2. Web of lies

They trusted him blindly and had to bear the consequences.

A scientist studied the behaviour of spiders and of social insects. His research was ground-breaking and he made a quick career. He cooperated with many researchers to analyse his experiments, and together they published many highly cited scientific articles. Then doubts came up about his results. When some of his co-authors checked his raw data more thoroughly, they came across inconsistencies, for example identical data for different individuals. Further, he was unable to explain where the individuals that he used in experiments came from or which individuals were actually used (Kozlov 2022). And there was more suspicious data in other articles: After a thorough examination, more than a dozen of his scientific articles had to be retracted. A multi-year investigation came to the conclusion that he had deliberately falsified or fabricated data. As a result, he lost his position.

But he was not the only one who had to bear the consequences: more than 50 of his co-authors of the retracted articles were affected by the fallout. Among them were many doctoral students and early career researchers (López Lloreda 2023). Many never considered to question the data of their supervisor or of the collaborator of their supervisor. Some had to postpone their doctoral graduation, others had problems finding a job, and all of them had to regain the trust of their collaborators. Finally, substantial sums of research funding were spent on replicating supposedly spectacular findings – which unsurprisingly did not work.

The case raised awareness of the importance to critically check raw data of spectacular analyses in each and every case both among scientific journals and many researchers. Today, it is common practise that it is not only required for authors to submit their manuscript to a journal, but to also make their raw data accessible for reviewers, before they can publish a scientific article. Furthermore, there is an increasing number of researchers trying to prevent similar cases in the future by practising Open Science: the "Society for Open, Reliable, and Transparent Ecology and Evolutionary Biology" (SORTEE) is a global network of scientists and students who promote Open Science in ecology and evolutionary biology. Generally, this much can be said: extraordinary statements require extraordinarily good data to support them.

Sources:

Kozlov, M. (2022). How a scandal in spider biology upended researchers' lives. *Nature*, *608*(7924), 658–659. https://doi.org/10.1038/d41586-022-02156-2

López Lloreda, C. (2023). *University investigation found prominent spider biologist fabricated, falsified data*. https://doi.org/10.1126/science.adi6906

SORTEE. *Society for Open, Reliable, and Transparent Ecology and Evolutionary Biology (SORTEE)*. https://www.sortee.org

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