

Supplementary Materials for

Serosurvey of selected zoonotic pathogens in polar bears (*Ursus maritimus* Phipps, 1774) in the Russian Arctic

Table S1. Using adsorbed antigens from diagnostic test systems to determine the presence of antibodies to selected zoonotic pathogens

Targets (main and overlap)	Antigen from Infectious disease pathogens	Taxon	Kit
<i>Alphaherpesvirinae</i>	<i>Varicella Zoster virus</i> (<i>Herpesvirales: Herpesviridae, Alphaherpesvirinae, Varicellovirus</i>) - recombinant glycoprotein E (rgE)	Viruses	"Vekto-VZV-IgG" (CJSC Vector-BEST, Novosibirsk, Russia)
<i>Gammaherpesvirinae</i>	<i>Epstein-Barr virus</i> (<i>Herpesvirales: Herpesviridae, Gammaherpesvirinae, Lymphocryptovirus</i>) - viral capsids antigen (VCA)		"Vekto EBV-VCA-IgG-avidity" (CJSC Vector-BEST, Novosibirsk, Russia)
<i>Coronaviruses</i>	<i>SARS-CoV-2</i> (<i>Nidovirales, Coronaviridae, Betacoronavirus</i>) - recombinant antigen: first plate - nucleocapsid protein; second plate - full length trimeric S-protein (Spike).		"SARS-CoV-2 spectrum of ELISA-Best" (CJSC Vector-BEST, Novosibirsk, Russia)
<i>Brucella complex,</i> <i>Yersinia spp.</i>	<i>Brucella melitensis, B. abortus, B. suis</i> - mixture of brucella protein	Bacteria	"Brucella-antibodies-ELISA-Best" (CJSC Vector-BEST, Novosibirsk, Russia)
<i>Mycobacterium tuberculosis complex</i>	<i>Mycobacterium tuberculosis complex</i> - complex of Mycobacterium antigens		"AB-Tub-Best" (CJSC Vector-BEST, Novosibirsk, Russia)
<i>Mycoplasma hominis, M. pneumoniae</i>	<i>Mycoplasma hominis</i> - membrane protein P120, <i>M. pneumoniae</i> - mixture of adhesin P1 and adhesin P116		"Mycoplasma hominis-IgG-ELISA-Best" and "Mycoplasma pneumoniae-IgG-ELISA-Best" (CJSC Vector-BEST, Novosibirsk, Russia)
<i>Yersinia spp.</i>	<i>Yersinia enterocolita, Y. pseudotuberculosis</i> - recombinant outer membrane protein (YOPs)		"Yersinia-IgG-ELISA-Best" (CJSC Vector-BEST, Novosibirsk, Russia)
<i>Chlamydia trachomatis</i>	<i>Chlamydia trachomatis</i> - major outer membrane protein (MOMP)		"ChlamyBest C. trachomatis-IgG" (CJSC Vector-BEST, Novosibirsk, Russia)
<i>Toxoplasma gondii</i>	<i>Toxoplasma gondii</i> * - lysate	Protozoa	"VectoToxo-antibodies" (CJSC Vector-BEST, Novosibirsk, Russia)
<i>Aspergillus fumigatus</i>	<i>Aspergillus fumigatus</i> - somatic antigen	Fungi	"Aspergillus-IgG-ELISA-Best" (CJSC Vector-BEST, Novosibirsk, Russia)
<i>Taenia solium,</i> <i>Echinococcus</i>	<i>Taenia solium</i> - excretory – secretory antigen (ESA)	Parasites	"Cysticercus-IgG-ELISA-Best" (CJSC Vector-BEST, Novosibirsk, Russia)

<i>Opisthorchis</i> , <i>Clonorchis sinensis</i>	Helminths of the genus <i>Opisthorchis</i> - somatic antigen		"Opisthorchis-IgG-ELISA- Best" (CJSC Vector-BEST, Novosibirsk, Russia)
<i>Clonorchis sinensis</i> , <i>Opisthorchis</i>	<i>Clonorchis sinensis</i> - somatic antigen		"Clonorchis-IgG-ELISA- Best" (CJSC Vector-BEST, Novosibirsk, Russia)
<i>Trichinella</i> , <i>Opisthorchis sp.</i> , <i>Anisakis sp.</i> , <i>Ascaris lumbricoides</i>	Helminths of the genus <i>Trichinella</i> - excretory – secretory antigen (ESA)		"Trichinella-I gG-ELISA- Best" (CJSC Vector-BEST, Novosibirsk, Russia)
<i>Ascaris lumbricoides</i> , <i>Opisthorchis spp.</i> , <i>Trichinella spp.</i> , <i>Anisakis sp.</i> , <i>Toxocariasis</i> , <i>Echinococcosis</i>	<i>Ascaris lumbricoides</i> - somatic antigen		"Ascaris-IgG-ELISA-Best" (CJSC Vector-BEST, Novosibirsk, Russia)
<i>Anisakis</i> , <i>Ascaris lumbricoides</i> , <i>Trichinella</i> , <i>Echinococcosis</i>	Helminths of the genus <i>Anisakis</i> - somatic antigen		"Anisakid-IgG-ELISA-Best" (CJSC Vector-BEST, Novosibirsk, Russia)

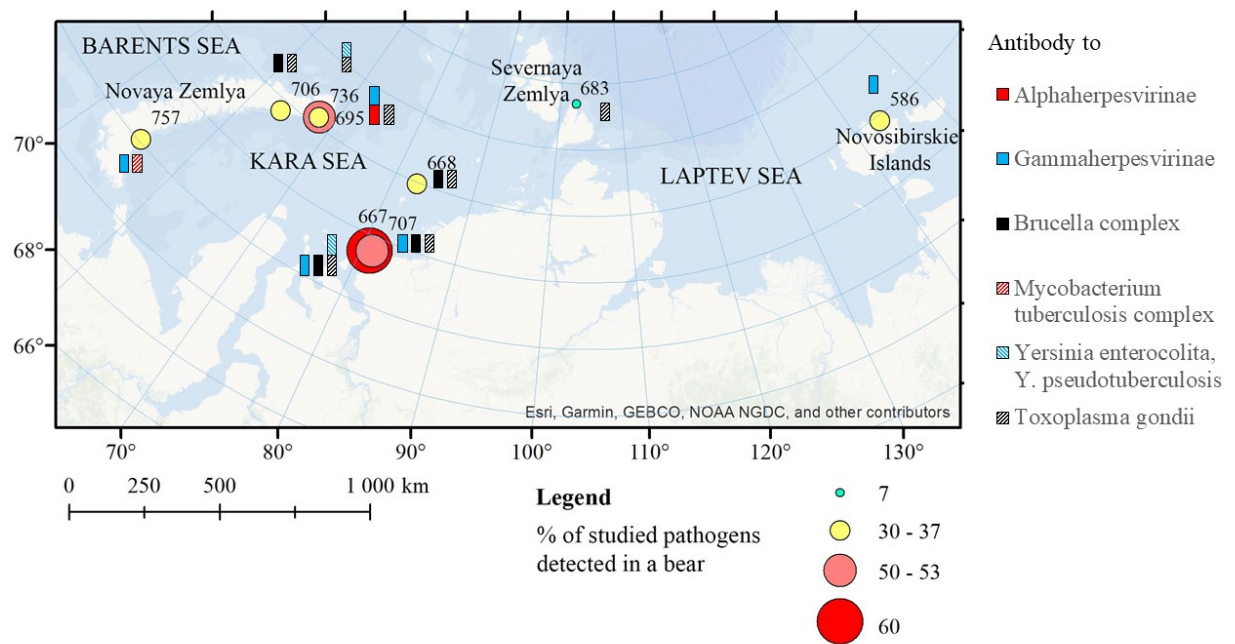


Figure S1. Locations of sampling, ID numbers of immobilized polar bears, percentage of positive pathogen-specific ELISA-tests for each of the bears, positive antibody results in the polar bear blood serum samples (to viruses, bacterium, protozoa).

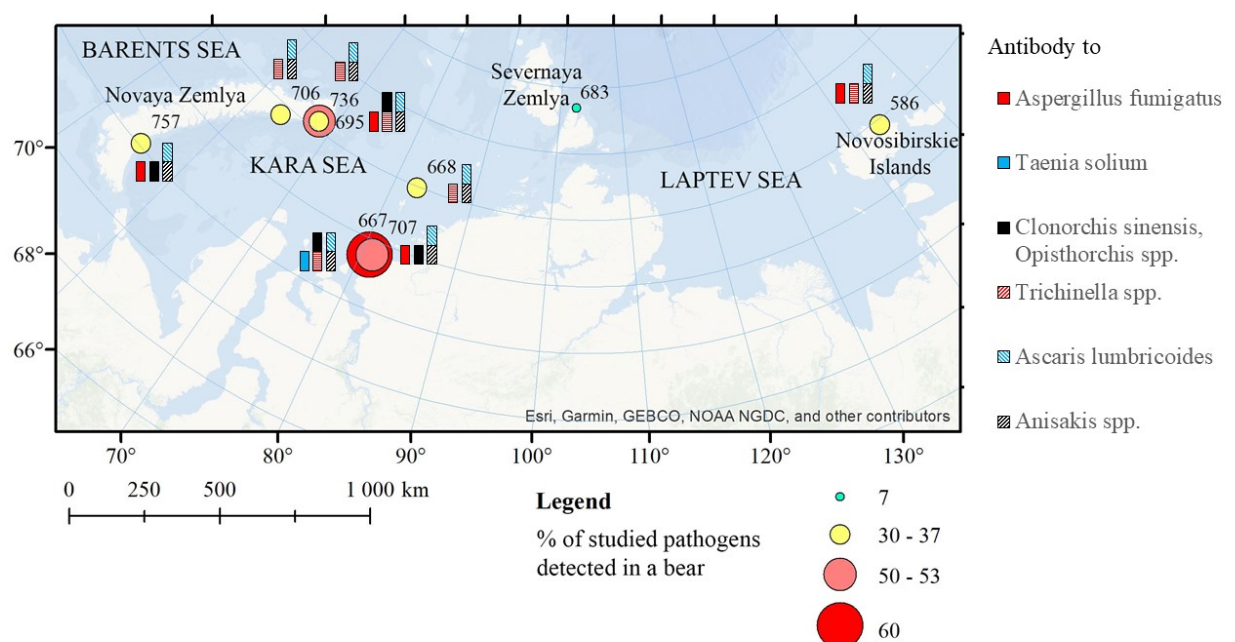


Figure S2. Locations of sampling, ID numbers of immobilized polar bears, percentage of positive pathogen-specific ELISA-tests for each of the bears, positive antibody results in the polar bear blood serum samples (to fungi, parasites).