ARPHA Conference Abstracts 2: e37158
doi: 10.3897/aca.2.e37158

Conference Abstract

Conflicts in sperm: how do genitalia coevolve with elaborate sperm?

Antonio Gomez‡, David Robert Maddison‡

‡ Oregon State University, Corvallis, United States of America

Corresponding author: Antonio Gomez (gomezr@oregonstate.edu)

Received: 11 Jun 2019 | Published: 12 Jun 2019

Citation: Gomez A, Maddison D (2019) Conflicts in sperm: how do genitalia coevolve with elaborate sperm? ARPHA Conference Abstracts 2: e37158. https://doi.org/10.3897/aca.2.e37158

Abstract

Some sperm traits are now recognized as ornaments akin to peacock's tails evolving under cryptic female choice or weapons in sexual conflicts, but there are still few studies addressing patterns and process in sperm-female evolution. We are studying sperm-female evolution in ground beetles of the genus *Dyschirius*. Male *Dyschirius* make groups of sperm, termed conjugates, by pairing sperm to non-cellular rods, or spermatostyles. This pairing creates a conflict for storage space in the female's reproductive tract between sperm and the spermatostyle, which is incapable of fertilizing eggs. We speculate that the conjugates of some *Dyschirius* that include large spermatostyles with few sperm are ornaments. We hypothesize that increased spermathecal storage volume is positively correlated with larger spermatostyles and that male genitalic complexity is negatively correlated with elaboration of sperm. We gathered morphological trait data on sperm conjugates and male and female genitalia from several species of *Dyschirius*. We analyzed these data in a phylogenetic framework using a robust *Dyschirius* species tree derived from DNA sequence data. We present preliminary results from this ongoing study and solicit feedback from the ECM community.

Keywords

post mating sexual selection, evolutionary tradeoffs, ornaments

Presenting author

Antonio Gomez

Presented at

19thECM oral communication

Acknowledgements

Thanks to the Integrative Biology Zoological Research Fund (ZoRF) for funding RAG's travel to the meeting.

Funding program

NSF Graduate Research Fellowship to RAG (DGE-1143953)

Author contributions

RAG and DRM designed the study, RAG collected the data and performed the analyses, RAG and DRM will coauthor the manuscript

Conflicts of interest

To the best of our knowledge, there are no conflicts of interest between the authors and their funding sources.