How to Use Dryad for Data Publications

John Chodacki
UC3 Director, California Digital Library
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Data are...

Values behind averages & standard dev

Values extracted from images, blots, gels

Qualitative information (i.e. de-identified answers to interviews and surveys)

...**the necessary information to evaluate, re-use, or reproduce your research!**

DRYAD

Terminology

Open Data

Data that can be freely used, re-used, re-distributed

Data Repository

Place where data can be preserved, accessible, and citable

Data Publication

Sharing your open data in a repository or platform that grants stable identifiers for re-use

DRYAD

Terminology

Metadata

Information needed to understand your dataset

Persistent Identifier

DOI, accession number (i.e. genbank) to find dataset

Data Citation

Recognizing or attributing data you have used with a persistent identifier in article citation format or other

DRYAD

Where to publish data

Publisher Requirements - Example

Recommended Repositories

PLOS requires that authors comply with field-specific standards for preparation and recording of data and select repositories appropriate to their field, for example deposition of microarray data in ArrayExpress or GEO; deposition of gene sequences in GenBank, EMBL or DDBJ; and deposition of other data formats in Dryad. Authors are encouraged to select repositories that meet accepted criteria as trustworthy digital repositories.

PLOS

Disciplinary Repositories

NCBI

What is GenBank?

GenBank ® is the NIH genetic sequence database,

The SRA accepts **genetic data and the associated quality scores** produced by next generation sequencing technologies.

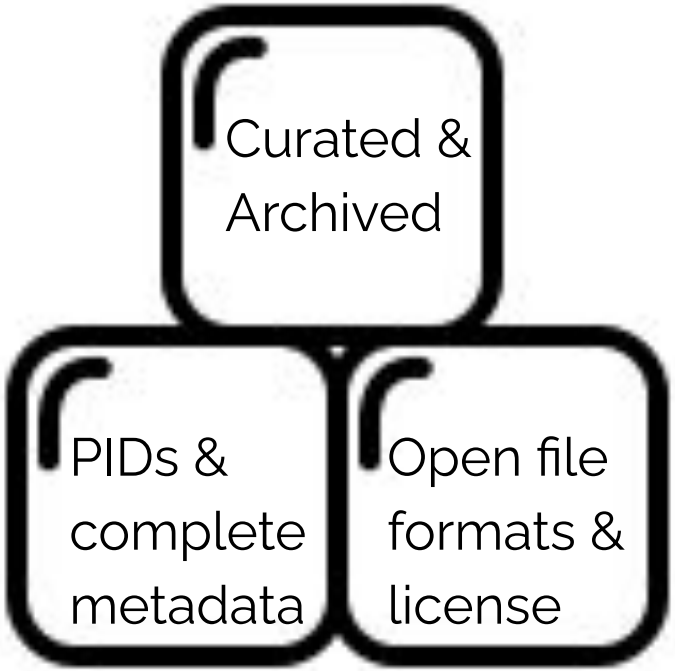
OpenNEURO

WORLDWIDE PDB PROTEIN DATA BANK

ENA European Nucleotide Archive

General Data Repositories

Dryad: data curation & publishing



DRYAD

Dryad

Dryad: leader in open data

100,000+ researchers

40,000+ data publications

2,100+ international institutions

1,200+ academic journals represented

Dryad platform

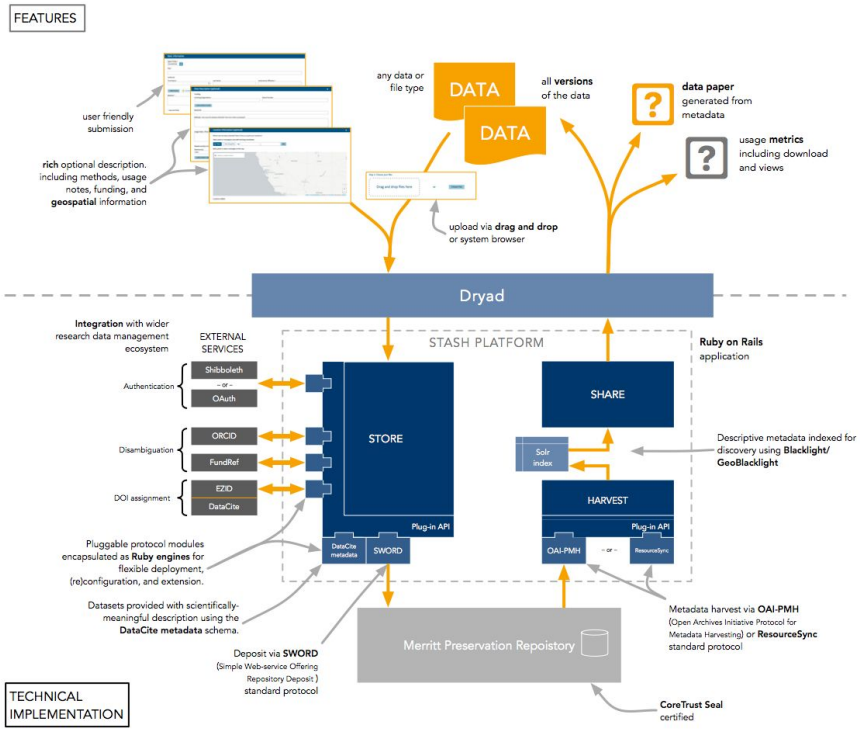
- Built on top of **Core Trust Seal** Certified preservation repository
- Standards based
  - SWORD, OAI-PMH, **Schema.org (Google Data Search)**
  - DataCite schema, **ORCiD** login/co-author ORCiDs, **Funder Registry,** Versioning, Research Organization Registry **(ROR) Organization IDs**
- Large datasets accepted via cloud manifest
- Submission and Download **REST APIs**
- Administration and curation layer
- Standardized data usage and citation metrics **(Make Data Count)**

Data Publishing Platform

DRYAD

Preservation repository

Merritt



Principles Governing Establishment versus Collapse of HIV-1 Cellular Spread

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Best, Katharine, Los Alamos National Laboratory
Liang, C. Jason, National Institute of Allergy and Infectious Diseases
Immonen, Taina, Frederick National Laboratory for Cancer Research
Ambrozak, David, National Institute of Allergy and Infectious Diseases
Darko, Samuel, National Institute of Allergy and Infectious Diseases
Henry, Amy, National Institute of Allergy and Infectious Diseases
Laboune, Farida, National Institute of Allergy and Infectious Diseases
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Yamamoto, Takuya, National Institute of Biomedical Innovation, Health and Nutrition
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Citation

Hataye, Jason et al. (2019), Principles Governing Establishment versus Collapse of HIV-1 Cellular Spread, v7, Dryad, Dataset, https://doi.org/10.5061/dryad.wdbrv15j3

Abstract

A population at low census might go extinct, or instead transition into exponential growth to become firmly established. Whether this pivotal event occurs for a within-host pathogen can be the difference between health and illness. Here we define the principles governing whether HIV-1 spread among cells fails or becomes established, by coupling stochastic modeling with laboratory experiments. Following ex vivo activation of latently-infected CD4 T cells without de novo infection, stochastic cell division and death contributes to high variability in the magnitude of initial virus release. Transition to exponential HIV-1 spread often fails due to release of an insufficient amount of replication-competent virus. Establishment of exponential growth occurs when virus produced from multiple infected cells exceeds a critical population size. We quantitatively define the crucial transition to exponential viral spread. Thwarting this process would prevent HIV transmission or rebound from the latent reservoir.

Methods

The file "code-data-HatayeJ.zip" contains two experimental data tables and script code in R, details are in the file "README.txt".

These files were generated for this research publication:

Principles Governing Establishment versus Collapse of HIV-1 Cellular Spread

Hataye JM et al. Cell Host & Microbe, 2019

https://doi.org/10.1016/j.chom.2019.10.006

See this publication for details. It has an extensive methods section. The HIV env sequencing for this study was deposited at Genbank (https://www.ncbi.nlm.nih.gov/genbank/) with accession numbers MN515491-MN516420.

rebound

critical threshold

viral dynamics

exponential growth

tipping point

License

DC1 Data Citation Principles

DataCite

Usage Notes

To verify the integrity (verify intact download) of the "code-data-HatayeJ.zip" file, one can check the SHA-256 hash of this file. On Mac OS X, this can be done by opening a terminal, typing "cd Desktop" to change to the Desktop directory (if you put the file there), and typing "shasum -a 256 code-data-HatayeJ.zip". Note that you may need to first unzip the direct download from Dryad to do the SHA-256 for "code-data-HatayeJ.zip".

The SHA-256 for "code-data-HatayeJ.zip" is

92fff454a014518690deb0c2f29592b17993cdc1566db6ef5cf019d3552c99e9

Funding

Division of Intramural Research, National Institute of Allergy and Infectious Diseases (USA),

National Institutes of Health (USA), Award: R01-AI028433

Department of Energy (USA), Award: Contract 89233218CNA000001

National Cancer Institute (USA), Award: Contract HHSN261200800001E

National Institutes of Health (USA), Award: R01-OD011095

National Institutes of Health (USA), Award: R01-OD011095

National Institutes of Health (USA), Award: P01-AI131365

Using Dryad

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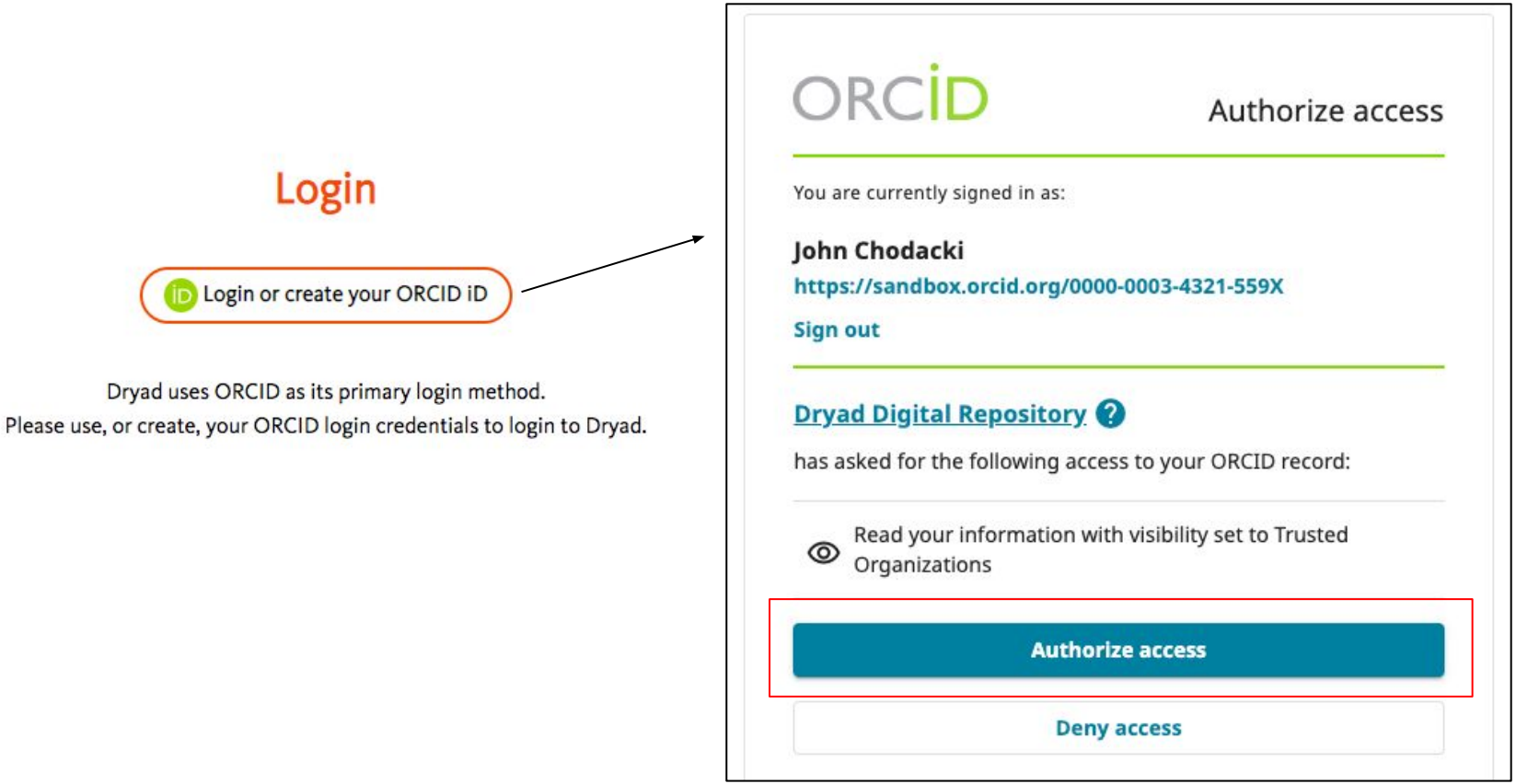

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Long term adherence to funder and publisher mandates around open data

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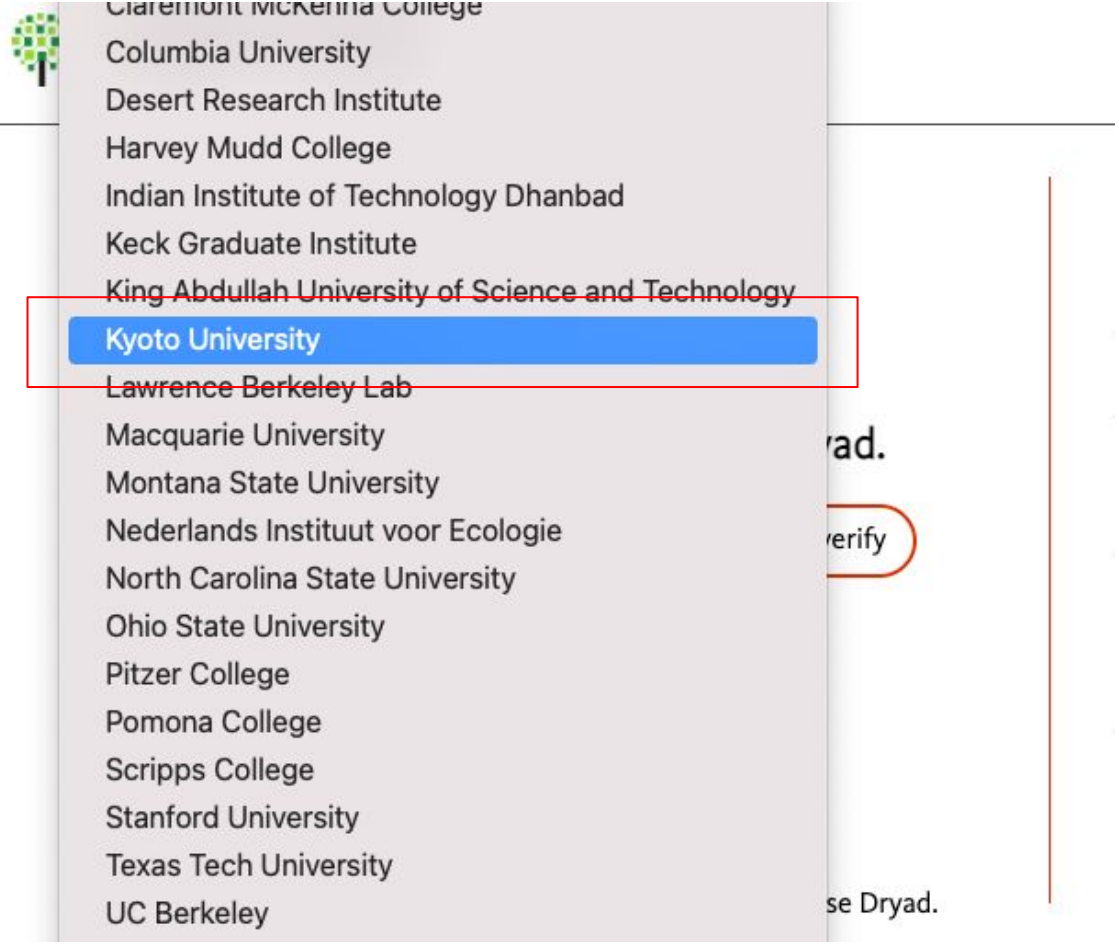
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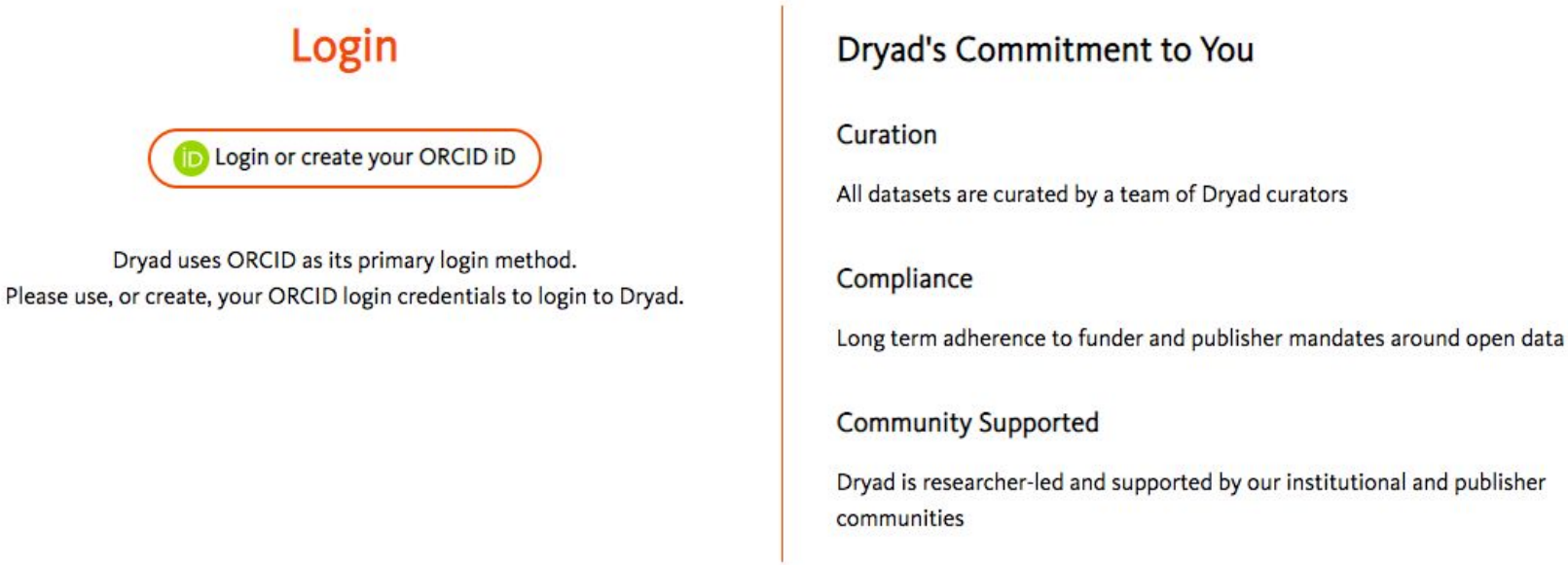
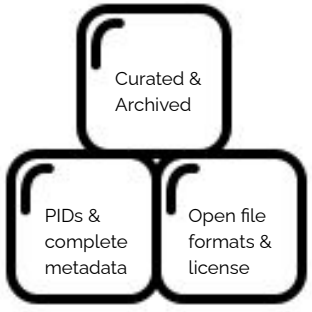


Ease of Submission

Best practices for creating reusable data publications

1. Gather all relevant data needed for reanalysis
2. Make sure your data are shareable
3. Make sure your data are accessible
4. Organize files in a logical schema
5. Describe your dataset in a README file



More info at https://datadryad.org/stash/best_practices

Describe Dataset | Upload Files | Review and Submit

Describe Your Dataset

Preliminary Information

My data is related to:

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- ( ) a published article
- ( ) other or not applicable

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Journal Name *

Manuscript Number *
APPS-D-17-00113

Import Manuscript Metadata

Dataset: Basic Information

Dataset Title *

Community-minded Data Publishing at Dryad

Author(s)

First Name *	Last Name *	Institutional Affiliation *	Author Email *
Daniella	Lowenberg	California Digital Library	daniella.lowenberg@ucop.edu

https://orcid.org/0000-0003-2255-1869

+ Add Author

Research Domain

Biological sciences

Funding

Granting Organization	Award Number
National Science Foundation	1933812

+ add another funder

Abstract *

Source | Normal

This abstract will be specific to the research data themselves, not nececssarily a copy paste of of what I entered for related manuscript.

Data Description

Keywords: Adding keywords improves the findability of your dataset. E.g. scientific names, method type

Methods: How was this dataset collected? How has it been processed?

Source | Format

Usage Notes: What else would someone need to know to use this dataset? Are there any missing values? Please upload any files necessary for re-use (i.e. ReadMe files) and note them.

Source | Format

Related Works

Are there any preprints, articles, datasets, software packages, or supplemental information that have resulted from or are related to this Data Publication?

Article	https://doi.org/10.1371/journal.pone.0238882	remove
Software	10.5281/zenodo.2583172	remove
Dataset	http://purl.org/phylo/treebase/phylows/study/TB2:S1929	remove

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Automated location invariant animal detection in camera trap images using publicly available data sources

Shepley, Andrew, University of New England, https://orcid.org/0000-0001-7511-4967
Falzon, Greg, Flinders University
Meek, Paul D., University of New England
Kwan, Paul, Melbourne Institute of Technology
asheple2@une.edu.au

Publication date: February 23, 2021
Publisher: Dryad
https://doi.org/10.5061/dryad.1c59zw3tx

Citation

Shepley, Andrew; Falzon, Greg; Meek, Paul D.; Kwan, Paul (2021), Automated location invariant animal detection in camera trap images using publicly available data sources, Dryad, Dataset, https://doi.org/10.5061/dryad.1c59zw3tx

Data Files

Download dataset

February 23, 2021

Related Works

Article
https://doi.org/10.22...60326018.80049556/v1

Software
https://doi.org/10.5281/zenodo.4544074

Metrics

Curation

Dryad curation

Best practices in metadata

Checks for:

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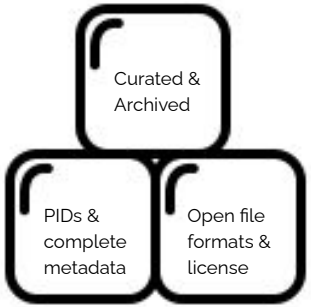
- copyright/licensing
- accessible ReadMe and file types



Email with authors to educate & publisn

DRYAD

Discoverability & Reach

Data from: Model-based inference for estimating shifts in species distribution, area occupied and centre of gravity

Thorson, James T., Northwest Fisheries Science Center
Pinsky, Malin L., Rutgers University
Ward, Eric J., Northwest Fisheries Science Center

Publication date: March 30, 2017
Publisher: Dryad
https://doi.org/10.5061/dryad.r1s8g

Citation

Thorson, James T.; Pinsky, Malin L.; Ward, Eric J. (2017), Data from: Model-based inference for estimating shifts in species distribution, area occupied and centre of gravity, Dryad, Dataset, https://doi.org/10.5061/dryad.r1s8g

Abstract

Changing climate is already impacting the spatial distribution of many taxa, including bees, plants, birds, butterflies and fishes. A common goal is to detect range shifts in response to climate change, including changes in the centre of the population's distribution (the centre of gravity, COG), population boundaries and area occupied. Conventional estimators, such as the abundance-weighted average (AWA) estimator for COG, confound range shifts with changes in the spatial distribution of available survey data and may be biased when the distribution of survey data shifts over time. AWA also does not estimate the standard error of COG in individual years and cannot incorporate data from multiple survey

Data Files

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Related Works

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Works Referencing This Dataset

; (2018), The Role of Environmental Filtering in Structuring Appalachian Tree Communities: Topographic Influences on Functional Diversity Are Mediated through Soil Characteristics, MDPI AG, Article-journal, https://doi.org/10.3390/f9010019

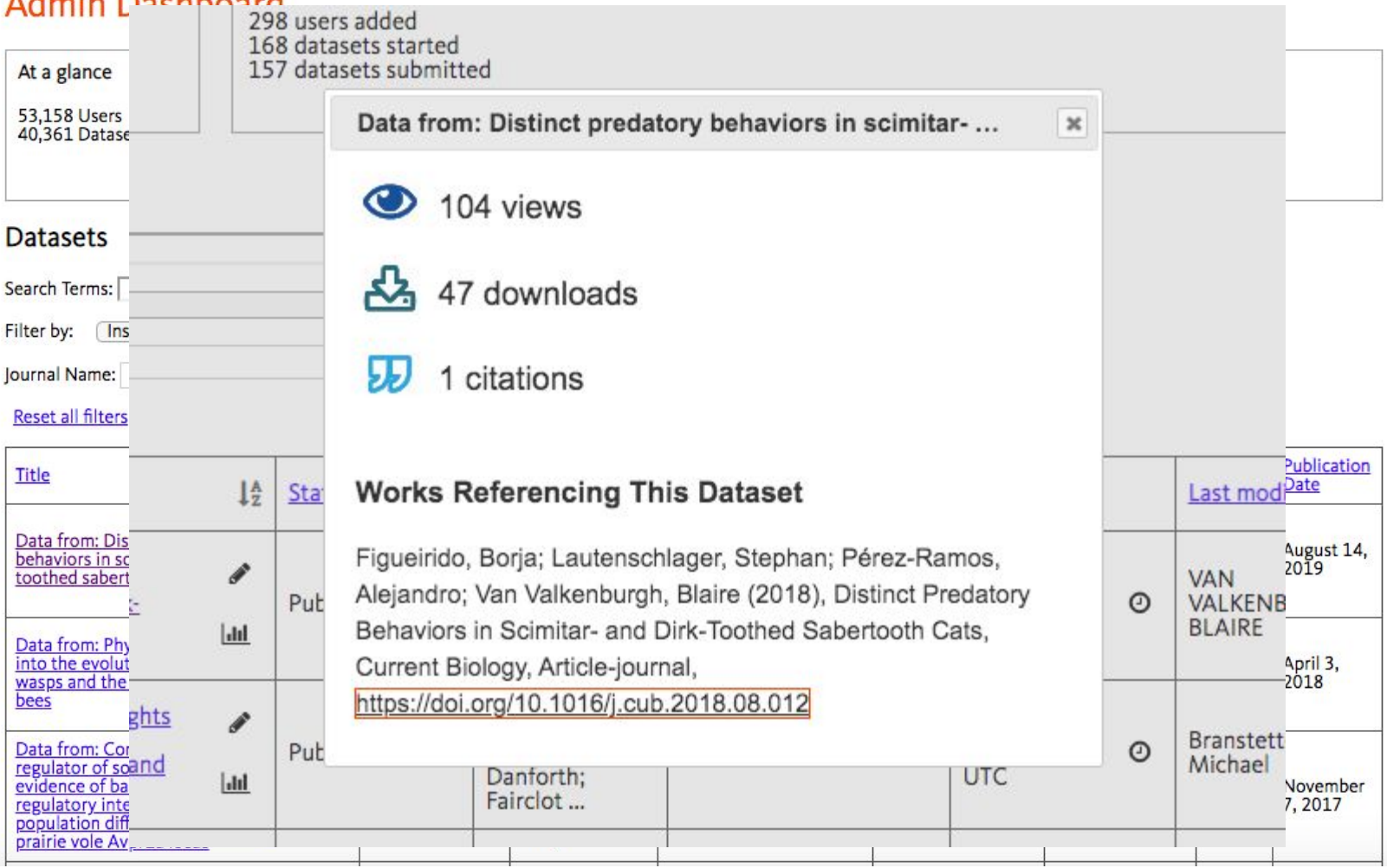
Middendorp, Romaike S.; Vanacker, Veerle; Lambin, Eric F. (2018), Impacts of shaded agroforestry management on carbon sequestration, biodiversity and farmers income in cocoa production landscapes, Springer Nature, Article-journal, https://doi.org/10.1007/s10980-018-0714-0

Islam, Mahmuda; Rahman, Mizanur; Bräuning, Achim (2018), Long-Term Hydraulic Adjustment of Three Tropical Moist Forest Tree Species to Changing Climate, Frontiers Media SA, Article-journal, https://doi.org/10.3389/fpls.2018.01761

McPherson, E. Gregory; van Doorn, Natalie S.; Peper, Paula J. (), Urban tree database, USDA Forest Service, Dataset, https://doi.org/10.2737/rds-2016-0005

Michener, William K. (2017), Data Discovery, Springer International Publishing, Chapter, https://doi.org/10.1007/978-3-319-59928-1_7

Chave, Jerome et al. (2009), Towards a worldwide wood economics spectrum, Wiley, Article-journal, https://doi.org/10.1111/j.1461-0248.2009.01285.x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Subject Area

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Journal

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- Journal of Evolutionary Biology 9
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- Proceedings of the Royal Society B: Biological Sciences 8
- Biology Letters 6
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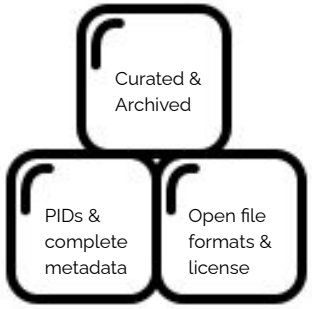

More FAQs at https://datadryad.org/stash/faq

Following best practices for data

1. **Document** your data collection & procedures
2. **Publish** data in compliance with mandates
3. **Promote** data as first class work
4. **Discover** and re-use published data
5. **Cite** your and your colleagues data

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