

The Biological Control of Himalayan balsam

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Collaborative project on studies on the invasive species *Impatiens glandulifera*

introduction *Impatiens glandulifera* (Royle) (Balsaminaceae) is a highly invasive annual herb species which has spread rapidly throughout the UK since its introduction as a garden ornamental in 1839.

Native to the western Himalayas and now present in 23 European countries, parts of the USA, Canada and New Zealand, Himalayan balsam can outcompete native biodiversity in areas where it grows. To-date, *I. glandulifera* is present in over 50% of the UK's 10km recording squares and is only absent from higher altitude areas such as the Scottish Highlands, due mainly to the short length of the growing season.

The success of *I. glandulifera* can, in part, be attributed to the prolific seed production of the plant, the highly efficient dispersal mechanisms, the dense seed bank and synchronous germination, and its ability to form mono-specific stands. In the invasive range, *I. glandulifera* can withstand a wide range of environmental conditions enabling the plant to colonise river banks, canals, waste ground and damp woodlands, in which it can attain a height of up to 3m.



Himalayan balsam in the Kullu Valley

research conducted to-date

CABI has been working with the management and control of invasive species, worldwide, for nearly 100 years and in April 2006, a first phase research programme was initiated against *I. glandulifera* in the UK. The first phase was initially a scoping study of natural enemies on *Impatiens glandulifera* in its native range. The survey focused on the Pakistan region of the Himalayas and collections of natural enemies were made. As a result of the research conducted in Phase 1, Phase II was initiated in January 2008. This research included the compilation of a full test plant

list to be used in host specificity testing of potential agents, further surveys throughout the native range of the plant (concentrating on the Indian region of the Himalayas), and studies of natural enemies attacking the plant. The results from Phase II suggest the diversity of natural enemies seems to be higher in the Indian region of the Himalayas compared to that of Pakistan and therefore all future research will focus on the Indian region of the Himalayas where populations of Himalayan balsam are abundant. Funding has now been obtained for the continuation of the research in 2009.



Himalayan balsam monoculture in the UK



fighters of himalayan balsam come together

On the 22nd of April 2009, a Memorandum of Understanding was signed between the National Bureau of Plant Genetic Resources (NBPGR), ICAR, New Delhi, India and CABI Europe-UK, Egham, United Kingdom for a collaborative project on: *Studies on the invasive species Impatiens glandulifera in India.*

components of the work plan 2009 research in india

1. Import, propagation and maintenance of test plants under containment conditions at NBPGR
2. Surveys for natural enemies in the foothills of the Himalayas
3. Collation of ecological and environmental data
4. Culturing and host range testing of selected natural enemies
5. The compilation of a written report



Dr S. Murphy and Dr S.K. Sharma signing MoU

launch of himalayan balsam project



Project launch on 15th May 2009

CABI has won three years' funding to expand its Good Seed Initiative in Africa and South Asia, where thousands of poor farmers could profit by saving seed from their own crops to use again or sell.



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