

# 6<sup>TH</sup> CALL OIE ADVISORY GROUP ON COVID-19 AND THE ANIMAL-HUMAN INTERFACE

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## Agenda

1. Update on COVID-19 virus 'events' and surveillance in animals
2. Update on human-animal interface related research activities and animal/wildlife work
3. Outcomes of the sub-group on "considerations for sampling, testing and reporting of SARS-CoV-2 in animals"

## Meeting notes

### 1. Update on COVID-19 virus 'events' and surveillance in animals

Netherlands: mink from 2 farms (with 11,000 and 7500 mink, respectively) tested positive to SARS-CoV-2 by PCR. Animals presented with digestive and respiratory clinical signs. Mortality rates on the farm had also increased above what would be normal (from 0.1% to 0.2% per day). Other causes of disease e.g., E. coli were ruled out. The owner of one of the farms had respiratory signs consistent with COVID-19 and on the other farm an employee had been diagnosed with COVID-19. Mink are housed in individual cages that, although separated by a solid plate, allow some contact with neighbouring animals. Therefore, it is suspected that SARS-CoV-2 was introduced to the animals by a person and that infection was then spread between mink. Additional samples are being collected in these farms from animals, humans and the environment to better understand the epidemiology allowing for a better risk assessment. Since the animal cases were detected, measures implemented on the affected farms include movement restrictions, PPE for the workers, visitor prohibition in surroundings of the farm, manure cannot leave the premises. The disease is now notifiable in the Netherlands. The animals on the farms will continue to be monitored and tested; air and dust sampling equipment will also be installed around the farms.

USA: Two domestic cats from separate households were sampled for respiratory illness. Clinical signs included sneezing and ocular discharge. Samples from the cats were tested by SARS-CoV-2 PCR after testing negative for other respiratory pathogens. One cat is from a two-cat household with a known COVID-19 affected person, the other from a household in an affected neighbourhood and allowed to go outdoors. SARS-CoV-2 was confirmed in samples based upon molecular testing (PCR and sequencing) of samples from the initial testing laboratory and follow up samples obtained directly. Both cats are expected to fully recover. Testing of follow-up samples indicated that both cats were clearing the infection. USA notified the OIE on 22/04/2020.

More information on both cases can be found at the bottom of the OIE Q&A page.

## **2. Update on human-animal interface related research activities and animal/wildlife work**

### Animal infection studies

A preprint of a paper that is going to be published by the Friedrich Loeffler Institute (Germany) on experimental transmission studies of SARS-CoV-2 in fruit bats, ferrets, pigs and chickens was shared with the group. Findings were consistent with the Harbin study, in that virus replication in ferrets resembled a subclinical human infection with efficient spread. Ferrets, as well as hamsters, are being considered, as an animal model, for further studies such as testing vaccines or antivirals. Fruit bats were infected, without clinical signs, showing characteristics of a reservoir host. Pigs and chickens could not be infected intranasally with SARS-CoV-2.

Results from animal studies in other countries have not yet been published but are expected soon.

### Wildlife work

Bat conservation in the USA - A temporary moratorium on handling bats is currently in force in the USA to reduce the risk of spillover from humans to bats pending completion of a risk assessment process. These measures were necessary due concern of exposure of native bats to infected humans. The moratorium is limiting routine bat management and research efforts, which have been important following the significant impacts of White-nose syndrome in North America.

In the USA, an experimental study is assessing the susceptibility of big brown bats to SARS-CoV-2. A group of bat researchers has also been formed to rapidly assess the risk of establishing new reservoirs through spill over from humans.

### Serology

Monitoring activities can be facilitated with serology tests. Surrogate virus neutralization test (sVNT), which is species and isotype independent was presented as an option to test for the presence of antibodies to SARS-CoV-2 in all species.

### Vaccines

Several animal health laboratories (including Harbin and FLI) are involved in assessing vaccines which currently under development in animal models.

### Animals as reservoirs?

Although animals are not playing a significant role in the spread of COVID-19 the risk for animals to become a reservoir of SARS-CoV-2 should be explored and investigated.

## **3. Outcomes of the sub-group on “considerations for sampling, testing and reporting of SARS-CoV-2 in animals”**

The OIE thanked the members of the sub-group, who participated in a series of calls to prepare this document and the members of this group, which provided further input that will be considered before publication. These considerations, whose target are the Veterinary Services of OIE Members, will be available on the OIE Q&A page shortly. The considerations are high-level and non-prescriptive. They follow a risk-based approach to provide a rationale for when to test animals for SARS-CoV-2 and considerations

targeted to different groups of animals. Definitions of suspected case and confirmed case are also provided, noting that the latter should be notified to the OIE. Guidance for disease notification is included in these considerations.