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Subject: PRO/AH/EDR> COVID-19 update (527): animal, Greece (WM) mink, spread, genome analysis

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CORONAVIRUS DISEASE 2019 UPDATE (527): ANIMAL, GREECE (WESTERN MACEDONIA) MINK, SPREAD, GENOME ANALYSIS

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A ProMED-mail post

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<http://www.isid.org>

Date: Fri 4 Dec 2020

Source: OIE COVID-19 Portal - Events in animals - letter from Greece Ref. Num. 2940/339994 [edited]

[https://www.oie.int/fileadmin/Home/MM/Greece\\_04.12.2020.pdf](https://www.oie.int/fileadmin/Home/MM/Greece_04.12.2020.pdf)

Greece, Situation update 2 (4 Dec 2020)

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Following the 1st confirmed case, which was reported on 16 Nov 2020 [20201115.7944705], I would like to inform you about 11 further cases of SARS-CoV-2 detection on mink farms. They are located in the Region of Western Macedonia and in particular in the Regional Units of Kozani (5), Kastoria (4) and Grevena (2).

All new positive farms but one were inspected following notification of confirmed human cases in the framework of the repeated weekly surveillance that is conducted by health authorities in all mink farm workers/owners. Animals from these farms have not been showing either clinical signs or increasing mortality till today. Owner of the aforementioned one farm had reported increased animal morbidity/mortality (notification is mandatory) to the veterinary authorities just before he was tested positive for Covid-19. Health situation on this farm has remarkably improved since then (no morbidity, regular mortality rate and feed intake). So far, none of the inspected mink farms where there is no epidemiological link to a confirmed human case has tested positive. At this stage, available information indicates a human-to-animal transmission in all 12 mink farms where the presence of SARS-CoV-2 has been confirmed to date.

The genome sequence analysis of the SARS-CoV-2 viruses detected from 8 infected animals of the 1st positive mink farm (reported on 16 Nov 2020) [see 20201115.7944705] clustered all genomes in B (Rambaut et al. Nature, 2020; <https://www.nature.com/articles/s41564-020-0770-5>). More specifically, to B.1.1 (5 out of 8), B.1.1.72 (2 out of 8) and one genome was clustered in B without any specific lineage. Genomes from the 2 positives for SARS-CoV-2 human samples related to the farm were classified to B.1.1 and B.1.1.72 lineages. None of the amino acid mutations (Y453F, deletion of amino acids 69-70, I692V, M1229I), described on the Rapid Risk Assessment dated 12 Nov 2020 from EU agencies (ECDC, EFSA, EMA) [see 20201112.7939110] regarding the spike protein, is present in the spike gene of the mink and human SARS-CoV-2 sequenced genomes.

In collaboration with the public health authorities, sequencing of viruses from the latest confirmed positive cases in minks and human cases from the Region of Western Macedonia is ongoing.

At this point, we don't intend to cull other animals. Movement restrictions and strict biosecurity measures, including the mandatory use of PPE, have been imposed not only on the infected mink farms, which have been placed under official surveillance, but also on all fur farms in Greece. Moreover, reporting of increased mink morbidity and mortality to the veterinary authorities is now obligatory at national level. When human vaccines become available, everyone who comes in close contact with mink (farm workers, owners, veterinarians) shall be included in the highest priority group to receive vaccination.

Enhanced safeguard measures and special protocols are also implemented in the establishments where pelting and pelt drying take place during this period of time.

Animals from infected farms will be last to be pelted, under official surveillance, right after the procedure for all mink originating from non-infected farms is completed. All dried raw skins will remain stored for at least 4 weeks at the highest possible room temperature. The pelting period is expected to be concluded by the end of next week. It is estimated that 350 000 to 400 000 breeding animals will be kept on farms. Possible SARS-CoV-2 circulation in the remaining mink population will continue to be monitored in the following months by repeated clinical and laboratory examinations.

I will keep you informed about further developments and measures taken by the authorities.

On behalf of the Greek Chief Veterinary Officer (CVO), Mr. Thomas Alexandropoulos,  
Chrysoula Dile, Animal Health Director and OIE Delegate  
Ministry of Rural Development and Food, Directorate General of Veterinary Services. Directorate of Animal Health, Athens

Footnote: This information is transmitted to the OIE in the context of Article 1.1.6 in the Terrestrial Animal Health Code.

Greece believes that based on existing scientific data notification to the OIE of Covid-19 cases in mink should remain in the context of article 1.1.6 rather than article 1.1.4.

However, should EU come to a decision for its members to provisionally notify to the OIE the detection of SARS-CoV-2 infection in mink under article 1.1.4, Greece shall comply with it, pending the outcome of further evidence. [See commentary].

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[Greece became, on 13 Nov 2020, OIE's 7th member state officially reporting COVID-19 in its farmed minks. It followed Netherlands, Denmark, Spain, USA, Italy and Sweden. In the meantime, France and Lithuania have become the 8th and 9th. Information from Gdansk University presenting diagnosis of COVID-19 in Polish minks (20201127.7976927) has been later claimed unconfirmed by the Polish government (<https://www.reuters.com/article/us-health-coronavirus-poland-mink/do-any-mink-in-poland-have-covid-19-new-findings-raise-doubts-idUSKBN28A2NV>).

Most recently, the disease has also been media-reported from Canada; yet to be officially confirmed/reported.

While the SARS-CoV-2 pandemic is known to have been circulating globally, and in view of the recorded human-to-mink pattern of the virus spread, the virus is expected to have already infected minks world-wide. Surveillance results from the remaining mink-farming countries, especially from the leading ones such as China, are expected the soonest.

The genome sequence analysis performed and reported by the Greek authorities is commendable. The apparent absence of clinical signs on the farms (save one) is striking; certainly, when compared to described morbidity and mortality on USA farms.

Could this be attributed to genetic differences of animals, or of the pathogen?

As to the footnote in the Greek letter above: Article 1.1.6 in OIE's Terrestrial Animal Health Code says: "Although Member Countries are only required to notify listed diseases, infections and infestations and emerging diseases, they are encouraged to provide the OIE with other important animal health information".

Article 1.1.4, in line with which Greece reported, deals with "emerging disease", namely "a new occurrence in an animal of a disease, infection or infestation, causing a significant impact on animal or public health resulting from:

- a change of a known pathogenic agent or its spread to a new geographic area or species; or
- a previously unrecognised pathogenic agent or disease diagnosed for the first time".

Greece regards COVID-19 in minks as "other important animal health information" and not "emerging disease", though this pathogen presents a new occurrence in animals (minks), while having a "significant impact on public health". The Greek reservation deserves to be explained. - Mod.AS

HealthMap/ProMED map:

Greece: <https://promedmail.org/promed-post?place=8002636,83>

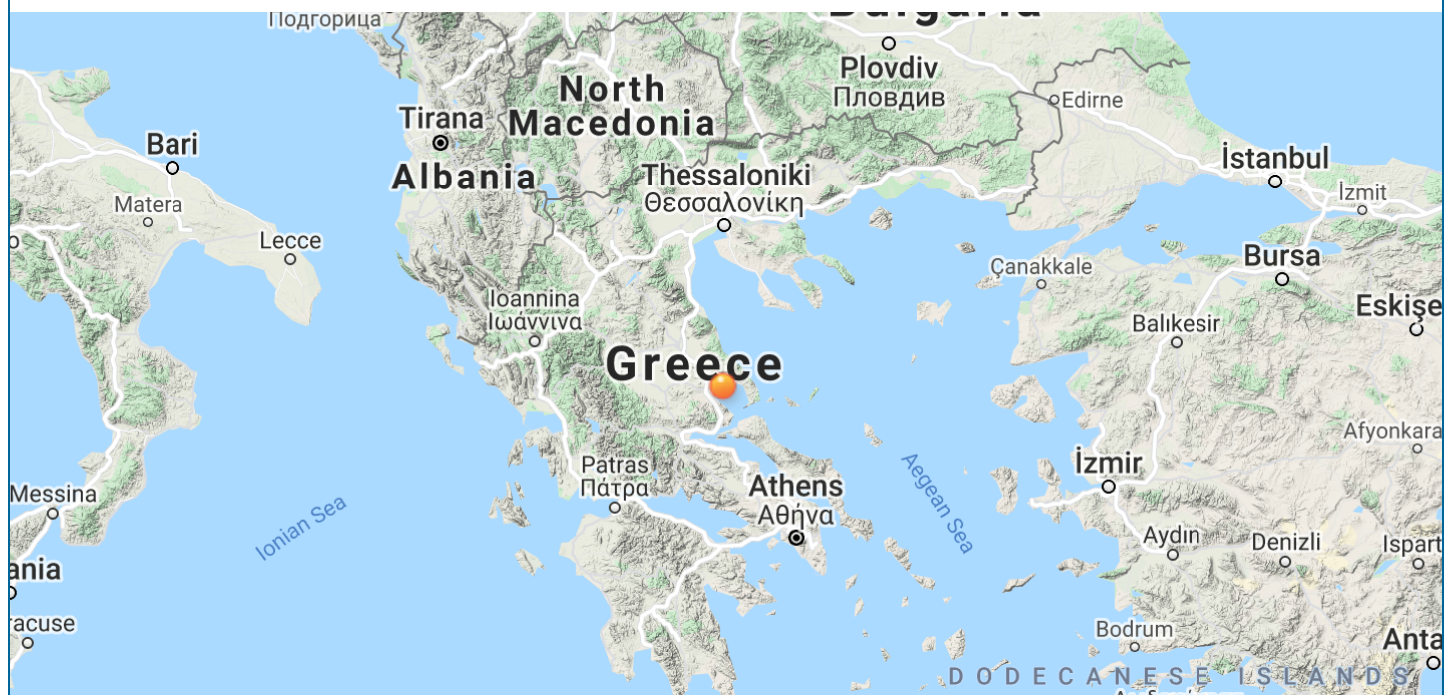
## See Also

COVID-19 update (520): Denmark, Netherlands, mink, human-animal interface, WHO 20201204.7994061  
COVID-19 update (516): China (Hong Kong) animal, dog, Lithuania, mink, OIE 20201203.7986508  
COVID-19 update (510): animal, mink, Lithuania, Poland, 1st reports, France, OIE 20201127.7976927  
COVID-19 update (507): animal, mink, Netherlands spread, Italy control 20201125.7972425  
COVID-19 update (503): animal, France, mink, 1st rep 20201123.7965554  
COVID-19 update (501): Denmark, Netherlands, mink, human-animal interface 20201122.7963766  
COVID-19 update (498): Denmark, animal, mink, zoonotic 20201120.7959431  
COVID-19 update (490): animal, Greece (EM) mink, 1st report, OIE, assessment 20201115.7944705  
COVID-19 update (487): Denmark, animal, mink, zoonotic, risk assessment ECDC 20201112.7939110  
COVID-19 update (482): animal, Denmark, mink, zoonotic, eradication, discussed 20201109.7929573  
COVID-19 update (475): animal, Denmark, mink, spike protein sequences 20201106.7922587  
COVID-19 update (473): animal, Denmark, mink, mutation, eradication, RFI 20201105.7918210  
COVID-19 update (471): animal, Denmark, mink, zoonotic, eradication 20201104.7916300  
COVID-19 update (464): animal, Denmark, mink, control, One Health 20201101.7906484  
COVID-19 update (458): animal, Italy, mink, RFI 20201028.7897986  
COVID-19 update (445): animal, Netherlands, Denmark, mink, spread, epidemiology 20201019.7873326  
COVID-19 update (439): animal, Denmark, mink, spread, control 20201014.7861560  
COVID-19 update (414): animal, Netherlands (LI), Denmark (ND), farm mink, spread 20200925.7813579  
COVID-19 update (406): animal, Netherlands (LI), Denmark (ND), farm mink, spread 20200918.7794239  
COVID-19 update (401): Netherlands (NB), Denmark, farmed mink, spread 20200914.7777661  
COVID-19 update (394): Netherlands (NB) animal, farmed mink, spread 20200908.7759382  
COVID-19 update (387): Netherlands, mink, animal & public health, research 20200902.7740793  
COVID-19 update (382): Netherlands, animal, farmed mink, spread, control 20200830.7730463  
COVID-19 update (376): animal, ferret, mink, comment 20200827.7721923  
COVID-19 update (366): animal, USA (UT) mink 20200818.7692815  
COVID-19 update (363): animal, Denmark (ND) Netherlands (NB,LI) mink, spread 20200817.7687830  
COVID-19 update (340): animal, China, enviro monitoring, Netherlands (NB), mink 20200801.7635820  
COVID-19 update (334): animal, Netherlands, mink, spread, UK, cat, 1st rep, OIE 20200727.7617582  
COVID-19 update (324): Netherlands (NB) animal, farmed mink, spread 20200719.7591013

COVID-19 update (317): Netherlands (NB) animal, farmed mink, spread 20200716.7578453  
 COVID-19 update (307): Netherlands (NB), Denmark (ND) farmed mink, spread, control 20200708.7553067  
 COVID-19 update (301): Denmark (ND) Netherlands (NB) farmed mink, spread, control 20200703.7536980  
 COVID-19 update (284): Denmark (ND) animal, farmed mink, spread, dog 20200624.7506728  
 COVID-19 update (281): Netherlands (NB, LI) farmed mink, spread, animal, global 20200623.7502849  
 COVID-19 update (266): Denmark (ND) animal, farmed mink, 1st rep 20200617.7479510  
 COVID-19 update (251): Netherlands (NB, LI) animal, farmed mink, spread, culling 20200610.7453845  
 COVID-19 update (248): Netherlands (NB, LI) animal, mink, spread, culling, cat 20200609.7446478  
 COVID-19 update (236): Netherlands (NB, LI) animal, farmed mink, spread, culling 20200604.7427849  
 COVID-19 update (230): Netherlands (NB, LI) animal, farmed mink, spread, control 20200602.7420433  
 COVID-19 update (215): Netherlands (NB) animal, mink-to-human, epidem., control 20200527.7385049  
 COVID-19 update (209): Netherlands (NB) farmed mink, animal-to-human, cat, epid 20200525.7375359  
 COVID-19 update (198): Netherlands (NB) farmed mink, animal-to-human infect susp 20200520.7359976  
 COVID-19 update (189): Netherlands (NB) animal, farmed mink, research, cat, dog 20200517.7344274  
 COVID-19 update (177): Netherlands (NB) animal, farmed mink, Spain (CT) cat susp 20200512.7328587  
 COVID-19 update (174): Netherlands (NB) animal, farmed mink, comment 20200511.7323845  
 COVID-19 update (169): Netherlands (NB) animal, farmed mink, spread, rabbit susp 20200509.7316646  
 COVID-19 update (154): Netherlands (NB) animal, farmed mink, research 20200503.7294846  
 COVID-19 update (146): Netherlands (NB) animal, farmed mink, epidemiology 20200501.7286113  
 COVID-19 update (135): Netherlands (NB) animal, farmed mink 20200427.7272289

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## ProMED-mail alerts



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