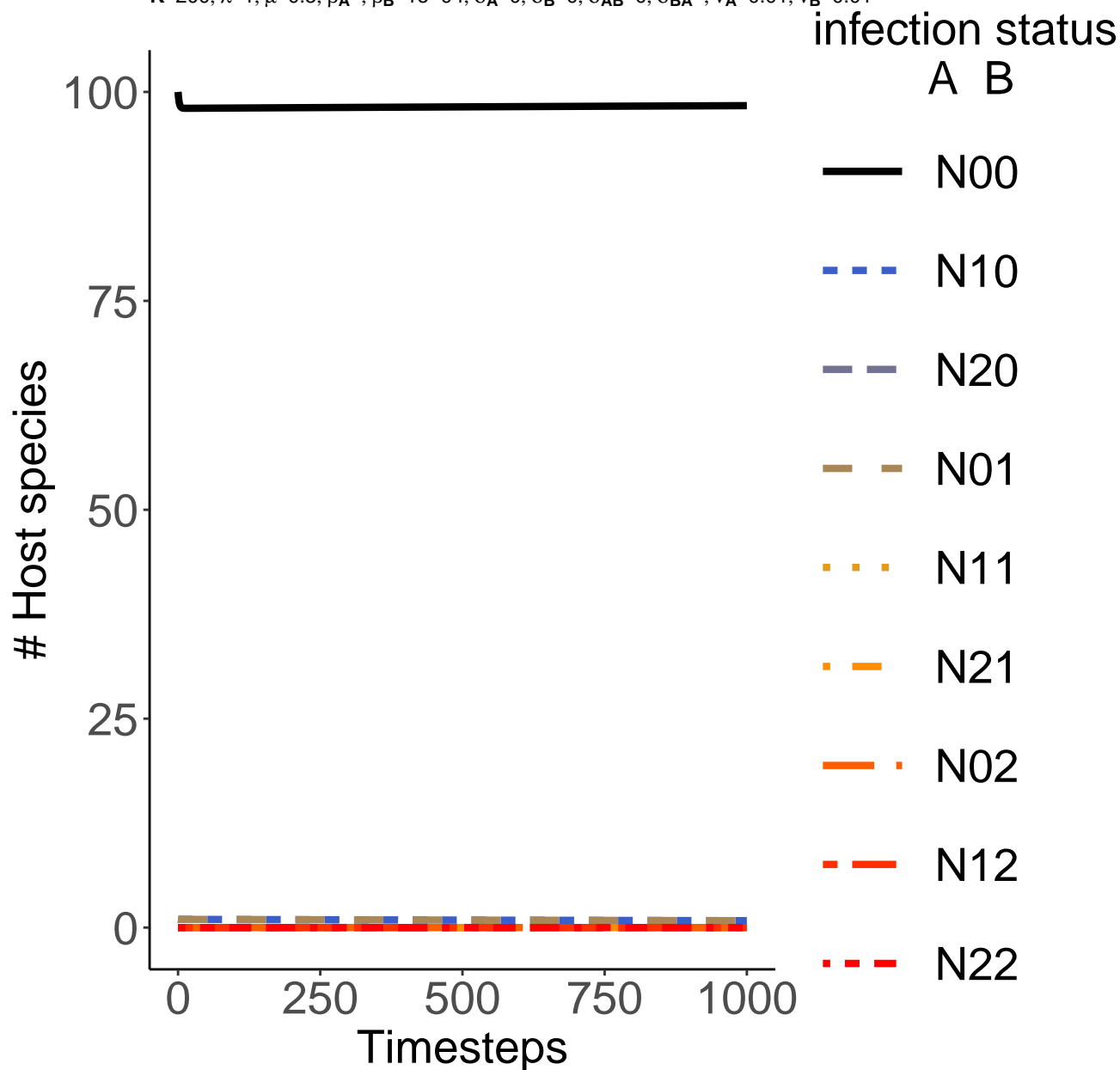


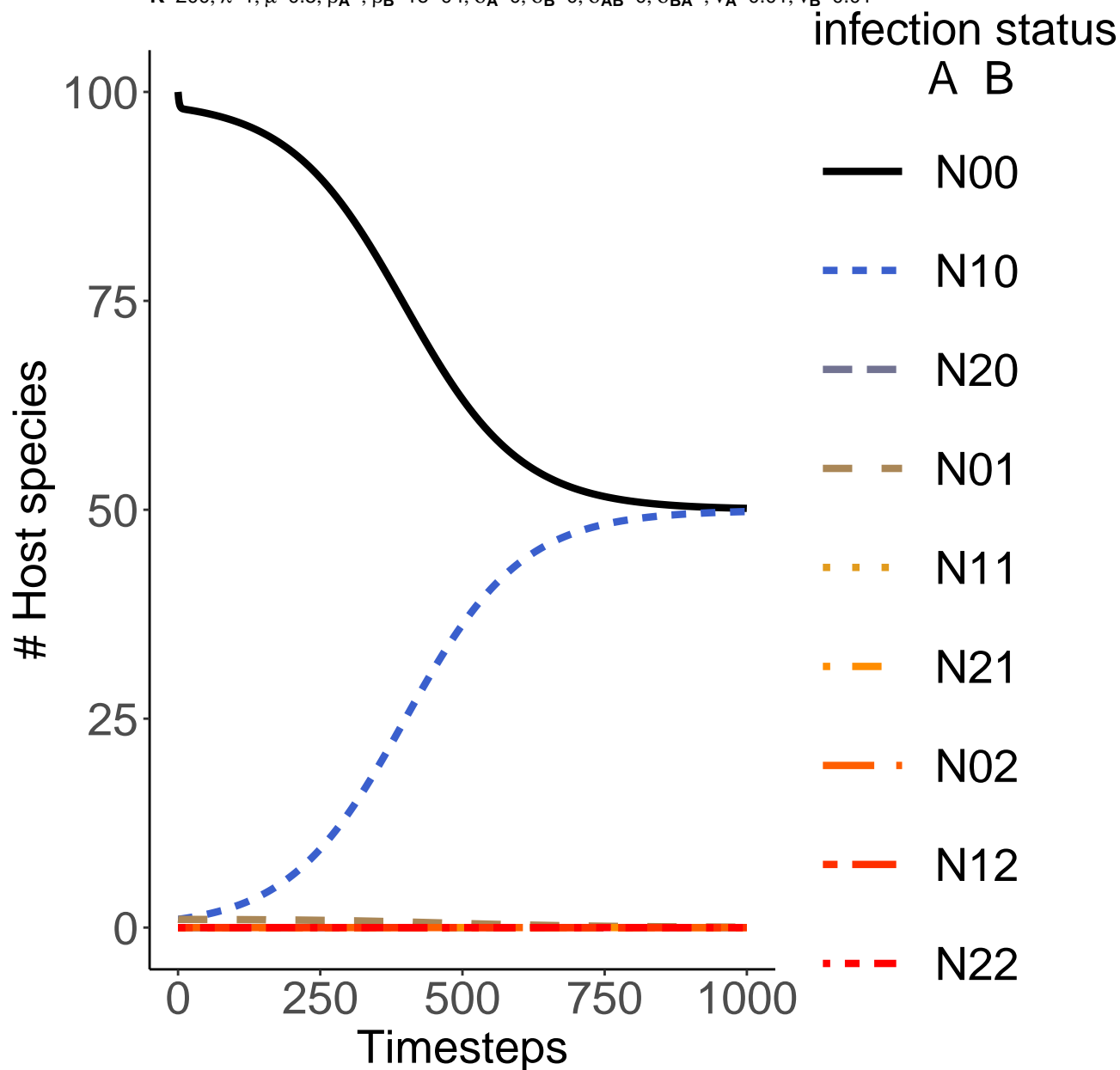
# Number of individuals carrying parasites over time

$K=200$ ,  $\lambda=1$ ,  $\mu=0.5$ ,  $\beta_A=$ ,  $\beta_B=1e-04$ ,  $\sigma_A=0$ ,  $\sigma_B=0$ ,  $\sigma_{AB}=0$ ,  $\sigma_{BA}=$ ,  $v_A=0.01$ ,  $v_B=0.01$



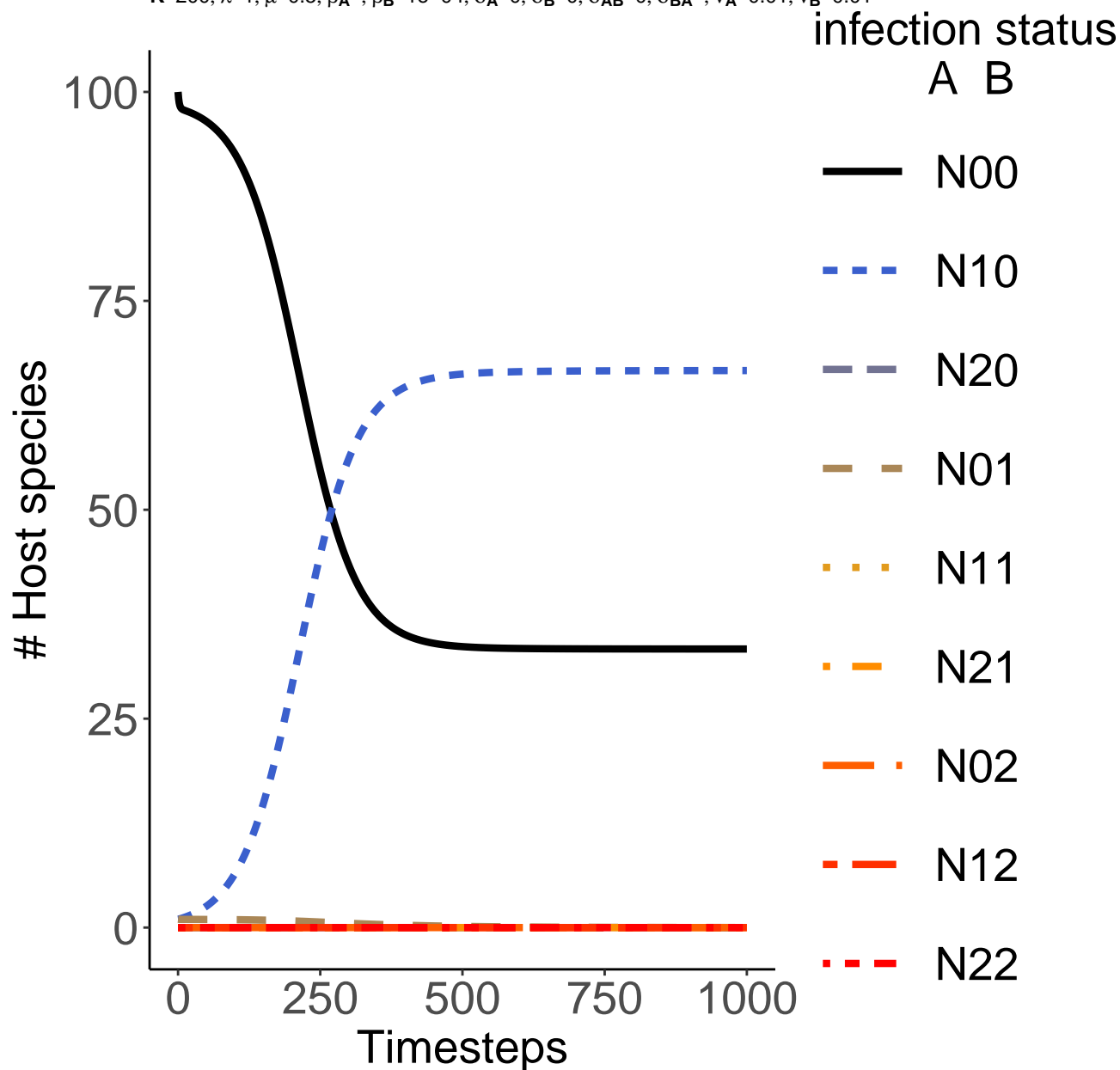
# Number of individuals carrying parasites over time

$K=200$ ,  $\lambda=1$ ,  $\mu=0.5$ ,  $\beta_A=$ ,  $\beta_B=1e-04$ ,  $\sigma_A=0$ ,  $\sigma_B=0$ ,  $\sigma_{AB}=0$ ,  $\sigma_{BA}=$ ,  $v_A=0.01$ ,  $v_B=0.01$



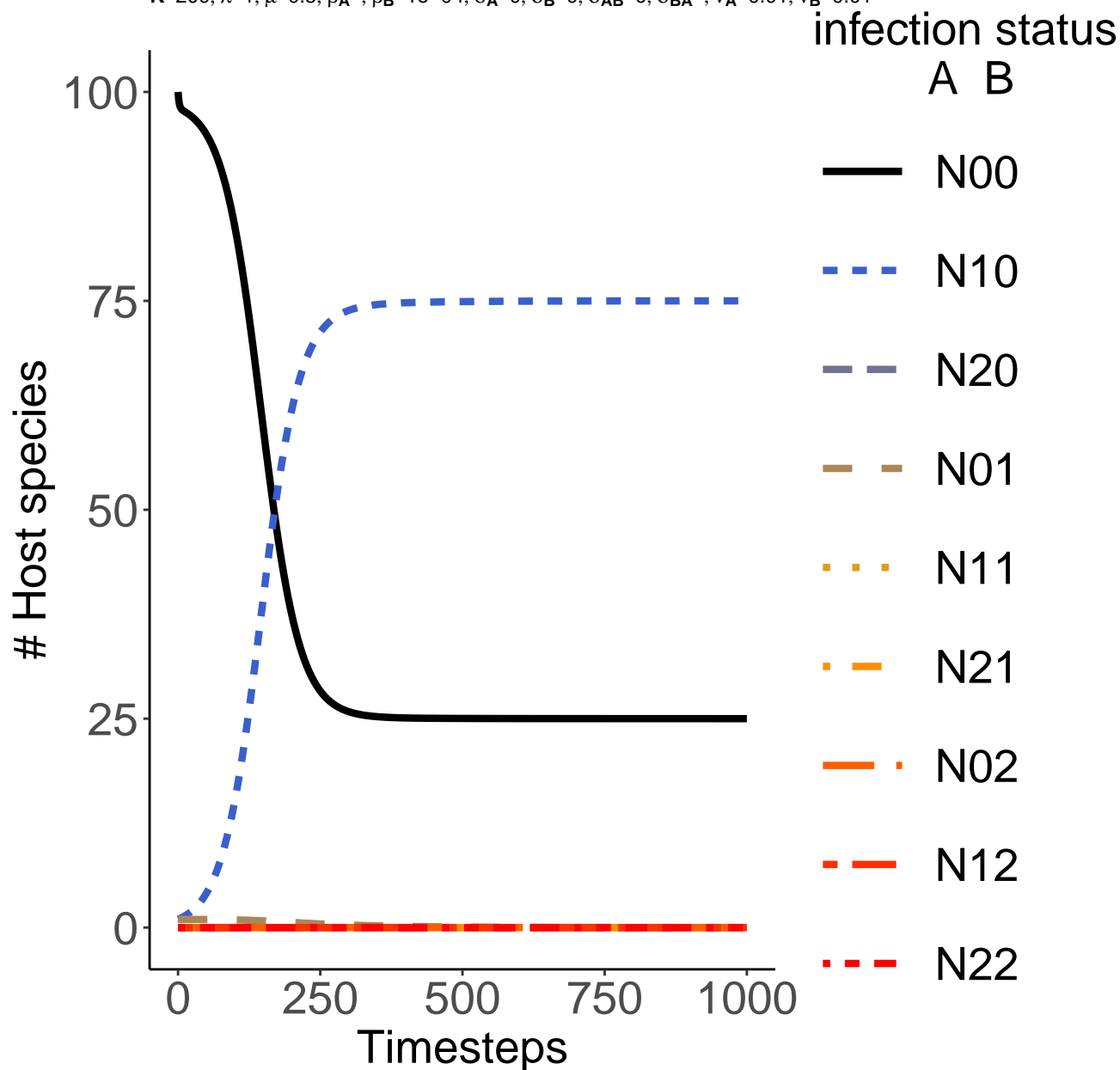
# Number of individuals carrying parasites over time

$K=200$ ,  $\lambda=1$ ,  $\mu=0.5$ ,  $\beta_A=$ ,  $\beta_B=1e-04$ ,  $\sigma_A=0$ ,  $\sigma_B=0$ ,  $\sigma_{AB}=0$ ,  $\sigma_{BA}=$ ,  $v_A=0.01$ ,  $v_B=0.01$



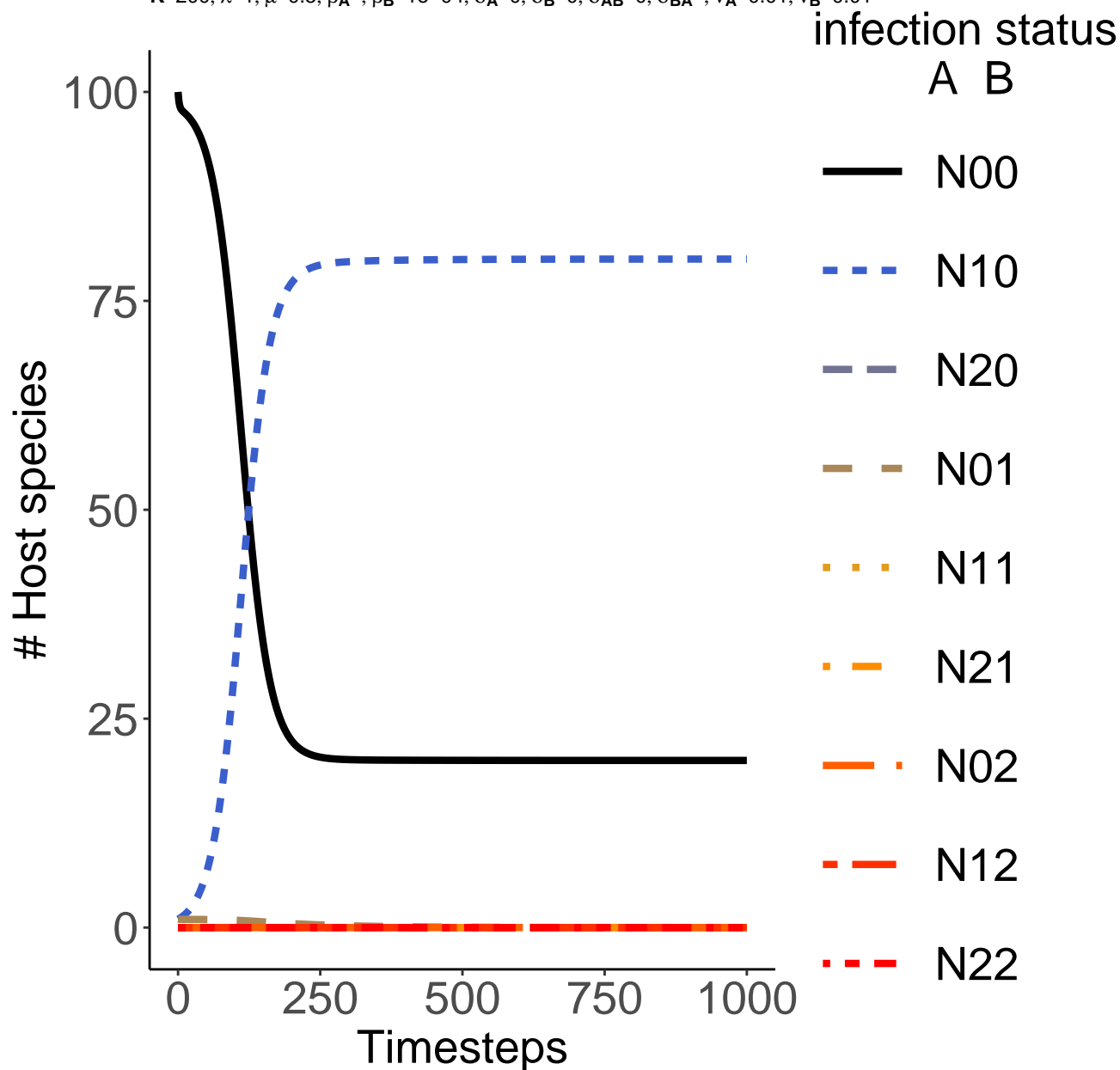
# Number of individuals carrying parasites over time

$K=200$ ,  $\lambda=1$ ,  $\mu=0.5$ ,  $\beta_A=$ ,  $\beta_B=1e-04$ ,  $\sigma_A=0$ ,  $\sigma_B=0$ ,  $\sigma_{AB}=0$ ,  $\sigma_{BA}=$ ,  $v_A=0.01$ ,  $v_B=0.01$



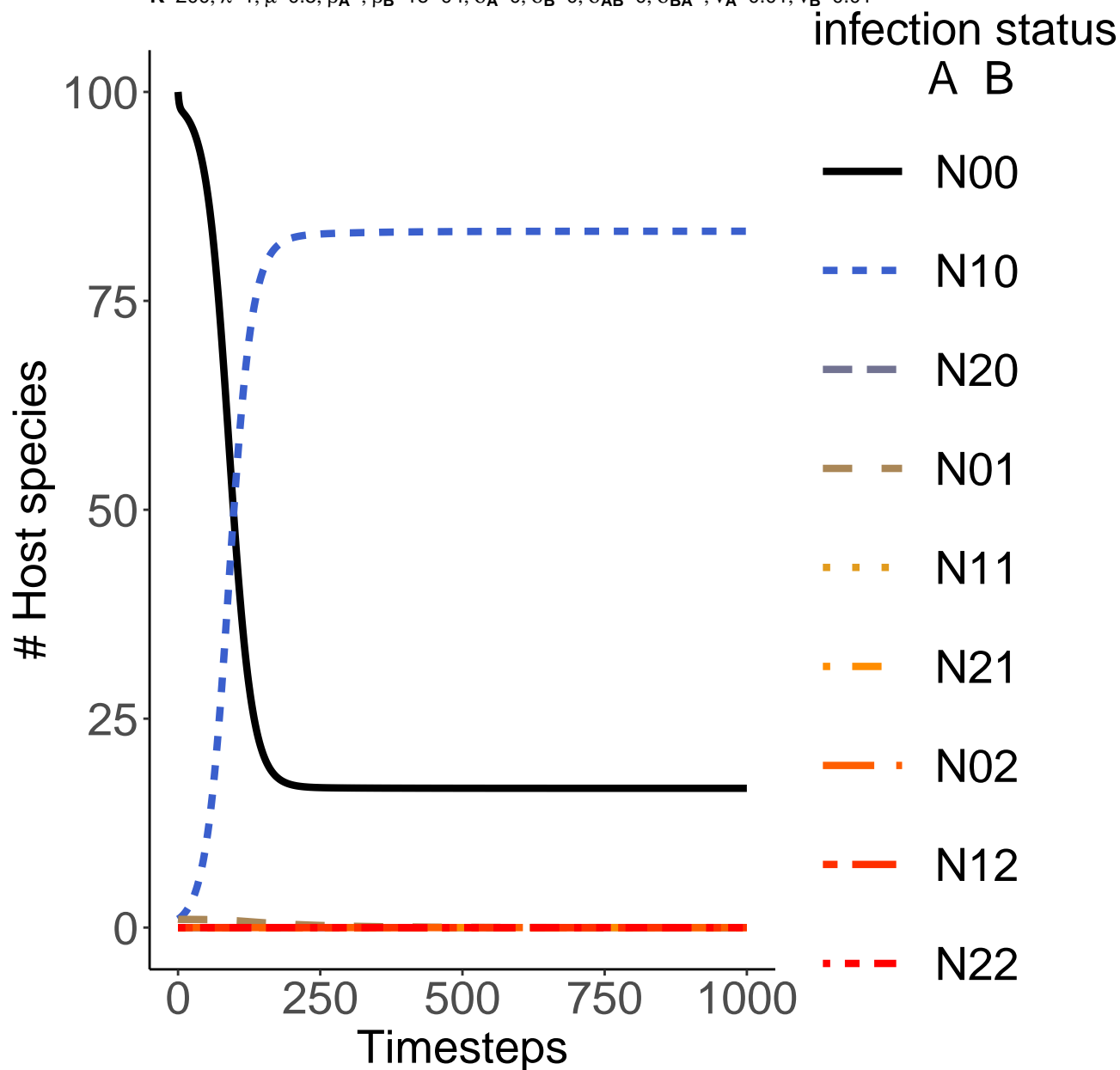
# Number of individuals carrying parasites over time

$K=200$ ,  $\lambda=1$ ,  $\mu=0.5$ ,  $\beta_A=$ ,  $\beta_B=1e-04$ ,  $\sigma_A=0$ ,  $\sigma_B=0$ ,  $\sigma_{AB}=0$ ,  $\sigma_{BA}=$ ,  $\nu_A=0.01$ ,  $\nu_B=0.01$



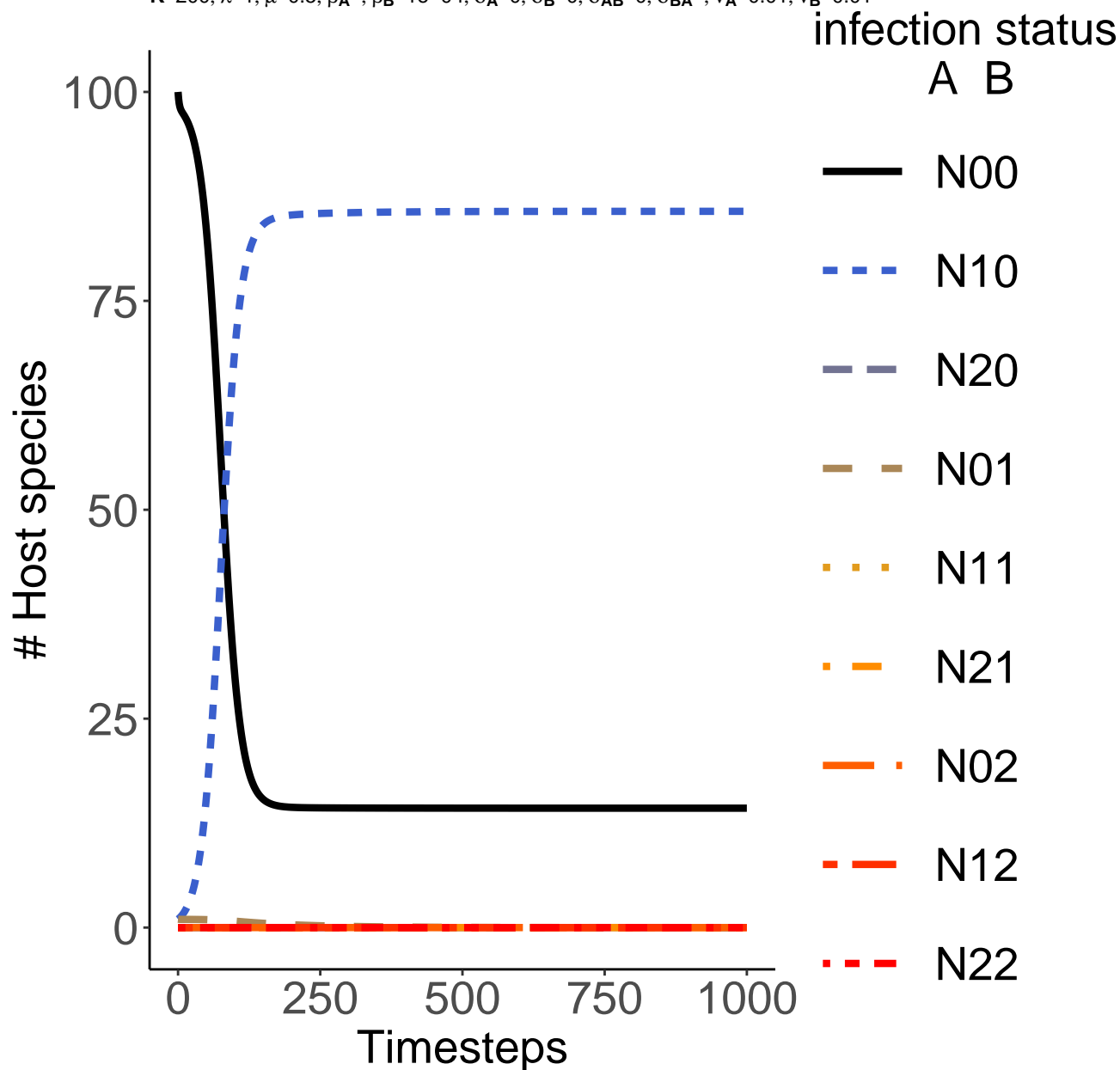
# Number of individuals carrying parasites over time

$K=200$ ,  $\lambda=1$ ,  $\mu=0.5$ ,  $\beta_A=$ ,  $\beta_B=1e-04$ ,  $\sigma_A=0$ ,  $\sigma_B=0$ ,  $\sigma_{AB}=0$ ,  $\sigma_{BA}=$ ,  $\nu_A=0.01$ ,  $\nu_B=0.01$



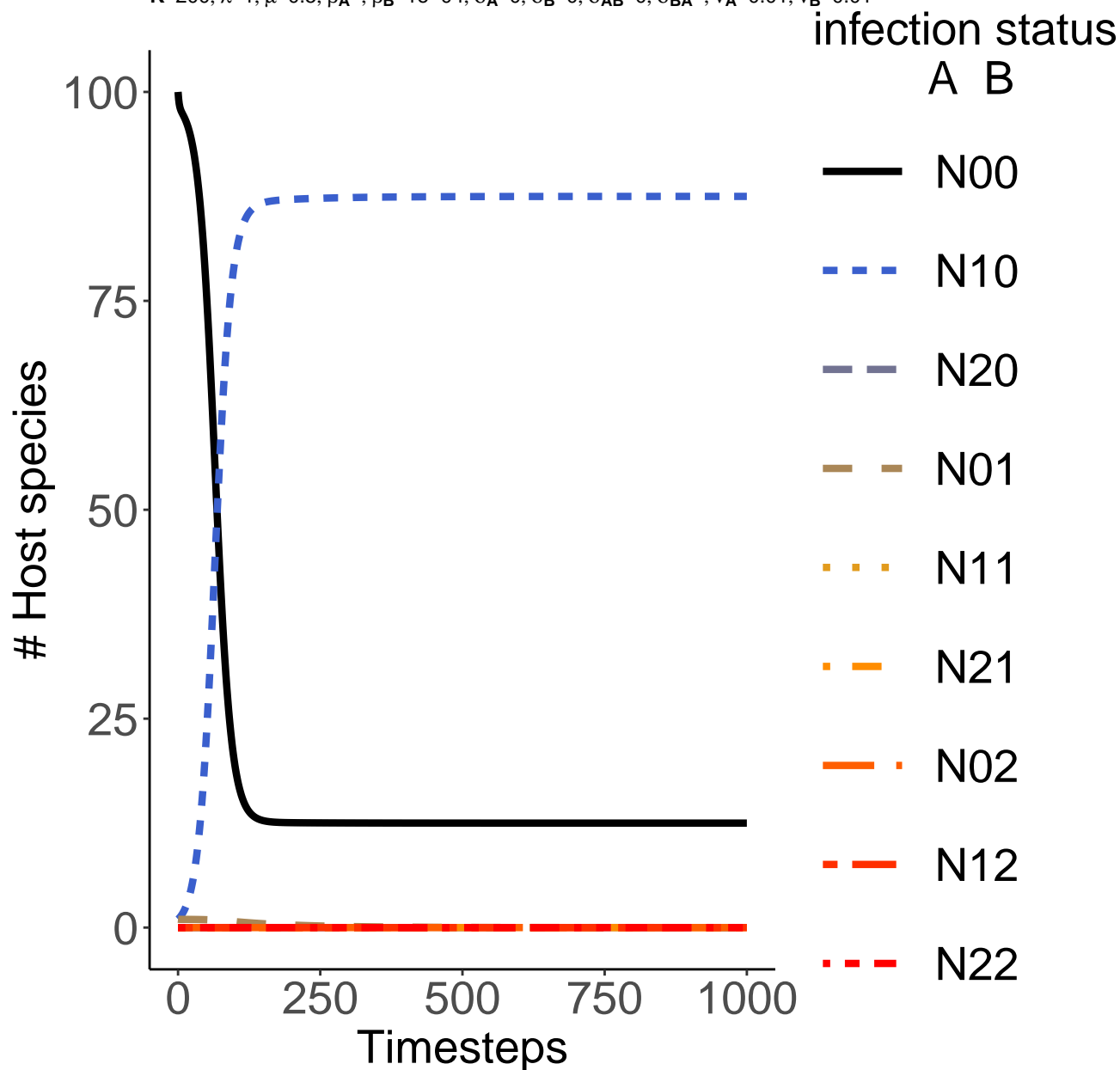
# Number of individuals carrying parasites over time

$K=200$ ,  $\lambda=1$ ,  $\mu=0.5$ ,  $\beta_A=$ ,  $\beta_B=1e-04$ ,  $\sigma_A=0$ ,  $\sigma_B=0$ ,  $\sigma_{AB}=0$ ,  $\sigma_{BA}=$ ,  $v_A=0.01$ ,  $v_B=0.01$



# Number of individuals carrying parasites over time

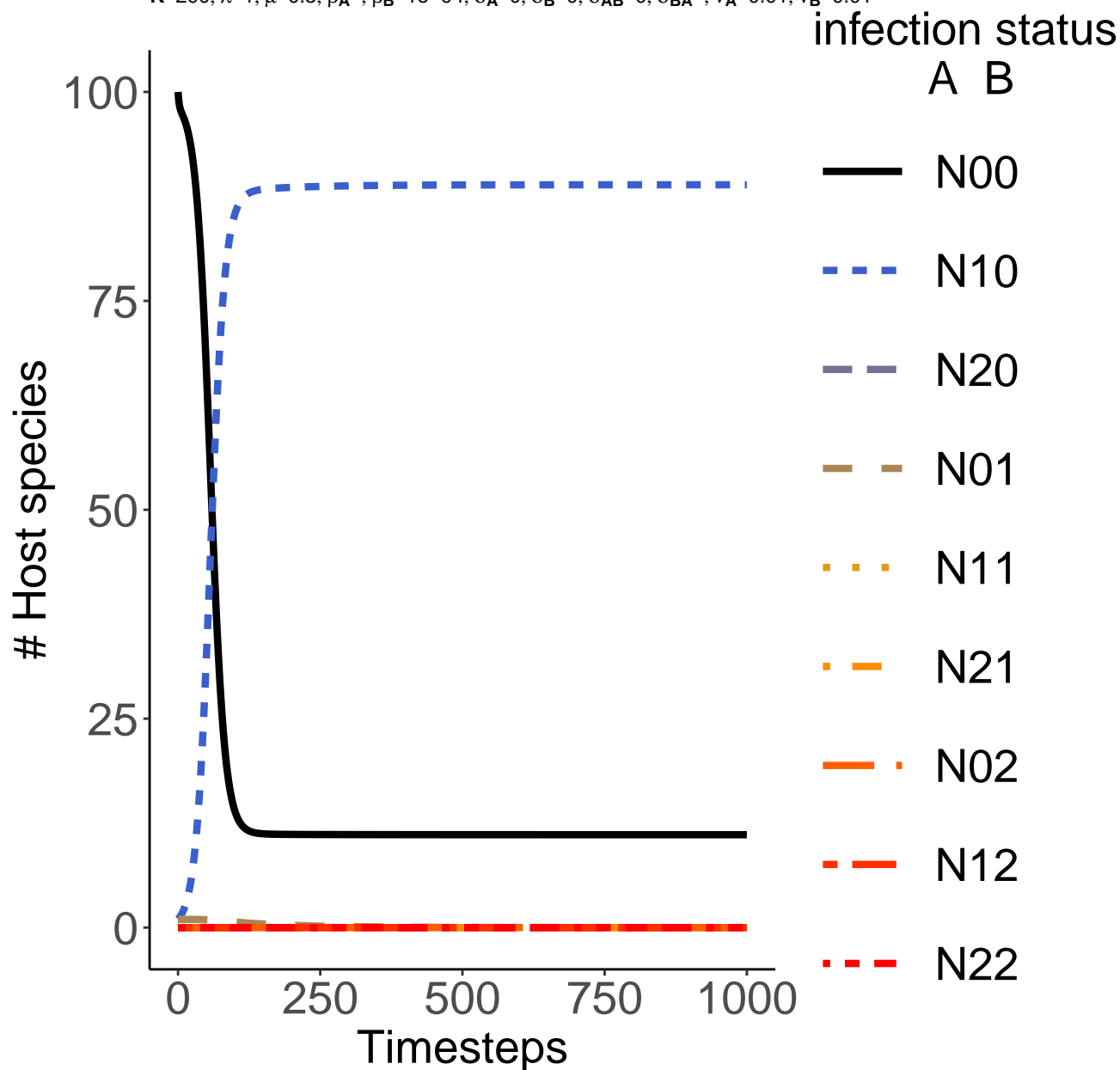
$K=200$ ,  $\lambda=1$ ,  $\mu=0.5$ ,  $\beta_A=$ ,  $\beta_B=1e-04$ ,  $\sigma_A=0$ ,  $\sigma_B=0$ ,  $\sigma_{AB}=0$ ,  $\sigma_{BA}=$ ,  $v_A=0.01$ ,  $v_B=0.01$





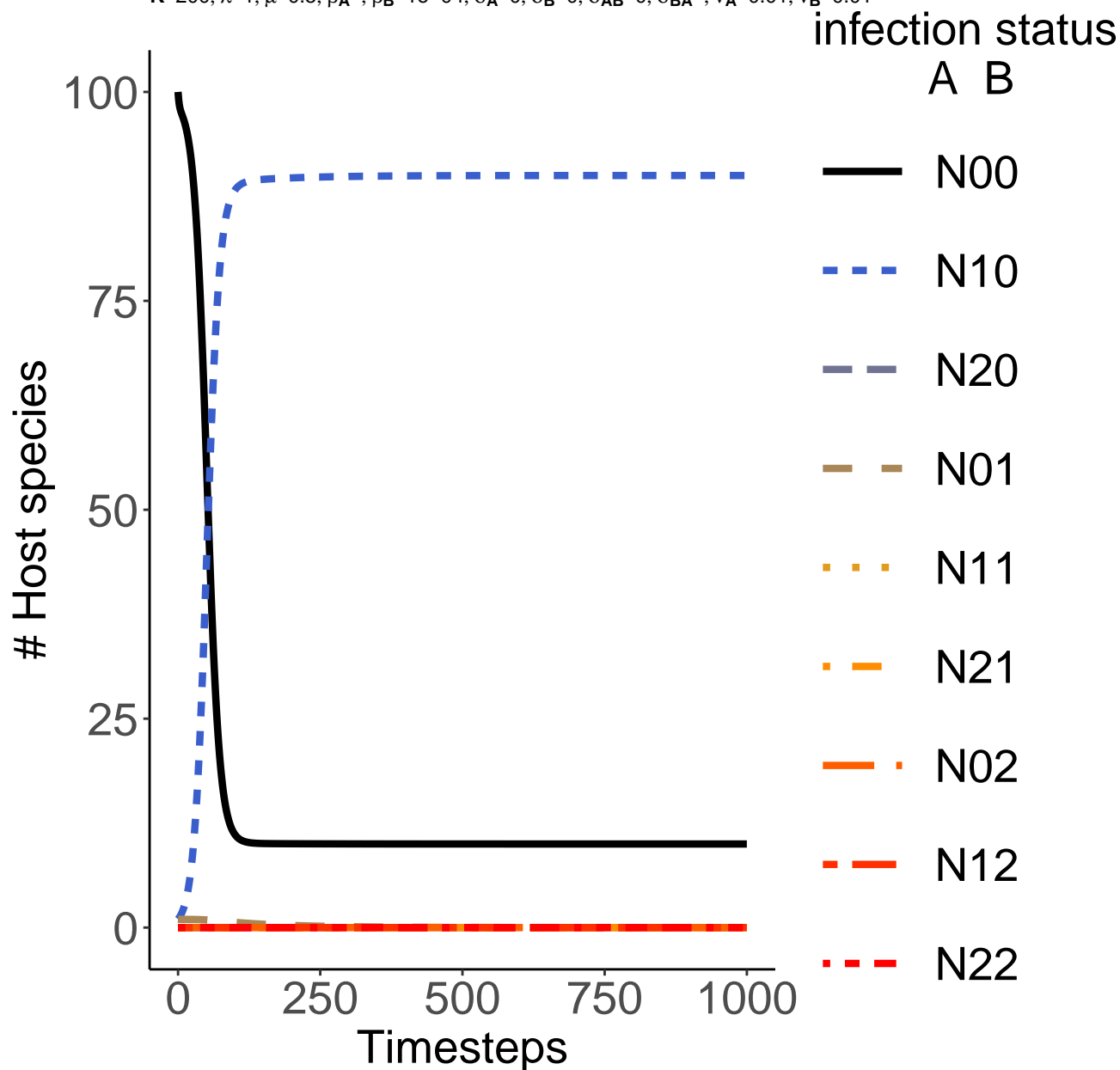
# Number of individuals carrying parasites over time

$K=200$ ,  $\lambda=1$ ,  $\mu=0.5$ ,  $\beta_A=$ ,  $\beta_B=1e-04$ ,  $\sigma_A=0$ ,  $\sigma_B=0$ ,  $\sigma_{AB}=0$ ,  $\sigma_{BA}=$ ,  $v_A=0.01$ ,  $v_B=0.01$



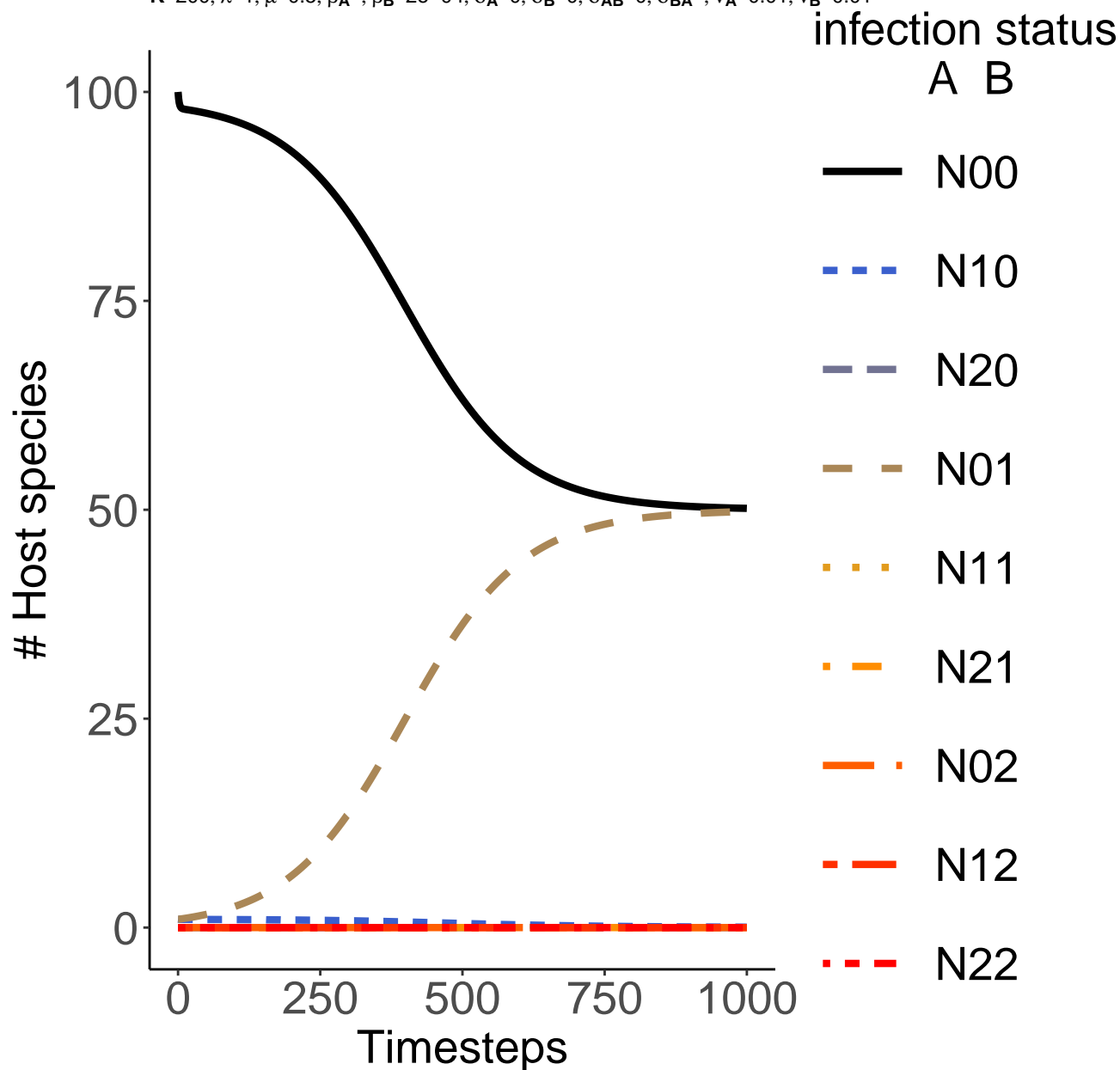
# Number of individuals carrying parasites over time

$K=200$ ,  $\lambda=1$ ,  $\mu=0.5$ ,  $\beta_A=$ ,  $\beta_B=1e-04$ ,  $\sigma_A=0$ ,  $\sigma_B=0$ ,  $\sigma_{AB}=0$ ,  $\sigma_{BA}=$ ,  $v_A=0.01$ ,  $v_B=0.01$



# Number of individuals carrying parasites over time

$K=200$ ,  $\lambda=1$ ,  $\mu=0.5$ ,  $\beta_A=$ ,  $\beta_B=2e-04$ ,  $\sigma_A=0$ ,  $\sigma_B=0$ ,  $\sigma_{AB}=0$ ,  $\sigma_{BA}=$ ,  $\nu_A=0.01$ ,  $\nu_B=0.01$



$$\mathbf{K}=200, \lambda=1, \mu=0.5, \beta_{\mathbf{A}}=\beta_{\mathbf{B}}=2\text{e-}04, \sigma_{\mathbf{A}}=0, \sigma_{\mathbf{B}}=0, \sigma_{\mathbf{AB}}=0, \sigma_{\mathbf{BA}}=0, v_{\mathbf{A}}=0.01, v_{\mathbf{B}}=0.01$$

infection status

— N00

... N10

— — N20

— — N01

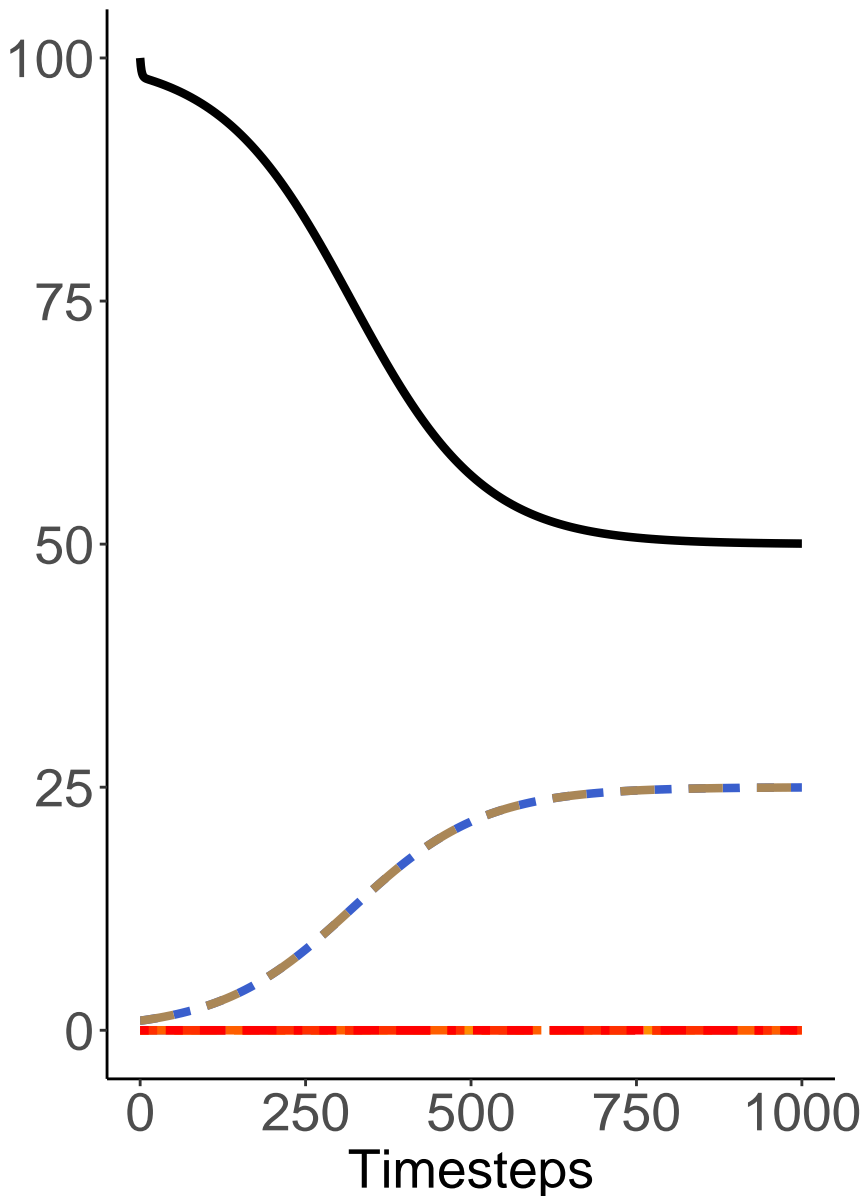
... N11

■ — N21

— • N02

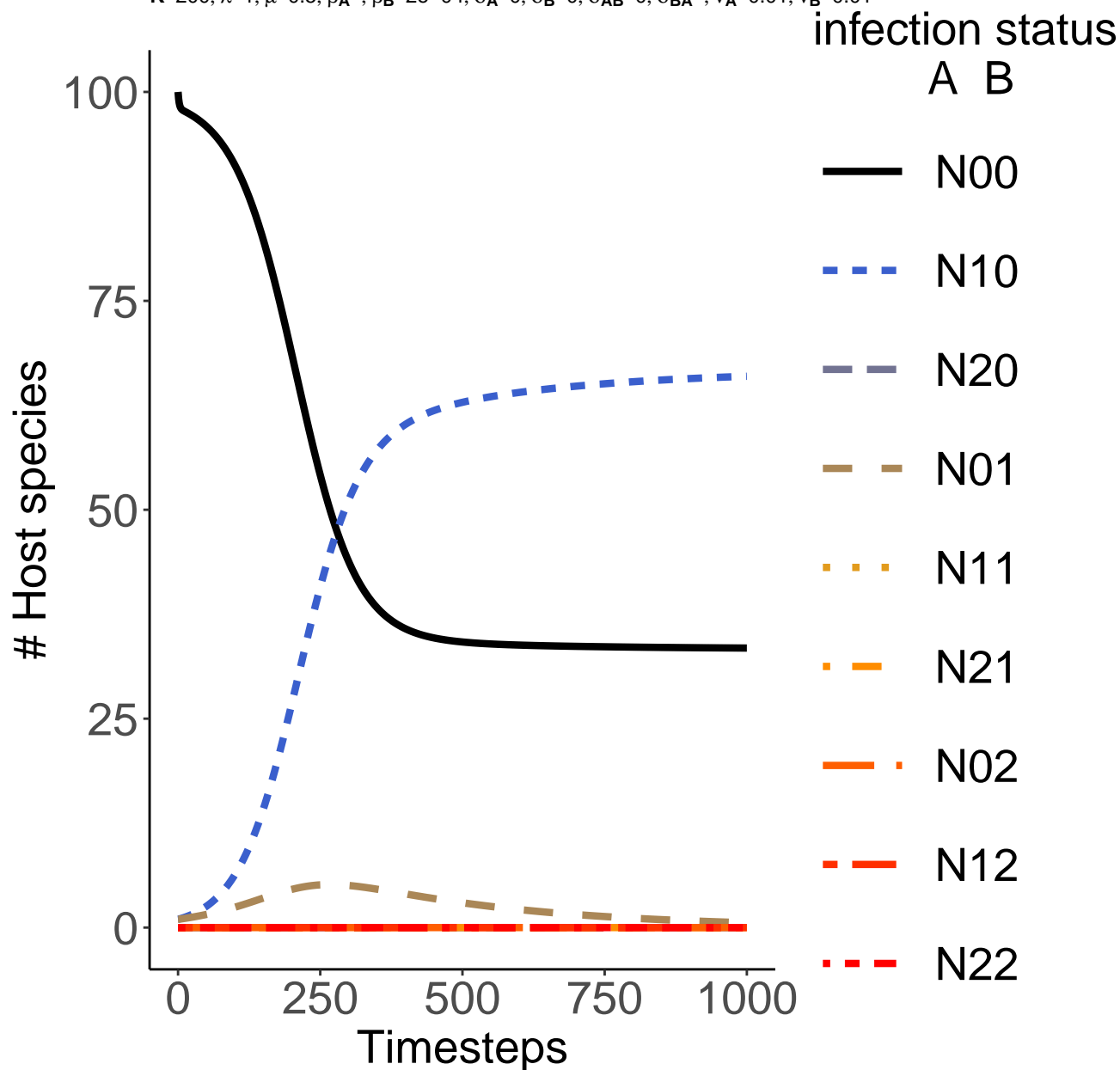
**N12**

 N22



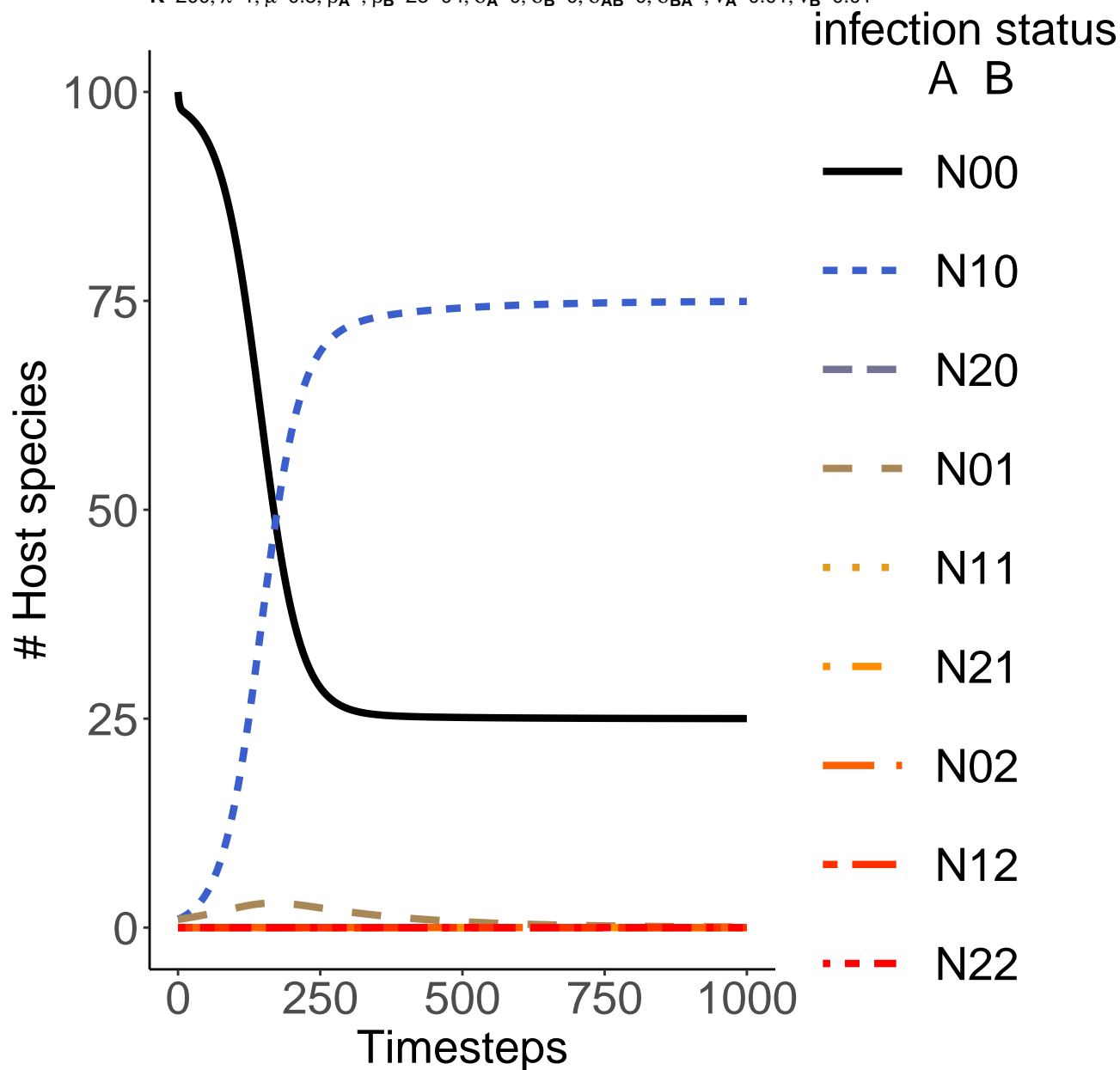
# Number of individuals carrying parasites over time

$K=200$ ,  $\lambda=1$ ,  $\mu=0.5$ ,  $\beta_A=$ ,  $\beta_B=2e-04$ ,  $\sigma_A=0$ ,  $\sigma_B=0$ ,  $\sigma_{AB}=0$ ,  $\sigma_{BA}=$ ,  $\nu_A=0.01$ ,  $\nu_B=0.01$



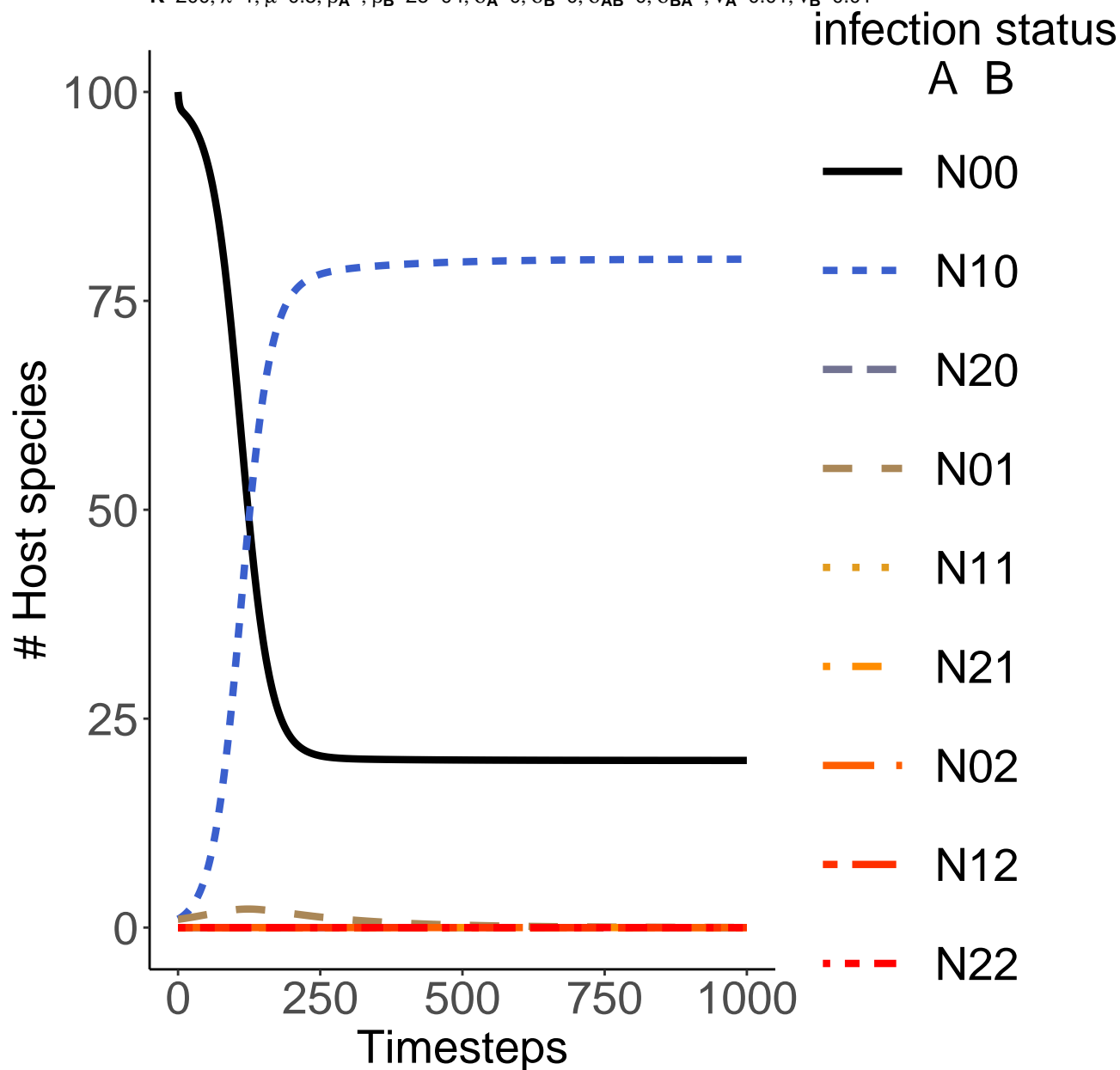
# Number of individuals carrying parasites over time

$K=200$ ,  $\lambda=1$ ,  $\mu=0.5$ ,  $\beta_A=$ ,  $\beta_B=2e-04$ ,  $\sigma_A=0$ ,  $\sigma_B=0$ ,  $\sigma_{AB}=0$ ,  $\sigma_{BA}=$ ,  $\nu_A=0.01$ ,  $\nu_B=0.01$



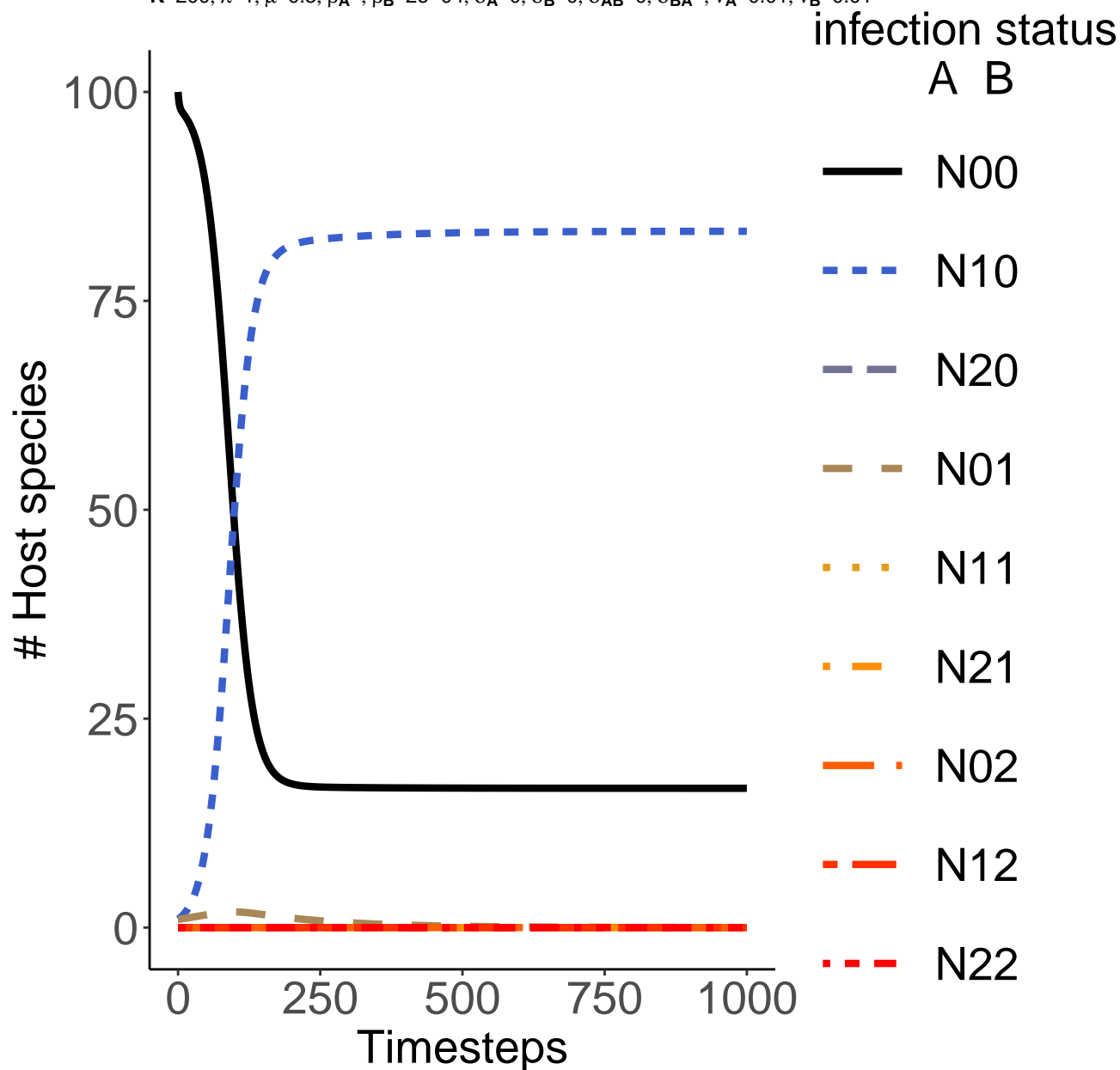
# Number of individuals carrying parasites over time

$K=200$ ,  $\lambda=1$ ,  $\mu=0.5$ ,  $\beta_A=$ ,  $\beta_B=2e-04$ ,  $\sigma_A=0$ ,  $\sigma_B=0$ ,  $\sigma_{AB}=0$ ,  $\sigma_{BA}=$ ,  $v_A=0.01$ ,  $v_B=0.01$



# Number of individuals carrying parasites over time

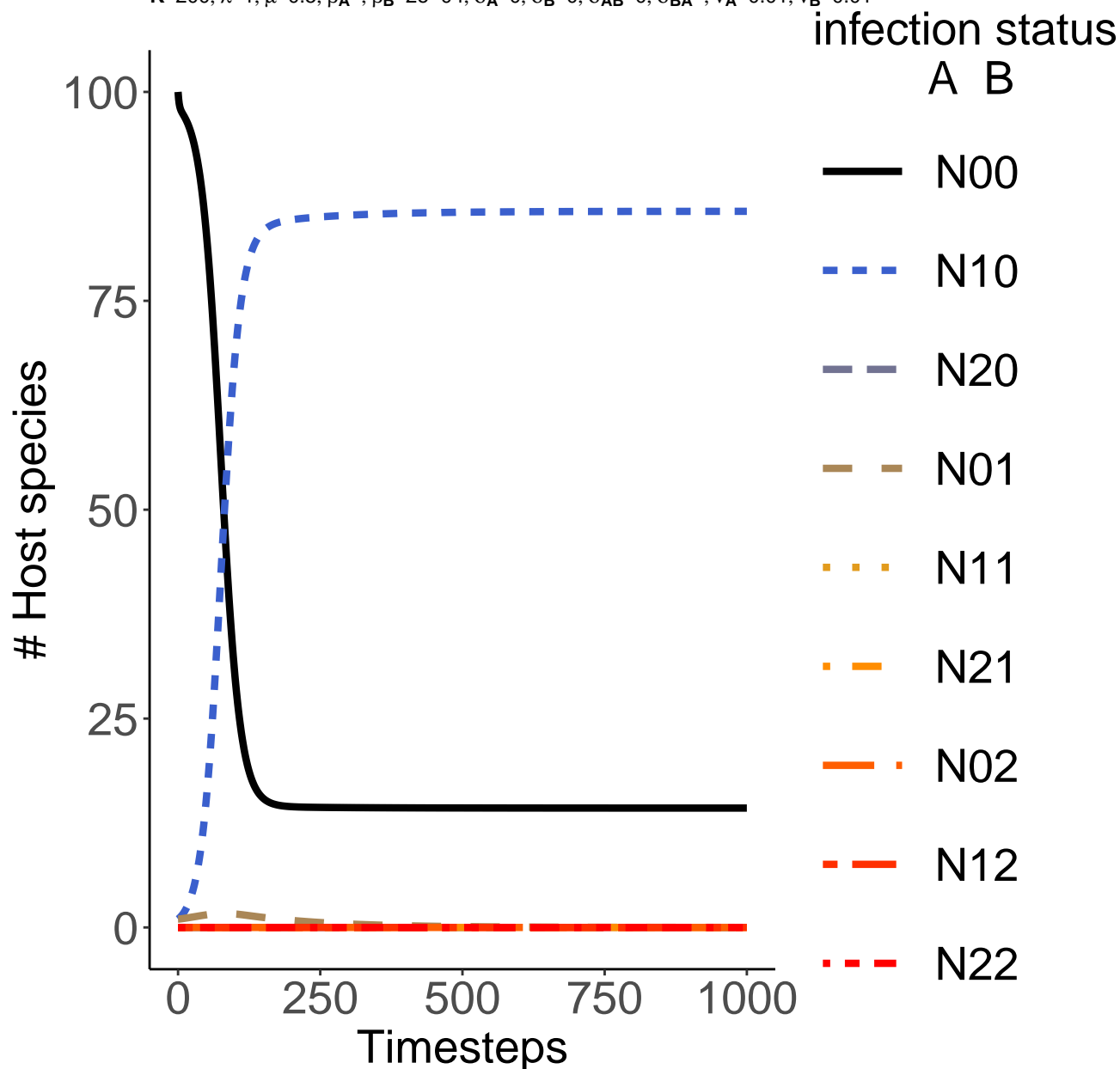
$K=200$ ,  $\lambda=1$ ,  $\mu=0.5$ ,  $\beta_A=$ ,  $\beta_B=2e-04$ ,  $\sigma_A=0$ ,  $\sigma_B=0$ ,  $\sigma_{AB}=0$ ,  $\sigma_{BA}=$ ,  $\nu_A=0.01$ ,  $\nu_B=0.01$





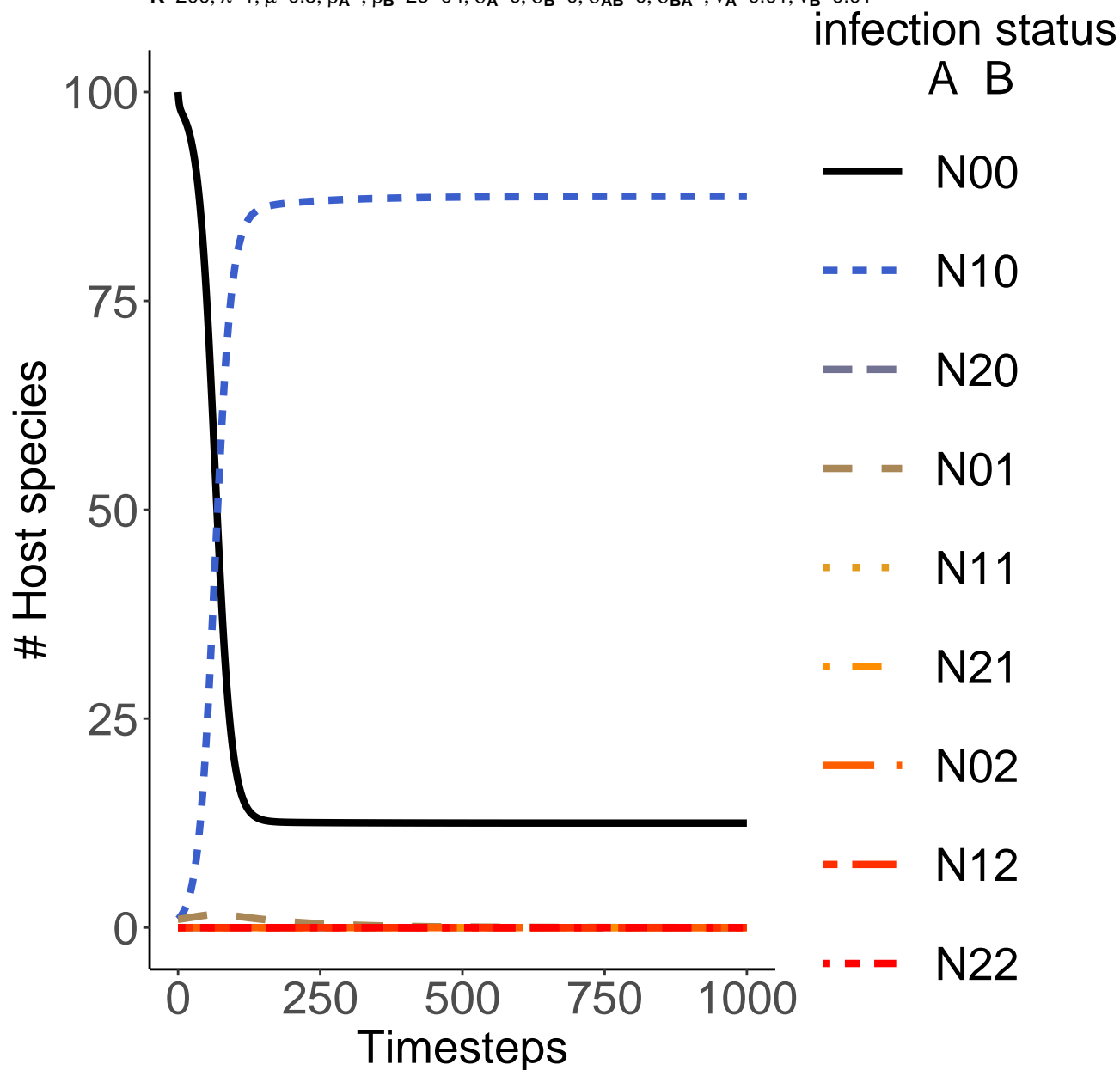
# Number of individuals carrying parasites over time

$K=200$ ,  $\lambda=1$ ,  $\mu=0.5$ ,  $\beta_A=$ ,  $\beta_B=2e-04$ ,  $\sigma_A=0$ ,  $\sigma_B=0$ ,  $\sigma_{AB}=0$ ,  $\sigma_{BA}=$ ,  $\nu_A=0.01$ ,  $\nu_B=0.01$



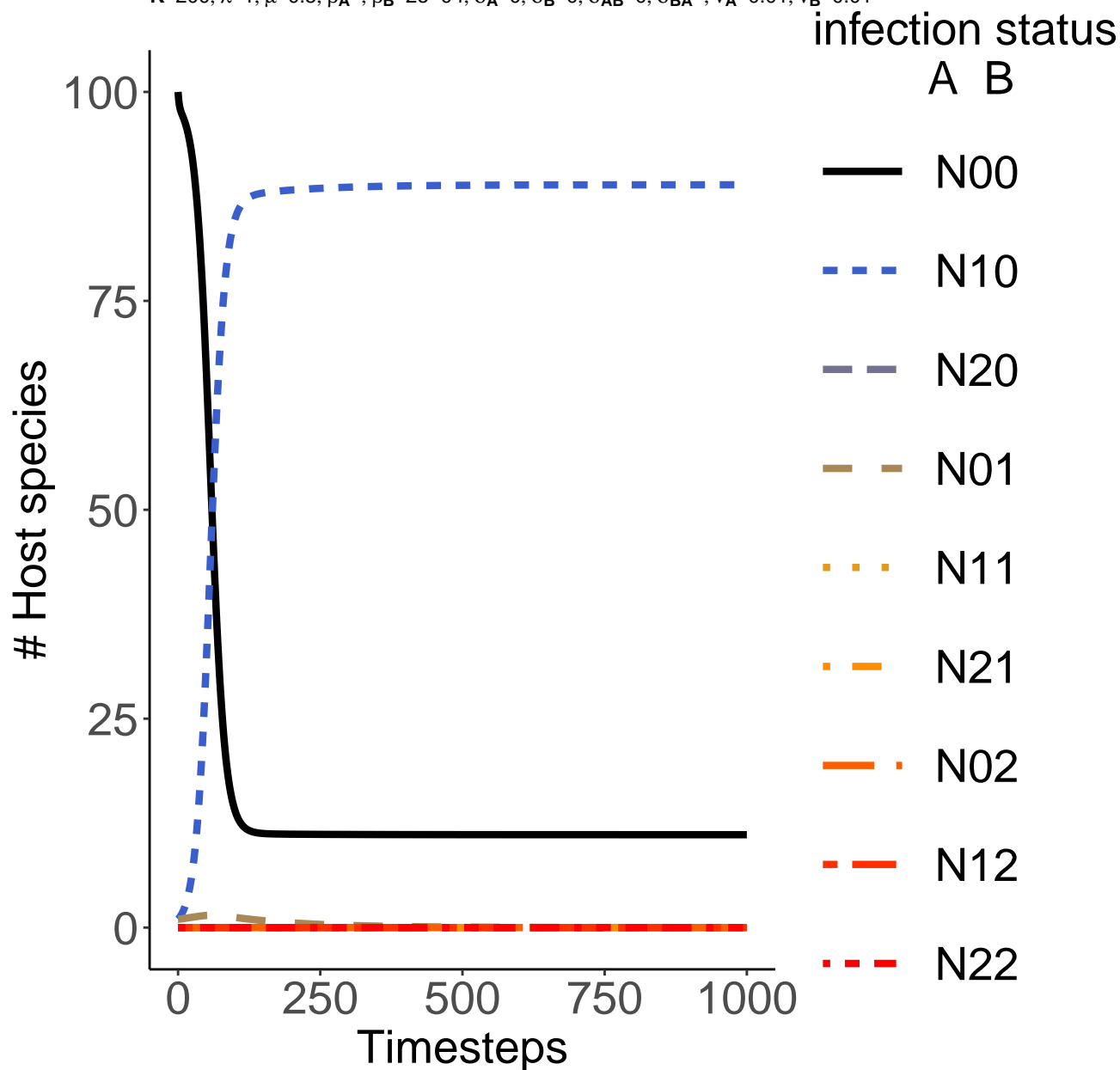
# Number of individuals carrying parasites over time

$K=200$ ,  $\lambda=1$ ,  $\mu=0.5$ ,  $\beta_A=$ ,  $\beta_B=2e-04$ ,  $\sigma_A=0$ ,  $\sigma_B=0$ ,  $\sigma_{AB}=0$ ,  $\sigma_{BA}=$ ,  $v_A=0.01$ ,  $v_B=0.01$



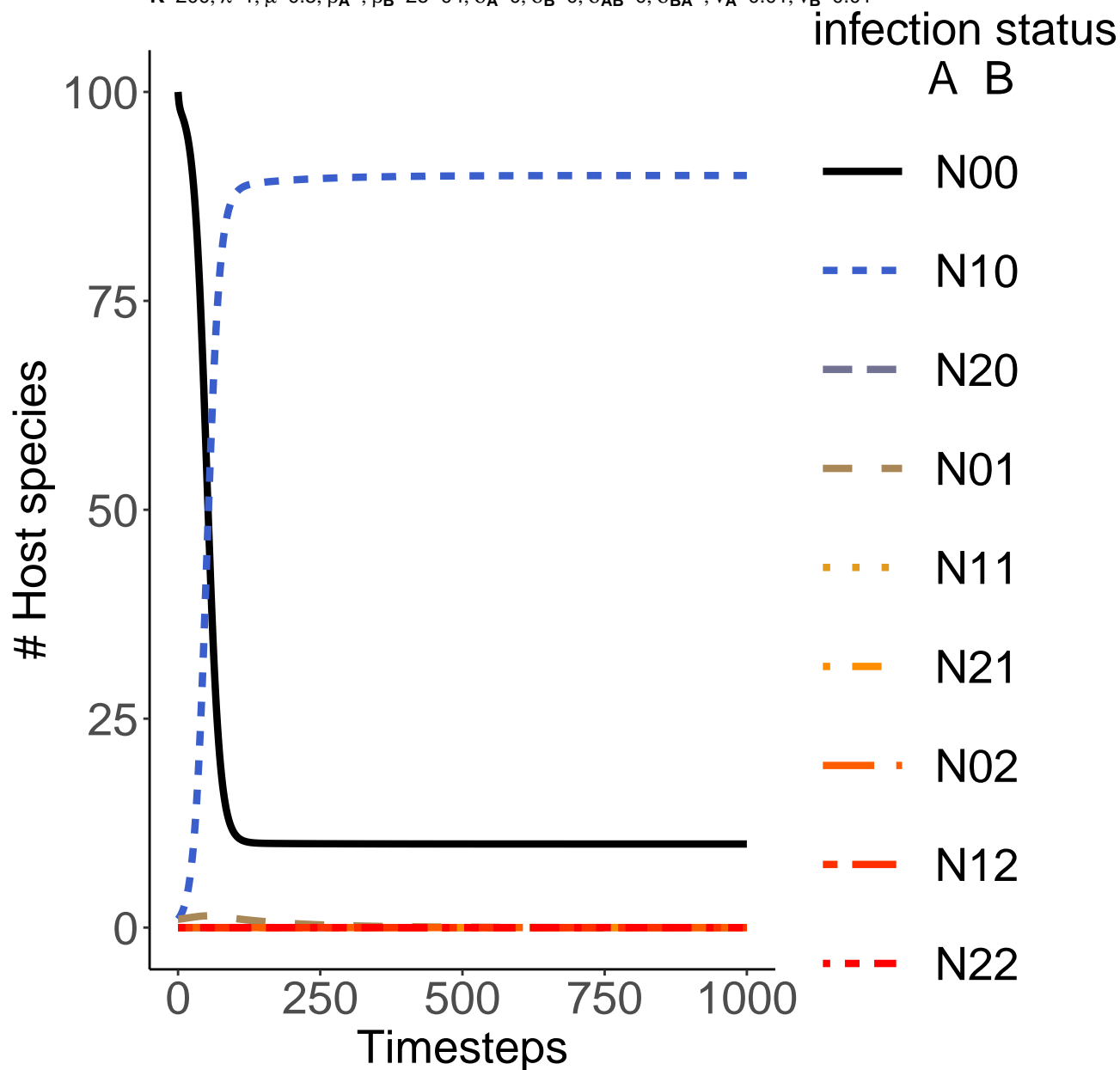
# Number of individuals carrying parasites over time

$K=200$ ,  $\lambda=1$ ,  $\mu=0.5$ ,  $\beta_A=$ ,  $\beta_B=2e-04$ ,  $\sigma_A=0$ ,  $\sigma_B=0$ ,  $\sigma_{AB}=0$ ,  $\sigma_{BA}=$ ,  $v_A=0.01$ ,  $v_B=0.01$



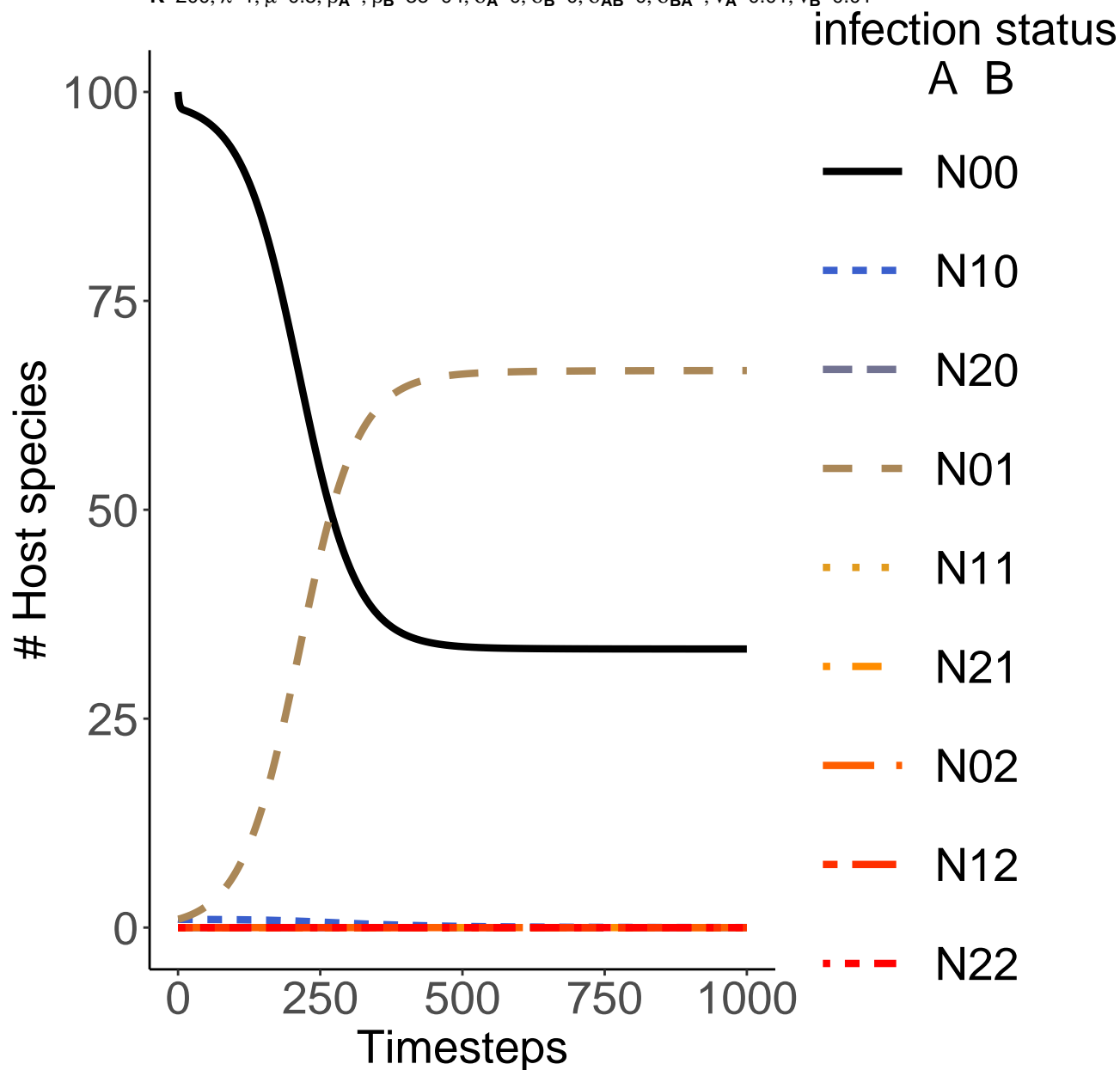
# Number of individuals carrying parasites over time

$K=200$ ,  $\lambda=1$ ,  $\mu=0.5$ ,  $\beta_A=$ ,  $\beta_B=2e-04$ ,  $\sigma_A=0$ ,  $\sigma_B=0$ ,  $\sigma_{AB}=0$ ,  $\sigma_{BA}=$ ,  $v_A=0.01$ ,  $v_B=0.01$



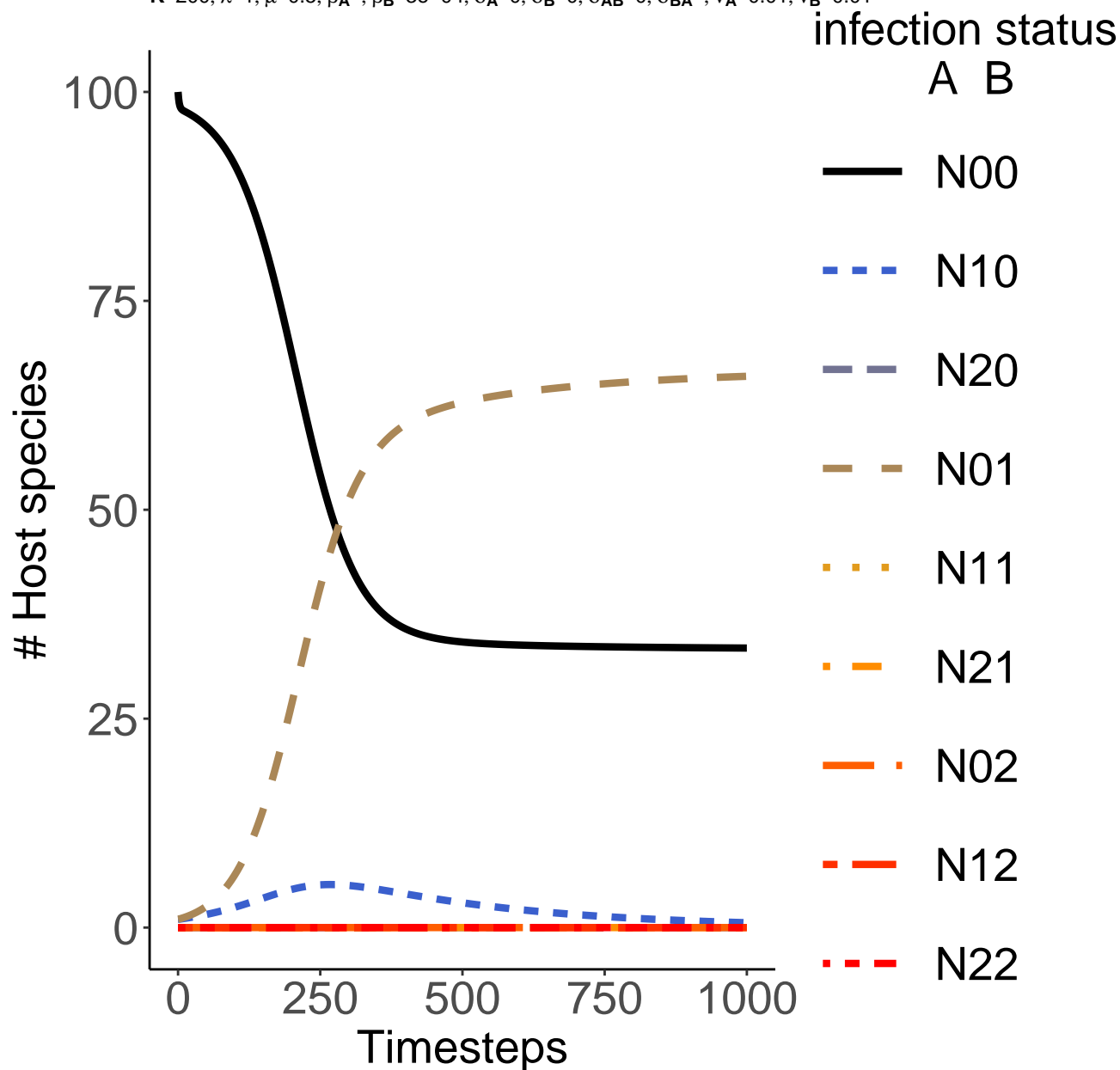
# Number of individuals carrying parasites over time

$K=200$ ,  $\lambda=1$ ,  $\mu=0.5$ ,  $\beta_A=$ ,  $\beta_B=3e-04$ ,  $\sigma_A=0$ ,  $\sigma_B=0$ ,  $\sigma_{AB}=0$ ,  $\sigma_{BA}=$ ,  $v_A=0.01$ ,  $v_B=0.01$



# Number of individuals carrying parasites over time

$K=200$ ,  $\lambda=1$ ,  $\mu=0.5$ ,  $\beta_A=$ ,  $\beta_B=3e-04$ ,  $\sigma_A=0$ ,  $\sigma_B=0$ ,  $\sigma_{AB}=0$ ,  $\sigma_{BA}=$ ,  $\nu_A=0.01$ ,  $\nu_B=0.01$



$$\mathbf{K}=200, \lambda=1, \mu=0.5, \beta_{\mathbf{A}}=, \beta_{\mathbf{B}}=3\text{e-}04, \sigma_{\mathbf{A}}=0, \sigma_{\mathbf{B}}=0, \sigma_{\mathbf{AB}}=0, \sigma_{\mathbf{BA}}=, v_{\mathbf{A}}=0.01, v_{\mathbf{B}}=0.01$$

infection status

— N00

... N10

— — N20

— — N01

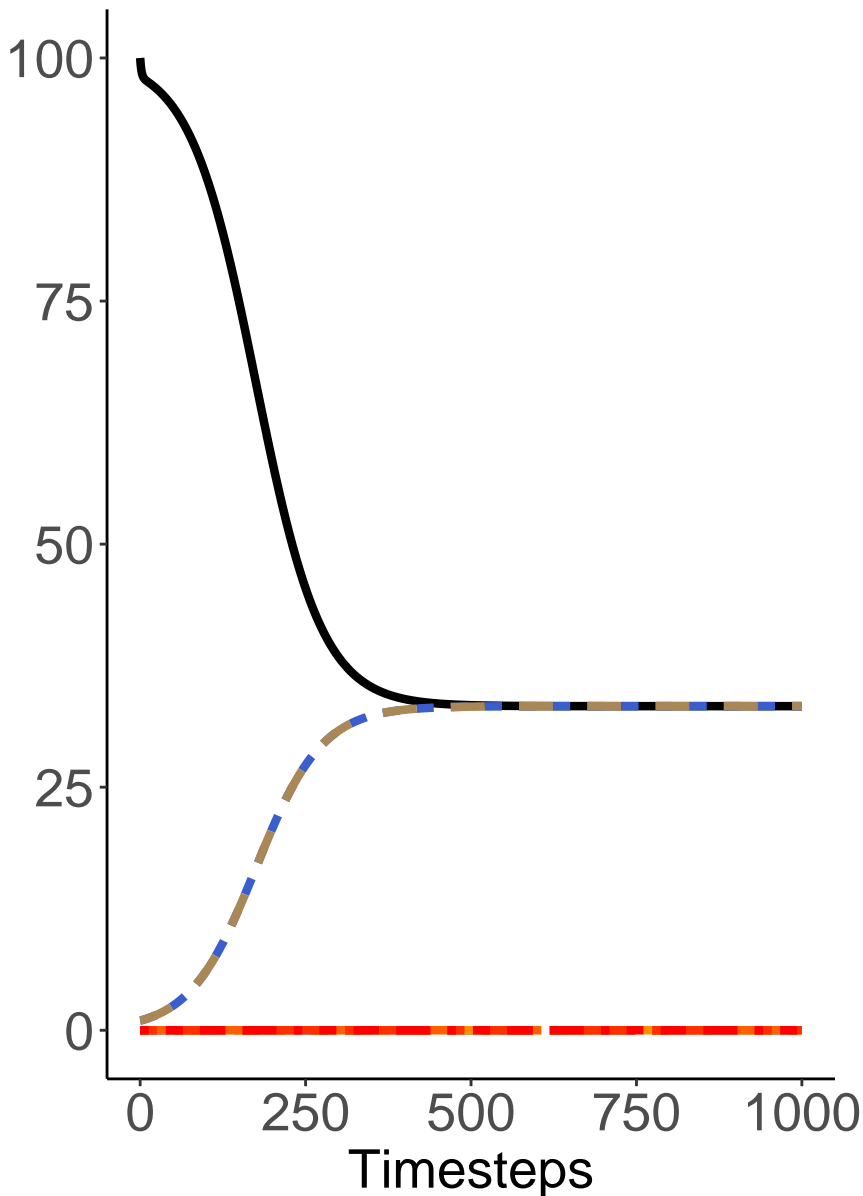
■ ■ ■ N11

■ — N21

— ■ N02

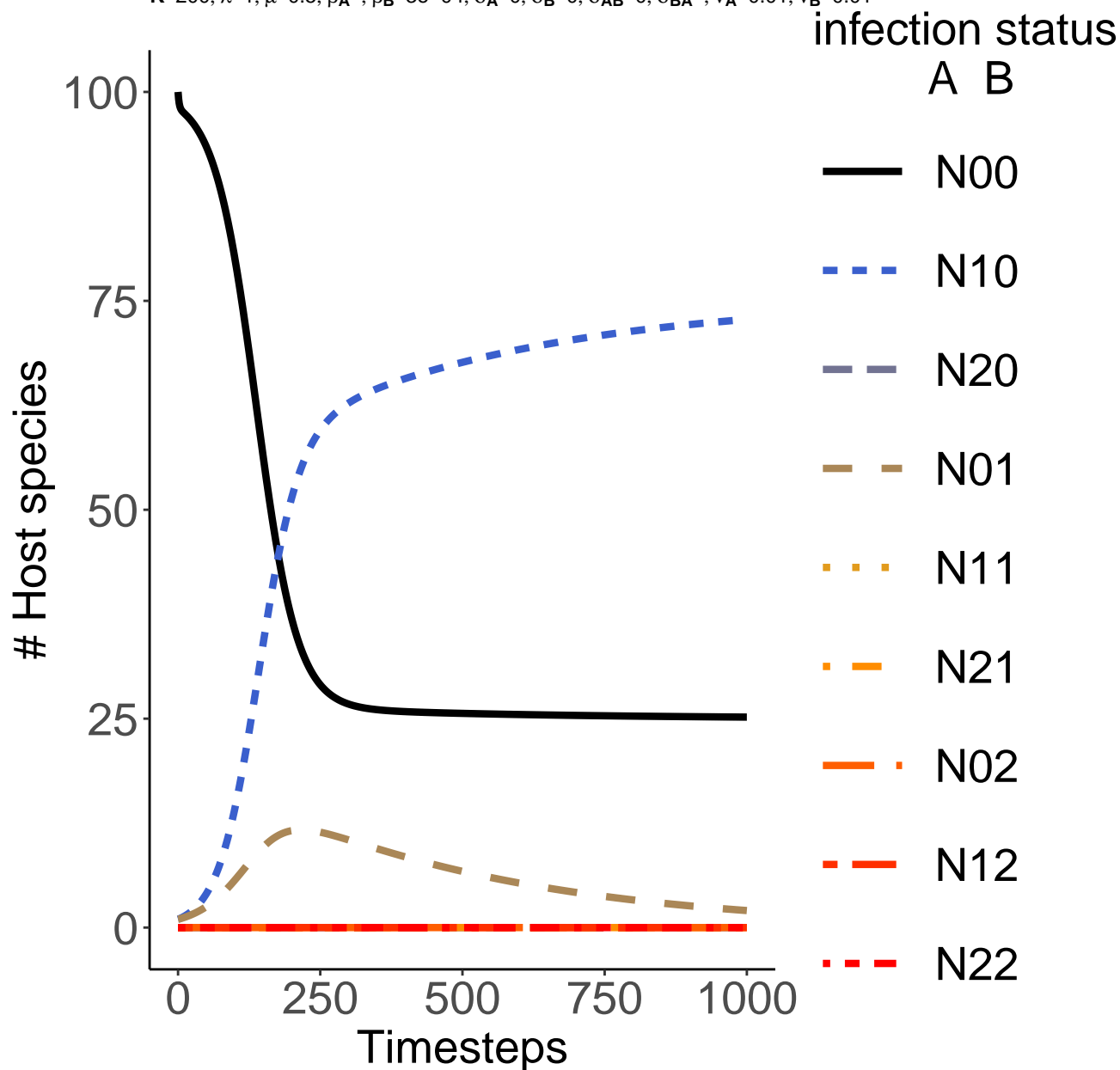
**N12**

**N22**



# Number of individuals carrying parasites over time

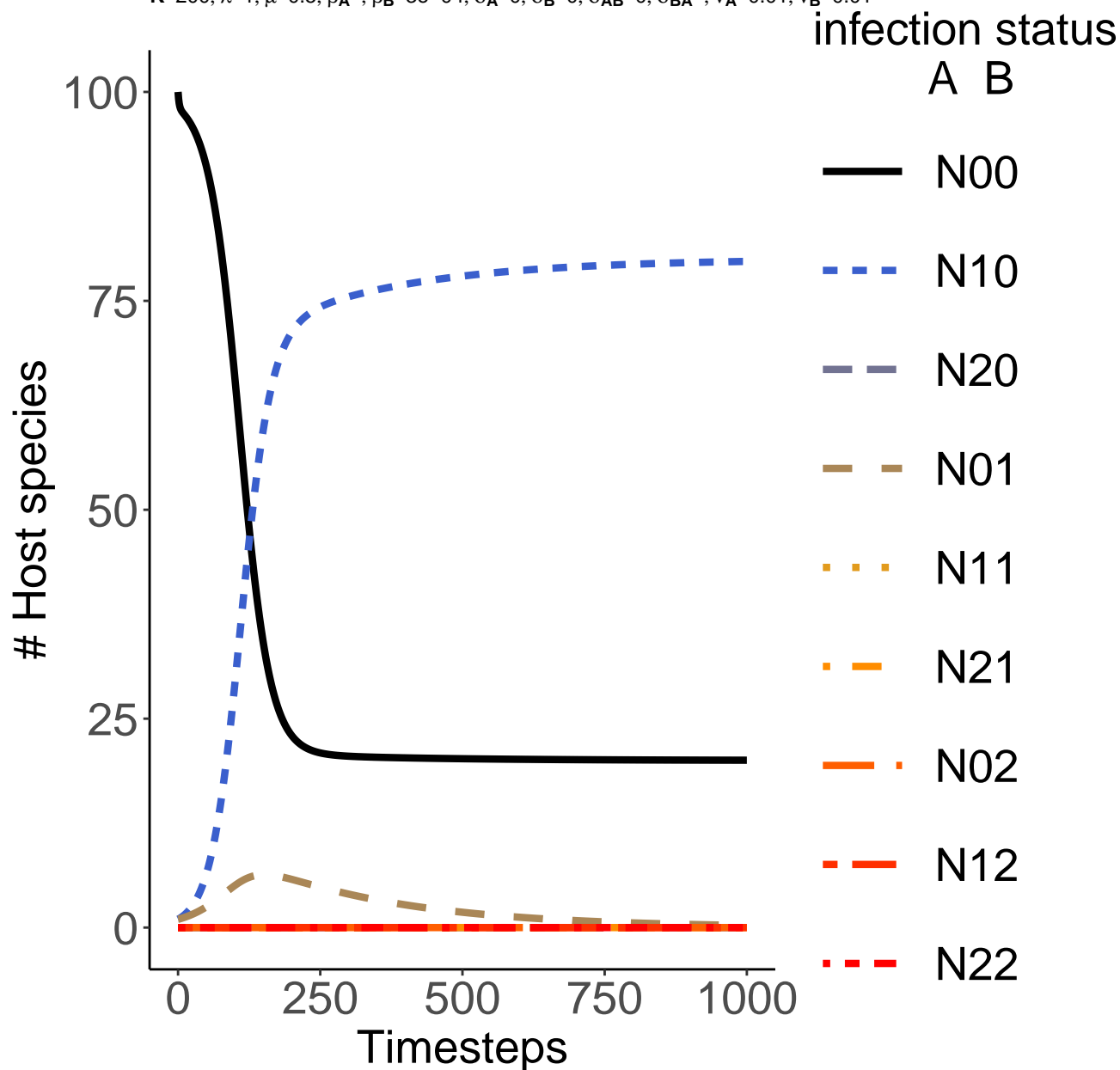
$K=200$ ,  $\lambda=1$ ,  $\mu=0.5$ ,  $\beta_A=$ ,  $\beta_B=3e-04$ ,  $\sigma_A=0$ ,  $\sigma_B=0$ ,  $\sigma_{AB}=0$ ,  $\sigma_{BA}=$ ,  $v_A=0.01$ ,  $v_B=0.01$





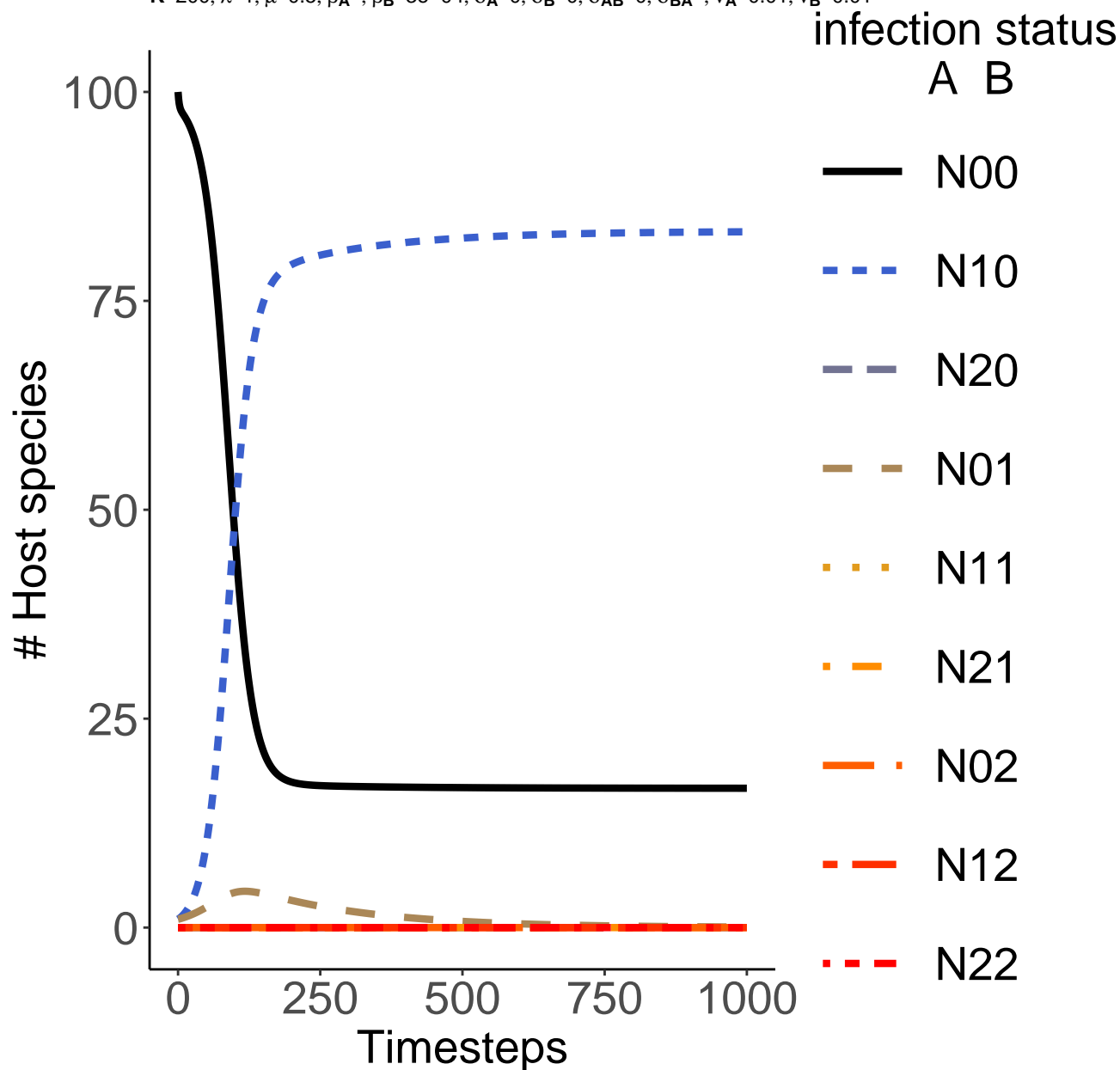
# Number of individuals carrying parasites over time

$K=200$ ,  $\lambda=1$ ,  $\mu=0.5$ ,  $\beta_A=$ ,  $\beta_B=3e-04$ ,  $\sigma_A=0$ ,  $\sigma_B=0$ ,  $\sigma_{AB}=0$ ,  $\sigma_{BA}=$ ,  $v_A=0.01$ ,  $v_B=0.01$



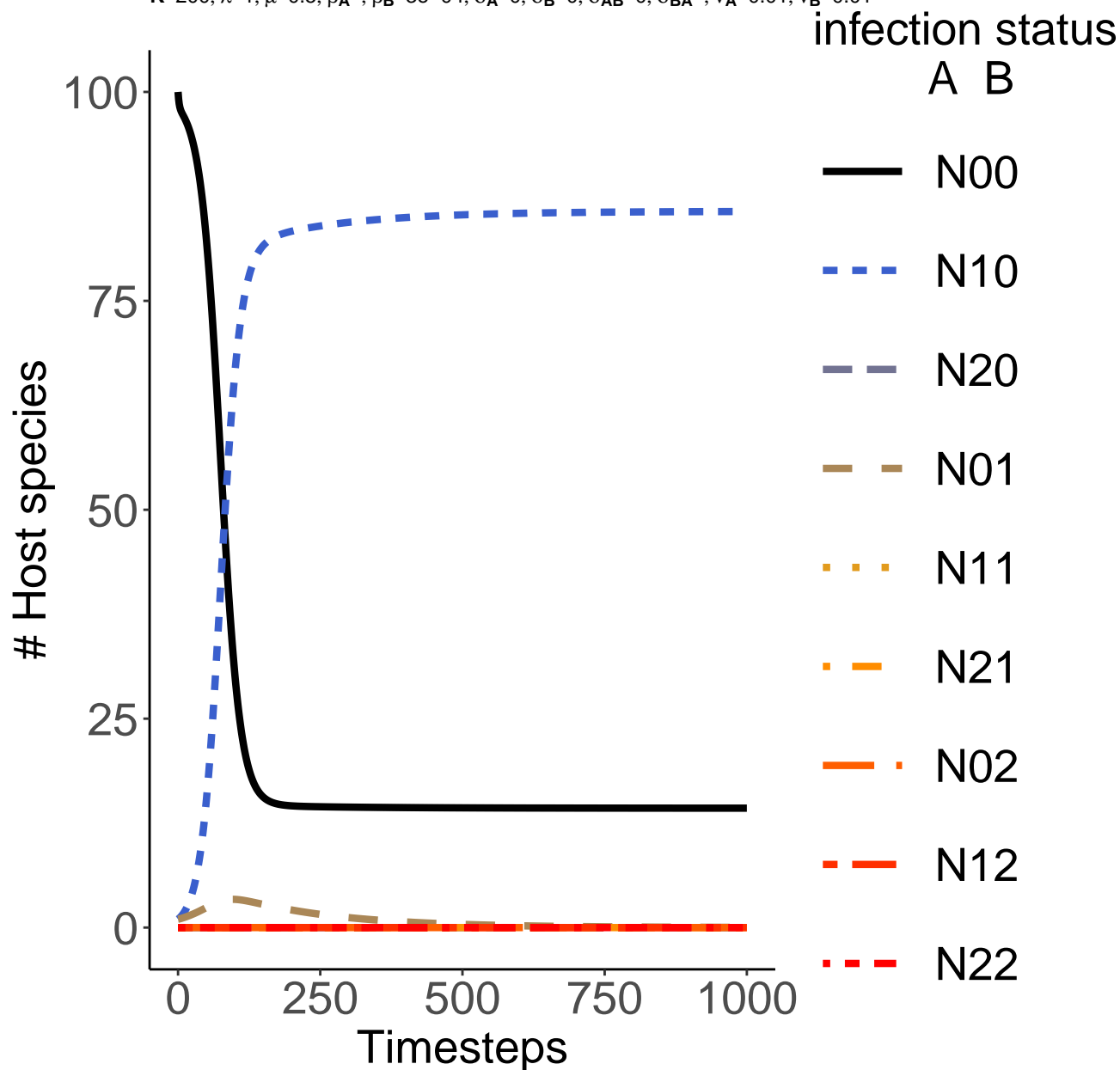
# Number of individuals carrying parasites over time

$K=200$ ,  $\lambda=1$ ,  $\mu=0.5$ ,  $\beta_A=$ ,  $\beta_B=3e-04$ ,  $\sigma_A=0$ ,  $\sigma_B=0$ ,  $\sigma_{AB}=0$ ,  $\sigma_{BA}=$ ,  $v_A=0.01$ ,  $v_B=0.01$



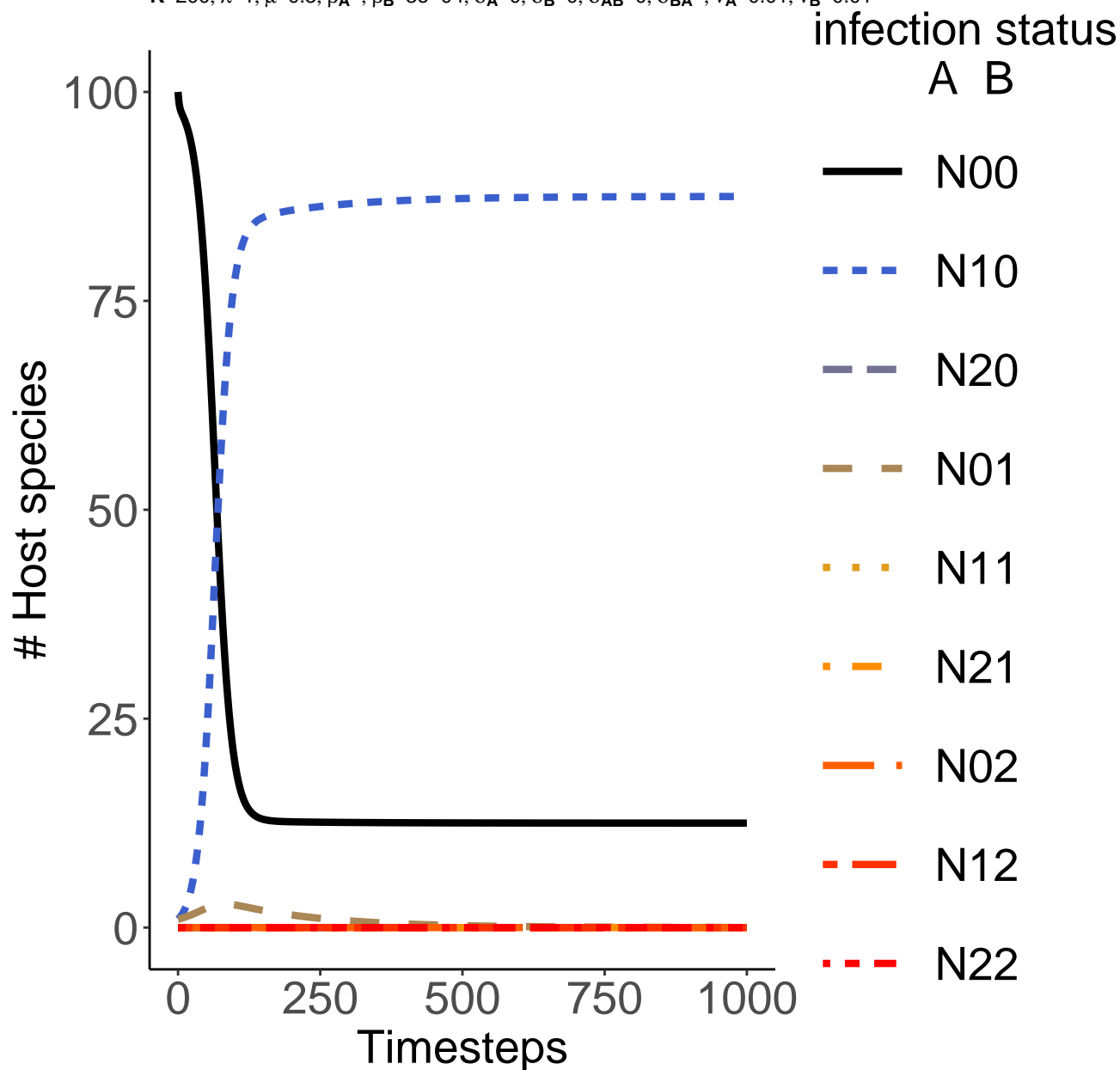
# Number of individuals carrying parasites over time

$K=200$ ,  $\lambda=1$ ,  $\mu=0.5$ ,  $\beta_A=$ ,  $\beta_B=3e-04$ ,  $\sigma_A=0$ ,  $\sigma_B=0$ ,  $\sigma_{AB}=0$ ,  $\sigma_{BA}=$ ,  $\nu_A=0.01$ ,  $\nu_B=0.01$



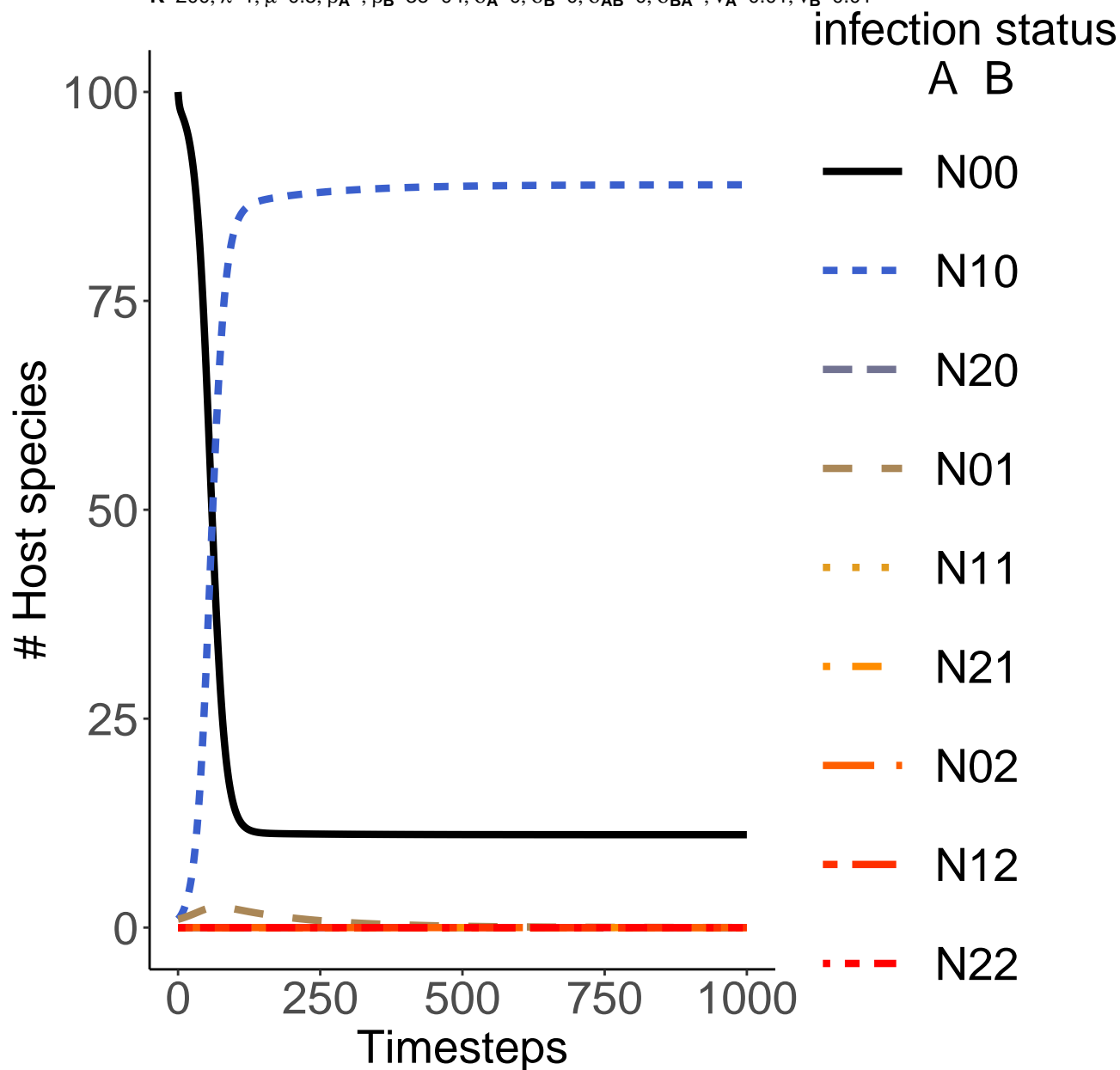
# Number of individuals carrying parasites over time

$K=200$ ,  $\lambda=1$ ,  $\mu=0.5$ ,  $\beta_A=$ ,  $\beta_B=3e-04$ ,  $\sigma_A=0$ ,  $\sigma_B=0$ ,  $\sigma_{AB}=0$ ,  $\sigma_{BA}=$ ,  $v_A=0.01$ ,  $v_B=0.01$



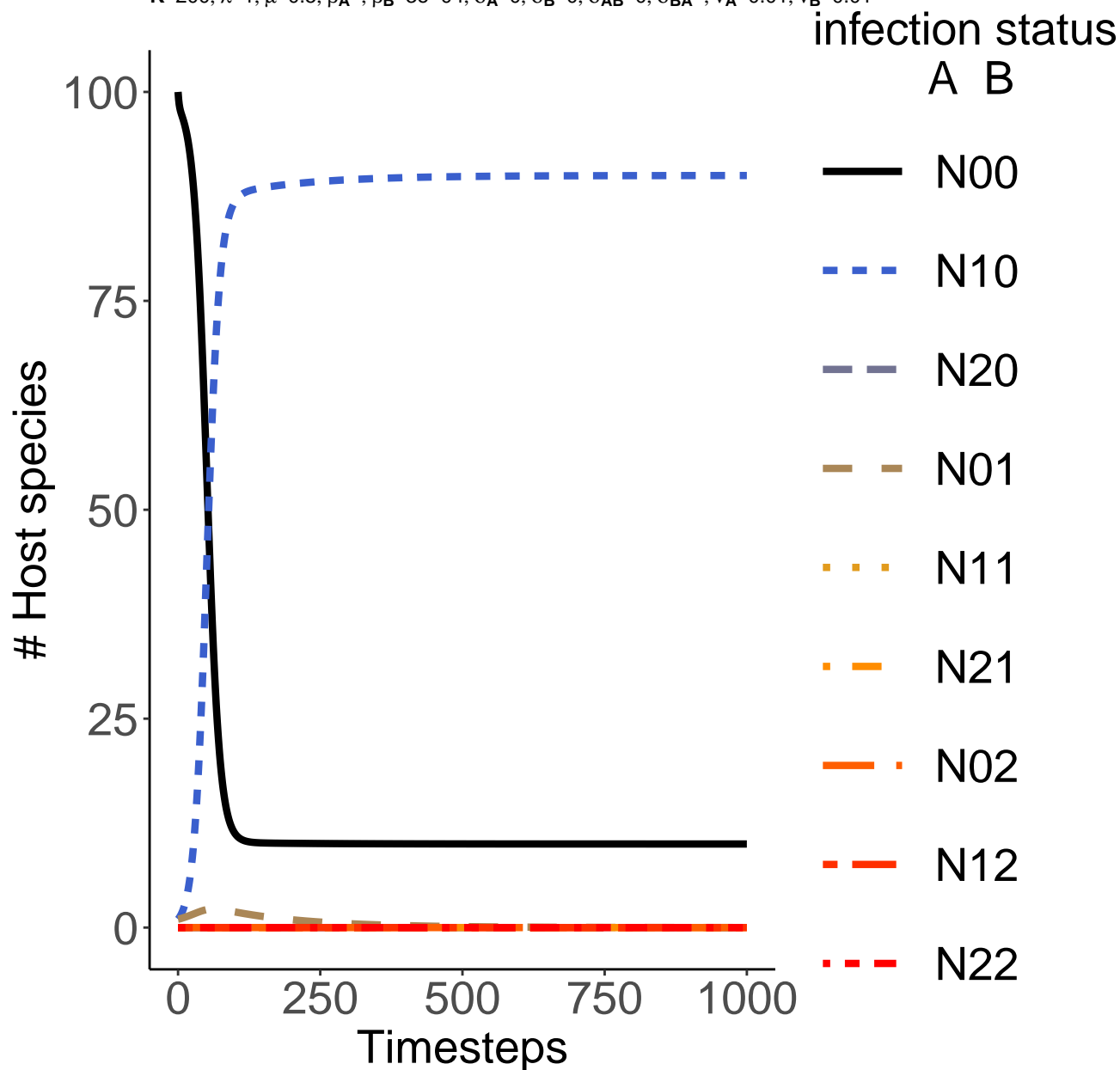
# Number of individuals carrying parasites over time

$K=200$ ,  $\lambda=1$ ,  $\mu=0.5$ ,  $\beta_A=$ ,  $\beta_B=3e-04$ ,  $\sigma_A=0$ ,  $\sigma_B=0$ ,  $\sigma_{AB}=0$ ,  $\sigma_{BA}=$ ,  $\nu_A=0.01$ ,  $\nu_B=0.01$



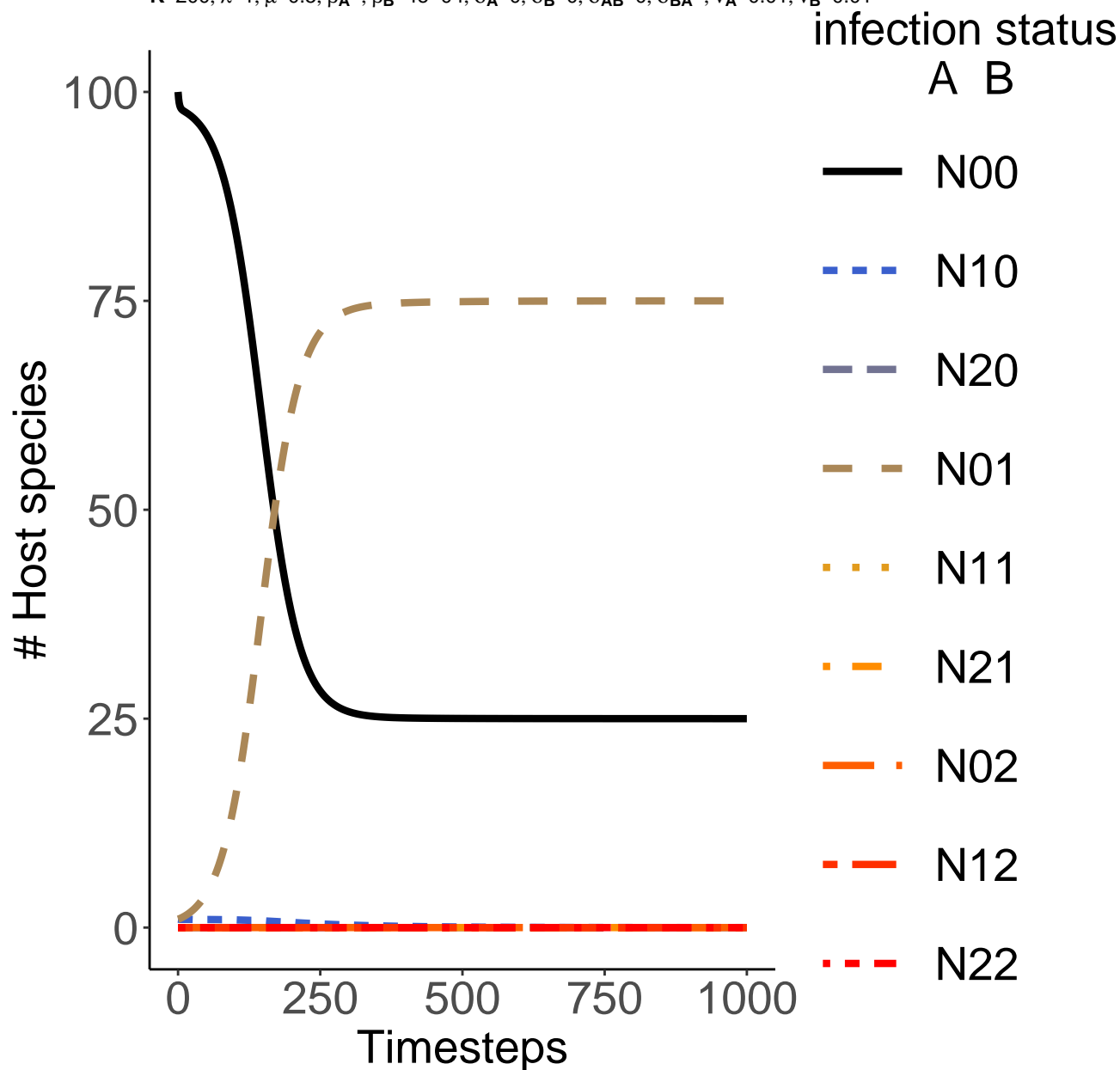
# Number of individuals carrying parasites over time

$K=200$ ,  $\lambda=1$ ,  $\mu=0.5$ ,  $\beta_A=$ ,  $\beta_B=3e-04$ ,  $\sigma_A=0$ ,  $\sigma_B=0$ ,  $\sigma_{AB}=0$ ,  $\sigma_{BA}=$ ,  $v_A=0.01$ ,  $v_B=0.01$



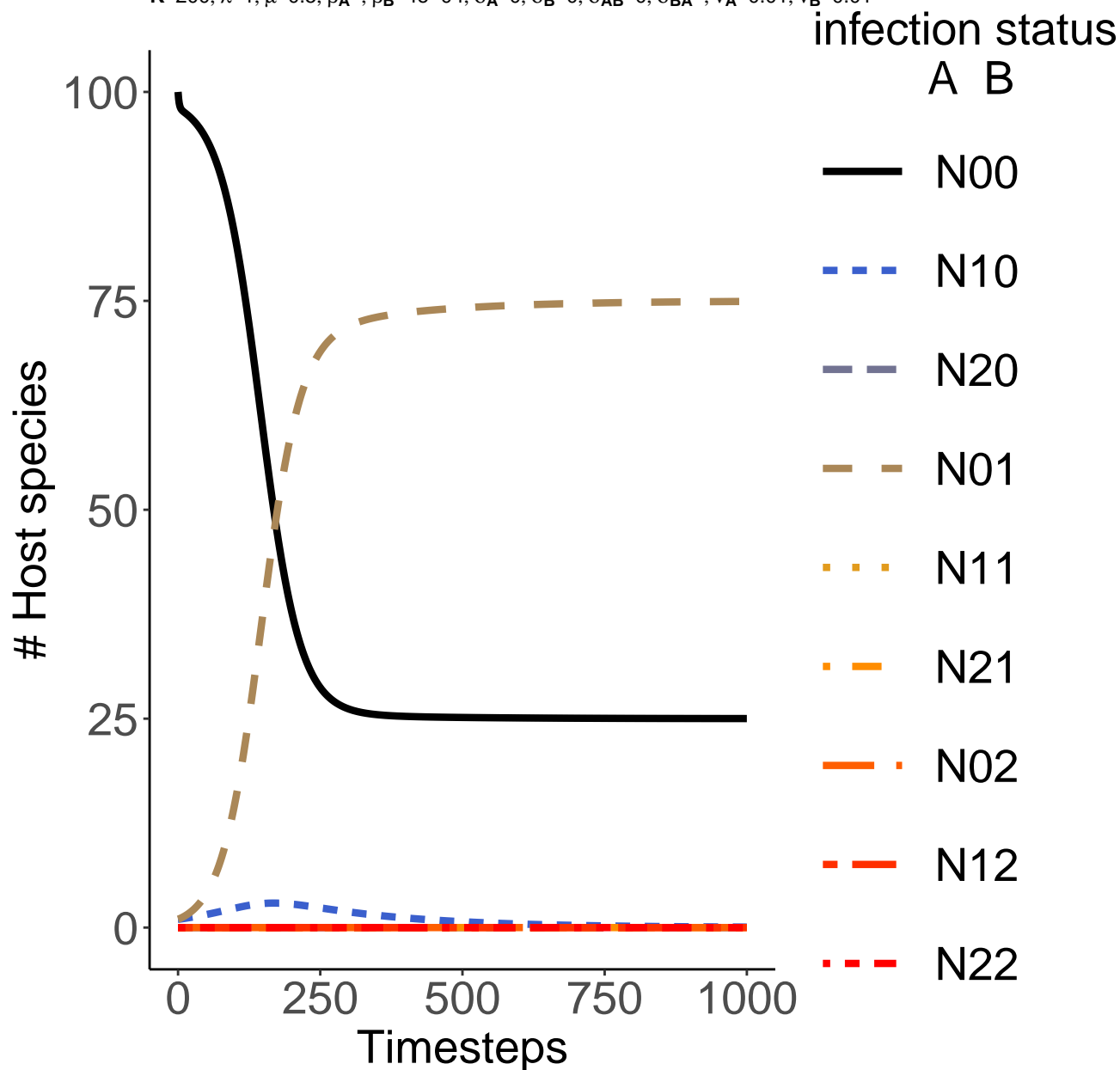
# Number of individuals carrying parasites over time

$K=200$ ,  $\lambda=1$ ,  $\mu=0.5$ ,  $\beta_A=$ ,  $\beta_B=4e-04$ ,  $\sigma_A=0$ ,  $\sigma_B=0$ ,  $\sigma_{AB}=0$ ,  $\sigma_{BA}=$ ,  $\nu_A=0.01$ ,  $\nu_B=0.01$



# Number of individuals carrying parasites over time

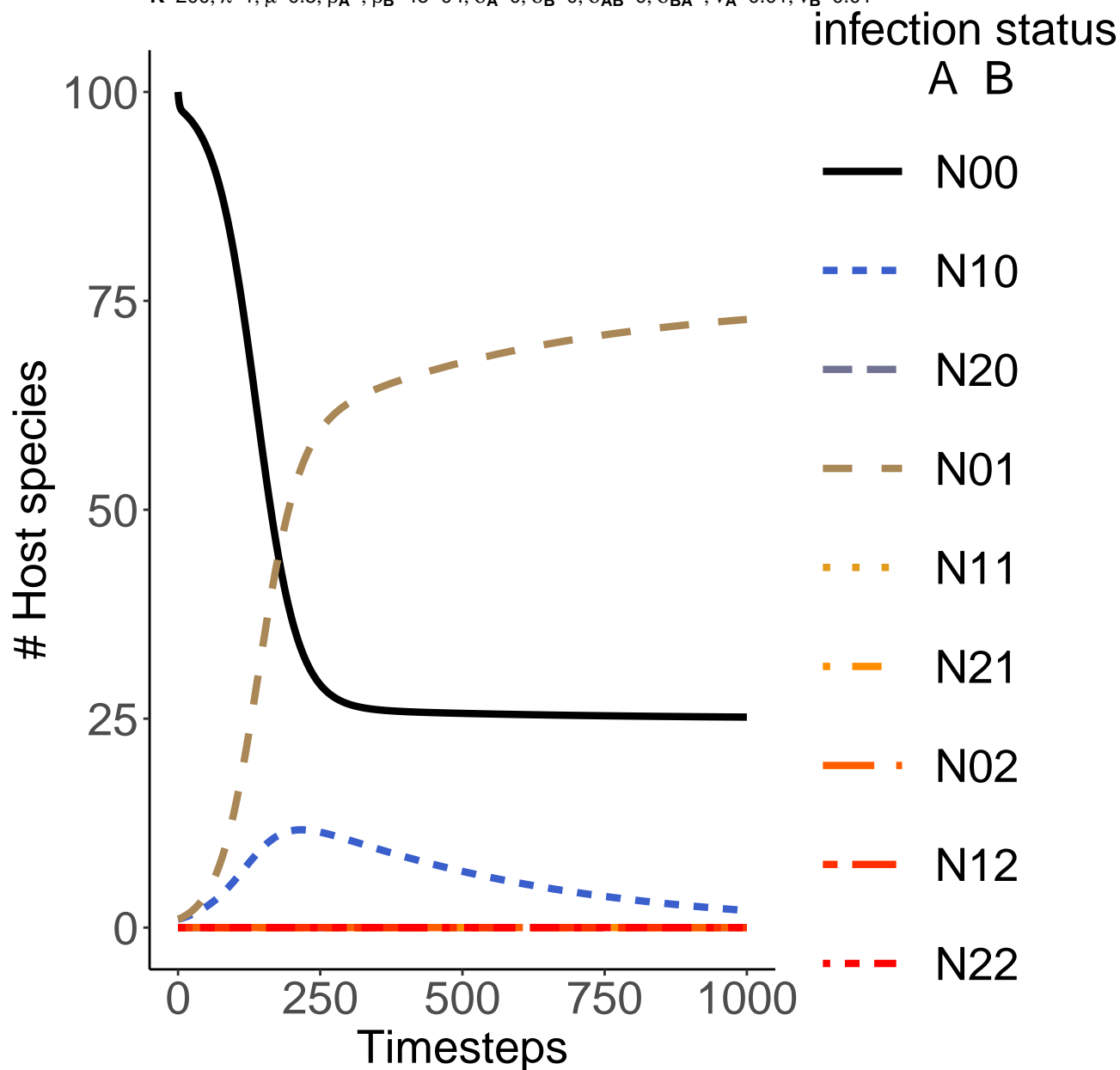
$K=200$ ,  $\lambda=1$ ,  $\mu=0.5$ ,  $\beta_A=$ ,  $\beta_B=4e-04$ ,  $\sigma_A=0$ ,  $\sigma_B=0$ ,  $\sigma_{AB}=0$ ,  $\sigma_{BA}=$ ,  $v_A=0.01$ ,  $v_B=0.01$





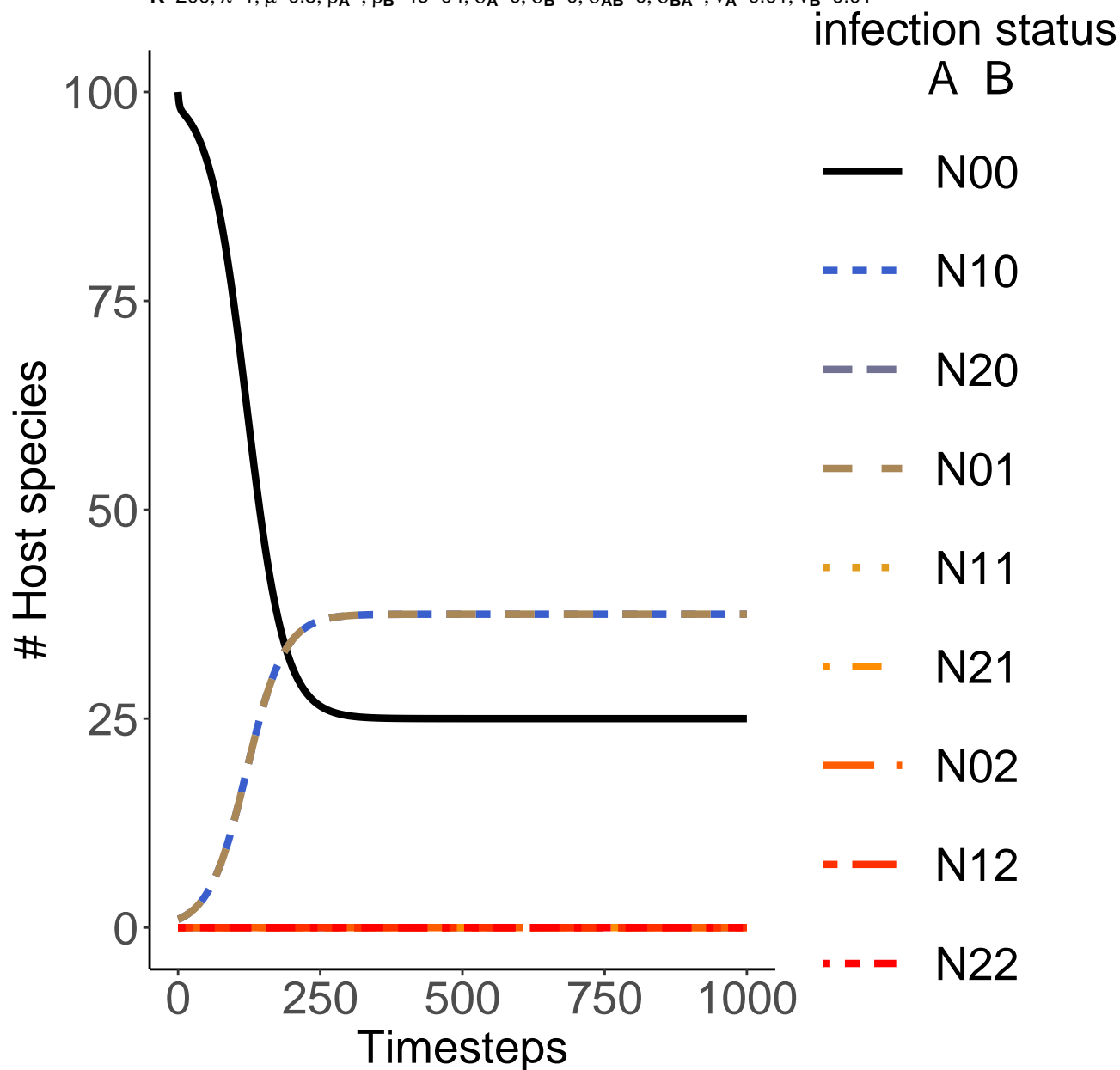
# Number of individuals carrying parasites over time

$K=200$ ,  $\lambda=1$ ,  $\mu=0.5$ ,  $\beta_A=$ ,  $\beta_B=4e-04$ ,  $\sigma_A=0$ ,  $\sigma_B=0$ ,  $\sigma_{AB}=0$ ,  $\sigma_{BA}=$ ,  $\nu_A=0.01$ ,  $\nu_B=0.01$



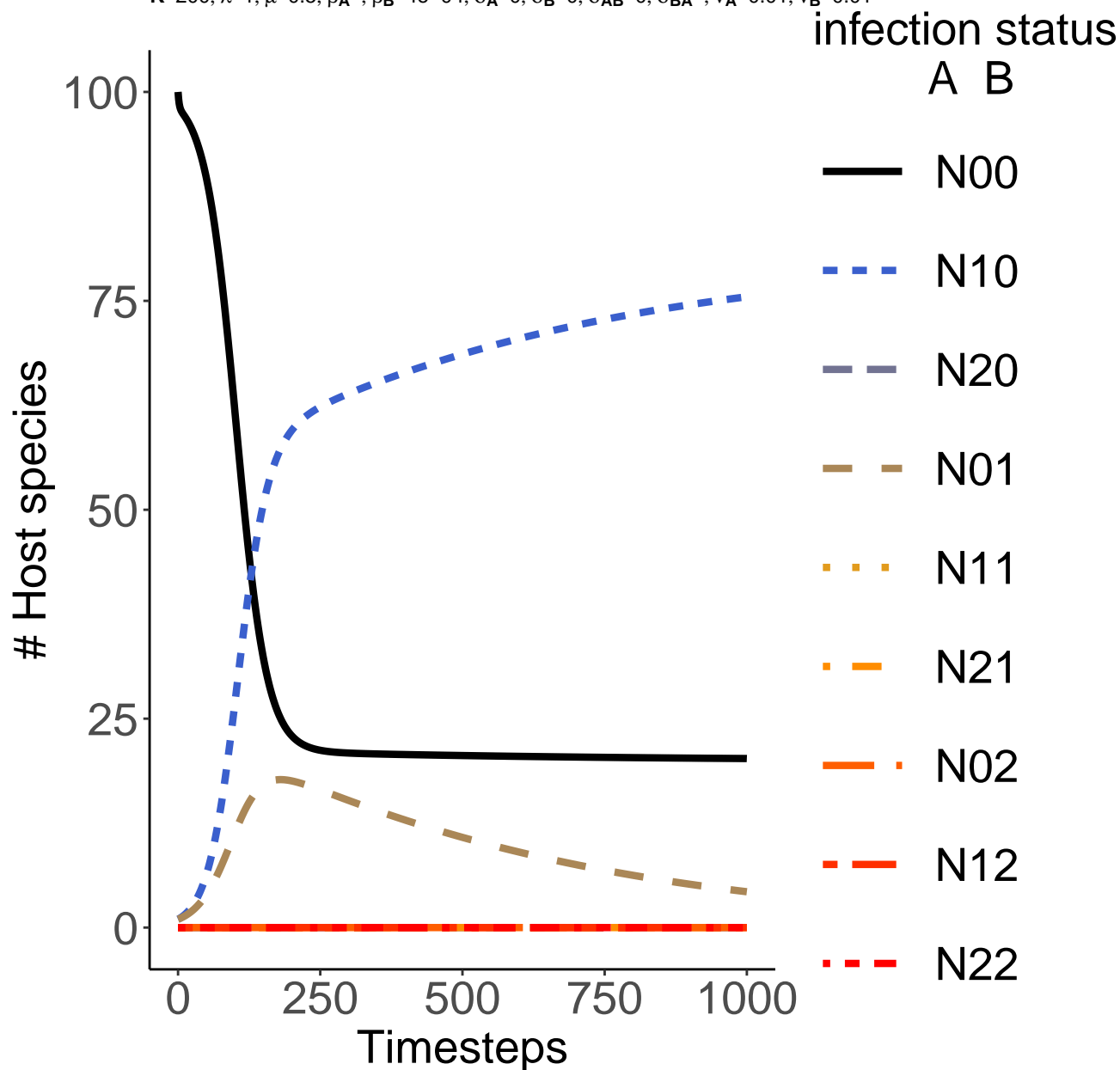
# Number of individuals carrying parasites over time

$K=200$ ,  $\lambda=1$ ,  $\mu=0.5$ ,  $\beta_A=$ ,  $\beta_B=4e-04$ ,  $\sigma_A=0$ ,  $\sigma_B=0$ ,  $\sigma_{AB}=0$ ,  $\sigma_{BA}=$ ,  $\nu_A=0.01$ ,  $\nu_B=0.01$



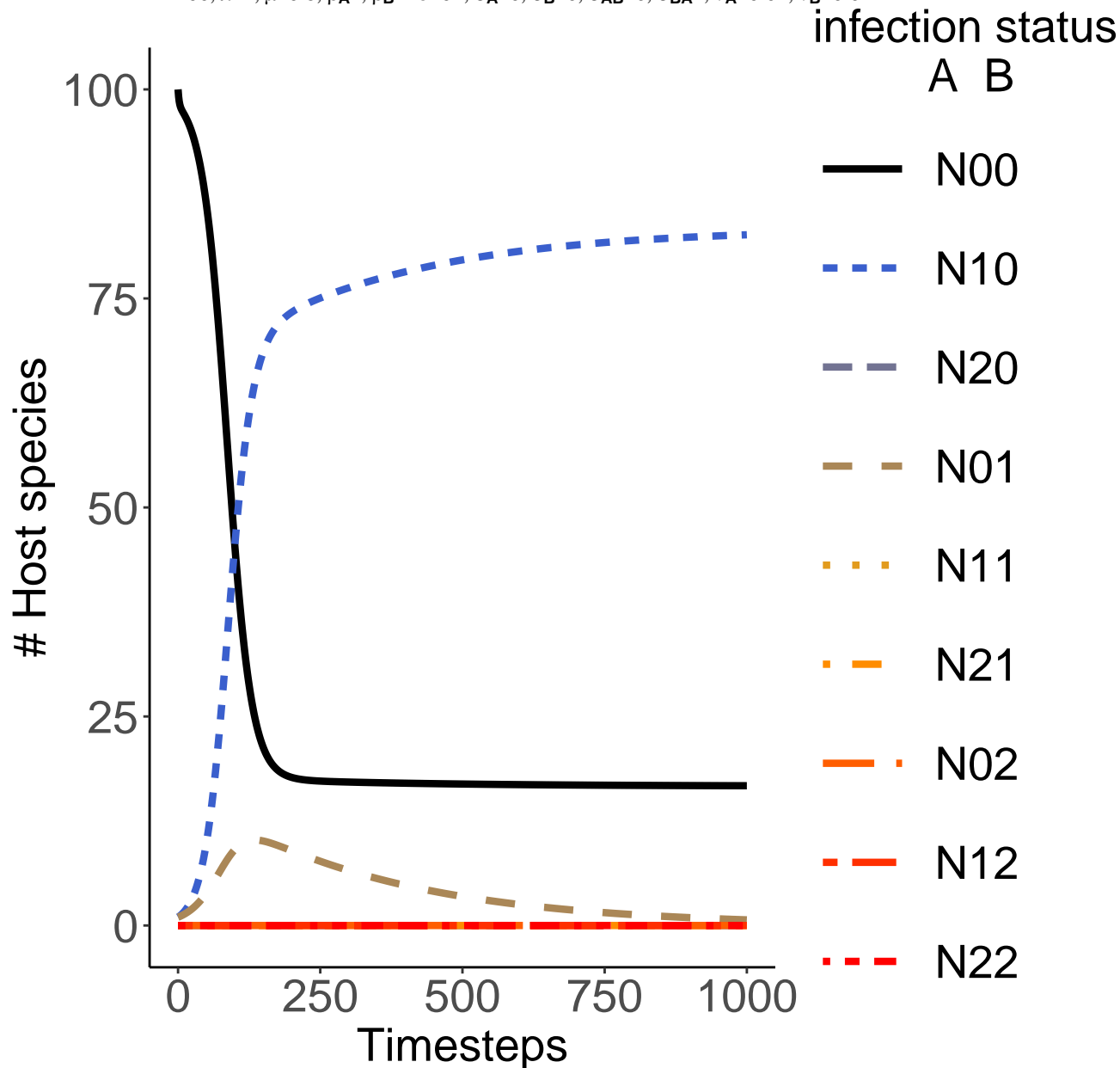
# Number of individuals carrying parasites over time

$K=200$ ,  $\lambda=1$ ,  $\mu=0.5$ ,  $\beta_A=$ ,  $\beta_B=4e-04$ ,  $\sigma_A=0$ ,  $\sigma_B=0$ ,  $\sigma_{AB}=0$ ,  $\sigma_{BA}=$ ,  $\nu_A=0.01$ ,  $\nu_B=0.01$



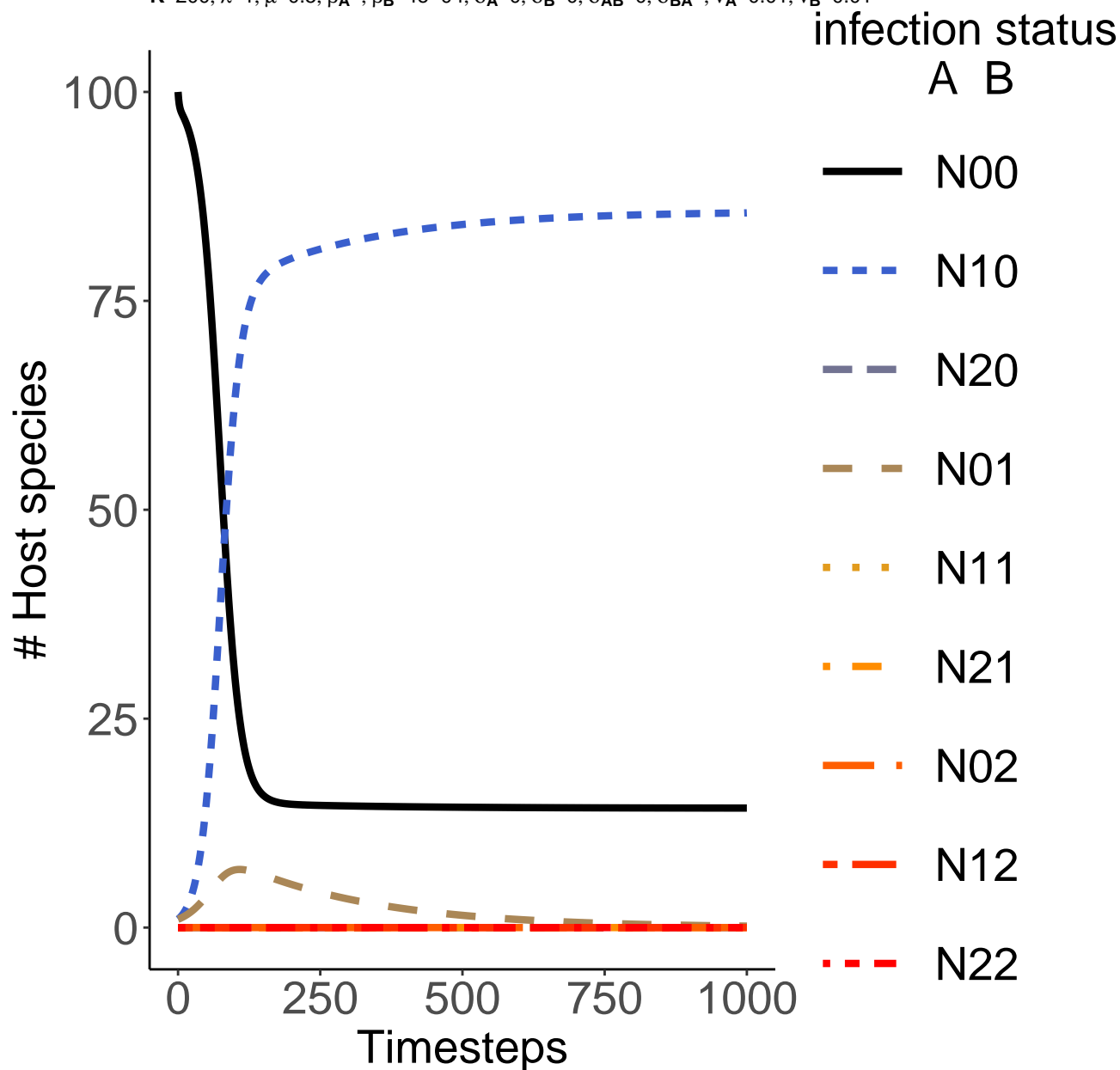
# Number of individuals carrying parasites over time

$K=200$ ,  $\lambda=1$ ,  $\mu=0.5$ ,  $\beta_A=$ ,  $\beta_B=4e-04$ ,  $\sigma_A=0$ ,  $\sigma_B=0$ ,  $\sigma_{AB}=0$ ,  $\sigma_{BA}=$ ,  $\nu_A=0.01$ ,  $\nu_B=0.01$



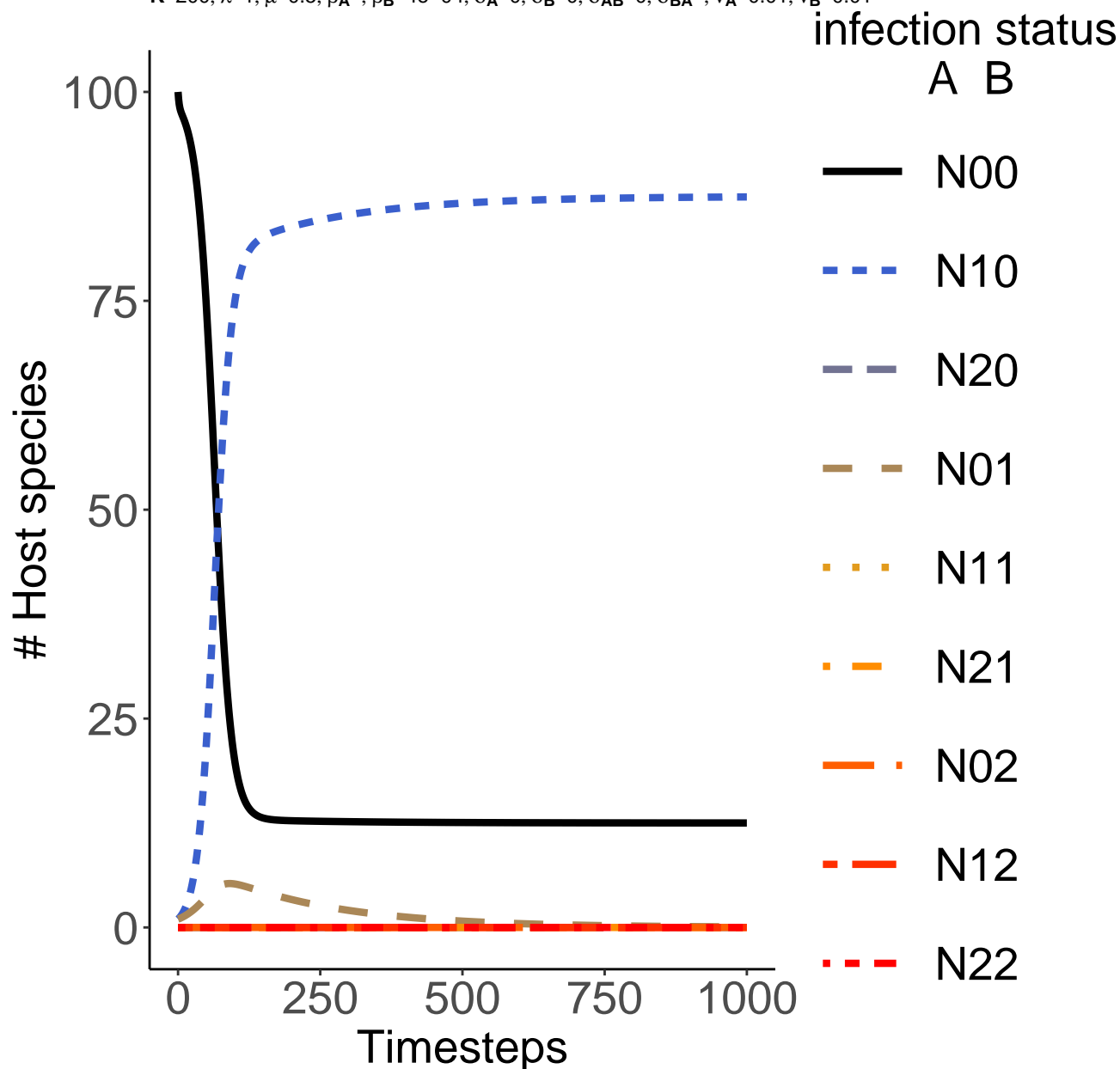
# Number of individuals carrying parasites over time

$K=200$ ,  $\lambda=1$ ,  $\mu=0.5$ ,  $\beta_A=$ ,  $\beta_B=4e-04$ ,  $\sigma_A=0$ ,  $\sigma_B=0$ ,  $\sigma_{AB}=0$ ,  $\sigma_{BA}=$ ,  $\nu_A=0.01$ ,  $\nu_B=0.01$



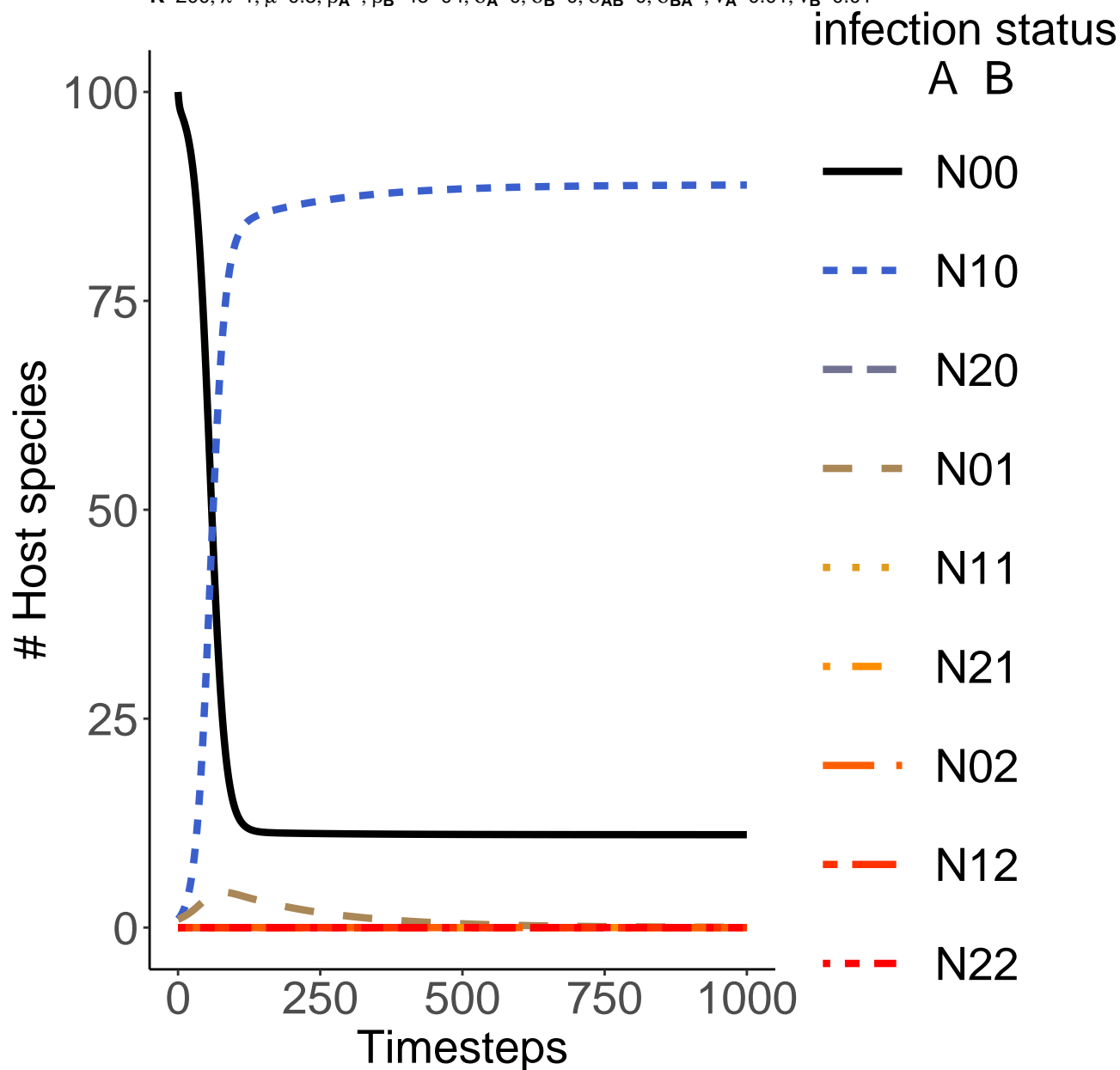
# Number of individuals carrying parasites over time

$K=200$ ,  $\lambda=1$ ,  $\mu=0.5$ ,  $\beta_A=$ ,  $\beta_B=4e-04$ ,  $\sigma_A=0$ ,  $\sigma_B=0$ ,  $\sigma_{AB}=0$ ,  $\sigma_{BA}=$ ,  $\nu_A=0.01$ ,  $\nu_B=0.01$



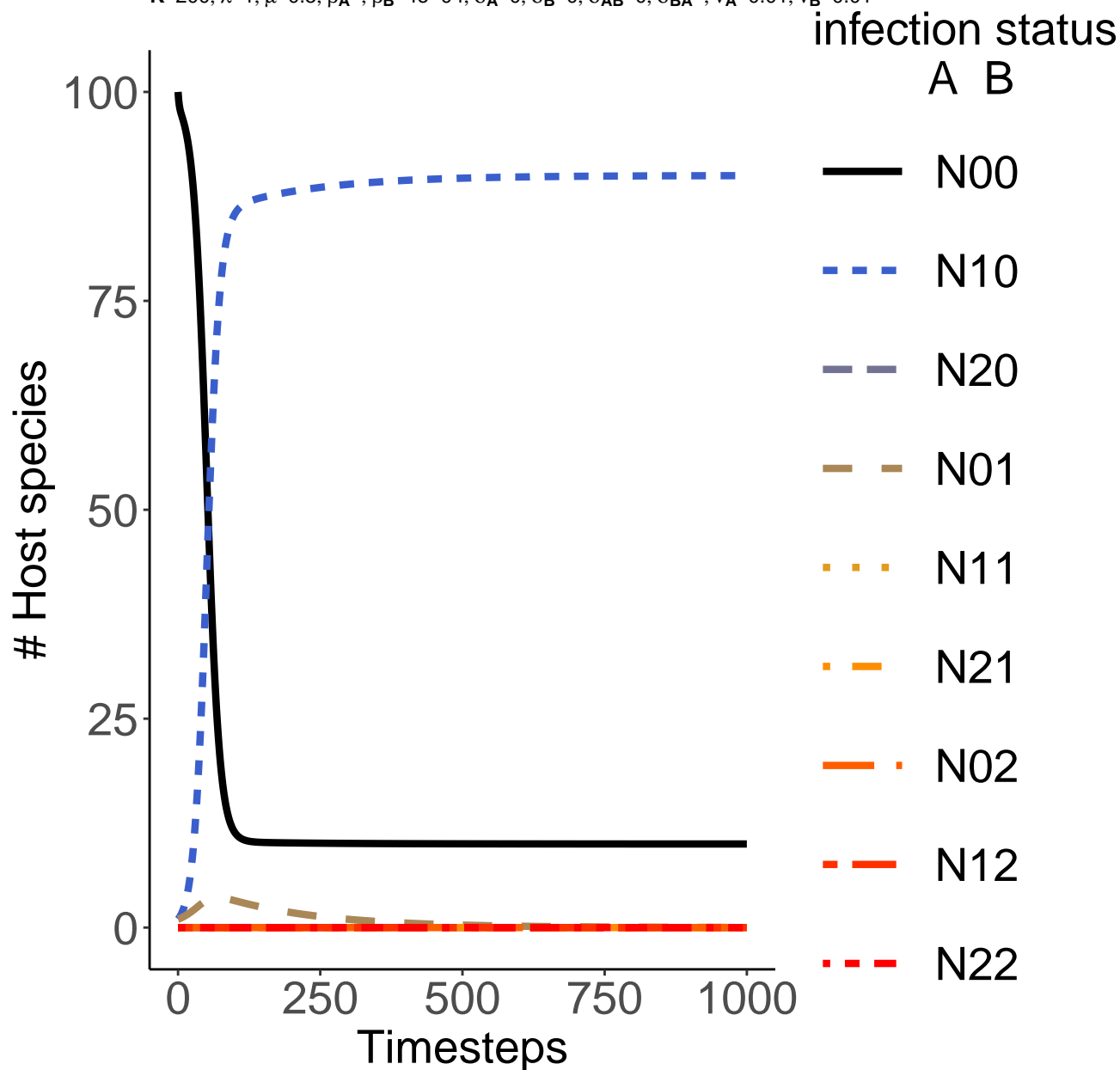
# Number of individuals carrying parasites over time

$K=200$ ,  $\lambda=1$ ,  $\mu=0.5$ ,  $\beta_A=$ ,  $\beta_B=4e-04$ ,  $\sigma_A=0$ ,  $\sigma_B=0$ ,  $\sigma_{AB}=0$ ,  $\sigma_{BA}=$ ,  $v_A=0.01$ ,  $v_B=0.01$



# Number of individuals carrying parasites over time

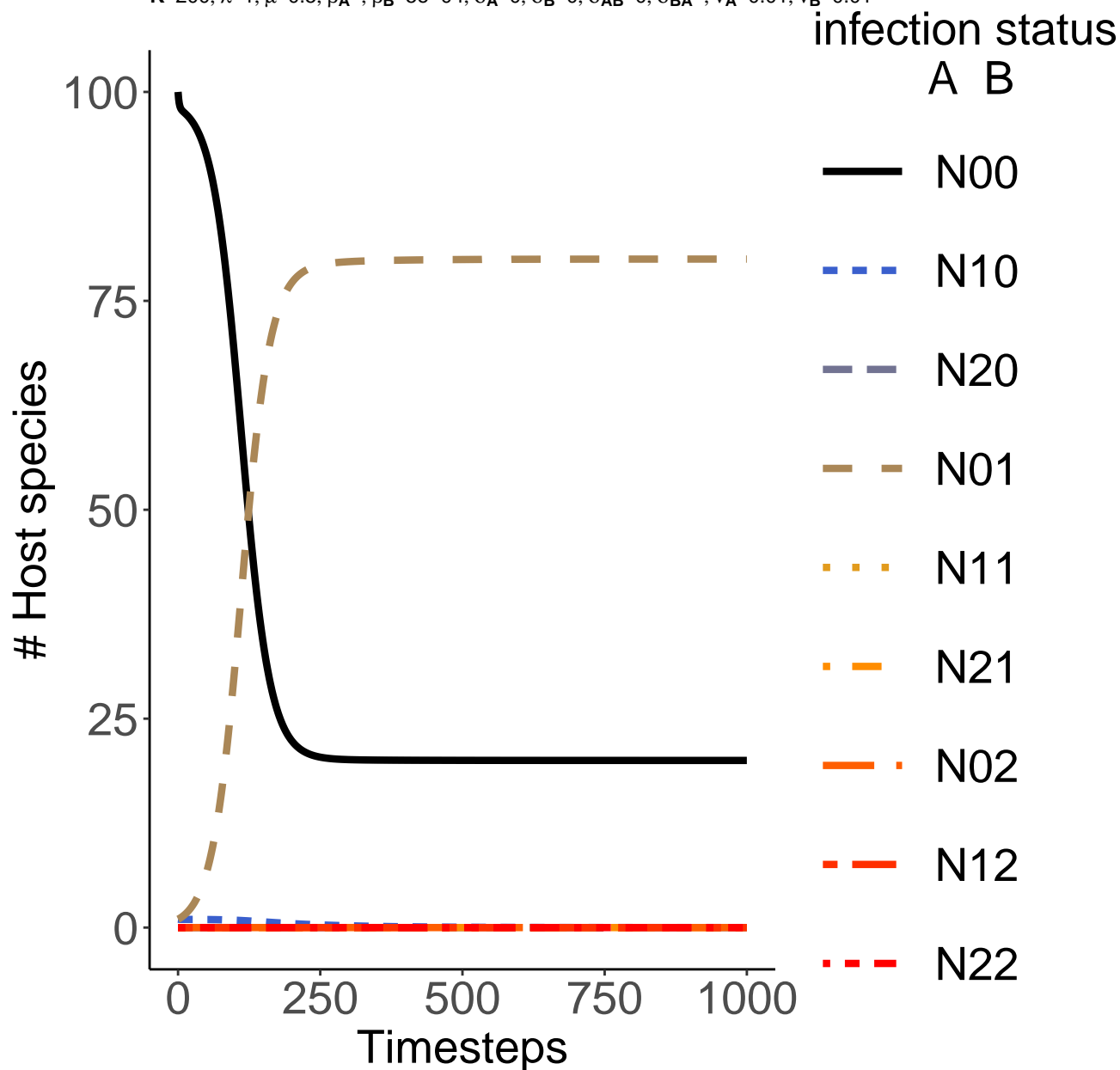
$K=200$ ,  $\lambda=1$ ,  $\mu=0.5$ ,  $\beta_A=$ ,  $\beta_B=4e-04$ ,  $\sigma_A=0$ ,  $\sigma_B=0$ ,  $\sigma_{AB}=0$ ,  $\sigma_{BA}=$ ,  $\nu_A=0.01$ ,  $\nu_B=0.01$





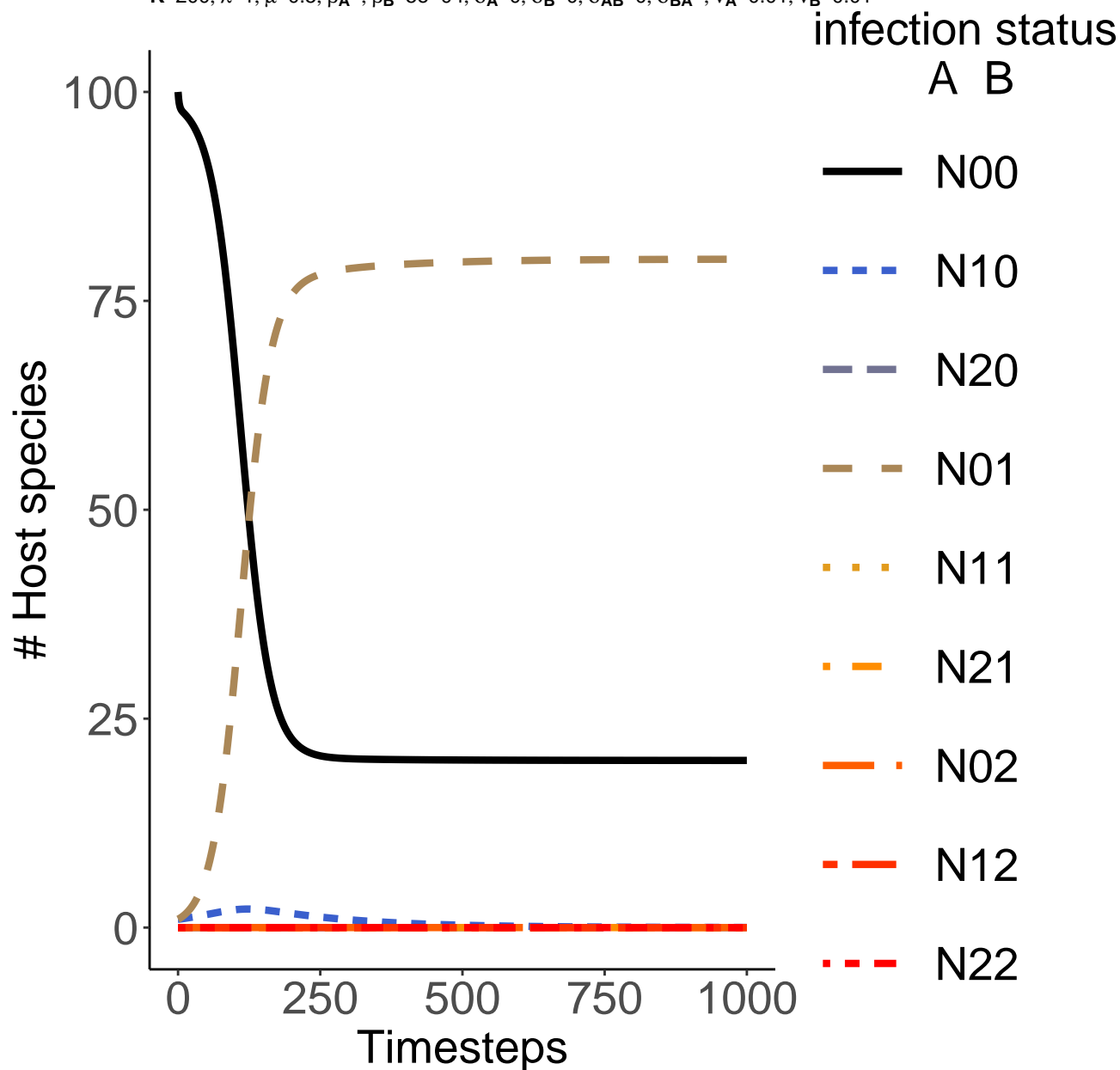
# Number of individuals carrying parasites over time

$K=200$ ,  $\lambda=1$ ,  $\mu=0.5$ ,  $\beta_A=$ ,  $\beta_B=5e-04$ ,  $\sigma_A=0$ ,  $\sigma_B=0$ ,  $\sigma_{AB}=0$ ,  $\sigma_{BA}=$ ,  $\nu_A=0.01$ ,  $\nu_B=0.01$



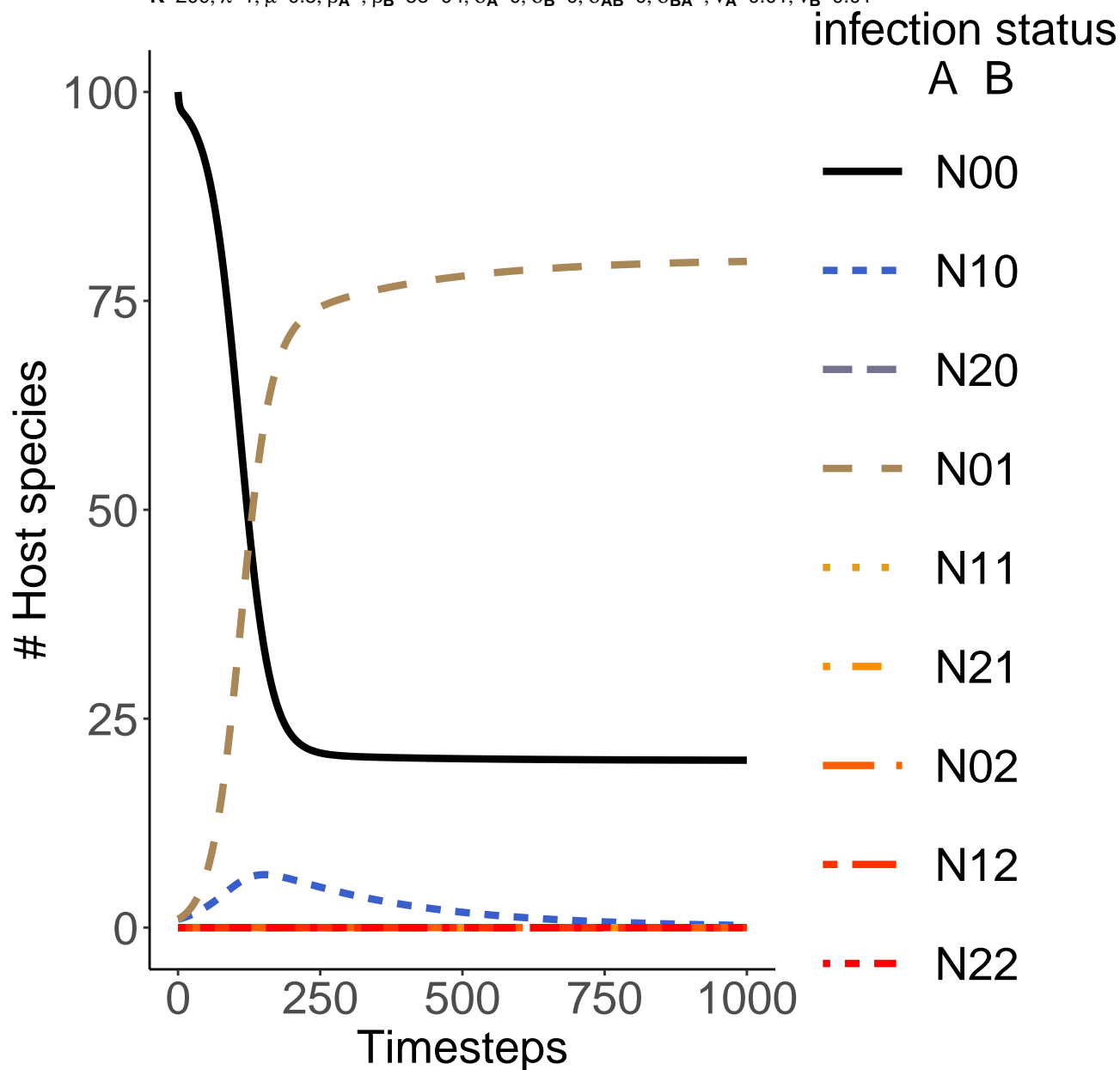
# Number of individuals carrying parasites over time

$K=200$ ,  $\lambda=1$ ,  $\mu=0.5$ ,  $\beta_A=$ ,  $\beta_B=5e-04$ ,  $\sigma_A=0$ ,  $\sigma_B=0$ ,  $\sigma_{AB}=0$ ,  $\sigma_{BA}=$ ,  $v_A=0.01$ ,  $v_B=0.01$



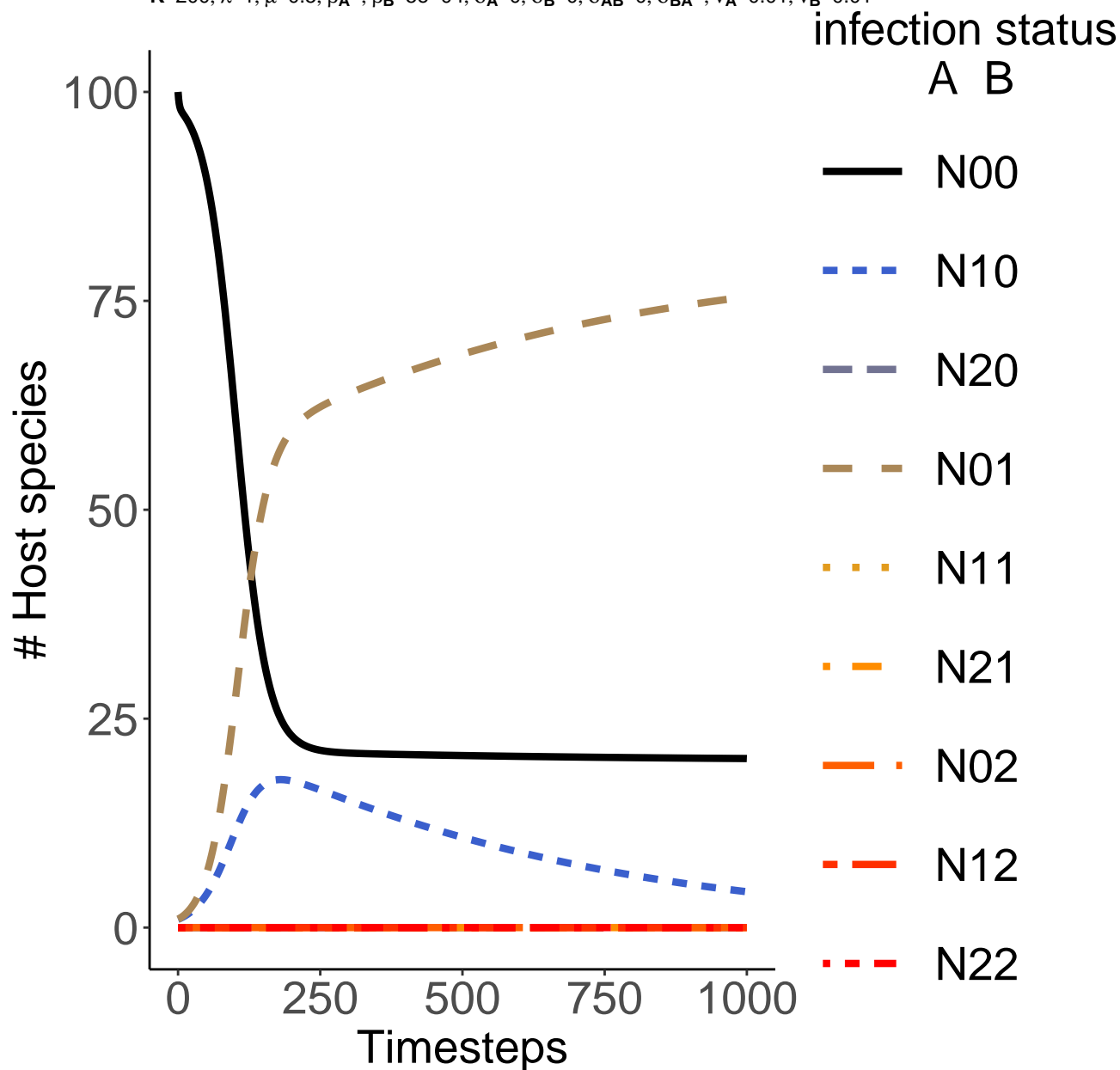
# Number of individuals carrying parasites over time

$K=200$ ,  $\lambda=1$ ,  $\mu=0.5$ ,  $\beta_A=$ ,  $\beta_B=5e-04$ ,  $\sigma_A=0$ ,  $\sigma_B=0$ ,  $\sigma_{AB}=0$ ,  $\sigma_{BA}=$ ,  $\nu_A=0.01$ ,  $\nu_B=0.01$



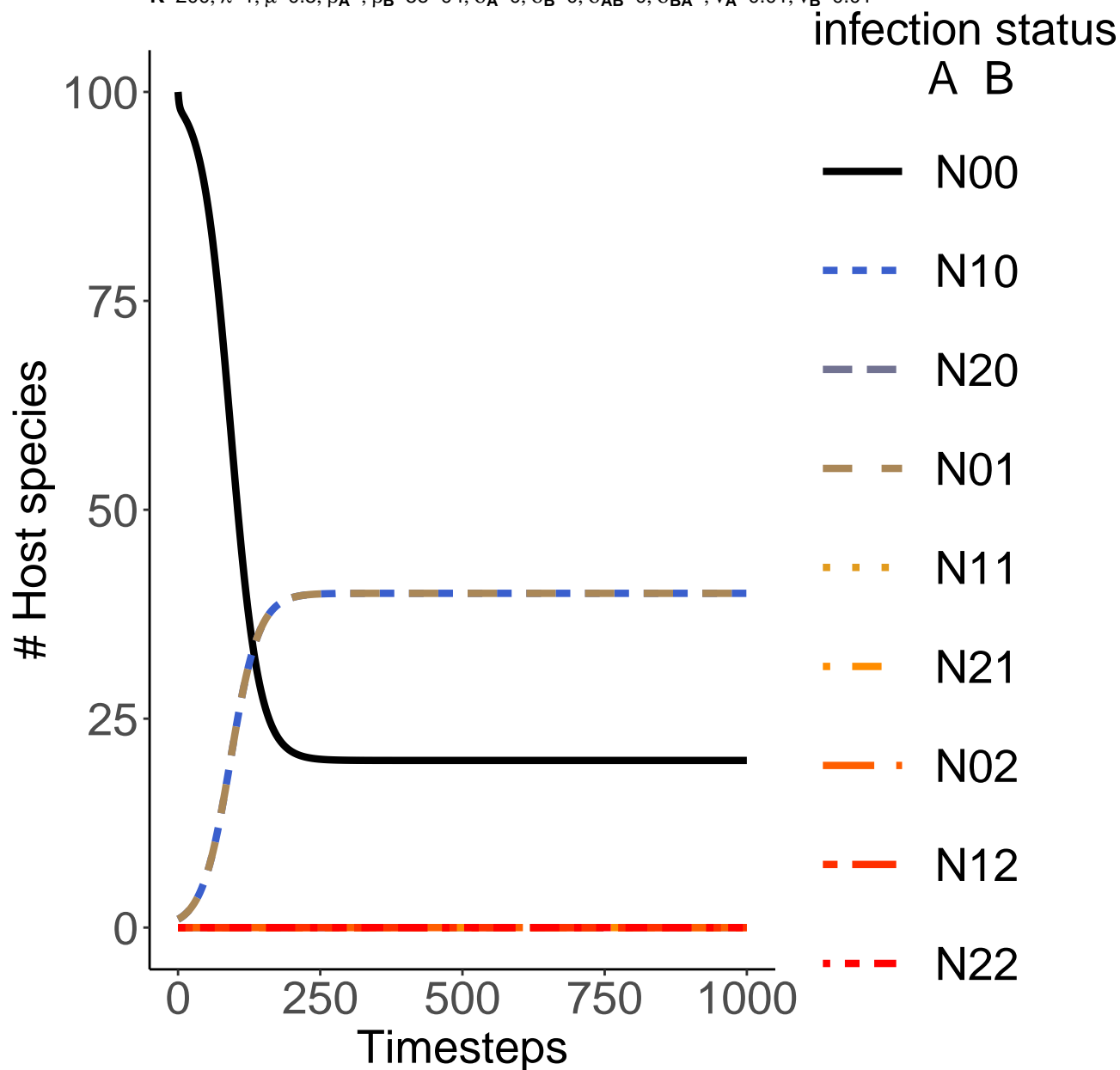
# Number of individuals carrying parasites over time

$K=200$ ,  $\lambda=1$ ,  $\mu=0.5$ ,  $\beta_A=$ ,  $\beta_B=5e-04$ ,  $\sigma_A=0$ ,  $\sigma_B=0$ ,  $\sigma_{AB}=0$ ,  $\sigma_{BA}=$ ,  $\nu_A=0.01$ ,  $\nu_B=0.01$



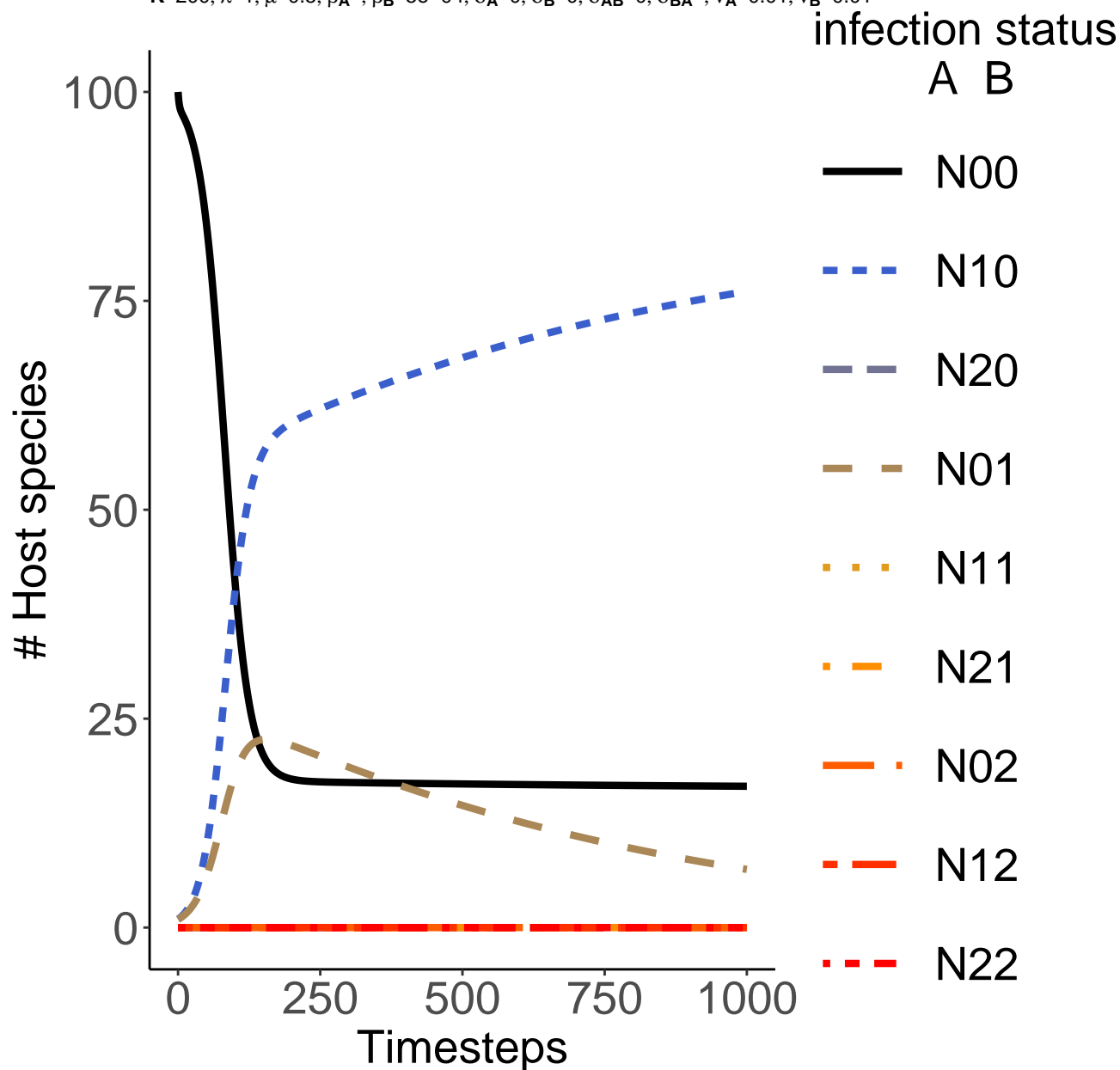
# Number of individuals carrying parasites over time

$K=200$ ,  $\lambda=1$ ,  $\mu=0.5$ ,  $\beta_A=$ ,  $\beta_B=5e-04$ ,  $\sigma_A=0$ ,  $\sigma_B=0$ ,  $\sigma_{AB}=0$ ,  $\sigma_{BA}=$ ,  $\nu_A=0.01$ ,  $\nu_B=0.01$



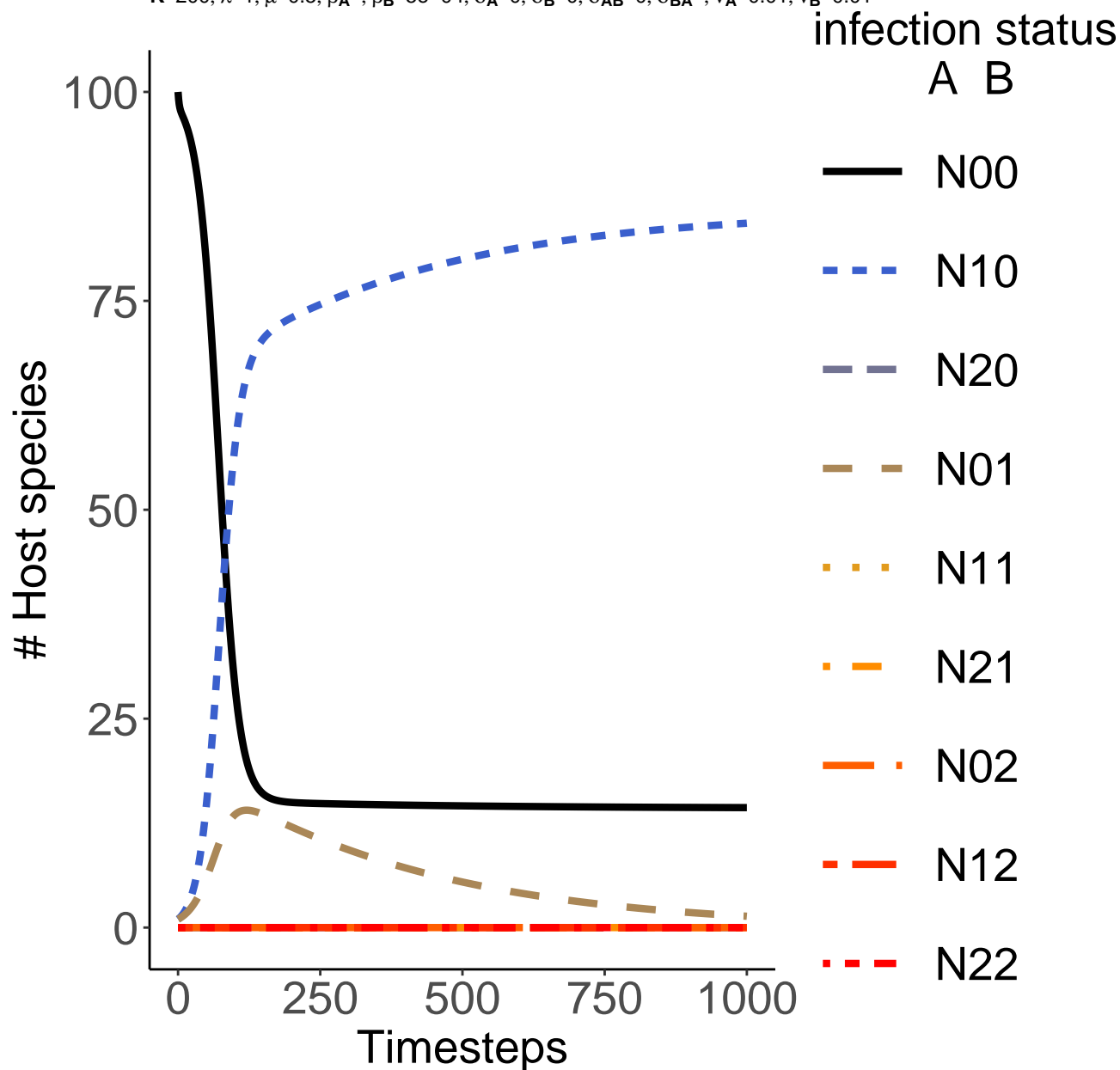
# Number of individuals carrying parasites over time

$K=200$ ,  $\lambda=1$ ,  $\mu=0.5$ ,  $\beta_A=$ ,  $\beta_B=5e-04$ ,  $\sigma_A=0$ ,  $\sigma_B=0$ ,  $\sigma_{AB}=0$ ,  $\sigma_{BA}=$ ,  $\nu_A=0.01$ ,  $\nu_B=0.01$



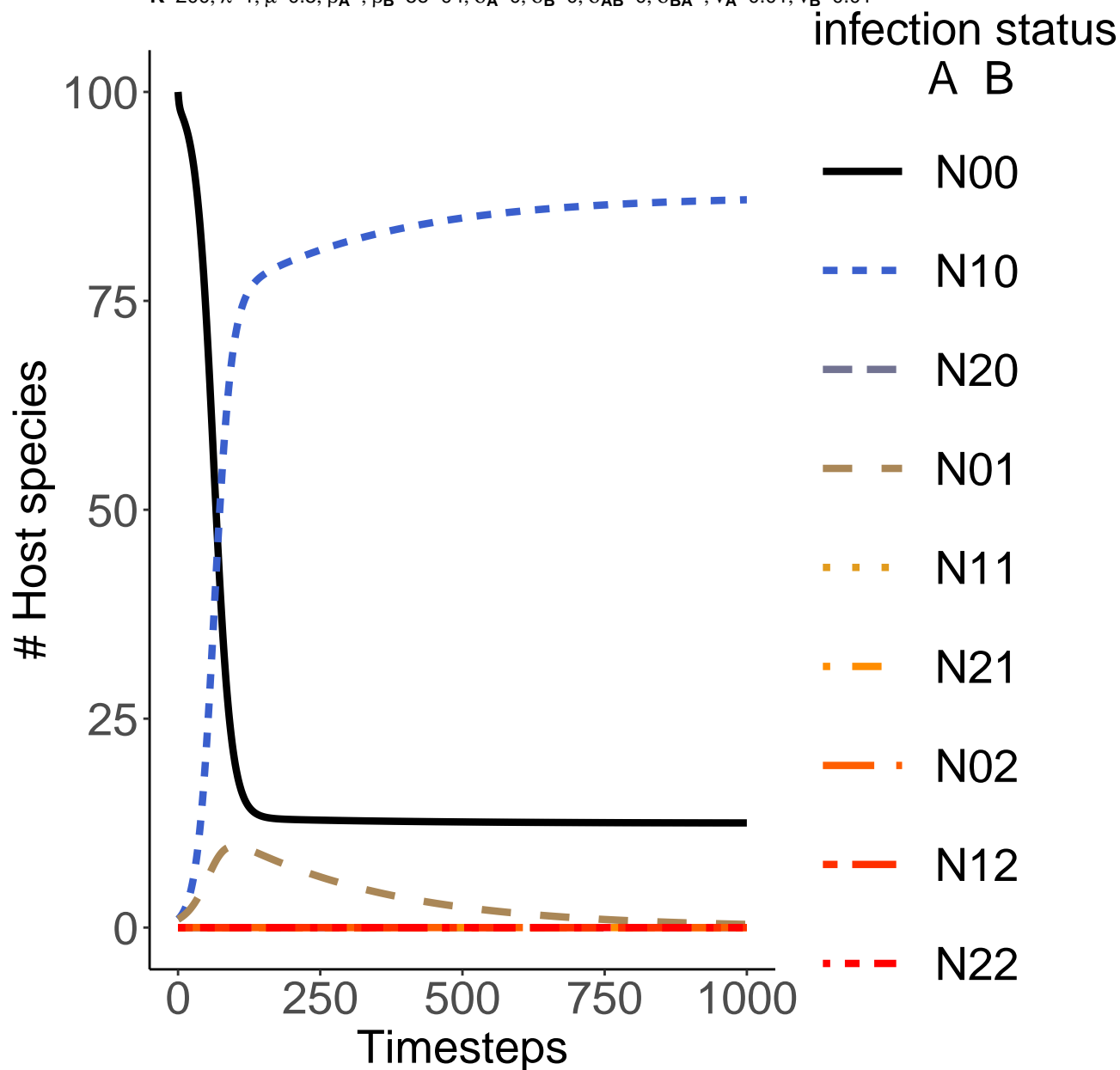
# Number of individuals carrying parasites over time

$K=200$ ,  $\lambda=1$ ,  $\mu=0.5$ ,  $\beta_A=$ ,  $\beta_B=5e-04$ ,  $\sigma_A=0$ ,  $\sigma_B=0$ ,  $\sigma_{AB}=0$ ,  $\sigma_{BA}=$ ,  $\nu_A=0.01$ ,  $\nu_B=0.01$



# Number of individuals carrying parasites over time

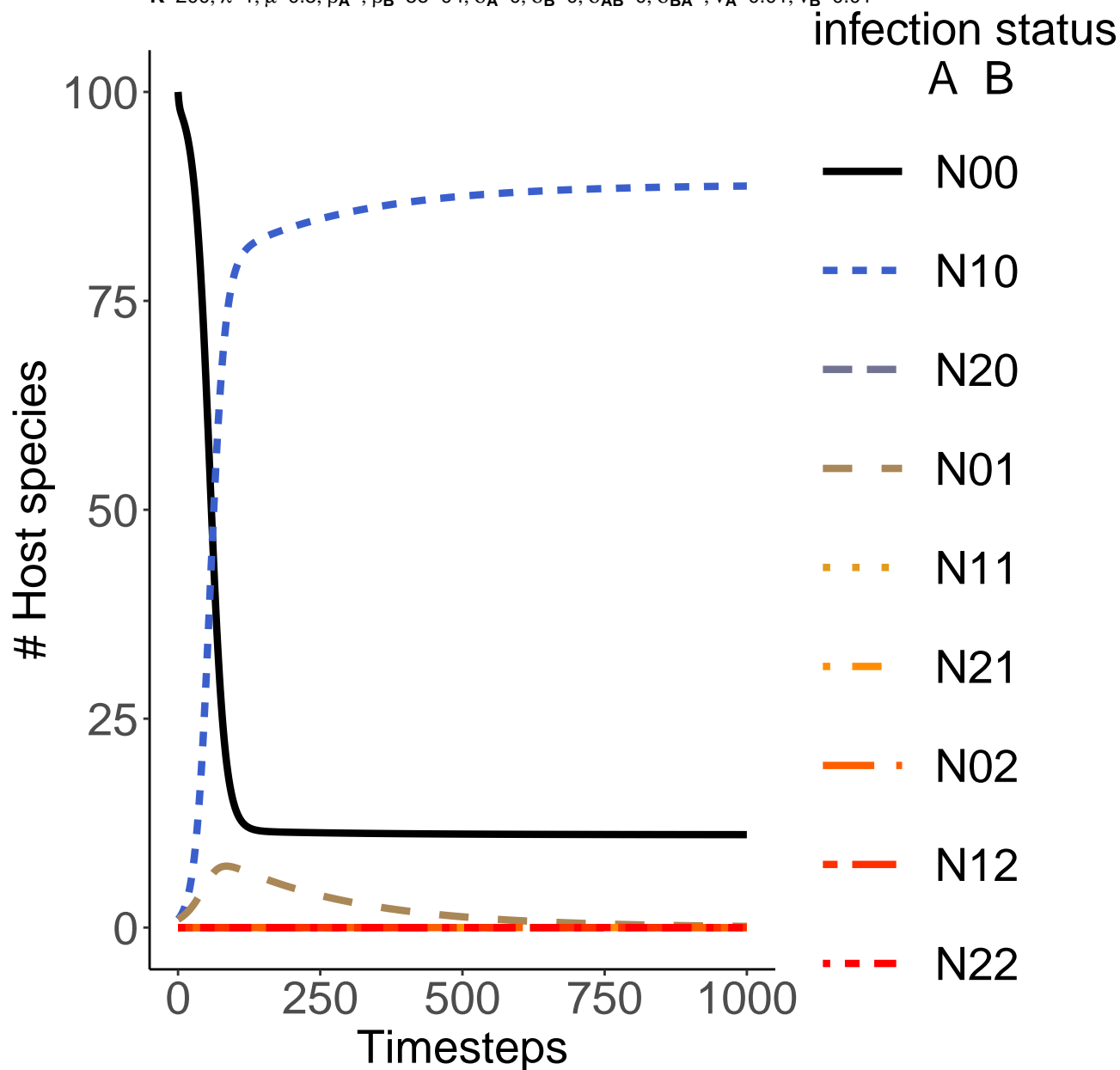
$K=200$ ,  $\lambda=1$ ,  $\mu=0.5$ ,  $\beta_A=$ ,  $\beta_B=5e-04$ ,  $\sigma_A=0$ ,  $\sigma_B=0$ ,  $\sigma_{AB}=0$ ,  $\sigma_{BA}=$ ,  $\nu_A=0.01$ ,  $\nu_B=0.01$





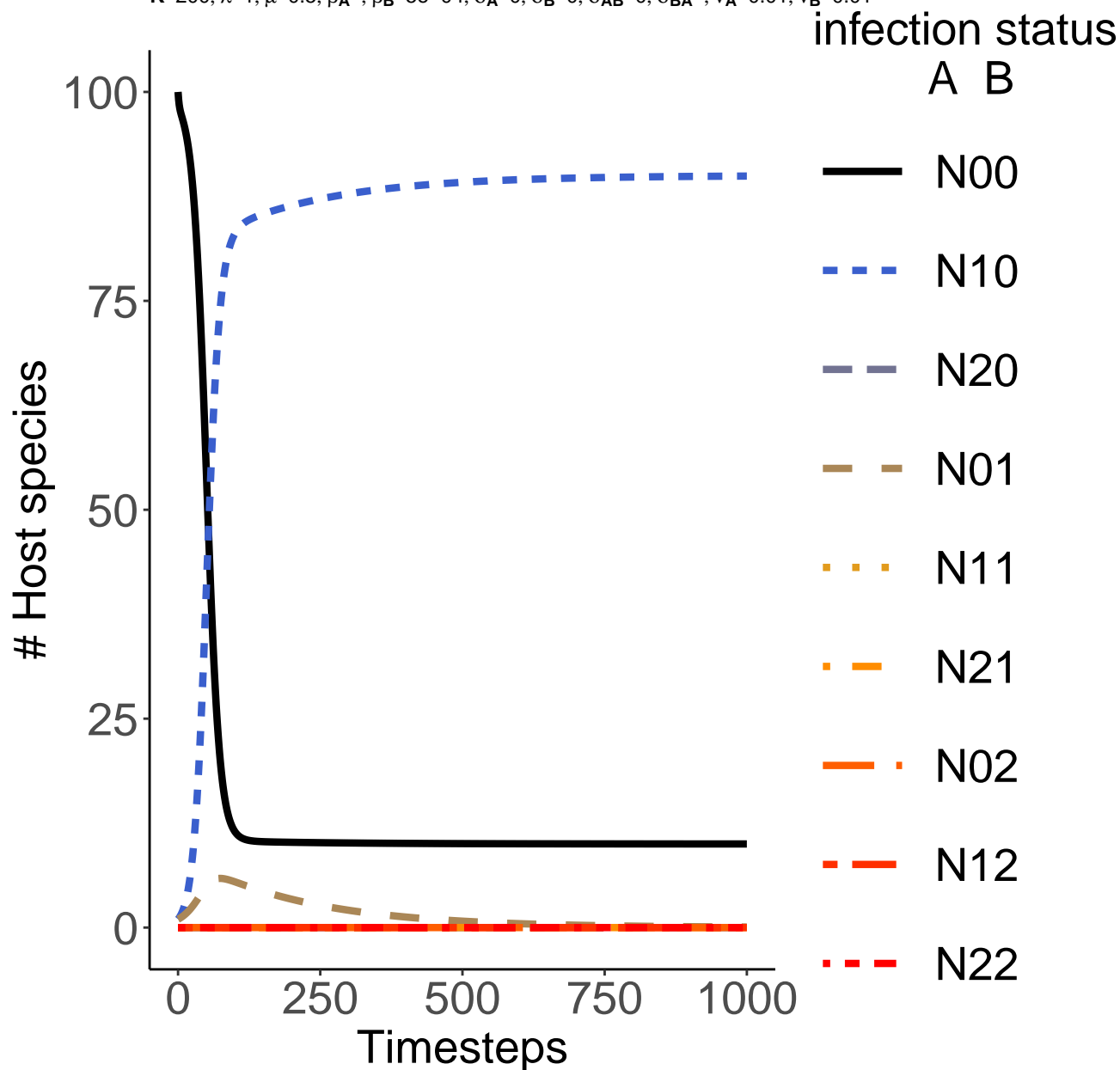
# Number of individuals carrying parasites over time

$K=200$ ,  $\lambda=1$ ,  $\mu=0.5$ ,  $\beta_A=$ ,  $\beta_B=5e-04$ ,  $\sigma_A=0$ ,  $\sigma_B=0$ ,  $\sigma_{AB}=0$ ,  $\sigma_{BA}=$ ,  $\nu_A=0.01$ ,  $\nu_B=0.01$



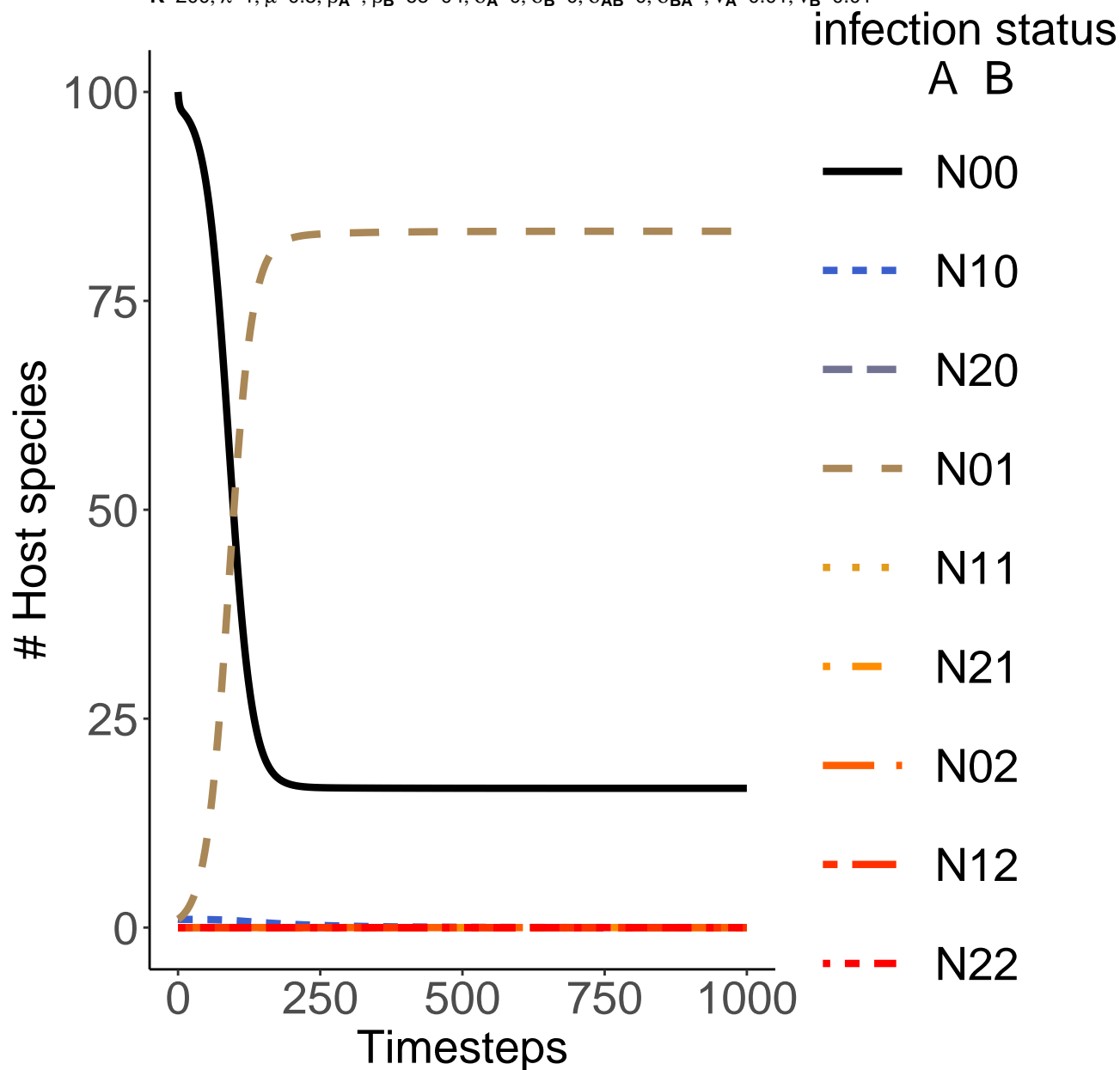
# Number of individuals carrying parasites over time

$K=200$ ,  $\lambda=1$ ,  $\mu=0.5$ ,  $\beta_A=$ ,  $\beta_B=5e-04$ ,  $\sigma_A=0$ ,  $\sigma_B=0$ ,  $\sigma_{AB}=0$ ,  $\sigma_{BA}=$ ,  $\nu_A=0.01$ ,  $\nu_B=0.01$



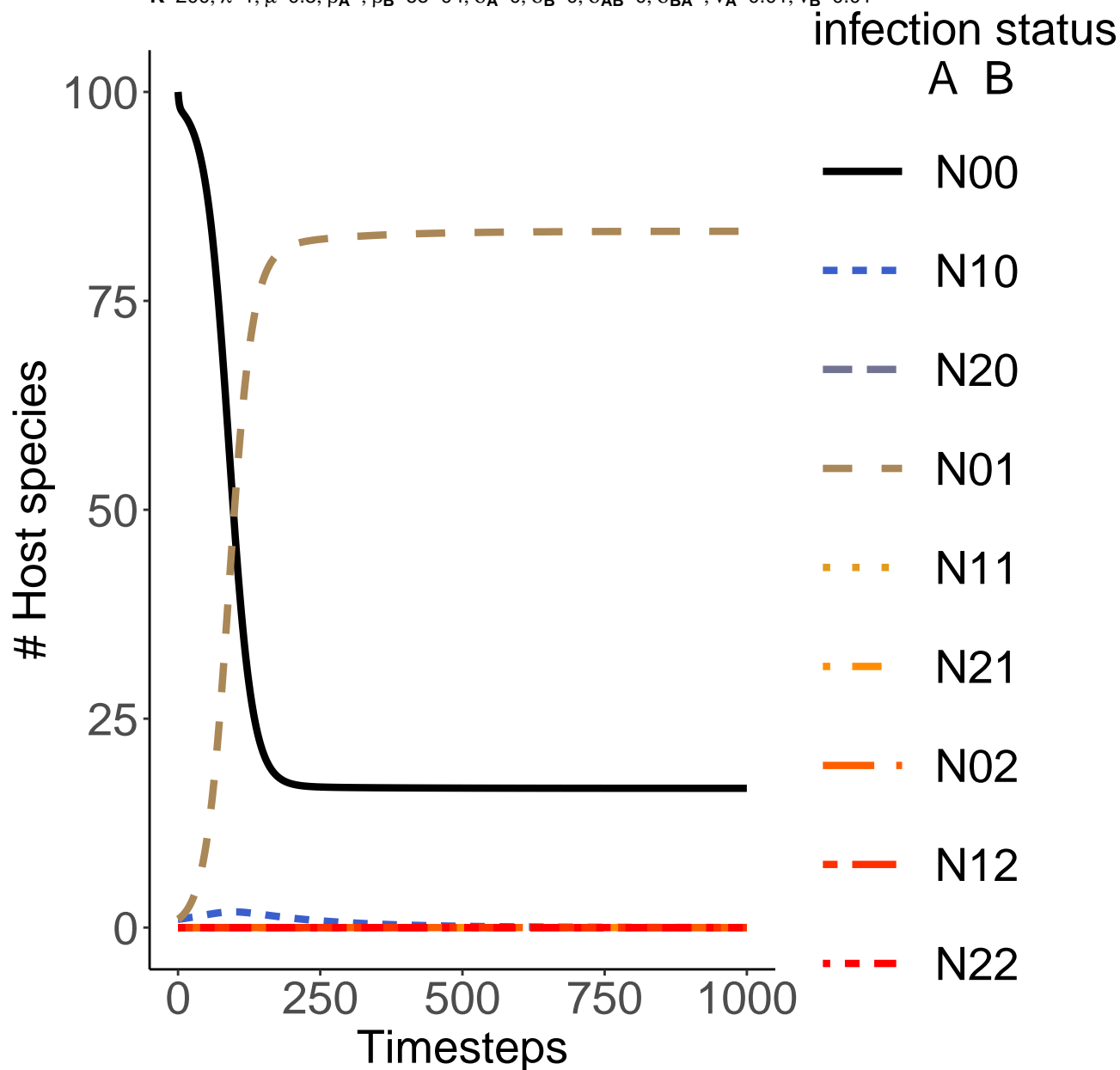
# Number of individuals carrying parasites over time

$K=200$ ,  $\lambda=1$ ,  $\mu=0.5$ ,  $\beta_A=$ ,  $\beta_B=6e-04$ ,  $\sigma_A=0$ ,  $\sigma_B=0$ ,  $\sigma_{AB}=0$ ,  $\sigma_{BA}=$ ,  $\nu_A=0.01$ ,  $\nu_B=0.01$



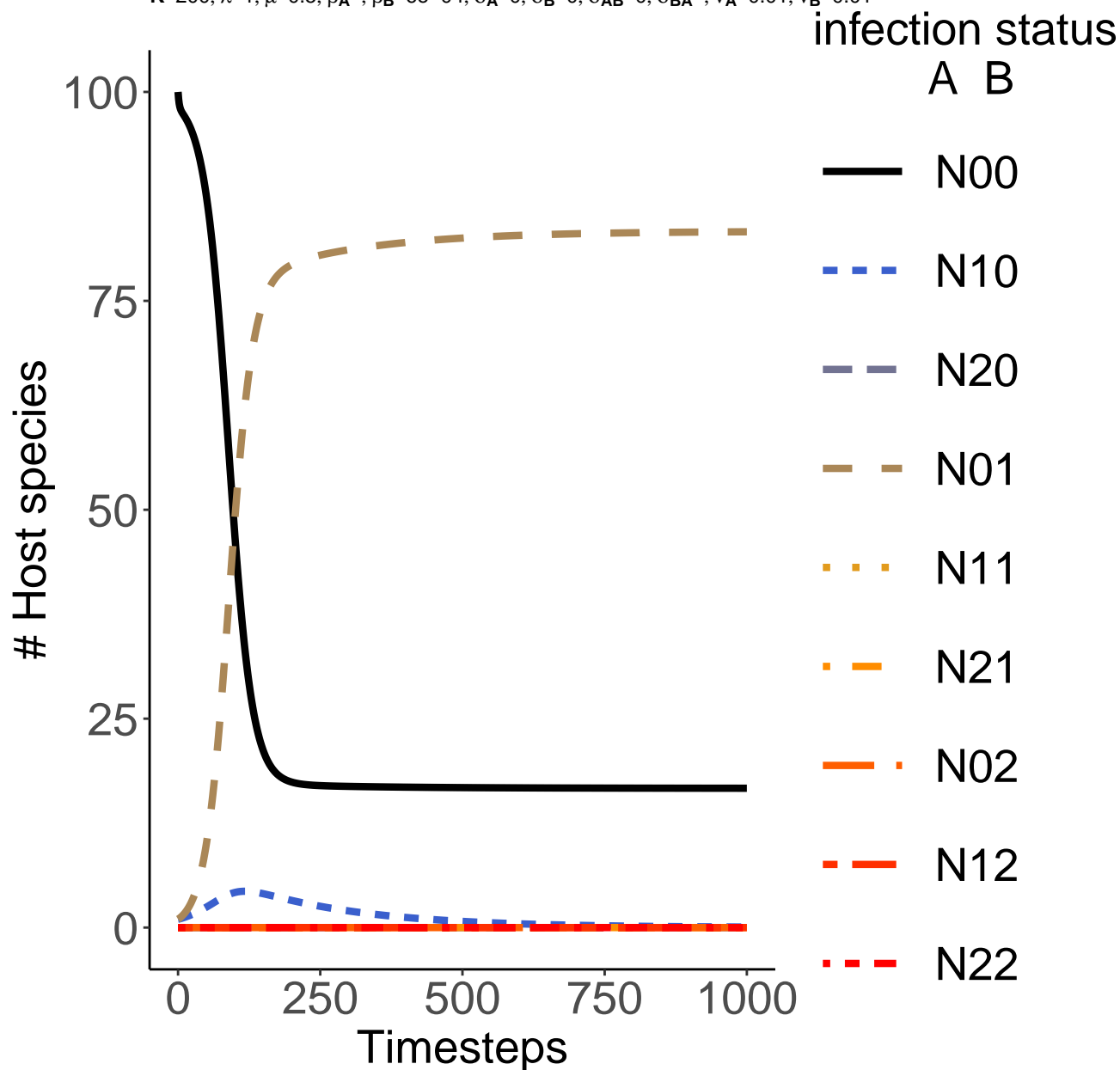
# Number of individuals carrying parasites over time

$K=200$ ,  $\lambda=1$ ,  $\mu=0.5$ ,  $\beta_A=$ ,  $\beta_B=6e-04$ ,  $\sigma_A=0$ ,  $\sigma_B=0$ ,  $\sigma_{AB}=0$ ,  $\sigma_{BA}=$ ,  $\nu_A=0.01$ ,  $\nu_B=0.01$



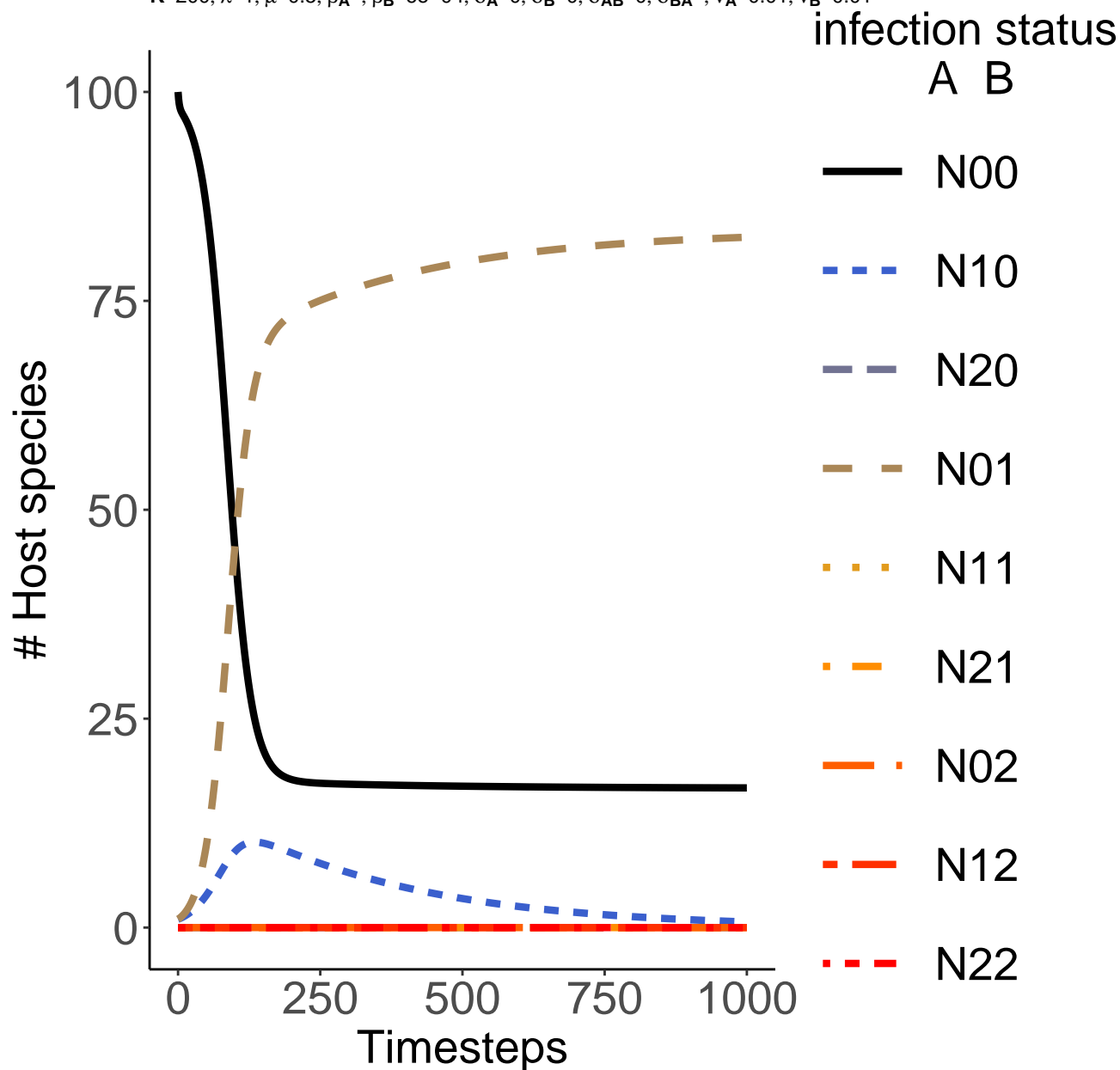
# Number of individuals carrying parasites over time

$K=200$ ,  $\lambda=1$ ,  $\mu=0.5$ ,  $\beta_A=$ ,  $\beta_B=6e-04$ ,  $\sigma_A=0$ ,  $\sigma_B=0$ ,  $\sigma_{AB}=0$ ,  $\sigma_{BA}=$ ,  $\nu_A=0.01$ ,  $\nu_B=0.01$



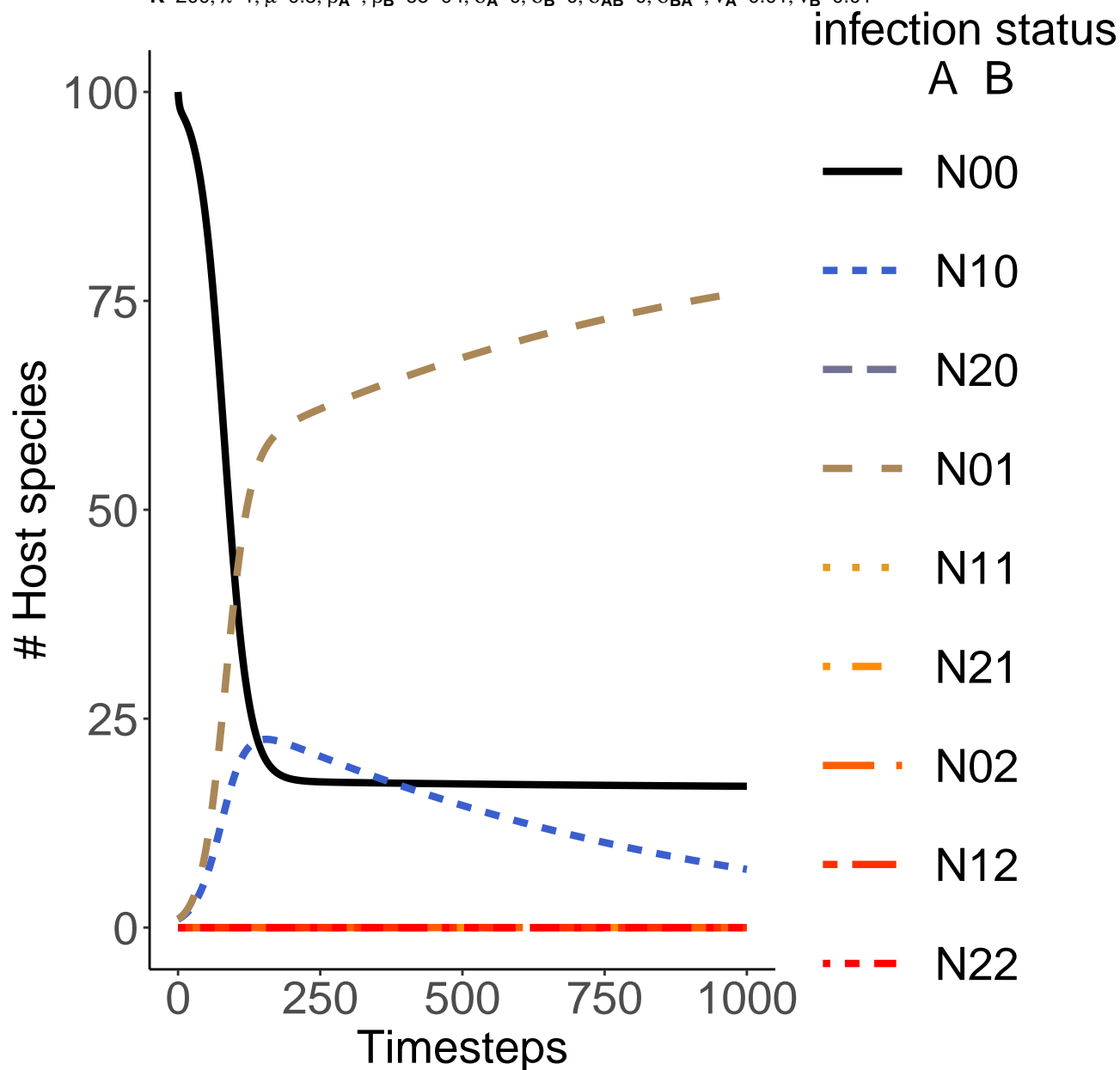
# Number of individuals carrying parasites over time

$K=200$ ,  $\lambda=1$ ,  $\mu=0.5$ ,  $\beta_A=$ ,  $\beta_B=6e-04$ ,  $\sigma_A=0$ ,  $\sigma_B=0$ ,  $\sigma_{AB}=0$ ,  $\sigma_{BA}=$ ,  $v_A=0.01$ ,  $v_B=0.01$



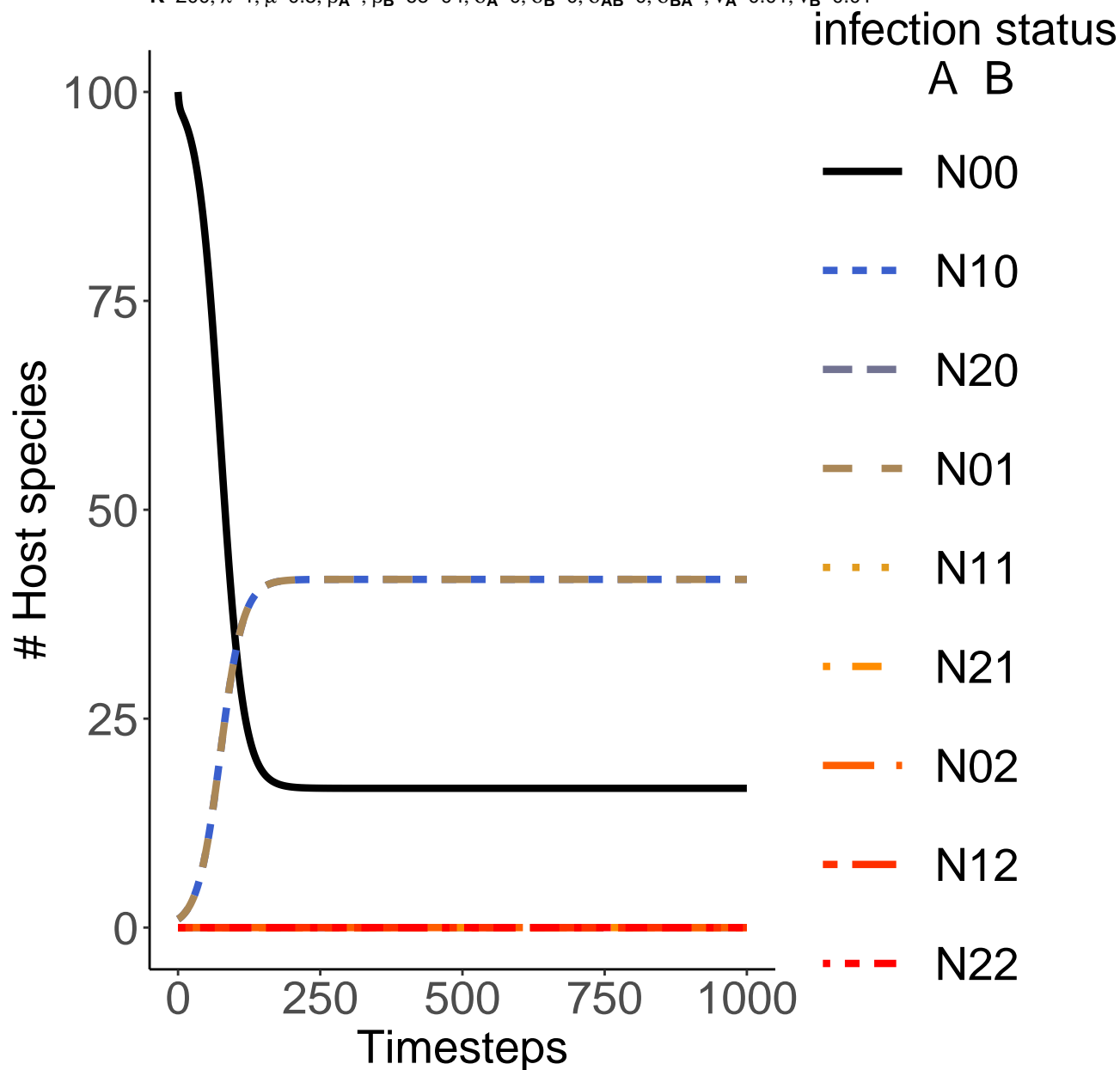
# Number of individuals carrying parasites over time

$K=200$ ,  $\lambda=1$ ,  $\mu=0.5$ ,  $\beta_A=$ ,  $\beta_B=6e-04$ ,  $\sigma_A=0$ ,  $\sigma_B=0$ ,  $\sigma_{AB}=0$ ,  $\sigma_{BA}=$ ,  $\nu_A=0.01$ ,  $\nu_B=0.01$



# Number of individuals carrying parasites over time

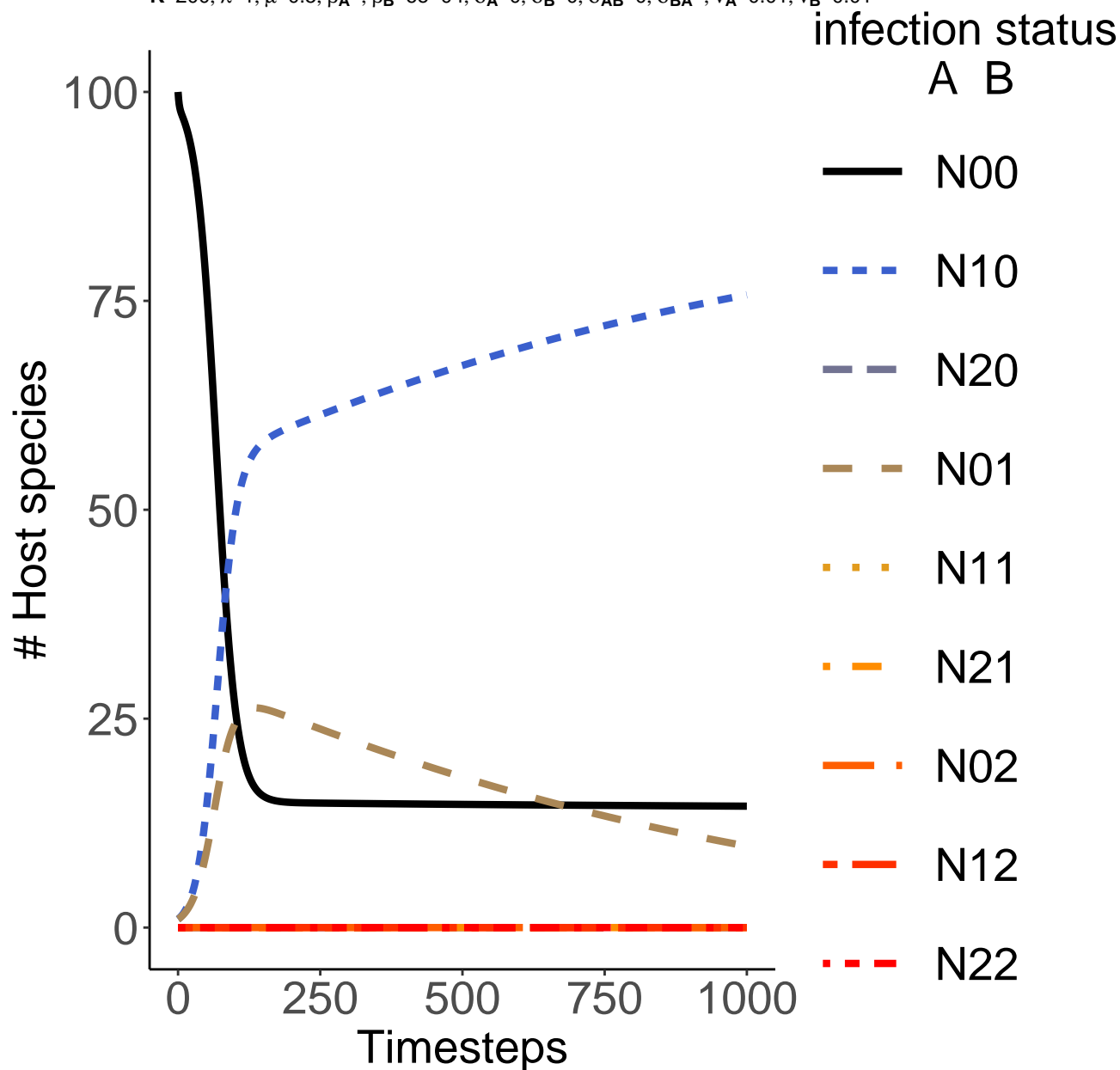
$K=200$ ,  $\lambda=1$ ,  $\mu=0.5$ ,  $\beta_A=$ ,  $\beta_B=6e-04$ ,  $\sigma_A=0$ ,  $\sigma_B=0$ ,  $\sigma_{AB}=0$ ,  $\sigma_{BA}=$ ,  $\nu_A=0.01$ ,  $\nu_B=0.01$





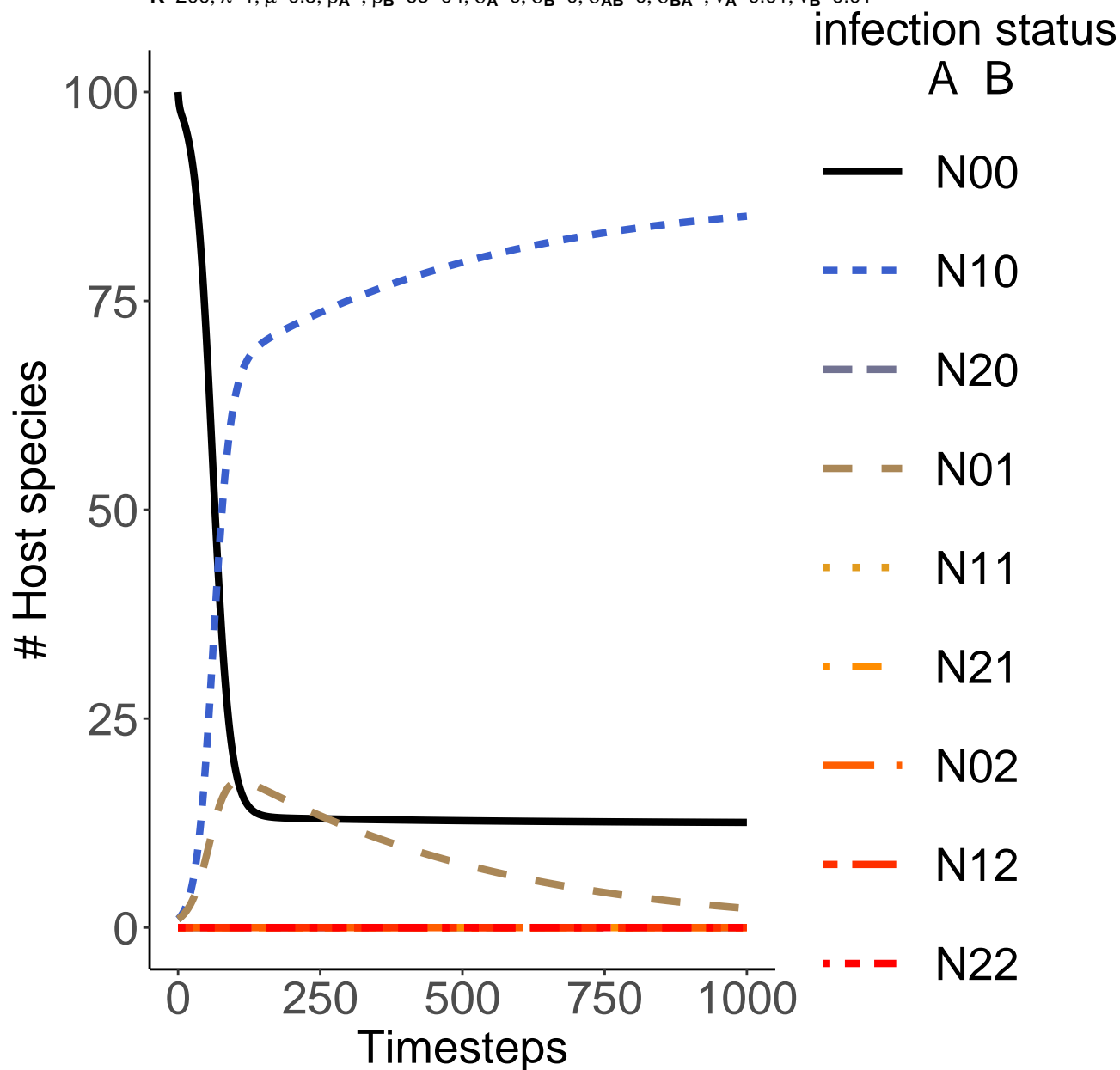
# Number of individuals carrying parasites over time

$K=200$ ,  $\lambda=1$ ,  $\mu=0.5$ ,  $\beta_A=$ ,  $\beta_B=6e-04$ ,  $\sigma_A=0$ ,  $\sigma_B=0$ ,  $\sigma_{AB}=0$ ,  $\sigma_{BA}=$ ,  $\nu_A=0.01$ ,  $\nu_B=0.01$



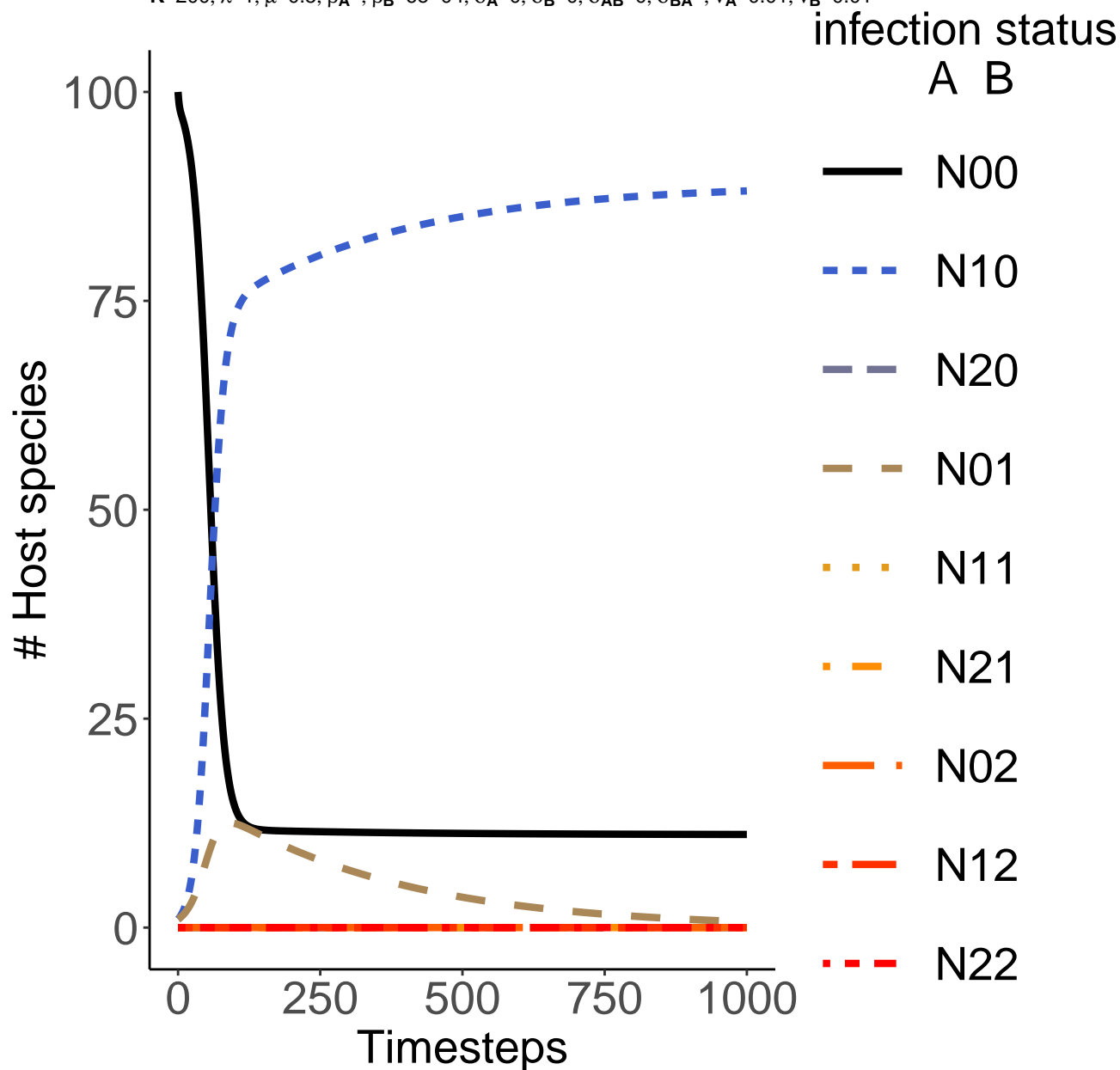
# Number of individuals carrying parasites over time

$K=200$ ,  $\lambda=1$ ,  $\mu=0.5$ ,  $\beta_A=$ ,  $\beta_B=6e-04$ ,  $\sigma_A=0$ ,  $\sigma_B=0$ ,  $\sigma_{AB}=0$ ,  $\sigma_{BA}=$ ,  $\nu_A=0.01$ ,  $\nu_B=0.01$



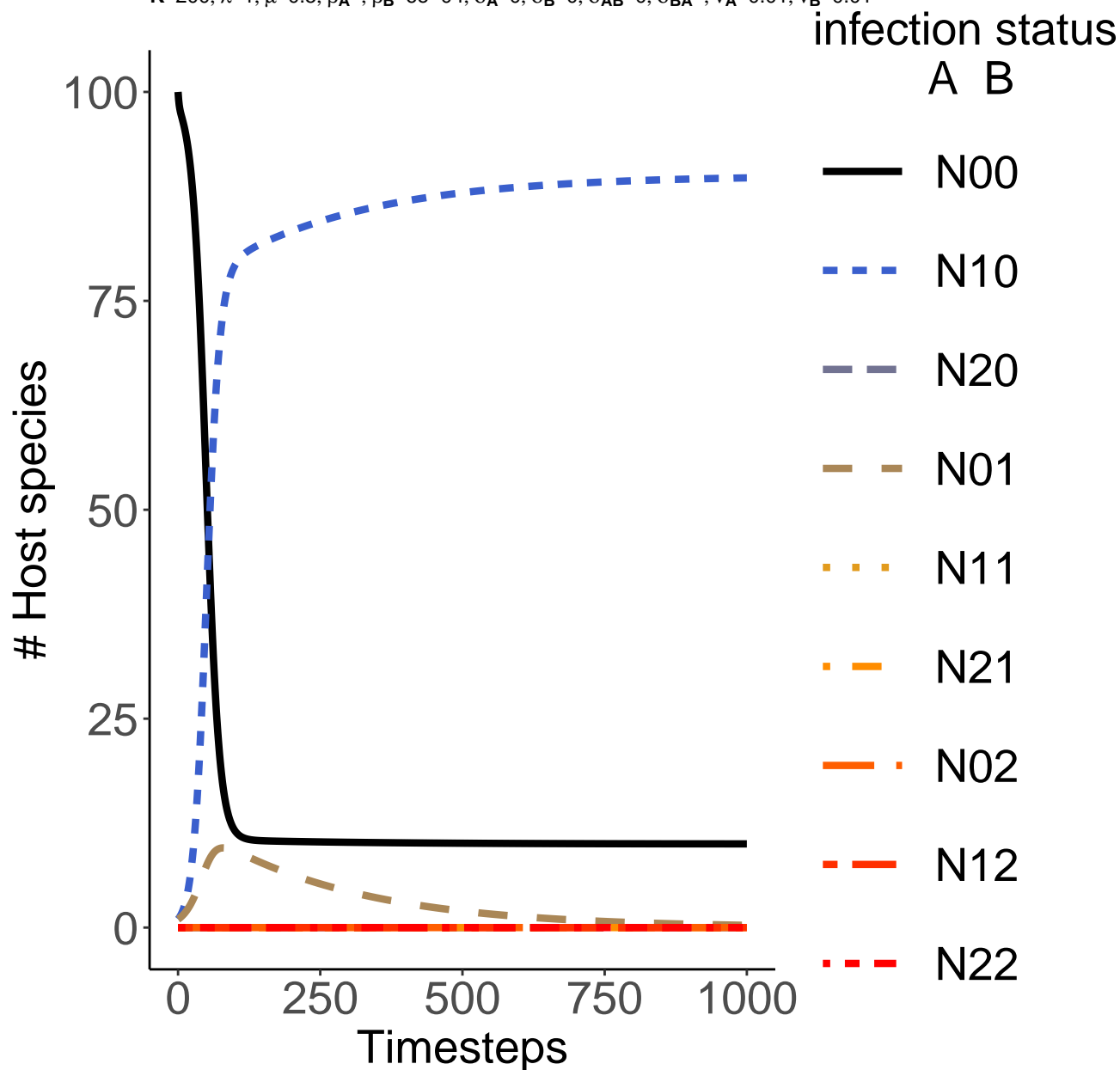
# Number of individuals carrying parasites over time

$K=200$ ,  $\lambda=1$ ,  $\mu=0.5$ ,  $\beta_A=$ ,  $\beta_B=6e-04$ ,  $\sigma_A=0$ ,  $\sigma_B=0$ ,  $\sigma_{AB}=0$ ,  $\sigma_{BA}=$ ,  $\nu_A=0.01$ ,  $\nu_B=0.01$



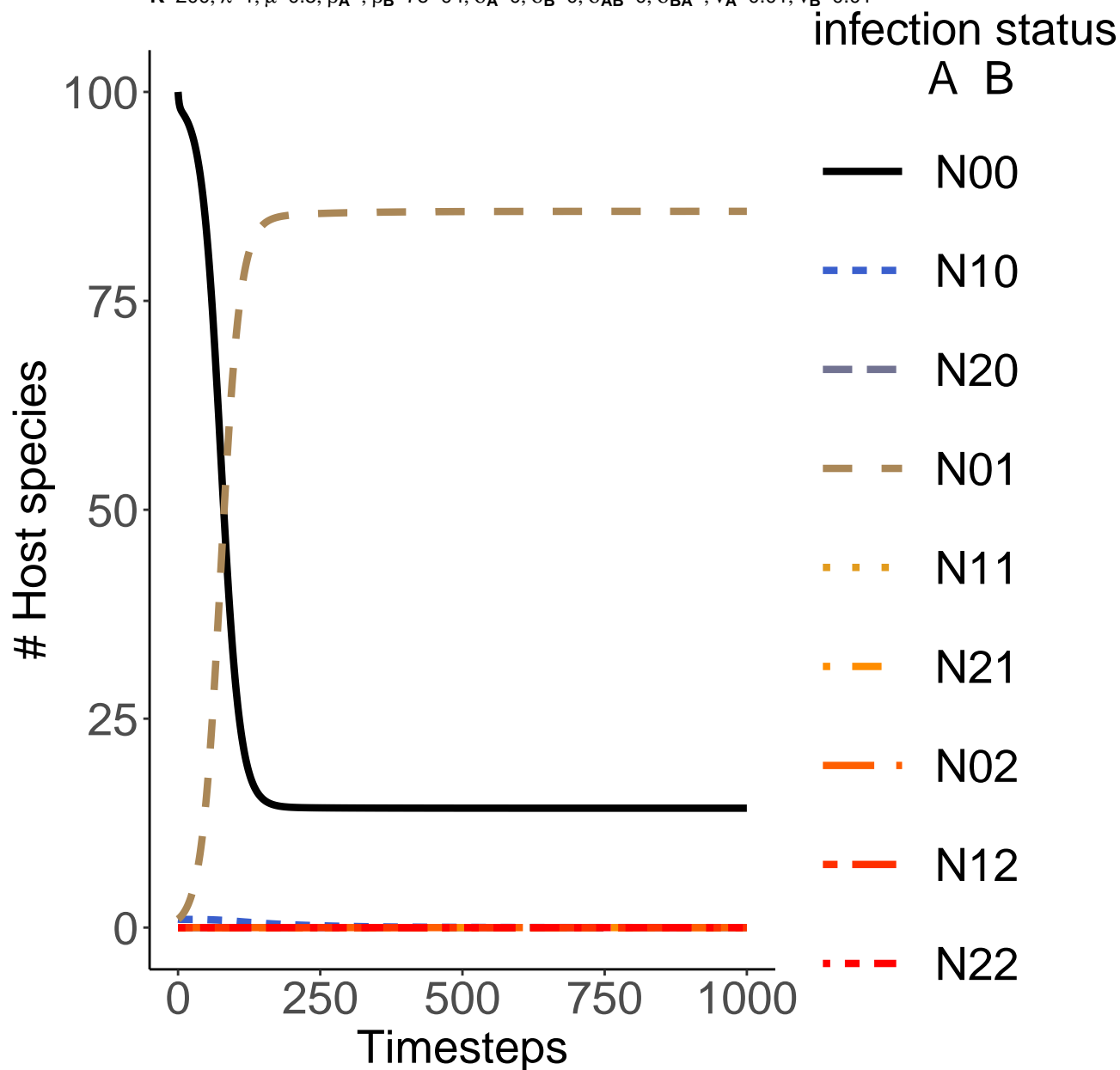
# Number of individuals carrying parasites over time

$K=200$ ,  $\lambda=1$ ,  $\mu=0.5$ ,  $\beta_A=$ ,  $\beta_B=6e-04$ ,  $\sigma_A=0$ ,  $\sigma_B=0$ ,  $\sigma_{AB}=0$ ,  $\sigma_{BA}=$ ,  $\nu_A=0.01$ ,  $\nu_B=0.01$



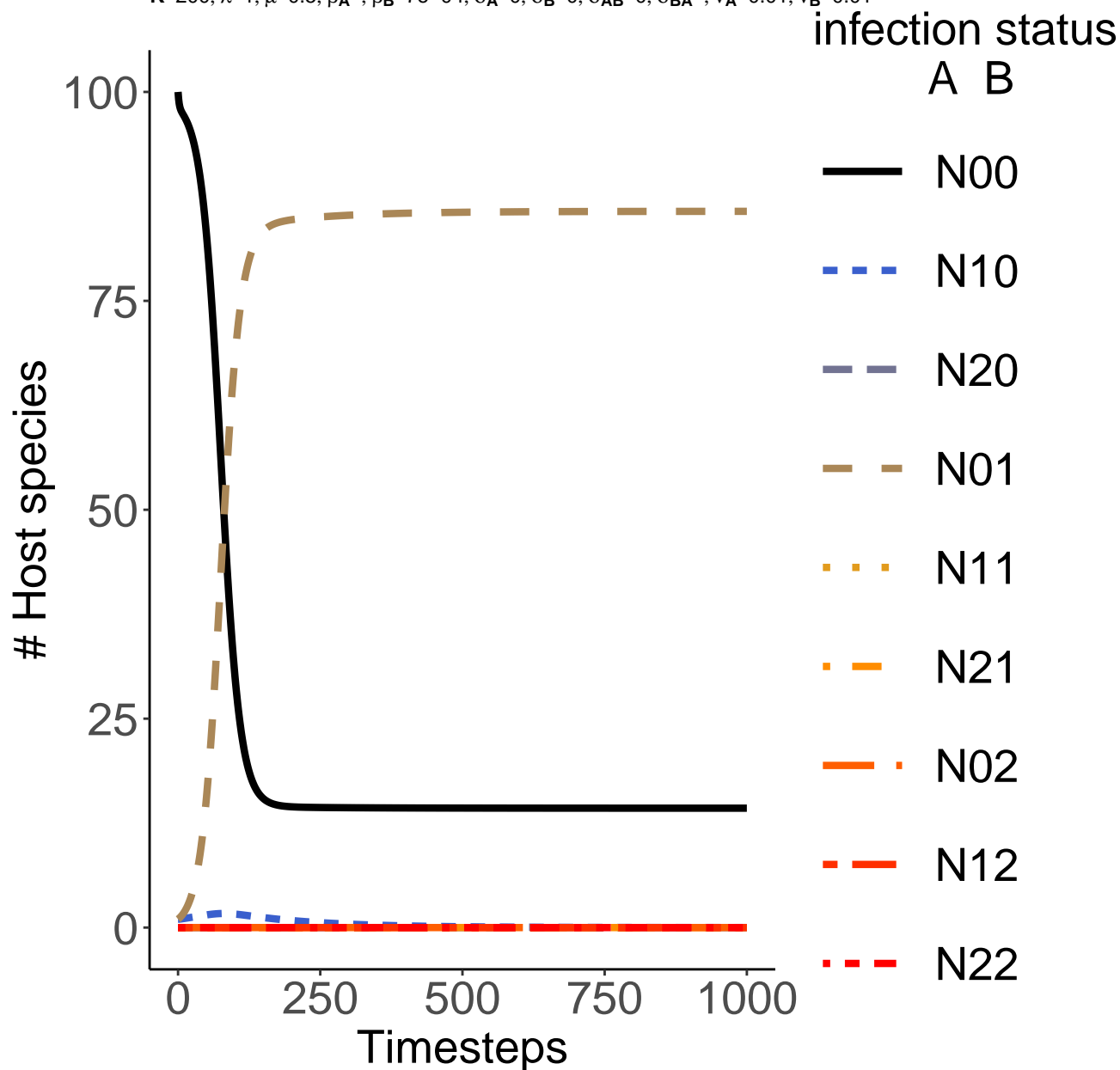
# Number of individuals carrying parasites over time

$K=200$ ,  $\lambda=1$ ,  $\mu=0.5$ ,  $\beta_A=$ ,  $\beta_B=7e-04$ ,  $\sigma_A=0$ ,  $\sigma_B=0$ ,  $\sigma_{AB}=0$ ,  $\sigma_{BA}=$ ,  $\nu_A=0.01$ ,  $\nu_B=0.01$



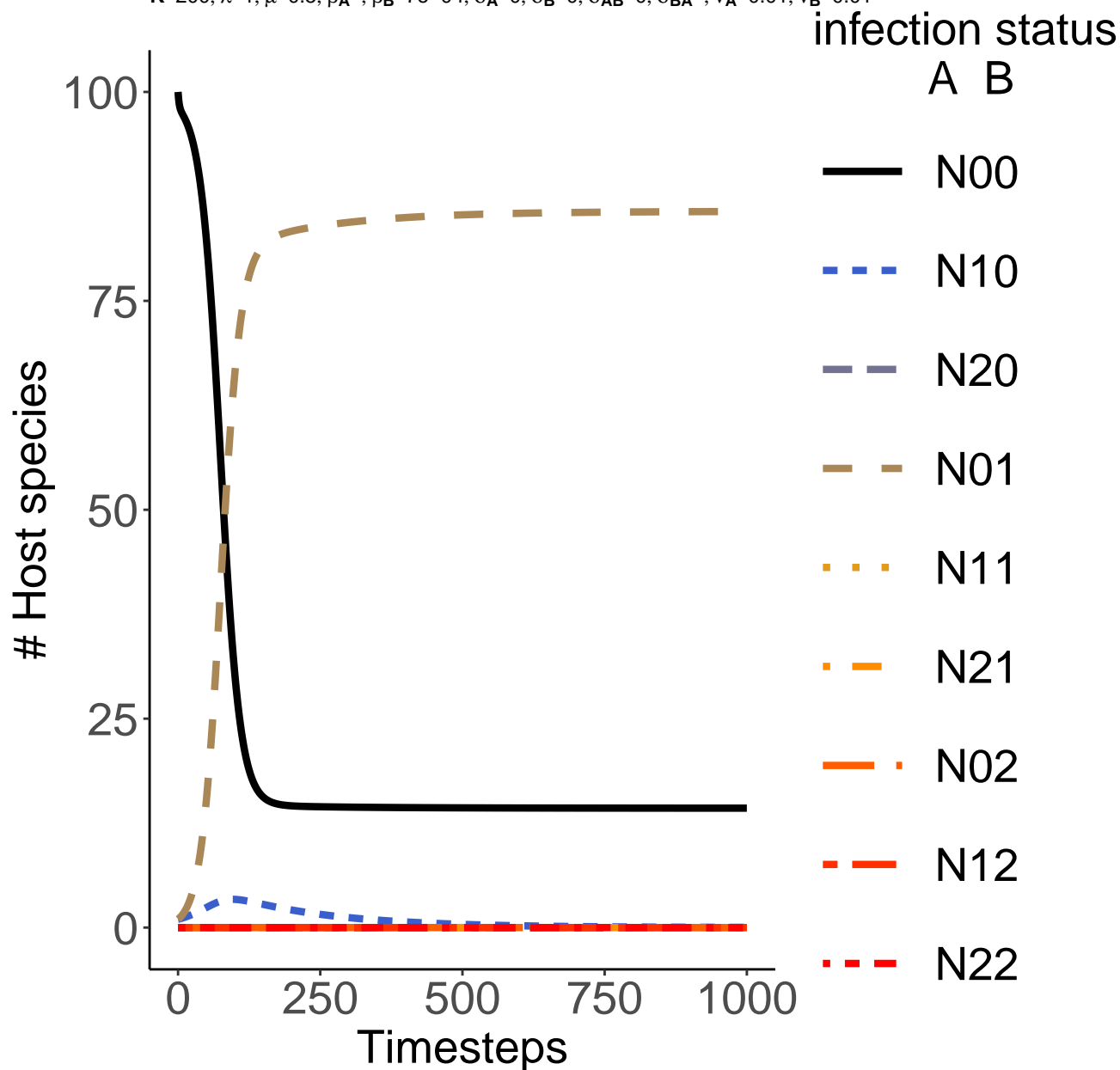
# Number of individuals carrying parasites over time

$K=200$ ,  $\lambda=1$ ,  $\mu=0.5$ ,  $\beta_A=$ ,  $\beta_B=7e-04$ ,  $\sigma_A=0$ ,  $\sigma_B=0$ ,  $\sigma_{AB}=0$ ,  $\sigma_{BA}=$ ,  $v_A=0.01$ ,  $v_B=0.01$



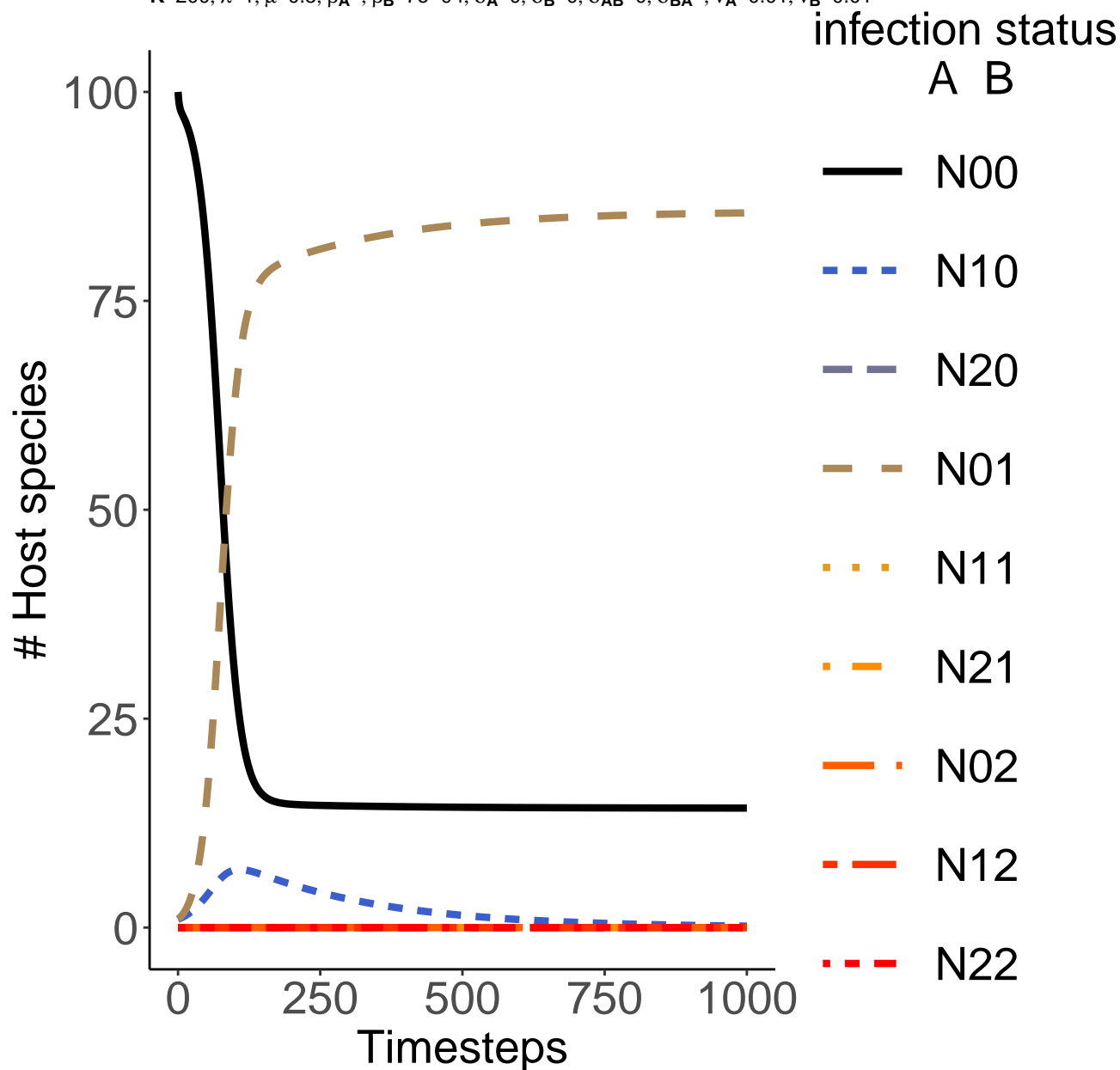
# Number of individuals carrying parasites over time

$K=200$ ,  $\lambda=1$ ,  $\mu=0.5$ ,  $\beta_A=$ ,  $\beta_B=7e-04$ ,  $\sigma_A=0$ ,  $\sigma_B=0$ ,  $\sigma_{AB}=0$ ,  $\sigma_{BA}=$ ,  $\nu_A=0.01$ ,  $\nu_B=0.01$



# Number of individuals carrying parasites over time

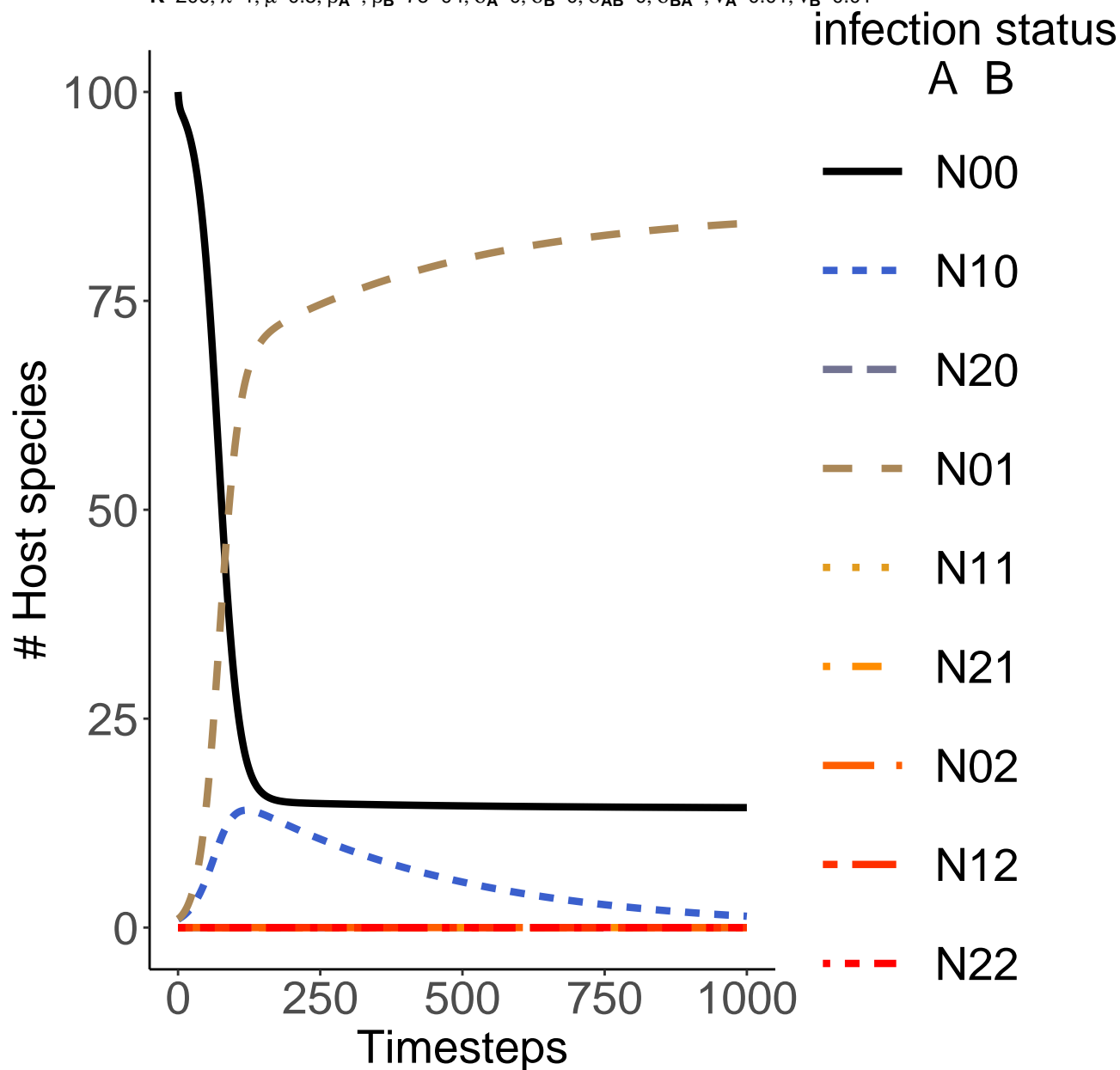
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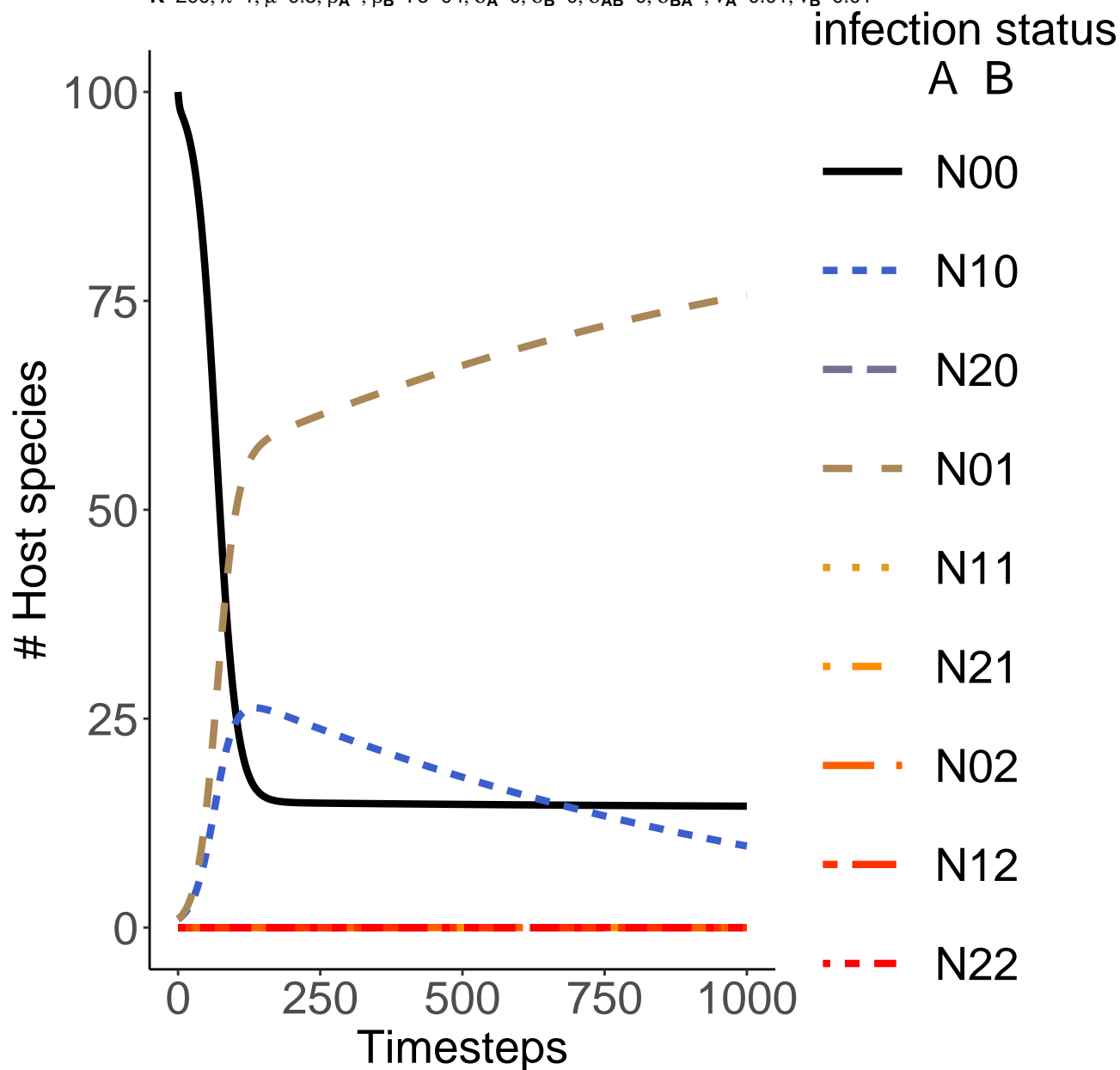
# Number of individuals carrying parasites over time

$K=200$ ,  $\lambda=1$ ,  $\mu=0.5$ ,  $\beta_A=$ ,  $\beta_B=7e-04$ ,  $\sigma_A=0$ ,  $\sigma_B=0$ ,  $\sigma_{AB}=0$ ,  $\sigma_{BA}=$ ,  $\nu_A=0.01$ ,  $\nu_B=0.01$



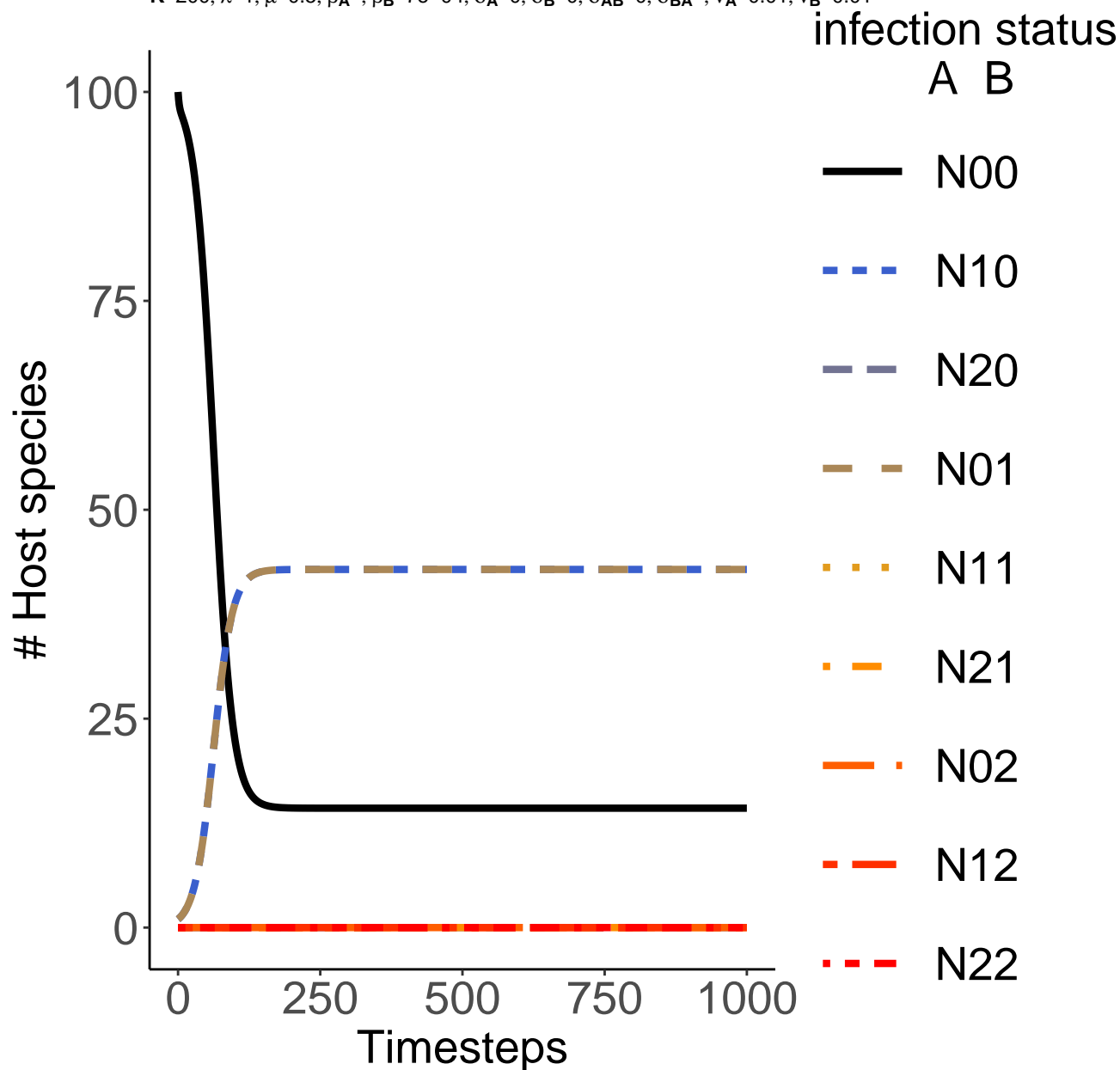
# Number of individuals carrying parasites over time

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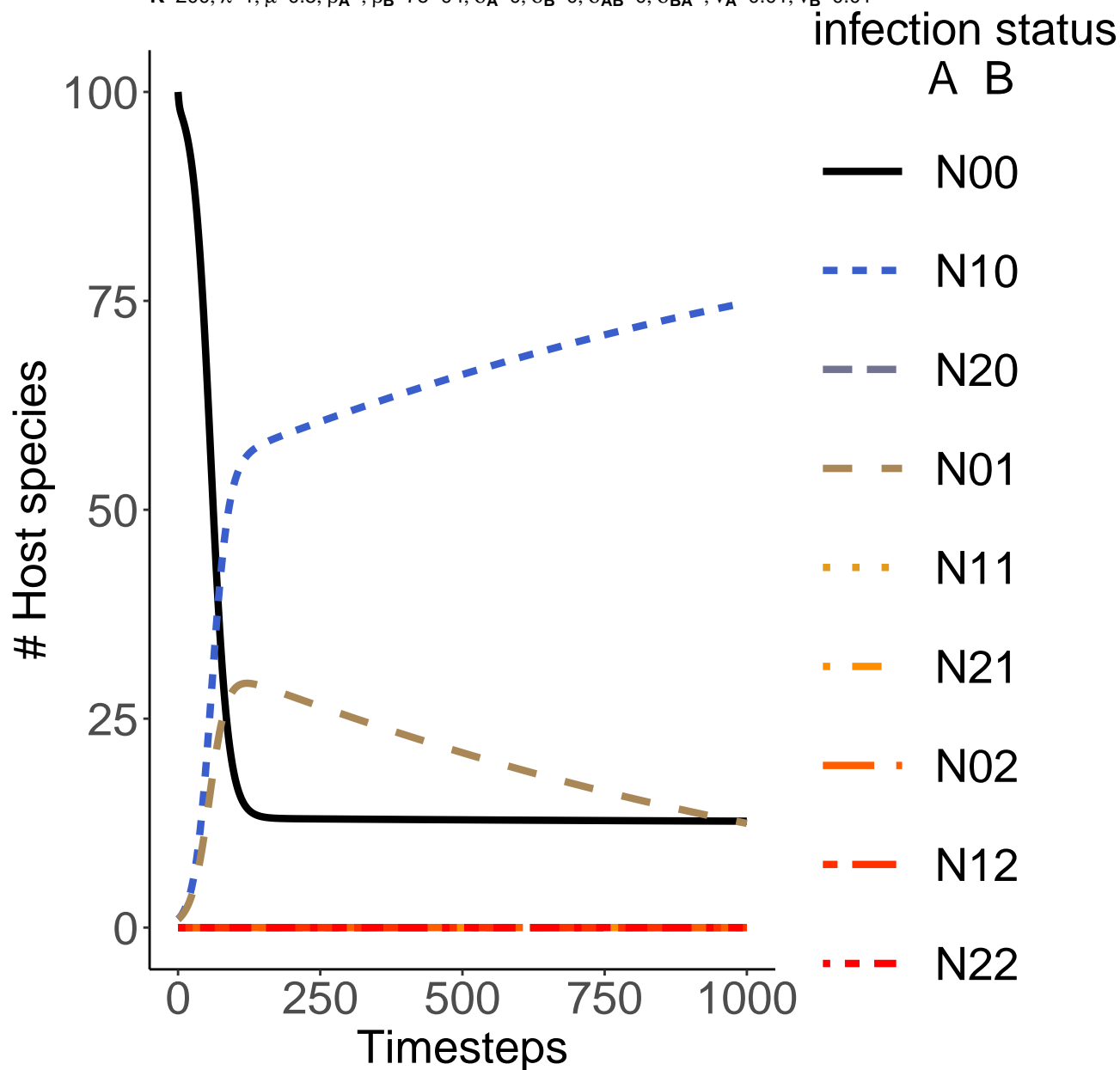
# Number of individuals carrying parasites over time

$K=200$ ,  $\lambda=1$ ,  $\mu=0.5$ ,  $\beta_A=$ ,  $\beta_B=7e-04$ ,  $\sigma_A=0$ ,  $\sigma_B=0$ ,  $\sigma_{AB}=0$ ,  $\sigma_{BA}=$ ,  $\nu_A=0.01$ ,  $\nu_B=0.01$



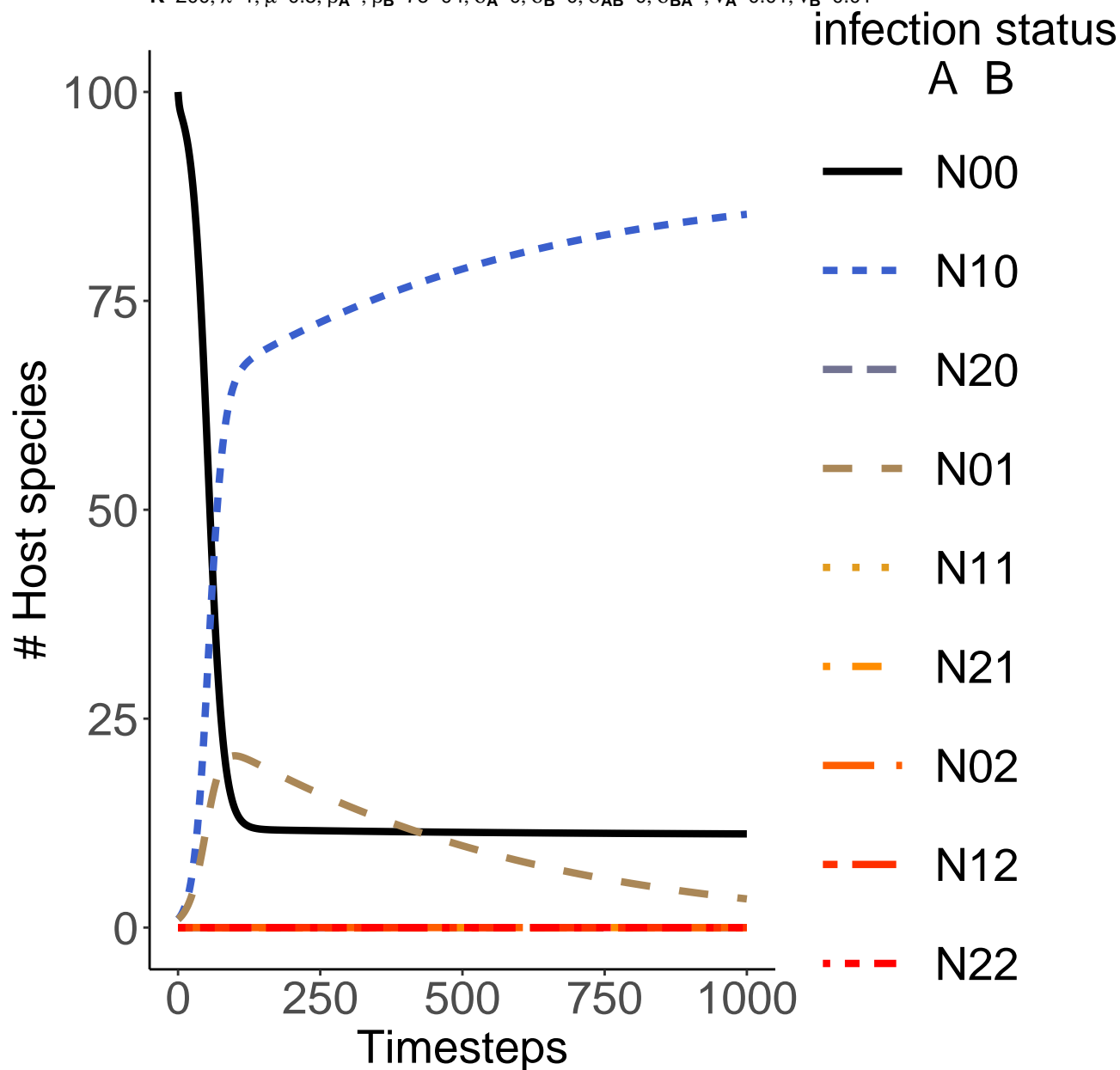
# Number of individuals carrying parasites over time

$K=200$ ,  $\lambda=1$ ,  $\mu=0.5$ ,  $\beta_A=$ ,  $\beta_B=7e-04$ ,  $\sigma_A=0$ ,  $\sigma_B=0$ ,  $\sigma_{AB}=0$ ,  $\sigma_{BA}=$ ,  $\nu_A=0.01$ ,  $\nu_B=0.01$



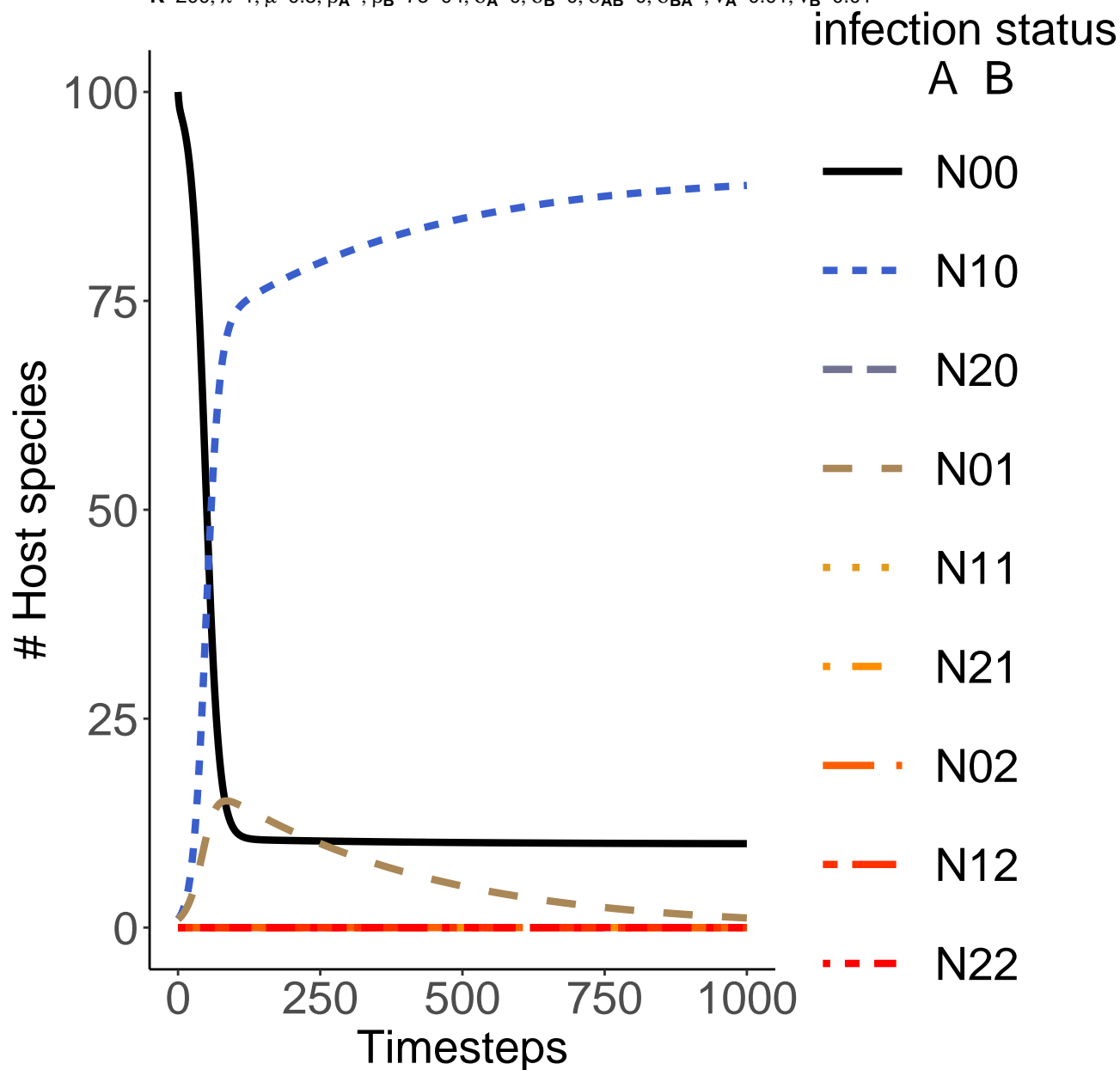
# Number of individuals carrying parasites over time

$K=200$ ,  $\lambda=1$ ,  $\mu=0.5$ ,  $\beta_A=$ ,  $\beta_B=7e-04$ ,  $\sigma_A=0$ ,  $\sigma_B=0$ ,  $\sigma_{AB}=0$ ,  $\sigma_{BA}=$ ,  $\nu_A=0.01$ ,  $\nu_B=0.01$



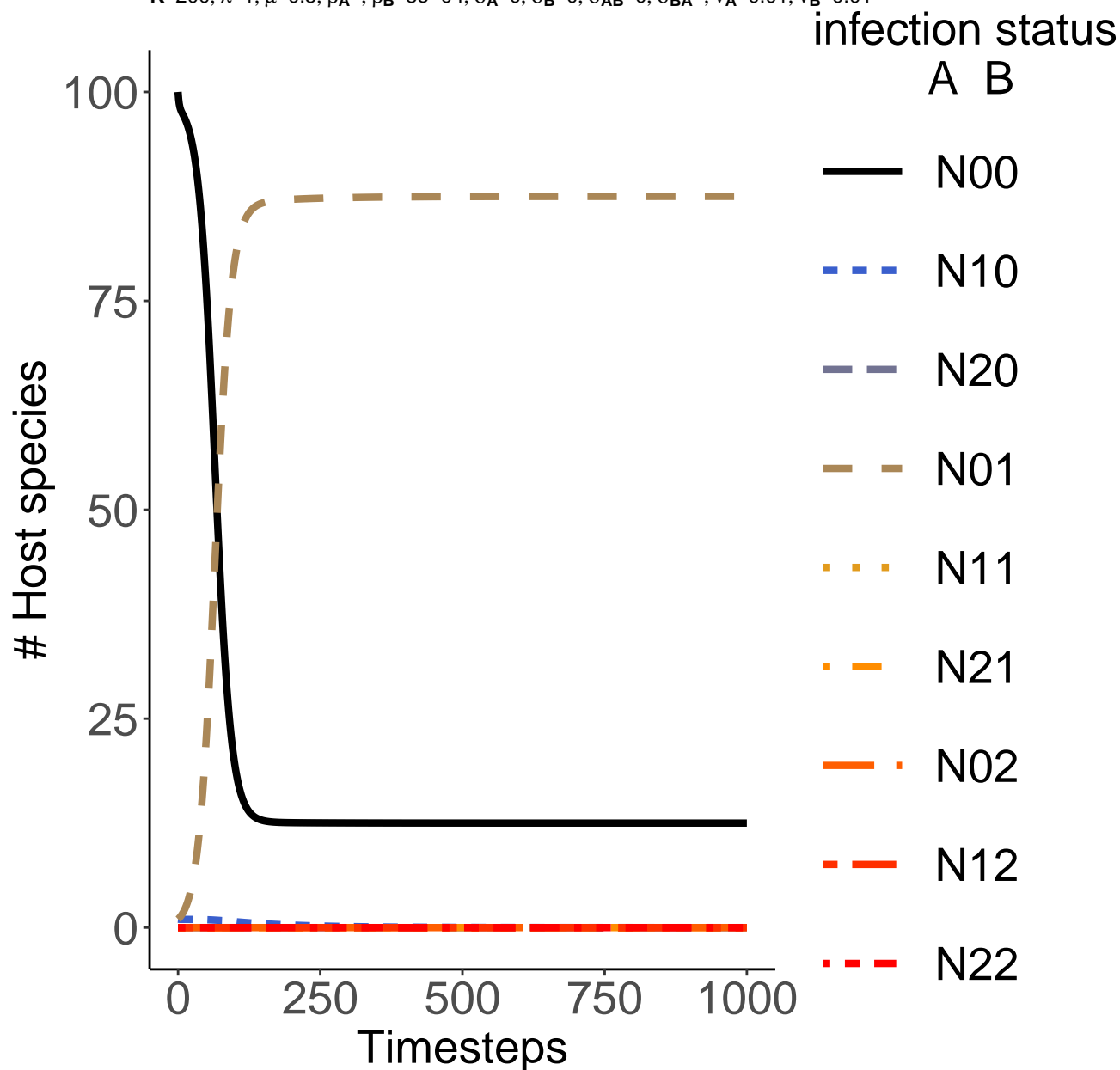
# Number of individuals carrying parasites over time

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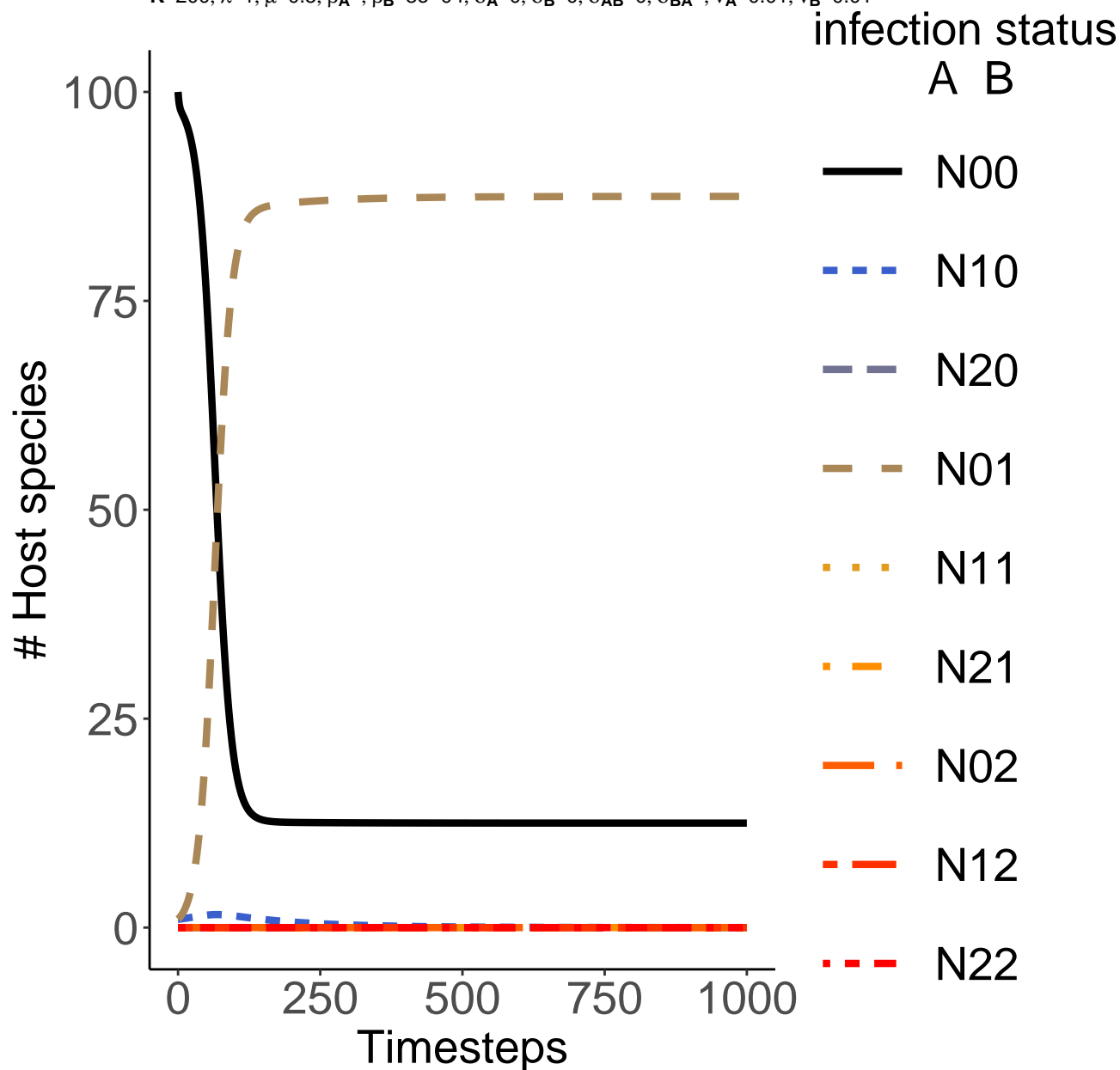
# Number of individuals carrying parasites over time

$K=200$ ,  $\lambda=1$ ,  $\mu=0.5$ ,  $\beta_A=$ ,  $\beta_B=8e-04$ ,  $\sigma_A=0$ ,  $\sigma_B=0$ ,  $\sigma_{AB}=0$ ,  $\sigma_{BA}=$ ,  $\nu_A=0.01$ ,  $\nu_B=0.01$



# Number of individuals carrying parasites over time

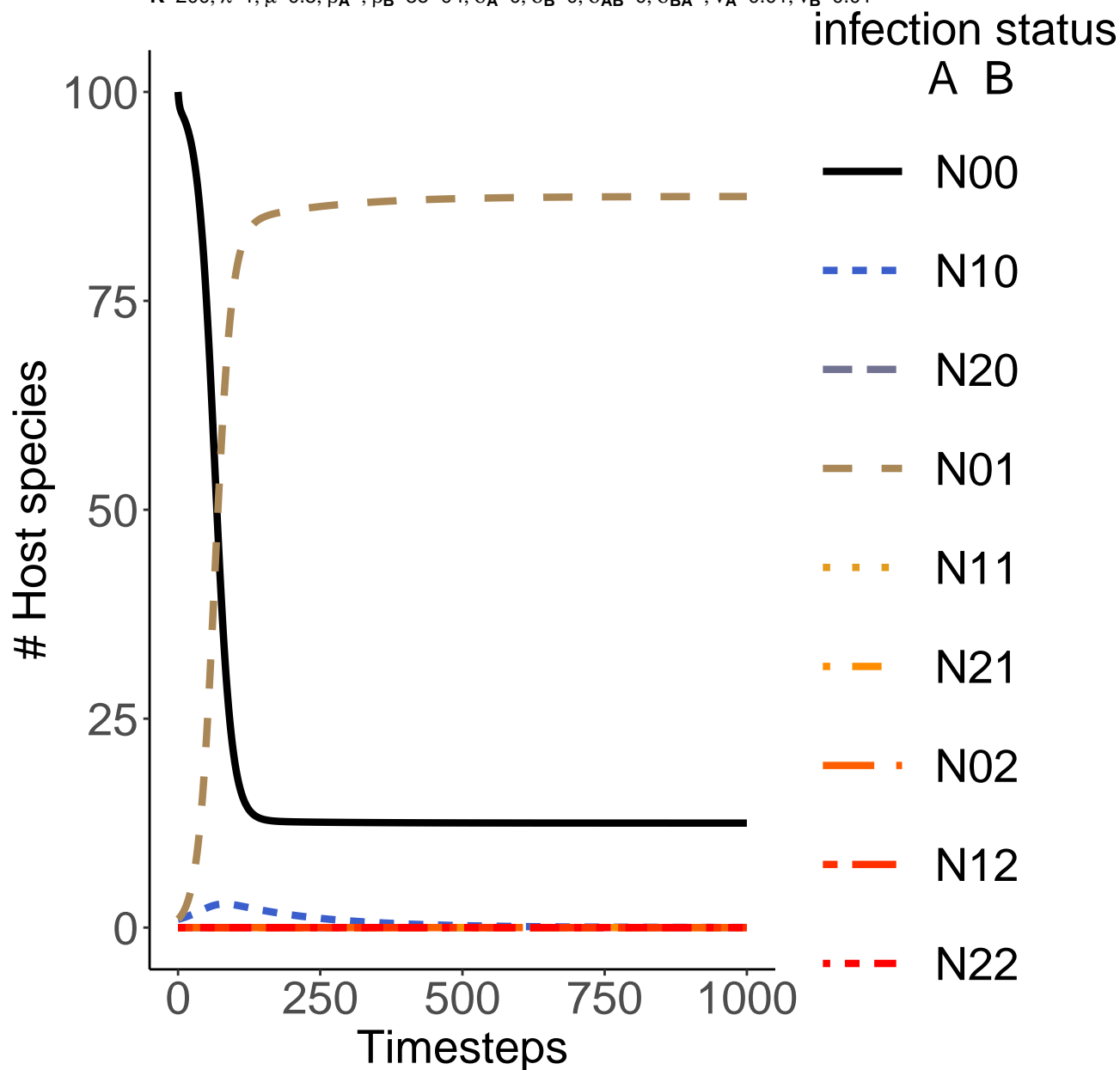
$K=200$ ,  $\lambda=1$ ,  $\mu=0.5$ ,  $\beta_A=$ ,  $\beta_B=8e-04$ ,  $\sigma_A=0$ ,  $\sigma_B=0$ ,  $\sigma_{AB}=0$ ,  $\sigma_{BA}=$ ,  $\nu_A=0.01$ ,  $\nu_B=0.01$





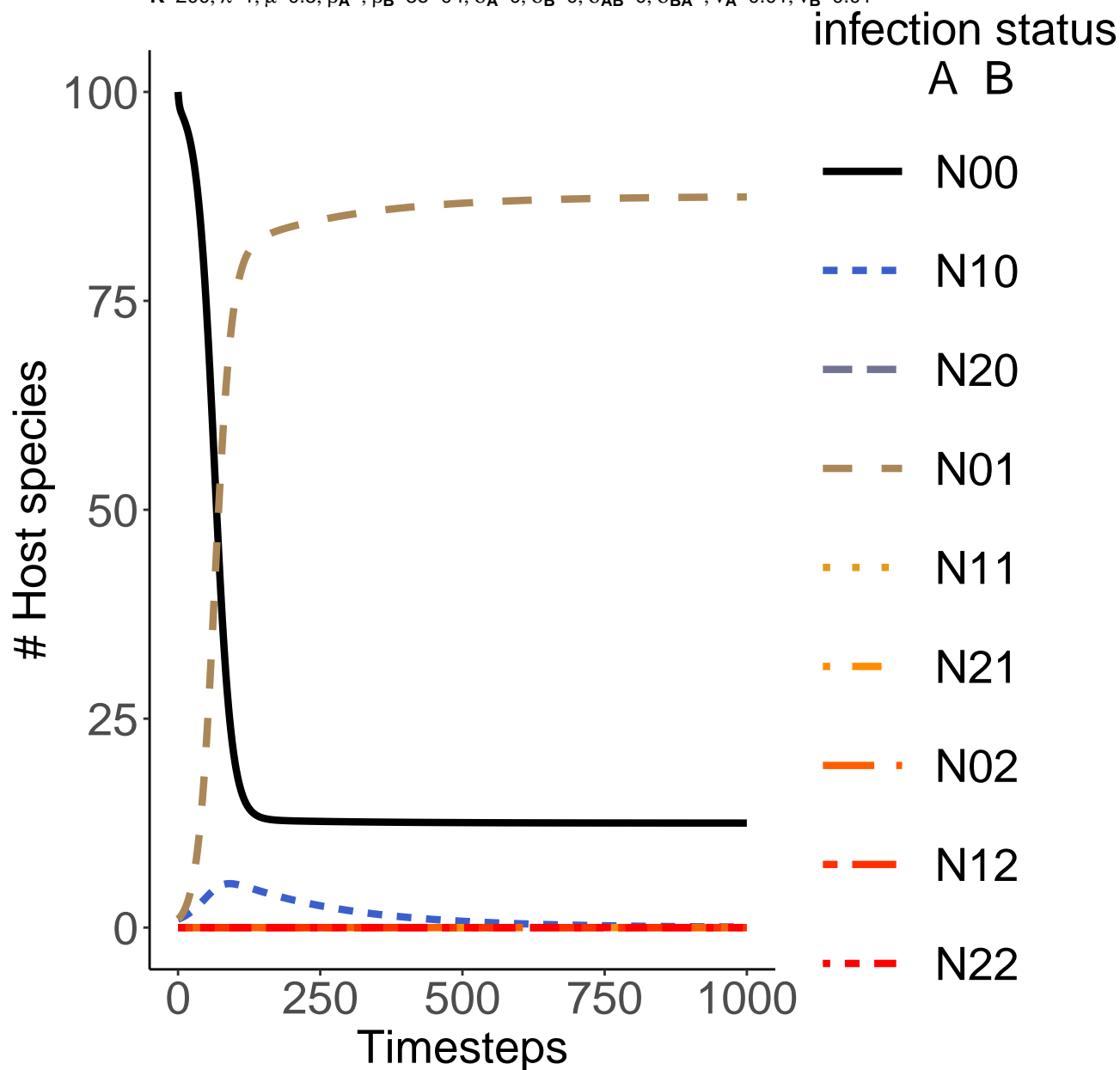
# Number of individuals carrying parasites over time

$K=200$ ,  $\lambda=1$ ,  $\mu=0.5$ ,  $\beta_A=$ ,  $\beta_B=8e-04$ ,  $\sigma_A=0$ ,  $\sigma_B=0$ ,  $\sigma_{AB}=0$ ,  $\sigma_{BA}=$ ,  $v_A=0.01$ ,  $v_B=0.01$



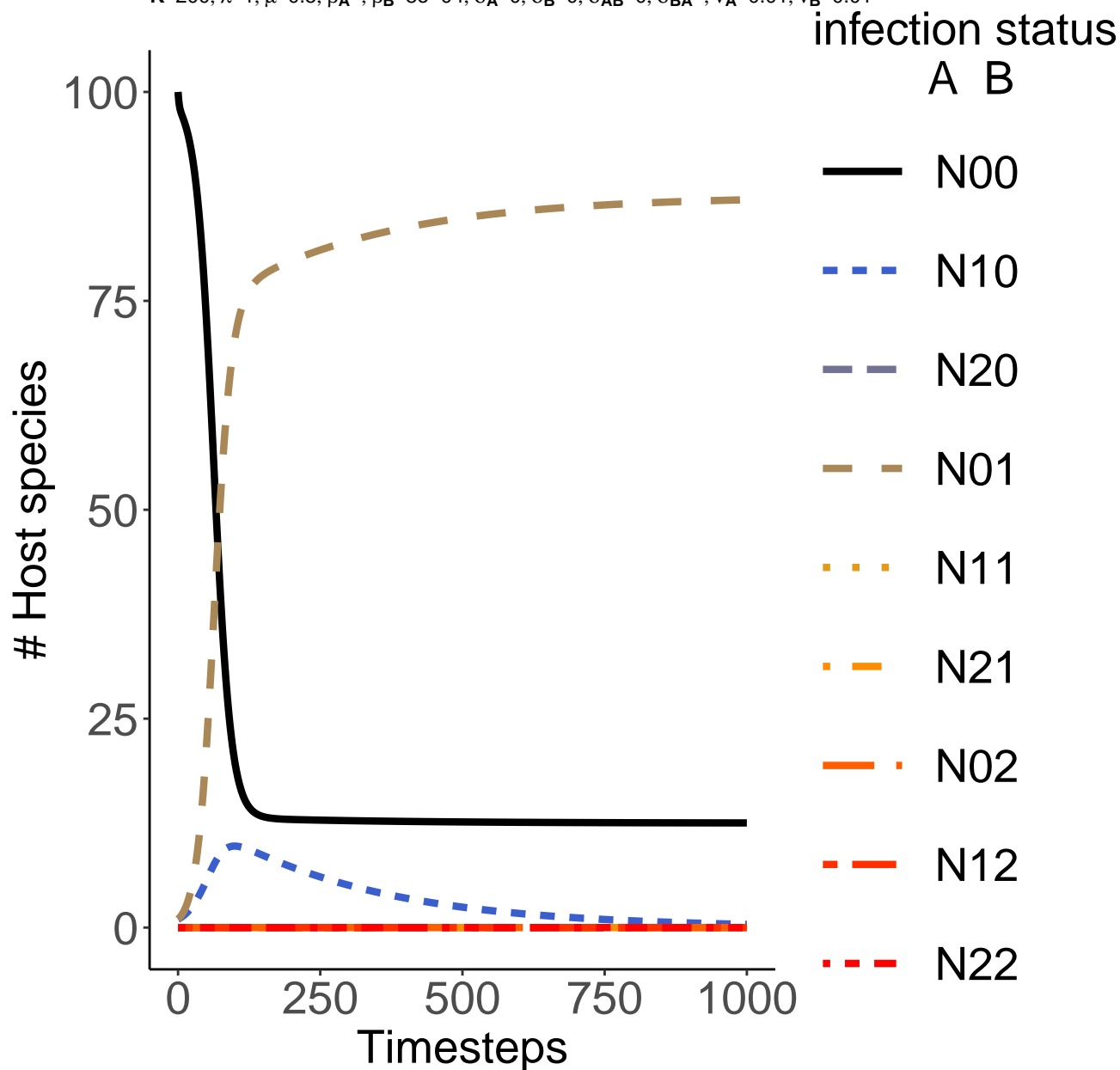
# Number of individuals carrying parasites over time

$K=200$ ,  $\lambda=1$ ,  $\mu=0.5$ ,  $\beta_A=$ ,  $\beta_B=8e-04$ ,  $\sigma_A=0$ ,  $\sigma_B=0$ ,  $\sigma_{AB}=0$ ,  $\sigma_{BA}=$ ,  $\nu_A=0.01$ ,  $\nu_B=0.01$



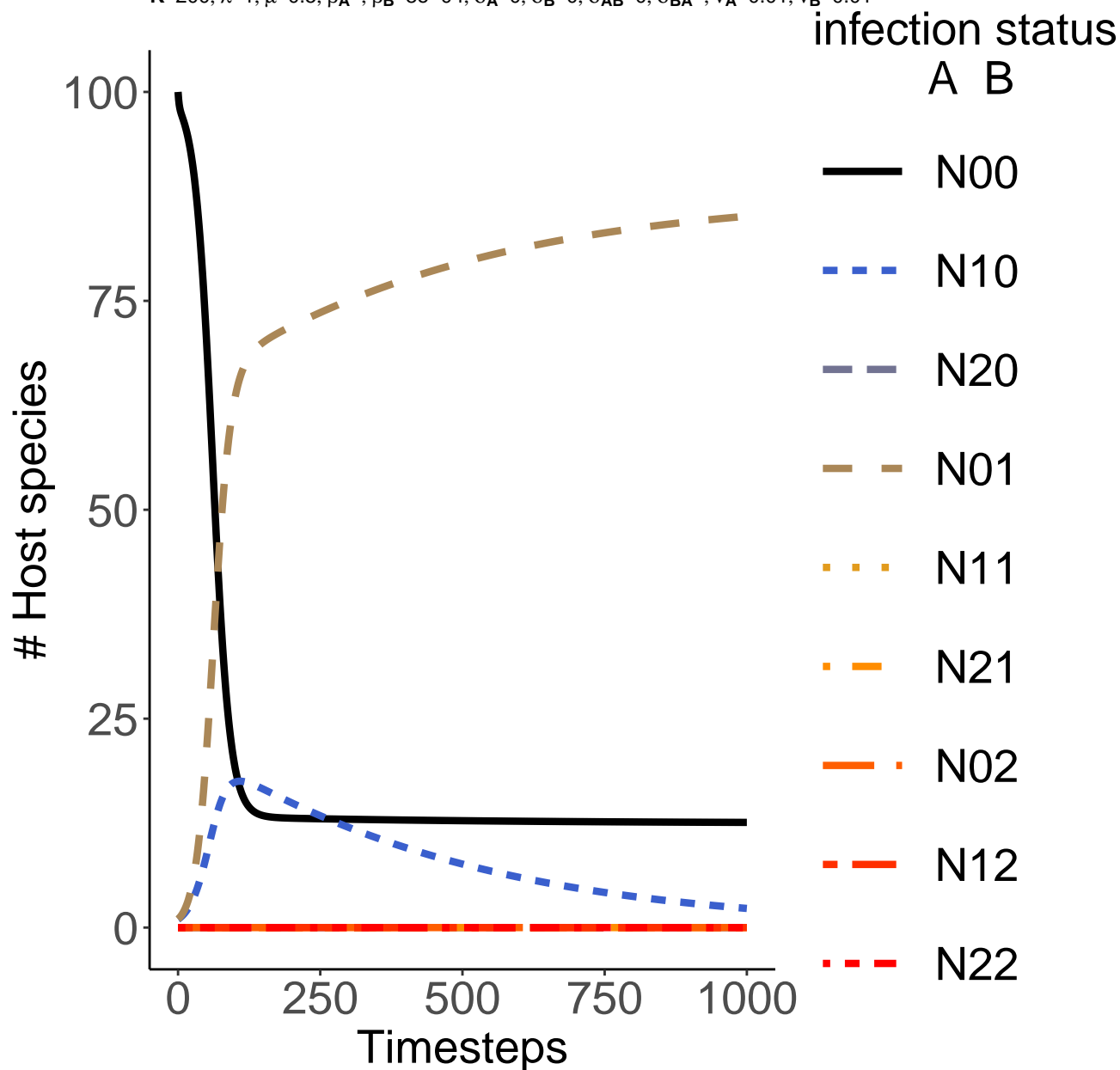
# Number of individuals carrying parasites over time

$K=200$ ,  $\lambda=1$ ,  $\mu=0.5$ ,  $\beta_A=$ ,  $\beta_B=8e-04$ ,  $\sigma_A=0$ ,  $\sigma_B=0$ ,  $\sigma_{AB}=0$ ,  $\sigma_{BA}=$ ,  $v_A=0.01$ ,  $v_B=0.01$



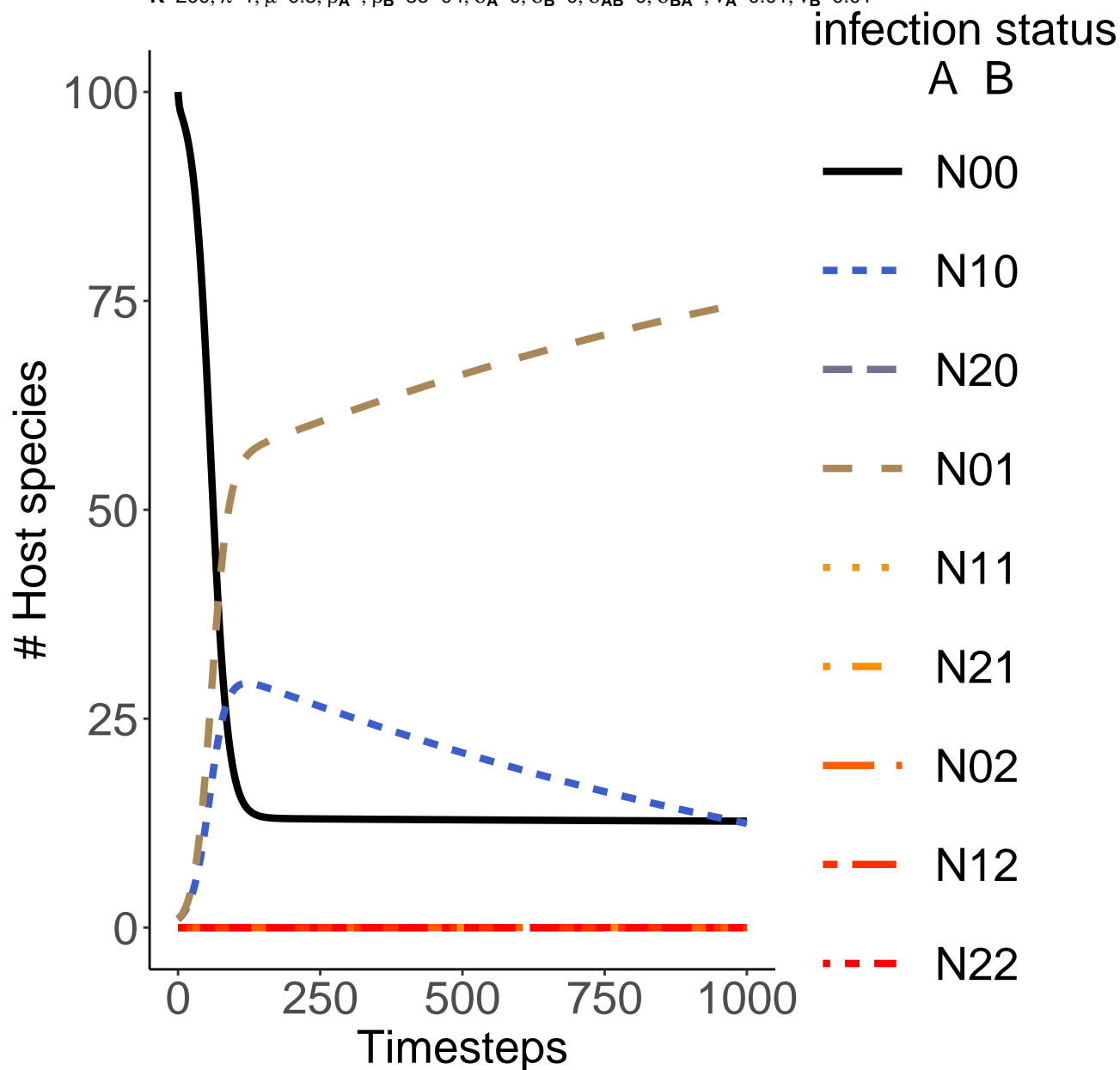
# Number of individuals carrying parasites over time

$K=200$ ,  $\lambda=1$ ,  $\mu=0.5$ ,  $\beta_A=$ ,  $\beta_B=8e-04$ ,  $\sigma_A=0$ ,  $\sigma_B=0$ ,  $\sigma_{AB}=0$ ,  $\sigma_{BA}=$ ,  $\nu_A=0.01$ ,  $\nu_B=0.01$



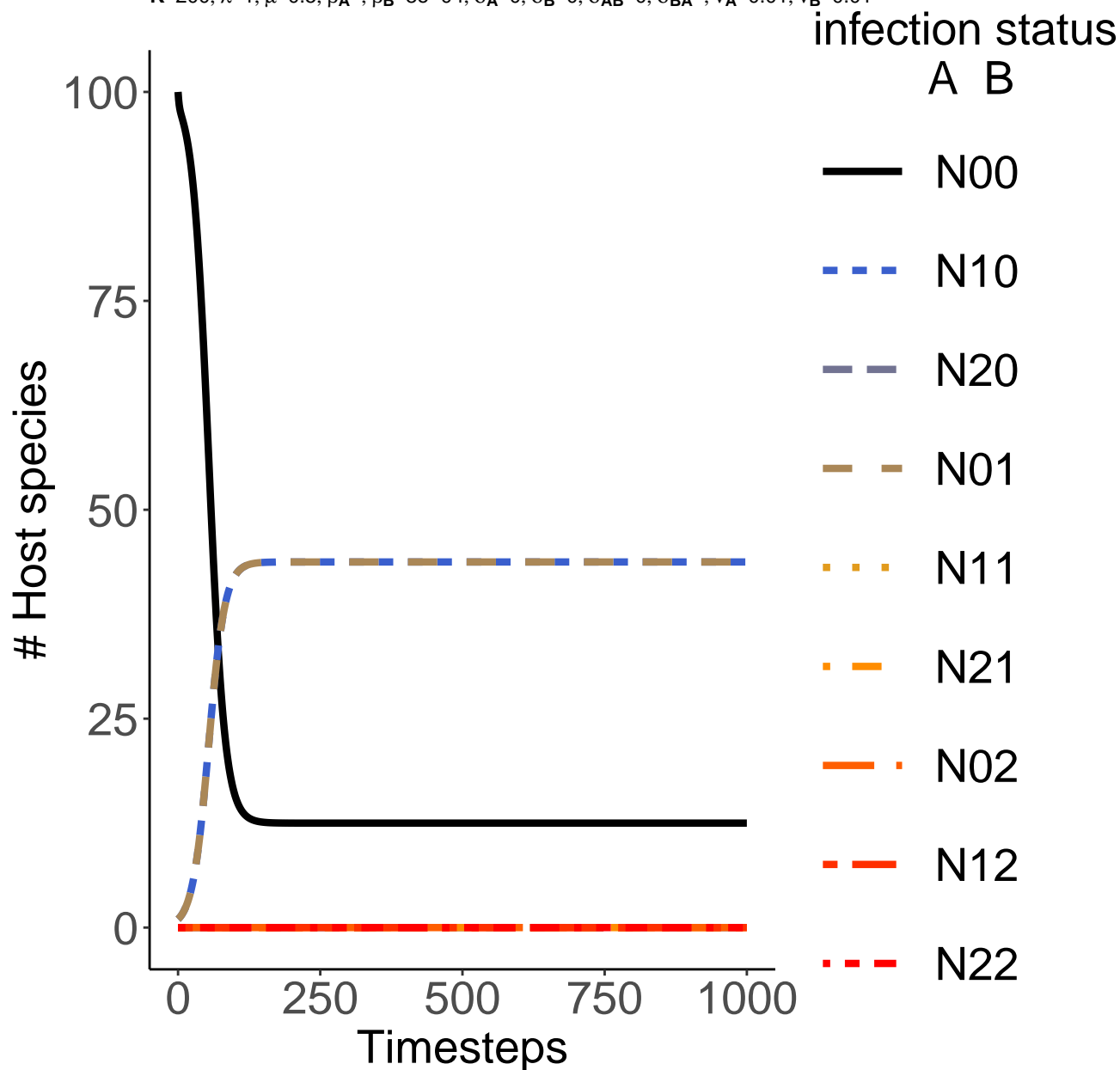
# Number of individuals carrying parasites over time

$K=200$ ,  $\lambda=1$ ,  $\mu=0.5$ ,  $\beta_A=$ ,  $\beta_B=8e-04$ ,  $\sigma_A=0$ ,  $\sigma_B=0$ ,  $\sigma_{AB}=0$ ,  $\sigma_{BA}=$ ,  $\nu_A=0.01$ ,  $\nu_B=0.01$



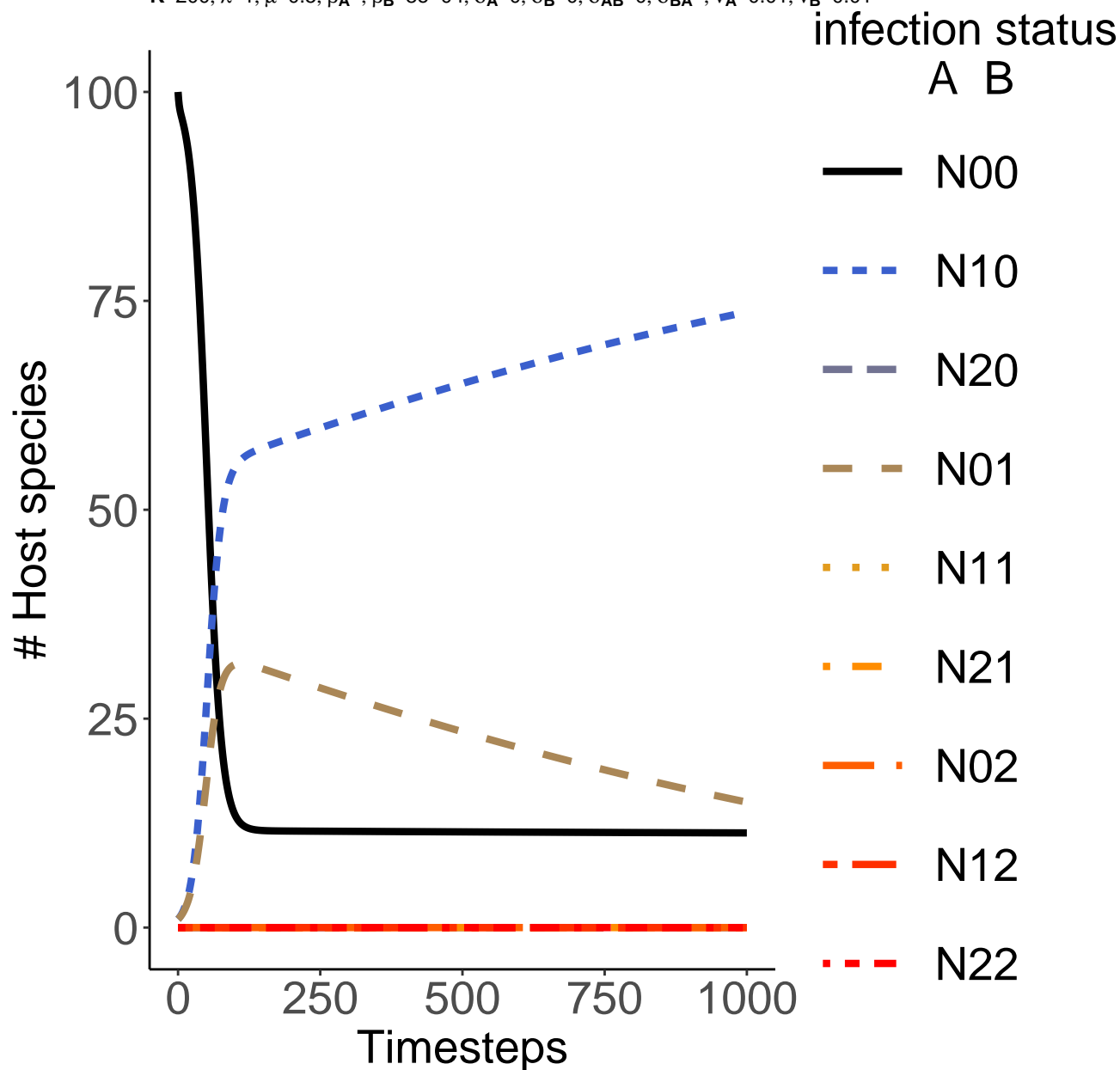
# Number of individuals carrying parasites over time

$K=200$ ,  $\lambda=1$ ,  $\mu=0.5$ ,  $\beta_A=$ ,  $\beta_B=8e-04$ ,  $\sigma_A=0$ ,  $\sigma_B=0$ ,  $\sigma_{AB}=0$ ,  $\sigma_{BA}=$ ,  $\nu_A=0.01$ ,  $\nu_B=0.01$



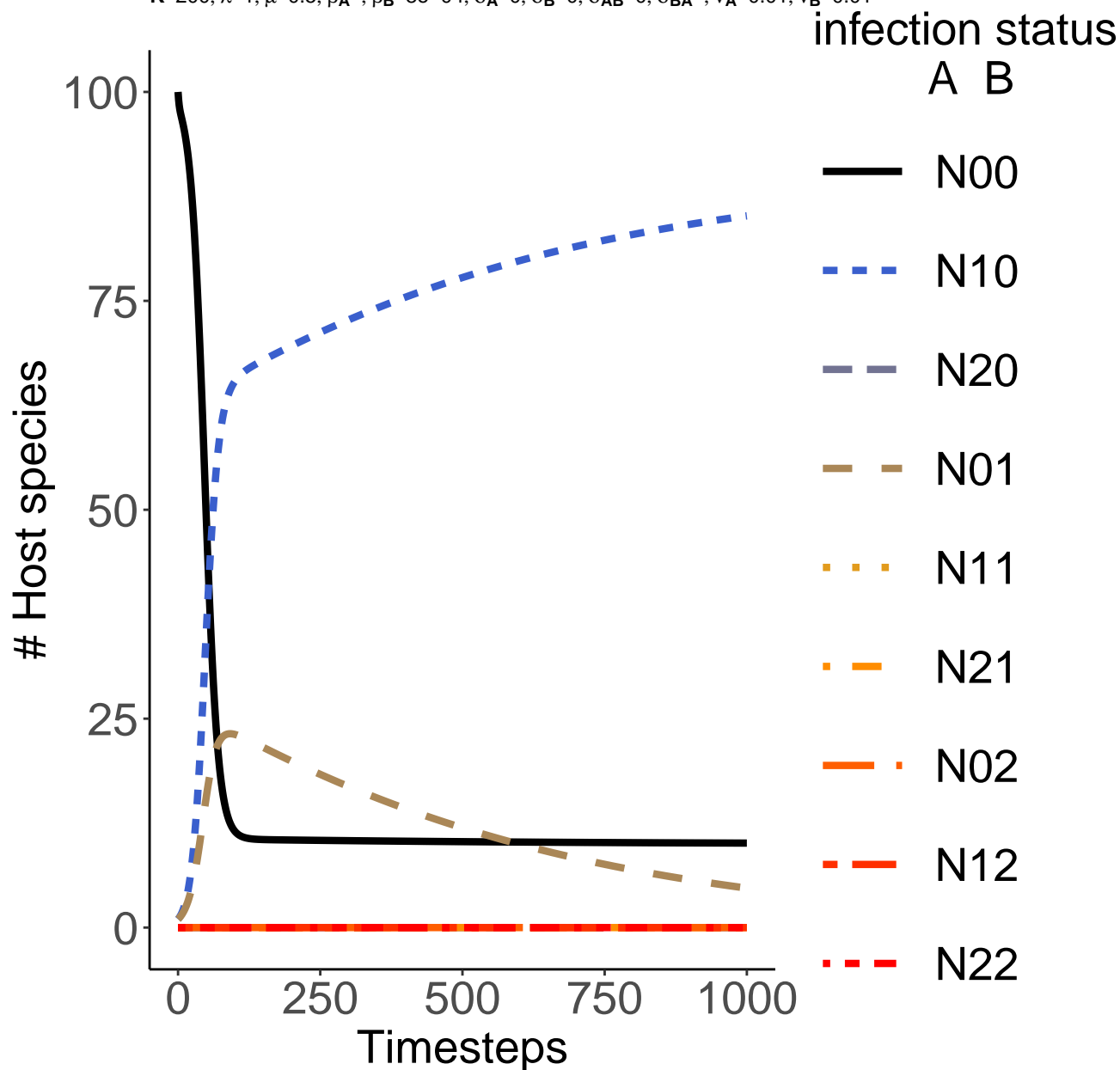
# Number of individuals carrying parasites over time

$K=200$ ,  $\lambda=1$ ,  $\mu=0.5$ ,  $\beta_A=$ ,  $\beta_B=8e-04$ ,  $\sigma_A=0$ ,  $\sigma_B=0$ ,  $\sigma_{AB}=0$ ,  $\sigma_{BA}=$ ,  $\nu_A=0.01$ ,  $\nu_B=0.01$



# Number of individuals carrying parasites over time

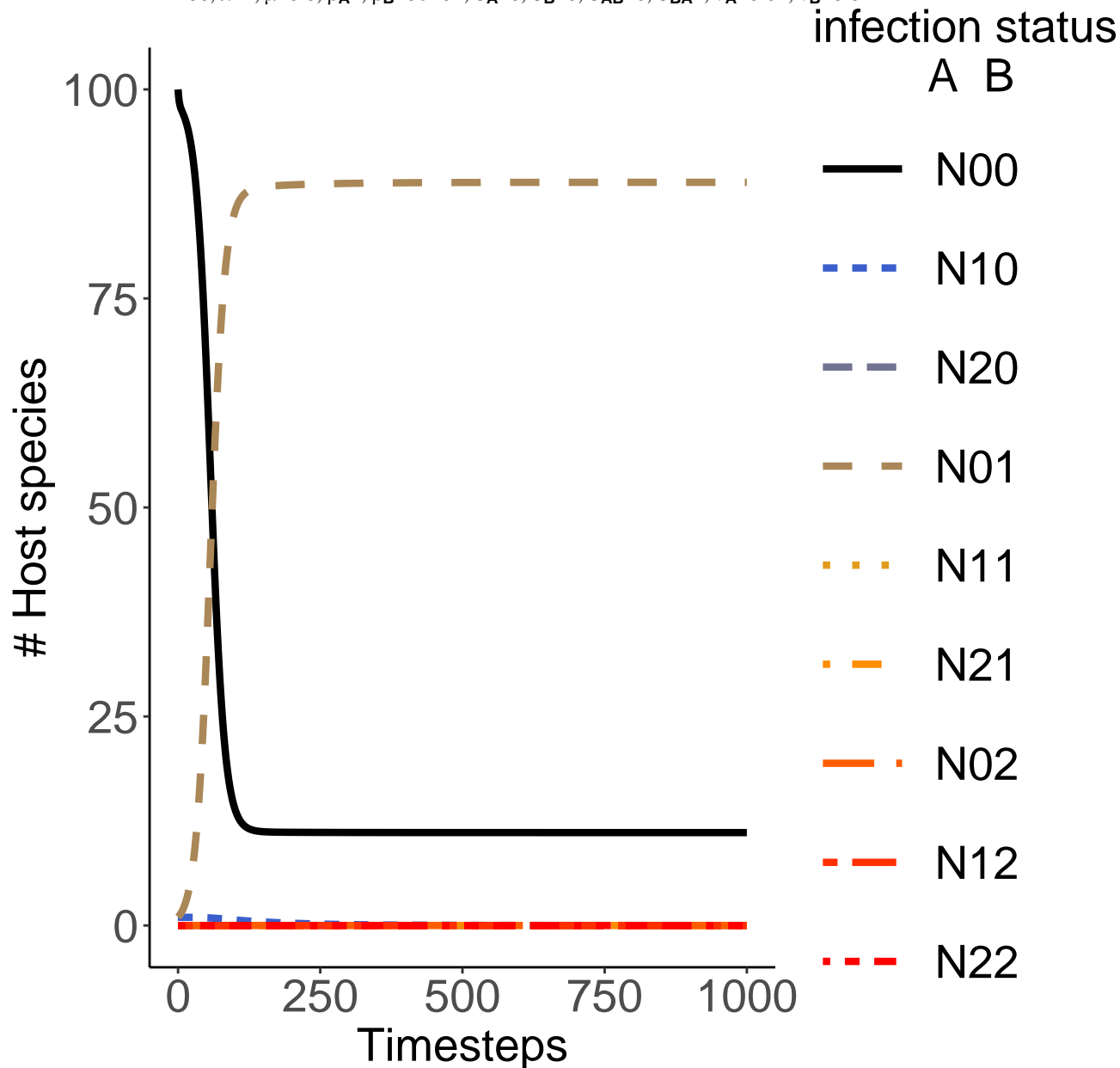
$K=200$ ,  $\lambda=1$ ,  $\mu=0.5$ ,  $\beta_A=$ ,  $\beta_B=8e-04$ ,  $\sigma_A=0$ ,  $\sigma_B=0$ ,  $\sigma_{AB}=0$ ,  $\sigma_{BA}=$ ,  $\nu_A=0.01$ ,  $\nu_B=0.01$





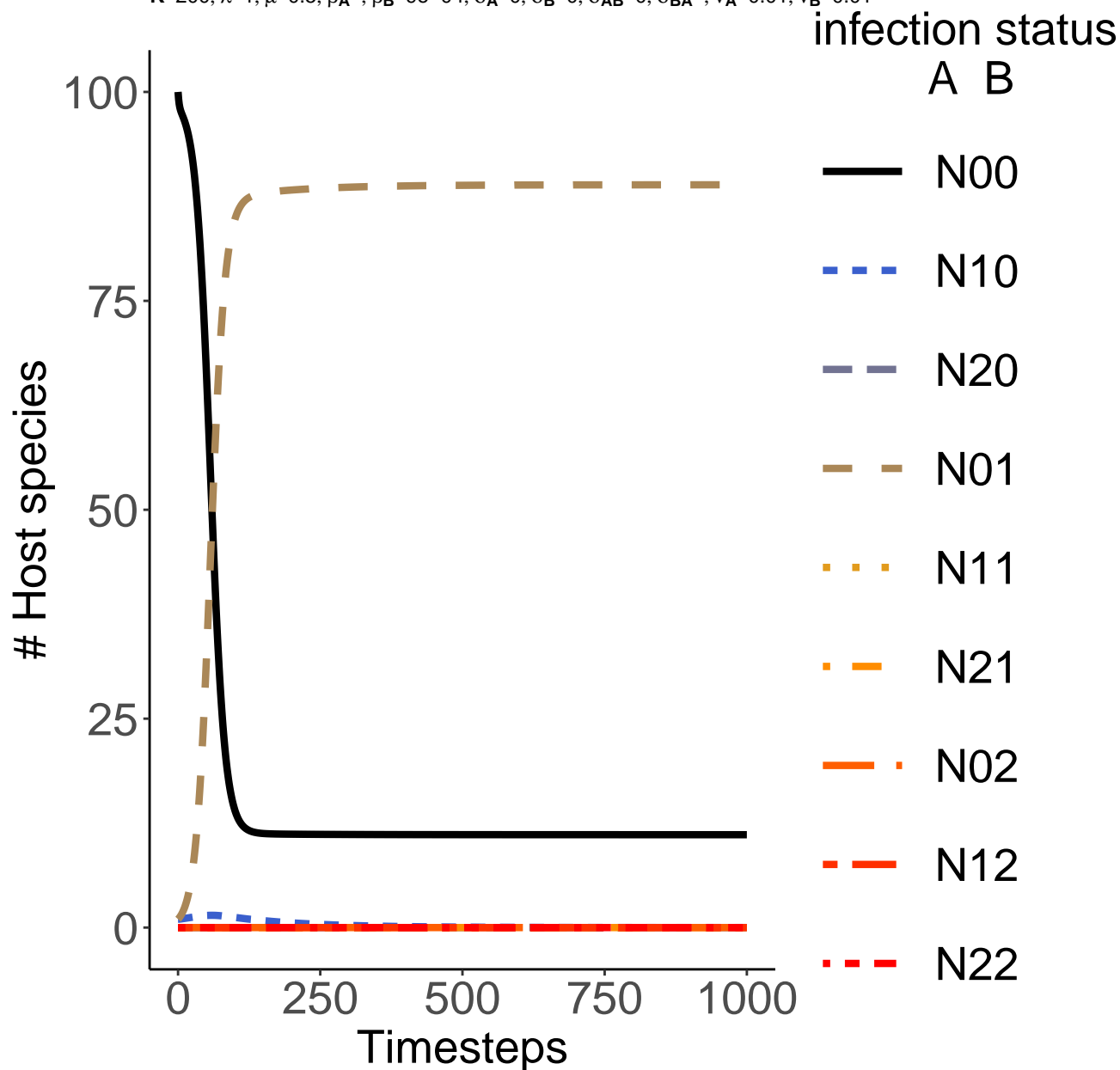
# Number of individuals carrying parasites over time

$K=200$ ,  $\lambda=1$ ,  $\mu=0.5$ ,  $\beta_A=$ ,  $\beta_B=9e-04$ ,  $\sigma_A=0$ ,  $\sigma_B=0$ ,  $\sigma_{AB}=0$ ,  $\sigma_{BA}=$ ,  $v_A=0.01$ ,  $v_B=0.01$



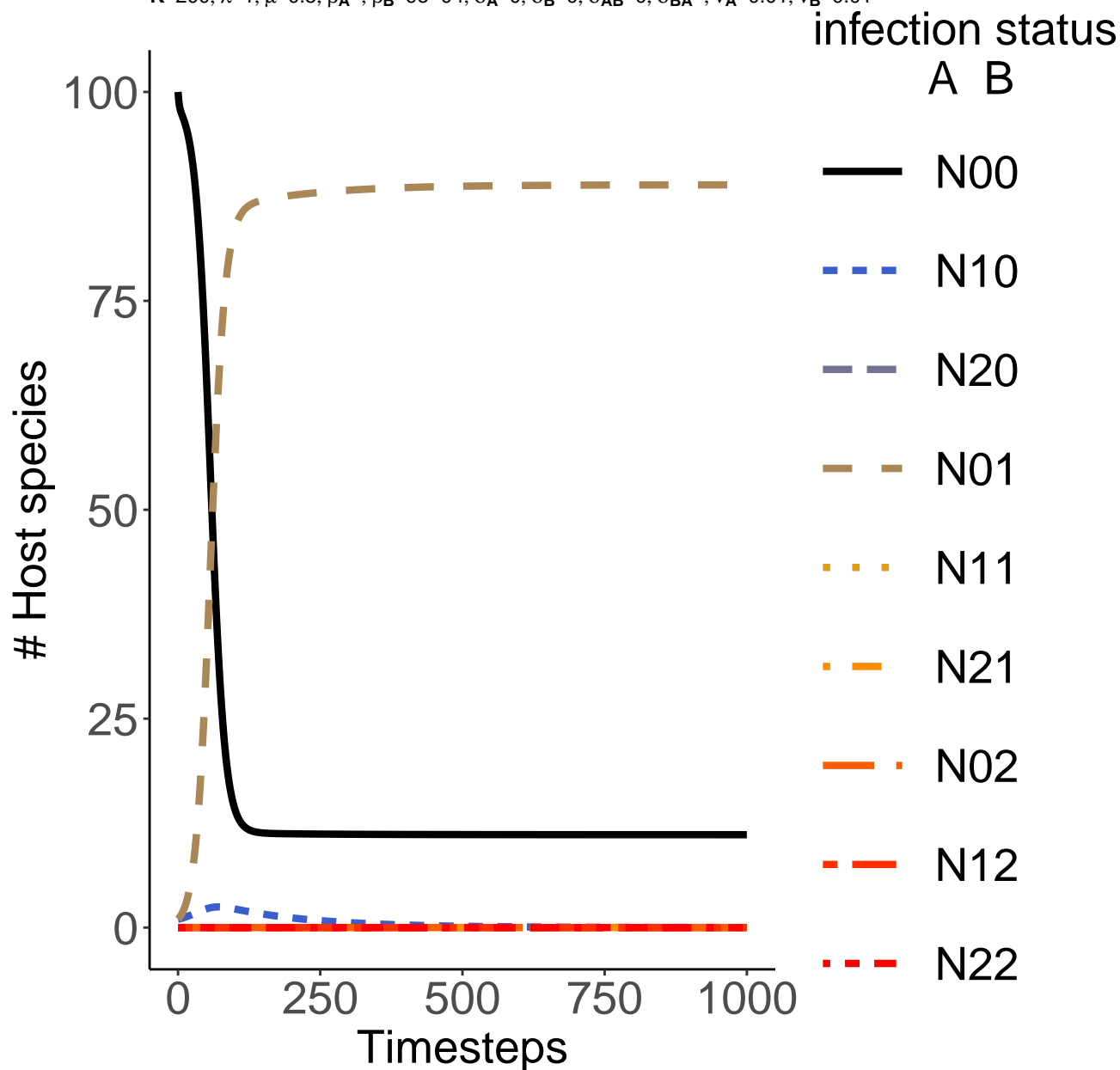
# Number of individuals carrying parasites over time

$K=200$ ,  $\lambda=1$ ,  $\mu=0.5$ ,  $\beta_A=$ ,  $\beta_B=9e-04$ ,  $\sigma_A=0$ ,  $\sigma_B=0$ ,  $\sigma_{AB}=0$ ,  $\sigma_{BA}=$ ,  $v_A=0.01$ ,  $v_B=0.01$



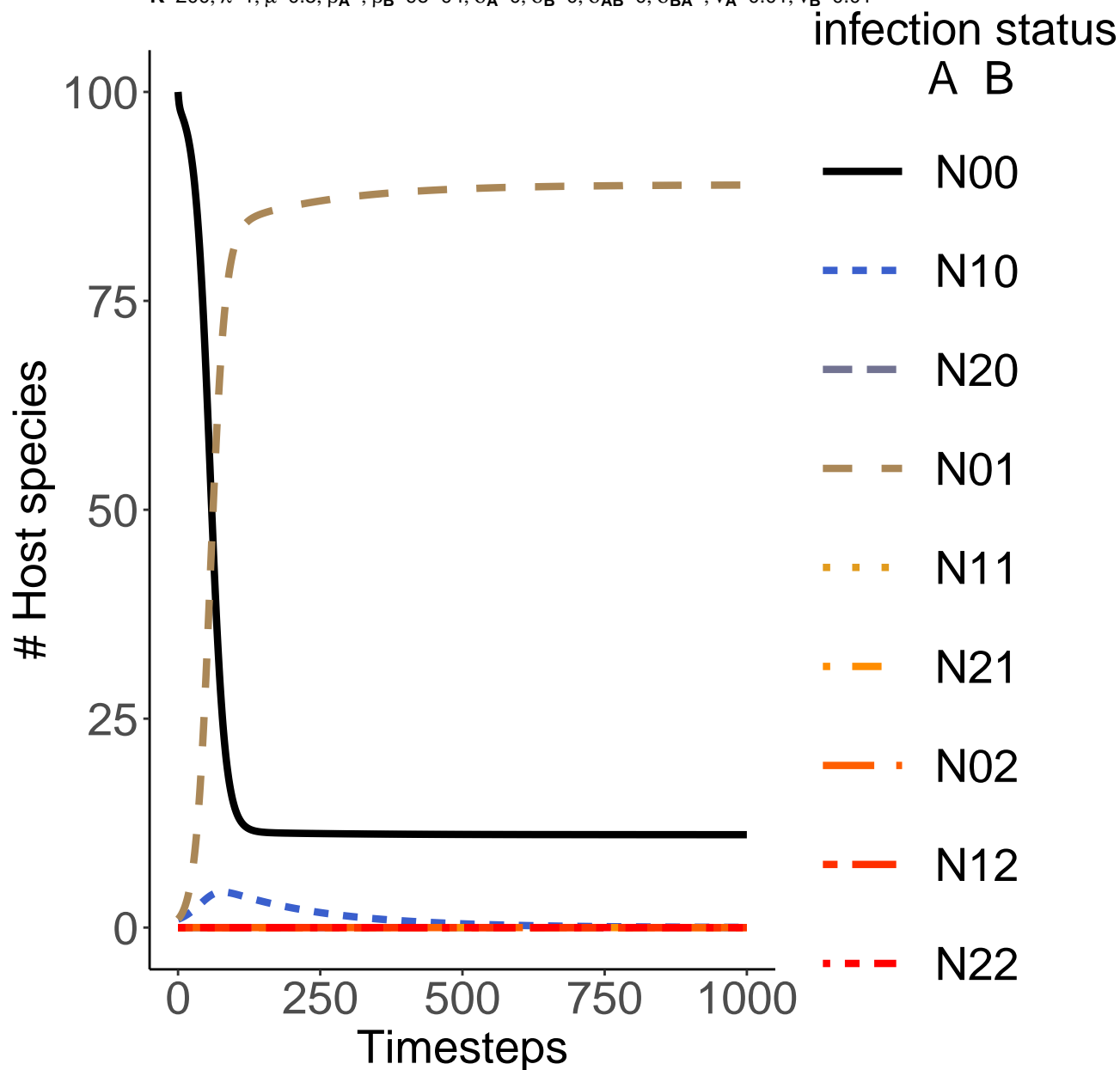
# Number of individuals carrying parasites over time

$K=200$ ,  $\lambda=1$ ,  $\mu=0.5$ ,  $\beta_A=$ ,  $\beta_B=9e-04$ ,  $\sigma_A=0$ ,  $\sigma_B=0$ ,  $\sigma_{AB}=0$ ,  $\sigma_{BA}=$ ,  $v_A=0.01$ ,  $v_B=0.01$



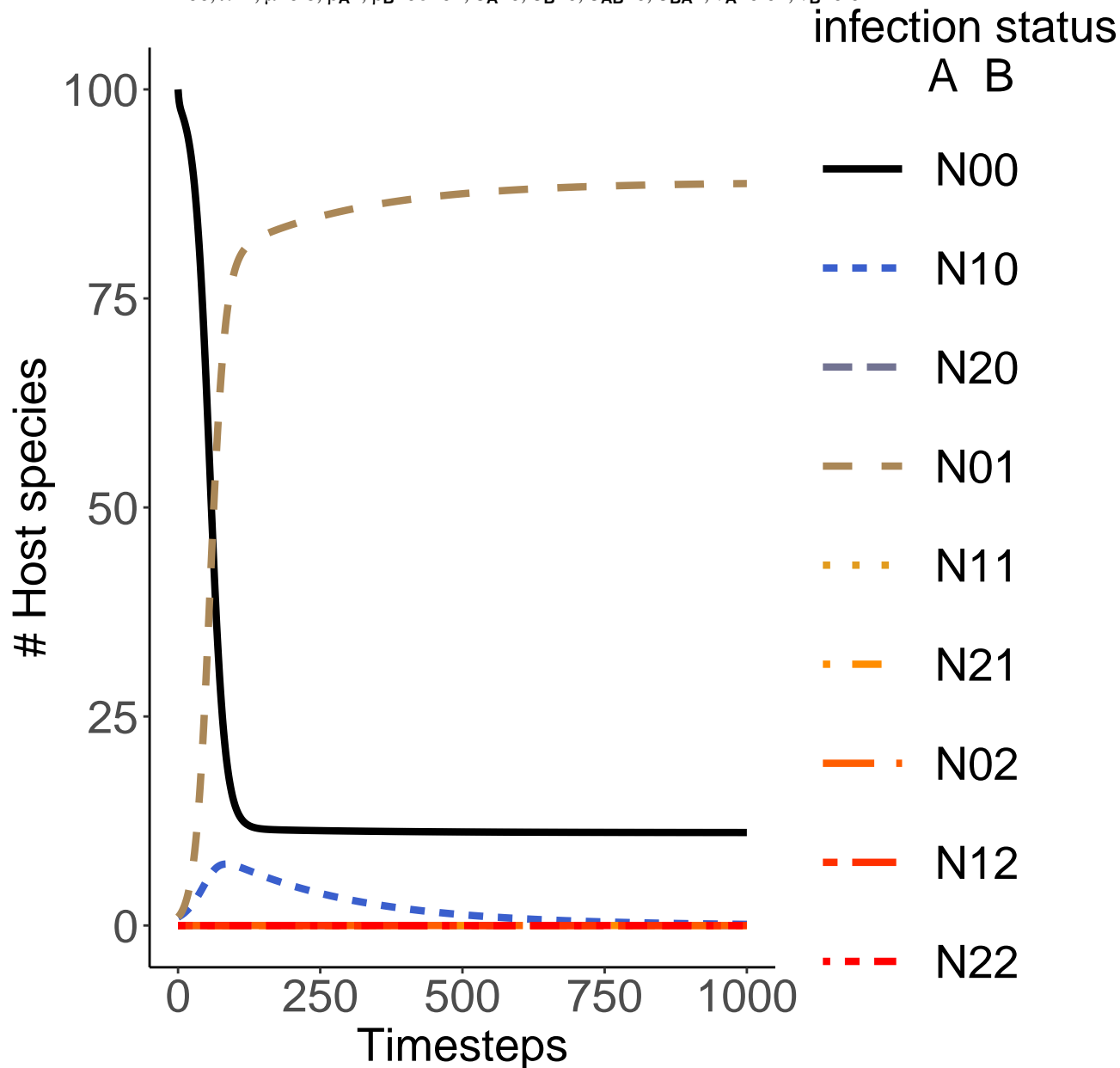
# Number of individuals carrying parasites over time

$K=200$ ,  $\lambda=1$ ,  $\mu=0.5$ ,  $\beta_A=$ ,  $\beta_B=9e-04$ ,  $\sigma_A=0$ ,  $\sigma_B=0$ ,  $\sigma_{AB}=0$ ,  $\sigma_{BA}=$ ,  $\nu_A=0.01$ ,  $\nu_B=0.01$



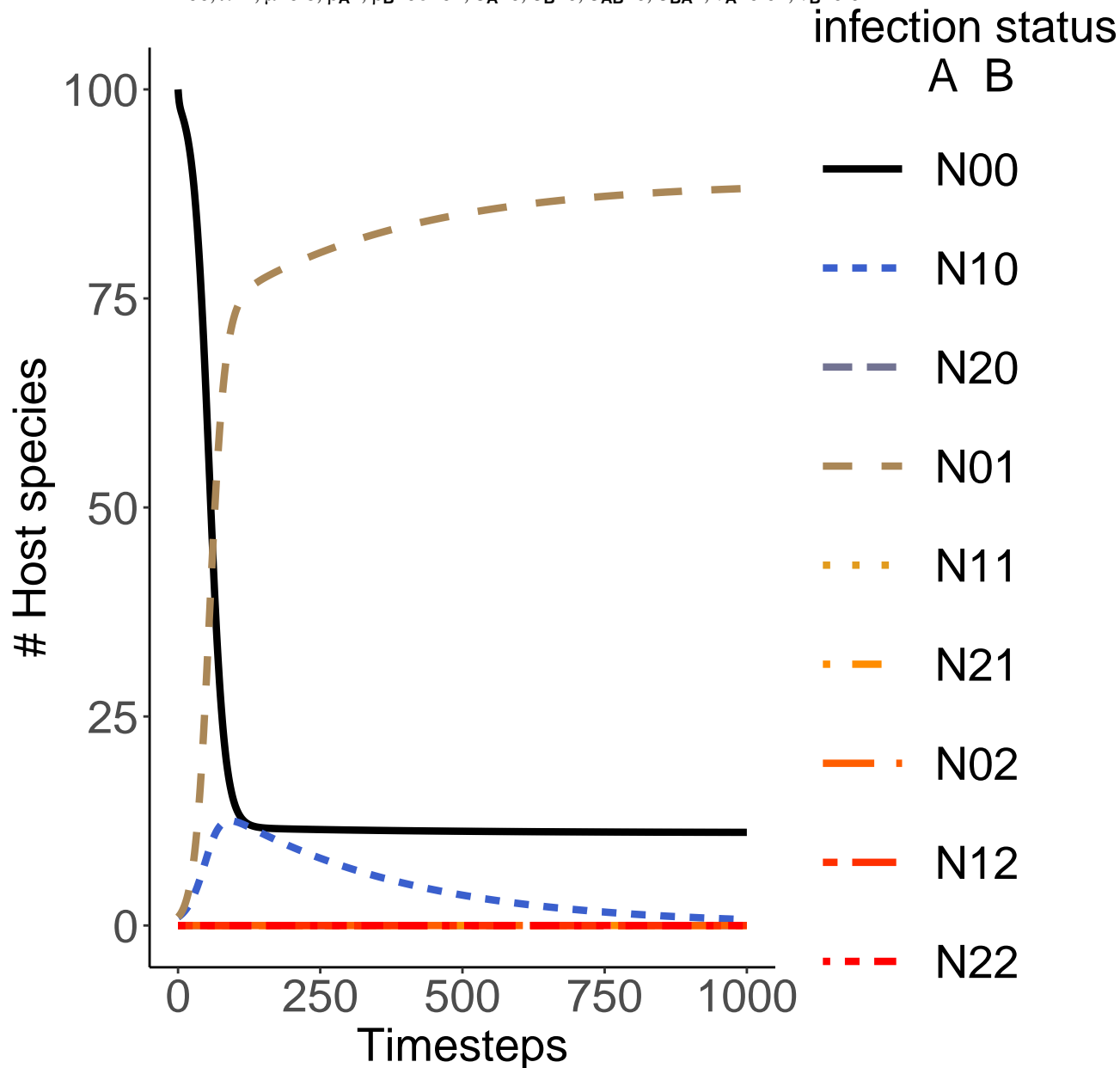
# Number of individuals carrying parasites over time

$K=200$ ,  $\lambda=1$ ,  $\mu=0.5$ ,  $\beta_A=$ ,  $\beta_B=9e-04$ ,  $\sigma_A=0$ ,  $\sigma_B=0$ ,  $\sigma_{AB}=0$ ,  $\sigma_{BA}=$ ,  $\nu_A=0.01$ ,  $\nu_B=0.01$



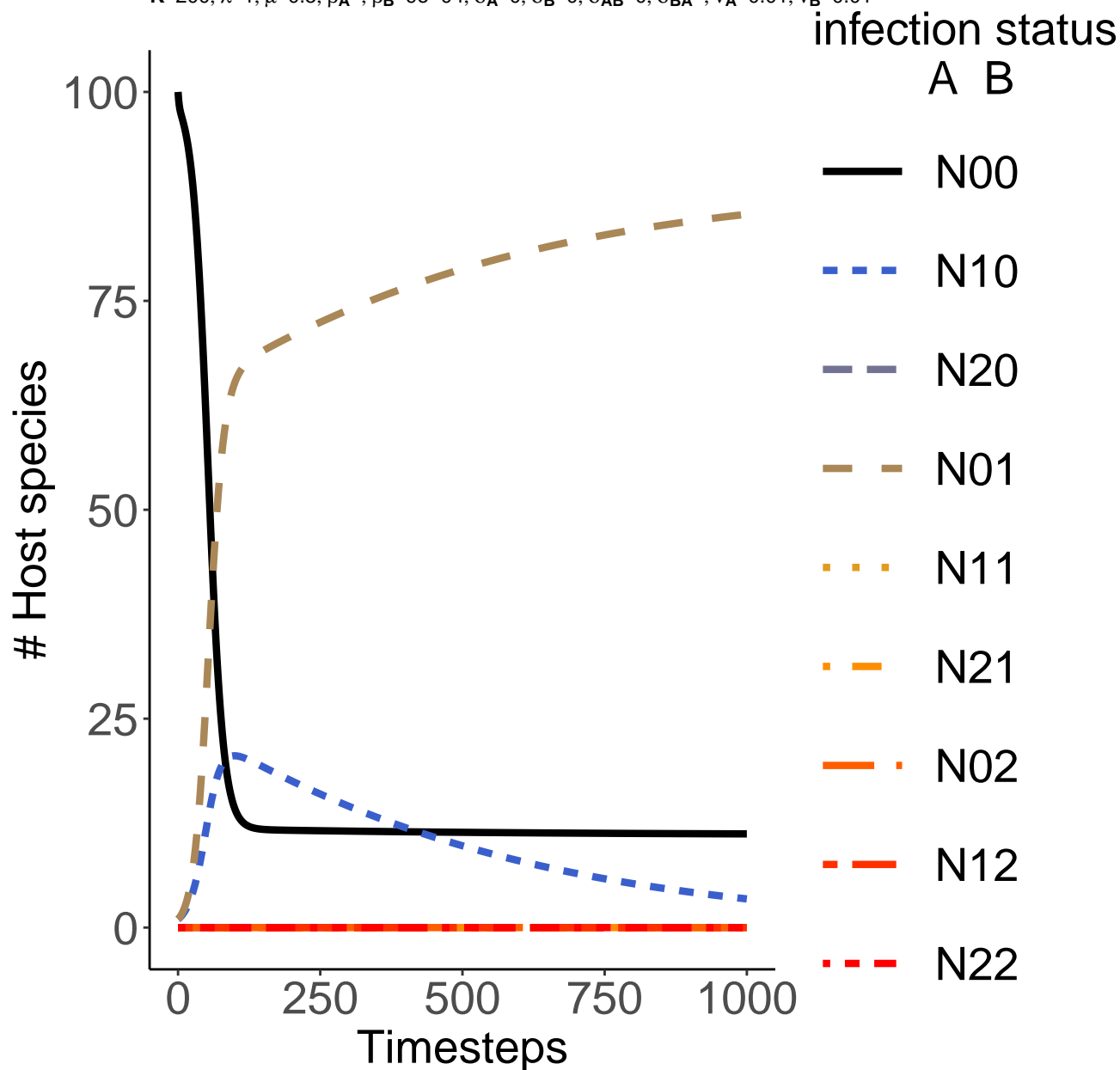
# Number of individuals carrying parasites over time

$K=200$ ,  $\lambda=1$ ,  $\mu=0.5$ ,  $\beta_A=$ ,  $\beta_B=9e-04$ ,  $\sigma_A=0$ ,  $\sigma_B=0$ ,  $\sigma_{AB}=0$ ,  $\sigma_{BA}=$ ,  $\nu_A=0.01$ ,  $\nu_B=0.01$



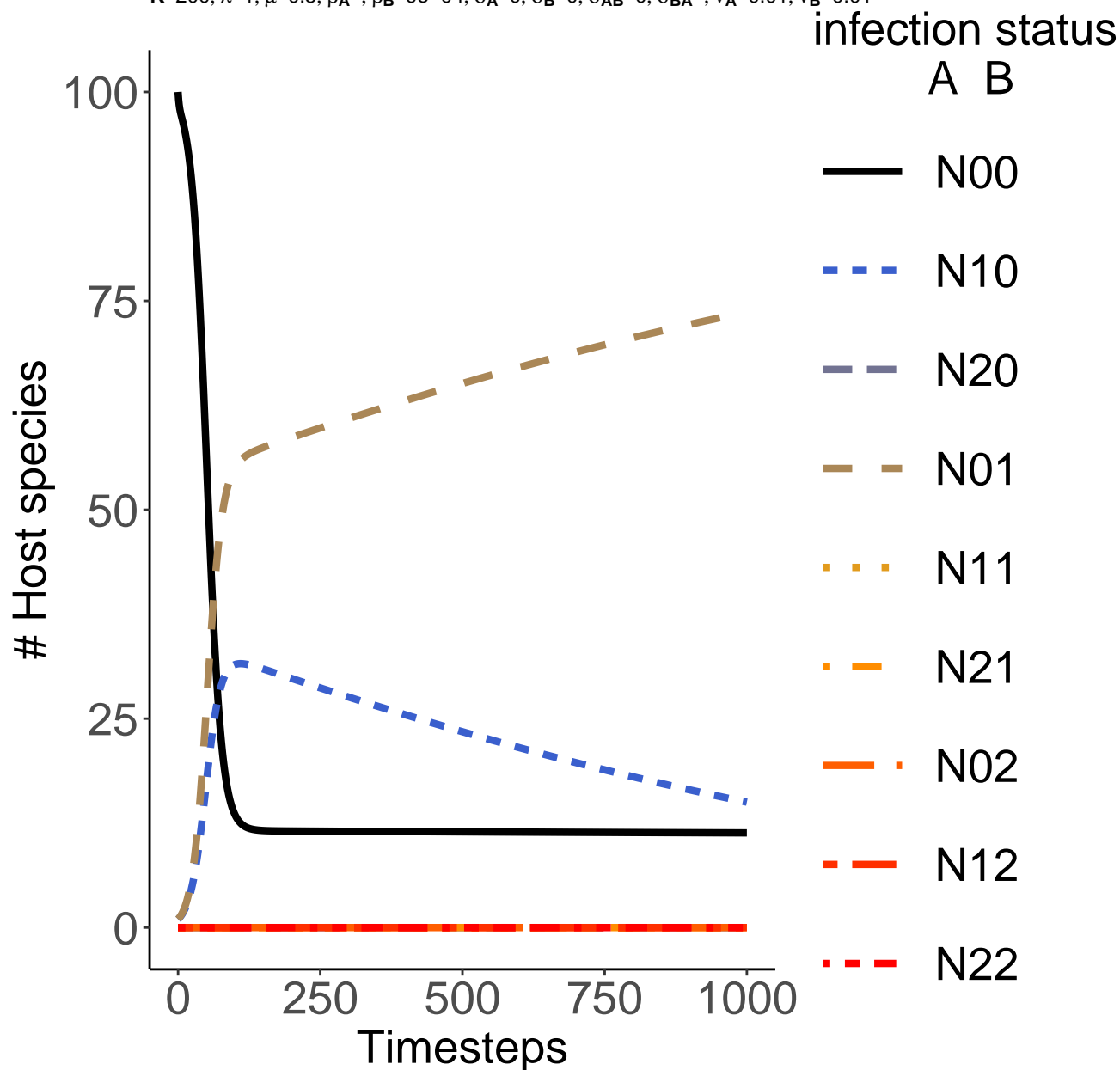
# Number of individuals carrying parasites over time

$K=200$ ,  $\lambda=1$ ,  $\mu=0.5$ ,  $\beta_A=$ ,  $\beta_B=9e-04$ ,  $\sigma_A=0$ ,  $\sigma_B=0$ ,  $\sigma_{AB}=0$ ,  $\sigma_{BA}=$ ,  $\nu_A=0.01$ ,  $\nu_B=0.01$



# Number of individuals carrying parasites over time

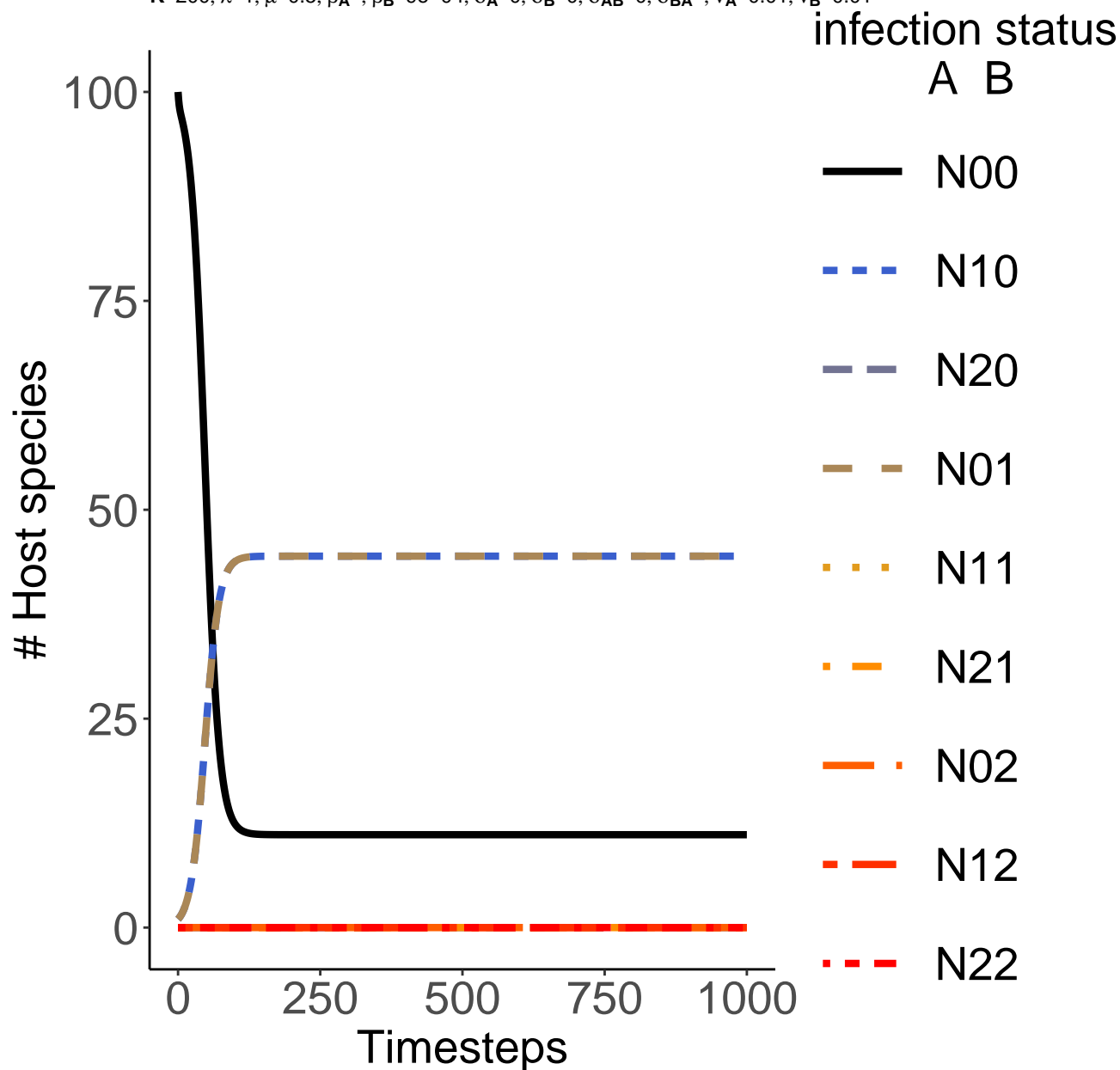
$K=200$ ,  $\lambda=1$ ,  $\mu=0.5$ ,  $\beta_A=$ ,  $\beta_B=9e-04$ ,  $\sigma_A=0$ ,  $\sigma_B=0$ ,  $\sigma_{AB}=0$ ,  $\sigma_{BA}=$ ,  $\nu_A=0.01$ ,  $\nu_B=0.01$





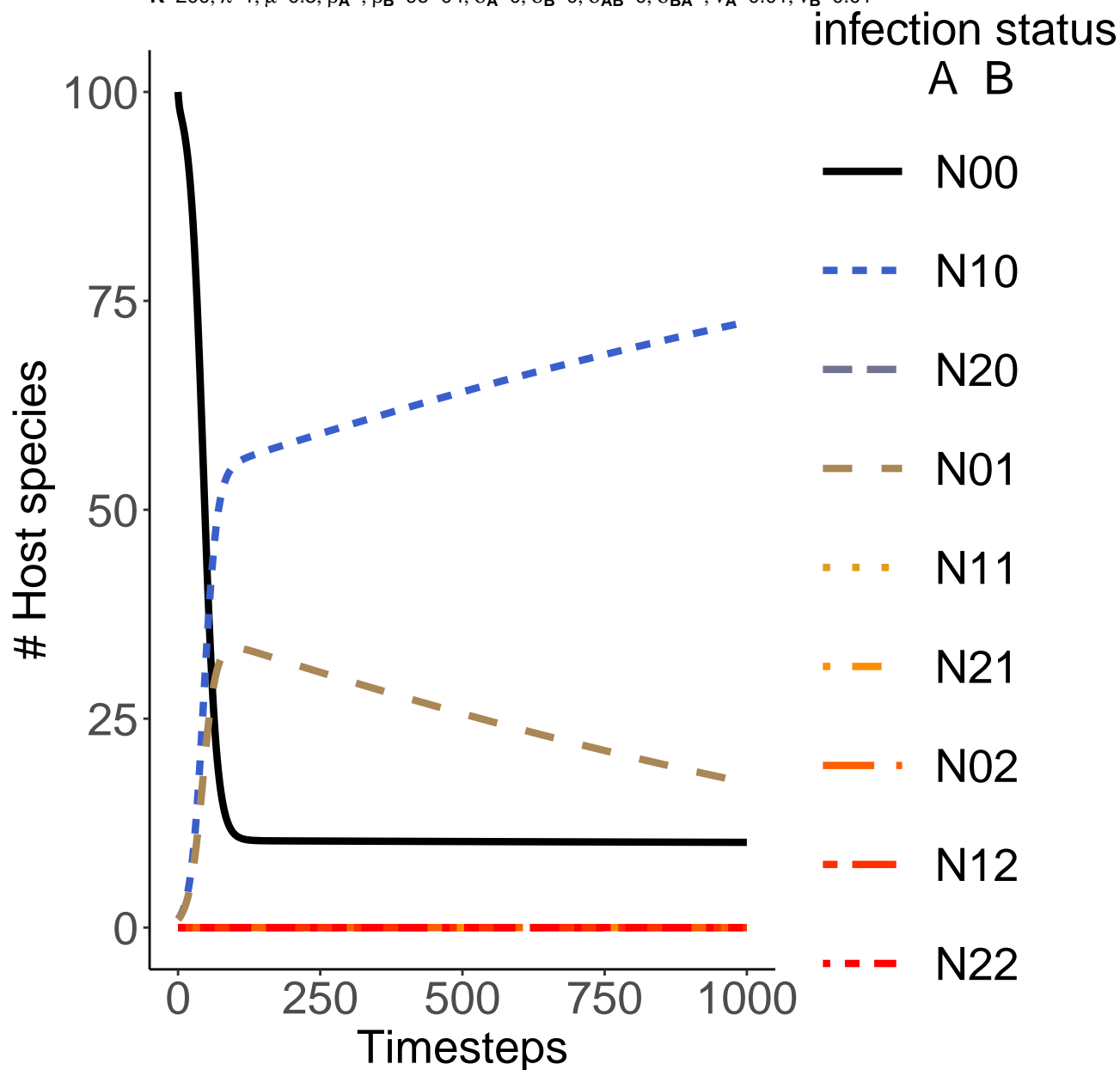
# Number of individuals carrying parasites over time

$K=200$ ,  $\lambda=1$ ,  $\mu=0.5$ ,  $\beta_A=$ ,  $\beta_B=9e-04$ ,  $\sigma_A=0$ ,  $\sigma_B=0$ ,  $\sigma_{AB}=0$ ,  $\sigma_{BA}=$ ,  $v_A=0.01$ ,  $v_B=0.01$



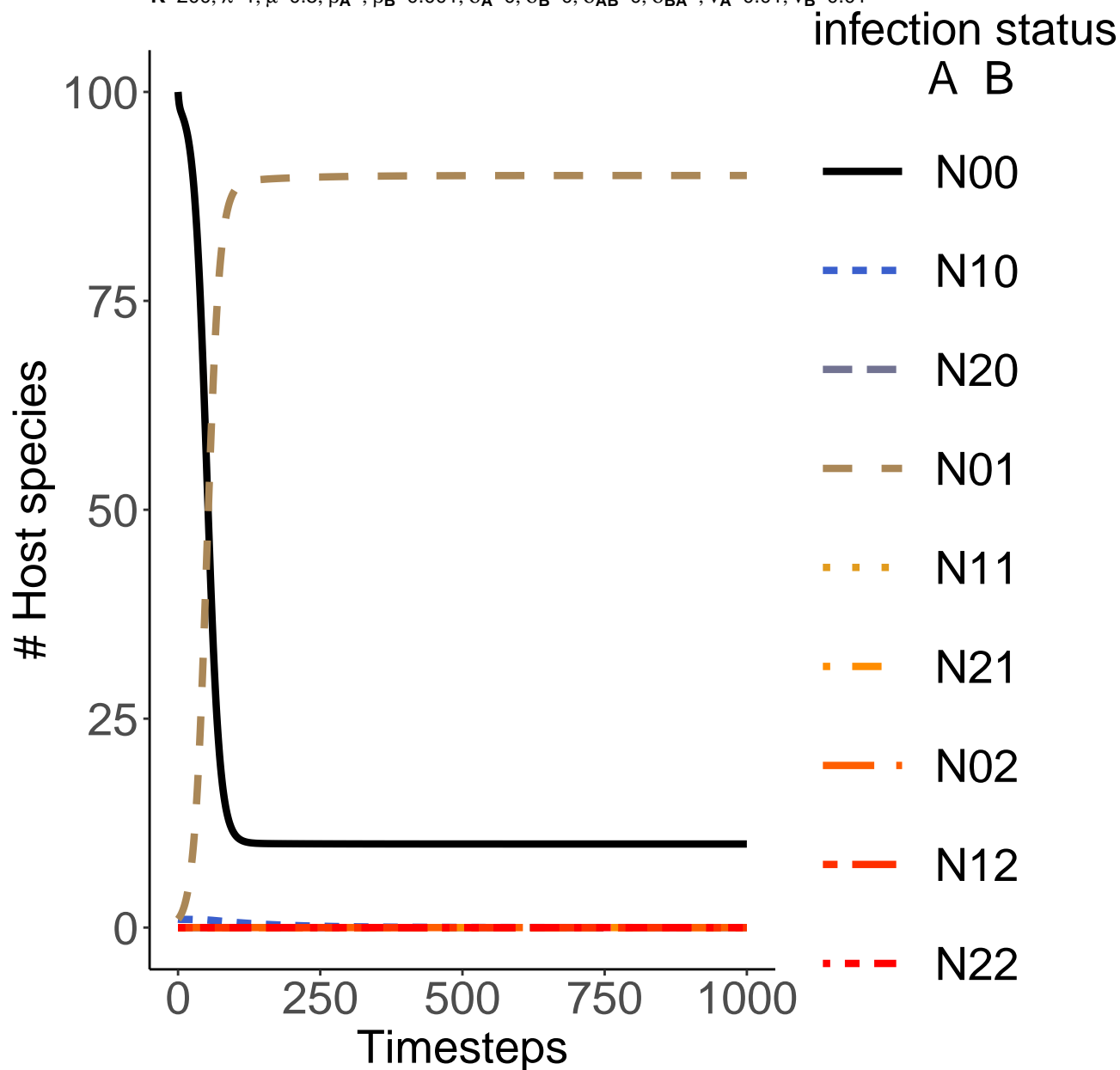
# Number of individuals carrying parasites over time

$K=200$ ,  $\lambda=1$ ,  $\mu=0.5$ ,  $\beta_A=$ ,  $\beta_B=9e-04$ ,  $\sigma_A=0$ ,  $\sigma_B=0$ ,  $\sigma_{AB}=0$ ,  $\sigma_{BA}=$ ,  $\nu_A=0.01$ ,  $\nu_B=0.01$



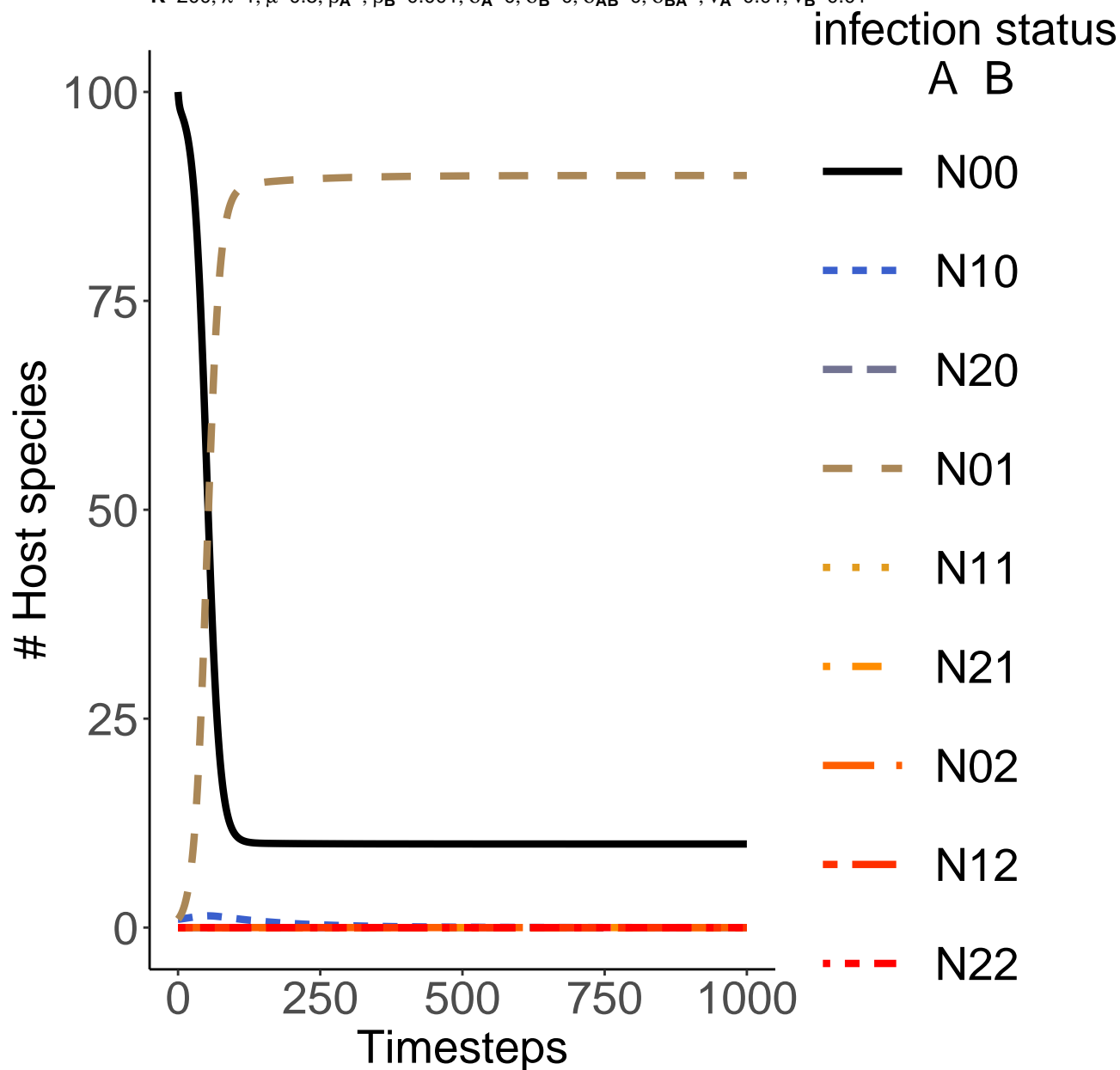
# Number of individuals carrying parasites over time

$K=200$ ,  $\lambda=1$ ,  $\mu=0.5$ ,  $\beta_A=$ ,  $\beta_B=0.001$ ,  $\sigma_A=0$ ,  $\sigma_B=0$ ,  $\sigma_{AB}=0$ ,  $\sigma_{BA}=$ ,  $v_A=0.01$ ,  $v_B=0.01$



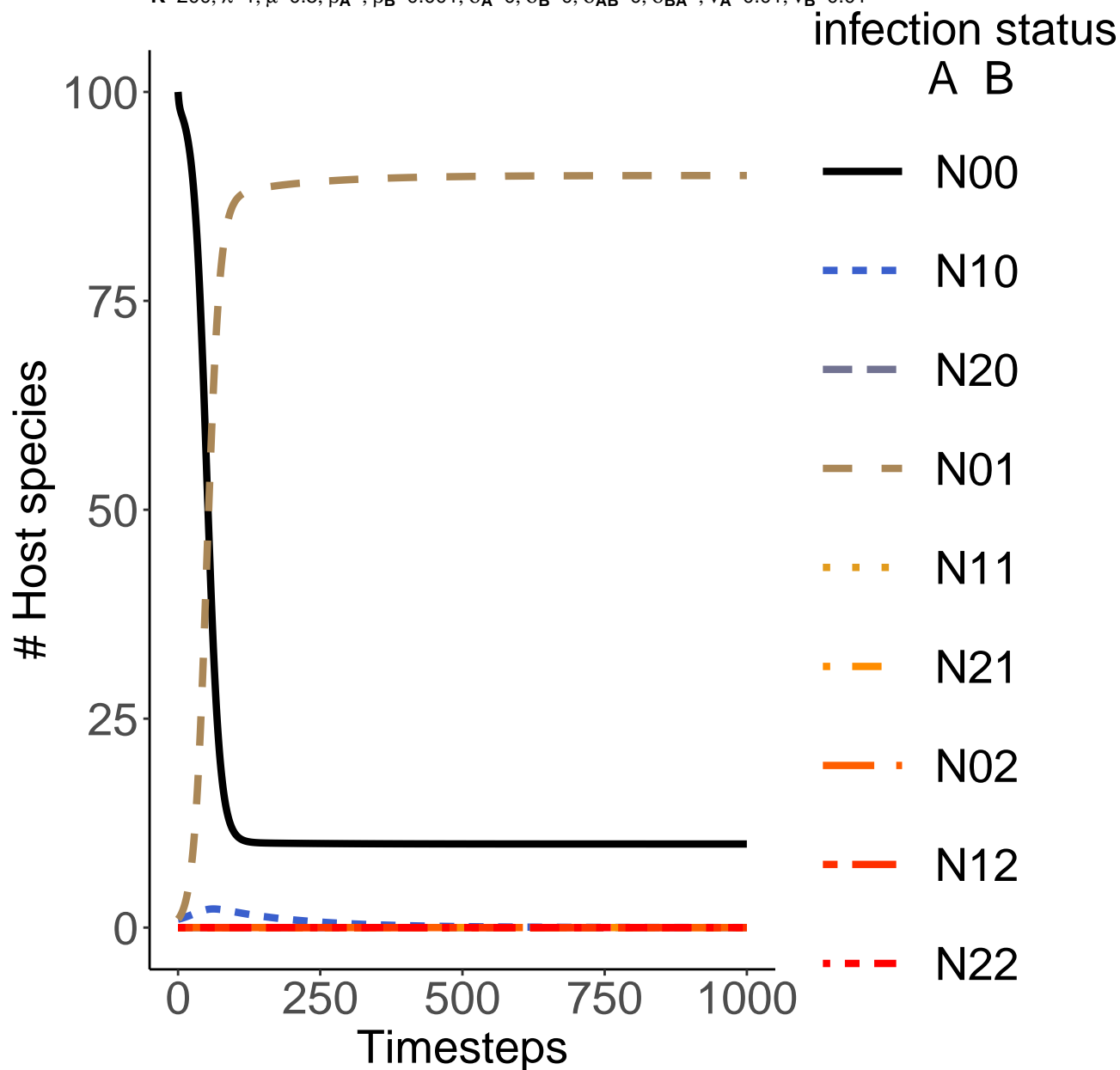
# Number of individuals carrying parasites over time

$K=200$ ,  $\lambda=1$ ,  $\mu=0.5$ ,  $\beta_A=$ ,  $\beta_B=0.001$ ,  $\sigma_A=0$ ,  $\sigma_B=0$ ,  $\sigma_{AB}=0$ ,  $\sigma_{BA}=$ ,  $v_A=0.01$ ,  $v_B=0.01$



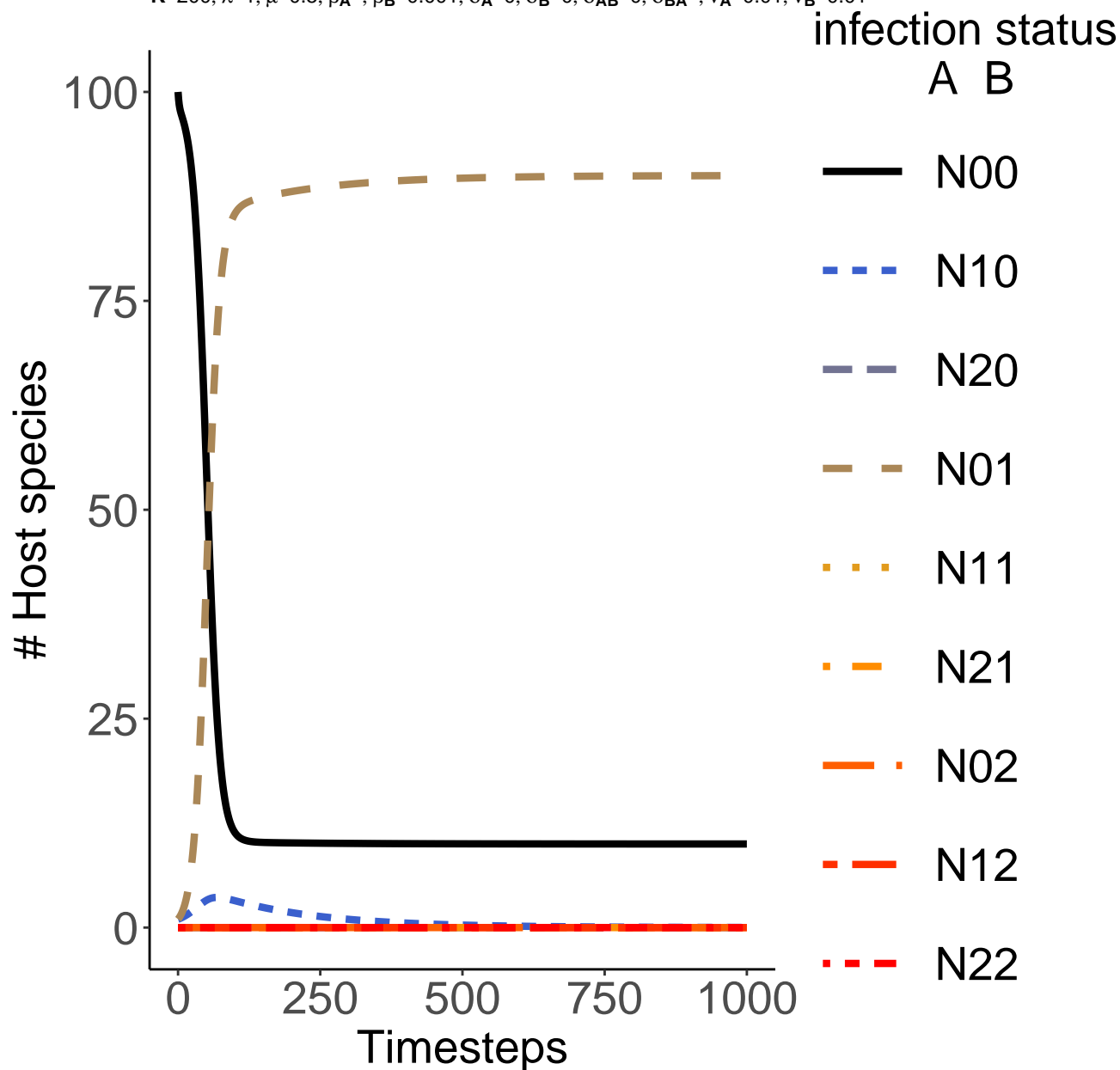
# Number of individuals carrying parasites over time

$K=200$ ,  $\lambda=1$ ,  $\mu=0.5$ ,  $\beta_A=$ ,  $\beta_B=0.001$ ,  $\sigma_A=0$ ,  $\sigma_B=0$ ,  $\sigma_{AB}=0$ ,  $\sigma_{BA}=$ ,  $v_A=0.01$ ,  $v_B=0.01$



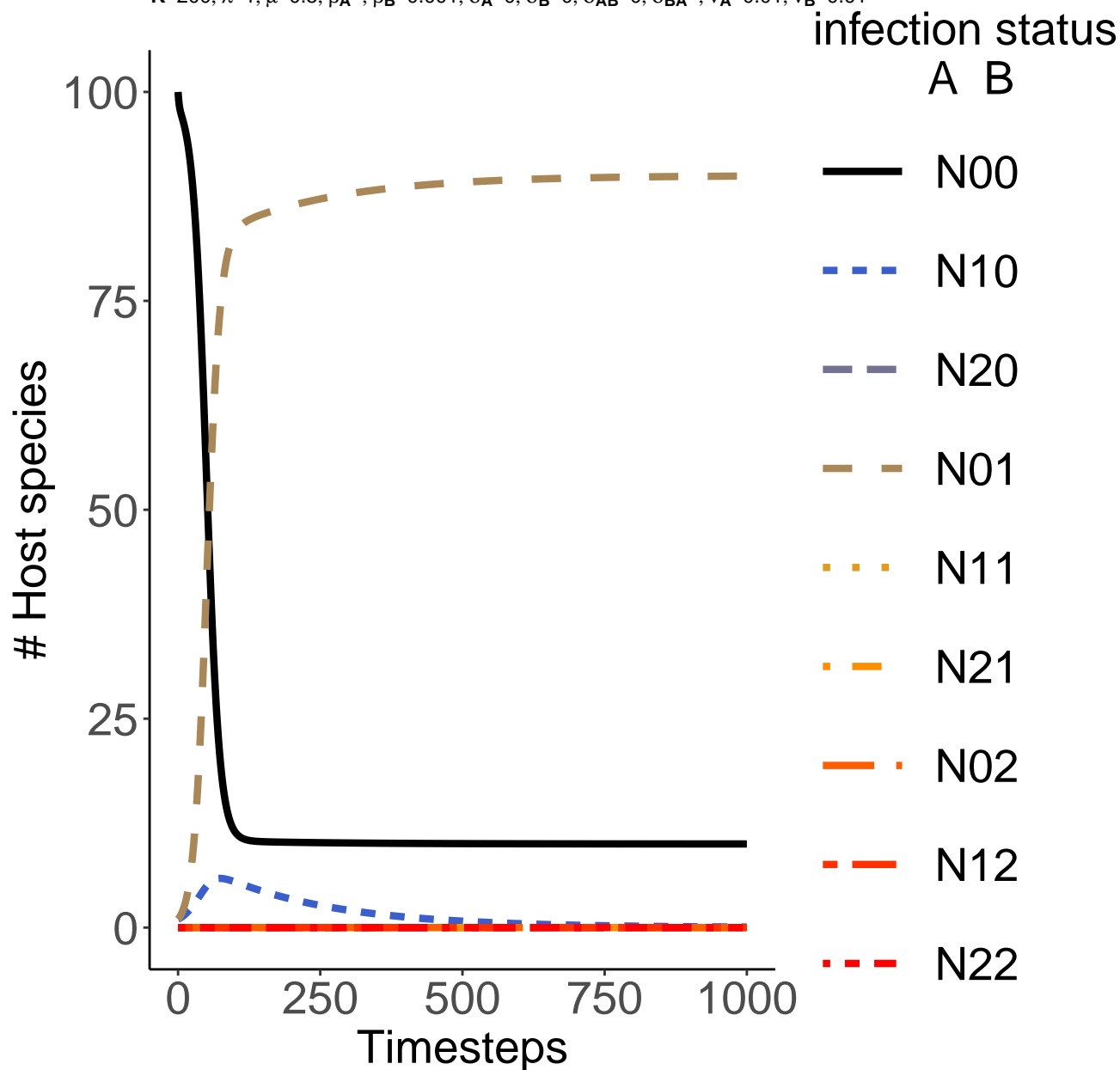
# Number of individuals carrying parasites over time

$K=200$ ,  $\lambda=1$ ,  $\mu=0.5$ ,  $\beta_A=$ ,  $\beta_B=0.001$ ,  $\sigma_A=0$ ,  $\sigma_B=0$ ,  $\sigma_{AB}=0$ ,  $\sigma_{BA}=$ ,  $v_A=0.01$ ,  $v_B=0.01$



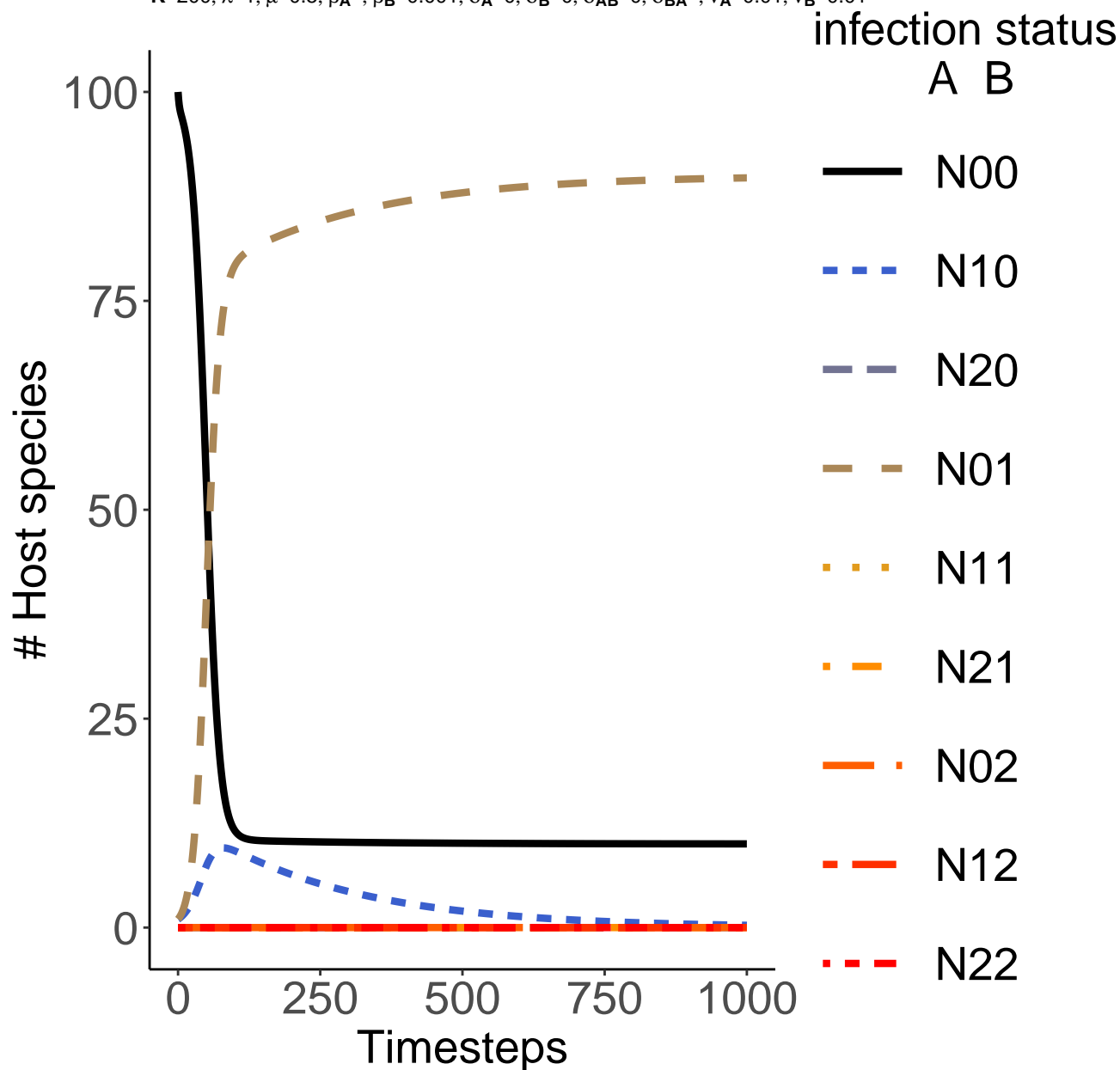
# Number of individuals carrying parasites over time

$K=200$ ,  $\lambda=1$ ,  $\mu=0.5$ ,  $\beta_A=$ ,  $\beta_B=0.001$ ,  $\sigma_A=0$ ,  $\sigma_B=0$ ,  $\sigma_{AB}=0$ ,  $\sigma_{BA}=$ ,  $v_A=0.01$ ,  $v_B=0.01$



# Number of individuals carrying parasites over time

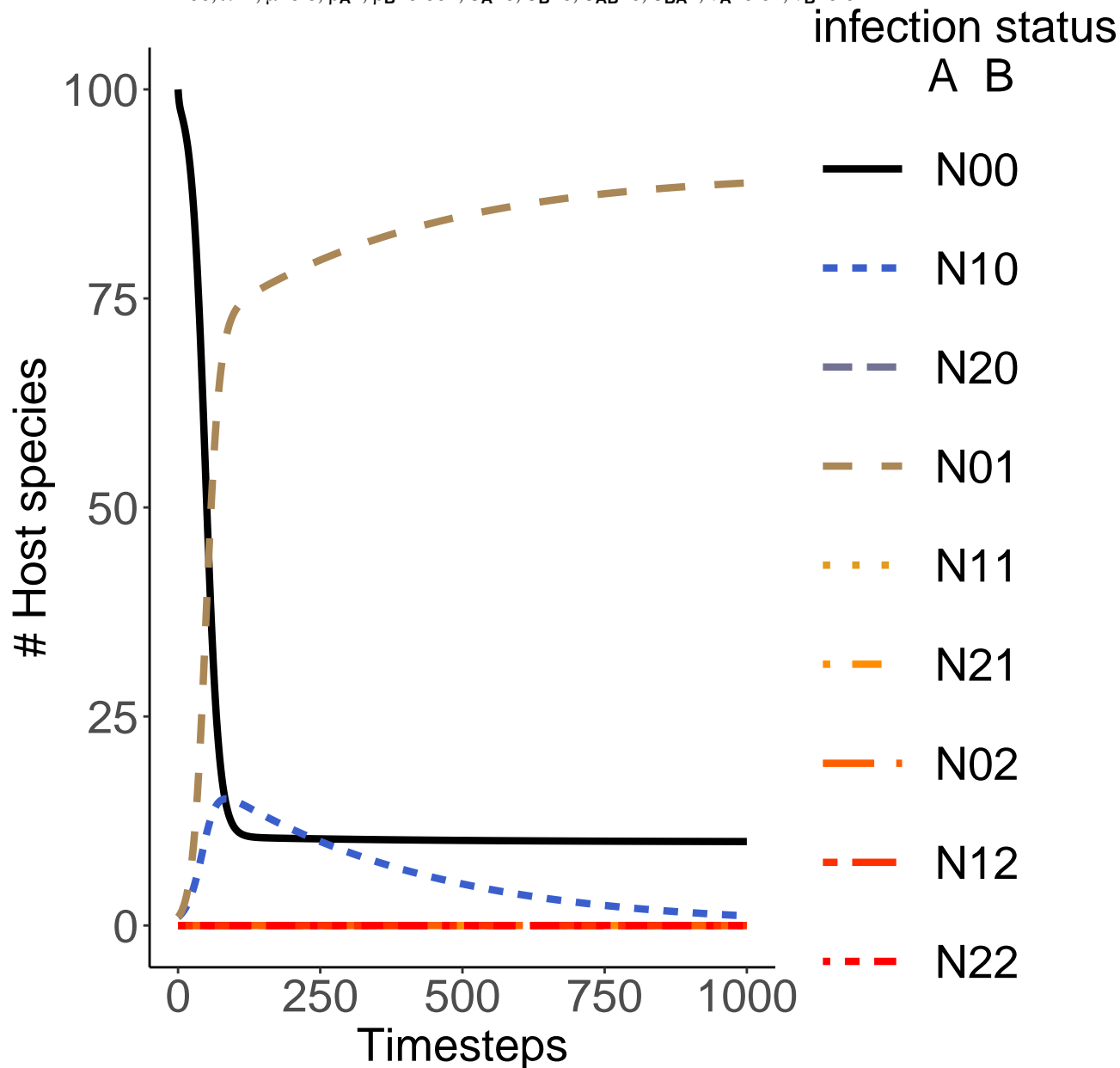
$K=200$ ,  $\lambda=1$ ,  $\mu=0.5$ ,  $\beta_A=$ ,  $\beta_B=0.001$ ,  $\sigma_A=0$ ,  $\sigma_B=0$ ,  $\sigma_{AB}=0$ ,  $\sigma_{BA}=$ ,  $v_A=0.01$ ,  $v_B=0.01$





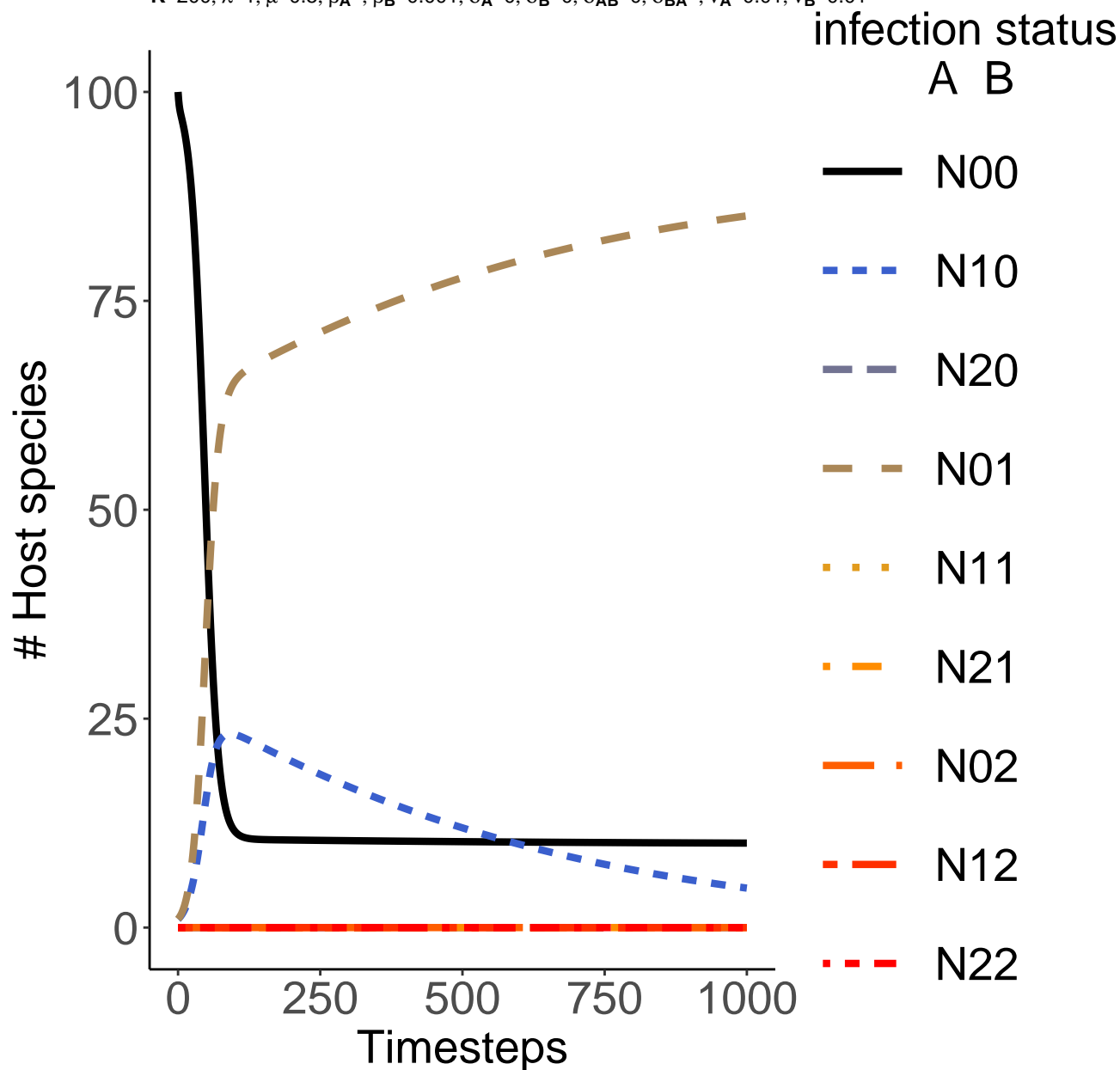
# Number of individuals carrying parasites over time

$K=200$ ,  $\lambda=1$ ,  $\mu=0.5$ ,  $\beta_A=$ ,  $\beta_B=0.001$ ,  $\sigma_A=0$ ,  $\sigma_B=0$ ,  $\sigma_{AB}=0$ ,  $\sigma_{BA}=$ ,  $v_A=0.01$ ,  $v_B=0.01$



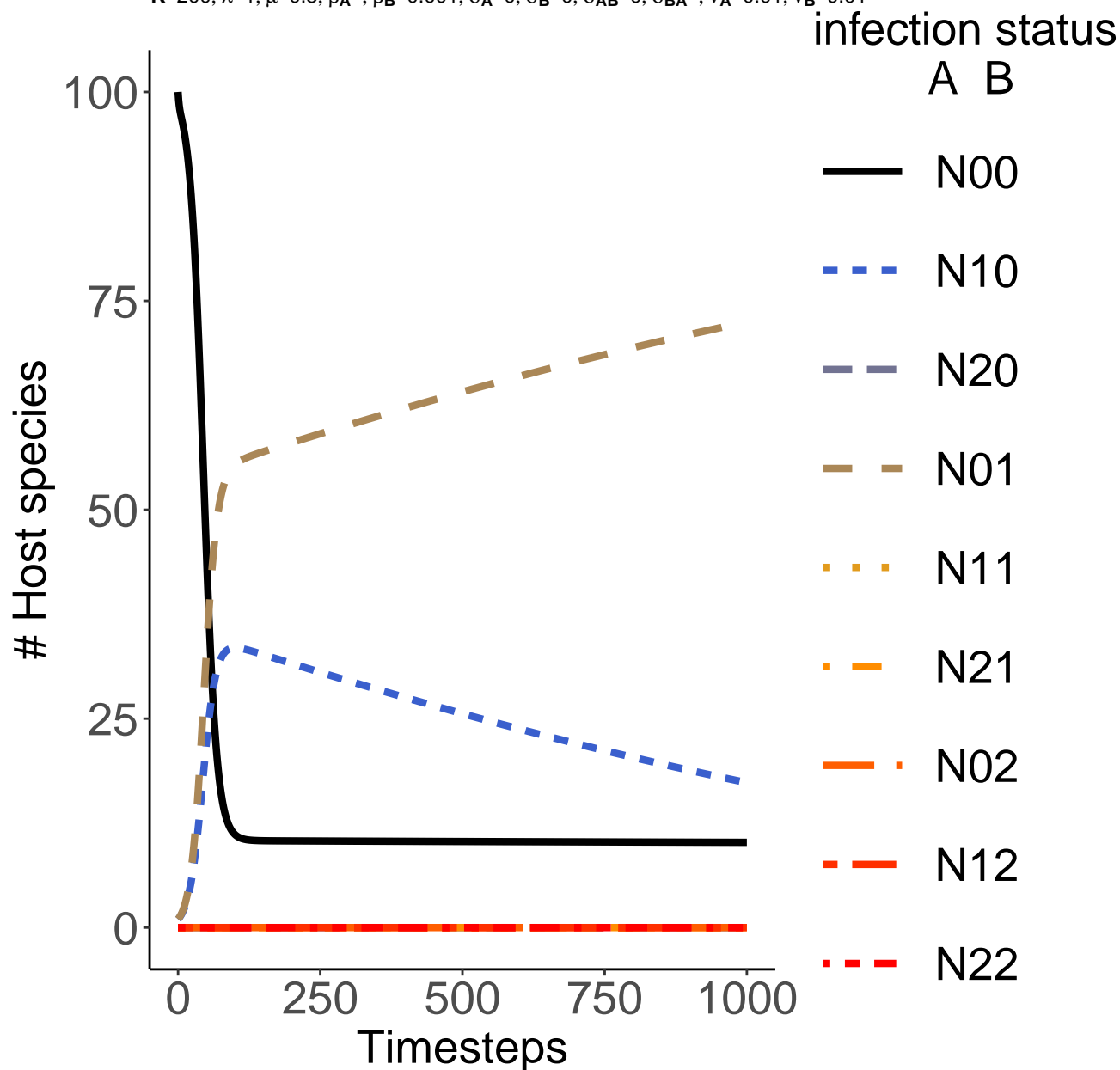
# Number of individuals carrying parasites over time

$K=200$ ,  $\lambda=1$ ,  $\mu=0.5$ ,  $\beta_A=$ ,  $\beta_B=0.001$ ,  $\sigma_A=0$ ,  $\sigma_B=0$ ,  $\sigma_{AB}=0$ ,  $\sigma_{BA}=$ ,  $v_A=0.01$ ,  $v_B=0.01$



# Number of individuals carrying parasites over time

$K=200$ ,  $\lambda=1$ ,  $\mu=0.5$ ,  $\beta_A=$ ,  $\beta_B=0.001$ ,  $\sigma_A=0$ ,  $\sigma_B=0$ ,  $\sigma_{AB}=0$ ,  $\sigma_{BA}=$ ,  $v_A=0.01$ ,  $v_B=0.01$



# Number of individuals carrying parasites over time

$K=200$ ,  $\lambda=1$ ,  $\mu=0.5$ ,  $\beta_A=$ ,  $\beta_B=0.001$ ,  $\sigma_A=0$ ,  $\sigma_B=0$ ,  $\sigma_{AB}=0$ ,  $\sigma_{BA}=$ ,  $v_A=0.01$ ,  $v_B=0.01$

