NAPPO
North American Plant Protection Organization
Organización Norteamericana de Protección a las Plantas
MEXICO - USA - CANADA

Orgyia anartoides

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Progress Report 2019

Lymantriids Expert Group

Developing a NAPPO Science and Technology Document on the risks associated with Lymantriids of potential concern to the NAPPO region, identifying potential species and pathways of concern

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Objective

Develop a NAPPO S&T document on the risks associated with lymantriids of potential concern to the NAPPO region, identifying potential species and pathways of concern

Deliverables

1. Generate a set of pest risk analysis data sheets for Lymantriid species of concern to the NAPPO region
2. Draft the Science and Technology document
3. Provide data to the NAPPO AGM EG for potential expansion to the AGM project and revision of RSPM 33 (*Guidelines for regulating the movement of ships and cargo from areas infested with the Asian Gypsy Moth*)

Approach

Pest Risk Assessment: Find a fast and effective method to generate PRAs on large numbers of lymantriid species.

> 2700 species from initial search

1. **Distribution:**
   - Python script to web crawl Finnish IT Center for Science website to generate a species distribution database

2. **Hosts:**
   - NAPPO countries provided a list of hosts of economic concerns.
   - Host list is cross referenced against the lepidopteran HOST plant database to generate a **TARGET LIST OF LYMANTRIIDS SPECIES FOR ANALYSIS (n~ 200)**

Approach

3. Biology and pathways:

- Attraction to light
- Known reports of contaminant during overwintering stage
- Known to feed on other native NAPPO region hosts
- Causes damage in native region, sustaining economic or ecological losses
- Ballooning
- Females capable of flight
- Overwintering stage
- Long distance dispersal capability
- Allergenic properties

Sample datasheet for PRA

Question	Answer	Score	Comments/References
Does this species occur within similar climate types to the NAPPO region?	Yes	---	Potential Climate Match: Canada: 74.49%, Mexico: 12.42%, United States: 66.40% Climate Types Affected: Csc, Cwc, Dfa, Dfb, Dfc, Dsb, Dwa, Dwb, Dwc (MAF, 2008; Peel et al., 2007; Umeya and Okada, 2003). Note: these Koppen-Geiger climate types are based on those present in the majority of its distribution.
Known to feed on forests and/or crops of economic concern to the NAPPO region.	Yes	---	*Orgyia thyellina* is a polyphagous moth that feeds on agricultural crops and economically important forest trees in the NAPPO region including: *Glycine max* (soybean), *Malus domestica* (apple), *Phaseolus vulgaris* (bean), *Prunus ameniaca* (apricot), *Prunus salicina* (plum), *Prunus* spp. (cherry), and *Pyrus* spp. (pear) (NASS, 2014; Umeya and Okada, 2003).
Adult female moths attracted to light	Yes	1	MAF, 2008
Reports of contaminant during pest's overwintering stage	Yes	2	*Orgyia thyellina* egg masses have been intercepted in used vehicles from Japan at New Zealand ports (Armstrong et al., 2003).
Known to feed on other native NAPPO region hosts	Yes	1	*Humulus lupulus* is a host and is native to Canada and the United States (NRCS, 2017; Umeya and Okada, 2003).
Reported to cause damage in native range, causing economic or environmental losses	Uncertain	0	*Orgyia thyellina* is a horticultural and forest pest (Plant Health Australia, No Date). However specific information on *O. thyellina*'s pest significance in its native range is lacking (MAF, 2008) and we rated it uncertain.

Progress during 2019

- Work done “virtually”.
- Pest risk assessment work on selected Lymantriid species has concluded.
- 80% of data sheets have been formatted and organized.
- A total of 80 datasheet ready for analysis.
- Progress done in developing the Science and Technology document. Completion of first draft expected at the end of 2019.

Conclusions, next steps for 2020

Complete	• S&T document.
Share	• Data with the NAPPO AGM Expert Group for consideration to possible amendments to RSPM 33 with Lymantriid species other than AGM.

Thank you!