Cover illustration
The centrepiece of this landmark collection of papers is the publication of newly sequenced genomes for ten *Drosophila* species, which are compared with the two previously known. On the cover are anaesthetized individuals of all 12 species. (Image by Andrew G Clark, Cornell University.)

GENOME LABOURS BEAR FRUIT

Approximately 100 years ago now, the fruit fly *Drosophila* was first bred at Harvard for use in laboratory research. These stocks led to experiments establishing many early tenets of classical genetics. Hard-core *Drosophila* researchers can even trace their own 'pedigree' based on their relationship to Thomas Hunt Morgan, the father of fruit-fly genetics.

In 2007, *Drosophila* is one the most Internet-savvy laboratory organisms, with extensive databases devoted to genetics, genomics, taxonomy, breeding and mail ordering. Several Nobel Prizes have been based in part or in total on work in flies. Flies have even been sent on the space shuttle to study immune system function. The genome of the most familiar species, *Drosophila melanogaster*, was the test case for 'whole-genome shotgun sequencing', which opened the doors to the era of organismal genome sequencing.

The community has not rested on these laurels, and now marries the pre-eminent position of the fly in evolutionary biology with cutting-edge genomics by studying 12 completed *Drosophila* genomes at once. *Nature* is honoured to publish two Articles detailing the sequence and analysis, allowing the description of 'evolutionary signatures' on functional elements throughout the genomes. To capture the scope of this achievement and celebrate the fruit fly as a model organism in basic research, we have also asked researchers to explore the past, present and future of *Drosophila* in many diverse areas of biology — from physiology and cell biology to neural circuits and gene expression. Size doesn't matter: these tiny fruit flies are once again poised to take on the world.

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