Species, Volume 4, Number 11, August 2013

ISSN 2319 – 5746 EISSN 2319 – 5754

discovery Cover the uncovered

Species

Discovery of novel technique for evaluation of risks from alien species

Brithvi V

Department of Pharmaceutical Technology, Anna University, BIT Campus, Trichy, Tamil Nadu, India

Correspondence to: Department of Pharmaceutical Technology, Anna University, BIT Campus, Trichy, Tamil Nadu, India, E-mail: brithvivaduganathan@gmail.com

Received 10 July; accepted 21 July; published online 01 August; printed 16 August 2013

Alien species are a species, subspecies, or lower taxon introduced outside its normal past or present distribution; includes any part, gametes, seeds, eggs, or propagules of such species that might survive and subsequently reproduce. Invasive alien species are widely recognized as a threat to the sustainability of natural resources and agricultural production. Recent establishments of invasive insect pests such as the brown spruce longhorn beetle (*Tetropium fuscum*), Asian longhorned beetle (*Anoplophora glabripennis*), and emerald ash borer (*Agrilus planipennis*) highlight the risk of alien species to natural and urban forests of Canada. Invasive insects may introduce and vector alien fungal pests or may serve as vectors for native fungi. The impacts of alien species on native biodiversity are many and varied, including displacement of indigenous species through competition or predation, structural damage to aquatic habitats, and loss of genetic integrity. Climate change is also likely to have an impact on alien species, e.g. by extensions or retractions of the range of both native and alien species as temperatures change. The effect of climate change is likely to be complex and the response of both native and non-native species is difficult to predict. A new semi-quantitative method that enables researchers and others to assess the environmental impacts posed by alien species is now used in Norway. This method is tailored to the Norwegian environment; and can easily be adapted to other countries, and fills an international need for a quantifiable, uniform approach to classifying and assessing alien species. The alien species can be assigned to one of five impact categories:

- Species with severe impact (SE) are actually or potentially ecologically harmful species and have the potential to become established across large areas.
- Species with high impact (HI) have either a restricted/moderate ability to spread, but cause at least a medium ecological effect, or alternatively only a minor ecological effect but have a high invasion potential.
- Potentially high impact (PH) species have either high ecological effects combined with a low invasion potential, or a high invasion potential without any known ecological effect.
- Low impact (LO) species have no substantial invasion potential and ecological effect.
- Species with no known impact (NK) are not known to have spread and have no known ecological effects.
- The criteria are applicable to all species regardless of taxonomic position. This impact assessment helps to evaluate the risks from alien species.

REFERENCE

1. Sandvik H, Sæther BE, Holmern T, Tufto J, Engen S, Roy H. Towards a generic ecological impact assessment of alien species in Norway: a semi-quantitative set of criteria. *Biodiversity and Conservation*, 2013, 22, 37-62
2. Science daily news, 2013, http://www.sciencedaily.com/releases/2013/06/130628092123.htm

Brithvi V,
Discovery of novel technique for evaluation of risks from alien species,
Species, 2013, 4(11), 13,
http://www.discovery.org.in/s.htm