Advancing Data Publishing: The Future of Dryad

Elizabeth Hull
AGU 2018
Dryad values

- Quality curation
- Longevity
- Community-led
- Not-for-profit
- Partnerships
California Digital Library

- Focus on digital curation & open access to scholarly works
- Strategic values to build on global networks and grow partnerships
- Experience within institutional community advocating for data publishing
- Open-source, nimble technology for data publishing
Goals of Dryad-CDL collaboration

Goal 1: Drive adoption of curated data publishing

Goal 2: Sustainability for open-source, community-owned, data curation & publication infrastructure
Future of data publishing

Articles
Preprints
Electronic Lab Notebooks
Micropubs

Research Data Publishing

DRYAD

Domain
We are launching a new Dryad service

★ New product development team

★ Migrating classic Dryad onto open-source, nimble CDL technology

★ Transparent reporting and curation with administrative layer

★ Enhanced submission features: publisher integrations
New Dryad platform

- Core Trust Seal Certified
- Standards based
  - SWORD, OAI-PMH, Schema.org
  - DataCite schema, ORCID login/co-author ORCIDs, Funder Registry, Versioning
- Large datasets accepted via cloud manifest
- Submission and Download APIs
- Administration and curation layer
- Standardized data usage and citation metrics (Make Data Count)
Data from: Neurospora and the dead-end hypothesis: genomic consequences of selfing in the model genus.

Gioti, Anastasia
Stajich, Jason E.
Johannesson, Hanna
Publication date: October 24, 2018
Publisher: Dryad
https://doi.org/10.5061/dryad.4n9b4

Citation
Gioti, Anastasia; Stajich, Jason E.; Johannesson, Hanna (2018), Data from: Neurospora and the dead-end hypothesis: genomic consequences of selfing in the model genus., Dryad Dash, Dataset, https://doi.org/10.5061/dryad.4n9b4

Keywords
Data from: Neurospora and the dead-end hypothesis: genomic consequences of selfing in the model genus.


Abstract

It is becoming increasingly evident that adoption of different reproductive strategies, such as sexual selfing and asexuality, greatly impacts genome evolution. In this study, we test theoretical predictions on genomic maladaptation of selfing lineages using empirical data from the model fungus Neurospora. We sequenced the genomes of four species representing distinct transitions to selfing within the history of the genus, as well as the transcriptome of one of these, and compared with available data from three outcrossing species. Our results provide evidence for a relaxation of purifying selection in protein-coding genes and for a reduced efficiency of transposable element silencing by Repeat
Gioti, Anastasia; Stajich, Jason E.; Johannesson, Hanna (2018), Data from: Neurospora and the dead-end hypothesis: genomic consequences of selfing in the model genus., Dryad Dash, Dataset, https://doi.org/10.5061/dryad.4n9b4

Abstract

It is becoming increasingly evident that adoption of different reproductive strategies, such as sexual selfing and asexuality, greatly impacts genome evolution. In this study, we test theoretical predictions on genomic maladaptation of selfing lineages using empirical data from the model fungus Neurospora. We sequenced the genomes of four species representing distinct transitions to selfing within the history of the genus, as well as the transcriptome of one of these, and compared with available data from three outcrossing species. Our results provide evidence for a relaxation of purifying selection in protein-coding genes and for a reduced efficiency of transposable element silencing by Repeat Induced Point mutation. A reduction in adaptive evolution was also identified in the form of reduced codon usage bias in highly expressed genes of selfing Neurospora, but this result may be confounded by mutational bias. Potentially counteracting these negative effects, the nucleotide substitution rate and the spread of transposons is reduced in selfing species. We suggest that differences in substitution rate relate to the absence of the asexual pathway producing conidia in selfing Neurospora. Our results support the dead-end theory and show that Neurospora genomes bear signatures of both sexual and asexual reproductive modes.

References

This dataset is cited by https://doi.org/10.1111/evo.12206

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**Admin Dashboard**

**At a glance**
- 38,468 Users
- 42 Datasets

**Activity in the last 7 days**
- 38,459 users added
- 8 datasets started
- 7 datasets submitted

**Datasets**

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# Activity Log for An Evaluation of Hierarchical Databases Using VisJingo

doi:10.5072/ny5y-gr82

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Adoption of curated data publishing

Integrate directly into researcher workflows
Enhancing data quality

Membership in the Data Curation Network, making data more FAIR
Institution led

Shift focus to membership model for institutions and publishers for sustainability
We are an stakeholder community who support data curation, data publishing, and data preservation. We should effectively band together and support community-owned research data infrastructure.
Join the Dryad community!

https://datadryad.org

Dryad News & Views blog: http://blog.datadryad.org

Twitter: @datadryad

Elizabeth Hull, Associate Director: ehull@datadryad.org

Melissanne Scheld, Executive Director: director@datadryad.org