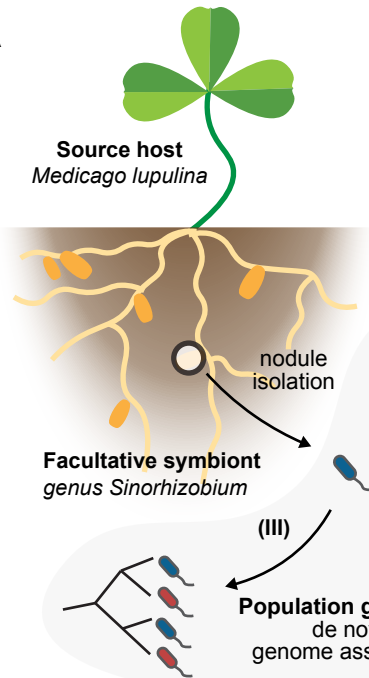
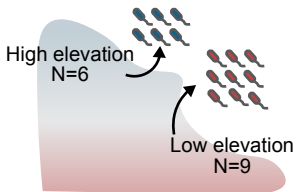
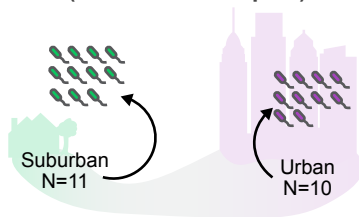


A**B**

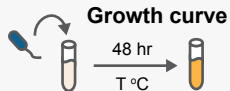
Elevation gradient
(Appalachian Mountains)



Urbanization gradient
(Greater Philadelphia)

**C**

(I) Free-living



(II) Within-host

Source host
M. lupulina



Alternative host
M. sativa

(Partnership with CURE)



(III)

Population genomics
de novo
genome assemblies

