



## Quick scan number: QS.ent.2012.01

Quick scan date: 08-04-2013			
1	<p>What is the Latin 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><i>Ascia monuste</i> subsp. <i>monuste</i>* (Linnaeus), Lepidoptera, fam. Pieridae, subfam. Pierinae (whites) (ref.1) Common name: Great Southern White. Photo © 2008 Jerry Oldenettel (creative commons share)</p> <p>* See at 14.</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 adult butterfly on a consignment of <i>Dracaena marginata</i> (not a host plant) from Costa Rica, intended for planting in a greenhouse.</p>	
3	<p>What is the (most likely) area of distribution?</p>	<p>Subtropical and tropical America: South West USA (migratory specimens), West Mexico &amp; South Texas, Central America, Northern South America; Lesser Antilles (ref 1). It also can be found as migratory species in Kansas, Colorado and Maryland (ref 3).</p>	
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>No (as far as known).</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, Liu (2005): "Although the subspecies <i>A. monuste monuste</i> was listed as a pest of crucifer crops in the southern United States in the early 1970s, it was not considered a major pest. In recent years, it seems that there is a tendency that <i>A. monuste monuste</i> populations have been increasing gradually in the Lower Rio Grande Valley of southern Texas, and this species has become a sporadic pest of cruciferous vegetables (unpublished data). In isolated patches in some cabbage fields, the gregarious larvae have completely devoured all aboveground parts (leaves, petioles, and stems) of large cabbage or collard plants. After consuming one plant, they move to another plant." (ref 2)</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>No risk</li> <li>In greenhouses (low, medium, high risk)</li> <li>Outdoors (low, medium, high risk)</li> <li>Otherwise (e.g. storage facilities, human environment)</li> </ol> <p><i>Please illustrate with information/references</i></p>	<p>Establishment in the Netherlands is unlikely: given the current distribution outdoor climate is expected to be unsuitable for establishment. Although the species is known to migrate during summer to more temperate regions in the USA, it has not established there (ref 1 &amp; 3). Greenhouses may provide a suitable climate, but there are no reports of any members of the family Pieridae being pests in greenhouses, neither in Europe nor on other continents. <i>Ascia monuste</i> prefers an open habitat: "Salt marshes, coastal dunes, open fields, and gardens." (ref 3).</p>																		
7	<p>If the organism would become established in the Netherlands, what kind of damage would it likely cause? <i>Indicate whether damage is expected to be comparable or different to that in area of present distribution : see question 5.</i></p>	<p>If it was to establish, which is unlikely (see 6), <i>Ascia monuste</i> subsp. <i>monuste</i> may cause some damage. It belongs to the same family as the European cabbage whites (a.o. <i>Pieris brassicae</i> &amp; <i>P. rapae</i>). However, even if a transient population may develop, the impact will probably be far less than in the current area of distribution of the species, due to suboptimal climatic conditions. Optimum temperature seems to be about 25°C (ref 2). The lifecycle will be longer and a lower number of generations will develop. The damage will also be less significant than caused by the related native species, since <i>Ascia monuste</i> is not adapted to the temperate climate and also seems to develop more slowly than native species of whites (ref 5).</p> <table border="1" data-bbox="898 655 2132 831"> <thead> <tr> <th>Stage (developm. in days at 25°C)</th> <th><i>Pieris rapae</i> (ref 5)</th> <th><i>Ascia monuste</i> (ref 2)</th> </tr> </thead> <tbody> <tr> <td>Egg</td> <td>3.0</td> <td>4.7</td> </tr> <tr> <td>Larva</td> <td>14.1</td> <td>17.4</td> </tr> <tr> <td>Pupa</td> <td>8.1</td> <td>9.5</td> </tr> <tr> <td><b>Egg - adult</b></td> <td><b>25.2</b></td> <td><b>31.6</b></td> </tr> <tr> <td>Adult longevity</td> <td>7.0</td> <td>18.3</td> </tr> </tbody> </table>	Stage (developm. in days at 25°C)	<i>Pieris rapae</i> (ref 5)	<i>Ascia monuste</i> (ref 2)	Egg	3.0	4.7	Larva	14.1	17.4	Pupa	8.1	9.5	<b>Egg - adult</b>	<b>25.2</b>	<b>31.6</b>	Adult longevity	7.0	18.3
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8	<p>Which commercially grown host plants are present and which host plants are present in the natural environment in the Netherlands? <i>If establishment is restricted to greenhouse climate, list only host plants in greenhouses.</i></p>	<p>Host plants belong to the mustard family (Brassicaceae), including beach cabbage (<i>Cakile maritima</i>), cultivated cabbage and radish, peppergrass (<i>Lepidium</i> species); and plants in the caper family (Capparidaceae) including nasturtium (ref. 3). Based on this information it is likely that all wild and commercially grown species of the Brassicaceae family will be host plants for the organism.</p>																		
9	<p>Provide a provisional estimation of type and probable 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?</p>	<p>See 7</p>																		
10	<p>What are the possibilities of spreading, either by natural dispersal or human activity?</p>	<p>If a (transient) population would be present in the Netherlands which is unlikely to occur, natural dispersal is possible (species of this family are good flyers). Furthermore, human assisted spread by trade is possible, e.g. by eggs present on products of its host plants.</p>																		
11	<p>In what manner could the organism enter the Netherlands? <i>Mention pathways.</i></p>	<p>Adults can enter with trade of all kind of products, including non host plants like ornamentals (like in this case). Immature stages can only enter with trade of host plants.</p>																		
12	<p>Has the organism been detected on/in a product (cut flowers, fruit...) destined for the consumer market? <i>If "no", please go to question 14</i></p>	<p>No</p>																		
13	<p>If the organism has been found on/in a consumer</p>	<p>Not relevant</p>																		



	product, are there any risks of introduction and establishment in crop areas and/or natural environment in the Netherlands?	
14	Additional remarks	<p><i>Ascia monuste</i> has at least 7 subspecies. Of these <i>A. monuste orseis</i> is one of the most important pests of Brassicaceae in the Neotropical region, particularly in Brazil; the majority of research on <i>A. monuste</i> has been conducted with the subspecies <i>orseis</i> (ref 2) (ref 5).</p> <p>Liu (2005) has concluded: "Based on the data from this study, I concluded that the life history parameters of the subspecies of <i>A. monuste monuste</i> are different from those of <i>Ascia monuste orseis</i> (Godard), another Neotropical subspecies."(ref. 2)</p>
15	References:	<ol style="list-style-type: none"><li>1. Warren ADK et al, 2012. Interactive Listing of American Butterflies. <a href="http://www.butterfliesofamerica.com">http://www.butterfliesofamerica.com</a>. Acc.date March 6, 2012</li><li>2. Liu TX, 2005. Biology and Life History of <i>Ascia monuste monuste</i> (Lepidoptera: Pieridae), a Potential Pest of Cruciferous Vegetables. Ann. Ent. Soc. Am. 98(5): 726-731: <i>Ascia monuste</i> (L.) (Lepidoptera: Pieridae) is a subtropical and tropical species with several subspecies and forms. In recent years, it has become a sporadic insect pest of crucifer vegetables in southern Texas. In some isolated fields, the gregarious larvae have completely consumed all aboveground parts of large cabbage or collard plants (leaves, petioles, and stems). .... At 25 ± 2°C, developmental time averaged 4.7, 2.8, 2.3, 3.1, 3.2, 6.0, and 9.d d for eggs, first, second, third, fourth, fifth instars and pupae, respectively, yielding an average of 17.4 d for all larval stages and an average generation time of 31.7 d for both sexes. Adult longevity averaged 19.8 d for females and 16.3 d for males under greenhouse conditions. The sex ratio was 1:0.76 (females:males) or 56.8% females. Each egg cluster had an average of 43.2 eggs with a range of 1-245.</li><li>3. <a href="http://www.butterfliesandmoths.org/species/Ascia-monuste">http://www.butterfliesandmoths.org/species/Ascia-monuste</a>. Acc.date March 6, 2012.</li><li>4. Habenchus Barros HC &amp; Zugoloto FS, 1999. Performance and host preference of <i>Ascia monuste</i> (Lepidoptera, Pieridae). Journ. Ins. Phys. 45(1): 7-14.</li><li>5. Cheng CL &amp; Shiu CH 2003. Morphology of <i>Pieris rapae crucivora</i> Boisduval (Lepidoptera: Pieridae) and the effects of temperatures on its development. CAB Abstracts Plant Protection Bulletin (Taipei) 45(4): 271-284.</li></ol>
16	<b>Conclusions</b>	<p>This Quickscan concerns the butterfly species <i>Ascia monuste</i> subsp. <i>monuste</i> which was found on planting material of <i>Dracaena marginata</i> imported from Costa Rica.</p> <p>Risk assessment: the species poses no or a low risk for plant health in the Netherlands because the pest is unlikely to establish in the Netherlands.</p> <p>Pest status of <i>Ascia monuste</i> subsp. <i>monuste</i> in the Netherlands: absent</p>
17	<b>Follow-up measures</b>	No specific measures