

Book review

Phenotypic Plasticity: Beyond Nature and Nurture

Massimo Pigliucci

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The concept of phenotypic plasticity has been popular in evolutionary biology over the last two decades or so. It really provides something for the theoreticians to get their teeth into, lying, as it does, at the interface of physiology, morphology, behaviour and genetics, probably contributing significantly to the level of phenotypic variation noted in wild populations and influencing rates of evolution. As is so often the case in evolutionary biology, this is a field in which empiricists have struggled to keep up with the pace of theoretical development. Phenotypic plasticity research has produced controversy; how do the genes affecting the plastic response operate, indeed do genes for plasticity really exist, how should plasticity be described and quantified, and so on? This has provided the stuff for some fascinating conflicts in the scientific press and the development of a number of phenotypic plasticity 'camps'.

The appearance of *Phenotypic Plasticity: Beyond Nature and Nurture* by Massimo Pigliucci is timely. The study of phenotypic plasticity is probably due for new input and it is possible that this publication could provide the

necessary stimulus. A comparison of this book with an earlier text by CD Schlichting and M Pigliucci (*Phenotypic Evolution: A Reaction Norm Perspective*, Sinauer, 1998) is inevitable. As expected, there is a fair amount of overlap in the material covered by the two books. However, *Phenotypic Plasticity: Beyond Nature and Nurture* gets my vote. I found it considerably easier to read and to digest the information provided. In fact, I would expect *Phenotypic Plasticity* to appeal to students at all levels of development and sophistication. The text is nicely laid out (although the reproduction of many of the figures is quite poor) and well written. After three chapters introducing phenotypic plasticity, Pigliucci presents separate chapters on genetics, molecular biology, developmental biology, ecology, behaviour, evolution and theoretical biology. One of the great strengths of the book is that Pigliucci is making real efforts to ensure that the subject moves forward by discussing lines of research that still need to be addressed.

It is difficult to see how any student of phenotypic plasticity will be able to get by without a copy of this book on their shelf. In fact, I highly recommend *Phenotypic Plasticity* to anybody interested in evolution. It is a fascinating read and will not fail to stimulate new insight into this most important topic.

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