Description of the datasets:

- Dataset: vole_data_cayol_updated.csv: 557 observations of 38 variables: Voles captured in urban and sub-urban forests in Central Finland in 2012, individual measurements.

- Dataset: model_pathogen_data_cayol: 304 observations of 36 variables. Voles captured in urban and sub-urban forests in Central Finland in 2012, individual measurements and infection with *Borrelia burgdorferi sensu lato, Anaplasma phagocytophilum and Babesia microti*

- Dataset: pop_data_cayol: 65 observations of 25 variables. Population level data from ticks and voles captured in urban and sub-urban forests in Central Finland in 2012

Description of the variables:

AP Factor with 2 levels: "0": absence of infection with *Anaplasma phagocytophilum*, "1": presence of infection with *Anaplasma phagocytophilum burgdorferi sensu lato*

BA: Factor with 2 levels: "0": absence of infection with *Borrelia burgdorferi* sensu lato, "1": presence of infection with *Borrelia burgdorferi sensu lato*

BM: Factor with 2 levels: "0": absence of infection with *Babesia microti*, "1": presence of infection with *Babesia microti*

BV_line, #BV: Numeric, total number of bank voles trapped on a given site during the trapping session

CODE, # IND: Factor with 398 levels. Individual identification

cWeight: centred value of the body mass

Date_A: Factor with 39 levels. Trapping date

Dist, #m: Numeric, the distance flagged in the vegetation for the collection of questing ticks during a given session on a given trapping site (in meters)

DNA: Factor with 360 levels: DNA sample identification

DNABlood: Factor with 384 levels: blood sample identification number

gps: Factor, GPS coordinates of the trapping Sites

Head: numeric: individuals head measurement (mm)

hum_pop_dens: Numeric, human population density in a circular area of 1 km radius centred on each trapping area

I_ric_F: Number of *Ixodes ricinus* female removed from the captured bank vole

I_ric_L: Number of *Ixodes ricinus* larvae removed from the captured bank vole

I_ric_M: Number of Ixodes ricinus male removed from the captured bank vole

I_ric_N: Number of *Ixodes ricinus* nymph removed from the captured bank vole

I_tri_F: Number of *Ixodes trianguliceps* female removed from the captured bank vole

I_tri_L: Integer: Number of *Ixodes trianguliceps* larvae removed from the captured bank vole

I_tri_M: Number of *Ixodes trianguliceps* male removed from the captured bank vole

I_tri_N: Number of *Ixodes trianguliceps* nymphs removed from the captured bank vole

IRA100: Numeric, number of *I. ricinus* adults (male and females) found in the vegetation over 100 meters of flagging at a given site during a given trapping session

IRF: Numeric, the total number of *I. ricinus* female collected from the vegetation while dragging the over #Dist meters during a given session on a given trapping site

IRFSite: Numeric, the total number of female of *I. ricinus* found in the vegetation of the given site other the entire study period

IRL: Numeric, the total number of *I. ricinus* larvae collected from the vegetation while dragging the over # Dist meters during a given session on a given trapping site

IRL_vo: Numeric, total number of *I. ricinus* larvae found from voles at a given site during a given trapping session

IRL_vorel: Numeric, Relative number of larvae of *I. ricinus* infesting voles at a given site during a given trapping session

IRL100: Numeric, number of *I. ricinus* larvae found in the vegetation over 100 meters of flagging at a given site during a given trapping session

IRM: Numeric, the total number of *I. ricinus* male collected from the vegetation while dragging the over # Dist meters during a given session on a given trapping site

IRMSite: Numeric, the total number of male of *I. ricinus* found in the vegetation of the given site other the entire study period

IRN: Numeric, the total number of *I. ricinus* nymphs collected from the vegetation while dragging the over # Dist meters during a given session on a given trapping site

IRN_vo: Numeric, total number of *I. ricinus* nymphs found from voles at a given site during a given trapping session

IRN_vorel: Numeric, Relative number of larvae and nymphs of *I. ricinus* infesting voles at a given site during a given trapping session

IRN100: Numeric, number of *I. ricinus* nymphs found in the vegetation over 100 meters of flagging at a given site during a given trapping session

IRNSite: Numeric, the total number of nymph of *I. ricinus* found in the vegetation of the given site other the entire study period

IRTOT: Numeric, the total number of *I. ricinus* found in the vegetation of the given site other the entire study period

LABBORN: Factor with 2 levels "1"= individual born in lab (mother was taken in the lab where she gave birth), "0" = individual born in wild

lat: Numeric, latitude of the trapping sites

long: Numeric, longitude of the trapping sites

name: Factor, name of the trapping sites

Neg_BA: Numeric, total number of vole uninfected with B. burgdorferi sensu lato at a given site during a given trapping session

rank_capt: Numeric: capture rank of the bank vole

PA_ric: Factor with 2 levels: "0": absence of *Ixodes ricinus*, "1": presence of *Ixodes ricinus* on the captured bank vole

PA_ricF: Factor with 2 levels: "0": absence of female of *Ixodes ricinus*, "1": presence of female of *Ixodes ricinus* on the captured bank vole

PA_ricL: Factor with 2 levels: "0": absence of larvae of *Ixodes ricinus*, "1": presence of larvae of *Ixodes ricinus* on the captured bank vole

PA_ricM: Factor with 2 levels: "0": absence of male of *Ixodes ricinus*, "1": presence of male of *Ixodes ricinus* on the captured bank vole

PA_ricN: Factor with 2 levels: "0": absence of nymph of *Ixodes ricinus*, "1": presence of nymph of *Ixodes ricinus* on the captured bank vole

PA_ticks: Factor with 2 levels: "1"= presence of ticks, "0" = absence of ticks on the captured bank vole

PA_tri: Factor with 2 levels: "0": absence of *Ixodes trianguliceps*, "1": presence of *Ixodes trianguliceps* on the captured bank vole

PA_triF: Factor with 2 levels: "0": absence of female of *Ixodes trianguliceps*, "1": presence of female of *Ixodes trianguliceps* on the captured bank vole
PA_triL: Factor with 2 levels: "0": absence of larvae of *Ixodes trianguliceps*, "1": presence of larvae of *Ixodes trianguliceps* on the captured bank vole
PA_triM: Factor with 2 levels: "0": absence of male of *Ixodes trianguliceps*, "1": presence of male of *Ixodes trianguliceps* on the captured bank vole
PA_triN: Factor with 2 levels: "0": absence of nymph of *Ixodes trianguliceps*, "1": presence of nymph of *Ixodes trianguliceps* on the captured bank vole
Pos_BA: Numeric, total number of vole infected with *B. burgdorferi* sensu lato at a given site during a given trapping session
ric_Ad_N: Numeric, total number of *I. ricinus* adult and nymphs found in the vegetation at a given site during a given trapping session
ric_rel: Numeric, Relative number of *I. ricinus* infesting voles at a given site during a given trapping session
Session: Factor with 5 levels: Trapping session from May to October
Sex: Factor with 2 levels: "1"= female, "2" = male
Site, #fSite: Factor with 16 levels: trapping locations
Species: Factor with 1 level "M.gla": Study species *Myodes glareolus*
ticks_tot: Total number of ticks removed from the captured bank vole
tot_wat: Numeric, total open water coverage in a circular area of 1 km radius (3.14 km2) centred on each trapping area
Total_ric: Number of *Ixodes ricinus* removed from the captured bank vole
Total_tri: Total number of *Ixodes trianguliceps* observed from the captured bank vole
Treatment_Food, # Treatment: Factor with 2 levels: "0": no food supplementation in the trapping area, "1" food supplementation in the trapping area
triaL: Numeric, the total number of larvae of *I. trianguliceps* found on bank voles of a given site other the entire study period
triaL_rel: Numeric, relative number of larvae of *I. trianguliceps* infesting voles at a given site during a given trapping session
triaLN: Numeric, the total number of larvae and nymphs of *I. trianguliceps* found on bank voles of a given site other the entire study period
triaLN_rel: Numeric, relative number of larvae and nymph of *I. trianguliceps* infesting voles at a given site during a given trapping session
urban: Factor with 2 levels, "1": Site located in Urban area, "0": Site located in non-urban area
Weight: numeric: individual body mass
IRLSite: Numeric, the total number of larvae of *I. ricinus* found in the vegetation of the given site other the entire study period