

# WHAT SPECIES MEAN

## A User's Guide to the Units of Biodiversity

Everyone uses species. All human cultures, whether using science or not, name species. Species are the basic units for science, from ecosystems to model organisms. Yet, there are communication gaps between the scientists who name species, called taxonomists or systematists, and those who use species names—everyone else. This book opens the 'black box' of species names, to explain the tricks of the name-makers to the name-users. Species are real, and have macroevolutionary meaning, and it follows that systematists use a broadly macroevolution-oriented approach in describing diversity. But scientific names are used by all areas of science, including many fields such as ecology that focus on timescales more dominated by microevolutionary processes. This book explores why different groups of scientists understand and use the names given to species in very different ways, and the consequences for measuring and understanding biodiversity.

### Key Features

- Explains the modern, multi-disciplinary approach to studying species evolution and species discovery, and the role of species names in diverse fields throughout the life sciences
- Documents the importance and urgent need for high-quality taxonomic work to address today's most pressing problems
- Summarises controversies in combining different—sometimes quite different—datasets used to estimate global biodiversity
- Focusses throughout on a central theme—the disconnect between the makers and the users of names—and seeks to create the rhetorical foundation needed to bridge this disconnect
- Anticipates the future of taxonomy and its role in studies of global biodiversity

### Related Titles

Crother, B. I. & L. R. Parenti, eds. *Assumptions Inhibiting Progress in Comparative Biology* (ISBN 978-1-4987-4127-9)

Jennings, W. B. *Phylogenomic Data Acquisition: Principles and Practice* (ISBN 978-1-4822-3534-0)

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