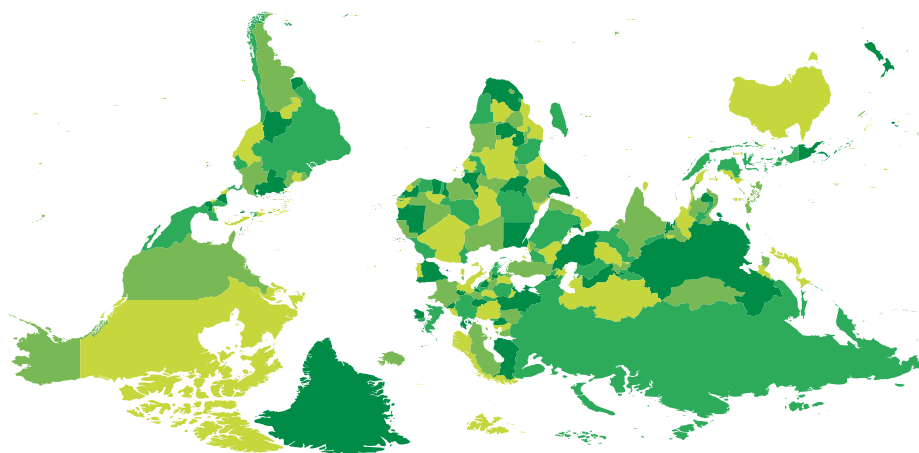


Biases in plant sciences



Same world, different perspective.

There is only one way to comprehensively explore the vast landscape of scientific publications: download all published papers, extract from them the necessary information and metadata, correlate it with external datasets, analyse the results and test hypotheses. This is exactly what Rose Marks and colleagues did for the plant sciences field in a recent article published in *PNAS*.

The authors analysed a possibly representative large-scale corpus of roughly 300,000 papers published in the past two decades, from 127 plant journals of various types (including *Nature Plants*) published in 26 countries. These impressive numbers allowed for an exploration of publication

patterns in the field with good resolution and uncovered many potential biases, some unfortunately expected and a few surprising ones.

An example is how the geographic distribution of these publications strongly crystallizes around three main areas that include wealthy nations: East Asia, Western Europe and North America. This predictable result is nevertheless particularly impressive when displayed on an unconventional and disorienting upside-down map of the world, which shakes the usual North–South bias. Some hope comes from the less intense but still significant signal coming from other countries such as India or Brazil. In terms

of dynamics, the explosion of plant science publications from China in the last two decades is truly remarkable.

One surprising result is the low level of international collaborative work, as only roughly 30% of the papers analysed include researchers from more than one country. Other intriguing patterns and correlations are described based on demographics and research subjects. For example, gender ratios are shown to progress globally towards equality, but at an excruciatingly slow pace. The plants studied in the publications show a vast taxonomic imbalance, with model plants and crops important for human food coming first. If we remove the ubiquitous *Arabidopsis* from the list, the most studied plants are, unsurprisingly, rice in China, maize in the USA, tomato in Spain, kiwifruit in New Zealand and sugarcane in Brazil.

Overall, this unprecedented effort in literature mining is a captivating read and offers excellent examples of clear or subtle biases present in the publication landscape of our own plant sciences research community. An excellent opportunity to pause and reflect about what we can do individually to embrace not only the plant biodiversity around us, but also our own cultural and historical diversity as researchers, citizens of the world and human beings.

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Nature Plants

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