

## **Nicotiana genomes: beyond tobacco**

Nikolai Ivanov

While *Nicotiana tabacum* is likely the most notable species from the *Nicotiana* genus, various other *Nicotiana* species are cultivated as crops, grown as ornamental garden plants, or used as model organisms in research. Within Solanaceae, *Nicotiana* species are peculiar first because although most Solanaceae species are diploids, a high number of *Nicotiana* species are tetraploids; and second because they have relatively large genomes that are similar in size with *Capsicum* species and two to three times larger than *Solanum* and *Petunia* species.

To date, the genomes of *N. benthamiana*, *N. otophora*, *N. sylvestris*, *N. tabacum* and *N. tomentosiformis* have been sequenced and draft assemblies published, enabling genome-based evolutionary studies of *Nicotiana* species. With the exception of *N. benthamiana*, all the published *Nicotiana* genomes are however closely related to *N. tabacum*. To complement these already published genomes we present here new draft genomes for additional *Nicotiana* species, which we expect will contribute to further our understanding of the diversity and of the impact of polyploidization in the *Nicotiana* genus.