



# **TICK - a tool for analysis sequences of tick-borne pathogens**

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# Plan

1

**Problem to be solved**

2

**What we wanted to  
achieve?**

3

**Our results**

4

**Plans for future**



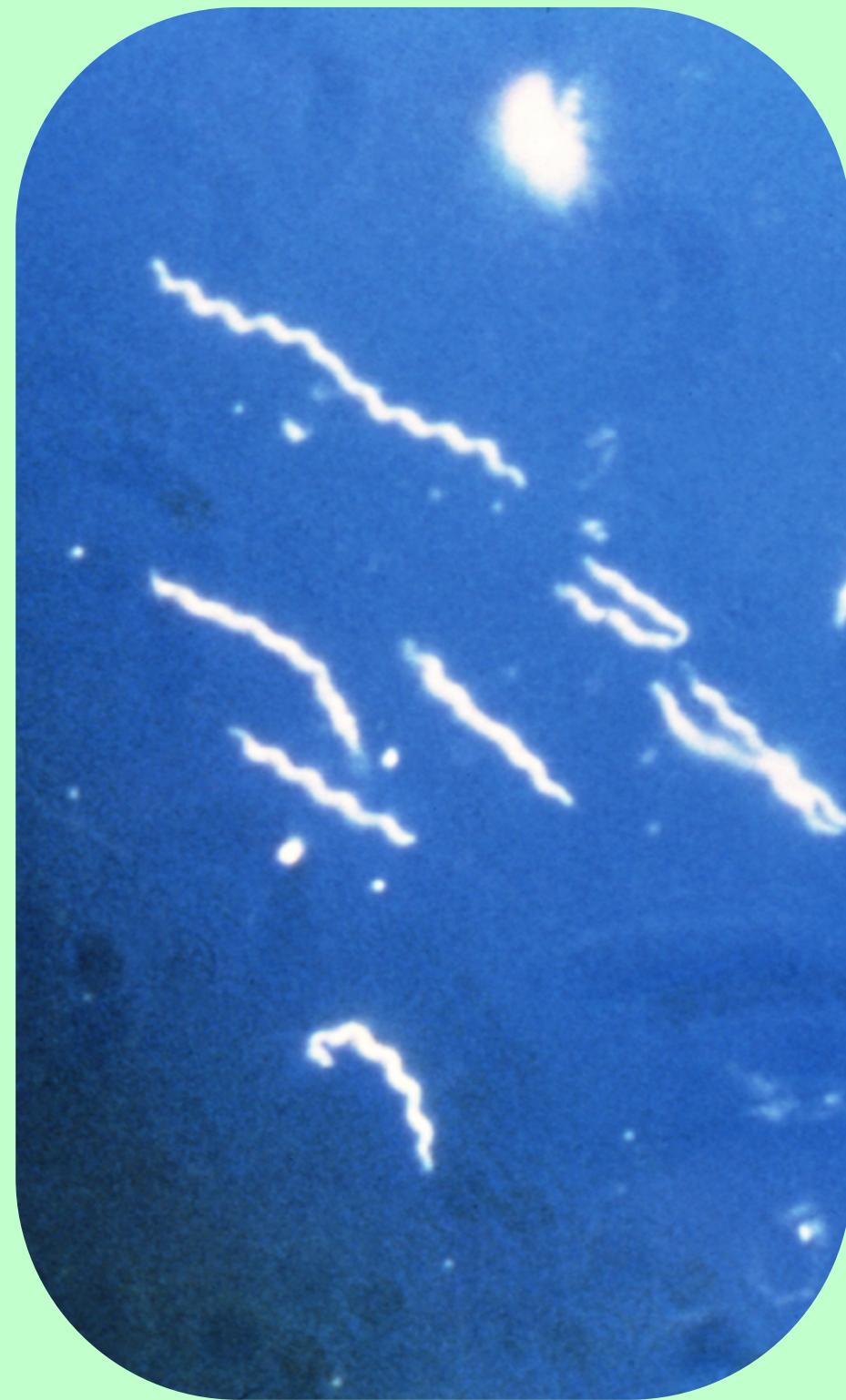


# The main problem

Ticks are notorious for transmitting various pathogens to humans and animals, leading to an array of diseases.



# Tick-borne pathogens



1

**Bacteria**

2

**Viruses**

3

**Protozoa**



Wikipedia: *Borrelia burgdorferi*



## **OUR GOAL**

**Create an available tool for the identification of tick-borne  
pathogenes' sequences**

**Provide user-friendly interface**

**Provide some statistics and plot from analysis**

# First step: Collecting data & creating local database

**48 bacteria  
19 viruses  
28 protozoa**

1

**Centers for Disease Control and Prevention**

2

**World Health Organization (WHO)**

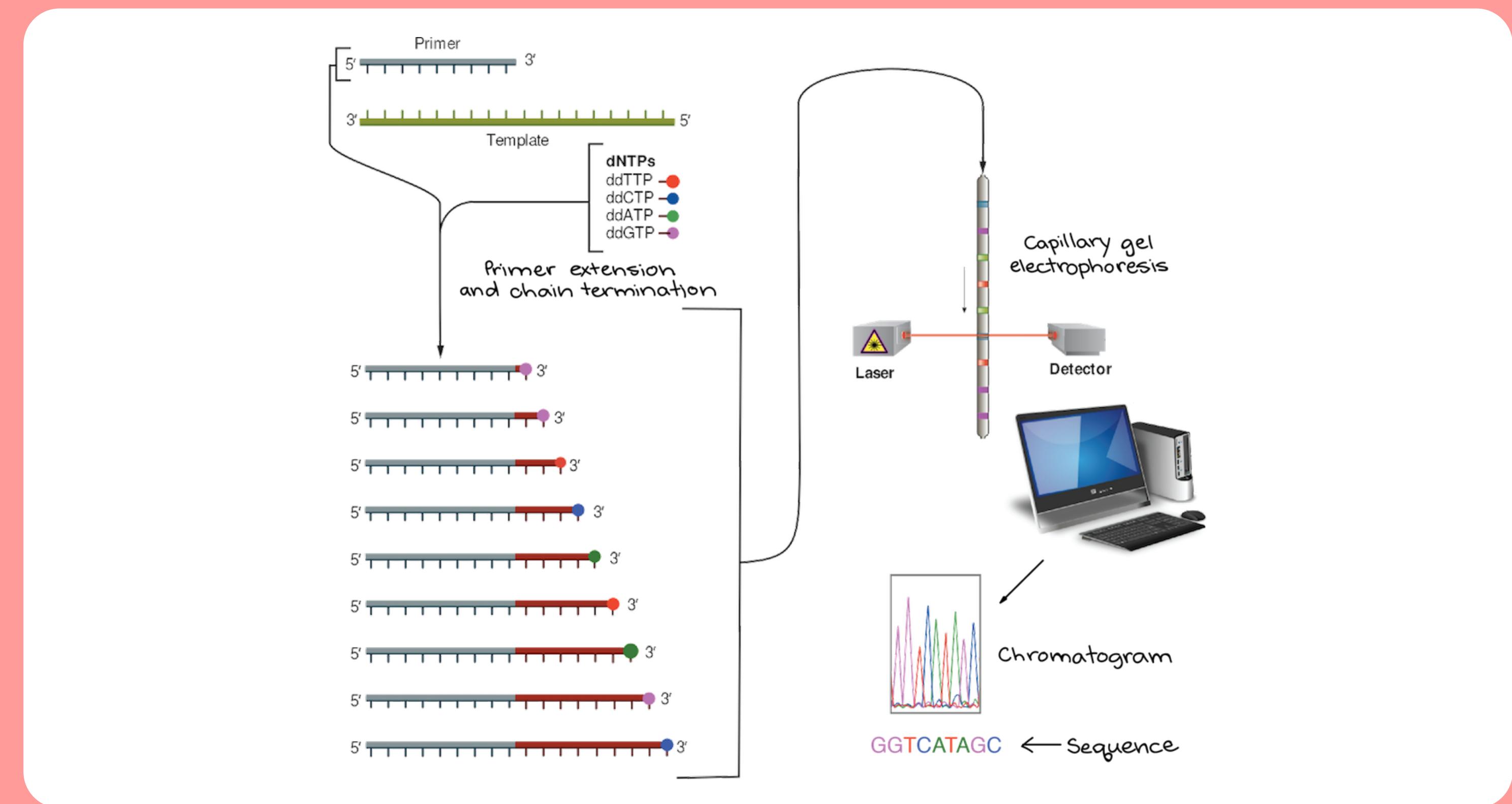
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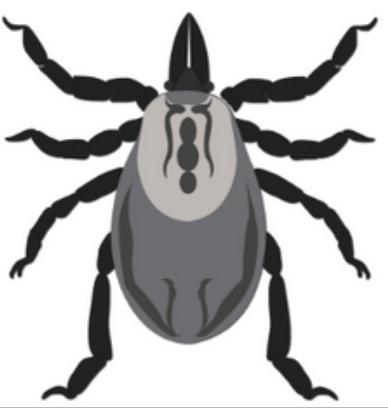
**Latest publications**



# Example data

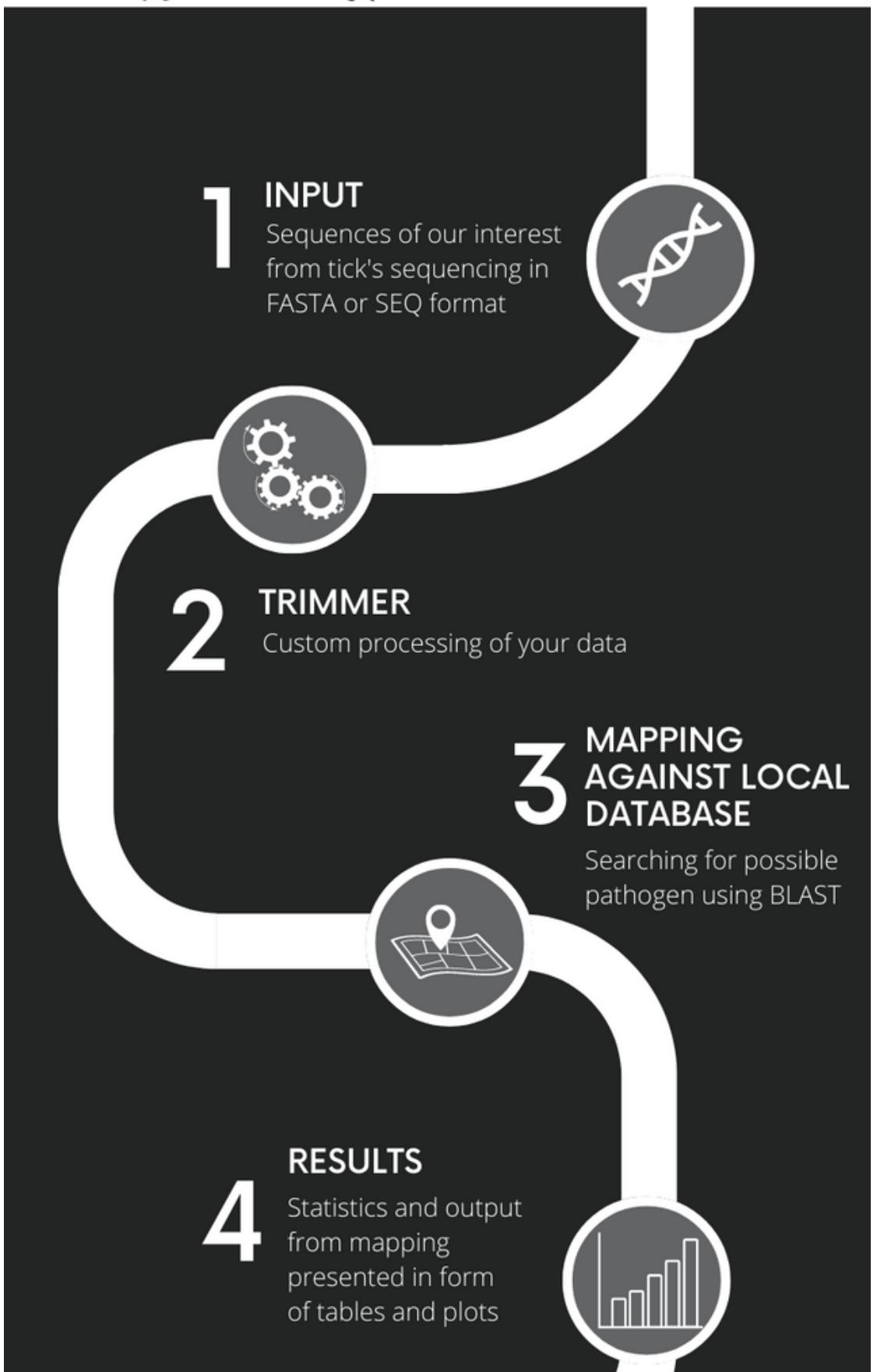
thanks to prof. dr hab. Anna Bajer, DEPARTMENT OF ECO-EPIDEMIOLOGY OF PARASITIC DISEASES, University of Warsaw



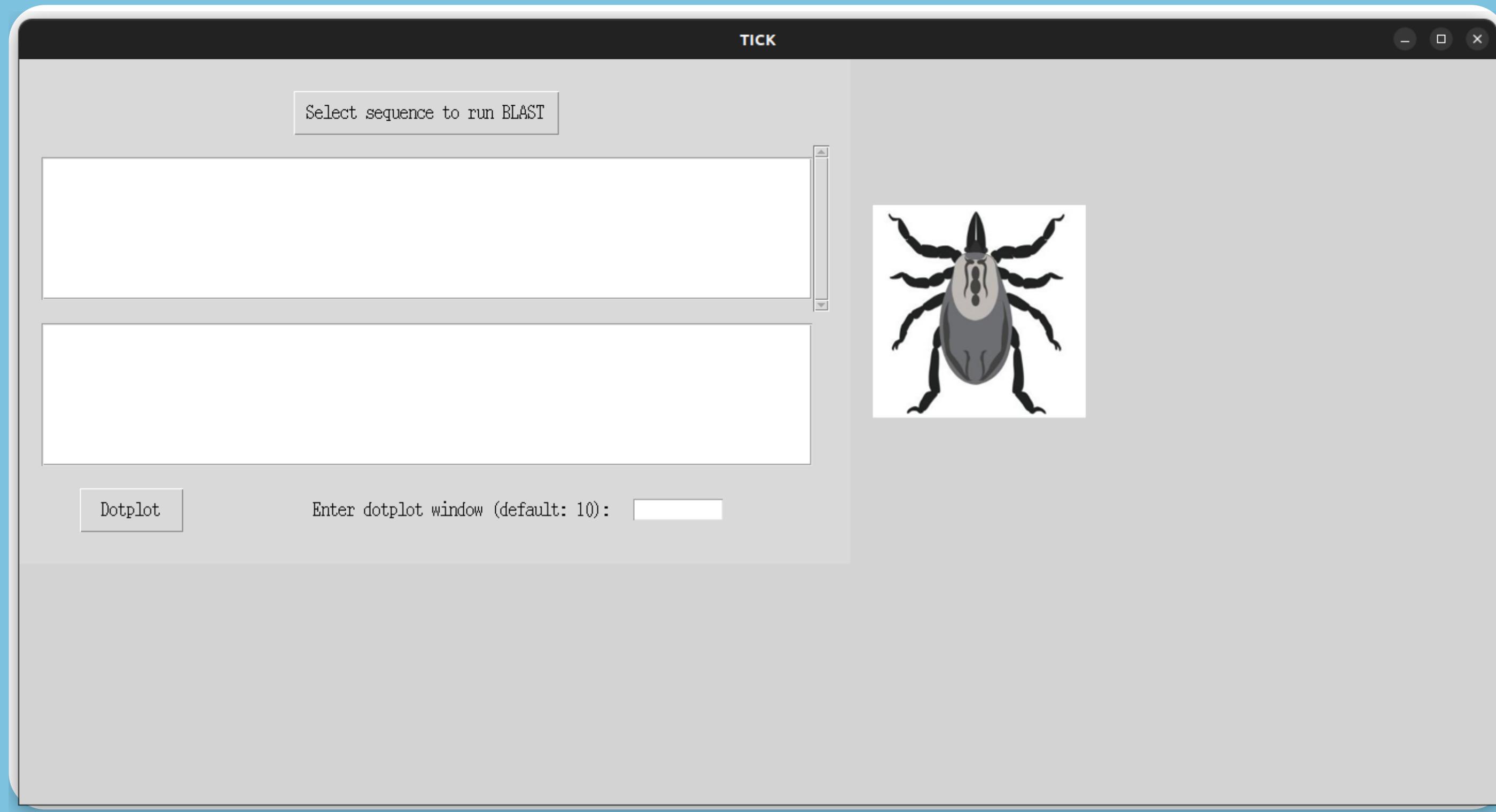


PIPELINE

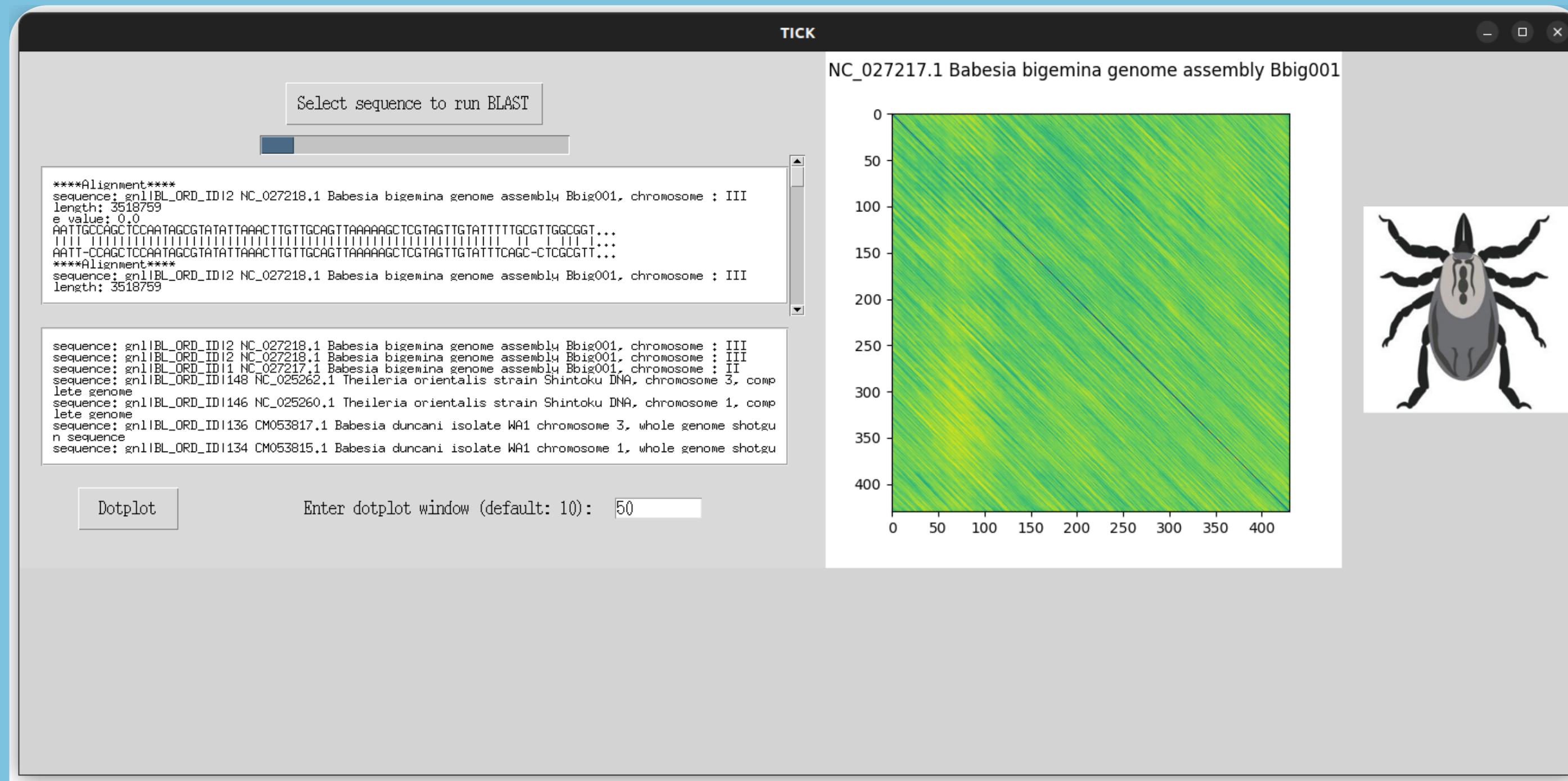
# TICK



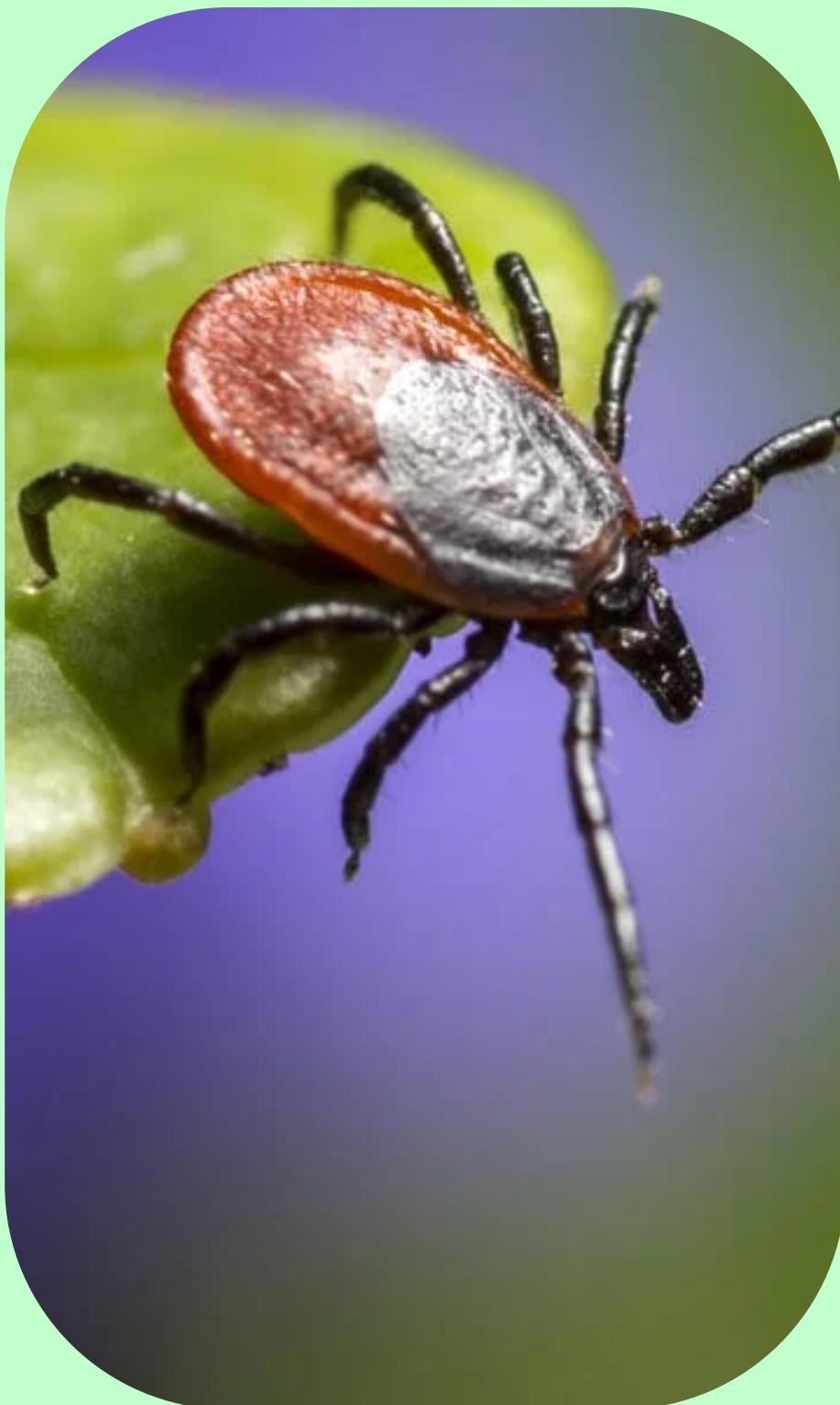
# Interface



# Example plot



# Plans for future



1

**Expanding the database with new pathogens**

2

**Extending the tool with additional information on specific pathogens**

3

**Try to predict the structure of specific fragments**





**Thank you!**

