



Infection with SARS-CoV-2,  
Greece

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Information received on 16/02/2021 from Mrs Chrysoula Dile, Head, Animal Health Directorate, Ministry of Rural Development and Food, ATHENS, Greece

#### Summary

Report type	Follow-up report No. 4
Date of start of the event	04/12/2020
Date of confirmation of the event	08/12/2020
Report date	14/02/2021
Date submitted to OIE	16/02/2021
Reason for notification	Emerging disease
Morbidity	2 (scale 0 to 5)
Mortality	1 (scale 0 to 5)
Zoonotic impact	To date, the Y453F mutation in the spike (S) protein of the virus, referred to as mink-related-variant, has been detected in sequenced SARS-CoV-2 genomes from 6 human cases directly related to mink (farm workers/owners), but it has not been detected in samples from the general population. Presence of the Y453F mutation has been also confirmed in virus genomes from 4 farms so far. None of the other mutations described on the Rapid Risk Assessment of the 12th November 2020 from EU agencies (ECDC, EFSA, EMA) has been found up to now neither in humans nor animals. Sequencing of virus genomes from human and mink samples is ongoing
Causal agent	SARS-CoV-2
Related reports	<a href="#">Immediate notification (15/12/2020)</a> <a href="#">Follow-up report No. 1 (19/12/2020)</a> <a href="#">Follow-up report No. 2 (12/01/2021)</a> <a href="#">Follow-up report No. 3 (06/02/2021)</a> <a href="#">Follow-up report No. 4 (14/02/2021)</a>

#### New outbreaks (1)

Outbreak 1 (GREVENA_5)	Regional Unit of Grevena, Local Community of Trikokia, Municipality of Deskati, Dytiki Makedonia					
Date of start of the outbreak	08/02/2021					
Outbreak status	Continuing (or date resolved not provided)					
Epidemiological unit	Farm					
Affected animals	Species	Susceptible	Cases	Deaths	Killed and disposed of	Slaughtered
	Mustelidae	27658	17	0	0	0
Affected population	The animals are bred in a commercial farm for their fur. On 8/2/2021, veterinary authorities were notified by the health authorities for two human cases (workers) directly related to the farm. The two positive workers were detected in the framework of the early warning system (weekly testing) for farm staff that has been in place since November 2020. Samples (oropharyngeal swabs) were collected from 20 animals and 17 were tested positive with RT-PCR. Mink showed no clinical symptoms and feed intake was not reduced. Taking into account the farm records, observed mortality didn't exceed the regular values that are expected within this time period (slimming preceding mating season), thus was considered unrelated to the outbreak					

Summary of outbreaks	Total outbreaks: 1					
Total animals affected	Species	Susceptible	Cases	Deaths	Killed and disposed of	Slaughtered
	Mustelidae	27658	17	0	0	0
Outbreak statistics	Species	Apparent morbidity rate	Apparent mortality rate	Apparent case fatality rate	Proportion susceptible animals lost*	
	Mustelidae	0.06%	0.00%	0.00%	0.00%	
*Removed from the susceptible population through death, destruction and/or slaughter						

#### Epidemiology

<b>Source of the outbreak(s) or origin of infection</b>	Unknown or inconclusive Transmission from infected workers is suspected
<b>Epidemiological comments</b>	In total, 23 out of 91 mink farms have been tested positive for SARS-CoV-2 since the first outbreak was confirmed on 13/11/2020. Epidemiological data and comparative analysis among human and mink isolated SARS-CoV-2 genomes indicate that minks were infected, in most of the cases, by humans. Stamping out and official disposal of carcasses were only applied to the first confirmed farm. At that point, it was decided to stop culling animals. The whole country is practically considered a single zone. Movement restrictions (complete standstill for live animals) and strict biosecurity measures, including the mandatory use of personal protective equipment (PPE), have been imposed not only to the infected mink farms, but also to all fur farms in Greece. Reporting of increased mink morbidity and mortality to the veterinary authorities is obligatory at national level. Vaccination of high-risk population directly related to farms (farm workers, owners, veterinarians) has already commenced and is in progress. In the framework of the one-health approach, veterinary and health authorities have been closely collaborating both at local and central level. Active repeated weekly surveillance (rapid tests and RT-PCR) is conducted by health authorities in all mink farm workers/owners. Results are notified directly to veterinary authorities which investigate every farm that is epidemiologically linked to a confirmed human case. In addition, veterinary authorities investigate every notification for increased animal morbidity and mortality. Oropharyngeal swabs are collected from the animals and tested with RT-PCR. Sequencing of virus genomes from human and mink samples is conducted

**Control measures**

<b>Measures applied</b>	Movement control inside the country Surveillance outside containment and/or protection zone Surveillance within containment and/or protection zone Traceability Quarantine Zoning Vaccination permitted (if a vaccine exists) No treatment of affected animals
<b>Measures to be applied</b>	No other measures

**Diagnostic test results**

Laboratory name and type	Species	Test	Test date	Result
Centre for Research and Technology Hellas (CERTH) (National laboratory)	Mustelidae	real-time PCR	08/12/2020	Positive
Centre for Research and Technology Hellas (CERTH) (National laboratory)	Mustelidae	real-time PCR	13/02/2021	Positive

**Future Reporting**

The event is continuing. Weekly follow-up reports will be submitted.

**Map of outbreak locations**

