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► **COVER:** 'Budding genus' by Patrick Morgan, inspired by the Progress article on p175.



LOUISA FLINTOFT



TANITA CASCI



MARY MUERS



MEERA SWAMI

**D**espite conservation in many biological processes, there are abundant examples of how nature can solve a problem in more than one way. As illustrated by several articles in this issue, exploring differences among species provides insights that are just as valuable as exploiting similarities.

In their Review on page 204, Law and Jacobsen bring together recent findings from plants and animals that expand our understanding of how DNA methylation is established, maintained and modified. There are important differences in these processes between plants and animals in terms of, for example, the mechanisms used to target DNA methylation in specific contexts. However, a closer look reveals that several overall themes apply to both groups, an appreciation of which has led to important advances.

An area in which pinpointing differences among species is at the crux of research is the study of evolution. As discussed in a Research Highlight on page 170, the genomes of three species of the parasitoid wasp *Nasonia* have now been sequenced. Along with the development of a sophisticated genetic tool kit for these species, this achievement makes *Nasonia* species potentially powerful arthropod models for evolutionary developmental biology. Comparing the genetics of *Nasonia* development to that of the well-established insect model *Drosophila melanogaster* should deliver many new insights.

Exploring differences between species is also key to understanding the process of speciation, which is the topic of the Progress article by Presgraves on page 175. Several 'speciation genes' that determine crucial differences between closely related species have been identified over the past few years, representing an important step forward in understanding how new species form.

#### EDITORIAL OFFICES

**LONDON** NatureReviews@nature.com  
The Macmillan Building, 4 Crinan Street,  
London N1 9XW, UK

Tel: +44 (0)20 7843 3620;  
Fax: +44 (0)20 7843 3629

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**LONDON** nature@nature.com  
The Macmillan Building, 4 Crinan Street,  
London N1 9XW, UK  
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Fax: +44 (0)20 7843 4596/7  
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nature@natureny.com  
Nature Publishing Group,  
75 Varick Street, 9th floor, New York,  
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Tel: +81 3 3267 8751; Fax: +81 3 3267 8746

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Tel/Fax: +91 11 2324 4186

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