

Netherlands Food and Consumer Product Safety Authority Ministry of Economic Affairs

## National Plant Protection Organization, the Netherlands

## Quick scan number: QS. Ent.2015.007

	Quick scan date: 29 September 2016				
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.	Hemitarsonemus ganeo Magowski, 2012 Acari: Prostigmata: Tarsonemidae			
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.	Finding on fern plants, <i>Platycerium alcicorne</i> (Polypodiaceae) in a glasshouse in De Kwakel, the Netherlands 27-11-2015.			
3	What is the current area of distribution?	It is a recently described species and had thus far only been reported on outdoor ferns in the provinces of Małopolska and Zachodniopomorskie in Poland (Magowski, 2012).			
4	What are the host plants?	Recorded from a few fern species: <i>Athyrium filix-femina</i> (Athyriaceae) ; <i>Dryopteris dilatata</i> and <i>D. filix-mas</i> (Dryopteridaceae) (Magowski, 2012).			

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 + plant species on which damage has been reported + short description of symptoms. Please indicate also when the organism is otherwise harmful (e.g. predator, human/veterinary pathogen vector, etc.).	Damage on ferns by <i>Hemitarsonemus ganeo</i> had not been reported before. In the infested glasshouse, young ferns in seed trays showed symptoms of growth failure, stunting and damage (see under 1) and a significant number of plants was unmarketable. One other mite is known to attack ferns <i>Hemitarsonemus tepidariorum</i> (Lindquist, 1986; Aguilar & Murillo, 2008) and its damage observed on fern plants is similar: "Typical damage usually includes leaf deformities and stunting of plants very similar to the type damage inflicted by <i>H. latus</i> and <i>S. pallidus</i> " (Beer, 1954). Worldwide, the broad mite ( <i>Polyphagotarsonemus latus</i> , formerly designated as <i>Hemitarsonemus latus</i> ) and the cyclamen mite ( <i>Steneotarsonemus pallidus</i> ) attack many kinds of plants, but not ferns.
6	Assess the probability of establishment in the Netherlands (NL) (i.e. the suitability of the environment for establishment). a. In greenhouses (low, medium, high) b. Outdoors (low, medium, high) c. Otherwise (e.g. storage facilities, human environment)	<ul> <li>a. Medium: <i>H. ganeo</i> may behave in a similar way in glasshouses as the closely related fern mite <i>H. tepidariorum.</i> Of the latter species few occurrences have been reported in glasshouses in the United Kingdom and United States prior to 1955 (Lindquist, 1986), and recently outdoors in Costa Rica (Aguilar &amp; Murillo, 2008); it is unclear, however, whether <i>H. tepidariorum</i> remained in those greenhouses for longer periods of time (Beer 1954).</li> <li>b. High: the province of Zachodniopomorskie (Poland) where the pest is known to be present has a wet Atlantic climate zone. The known host plants commonly occur outdoors in the Netherlands.</li> <li>c. No reports.</li> </ul>
7	Assess the probability of establishment in the EU (i.e. the suitability of the environment for establishment).	Hemitarsonemus ganeo is already established in the EU. The species has only recently been described from outdoor ferns from Poland (Magowski, 2012) and it may have a much wider distribution than currently known. The fern species found infested in Poland are for example commons species in Germany and the Netherlands.
8	What are the possible pathways that can contribute to spread of the organism after introduction? How rapid is the organism expected to spread (by natural dispersal and human activity)?	No information is available how <i>Hemitarsonemus ganeo</i> was introduced into the glasshouse in the Netherlands. The species may be spread by trade of infested plants, clothes etc. or more locally by natural spread.
9	Provide an assessment of the type and amount of direct and indirect damage (e.g. lower quality, lower production, export restrictions, threat to biodiversity, etc.) likely to occur if the organism would become established in NL and the EU, respectively?	The observations in the glasshouse in De Kwakel show that <i>Hemitarsonemus ganeo</i> can cause growth failure and stunting in ferns and thus lowering the quality of the product. It is, however, uncertain to which extent the species can persist and will cause damage in commercially operated greenhouses over longer periods.
10	Has the organism been detected on/in a product other than plants for planting (e.g. cut flowers, fruit, vegetables)? If "no", go to question 12	Νο
11	If the organism has been found on/in a product other than plants for planting (e.g. cut flowers, fruit, vegetables), what is the probability of	

12	introduction (entry + establishment)? Only to be answered in case of an interception or a find.	This is a first report of the presence of and damage caused by <i>Hemitarsonemus ganeo</i> on ferns in the
12		Netherlands. Records of mite species in glasshouses attacking ferns were thus far only known from <i>H. tepidariorum.</i>
13	References	<ul> <li>Aguilar H &amp; Murillo P (2008) Nuevos hospederos y registros de ácaros fitófagos para Costa Rica: período 2002-2008. Agronomía Costarricense 32(2): 7-28.</li> <li>Beer RE (1954) A revision of the Tarsonemidae of the Western Hemisphere (Order Acarina). University of Kansas Science Bulletin 36: 1091-1387.</li> <li>Lindquist EE (1986) The world genera of Tarsonemidae (Acari: Heterostigmata): a morphological, phylogenetic andsystematic revision, with a reclassification of family group taxa in the Heterostigmata. Memoirs of the Entomological Society of Canada 136: 1-517.</li> <li>Magowski WŁ (2012) Two new species and a new subgenus of tarsonemid mites (Acari: Heterostigmatina: Tarsonemidae) from ferns in Poland. Zoological Studies 51(4): 512-525. http://zoolstud.sinica.edu.tw/Journals/51.4/512.pdf [accessed 4-1-2016]</li> </ul>
14	Conclusions	The present Quickscan was initiated after the finding of the mite species <i>Hemitarsonemus ganeo</i> on fern plants from a glasshouse in the Netherlands. It is a recently described species which had previously only been reported from outdoor ferns in Poland. The species may have a wider distribution in Europe and may also be present outdoors in the Netherlands. Damage caused by the species on ferns had not been described before.
15	Follow-up measures	The species is present in Europe and no official measures are taken. The species had not been described from the Netherlands before and the finding will be communicated with stakeholders (glasshouse horticulture).