

# Press Release

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## **World-changing invaders: global overview of alien plant species**

**The spread of species to non-native regions poses one of the greatest environmental challenges of our time. An international research team including Dr Marten Winter from the German Centre for Integrative Biodiversity Research (iDiv) Halle-Jena-Leipzig has now presented a new collection of data which lists characteristics and geographical data for over 13,000 alien plant species. The information contained in the *Global Naturalized Alien Flora (GloNAF)* database will play a critical role in identifying botanical invaders. One important fact should be noted from the outset: the majority of non-native species comes from the continents in the northern hemisphere. The study was published in *Nature*.**

The negative human impact on the ecosystems and species diversity of our planet is increasing at an ever faster pace. A decisive factor here is the spread of species to areas in which they are not native, but instead are seen as invaders. Some of these areas are located huge distances away from the plants' natural habitats. These infiltrators can give rise to far-reaching ecological, economical and social consequences in the affected areas. In the past there was a lack of comprehensive knowledge with regard to the global spread of invasive plant species, which was purely due to insufficient data.

The unique GloNAF database has now filled this knowledge gap. An international research team, including iDiv scientist Dr Marten Winter, gathered information on immigrated plant species from over 480 mainland and more than 360 island regions – which accounts for around 83 per cent of the world's land area. According to the study, a total of 13,168 non-native plant species – which roughly corresponds to the size of the entire flora native to Europe – have been relocated and spread elsewhere in the world as a result of human activity. "With this database, we are now able to specifically determine if a plant has been introduced from somewhere else and where it came from. This can be viewed at national level and often on an even smaller scale," Marten Winter comments on the results. "Besides now having the option to carry out global ecological analyses, political agents can also use the data to see which invaders have already been found in neighbouring countries. Monitoring programmes can thus be initiated and plant invaders recognised at an early stage."

The findings are clear: the majority of invaders have accumulated in North America and the number of alien plant species is currently growing most rapidly on the islands in the Pacific. What's more: the majority of non-native species comes from the continents in the northern hemisphere. "This work adds a whole new dimension to our knowledge of the current global

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distribution and spread of alien species," continues Marten Winter. "In order to achieve this level of complexity, bodies of knowledge were pooled from various sources into the GloNAF database: for instance from online and museum databases, from herbariums and, of course, from a huge number of experts in the field."

**Go directly to the study:**

tba

**Links:**

GloNAF: <https://scikon.uni-konstanz.de/projekte/2824/>

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*iDiv is a central facility of the University of Leipzig within the meaning of Section 92 (1) of the Act on Academic Freedom in Higher Education in Saxony (Sächsisches Hochschulfreiheitsgesetz, SächsHSFG). It is run together with the Martin Luther University Halle-Wittenberg and the Friedrich Schiller University Jena, as well as in cooperation with the Helmholtz Centre for Environmental Research – UFZ.*

*The following non-university research institutions are involved as cooperation partners: the Helmholtz Centre for Environmental Research – UFZ, the Max Planck Institute for Biogeochemistry (MPI BGC), the Max Planck Institute for Chemical Ecology (MPI CE), the Max Planck Institute for Evolutionary Anthropology (MPI EVA), the Leibniz Institute DSMZ–German Collection of Micro–organisms and Cell Cultures, the Leibniz Institute of Plant Biochemistry (IPB), the Leibniz Institute of Plant Genetics and Crop Plant Research (IPK) and the Leibniz Institute Senckenberg Museum of Natural History Görlitz (SMNG).*