



Quick scan number: QS. ENT.2013.12

Quick scan date: 7 <sup>th</sup> March 2014		
1	<p>What is the scientific name (if possible up to species level + author, also include (sub)family and order) and English/common name of the organism? <i>Add picture of organism/damage if available and publication allowed.</i></p>	<p><b><i>Platynota rostrana</i> Walker, 1863 (omnivorous platynota moth, orange leafroller)</b> Lepidoptera, Tortricidae, Tortricinae, Sparganothini. Length adult ca. 10 - 14 mm (forewing length male: 6 - 7 mm, forewing length female: 7 - 9 mm) Length larva ca. 14 - 17 mm. (Powell &amp; Brown, 2012)</p>  <p>Photo's: © NPPO The Netherlands</p>
2	<p>What prompted this quick scan? <i>Organism detected in produce for import, export, in cultivation, nature, mentioned in publications, e.g. EPPO alert list, etc.</i></p>	<p>Interception of one larva on <i>Schefflera</i> plants from Costa Rica on November 4, 2013 The organism has occasionally been intercepted in the UK, on imports from amongst others Jamaica.</p>
3	<p>What is the (most likely) area of distribution?</p>	<ul style="list-style-type: none"><li>• <u>North America</u>: Mexico, USA (Texas, Louisiana, Mississippi, Alabama, Georgia, Florida, South Carolina; a few records are known from California, Arizona, North Carolina, Virginia, New Jersey, Tennessee and Indiana (Powell &amp; Brown, 2012; Patterson, 2013))</li><li>• <u>Central- and South-America &amp; Caribbean</u>: Puerto Rico, Cuba (CABI, 2013), Brazil (Nava et al., 2006), Dominican Republic, Nicaragua (Varela-Fuentes et al., 2009), Honduras (Miller et al., 2012), Costa Rica, Jamaica, Trinidad &amp; Tobago, Saint Lucia (NHM, 2013).</li></ul>

4	<p>Has the organism been detected, sighted and/or has it established itself in nearby countries (DE, BE, LU, FR, UK) <i>Yes/no. If 'yes', provide details. No interceptions</i></p>	<p>The species is not known to occur in nearby countries. In the UK an outbreak occurred in the winter of 1987/1988 in the Palm House at Stapeley Water Gardens, Cheshire, as a result of importation of infested plants from Florida. The species was recorded in large numbers with all stages being present simultaneously and the species was clearly breeding in the glasshouse; it was eradicated later that year. According to Hardwick (1998) "...they had a severe infestation which was proving difficult to manage without the risk of insecticidal spray damage to other wildlife in the environment".....". "...we found that a new regime of insecticide and severe pruning had apparently eradicated the pest completely...".</p> <p>On Madeira one specimen was found in 1996 (Aguiar et al., 2006); Aguiar states "it is unknown if the species has established itself".</p>
5	<p>Does the organism cause any kind of plant damage in the current area of distribution and/or does the consignment demonstrate damage suspected to have been caused by this organism? <i>Yes/no + host plants + short explanation of symptoms. Please indicate also when the organism is otherwise harmful (e.g. predator, human/veterinary pathogen vector, etc.).</i></p>	<p>Yes. See the outbreak in the UK at 4.</p> <p>In Brazil, it causes increasing problems in citrus crops due to disruption of natural enemies as a result of massive applications of chemicals esp. pyrethroids (Nava et al., 2006): "<i>Caterpillars [of P. rostrana] progressively damage unripe fruits and citrus leaves in areas of approximately 4.5 mm-to 40 mm. The process begins with first-instar caterpillars scraping leaves and fruits, usually those near the last leaves on the branches of the main stem. .... They chew through fruit skin, or bore holes that result in lesions and fallen fruit.</i>"</p> <p>In 2006, it was recorded for the first time damaging <i>Citrus sinensis</i> and <i>Citrus limon</i> in Mexico. Damage on <i>Citrus</i> is also known from the Dominican Republic (Varela-Fuentes et al., 2009). Several reports mention damage on fruits. Given their close taxonomic relationship it is probable that <i>P. rostrana</i> can cause similar damage as <i>Platynota stultana</i> which is present in Spain since at least 2005, where it causes damage on amongst others <i>Capsicum annuum</i> (NVWA, 2012).</p> <p>On Cuba, damage has been reported on the fruits of coffee (Vásquez, 1991).</p> <p>It is also known as a pest on banana, usually minor, although a commercial website lists <i>P. rostrana</i> as one of the pest species their product protects the banana against.</p> <p>The plants on which the specimen was intercepted also showed noticeable damage of the leaves.</p>
6	<p>Indicate the (provisional) probability of establishment of the organism in the Netherlands regarding climate and ecology.</p> <ol style="list-style-type: none"> <li>In greenhouses (low, medium, high)</li> <li>Outdoors (low, medium, high)</li> <li>Otherwise (e.g. storage facilities, human environment)</li> </ol> <p><i>Please illustrate with information/references</i></p>	<p><u>Greenhouse</u>: Establishment is likely. In the UK the species was introduced and bred for a while in a palm house until it was eradicated (Hardwick, 1998).</p> <p><u>Outdoors</u>: No information is available on the optimal climatic conditions the species requires. The current geographic distribution suggests that the species favours warmer climatic conditions (subtropical to tropical). Establishment outdoors in large parts of Europe seems therefore less likely, although transient populations in summer could occur. In southern parts of Europe the likelihood of establishment outdoors is rated medium.</p>
7	<p>What are the host plants? Which host plants are commercially grown in the Netherlands and which are present in the natural environment? <i>If establishment is restricted to greenhouse climate, list only host plants in greenhouses.</i></p>	<p>The species is extremely polyphagous. It is known to feed on plants from more than 50 families (Varela-Fuentes et al., 2009). Relevant host plants include <i>Capsicum annuum</i>, <i>Capsicum frutescens</i>, <i>Citrus sinensis</i>, <i>Citrus x paradisi</i>, <i>Citrus maxima</i>, <i>Citrus aurantium</i>, <i>Hibiscus</i>, <i>Jasminum</i>, <i>Laurus nobilis</i>, <i>Psidium guajava</i>, <i>Rosa</i> (NHM, 2013), <i>Lantana camara</i> (Powell &amp; Brown, 2012). It has also been recorded from <i>Lycopersicon esculentum</i> (Brown, 2008). During the outbreak in a greenhouse in the</p>

		UK (Hardwick, 1998) it was found feeding on “a wide range of plants from <i>Pelargonium</i> species and other soft-leaved herbaceous plants from many families through to very tough-leaved palms”. Interceptions in the Netherlands concern <i>Schefflera</i> and <i>Draceana</i> .
8	Provide a provisional estimation of type and amount of direct and indirect economic damage (e.g. lower quality, lower production, export restrictions, threat to biodiversity, etc.) likely to occur if the organism would become established?	No exact data are available on the amount of (economic) loss or damage being caused by <i>P.rostrana</i> ; available information is only qualitative. However, it is estimated that relevant or even considerable damage is likely to occur, at least under protected conditions in absence of any control measures. Most reports mention damage to fruits. <i>P. rostrana</i> has a large number of host plants, including some species of major economic importance. It has shown to be able to establish and reproduce in a greenhouse (Hardwick, 1998). The species can likely have several generations per year in a greenhouse under normal climatic conditions for growing commercial crops (Nava et al., 2006). Further damage can be expected in <i>Citrus</i> growing areas in Europe.
9	How rapid is the organism expected to spread after introduction (by natural dispersal and human activity)?	Spreading by natural dispersal will be slow: the flight capacity of <i>Platynota rostrana</i> is not known, but in general species of Tortricids fly over only relatively short distances. In conditions with host plants nearby flight distances are about 50 – 100 metres. However, for several related species, e.g. <i>Thaumatotibia leucotreta</i> , it has been shown, that a minor percentage of field populations can fly over distances up to several kilometres (Timm, 2005). It is likely that dispersal due to human activity will cause the more rapid spreading of the species, e.g. via pupae in packaging material, or especially via trade of ornamentals.
10	In what manner could the organism enter the Netherlands? <i>Mention pathways.</i>	<i>Plants for planting: Platynota stultana</i> can be present on all aboveground plant parts. It is important to realise the extreme polyphagous nature of the species. Also many wild plants, of which cultivars may be grown as ornamentals, can be host plants for the species. Therefore eggs, larvae and pupae can be present in all consignments of host plants bearing leaves or fruits.  <i>Fruits:</i> The species is known to attack fruits; eggs and larvae may, therefore, be found on or in the fruits. Pupation normally takes place outside the fruit and pupae and adults are therefore unlikely to be associated with fruits, although fully grown larvae present in the packed consignment may leave the fruit and hide in the packaging material.
11	Has the organism been detected on/in a product (cut flowers, fruit, ...) destined for the consumer market? <i>If "no", please go to question 13</i>	No
12	If the organism has been found on/in product other than plants for planting (e.g. cut flowers, fruit, vegetables), are there any risks of introduction and establishment in crop areas and/or natural environment in the Netherlands? <i>Only to be answered in case of an interception and/or a find.</i>	--
13	Additional remarks	• The lifecycle (egg to adult) is approximately 38 days at 25 ± 2 °C and RH 70 ± 10%; the mean

		<p>generation time is 43 days. Females lay an average of 308 eggs over approximately 6.6 days, with a 2.3-day preoviposition period. The mean longevity of males and females is 10.9 and 10.5 days, respectively (Nava et al., 2006). Nava concludes: "Thus, <i>P. rostrana</i> has high pest potential since, besides attacking shoots and developing fruit, it has great reproductive capacity generationally".</p> <ul style="list-style-type: none"> <li>• The species is active during the night.</li> </ul>
14	References	<ul style="list-style-type: none"> <li>• Aguiar AMF &amp; Karsholt O, 2006. Systematic catalogue of the entomofauna from the Madeira archipelago and Selvages Islands. Lepidoptera. Boletim do Museu Municipal do Funchal, Suppl.9: 5-139.</li> <li>• Armas LF de &amp; R Nunez, 2005. Malpighiaceae: nueva familia de plantas hospederas de Platynota rostrana Walker, 1863 (Lepidoptera: Tortricidae). Boletim de la S.E.A. 36. 354.</li> <li>• Brown JW, G Robinson &amp; JA Powell, 2008. Food plant database of the leafrollers of the world (Lepidoptera: Tortricidae) (Version 1.0). <a href="http://www.tortricid.net/foodplants.asp">http://www.tortricid.net/foodplants.asp</a>.</li> <li>• CAB International, 2013. Crop Protection Compendium online. CAB International, Wallingford, UK. <a href="http://www.cabi.org.ezproxy.library.wur.nl/cpc/?compid=1&amp;dsid=41857&amp;loadmodule=datasheet&amp;age=868&amp;site=161">http://www.cabi.org.ezproxy.library.wur.nl/cpc/?compid=1&amp;dsid=41857&amp;loadmodule=datasheet&amp;age=868&amp;site=161</a> [acc. Nov 5, 2013]</li> <li>• Karsholt O &amp; EJ van Nieuwerkerken, 2013: Fauna Europaea: Tortricidae. Fauna Europaea version 2.6.2, <a href="http://www.faunaeur.org">http://www.faunaeur.org</a></li> <li>• Hardwick LW, 1998. Platynota rostrana (Walker) (Lep.: Tortricidae) and Pyroderces? rileyi (Walsingham) (Lep.: Cosmopterigidae) discovered in garden centre in Britain in 1987/88. Entomologist's Record and Journal of Variation. 110. 70-72.</li> <li>• Miller JY, DL Matthews, AD Warren, MA Solis, DJ Harvey, P Gentili-Poole, R Lehman, TC Emmel, CV Covell, 2012. An annotated list of the Lepidoptera of Honduras. Insecta Mundi:725.</li> <li>• Nava DE, P. Fortes, DG de Oliveira, FT Vieira, TM Ibelli, JVC Guedes &amp; JRP Parra, 2006. Platynota rostrana (Walker) (Tortricidae) and Phidotracha erigens Raganot (Pyralidae): artificial diet effects on biological cycle. Braz. J. Biol., 66(4): 1037-1043.</li> <li>• NHM, 2013: Hosts, a Database of the World's Lepidopteran Hostplants. <a href="http://www.nhm.ac.uk/research-curation/research/projects/hostplants/">http://www.nhm.ac.uk/research-curation/research/projects/hostplants/</a> [acc. Nov. 5, 2013]</li> <li>• NVWA, 2012: Quicksan Platynota stultana. <a href="http://www.nvwa.nl/onderwerpen/meest-bezocht-a-z/dossier/risico-analyses-plantenziekten-en-plagen/quicksans">http://www.nvwa.nl/onderwerpen/meest-bezocht-a-z/dossier/risico-analyses-plantenziekten-en-plagen/quicksans</a> [acc. Nov 5, 2013]</li> <li>• Powell JA &amp; JW Brown, 2012. Tortricoidea, Tortricidae (part), Tortricinae (part): Sparganothini and Atteriini. In Hodges, RW. et al., The Moths of North America, fasc. 8.1</li> <li>• Patterson B, 2013. Moth photographers group: <a href="http://mothphotographersgroup.msstate.edu/species.php?hodges=3745">http://mothphotographersgroup.msstate.edu/species.php?hodges=3745</a> [acc. Nov. 5, 2013]</li> <li>• Timm AE. 2005. Morphological and molecular studies of Tortricid moths of economic importance to the South African fruit industry, PhD dissertation, University of Stellenbosch.</li> <li>• Varela-Fuentes S, JW Brown &amp; G Silva-Aguirre, 2009. Registro de Platynota rostrana (Walker, 1863) (Lepidoptera: Tortricidae) en cítricos de México. Acta Zoológica Mexicana (n.s.) 25(3): 651-654</li> <li>• Vásquez L, 1991. El plegador cabecinegro, Platynota rostrana (Lepidoptera: Tortricidae) en el café. Protección de Plantas v. 1(3-4) p. 87-89</li> </ul>

15	<b>Conclusions</b>	This Quick scan concerns a polyphagous moth species, <i>Platynota rostrana</i> , which is not known to be present in Europe. It was found during import inspections on Schefflera plants originating in Central America. In the UK, an outbreak of the pest was eradicated in a palm house in 1988 and the pest can likely establish in Dutch glasshouses. <i>P. rostrana</i> is known as a pest of different crops in its current area of distribution and can potentially cause damage to various glasshouse crops in the Netherlands.
16	<b>Follow-up measures</b>	The infested consignment was rejected and a PRA will be prepared.