



↑ The parasitoid lifecycle: *Chelonus insularis* is a parasitoid of *Spodoptera frugiperda*, the Fall Armyworm

Rearing parasitoids for biocontrol experiments: could laboratory conditions influence sex-ratio?

Introduction

- Sex-ratio is known to be sensitive in captive parasitoid colonies (fig. 1)
- Environmental parameters could be one cause
- But which ones ?
- Quantitative text analysis of 201 studies was performed

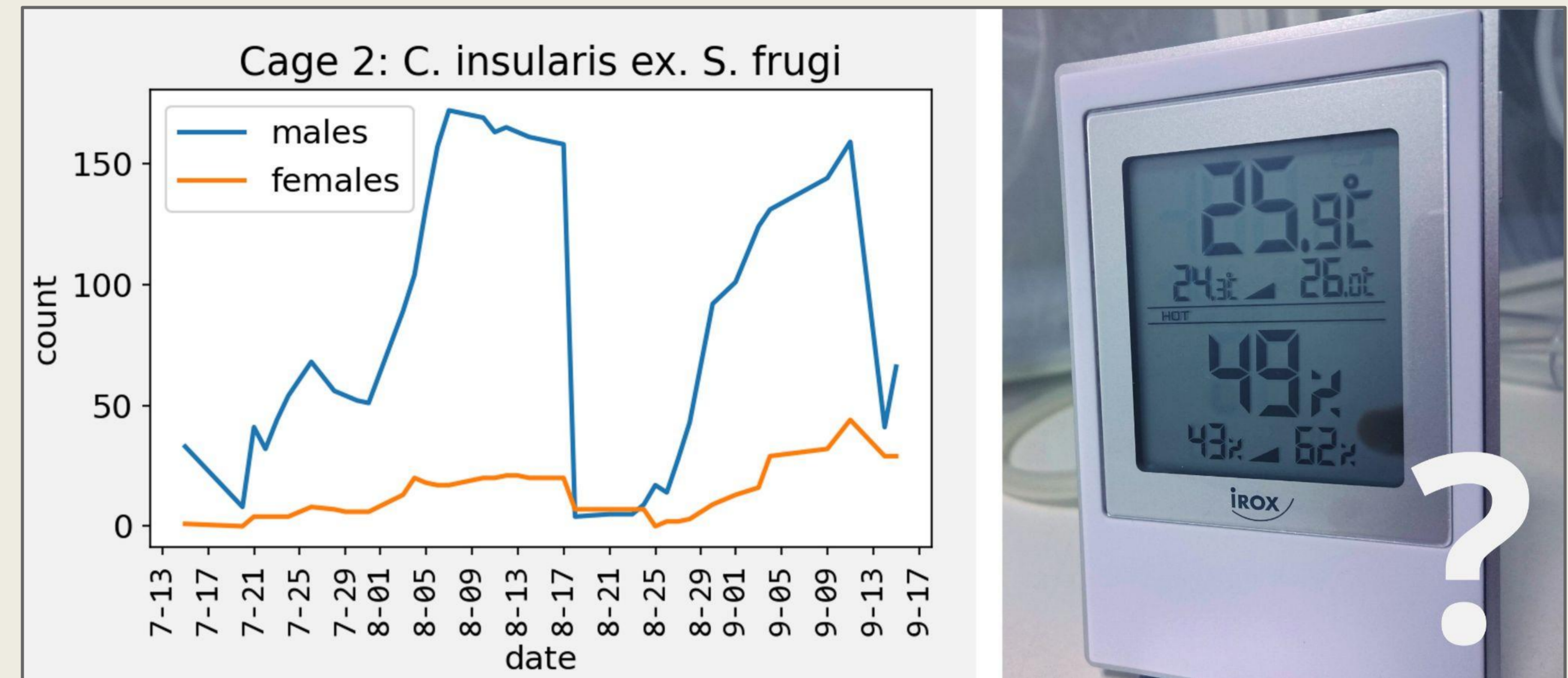


fig. 1: Sex-ratio fluctuated wildly

Methods

- The studies are pre-processed
- Each topic is assigned a list of keywords
 - structure: patch*, habit*, distan*, locat*
 - dynamics: compet*, *ism_rate*, life_histor*
 - etc.
- Keywords are counted for each study

Relationships

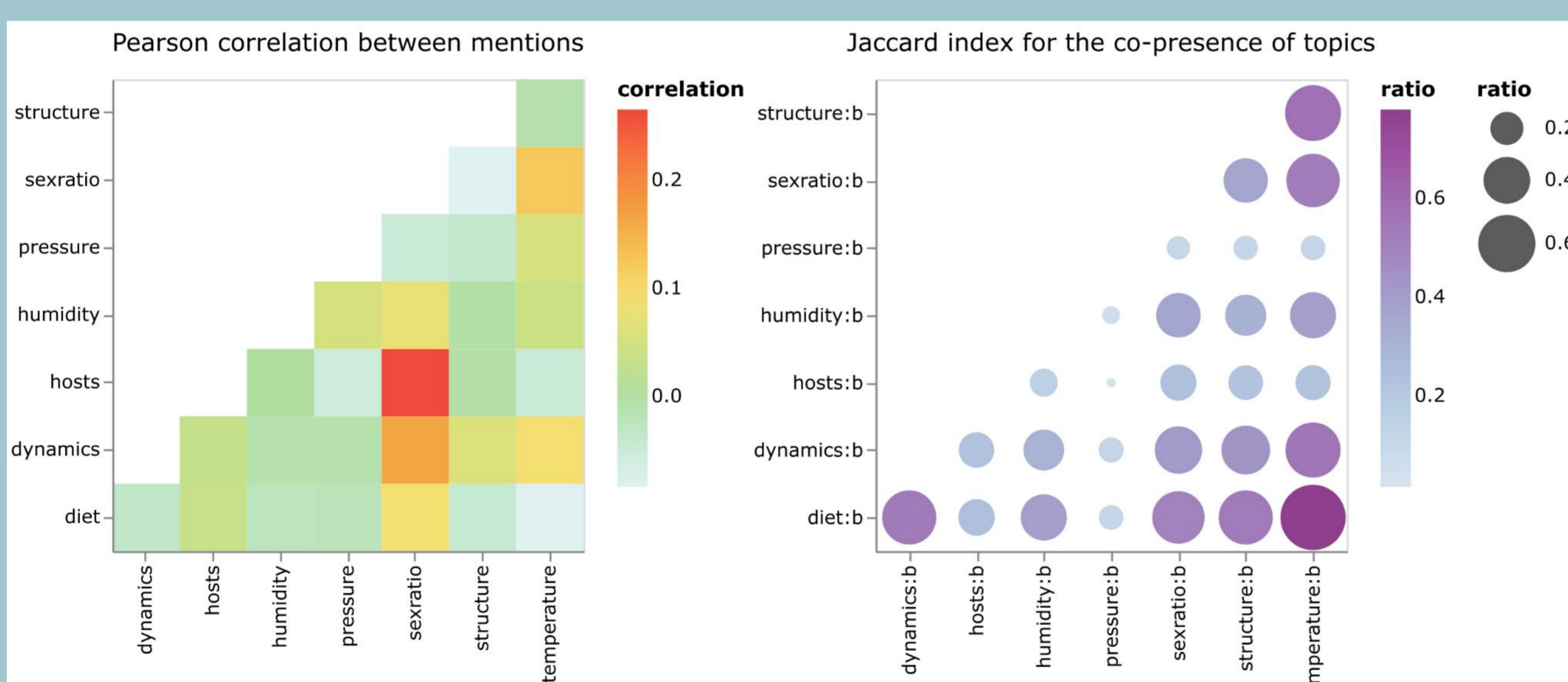


fig. 3: Association indices between topics

- Only weak correlations between the number of hits of topics (max = 0.27)
- Only low co-occurrence (max = 0.78)
- Linear regression found only weak effects (max = 1.41)

Number of hits per topic

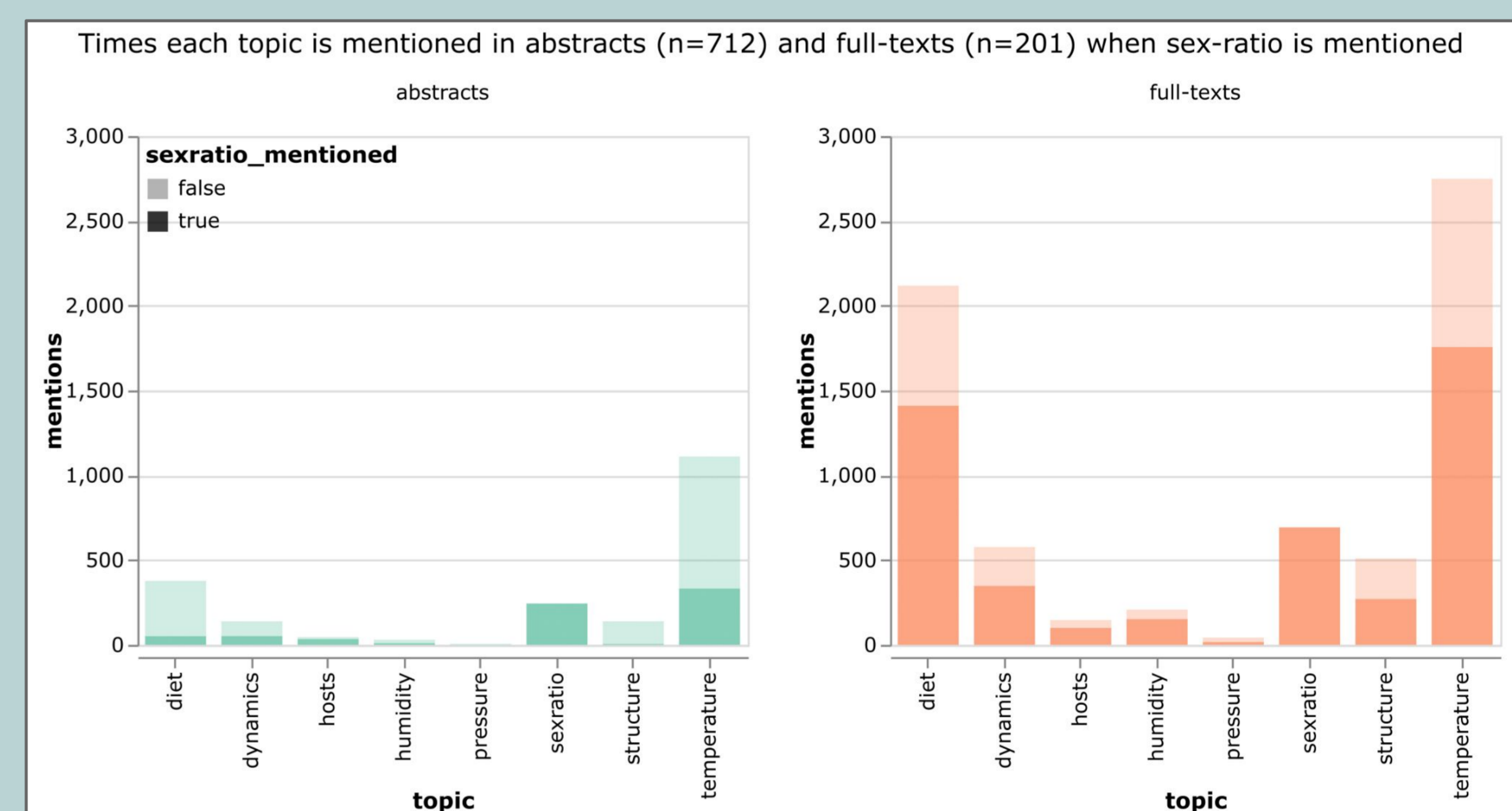


fig. 2: Hits per topic

- Physical properties were the least often mentioned, amounting to 5% of hits
- Environment structure, population dynamics and sex-ratio make up 25%
- Diet represents 30% of hits
- Temperature accounts for 39% of hits

Conclusion

- Most studies involving parasitoids mention only temperature and diet
- No strong relationships were found between sex-ratio and environmental parameters