

# ENCONTRO SCIENTIA

January 9

12h00

Online

## Using spider mites to assess the demographic and evolutionary consequences of trophic and sexual interactions

Costly sexual interactions between species, termed reproductive interference, have garnered growing attention as main drivers of species exclusion. However, theoretically, it may also facilitate species coexistence if counterbalancing the effects of competition for shared resources. Yet, existing theoretical developments only integrated independent effects of both types of interaction to predict demographical changes, whereas they may affect each other's strength. Furthermore, how evolutionary changes in response to the presence of competitors alter the likelihood of coexistence remains underexplored.

In this presentation, I will show how we employed a combination of theoretical and empirical approaches to estimate the negative effects of competition for food and reproductive interference on the probability of coexistence, before and after experimental evolution. Our results indicate that evolution in the presence of competitors altered both trophic and sexual interactions, but, contrary to our expectations, in directions that are predicted to foster exclusion rather than coexistence.



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**Evolution of  
Host-Parasite  
Interactions,  
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