



Project acronym: PAASP

Project title: Pan-Arctic Arboviruses Surveillance Program

Project leader: Carol-Anne Villeneuve, Université de Montréal, Canada

Discipline: Earth Sciences & Environment: Ecosystems & Biodiversity

Station(s): Greenland Institute of Natural Resources (Greenland/Denmark)

Despite the risk of vector-borne diseases for Northern communities, the scientific literature about arthropod vectors and their infectious status is both incomplete and out-of-date. In 2018, we created the Canadian Arctic Arboviruses Surveillance Program to fill this knowledge gap. In 2019, we expanded our sampling locations to Alaska (USA) – this was our first steps toward establishing a Pan-Arctic Arboviruses Surveillance Program (PAASP). In 2021, our goal is to expand the PAASP to Greenland by sampling at Kobbefjord, a remote research station of the Greenland Institute of Natural Resources (GINR) station, near Nuuk. The main idea is to enroll the GINR by monitoring the mosquito population and the presence of viruses in possible vectors in Kobbefjord. Our aim is to establish a baseline for mosquito species and their infectious status. Mosquitoes will be captured twice daily for a 7-day period in the summer of 2022, using a standardized protocol consisting of 100 figure-eight movements of a sweep net. All mosquitoes will be identified and pooled by species at the University of Montréal (Québec, Canada). The pooled specimens will be sent to the National Microbiology Laboratory in Winnipeg (Manitoba, Canada) for viral detection using RNA extraction and RT-PCR analysis. The target regions for the California Serogroup (CSG) viruses, including Snowshoe Hare virus and Jamestown Canyon virus, will be amplified using their respective primer pairs and probe. These results will highlight the use of mosquitoes for tracking any future emergence of arboviruses in the North, thereby providing key information for public health in Northern communities.