

# Among the worst things ...

... that can happen to a scientist today is being scooped. There are definitely quite a few guys out there who have already suffered the same experience: intensive work and effort in the lab, all the elation because the experiments were actually working, all the enthusiasm as the whole story was rapidly approaching the point of writing the paper... until one peaceful morning in the library, you suddenly learn that 'your' paper has just been published because 'your' experiments also worked for somebody else – only a little earlier.

Can you imagine how it feels to read in somebody else's words how insightful, interesting, perceptive and important 'your' project really was? And also to realise that *these* authors are now going to be invited to tell this wonderful story at the most exclusive meetings and desirable locations. You, on the other hand, can pick up your pencil and, with a blank piece of paper, start again from scratch.

Efrem Bertini, a doctoral student at the Regina Elena Cancer Institute in Rome, knows this scenario all too well (see p.34) and, admittedly, to a veeery much smaller degree – our Chief Ed, too.

It wasn't actually a research project. It wasn't even his own idea or conclusion. In fact, one day when pondering the Darwin Year 2009, his mind happened to drift back to an earlier conversation with his former PhD supervisor. "Do you know that Darwin could have easily discovered Mendel's laws first?," he had asked him that day. "In fact, he had done the appropriate experiments and had all the data in his hands – but he didn't understand it. Or, at least, he didn't recognise the significance."

"Really?" the Chief Ed amazedly asked his old friend and former supervisor. "Yes, of course, just take Darwin's *'The variation of plants and animals under domestication'* and read about the snapdragon breeding experiments in his garden at Down House."

The Chief Ed did. And, indeed, on page 70 he found the passage starting with, "*Now I crossed the peloric snapdragon (Antirrhinum majus) [...] with pollen of the common form; and the latter, reciprocally, with peloric pollen...*" To cut the story short, Darwin proceeds to note the dominance of the wild type in the F1 progeny, "*which perfectly resembled the common snapdragon*" and in the F2 generation obtained 88 wild type and 37 peloric plants "*having reverted to the structure of their one grandparent*". Given the original numbers from Mendel's pea crosses, the Augustinian monk would have easily accepted Darwin's result as representing a 3:1 ratio, which, as everybody knows, was the key insight on Mendel's path to finally phrase the laws of inheritance.

The Chief Ed read on. And, indeed, despite more conspicuous F2-data including *Primula* crosses, there is no hint at all that Darwin understood the critical meaning of this recurring 3:1 ratio.

Or perhaps he did somehow understand it but completely underestimated the outstanding significance.

"Wow," the Chief Ed thought, "be that as it may – this is definitely a superb example of how researchers sometimes don't see the wood for the trees simply because their view is exceedingly limited from focusing strictly on a different question." He was thrilled and immediately decided to try writing an essay on it, although his former supervisor had told him that a certain Conway Zirkle had already come up with the story in 1964 (*J. Hered.* 55, 65-72). Nevertheless, our Chief Ed was sure that it would be new to the majority of current life scientists.

So he continued reading Darwin's books, made notes, collected documents, had numerous discussions and was just about to write his final essay, when he was informed that in *Journal of Biology* a fresh paper had appeared entitled "Why didn't Darwin discover Mendel's laws?" (vol. 8: 15), written by Jonathan Howard from the Institute for Genetics at the University of Cologne.

Boom! The Chief Ed downloaded the paper and began reading. From the very first sentence, it became clear to him that Howard's analysis was far more sophisticated and comprehensive than he had ever intended his own piece to be. That's why he was secretly pleased when, finally, Howard reached exactly the same conclusions. "Darwin's focus on small quantitative variations as the raw material of evolution may have prevented him from discov-

ering the laws of inheritance," reads the abstract. And due to this focus, he didn't view the *Antirrhinum* results as particularly relevant. Or, as Howard wrote later in the paper "However, Darwin had other priorities and was in no way programmed to see the critical meaning in these numbers. He cites them within a sentence and they receive no further comment."

"What a scoop!" the Chief Ed thought "A truly excellent one." And with a slightly subdued grin he added that, luckily, being scooped isn't such a tragedy for him as it would be for a scientist. He removed the pile of material on 'Darwin and the snapdragons' from his desk; just another story of an essay never written...

However, one thought continued to haunt him. It's mere speculation, of course, but just think, in this way Darwin might indeed have become the father of the theory of evolution *and* of the laws of inheritance. He apparently had the chance but didn't see it and was scooped by Mendel. In contrast to today's scientists, however, that wasn't a problem at all for Darwin.

