

Fortey suggests that to retain as much as we can of the remnants of early life, certain parts of the world might be designated as "time haven" reserves. They include the shores of Hong Kong, the submarine Queensland Plateau off the east coast of Australia, New Caledonia, and the Huangshan mountains of China, each of which shelters many refugees from the unimaginably distant past and each of which deserves special care if our own descendants are to experience those ancient voices before they are finally stilled.

The book is passionate, clear and comprehensive but says oddly little about the greatest living fossil of all: man himself, whose physical appearance has scarcely changed since he first appeared on Earth, but whose mental – and physical – universe has been transformed, even within the past millennium. We ourselves have adapted to so many changes that the whole globe has become a nature reserve, a time haven, for *Homo sapiens*. We will, perhaps, end up as the biggest survivor of all as we adapt in the future – as we have so often in the past – to challenges such as climate change, disease and food shortage.

And to remind the many who think that studying obscure remnants of the past (even on economy class) is a waste of taxpayers' money, a component of horseshoe crab blood is now widely used in medical tests to detect minute quantities of bacterial poisons; a discovery, ironically, that put the survival of the crabs themselves at risk as they were pillaged for pharmaceuticals. They have now been saved, as a reminder that science – like much of this book – is the art of the unexpected.

Survivors: The Animals and Plants That Time Has Left Behind

By Richard Fortey