

## Part 4. Brief communications

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### CIRCULATION OF INFLUENZA A VIRUS AMONG WILD BIRDS IN KAZAKHSTAN

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**Introduction.** Because of the incessant ill situation of avian influenza worldwide the circulation of influenza A virus among wild birds is constantly monitored on the territory of Kazakhstan. Wild birds are a natural reservoir of all known variants, including subtypes, of the human and animal influenza agent that have caused all pandemics and large-scaled epizooties in the past.

The possible emergence of new modified potentially dangerous variants of the virus stipulates the need of complex monitoring of influenza in populations of wild birds, particularly at the key points such as habitation areas and major migration routes.

**Materials and methods. Field samples.** The biological material (cloacal swabs) from near-water and terrestrial wild birds, that was delivered from the ornithological station 'Shakpak' (Jambyl Region) and from Sorbulak lake system (Almaty Region) in 2018, was used in the work.

**Viral RNA extraction.** RNA of the influenza virus was extracted with use of the TRI Reagent, Sigma, following the manufacture's instructions.

**PCR amplification.** Real time RT-PCR was performed with the help of specific primers and a matrix gene probe (M+25, M-124 and probe M+64) and hemagglutinins (H5+1456, H5-1685 and probe H5+1637) with 'OneStep RT-PCR Kit' of Qiagen Company. The amplification was carried out in 'Light Cycler 2.0' of Roche Company following the manufacture's instructions.

**Results and discussion.** In 2018 in the course of monitoring expeditions samples were taken from terrestrial and near-aquatic wild birds (Fringillidae, Passeridae, Accipitridae, Coraciidae, Hirundinidae, Columbidae, Muscicapidae, Strigidae, Cuculidae, Emberizidae, Motacillidae, Turdidae, Sylviidae, Acrocephalidae, Phylloscopidae, and Panuridae families) on the ornithological station 'Shakpak' (Jambyl Region) and in Sorbulak lake system (Almaty Region).

Influenza A virus was identified in 16.6% of samples, including the virus of subtype H5 in 2.8% of samples from the Blyth's reed warblers (*Acrocephalus dumetorum*, Acrocephalidae) that inhabit Sorbulak lake system (Almaty Region). In addition, the influenza A virus was identified in single samples (1.3%) from Spanish sparrows (*Passer hispaniolensis*, Passeridae) inhabiting the ornithological station 'Shakpak' (Almaty Region).

**Conclusion.** The influenza A virus was detected in 17.9% of samples taken from wild birds thus confirming their role in influenza A existence on the territory of Kazakhstan.

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**Keywords:** monitoring, wild birds, influenza A virus, Kazakhstan