Netherlands Food and Consumer
Product Safety Authority
Ministry of Agriculture,
Nature and Food Quality

Quick scan for *Leucoma wiltshirei*

National Plant Protection Organization, the Netherlands

Quick scan number: QS2022ENT003

Quick scan date: 24 October 2022

No.	Question	Quick scan answer for Leucoma wiltshirei
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*.	*Leucoma wiltshirei* Collenette, 1938 (Lepidoptera: Erebidae: Lymantriinae), a tussock moth.
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.*	This Quick scan was prompted by the request of an organisation to import the organism for research purposes.
3.	What is the current area of distribution?	Iraq, Iran, Turkey
4.	What are the hostplants?	*Quercus brantii* (syn.: *Q. persica*), apparently monophagous (no known other host plant species). The caterpillars could not be raised on other tree species. It is unclear which plant species were tested and whether other species of *Quercus* could be suitable host plants (Abai, 1981).
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, the larvae feed on leaves of *Quercus brantii*. The species was reported as a pest in oak forests in the Fars Province, Iran, in areas where the forest is mostly a monoculture of *Q. brantii* (90–95% of all trees) (Abai, 1980). The native range of *Q. brantii* stretches from the Fars province in the south of Iran to South-East Turkey (Seven, 2022).

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	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.).*	The later larval stages consume large amounts of leaf material and spin webs of silk across branches. The autumn generation also consumes 2-3 times more than the spring generations. Under high densities, the caterpillars can cover large parts of the tree with webbing and fully defoliate it (Abai, 1981).
6.	Assess the probability of establishment in the Netherlands (NL) (i.e. the suitability of the environment for establishment). a. In greenhouses b. Outdoors c. Otherwise (e.g. storage facilities, human environment)	The probability of establishment is low in the Netherlands. The host plant is uncommon. *L. wiltshirei* occurs in semi-arid and 'hot-summer Mediterranean' climates (BSh to CSa in the Köppen-Geiger climate classification (Rubel & Kottek, 2010)). The species is adapted to hot, dry summers, mild winters and is negatively affected by freezing temperatures and long periods of rain when it is not in its overwintering stage. Mean summer temperatures in the Netherlands seem, therefore, unfavourable for establishment although the climate may become more suitable due to global warming.
7.	Assess the probability of establishment in the EU (i.e. the suitability of the environment for establishment).	The Mediterranean climate in the southern part of the EU is probably suitable for *L. wiltshirei*. However, its host plant does not occur natively in the EU. *Q. brantii* trees may be present locally (e.g. in botanical gardens across Europe) but the species is not a common tree for planting (Coombes & Cameron, 2021). Assuming that *Q. brantii* is its only host plant, *L. wiltshirei* may only be able to establish very locally.
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)?	There is currently no information on the active dispersal capabilities of *L. wiltshirei*. It is plausible that larvae and their silken threads are transported by wind currents as in some other Lymantriinae (Gninenko & Gninenko, 2002). Dispersal through human activity is possible if trees are transported during winter months; larvae overwinter in the crevices of the bark.
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?	Establishment in the Netherlands is not expected to cause significant damage. The host plant is uncommon and the climate seems unfavourable for development of *L. wiltshirei* (see Q6). In the south of the EU, climatic conditions are more favourable for development of *L. wiltshirei* but the host plant only occurs there occasionally (see Q7). Therefore, the species can only very locally infest trees and cause damage.
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*	No
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 introduction (entry + establishment)? *Only to be answered in case of an interception or a find.*	Not relevant
12.	Additional remarks	

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13.	References	Abai, M. (1980). Zur Kenntnis von Leucoma wiltshirei Coll. (Lep., Lymantriidae), eines neuen Schädlings iranischer Eichenwälder: 1. Systematik, Verbreitung und Morphologie. *Zeitschrift für Angewandte Entomologie, 90*(1-5), 511-519. doi:10.1111/j.1439-0418.1980.tb03559.x Abai, M. (1981). Zur Kenntnis von Leucoma wiltshirei Coll. (Lep., Lymantriidae), eines neuen Schädlings iranischer Eichenwälder: 2. Biologie, Populationsdynamik und Bekämpfung. *Zeitschrift für Angewandte Entomologie, 91*(1-5), 86-99. doi:https://doi.org/10.1111/j.1439-0418.1981.tb04455.x Coombes, A., & Cameron, R. (2021). 'Quercus brantii' from the website Trees and Shrubs Online. Retrieved from treesandshrubsonline.org/articles/quercus/quercus-brantii/ Gninenko, Y. I., & Gninenko, M. Y. (2002). Little known lymantriids of the Russian Far East – potential for movement to other countries of the Pacific region. *EPPO Bulletin, 32*(3), 477-480. doi:https://doi.org/10.1046/j.1365-2338.2002.00592.x Rubel, F., & Kottek, M. (2010). Observed and projected climate shifts 1901-2100 depicted by world maps of the Köppen-Geiger climate classification. *Meteorologische Zeitschrift, 19*, 135-141. doi:10.1127/0941-2948/2010/0430 Seven, E. (2022). *Distribution and biology of Leucoma wiltshirei Collenette, 1938 (Lepidoptera, Erebidae, Lymantriinae) in South-Eastern Turkey*.
14.	**Conclusions**	This Quick scan was prompted by a request of an organisation to import *Leucoma wiltshirei* for research purposes. The organism is not known to be present in the EU. The only known host plant of *L. wiltshirei* is *Quercus brantii*. The climate in the south of the EU is probably suitable for establishment. The potential economic impact is assessed to be low. *Q. brantii* does not occur natively in the EU and is not commonly planted; it may be present locally.
15.	**Follow-up measures**	None: *L. wilshirei* may be imported and used for research purposes without official requirements.