Netherlands Food and Consumer Product Safety Authority
Ministry of Economic Affairs

National Plant Protection Organization, the Netherlands

Quick scan number: QS.ENT.2014.6

	Quick scan date: 5 February 2015	
1	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? *Add picture of organism/damage if available and publication allowed*.	*Elaphria nucicolora* (Guenee, 1852) (Lepidoptera, Noctuidae) Common name: sugarcane midget moth; wingspan approximately 21 mm.  
2	What prompted this quick scan? *Organism detected in produce for import, export, in cultivation, nature, mentioned in publications, e.g. EPPO alert list, etc.*	On 15 April 2014, a finding of a fully grown caterpillar at import inspection of 1278 plants of *Polyscias* (Araliaceae) from Costa Rica, intended for further cultivation in a greenhouse.
3	What is the (most likely) area of distribution?	Americas: common in Florida and to a lesser extent in Georgia; further it is being found along the coast of Maryland, North Carolina, South Carolina and Texas (Patterson, 2014). To the south it is present in Central-America including the West Indies and in tropical South-America (amongst others Peru and French Guyana); it is also present in Hawaii (Swezey 1947, Zimmerman 1958).
4	Has the organism been detected, sighted and/or has it established itself in nearby countries (DE, BE, LU, FR, UK) *Yes/no. If 'yes', provide details. No interceptions*	No

5	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? *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.).*	*E. nucicolora* has been indicated as a major pests of pineapples in the tropical regions of the Western Hemisphere, including Mexico, Central and South America (VBC 2013). It is reported as a recent problem in pineapple production in the Atlantic coast of Costa Rica. Damage on pineapple in Costa Rica was first reported in 2000. The larvae feed on the skin of the fruit causing the skin to become foul and malformed, reducing commercial value (Calvo Gonzalez & Garza Vásquez 2007). No reports have been found of damage on any other host plant (#7).
6	Indicate the (provisional) probability of establishment of the organism in the Netherlands regarding climate and ecology. In greenhouses (low, medium, high) Outdoors (low, medium, high) Otherwise (e.g. storage facilities, human environment) *Please illustrate with information/references*	Establishment outdoors is unlikely. The species favours a tropical climate, although it is also (temporarily) present in the coastal area's of South- and North Carolina and, only in June, in Maryland which have a more temperate climate. The probability of establishment in greenhouses is assessed medium. The species is polyphagous which increases the probability to find a suitable host plant. However, no examples of presence in greenhouses are known to us.
7	What are the host plants? Which host plants are commercially grown in the Netherlands and which are present in the natural environment? *If establishment is restricted to greenhouse climate, list only host plants in greenhouses.*	The larvae are polyphagous, having been recorded from several species of host plants of different families (Zimmerman 1958). Robinson (2010) reports Cucurbitaceae and Gramineae as host plants. In a laboratory test, Habeck (1965) reports the larvae feeding on *Bidens pilosa*, chickweed, rape, mustard, turnip, lupine, white clover and rye. He also successfully reared it on an artificial diet. The species is regularly intercepted by the USDA on consignments of imported pineapple fruits (*Ananas comosus)* (Gilligan & Passo 2014). Previous interceptions by the NPPO the Netherlands were on plants of *Chrysalidocarpus* (Honduras), 2 times on fruits of *Momordica* (Suriname) and 4 times on plants from *Costa Rica* (*Codiaeum* (2x), *Draceana* and *Ananas comosus* (plants)). The common name for the species, sugarcane midget moth, does not seem very appropriate, since there are no recent sources reporting the species actually feeding on sugarcane. Hall (1988) collected insects on sugarcane in Florida each year from 1981 to 1987 and never found *Elaphria nucicolora*.
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?	Larvae can attack all aboveground plant parts and some cosmetic damage can be expected. However, given the reported damage on pineapple only (see at #5 and #7), it seems unlikely that significant damage in the Netherlands will occur. Pine apple is neither known as an (important) crop in other EU member states.
9	How rapid is the organism expected to spread after introduction (by natural dispersal and human activity)?	No data are available on the flight capacity of *Elaphria nucicolora*, but Noctuids are relative good flyers in general and natural dispersal is estimated to take place at a medium rate (e.g. in the range of 10 - 100 km's a year). The rate of natural spread under Dutch climatic conditions (e.g. between glasshouses during summer) is, however, highly uncertain. Spread by human activity is likely, since the eggs and young larvae are hard to detect. Pupation usually takes place in the soil, so plants in containers can carry the pupae.

10	In what manner could the organism enter the Netherlands? *Mention pathways*.	*Elaphria nucicolora* may enter the Netherlands through importation of plants or fruits (e.g. pineapple or *Momordica* fruit). Entering through natural spread is very unlikely: there are no records of the species reaching Europe on their own, nor has it been reported anywhere in Europe.
11	Has the organism been detected on/in a product (cut flowers, fruit, …) destined for the consumer market? *If "no", please go to question 13*	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? *Only to be answered in case of an interception and/or a find.*	-
13	Additional remarks	• Calvo Gonzalez & Garza Vásquez (2007) reported a life cycle of 32.1 days: 3.9 days for the average egg stage, 23 days for larvae, 1.3 days for prepupae, 3.6 days for the pupal stage; the life span of an average adult was 10.3 days (note: temperature not indicated). High rates of mortality were presented in all life stages. A biological control agent (Diptera order, family Tachinidae, *Gaediopsis*) was reared from the laboratory culture; its ability to control *Elaphria nucicolora* was, however, not established. • Habeck (1965) reported from a laboratory test at 21°C a lifecycle with 20-35 (mean 25.7) days for the larva, and a mean of 13.4 days for the pupa. Two females laid 923 and 917 eggs, respectively. The adults lived between 12 – 16 days.
14	References (Websites acc. April 16, 2014)	• Calvo González SM, Garza Vásquez D (2007) *Elaphria nucicolora* Guenée (Noctuidae: Amphipirinae), nueva plaga de la piña en el caribe costaricense. PhD thesis, Lima, Costa Rica • Gilligan TM, Passoa SC (2014) LepIntercept, An identification resource for intercepted Lepidoptera larvae. Identification Technology Program (ITP), USDA-APHIS-PPQ-S&T, Fort Collins, CO. www.lepintercept.org. • Habeck DH (1965) Laboratory culture and development in *Elaphria nucicolora* (Lepidoptera, Noctuidae). Florida Entomologist, 48(3): 187-188. • Hall GA (1988) Insects and mites associated with sugarcane in Florida. Fla. Entomol. 71(2): 138-150. • Patterson B (2014) Moth photographers group: http://mothphotographersgroup.msstate.edu/species.php?hodges=9676 • Robinson GS, Ackery PR, Kitching IJ, Beccaloni GW & Hernández LM (2010) HOSTS - A Database of the World's Lepidopteran Hostplants. NHM, London. http://www.nhm.ac.uk/hosts. • Swezey OH (1947) *Elaphria nucicolora* (Guenee), a recent Immigrant to Hawaii (Lepidoptera: Agrotidae: Acronictinae). Proc. Hawn. Ent. Soc. XIII(1): 99-100. • (VBC) Valent BioSciences Corporation (2013) Ag microbials. http://microbials.valentbiosciences.com/valent-biosciences-corporation-microbial-home/pests/pineapple-pests • Zimmerman EC (1958) Insects of Hawaii. Volume 7, Macrolepidoptera. Hawaii: University of Hawaii Press, xi + 542 p. http://hdl.handle.net/10125/7336

15	Conclusions	The present Quickscan was conducted after the interception of one caterpillar of *Elaphria nucicolora*. *E. nucicolora* is known as a pest of pineapple in America but is not known as pest on other plant species. Pine apple may be incidentally grown as ornamental in glasshouses but not for fruit production. The risk is considered low.
16	Follow-up measures	The consignment was released.