

EVOLUTIONARY IMPLICATIONS OF PARASITE INVASIONS



Marieke Feis, Anouk Goedknecht, Christian Buschbaum, David Thielges & K. Mathias Wegner



ALFRED-WEGENER-INSTITUT
HELMHOLTZ-ZENTRUM FÜR POLAR-
UND MEERESFORSCHUNG

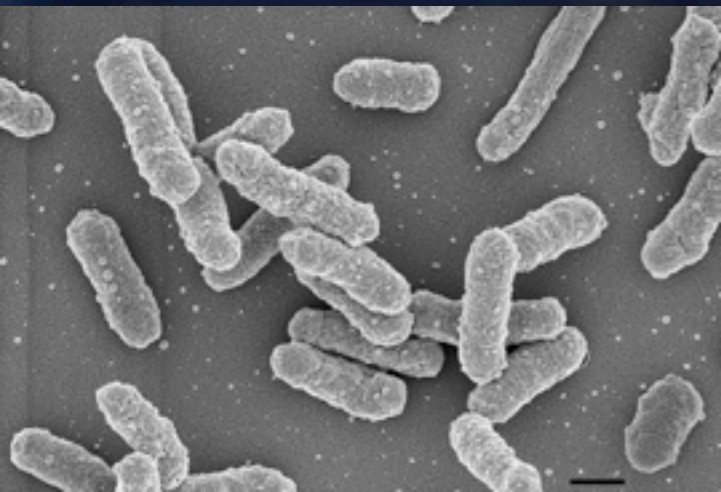


DFG SPP 1399
host-parasite  coevolution

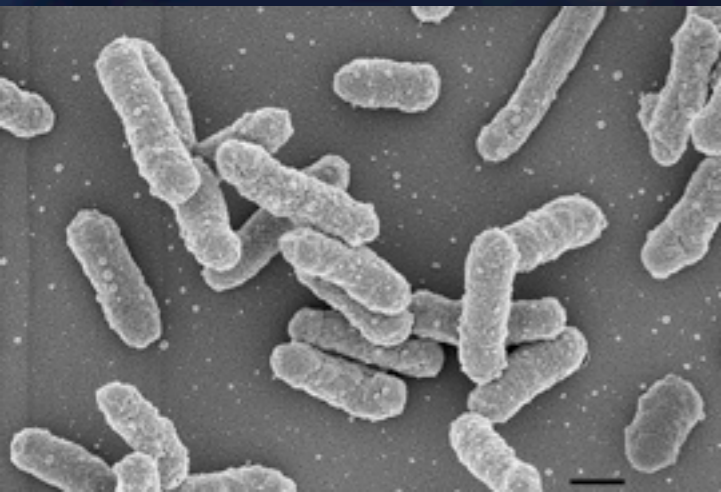


“It is much easier for a mouse to get a set of genes which enable it to resist *Bacillus typhimurium* than a set which enables it to resist cats”

J.B.S. Haldane



Jan Brueghel - The Triumph of Death, 1597



1 μm Cholera1 1/6/0 REMF



Jan Brueghel - The Triumph of Death, 1597



HOT



WETTER



37 % SPAREN



BILD.SHOP



COMMUNITY



LOGIN



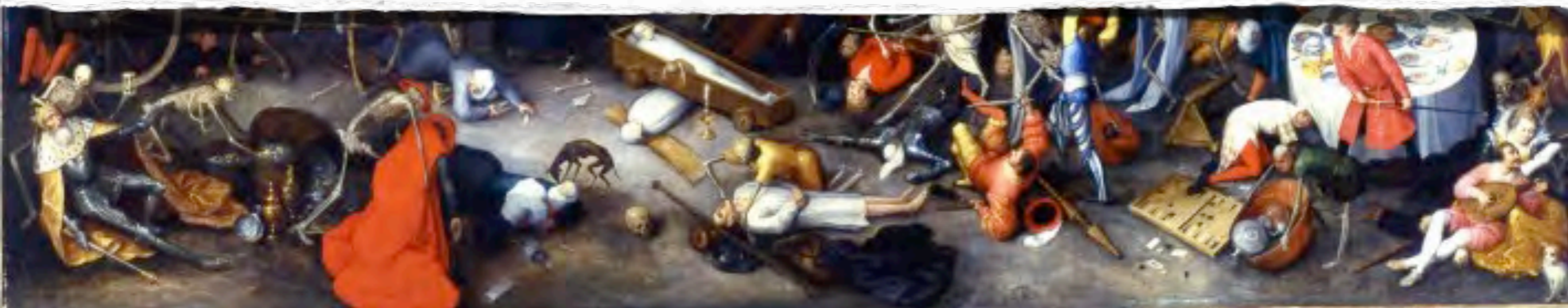
🏠 BILDplus NEWS POLITIK GELD UNTERHALTUNG SPORT BUNDESLIGA LIFESTYLE RATGEBER REISE AUTO DIGITAL SPIELE REGIO VIDEO 🔍

02.09.2014 - 20:54 UHR | HOME | NEWS AKTUELL | DEUTSCHLAND | OSTSEE - VIBRIONEN-INFEKTION: ERSTER TOTER DURCH OSTSEE-BAKTERIEN


ERSTER TOTER GEMELDET!

Ostsee-Bakterien fressen sich in Schwimmer

Baltic Sea bacteria feast on Swimmer
-Vibrio vulnificus



Jan Brueghel - The Triumph of Death, 1597



Published on the 09/08/2013

Abnormal mortality events of *Crassostrea gigas* adults are reported in most French oyster production areas

In 2012, some abnormal mortality events of adults *Crassostrea gigas* occurred in several oyster producing areas in France. These mortality outbreaks were associated with the detection of *Vibrio aestuarianus*.



Jan Brueghel - The Triumph of Death, 1597

THE WADDEN SEA

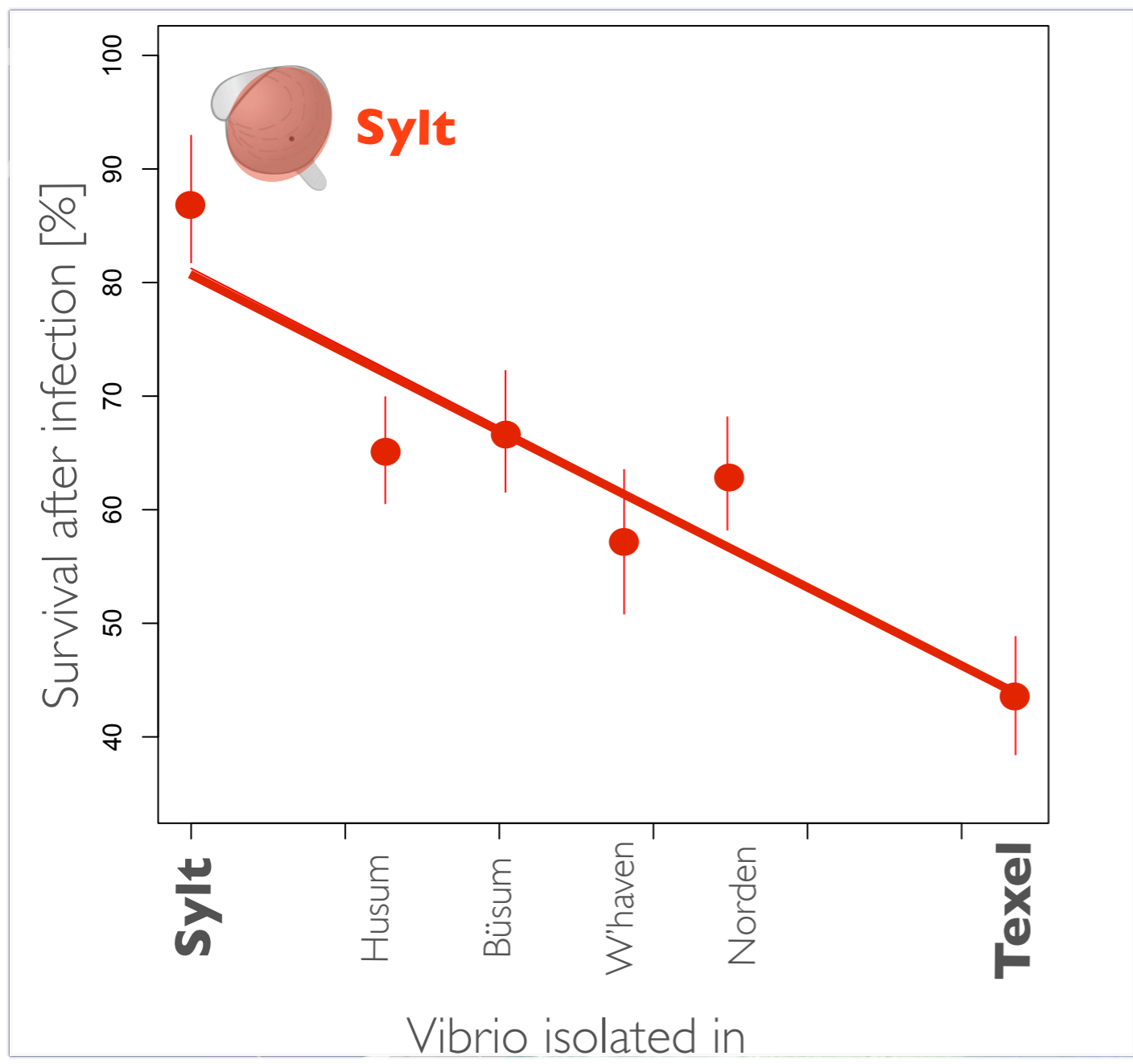
WADDENZEE · WATTENMEER · VADEHAVET



*Resistance of oyster larvae
against *Vibrio* spp.*



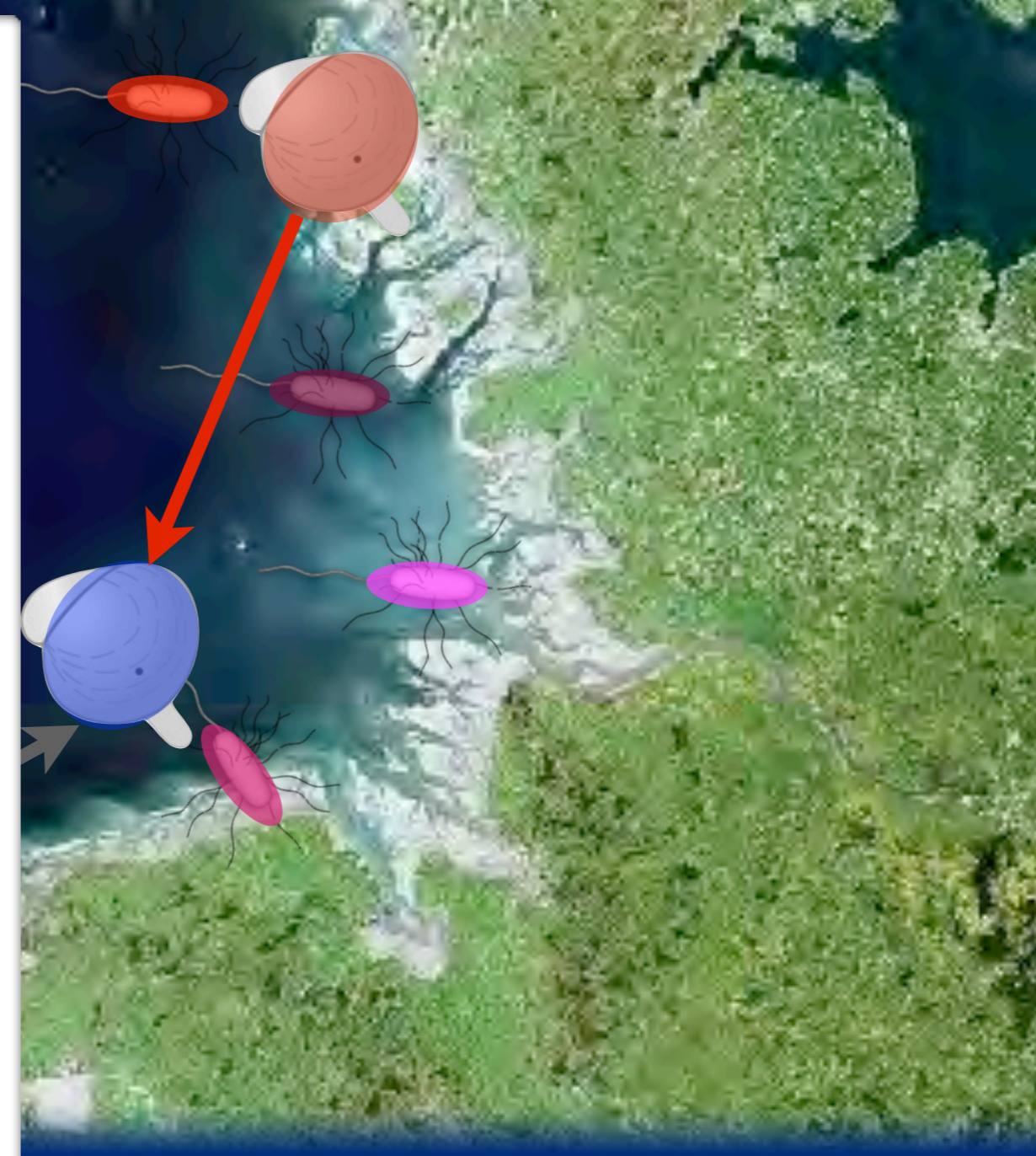
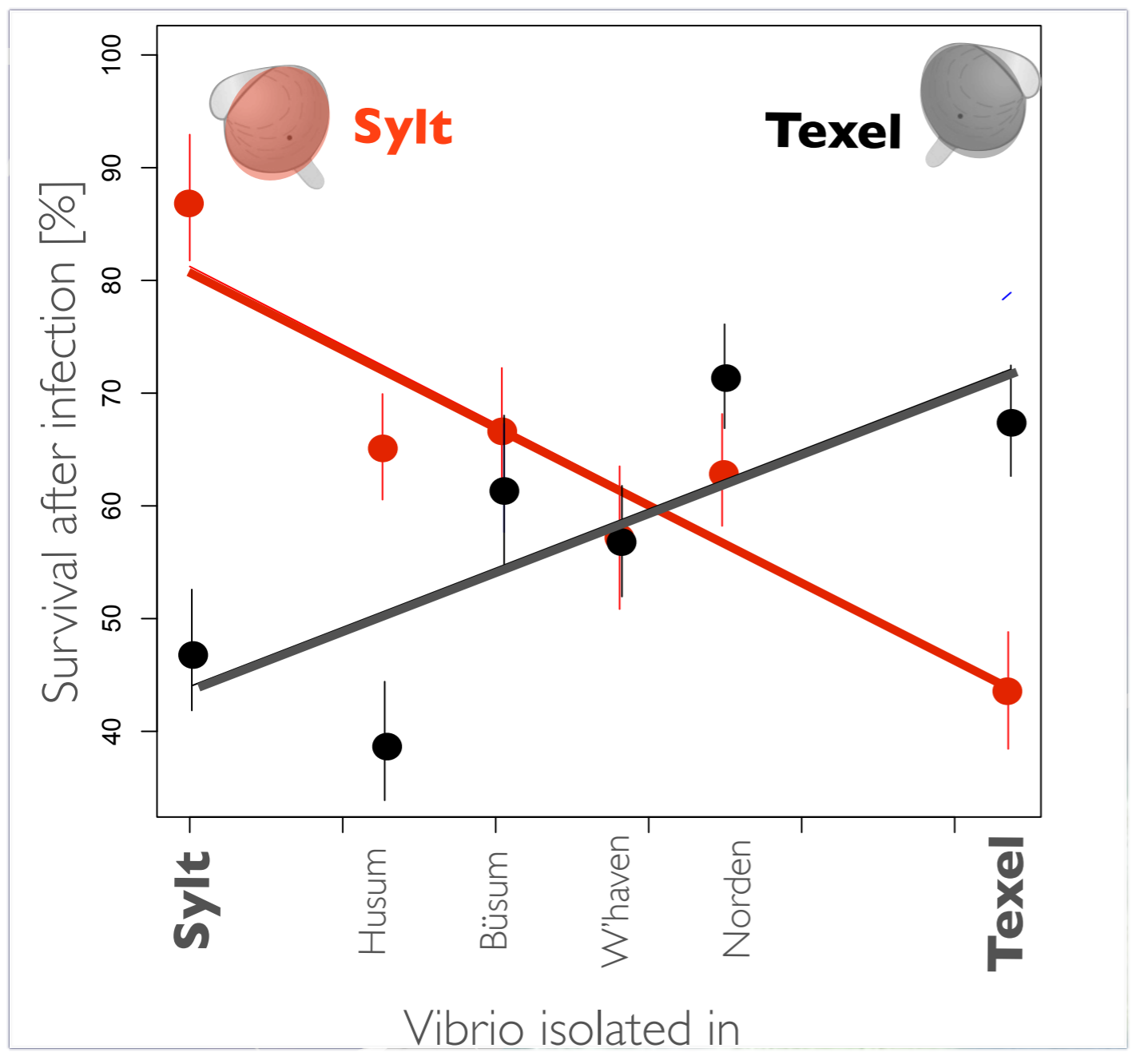
C. Wendling F. Batista



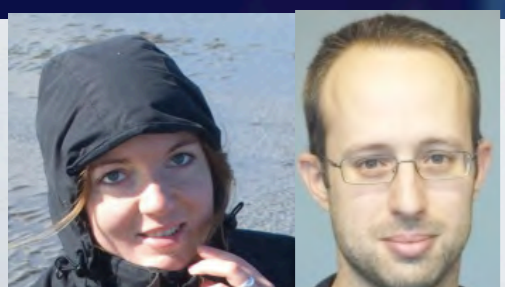
Resistance of oyster larvae against Vibrio spp.



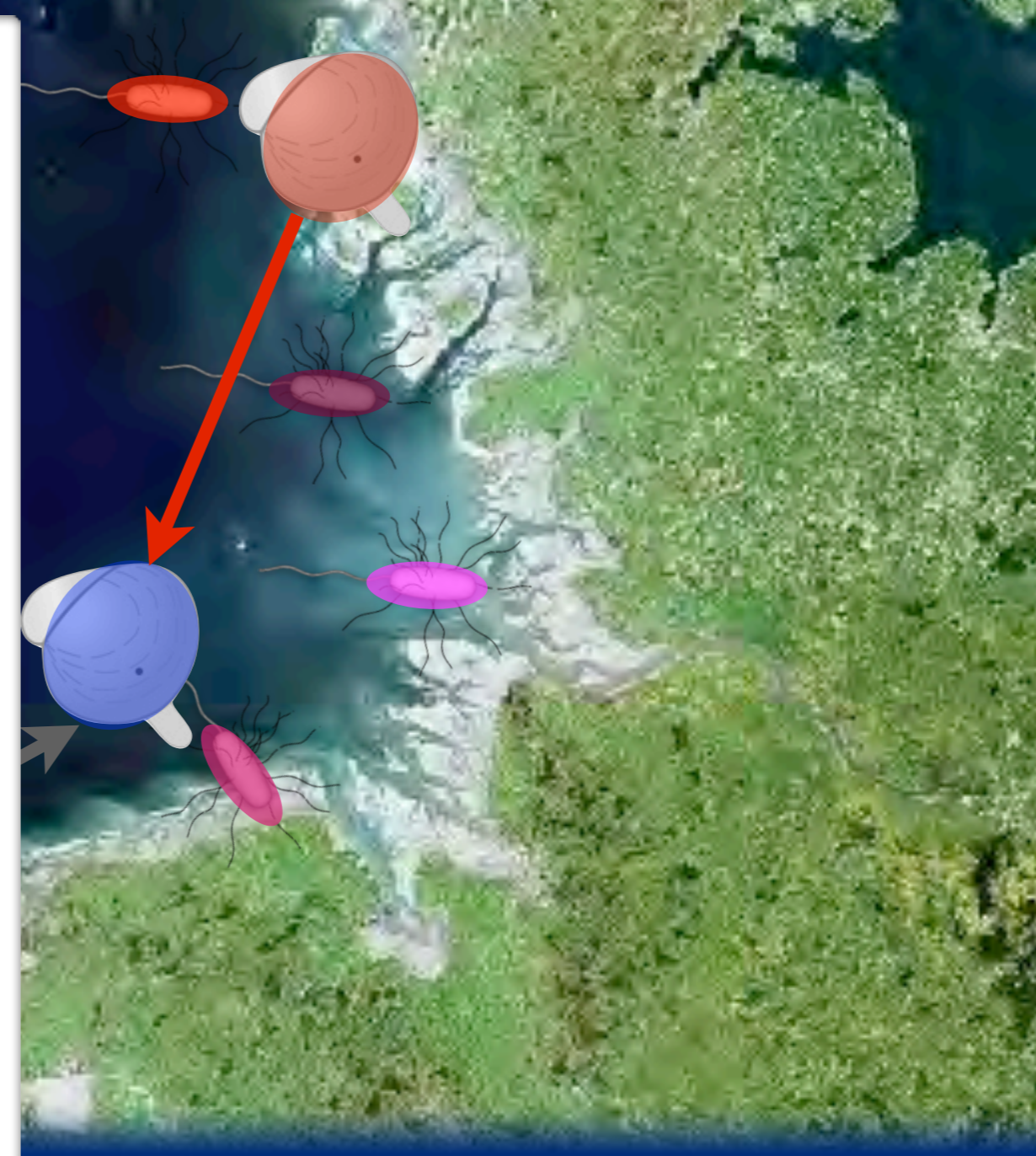
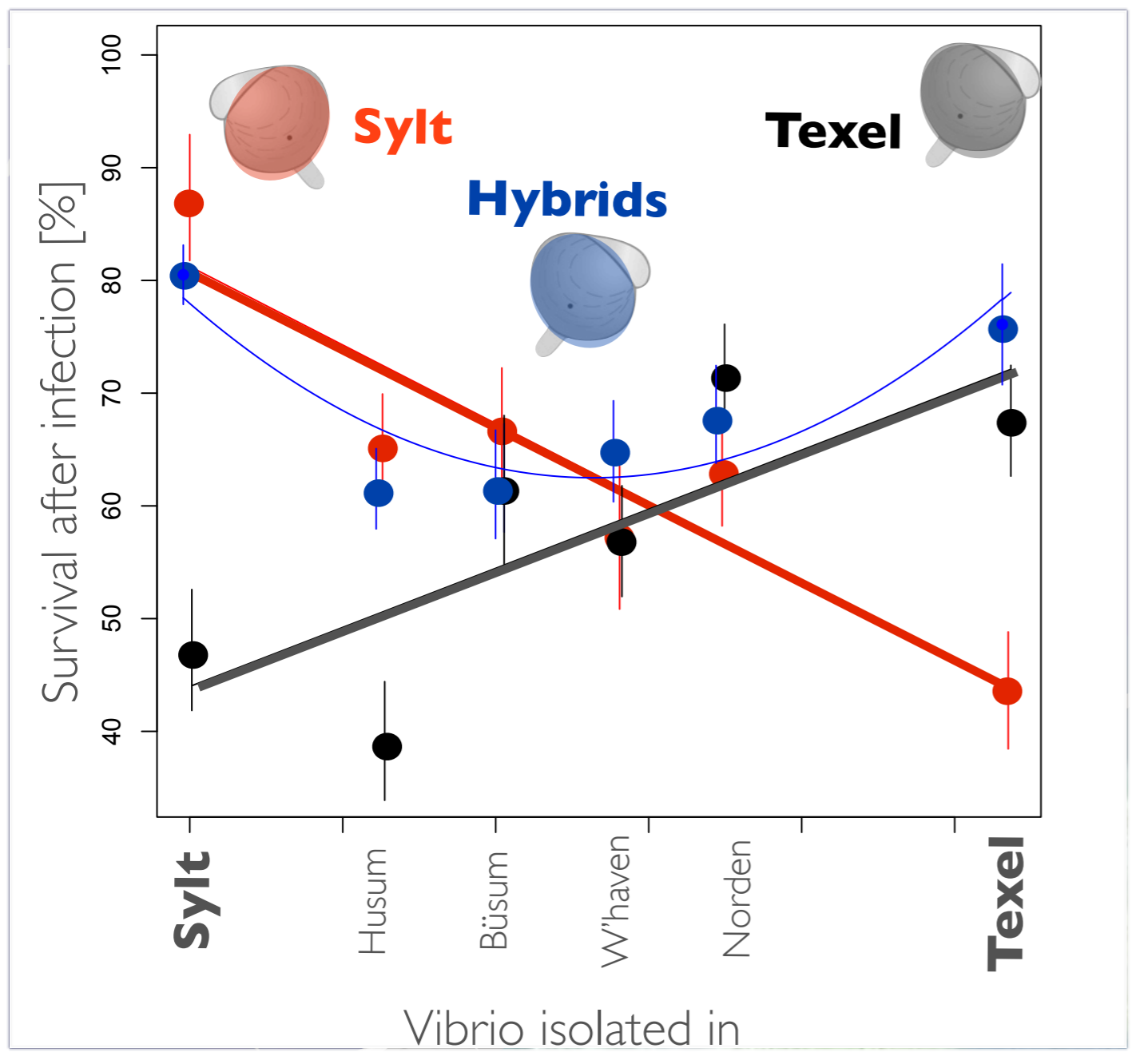
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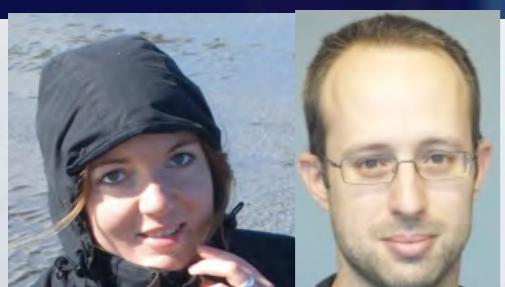
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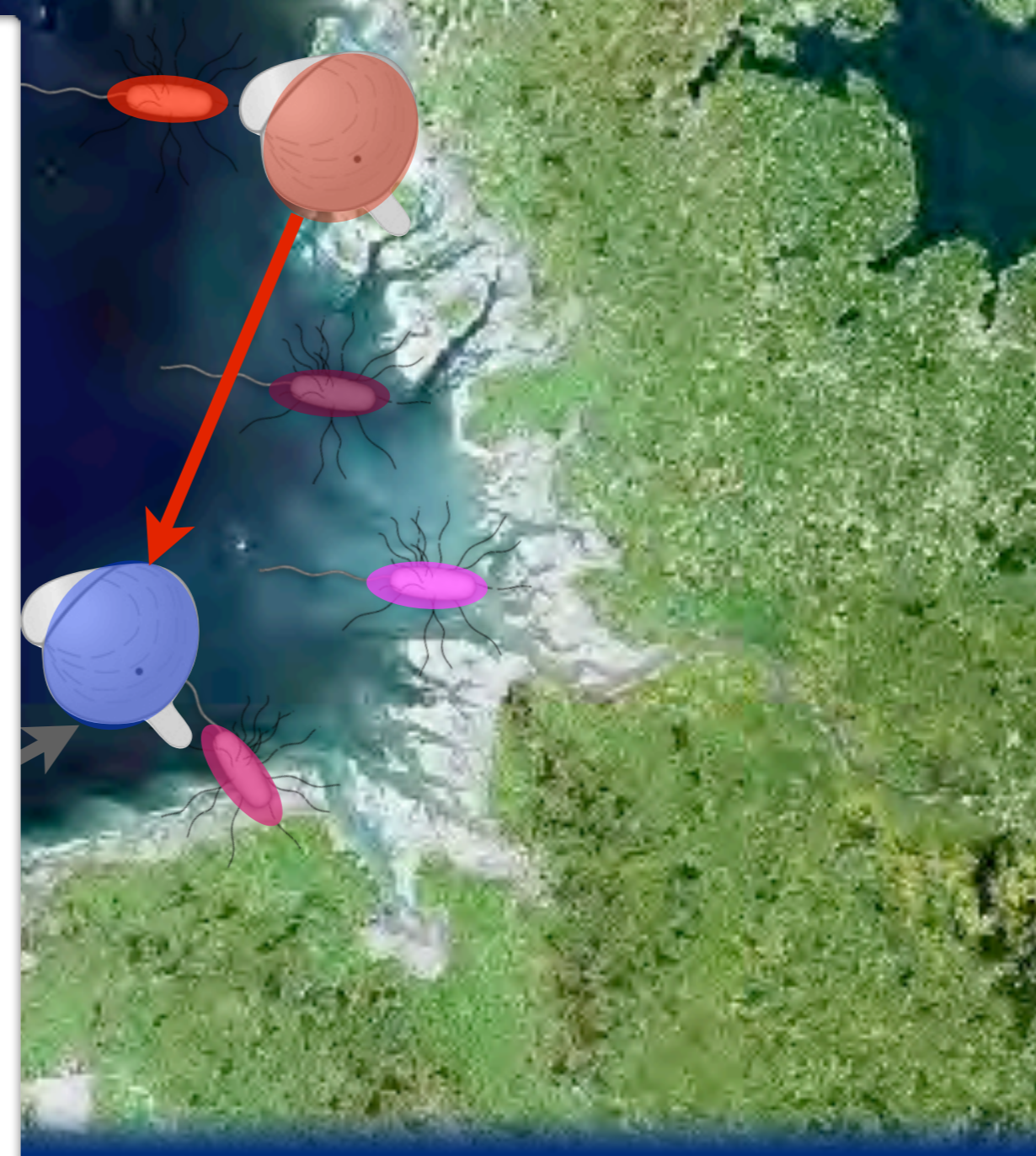
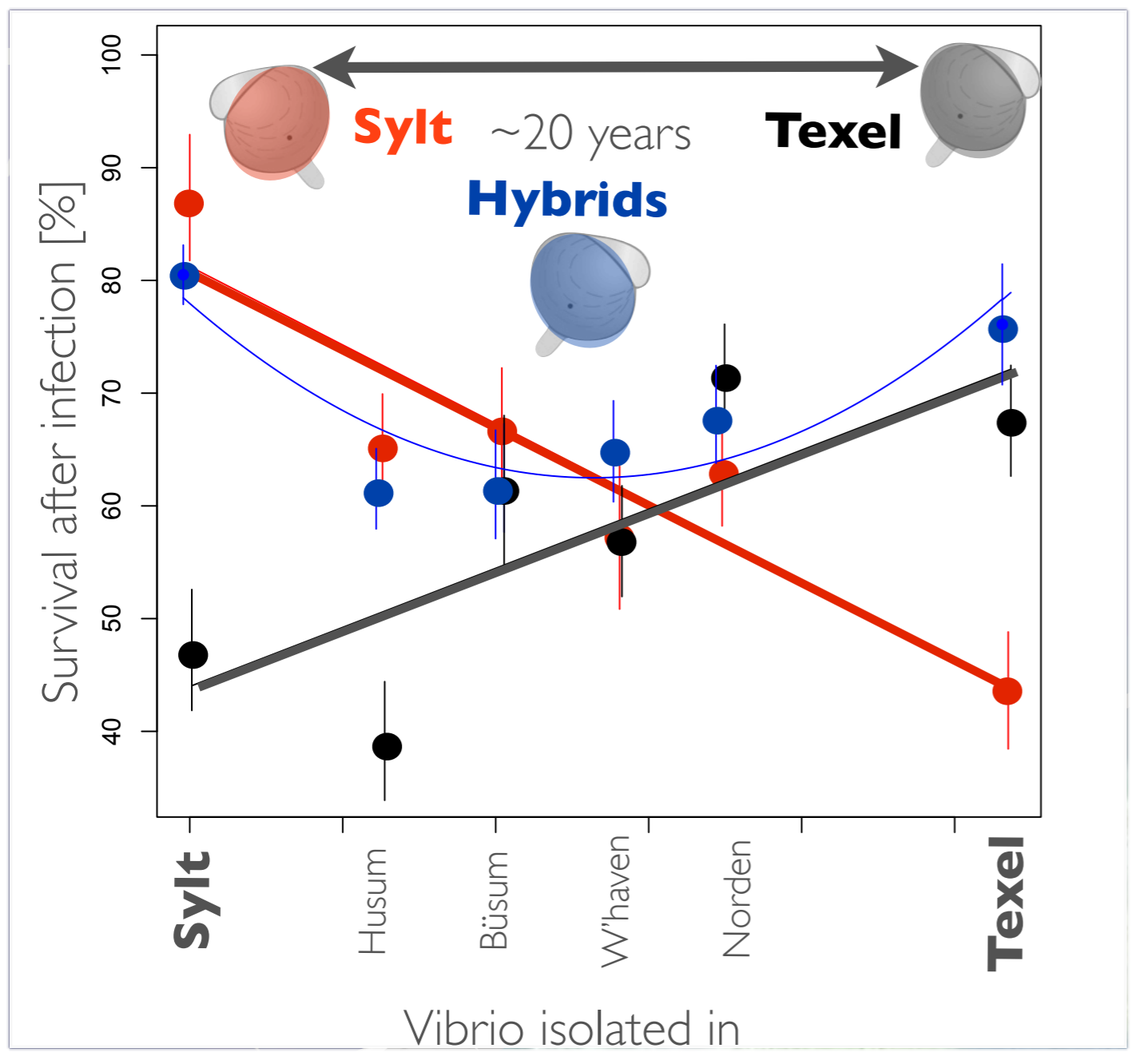
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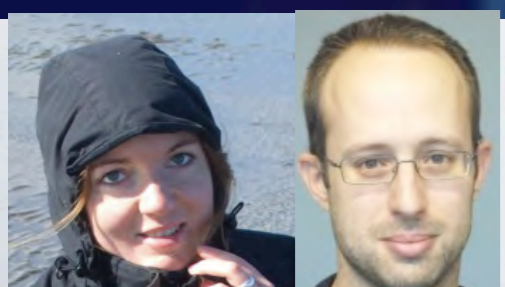
Resistance of oyster larvae against Vibrio spp.



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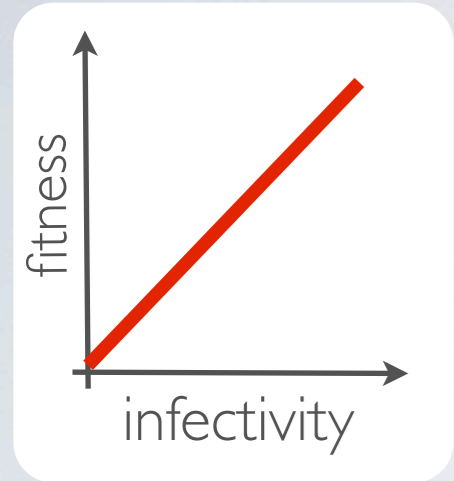
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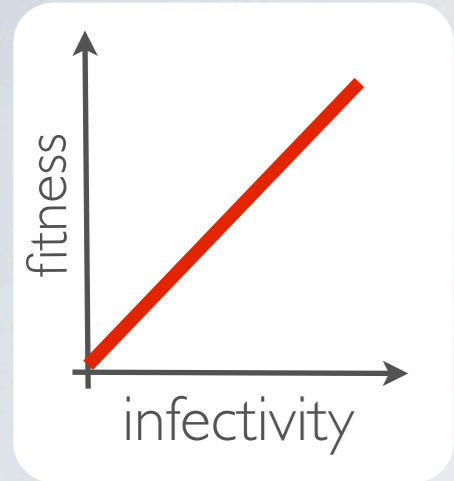
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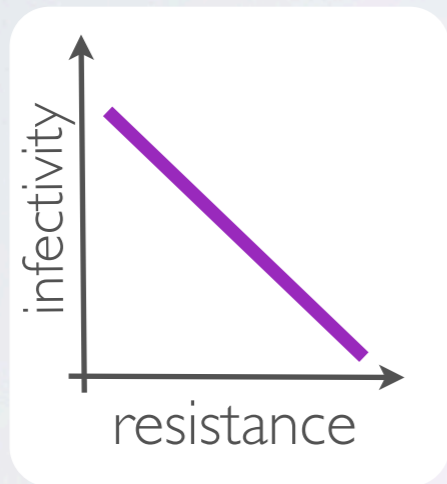
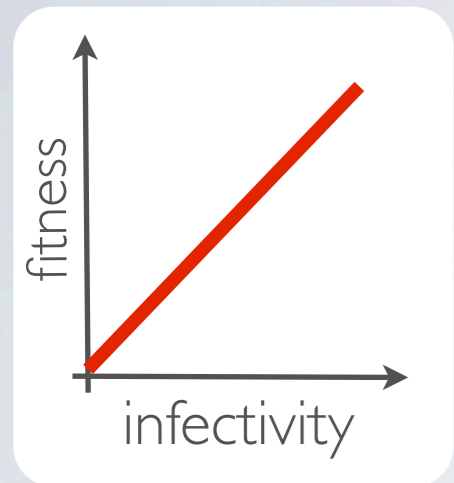
HOST-PARASITE INTERACTIONS



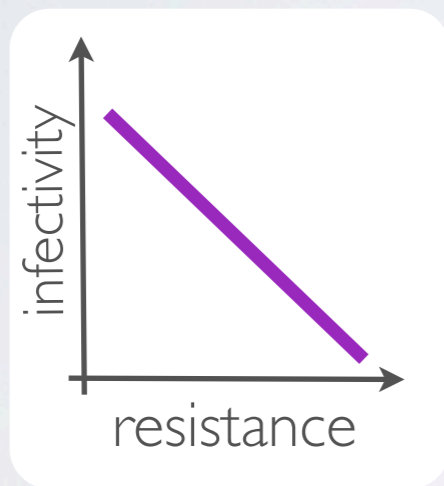
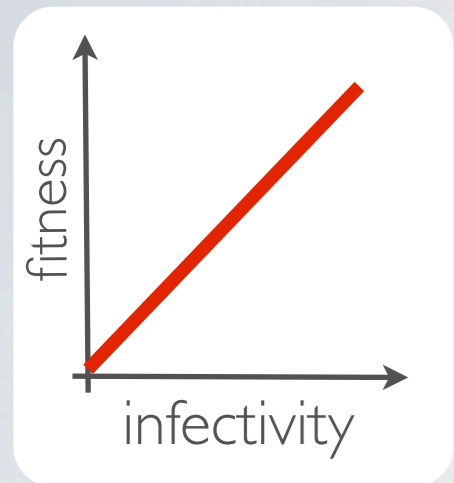
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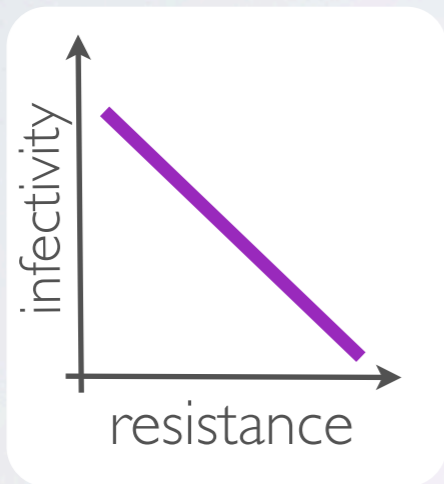
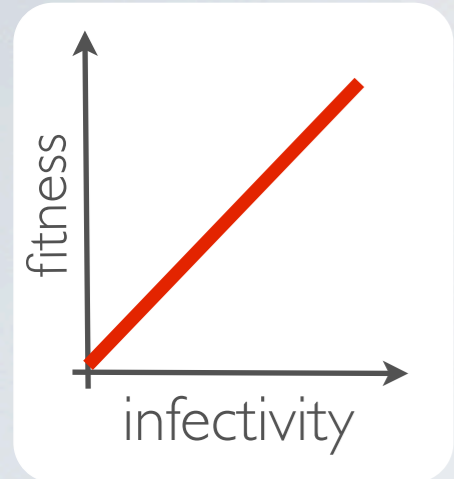


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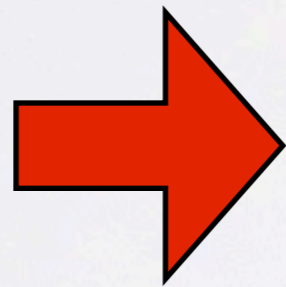
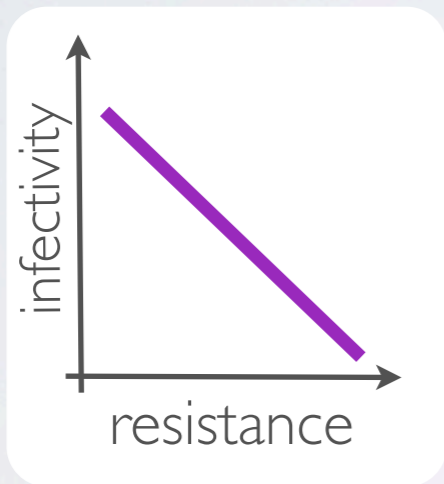
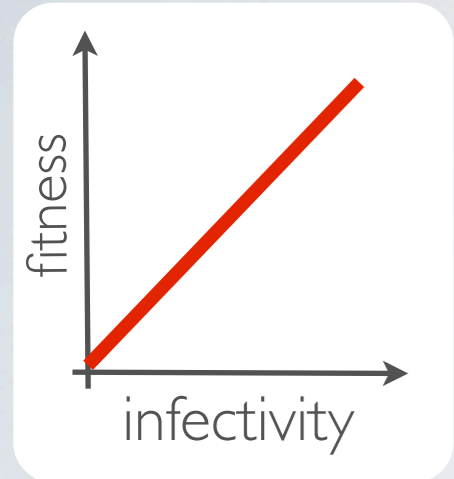
arms race

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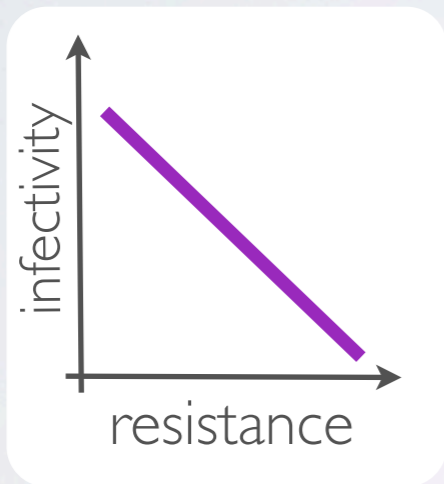
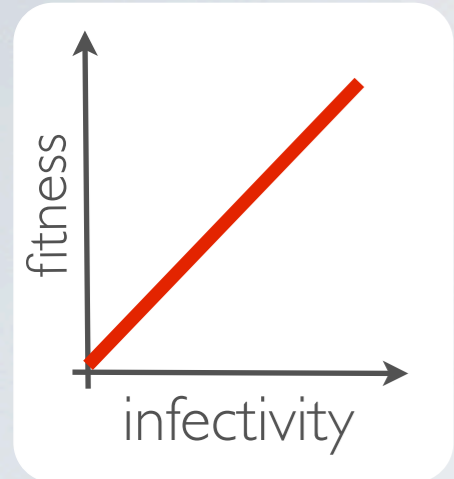
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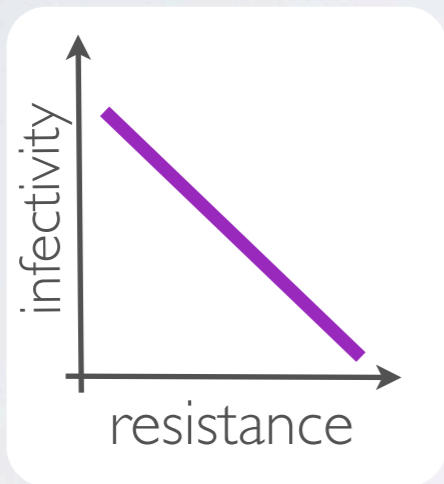
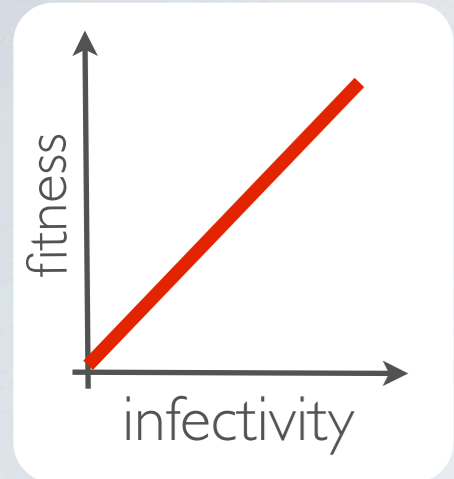
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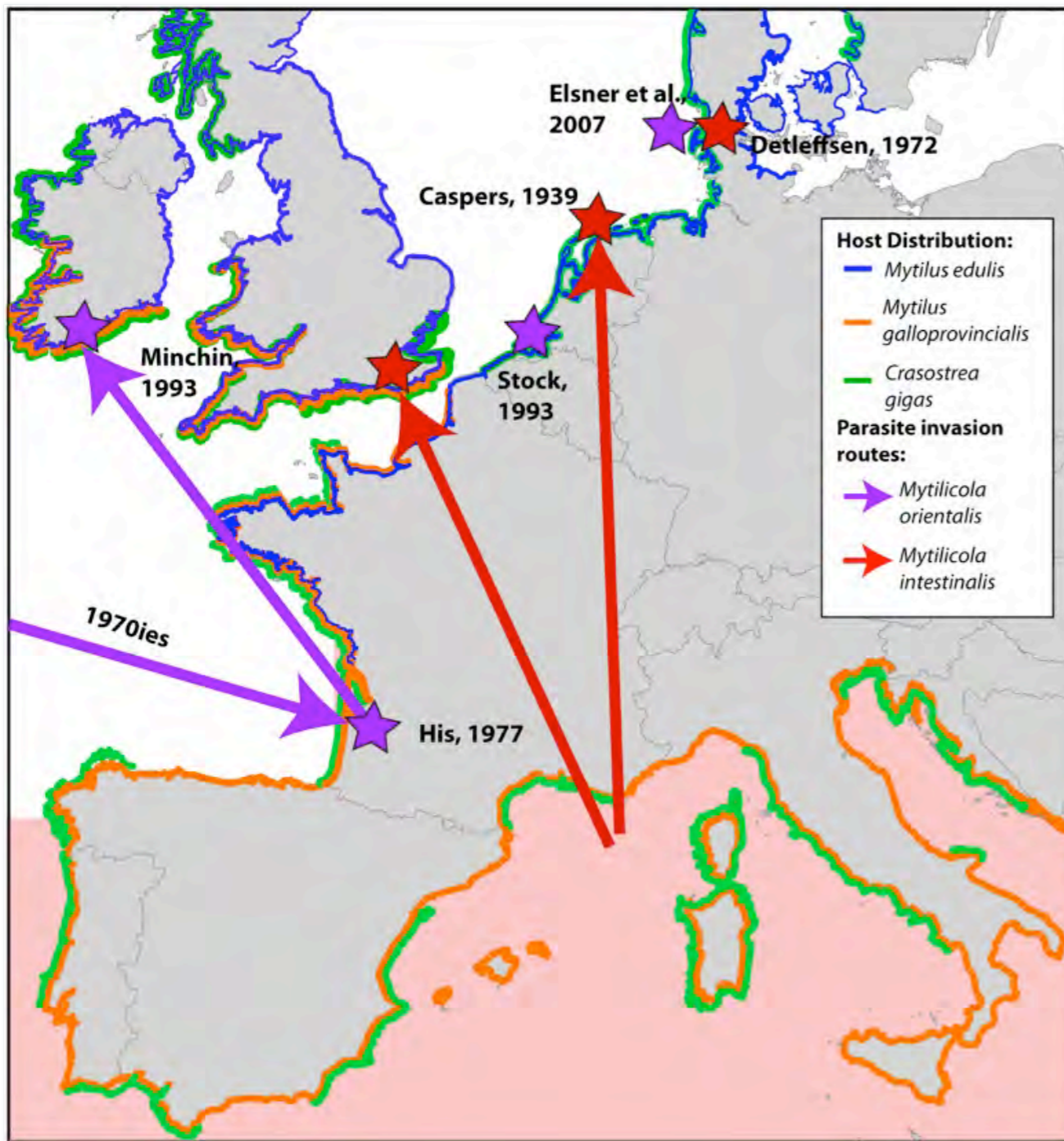
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 arms race



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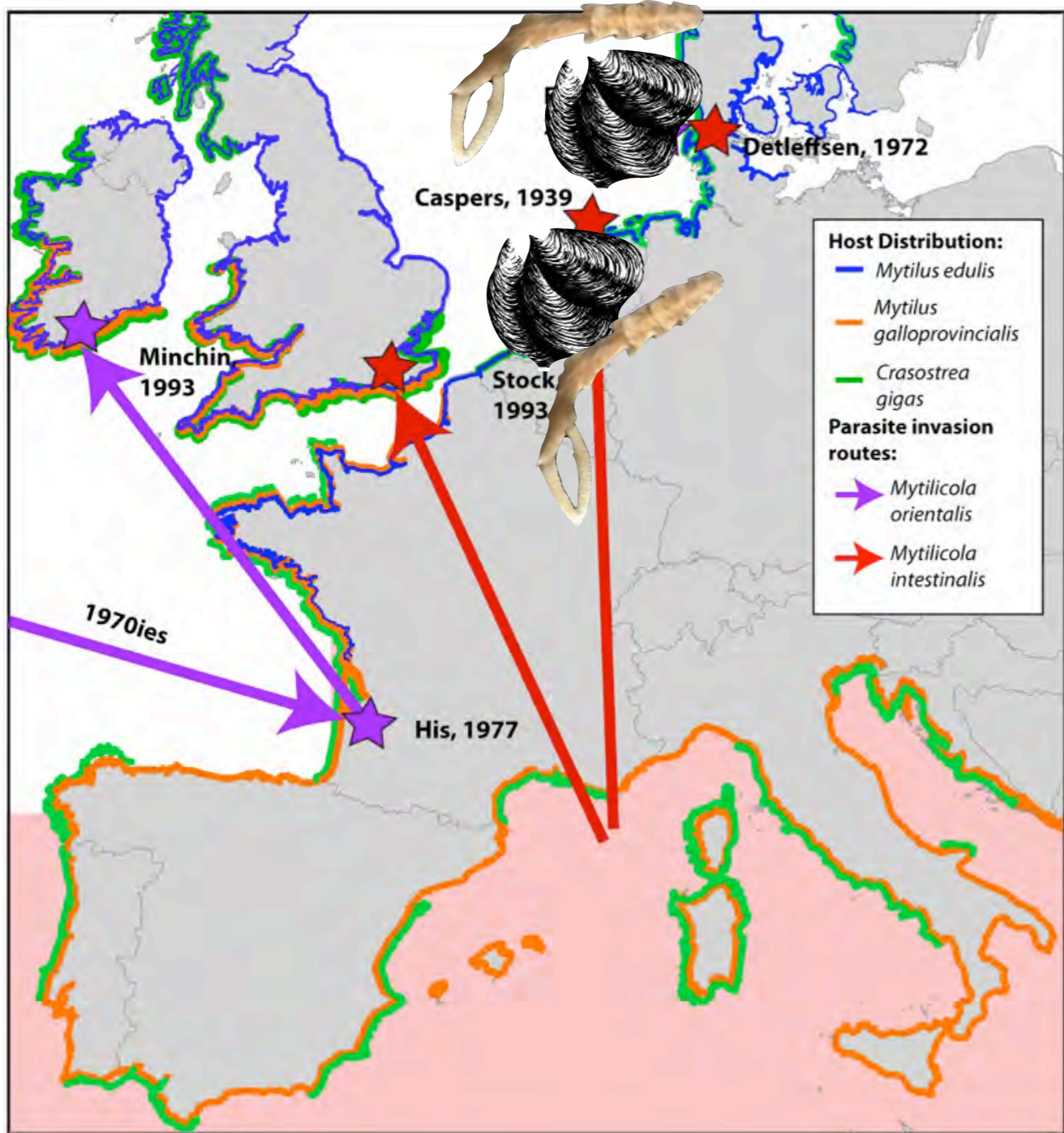
INFECTION RATES: INFECTIVITY VS. RESISTANCE



M. Feis F. Demann C. Buschbaum A. Goeknecht D. Thielges

DFG SPP 1399
 host-parasite coevolution





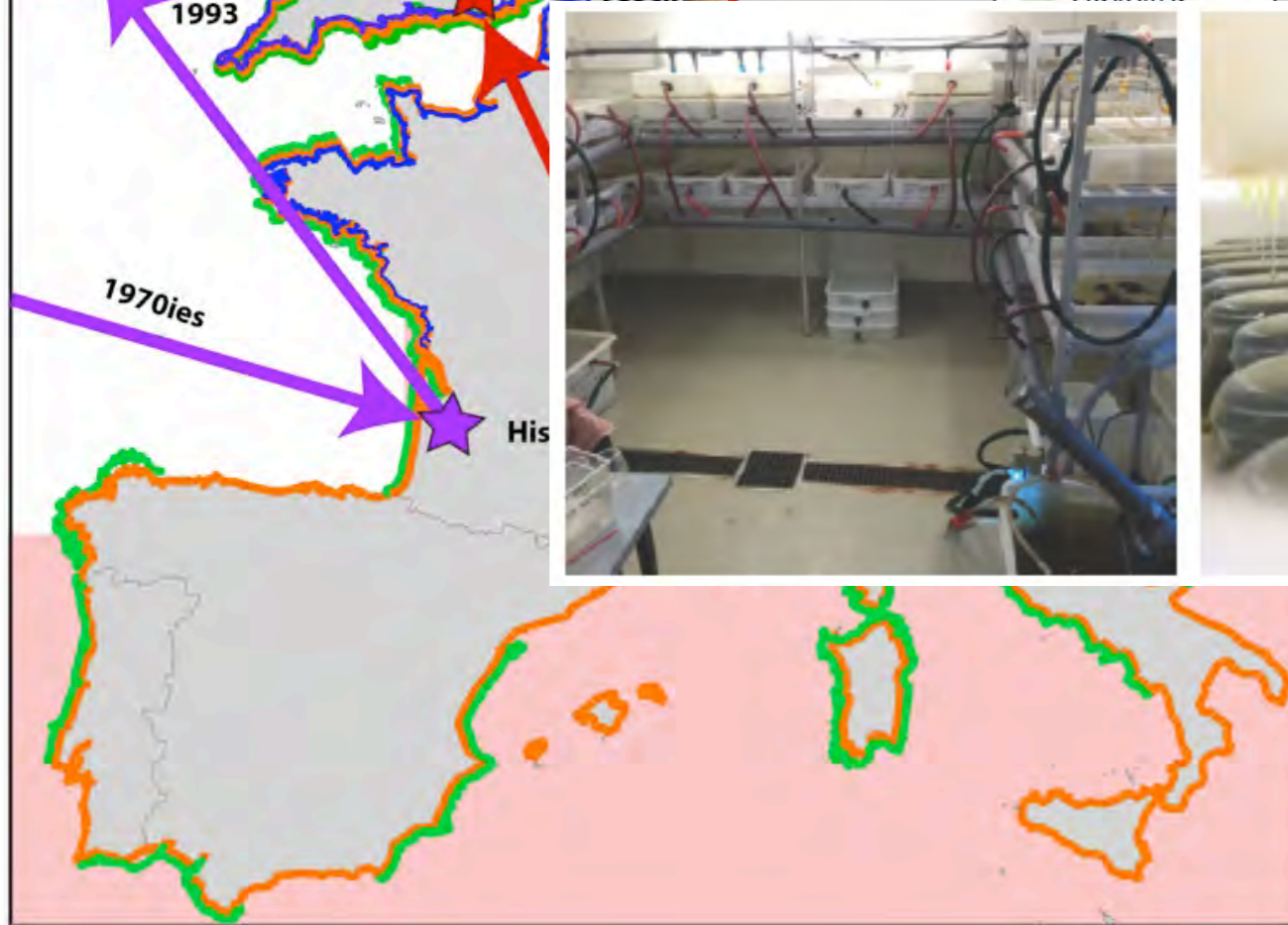
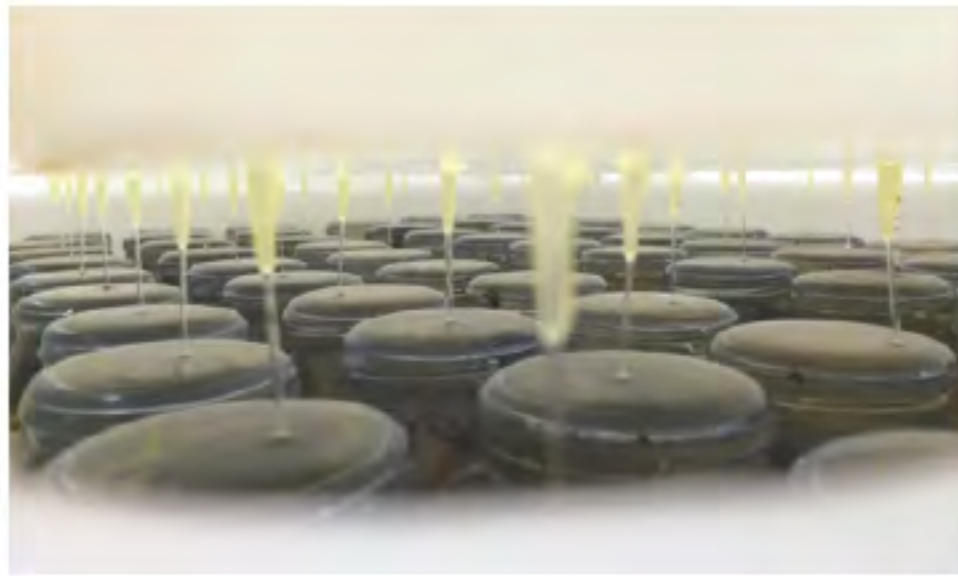
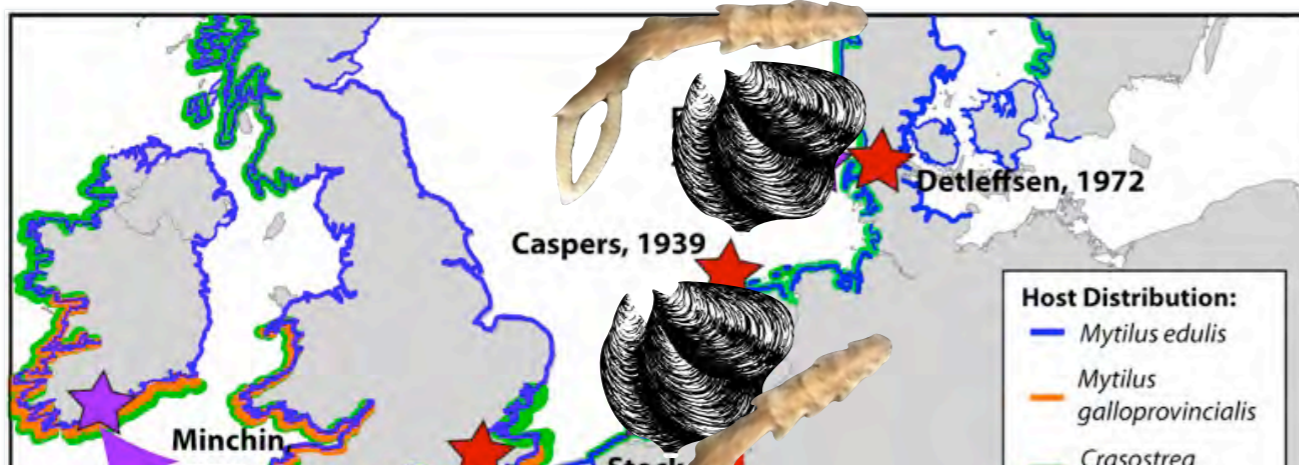
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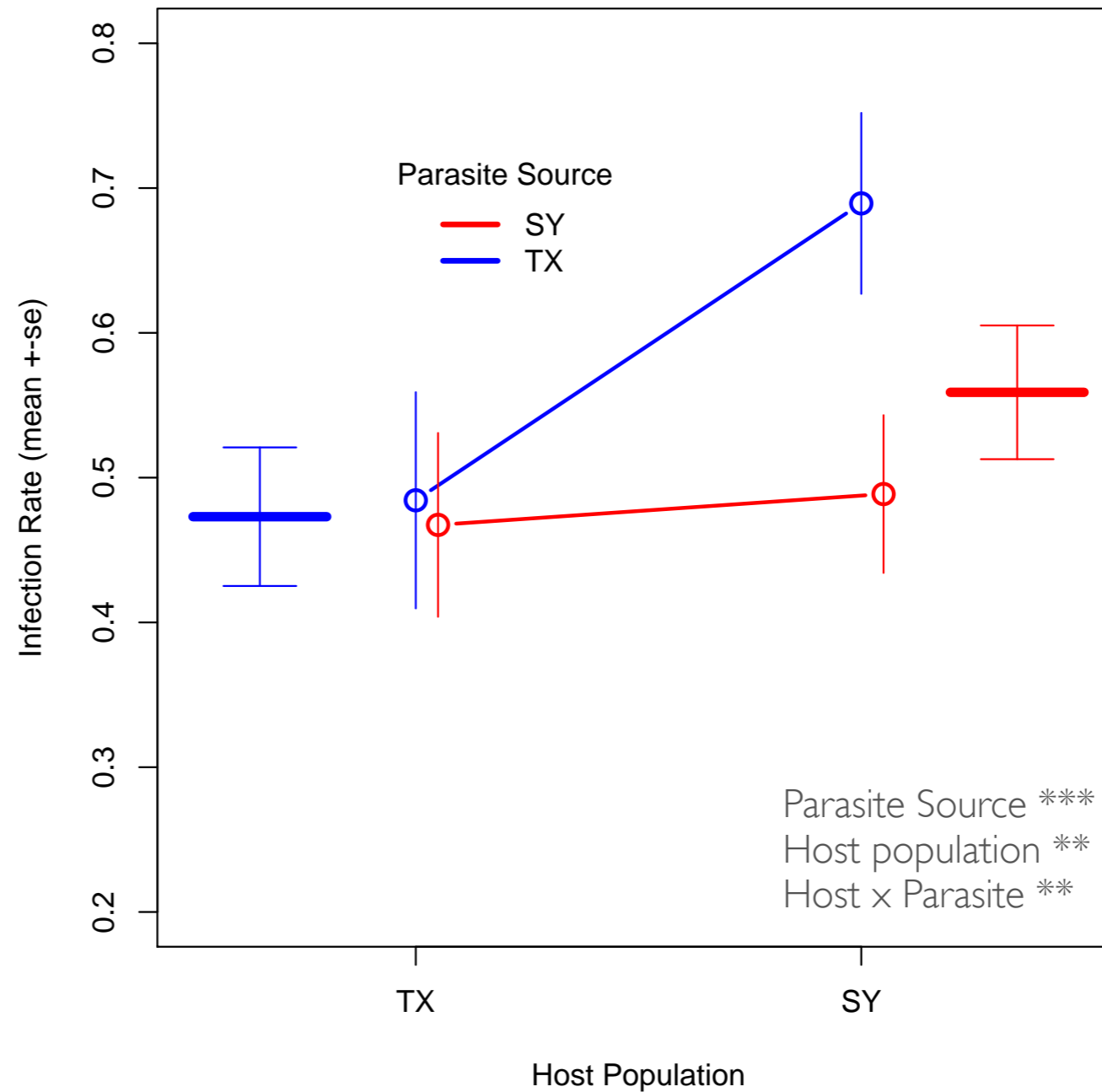
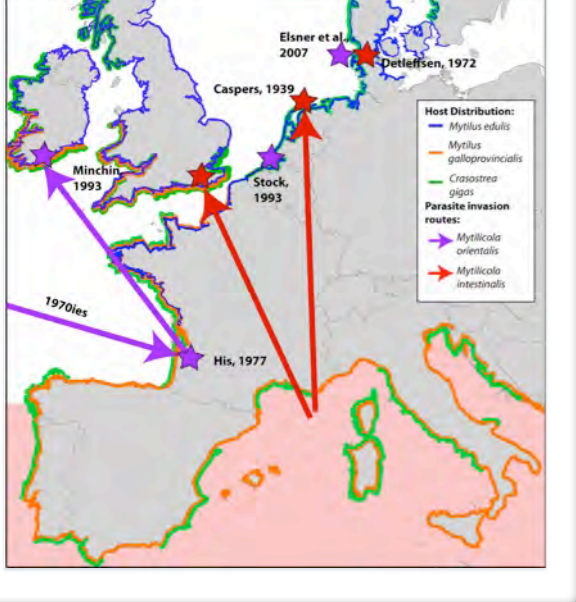
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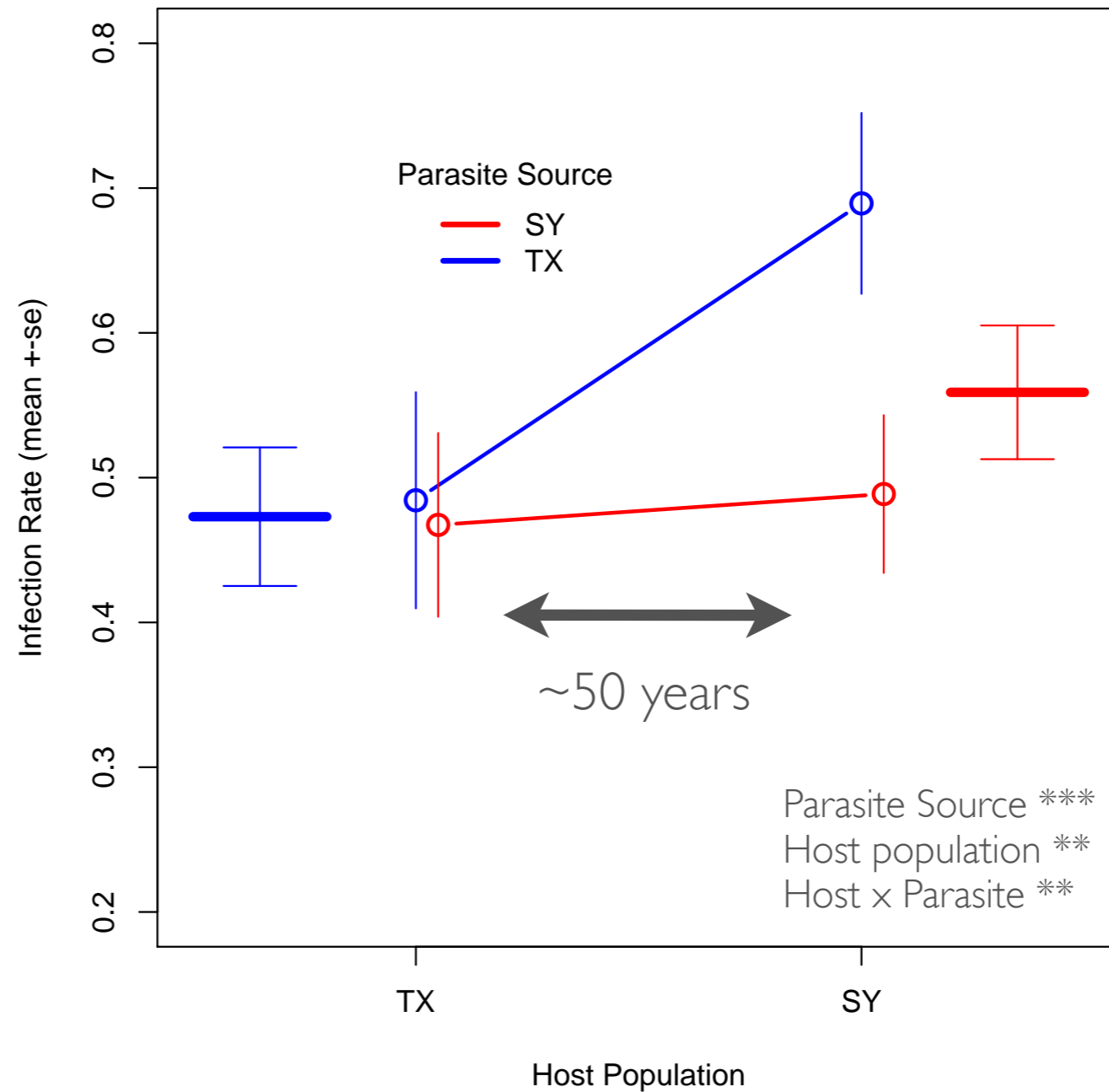
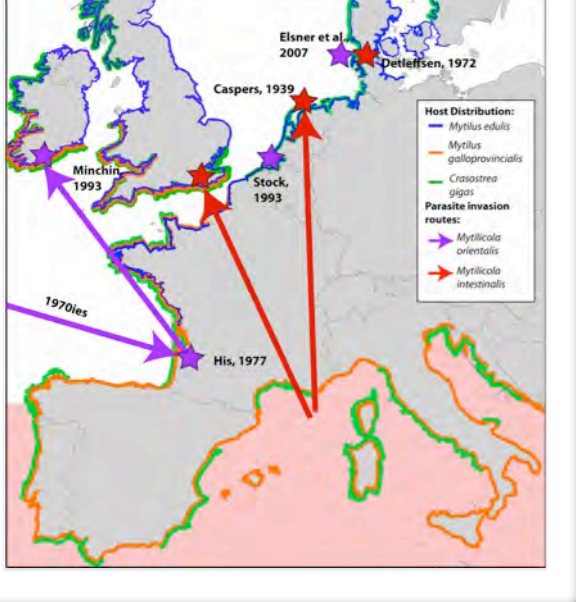
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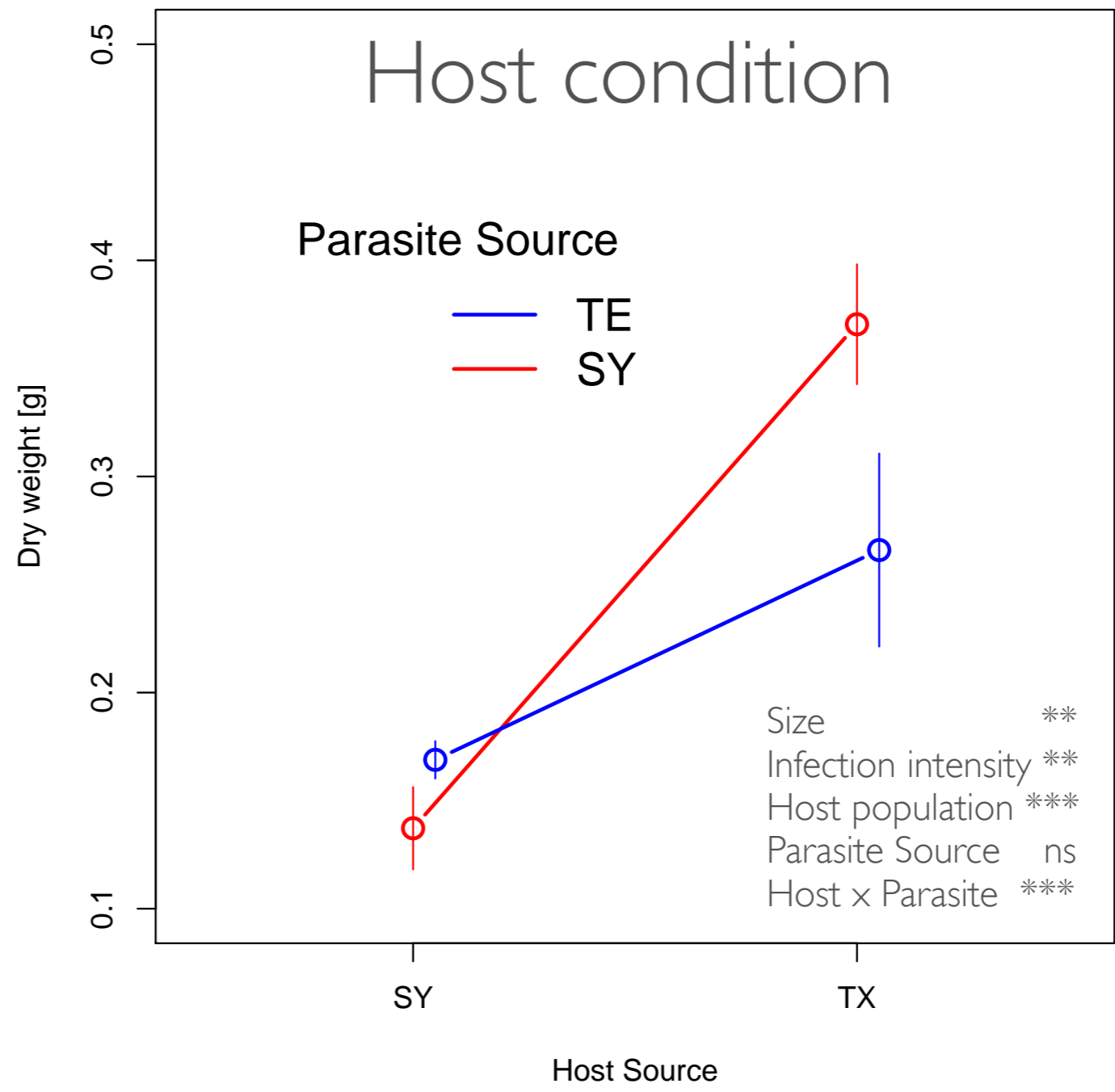


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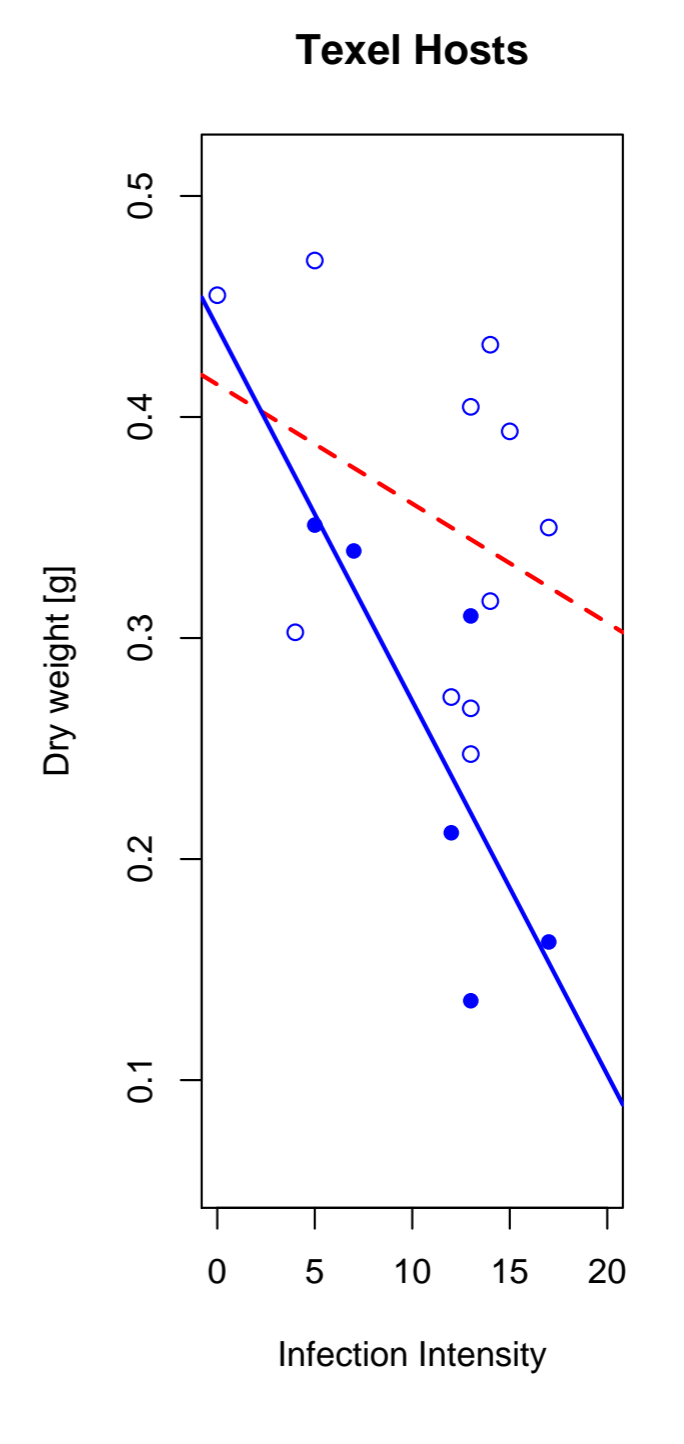
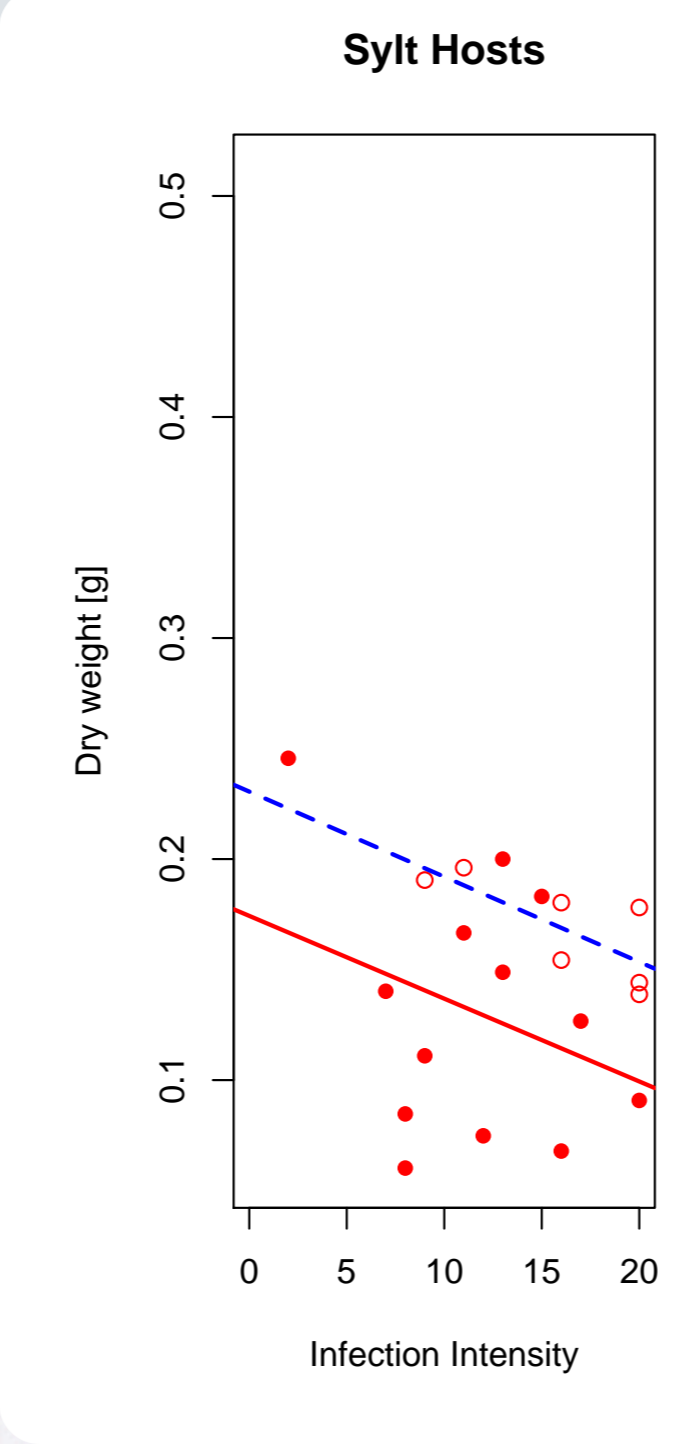
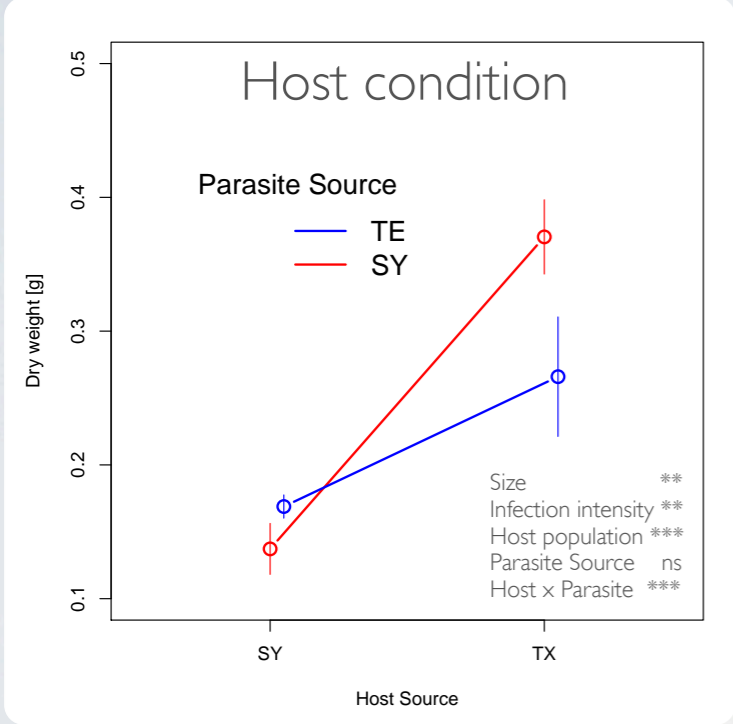




HOST CONDITION: VIRULENCE VS. TOLERANCE



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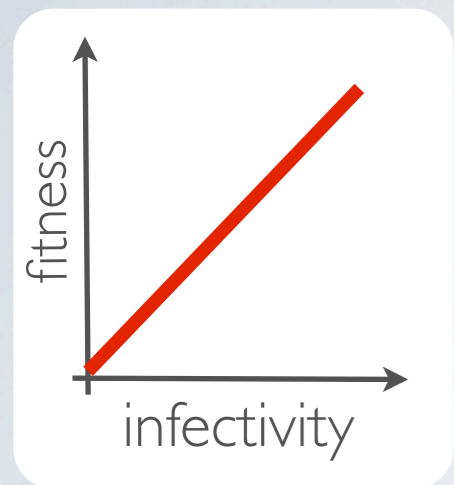


HOST CONDITION: VIRULENCE VS. TOLERANCE



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PARASITE-PARASITE INTERACTIONS



M. Feis

F. Demann

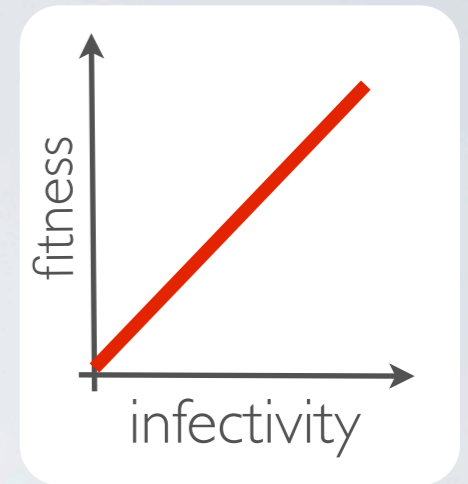
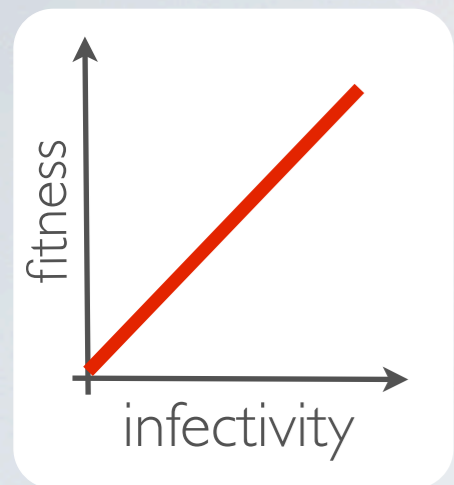
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PARASITE-PARASITE INTERACTIONS



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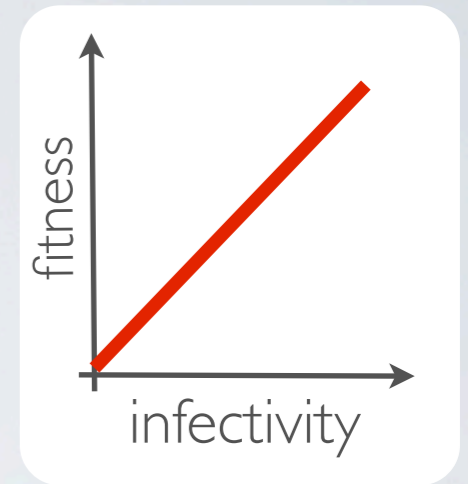
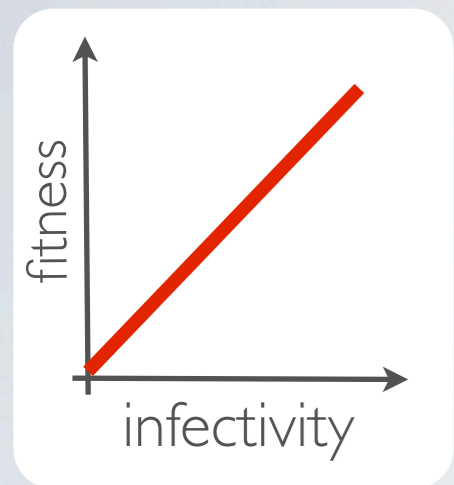
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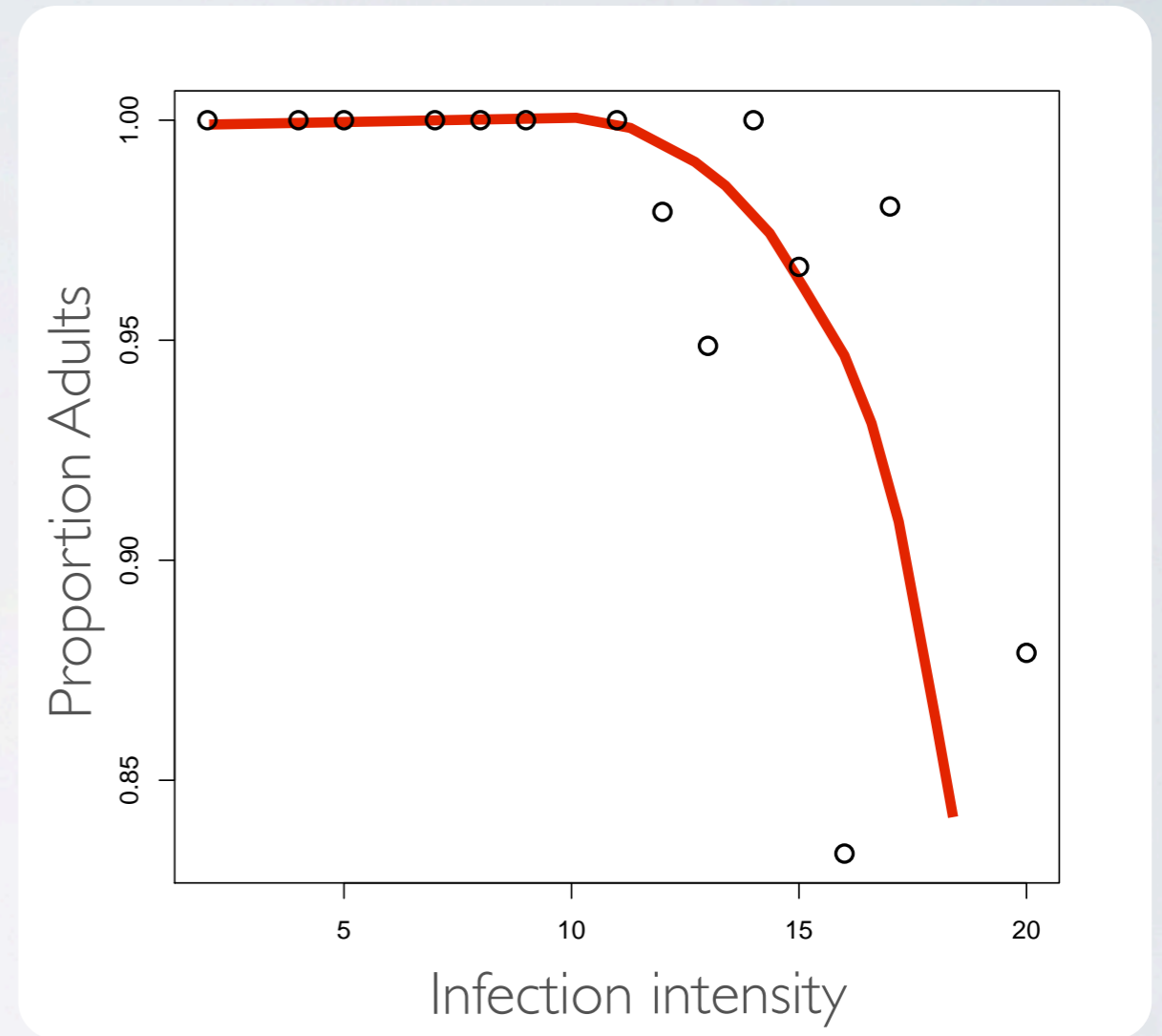
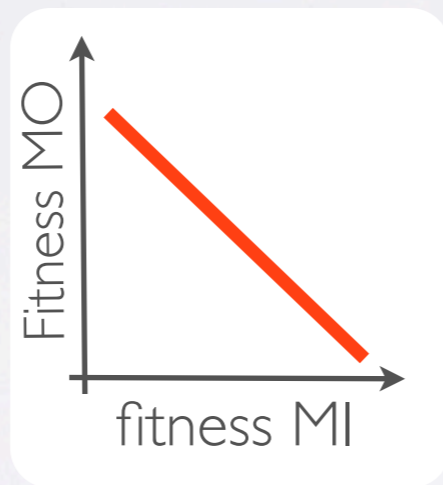
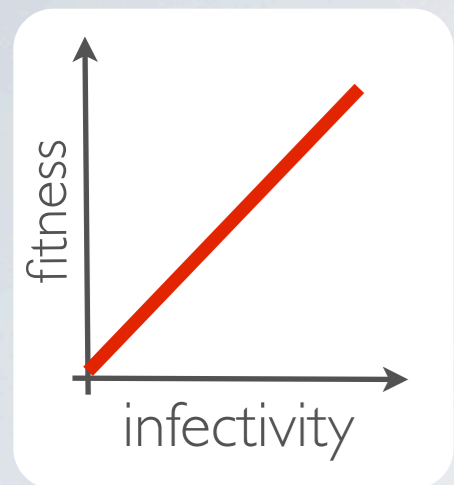
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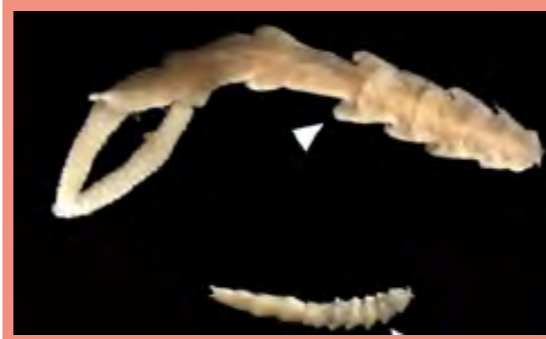
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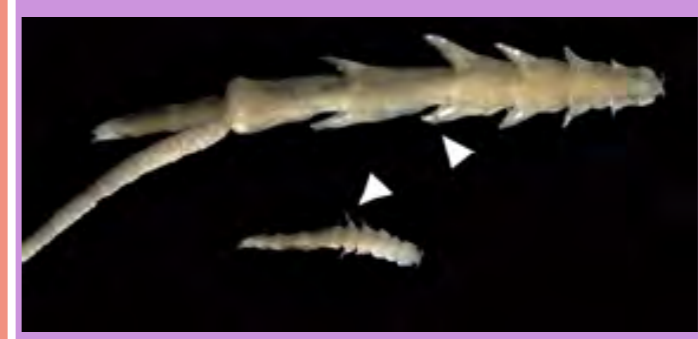
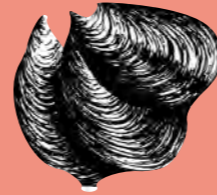
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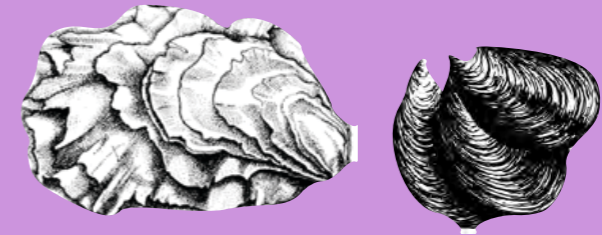




Mytilicola intestinalis



Mytilicola orientalis



PARASITE-PARASITE INTERACTIONS



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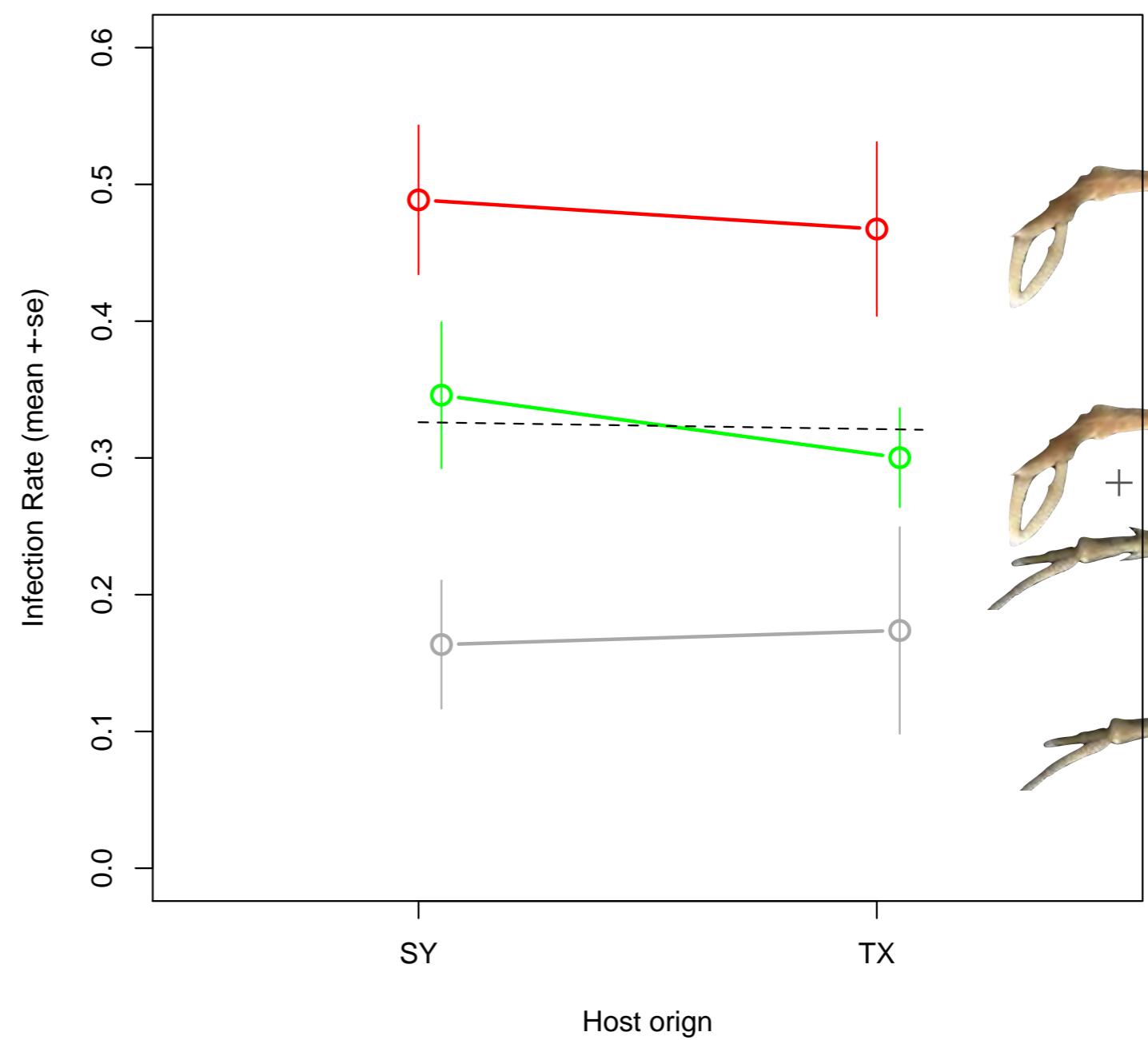
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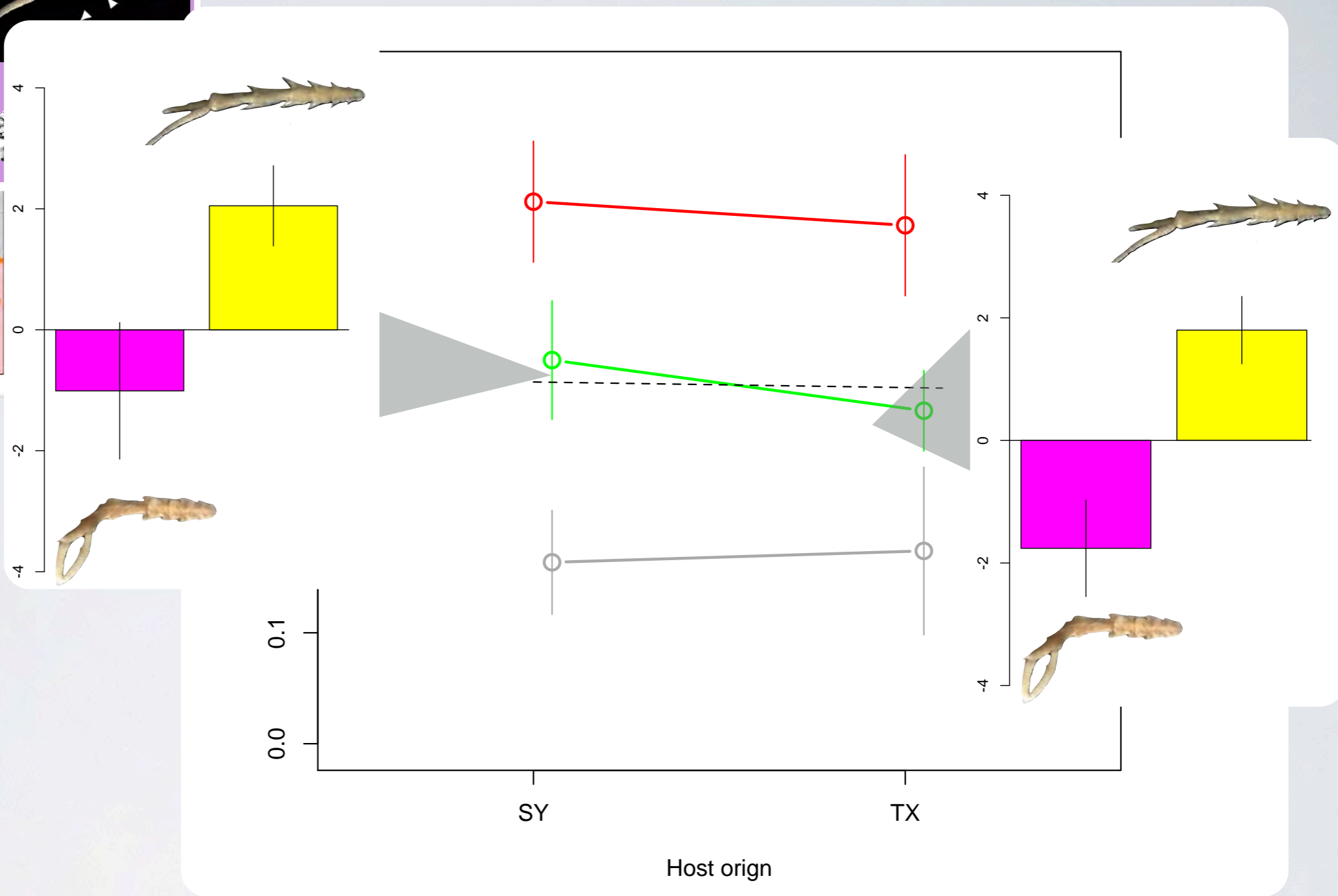
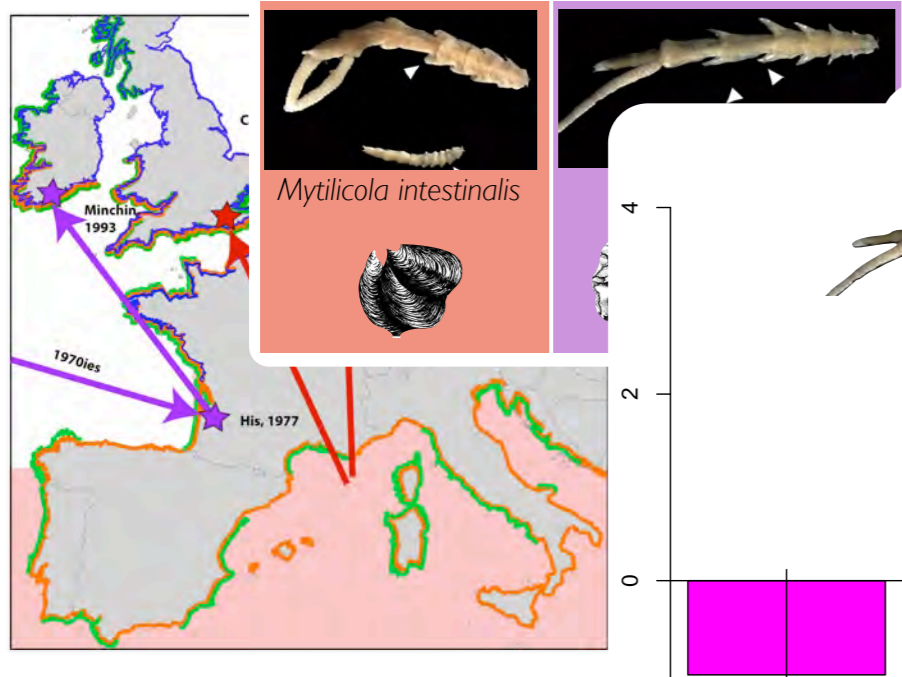


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PARASITE-PARASITE INTERACTIONS



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DFG SPP 1399
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 NWO

THE WADDEN SEA

WADDENZEE . WATTENMEER . VADEHAVET

No constants: Host-Parasite interactions are subject to evolutionary change

Several targets: selection can act on separate host and parasite traits

More than one: Secondary parasite invasion can profit from previous invasions



