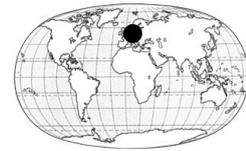


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ACCEPTING THE CHALLENGE OF INVASIVE ALIEN SPECIES: SIGNIFICANCE, NUMBERS, IMPACT, PATHWAYS, MEASURES AND ACTIVITIES IN GERMANY

Considerable national efforts have been made in recent years to address the challenge of invasive alien species (IAS) in Germany. Results of nationally conducted, founded or supported projects are presented giving a comprehensive overview on science and implementation related activities on a national level.

The analysis of reasons of threat indicates that IAS are a lower threat factor for biodiversity in Germany than in other parts of the world. As for plants, only 43 of all 851 red listed species are threatened by IAS (Korneck et al. 1998), being 1.4% of all reasons of threat.

Annotated checklists of alien plant and animal species have been conducted. The results show that 1.149 alien animal species are known, 264 of them established, 443 reported only in the past and 442 with unknown status. 1.233 alien species of higher plants are recorded from Germany, 228 have been introduced with traditional land use practises before 1492 (Archaeophytes), of which ¼ are endangered nowadays. From the 1.007 neophytes (introduced after 1492) 383 are established (~ 11% of all 3.383 established species) and 624 are locally established, occur casually or rarely.

A national survey of regional and local conservation agencies shows that at about 25 plant species are invasive (= threatening biological diversity), but only four species/groups present over 50% of all records (*Heracleum mategazzianum*, *Impatiens glandulifera*, *Fallopia* spec., *Solidago gigantea* & *S. canadensis*). In 39% of all cases control measures are taken, whereof only 23% are „successful“. Their costs are at least 1.5 Mio. €/a.

To improve the effectiveness of measures, the internet handbook “NeoFlora” has been developed, containing general information on ecology, effect and legislation of IAS and fact sheets of 32 species (www.neophyten.de). Discussion forums enable users to share experiences e.g. on successful control measures. Up to date information can be distributed to scientist, voluntary floristic experts, governmental authorities and other interest groups by a mailing list comprising more than 1.000 entries. In future, both instruments should be enhanced to an early warning system. A national list of experts has been developed within the Nordic-Baltic Network on Invasive Species (www.sns.dk/nobanis). Available data on alien plant and animal species will be included there as well as in the EU DAISY project.

An economic assessment indicates that 20 alien plant and animal species cause 156 Mio. €/a in Germany, the species most costly is *Ambrosia artemisiifolia*. Fundamentals for a national strategy on IAS have been worked out analysing national and international legislation and administrative responsibilities and suggesting improvement and co-operation between all sectors involved in the introduction and management of IAS.

Since ornamentals (25% of all introductions) and their ongoing secondary releases are regarded as the main reason for their spread, measures have to focus on the prevention of introduction and secondary spread. Therefore, a risk assessment scheme for release permissions has been elaborated.