

Published Date: 2021-09-13 15:16:06

Subject: PRO/AH/EDR> COVID-19 update (313): animal, USA, zoo, gorilla

Archive Number: 20210913.8665151

CORONAVIRUS DISEASE 2019 UPDATE (313): ANIMAL, USA, ZOO, GORILLA

A ProMED-mail post http://www.promedmail.org ProMED-mail is a program of the International Society for Infectious Diseases http://www.isid.org

Date: Sat 11 Sep 2021

Source: Outbreak News Today [abridged, edited]

http://outbreaknewstoday.com/gorillas-test-positive-for-sars-cov-2-at-the-atlanta-zoo-64179/

Recently, Gorilla Care Team members observed coughing, nasal discharge, and minor changes in appetite in several members of the gorilla population. Upon the onset of these signs, the Animal Care and Veterinary Teams immediately pursued testing for SARS-CoV-2. Fecal samples and nasal and oral swab samples were sent to the Athens Veterinary Diagnostic Laboratory at the University of Georgia, where they tested presumptively positive. Zoo Atlanta is waiting to receive the results of the confirmatory tests on samples sent to the National Veterinary Services Laboratory in Ames, Iowa.

The Veterinary Team, in consultation with veterinarians at other accredited zoological organizations with similar cases, as well as with human doctors experienced with COVID-19 in humans, is treating the gorillas at risk of developing complications from SARS-CoV-2 with monoclonal antibodies. The teams are collecting samples for testing for the Zoo's entire gorilla population, which includes 20 members living in 4 troops, and will regularly test the gorillas regardless of the presence of symptoms.

While it cannot be known with certainty how the gorillas acquired the virus, the Animal Care and Veterinary Teams believe the infections originated with a COVID-positive care team member. The team member is fully vaccinated, was wearing Personal Protective Equipment (PPE), and was asymptomatic on the day of reporting to work.

While humans are known to be able to transmit the virus to animals such as gorillas, and these cases have occurred at other zoos, there is currently no data to suggest that zoo animals can transmit the virus to humans. Regardless, Zoo Atlanta visitors do not pose a transmission threat to the gorillas or vice versa given the distance between the areas used by guests and the animals' habitats.

"The teams are very closely monitoring the affected gorillas and are hopeful they will make a complete recovery. They are receiving the best possible care, and we are prepared to provide additional supportive care should it become necessary," said Sam Rivera, DVM, Senior Director of Animal Health. "We are very concerned that these infections occurred, especially given that our safety protocols when working with great apes and other susceptible animal species are, and throughout the pandemic have

been, extremely rigorous."

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[Since the beginning of the pandemic, there has been concern for the potential threat to the conservation of non-human primates posed by likely SARS-CoV-2 infections. There has also been interest to identify species that could be appropriate animal models for biomedical studies of COVID-19. In experimental studies, it was found that Old World monkeys (_Macaca_ spp. and _Chlorocebus_ spp.) are more susceptible than a New World monkey (_Callithrix jacchus_).

An analysis of the ACE2 receptor structure of several non-human primate species (https://www.biorxiv.org/content/10.1101/2020.04.09.034967v1) found that all apes (chimpanzees, bonobos, gorillas, and orangutans), and all African and Asian monkeys (catarrhines), exhibit the same set of 12 key amino acid residues as human ACE2. Monkeys in the Americas differ at significant contact residues, explaining why experimental infection of _C. jacchus_ was not successful.

Earlier this year (2021) there was a report of a great ape naturally infected by SARS-CoV-2 in a troop from the San Diego zoo. Urgent actions should be undertaken to limit the exposure of great apes and catarrhines to humans.

The development of effective vaccines against SARS-CoV-2 to be used in mammals other than humans is very important, not only to protect animals in direct contact with people from the disease but also to avoid the virus finding a niche where to be maintained and evolve as immunity in people builds up globally due to natural infection and vaccination. An experimental vaccine has been used in zoo animals in the USA. - Mod.PMB

HealthMap/ProMED map of Georgia, United States: https://promedmail.org/promed-post?place=8665151,68592]

See Also

COVID-19 update (265): animal, USA, zoo, snow leopard 20210802.8563564

COVID-19 update (254): animal, USA, zoo, snow leopard 20210726.8545843

COVID-19 update (230): animal, USA, zoo, vaccination 20210705.8496776

COVID-19 update (197): animal, India, zoo lion, fatal 20210607.8430529

COVID-19 update (159): animal, India, zoo, lion 20210504.8344580

COVID-19 update (33): animal, Sweden, zoo, tiger, lion 20210125.8134087

COVID-19 update (13): animal, USA, zoo, gorilla 20210112.8095510

2020

COVID-19 update (538): USA, animal, zoo, snow leopard 20201214.8017000

COVID-19 update (536): animal, USA (UT) wild mink, 1st case 20201213.8015608

COVID-19 update (525): Spain, animal, zoo, lion, human 20201208.8002466

COVID-19 update (469): USA (TN) zoo, tiger 20201104.7915683

COVID-19 update (356): South Africa (GT) animal, puma, zoo, OIE 20200813.7673666

COVID-19 update (143): USA (NY) animal, zoo, tiger, lion, tests 20200430.7284183

COVID-19 update (141): India, animal, wild tiger, susp, clarification, RFI 20200430.7281768

COVID-19 update (138): India, animal, wild tiger, fatal 20200428.7275765

COVID-19 update (135): Netherlands (NB) animal, farmed mink 20200427.7272289

COVID-19 update (130): USA (NY) zoo, tiger, lion, new cases 20200425.7266556

COVID-19 update (85): USA (NY) tiger, OIE 20200406.7191480

COVID-19 update (84): USA, tigers 20200406.7191352

COVID-19 update (76): China (HU) animal, cat, owned, stray, seropositive 20200403.7179946

COVID-19 update (75): China (Hong Kong) cat, OIE 20200403.7179945

COVID-19 update (70): China (Hong Kong) cat, pets & stock 20200402.7173286

COVID-19 update (58): Belgium, cat, clinical case, RFI 20200327.7151215

COVID-19 update (57): global, re-using PPE, DR Congo, more countries, WHO 20200327.7149046

COVID-19 update (56): China (Hong Kong) animal, dog, final serology positive 20200326.7146438

COVID-19 update (45): China (Hong Kong) animal, dog, 2nd case PCR positive 20200319.7112693

COVID-19 update (37): China (Hong Kong) animal, dog, prelim. serology negative 20200312.7081842

COVID-19 update (30): China (Hong Kong) dog, susp, serology pending 20200306.7057595

COVID-19 update (25): China (Hong Kong) dog, susp, OIE 20200302.7040373

COVID-19 update (22): companion animals, dog susp, RFI 20200229.7036661

COVID-19 update (17): China, animal reservoir, wildlife trade & consumption 20200225.7024245

COVID-19 update (11): animal reservoir, intermediate hosts, pangolin susp 20200220.7009213

COVID-19 update (08): companion animals, RFI 20200218.7002276

COVID-19 update (06): animal reservoir, intermediate hosts 20200217.6997782

Novel coronavirus (42): China, global, COVID-19, SARS-CoV-2, WHO 20200211.6979942

Novel coronavirus (40): animal reservoir, pangolin poss intermediate host, RFI 20200210.6972104

Novel coronavirus (28): China (HU) animal reservoir 20200201.6943858

Novel coronavirus (22): reservoir suggested, bats 20200129.6930718

Novel coronavirus (20): China, wildlife trade ban 20200127.6922060

Novel coronavirus (18): China (HU) animal reservoir 20200125.6915411

Novel coronavirus (15): China (HU) wild animal sources 20200123.6909913

Novel coronavirus (03): China (HU) animal reservoir suggested, RFI 20200114.6887480

Novel coronavirus (01): China (HU) WHO, phylogenetic tree 20200112.6885385

Undiagnosed pneumonia - China (HU) (07): official confirmation of novel coronavirus 20200108.6878869

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