

# A Review of Biotic Interactions and Taxon Names Found in globalbioticinteractions/dmns-para hash://md5/5ffc62fde92400115f9f936b1cafa6d9

by Nomer, Elton and Preston, three naive review bots  
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<https://github.com/globalbioticinteractions/dmns-para/issues>

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## Abstract

Life on Earth is sustained by complex interactions between organisms and their environment. These biotic interactions can be captured in datasets and published digitally. We present a review and archiving process for such an openly accessible digital interactions dataset of known origin and discuss its outcome. The dataset under review, named globalbioticinteractions/dmns-para, has fingerprint hash://md5/5ffc62fde92400115f9f936b1cafa6d9, is 71.3MiB in size and contains 2,090 interaction with 3 unique types of associations (e.g., parasiteOf) between 64 primary taxa (e.g., *Eumolpianus eumolpi*) and 495 associated taxa (e.g., *Tamias speciosus*). This report includes detailed summaries of interaction data, a taxonomic review from multiple catalogs, and an archived version of the dataset from which the reviews are derived.

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## Introduction

### Data Review and Archive

Data review and archiving can be a time-consuming process, especially when done manually. This review report aims to help facilitate both activities. It automates the archiving of datasets, including Darwin Core archives, and is a citable backup of a version of the dataset. Additionally, an automatic review of species interaction claims made in the dataset is generated and registered with Global Biotic Interactions (J. H. Poelen, Simons, and Mungall 2014).

This review includes summary statistics about, and observations about, the dataset under review:

DMNS Parasite collection (Arctos) <http://ipt.vertnet.org:8080/ipt/archive.do?r=dmn2025-04-04T23:39:21.331Z> hash://md5/5ffc62fde92400115f9f936b1cafa6d9

For additional metadata related to this dataset, please visit <https://github.com/globalbioticinteractions/dmns-para> and inspect associated metadata files including, but not limited to, *README.md*, *eml.xml*, and/or *globi.json*.

## Methods

The review is performed through programmatic scripts that leverage tools like Preston (Elliott et al. 2025), Elton (Kuhn, Poelen, and Leinweber 2025), Nomer (Salim and Poelen 2025), globinizer (J. Poelen, Seltmann, and Mietchen 2024) combined with third-party tools like grep, mlr, tail and head.

Table 1: Tools used in this review process

tool name	version
preston	0.10.1
elton	0.15.9
nomer	0.5.13

tool name	version
globinizer	0.4.0
mlr	6.0.0
jq	1.6
yq	4.25.3
pandoc	3.1.6.1

The review process can be described in the form of the script below <sup>1</sup>.

```
# get versioned copy of the dataset (size approx. 71.3MiB) under review
elton pull globalbioticinteractions/dmns-para

# generate review notes
elton review globalbioticinteractions/dmns-para\
> review.tsv

# export indexed interaction records
elton interactions globalbioticinteractions/dmns-para\
> interactions.tsv

# export names and align them with the Catalogue of Life using Nomer
elton names globalbioticinteractions/dmns-para\
| nomer append col\
> name-alignment.tsv
```

or visually, in a process diagram.

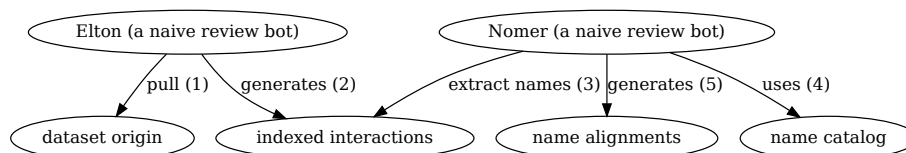


Figure 1: Review Process Overview

You can find a copy of the full review script at [check-data.sh](#). See also [GitHub](#) and [Codeberg](#).

<sup>1</sup>Note that you have to first get the data (e.g., via `elton pull globalbioticinteractions/dmns-para`) before being able to generate reviews (e.g., `elton review globalbioticinteractions/dmns-para`), extract interaction claims (e.g., `elton interactions globalbioticinteractions/dmns-para`), or list taxonomic names (e.g., `elton names globalbioticinteractions/dmns-para`)

## Results

In the following sections, the results of the review are summarized <sup>2</sup>. Then, links to the detailed review reports are provided.

### Files

The following files are produced in this review:

filename	description
biblio.bib	list of bibliographic reference of this review
check-dataset.sh	data review workflow/process as expressed in a bash script
data.zip	a versioned Preston (Elliott et al. 2025) archive of the data under review
HEAD	the digital signature of the data under review
index.docx	review in MS Word format
index.html	review in HTML format
index.md	review in Pandoc markdown format
index.pdf	review in PDF format
indexed-citations.csv.gz	list of distinct reference citations for reviewed species interaction claims in gzipped comma-separated values file format
indexed-citations.html.gz	list of distinct reference citations for reviewed species interactions claims in gzipped html file format
indexed-citations.tsv.gz	list of distinct reference citations for reviewed species interaction claims in gzipped tab-separated values format
indexed-interactions-col-family-col-family.svg	network diagram showing the taxon family to taxon family interaction claims in the dataset under review as interpreted by the Catalogue of Life via Nomer Corpus of Taxonomic Resources (J. H. (ed. ). Poelen 2024)

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<sup>2</sup>Disclaimer: The results in this review should be considered friendly, yet naive, notes from an unsophisticated robot. Please keep that in mind when considering the review results.

filename	description
indexed-interactions-col-kingdom-col-kingdom.svg	network diagram showing the taxon kingdom to taxon kingdom interaction claims in the dataset under review as interpreted by the Catalogue of Life via Nomer Corpus of Taxonomic Resources (J. H. (ed. ). Poelen 2024)
indexed-interactions.csv.gz	species interaction claims indexed from the dataset under review in gzipped comma-separated values format
indexed-interactions.html.gz	species interaction claims indexed from the dataset under review in gzipped html format
indexed-interactions.tsv.gz	species interaction claims indexed from the dataset under review in gzipped tab-separated values format
indexed-interactions-sample.csv	list of species interaction claims indexed from the dataset under review in gzipped comma-separated values format
indexed-interactions-sample.html	first 500 species interaction claims indexed from the dataset under review in html format
indexed-interactions-sample.tsv	first 500 species interaction claims indexed from the dataset under review in tab-separated values format
indexed-names.csv.gz	taxonomic names indexed from the dataset under review in gzipped comma-separated values format
indexed-names.html.gz	taxonomic names found in the dataset under review in gzipped html format
indexed-names.tsv.gz	taxonomic names found in the dataset under review in gzipped tab-separated values format
indexed-names-resolved-col.csv.gz	taxonomic names found in the dataset under review aligned with the Catalogue of Life as accessed through the Nomer Corpus of Taxonomic Resources (J. H. (ed. ). Poelen 2024) in gzipped comma-separated values format

filename	description
indexed-names-resolved-col.html.gz	taxonomic names found in the dataset under review aligned with the Catalogue of Life as accessed through the Nomer Corpus of Taxonomic Resources (J. H. (ed. ). Poelen 2024) in gzipped html format
indexed-names-resolved-col.tsv.gz	taxonomic names found in the dataset under review aligned with the Catalogue of Life as accessed through the Nomer Corpus of Taxonomic Resources (J. H. (ed. ). Poelen 2024) in gzipped tab-separated values format
indexed-names-resolved-discoverlife.csv.gz	taxonomic names found in the dataset under review aligned with Discover Life bee species checklist as accessed through the Nomer Corpus of Taxonomic Resources (J. H. (ed. ). Poelen 2024) in gzipped comma-separated values format
indexed-names-resolved-discoverlife.html.gz	taxonomic names found in the dataset under review aligned with Discover Life bee species checklist as accessed through the Nomer Corpus of Taxonomic Resources (J. H. (ed. ). Poelen 2024) in gzipped html format
indexed-names-resolved-discoverlife.tsv.gz	taxonomic names found in the dataset under review aligned with Discover Life bee species checklist as accessed through the Nomer Corpus of Taxonomic Resources (J. H. (ed. ). Poelen 2024) in gzipped tab-separated values format
indexed-names-resolved-gbif.csv.gz	taxonomic names found in the dataset under review aligned with GBIF Backbone Taxonomy as accessed through the Nomer Corpus of Taxonomic Resources (J. H. (ed. ). Poelen 2024) in gzipped comma-separated values format

filename	description
indexed-names-resolved-gbif.html.gz	taxonomic names found in the dataset under review aligned with GBIF Backbone Taxonomy as accessed through the Nomer Corpus of Taxonomic Resources (J. H. (ed. ). Poelen 2024) in gzipped html format
indexed-names-resolved-gbif.tsv.gz	taxonomic names found in the dataset under review aligned with GBIF Backbone Taxonomy as accessed through the Nomer Corpus of Taxonomic Resources (J. H. (ed. ). Poelen 2024) in gzipped tab-separated values format
indexed-names-resolved-itis.csv.gz	taxonomic names found in the dataset under review aligned with Integrated Taxonomic Information System (ITIS) as accessed through the Nomer Corpus of Taxonomic Resources (J. H. (ed. ). Poelen 2024) in gzipped comma-separated values format
indexed-names-resolved-itis.html.gz	taxonomic names found in the dataset under review aligned with Integrated Taxonomic Information System (ITIS) as accessed through the Nomer Corpus of Taxonomic Resources (J. H. (ed. ). Poelen 2024) in gzipped html format
indexed-names-resolved-itis.tsv.gz	taxonomic names found in the dataset under review aligned with Integrated Taxonomic Information System (ITIS) as accessed through the Nomer Corpus of Taxonomic Resources (J. H. (ed. ). Poelen 2024) in gzipped tab-separated values format
indexed-names-resolved-mdd.csv.gz	taxonomic names found in the dataset under review aligned with the Mammal Diversity Database as accessed through the Nomer Corpus of Taxonomic Resources (J. H. (ed. ). Poelen 2024) in gzipped comma-separated values format

filename	description
indexed-names-resolved-mdd.html.gz	taxonomic names found in the dataset under review aligned with Mammal Diversity Database as accessed through the Nomer Corpus of Taxonomic Resources (J. H. (ed. ). Poelen 2024) in gzipped html format
indexed-names-resolved-mdd.tsv.gz	taxonomic names found in the dataset under review aligned with Mammal Diversity Database as accessed through the Nomer Corpus of Taxonomic Resources (J. H. (ed. ). Poelen 2024) in gzipped tab-separated values format
indexed-names-resolved-ncbi.csv.gz	taxonomic names found in the dataset under review aligned with the NCBI Taxonomy as accessed through the Nomer Corpus of Taxonomic Resources (J. H. (ed. ). Poelen 2024) in gzipped comma-separated values format
indexed-names-resolved-ncbi.html.gz	taxonomic names found in the dataset under review aligned with the NCBI Taxonomy as accessed through the Nomer Corpus of Taxonomic Resources (J. H. (ed. ). Poelen 2024) in gzipped html format
indexed-names-resolved-ncbi.tsv.gz	taxonomic names found in the dataset under review aligned with the NCBI Taxonomy as accessed through the Nomer Corpus of Taxonomic Resources (J. H. (ed. ). Poelen 2024) in gzipped tab-separated values format
indexed-names-resolved-pbdb.csv.gz	taxonomic names found in the dataset under review aligned with the Paleobiology Database as accessed through the Nomer Corpus of Taxonomic Resources (J. H. (ed. ). Poelen 2024) in gzipped comma-separated values format



filename	description
indexed-names-resolved-pbdb.html.gz	taxonomic names found in the dataset under review aligned with Paleobiology Database as accessed through the Nomer Corpus of Taxonomic Resources (J. H. (ed. ). Poelen 2024) in gzipped html format
indexed-names-resolved-pbdb.tsv.gz	taxonomic names found in the dataset under review aligned with Paleobiology Database as accessed through the Nomer Corpus of Taxonomic Resources (J. H. (ed. ). Poelen 2024) in gzipped tab-separated values format
indexed-names-resolved-tpt.csv.gz	taxonomic names found in the dataset under review aligned with the Terrestrial Parasite Tracker (TPT) Taxonomic Resource as accessed through the Nomer Corpus of Taxonomic Resources (J. H. (ed. ). Poelen 2024) in gzipped comma-separated values format
indexed-names-resolved-tpt.html.gz	taxonomic names found in the dataset under review aligned with the Terrestrial Parasite Tracker (TPT) Taxonomic Resource as accessed through the Nomer Corpus of Taxonomic Resources (J. H. (ed. ). Poelen 2024) in gzipped html format
indexed-names-resolved-tpt.tsv.gz	taxonomic names found in the dataset under review aligned with the Terrestrial Parasite Tracker (TPT) Taxonomic Resource as accessed through the Nomer Corpus of Taxonomic Resources (J. H. (ed. ). Poelen 2024) in gzipped tab-separated values format
indexed-names-resolved-wfo.csv.gz	taxonomic names found in the dataset under review aligned with the World of Flora Online as accessed through the Nomer Corpus of Taxonomic Resources (J. H. (ed. ). Poelen 2024) in gzipped comma-separated values format

filename	description
indexed-names-resolved-wfo.html.gz	taxonomic names found in the dataset under review aligned with the World of Flora Online as accessed through the Nomer Corpus of Taxonomic Resources (J. H. (ed. ). Poelen 2024) in gzipped html format
indexed-names-resolved-wfo.tsv.gz	taxonomic names found in the dataset under review aligned with the World of Flora Online as accessed through the Nomer Corpus of Taxonomic Resources (J. H. (ed. ). Poelen 2024) in gzipped tab-separated values format
indexed-names-resolved-worms.csv.gz	taxonomic names found in the dataset under review aligned with the World Register of Marine Species (WoRMS) as accessed through the Nomer Corpus of Taxonomic Resources (J. H. (ed. ). Poelen 2024) in gzipped comma-separated values format
indexed-names-resolved-worms.html.gz	taxonomic names found in the dataset under review aligned with the World Register of Marine Species (WoRMS) as accessed through the Nomer Corpus of Taxonomic Resources (J. H. (ed. ). Poelen 2024) in gzipped html format
indexed-names-resolved-worms.tsv.gz	taxonomic names found in the dataset under review aligned with the World Register of Marine Species (WoRMS) as accessed through the Nomer Corpus of Taxonomic Resources (J. H. (ed. ). Poelen 2024) in gzipped tab-separated values format
indexed-names-sample.csv	first 500 taxonomic names found in the dataset under review in comma-separated values format
indexed-names-sample.html	first 500 taxonomic names found in the dataset under review in html format
indexed-names-sample.tsv	first 500 taxonomic names found in the dataset under review in tab-separated values format
interaction.svg	diagram summarizing the data model used to index species interaction claims

filename	description
nanopub-sample.trig	first 500 species interaction claims as expressed in the nanopub format (Kuhn and Dumontier 2014)
nanopub.trig.gz	species interaction claims as expressed in the nanopub format (Kuhn and Dumontier 2014)
process.svg	diagram summarizing the data review processing workflow
prov.nq	origin of the dataset under review as expressed in rdf/nquads
review.csv.gz	review notes associated with the dataset under review in gzipped comma-separated values format
review.html.gz	review notes associated with the dataset under review in gzipped html format
review.tsv.gz	review notes associated with the dataset under review in gzipped tab-separated values format
review-sample.csv	first 500 review notes associated with the dataset under review in comma-separated values format
review-sample.html	first 500 review notes associated with the dataset under review in html format
review-sample.tsv	first 500 review notes associated with the dataset under review in tab-separated values format
review.svg	a review badge generated as part of the dataset review process
zenodo.json	metadata of this review expressed in Zenodo record metadata

## Archived Dataset

Note that *data.zip* file in this archive contains the complete, unmodified archived dataset under review.

## Biotic Interactions

In this review, biotic interactions (or biotic associations) are modeled as a primary (aka subject, source) organism interacting with an associate (aka object, target) organism. The dataset under review classified the primary/associate

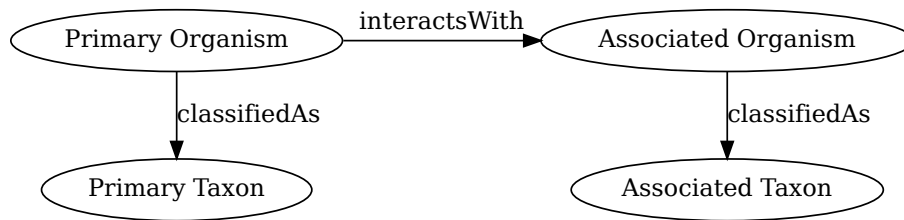


Figure 2: Biotic Interaction Data Model

organisms with specific taxa. The primary and associate organisms The kind of interaction is documented as an interaction type.

The dataset under review, named globalbioticinteractions/dmns-para, has fingerprint hash://md5/5ffc62fde92400115f9f936b1cafa6d9, is 71.3MiB in size and contains 2,090 interaction with 3 unique types of associations (e.g., parasiteOf) between 64 primary taxa (e.g., *Eumolpianus eumolpi*) and 495 associated taxa (e.g., *Tamias speciosus*).

An exhaustive list of indexed interaction claims can be found in gzipped csv and tsv archives. To facilitate discovery, a preview of claims available in the gzipped html page at [indexed-interactions.html.gz](http://indexed-interactions.html.gz) are shown below.

The exhaustive list was used to create the following data summaries below.

Table 3: Sample of Indexed Interaction Claims

sourceTaxonName	interactionTypeName	targetTaxonName	referenceCitation
<i>Eumolpianus eumolpi</i>	parasiteOf	<i>Tamias minimus</i>	<a href="http://arctos.database.museum/guid/DMNS:Para">http://arctos.database.museum/guid/DMNS:Para</a>
<i>Eumolpianus eumolpi</i>	parasiteOf	<i>Tamias quadrivittatus</i>	<a href="http://arctos.database.museum/guid/DMNS:Para">http://arctos.database.museum/guid/DMNS:Para</a>
<i>Oxyurida</i>	parasiteOf	<i>Tamias quadrivittatus</i>	<a href="http://arctos.database.museum/guid/DMNS:Para">http://arctos.database.museum/guid/DMNS:Para</a>
<i>Oxyurida</i>	hasHost	<i>Tamias quadrivittatus</i>	<a href="http://arctos.database.museum/guid/DMNS:Para">http://arctos.database.museum/guid/DMNS:Para</a>

Table 4: Most Frequently Mentioned Interaction Types (up to 20 most frequent)

interactionTypeName	count
parasiteOf	1011
hasHost	636
coOccursWith	443

Table 5: Most Frequently Mentioned Primary Taxa (up to 20 most frequent)

sourceTaxonName	count
Eumolpianus eumolpi	339
Phthiraptera	322
Nematoda	298
Cestoda	191
Hoplopleura arboricola	100
Oestridae	99
Heteroxynema cucullatum	72
Rauschtineria eutamii	64
Ceratophyllus ciliatus	57
Orchopeas sexdentatus	49
Eumolpianus eutamiadis	44
Neohaematopinus pacificus	43
Siphonaptera	40
Acariformes	38
Oropsylla tuberculata	31
Anoplura	27
Ixodidae	26
Acari	22
Aetheca wagneri	21

Table 6: Most Frequently Mentioned Associate Taxa (up to 20 most frequent)

targetTaxonName	count
Tamias speciosus	162
Tamias minimus	121
Tamias quadrivittatus	100
Bubo virginianus	70
Eumolpianus eumolpi	67
Buteo jamaicensis	51
Nematoda	51
Hoplopleura arboricola	48
Tamias minimus operarius	45
Orchopeas sexdentatus	42
Tamias umbrinus	28
Tamias alpinus	26
Tamias rufus	25
Cestoda	24
Oropsylla tuberculata	24

targetTaxonName	count
Colaptes auratus	22
Tamias dorsalis dorsalis	22
Turdus migratorius	21
Sylvilagus audubonii	20

Table 7: Most Frequent Interactions between Primary and Associate Taxa (up to 20 most frequent)

sourceTaxonName	interactionType	targetTaxonName	count
Eumolpianus eumolpi	parasiteOf	Tamias minimus	76
Eumolpianus eumolpi	parasiteOf	Tamias quadrivittatus	54
Ceratophyllus ciliatus	hasHost	Tamias speciosus	48
Orchopeas sexdentatus	coOccursWith	Orchopeas sexdentatus	42
Eumolpianus eutamiadis	hasHost	Tamias speciosus	41
Eumolpianus eumolpi	hasHost	Tamias speciosus	37
Phthiraptera	parasiteOf	Bubo virginianus	28
Phthiraptera	parasiteOf	Buteo jamaicensis	23
Cestoda	parasiteOf	Bubo virginianus	22
Eumolpianus eumolpi	coOccursWith	Eumolpianus eumolpi	20
Eumolpianus eumolpi	parasiteOf	Tamias minimus operarius	19
Oropsylla tuberculata	coOccursWith	Oropsylla tuberculata	19
Nematoda	parasiteOf	Buteo jamaicensis	16
Nematoda	parasiteOf	Accipiter striatus	15
Eumolpianus eumolpi	hasHost	Tamias alpinus	14
Hoplopleura arboricola	coOccursWith	Neohaematopinus pacificus	14
Nematoda	coOccursWith	Nematoda	14
Neohaematopinus pacificus	coOccursWith	Hoplopleura arboricola	13
Hoplopleura arboricola	coOccursWith	Hoplopleura arboricola	12

## Interaction Networks

The figures below provide a graph view on the dataset under review. The first shows a summary network on the kingdom level, and the second shows how interactions on the family level. It is important to note that both network graphs were first aligned taxonomically using the Catalogue of Life. Please refer to the original (or verbatim) taxonomic names for a more original view on the interaction data.

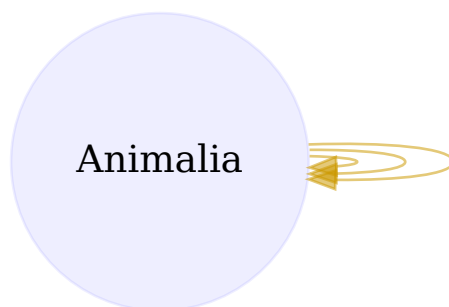


Figure 3: Interactions on taxonomic kingdom rank as interpreted by the Catalogue of Life download svg

Figure 4: Interactions on the taxonomic family rank as interpreted by the Catalogue of Life. [download svg](#)

You can download the indexed dataset under review at [indexed-interactions.csv.gz](#). A tab-separated file can be found at [indexed-interactions.tsv.gz](#)

Learn more about the structure of this download at GloBI website, by opening

a GitHub issue, or by sending an email.

Another way to discover the dataset under review is by searching for it on the GloBI website.

## Taxonomic Alignment

As part of the review, all names are aligned against various name catalogs (e.g., col, ncbi, discoverlife, gbif, itis, wfo, mdd, tpt, pbdb, and worms). These alignments can help review name usage or aid in selecting of a suitable taxonomic name resource.

Table 8: Sample of Name Alignments

providedName	relationName	resolvedCatalogName	resolvedName
Acanthocephala	HAS_ACCEPTED_NAME	col	Acanthocephala
Acanthocephala	SYNONYM_OF	col	Parodia
Acari	NONE	col	Acari
Acariformes	HAS_ACCEPTED_NAME	col	Acariformes

Table 9: Distribution of Taxonomic Ranks of Aligned Names by Catalog. Names that were not aligned with a catalog are counted as NAs. So, the total number of unaligned names for a catalog will be listed in their NA row.

resolvedCatalogName	resolvedRank	count
col	NA	56
col	class	2
col	family	9
col	genus	14
col	infraorder	1
col	nanorder	1
col	order	1
col	parvorder	1
col	phylum	3
col	species	174
col	subgenus	3
col	suborder	1
col	subspecies	28
col	superorder	1
discoverlife	NA	291
gbif	NA	52
gbif	class	2
gbif	family	9



resolvedCatalogName	resolvedRank	count
gbif	genus	18
gbif	order	1
gbif	phylum	3
gbif	species	178
gbif	subspecies	29
itis	NA	77
itis	class	2
itis	family	9
itis	genus	14
itis	order	3
itis	phylum	3
itis	species	151
itis	subclass	1
itis	suborder	3
itis	subspecies	28
itis	superorder	1
mdd	NA	290
ncbi	NA	74
ncbi	class	2
ncbi	family	9
ncbi	genus	14
ncbi	infraorder	2
ncbi	order	2
ncbi	phylum	3
ncbi	species	169
ncbi	subclass	1
ncbi	suborder	2
ncbi	subspecies	13
ncbi	superorder	1
pbdb	NA	137
pbdb	class	2
pbdb	family	4
pbdb	genus	7
pbdb	infraorder	1
pbdb	order	4
pbdb	phylum	2
pbdb	species	130
pbdb	suborder	1
pbdb	subspecies	1
pbdb	superorder	1
pbdb	unranked clade	2
tpt	NA	120
tpt	family	2
tpt	genus	7

resolvedCatalogName	resolvedRank	count
tpt	species	161
wfo	NA	289
wfo	genus	1
worms	NA	191
worms	class	2
worms	family	6
worms	genus	5
worms	infraorder	1
worms	order	2
worms	phylum	3
worms	species	75
worms	subclass	1
worms	suborder	3
worms	subspecies	1
worms	superorder	1

Table 10: Name relationship types per catalog. Name relationship type “NONE” means that a name was not recognized by the associated catalog. “SAME\_AS” indicates either a “HAS\_ACCEPTED\_NAME” or “SYNONYM\_OF” name relationship type. We recognize that “SYNONYM\_OF” encompasses many types of nomenclatural synonymies (ICZN 1999) (e.g., junior synonym, senior synonyms).

resolvedCatalogName	relationName	count
col	HAS_ACCEPTED_NAME	295
col	SYNONYM_OF	15
col	NONE	58
discoverlife	NONE	585
gbif	HAS_ACCEPTED_NAME	299
gbif	SYNONYM_OF	24
gbif	NONE	54
itis	HAS_ACCEPTED_NAME	270
itis	SYNONYM_OF	16
itis	NONE	79
mdd	NONE	271
mdd	HAS_ACCEPTED_NAME	87
mdd	SYNONYM_OF	1
ncbi	NONE	307
ncbi	SAME_AS	272
ncbi	SYNONYM_OF	7
pbdb	HAS_ACCEPTED_NAME	197

resolvedCatalogName	relationName	count
pbdb	SYNONYM_OF	14
pbdb	NONE	152
tpt	NONE	143
tpt	HAS_ACCEPTED_NAME	226
tpt	SYNONYM_OF	18
wfo	SYNONYM_OF	1
wfo	NONE	358
worms	HAS_ACCEPTED_NAME	123
worms	NONE	231
worms	SYNONYM_OF	6

Table 11: List of Available Name Alignment Reports

catalog name	alignment results
col	associated names alignments report in gzipped html, csv, and tsv)
ncbi	associated names alignments report in gzipped html, csv, and tsv)
discoverlife	associated names alignments report in gzipped html, csv, and tsv)
gbif	associated names alignments report in gzipped html, csv, and tsv)
itis	associated names alignments report in gzipped html, csv, and tsv)
wfo	associated names alignments report in gzipped html, csv, and tsv)
mdd	associated names alignments report in gzipped html, csv, and tsv)
tpt	associated names alignments report in gzipped html, csv, and tsv)
pbdb	associated names alignments report in gzipped html, csv, and tsv)
worms	associated names alignments report in gzipped html, csv, and tsv)

## Additional Reviews

Elton, Nomer, and other tools may have difficulties interpreting existing species interaction datasets. Or, they may misbehave, or otherwise show unexpected behavior. As part of the review process, detailed review notes are kept that document possibly misbehaving, or confused, review bots. An sample of review notes associated with this review can be found below.

Table 12: First few lines in the review notes.

reviewDate	reviewCommentType	reviewComment
2025-04-10T13:08:44Z	note	found unresolved reference [11125]
2025-04-10T13:08:44Z	note	found unresolved reference [11174]
2025-04-10T13:08:44Z	note	found unresolved reference [11433]
2025-04-10T13:08:44Z	note	found unresolved reference [11498]

In addition, you can find the most frequently occurring notes in the table below.

Table 13: Most frequently occurring review notes, if any.

reviewComment	count
found unresolved reference [11125]	1
found unresolved reference [11174]	1
found unresolved reference [11433]	1
found unresolved reference [11498]	1

For additional information on review notes, please have a look at the first 500 Review Notes in html format or the download full gzipped csv or tsv archives.

## GloBI Review Badge

As part of the review, a review badge is generated. This review badge can be included in webpages to indicate the review status of the dataset under review.



Figure 5: Picture of a GloBI Review Badge <sup>3</sup>

Note that if the badge is green, no review notes were generated. If the badge is yellow, the review bots may need some help with interpreting the species interaction data.

## GloBI Index Badge

If the dataset under review has been registered with GloBI, and has been successfully indexed by GloBI, the GloBI Index Status Badge will turn green. This means that the dataset under review was indexed by GloBI and is available through GloBI services and derived data products.

<sup>3</sup>Up-to-date status of the GloBI Review Badge can be retrieved from the GloBI Review Depot

<sup>4</sup>Up-to-date status of the GloBI Index Badge can be retrieved from GloBI's API



Figure 6: Picture of a GloBI Index Badge <sup>4</sup>

If you’d like to keep track of reviews or index status of the dataset under review, please visit GloBI’s dataset index <sup>5</sup> for badge examples.

## Discussion

This review and archive provides a means of creating citable versions of datasets that change frequently. This may be useful for dataset managers, including natural history collection data managers, as a backup archive of a shared Darwin Core archive. It also serves as a means of creating a trackable citation for the dataset in an automated way, while also including some information about the contents of the dataset.

This review aims to provide a perspective on the dataset to aid in understanding of species interaction claims discovered. However, it is important to note that this review does *not* assess the quality of the dataset. Instead, it serves as an indication of the open-ness<sup>6</sup> and FAIRness (Wilkinson et al. 2016; Trekels et al. 2023) of the dataset: to perform this review, the data was likely openly available, **F**indable, **A**ccessible, **I**nteroperable and **R**eusable. The current Open-FAIR assessment is qualitative, and a more quantitative approach can be implemented with specified measurement units.

This report also showcases the reuse of machine-actionable (meta)data, something highly recommended by the FAIR Data Principles (Wilkinson et al. 2016). Making (meta)data machine-actionable enables more precise processing by computers, enabling even naive review bots like Nomer and Elton to interpret the data effectively. This capability is crucial for not just automating the generation of reports, but also for facilitating seamless data exchanges, promoting interoperability.

## Acknowledgements

We thank the many humans that created us and those who created and maintained the data, software and other intellectual resources that were used for producing this review. In addition, we are grateful for the natural resources providing the basis for these human and bot activities. Also, thanks

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<sup>5</sup>At time of writing (2025-04-10) the version of the GloBI dataset index was available at <https://globalbioticinteractions.org/datasets>

<sup>6</sup>According to <http://opendefinition.org/>: “Open data is data that can be freely used, re-used and redistributed by anyone - subject only, at most, to the requirement to attribute and sharealike.”

to <https://github.com/zygoballus> for helping improve the layout of the review tables.

## Author contributions

Nomer was responsible for name alignments. Elton carried out dataset extraction, and generated the review notes. Preston tracked, versioned, and packaged, the dataset under review.

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