

## **Special issue on invasive pests of forests and urban trees: pathways, early detection and management**

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Invasive insects cause significant economic and ecological damage to urban and natural forests worldwide (Aukema et al. 2011, Bradshaw et al. 2016). Species such as the emerald ash borer and the red bay ambrosia beetle (vector of laurel wilt disease), for example, threaten to extirpate North American ash (Herms and McCullough 2014) and species in the Lauraceae family (Kendra et al. 2013), respectively, with cascading negative impacts on ecosystem function and services (Gandhi and Herms 2009; Riggins et al. 2018). Adopted preventive measures have reduced but not eliminated the international movement of live insects (Haack et al. 2014; Ormsby and Brenton-Rule 2017) and the rate of new exotic insect introductions shows no or little sign of slowing in the face of expanding global trade (Brocknerhoff and Liebhold 2017; Seebens et al. 2017). Therefore, the need for improved tools, strategies, and policies for prevention, early detection, and management of invasive forest insects is critical.

This special issue on pathways, early detection and management of invasive pests of forests and urban trees was spawned in a symposium entitled “Invasive species surveillance: new methods and tools for survey and early detection”, held at the International Union of Forestry Research Organizations (IUFRO) 125<sup>th</sup> Anniversary Congress in Freiberg, Germany, 19–22 September 2017. The issue contains 11 reviews on topics ranging from the use of sentinel plantings to predict the impact of an exotic species before potential introduction (Eschen et al. 2018) and the pathways by which forest insects are commonly transported internationally (Meurisse et al. 2018), to current methods of biosurveillance (Poland and Rassati 2018) and how these could be enhanced using genomics (Bilodeau et al. 2018; Roe et al. 2018), to historical attempts to eradicate or contain invasive forest insects and the factors associated with their failure or success (Liebhold and Kean 2018). There are also several reviews focused on the management of particular invasive insect pests of urban and forest tree species (e.g., Avtzis et al. 2018; Corley et al. 2018; Hérard and Maspero 2018; Kirichenko et al. 2018; Milosavljević et al. 2018). The special issue also contains 16 original papers and a rapid communication that advance our knowledge of phytosanitary treatments (Pawson et al. 2018), ways in which invasive species spread in new habitats (Javal et al. 2017; Lesieur et al. 2018; Lo et al. 2018), and improved tools and strategies for their early detection (e.g., Fan et al. 2018; Rassati et al. 2018) and management (e.g., Ferracini et al. 2018).

We thank the editors of Journal of Pest Science for agreeing to publish this special issue and all of the authors for their contributions, and we hope that the information and discoveries in this issue will be used to improve our capacity to manage invasive pests of urban and forest trees more effectively.

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