

A Review of Biotic Interactions and Taxon Names Found in `globalbioticinteractions/kalro2023` hash://md5/b40eee51ae84a24a3d1bde37708b7f73

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<https://github.com/globalbioticinteractions/kalro2023/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/kalro2023`, has fingerprint hash://md5/b40eee51ae84a24a3d1bde37708b7f73, is 427KiB in size and contains 1,028 interaction with 8 unique types of associations (e.g., pollinates) between 512 primary taxa (e.g., *Apis mellifera*) and 331 associated taxa (e.g., *Persea americana*). This report includes detailed summaries of interaction data, a taxonomic review from multiple catalogs, and an archived version of the dataset from which the reviews are derived.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:

A review of the status of web-based African Plant-Pollinator Interaction data. <https://github.com/globalbioticinteractions/kalro2023/archive/b9a45d8f9df251cfb3a2d10519e952025-04-05T00:58:51.736Z> hash://md5/b40eee51ae84a24a3d1bde37708b7f73

For additional metadata related to this dataset, please visit <https://github.com/globalbioticinteractions/kalro2023> 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

tool name	version
nomer	0.5.13
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 ¹.

```
# get versioned copy of the dataset (size approx. 427KiB) under review
elton pull globalbioticinteractions/kalro2023

# generate review notes
elton review globalbioticinteractions/kalro2023\
> review.tsv

# export indexed interaction records
elton interactions globalbioticinteractions/kalro2023\
> interactions.tsv

# export names and align them with the Catalogue of Life using Nomer
elton names globalbioticinteractions/kalro2023\
| nomer append col\
> name-alignment.tsv
```

or visually, in a process diagram.

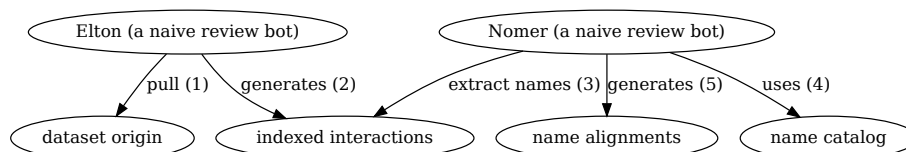


Figure 1: Review Process Overview

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

¹Note that you have to first get the data (e.g., via `elton pull globalbioticinteractions/kalro2023`) before being able to generate reviews (e.g., `elton review globalbioticinteractions/kalro2023`), extract interaction claims (e.g., `elton interactions globalbioticinteractions/kalro2023`), or list taxonomic names (e.g., `elton names globalbioticinteractions/kalro2023`)

Results

In the following sections, the results of the review are summarized ². 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)

²Disclaimer: 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

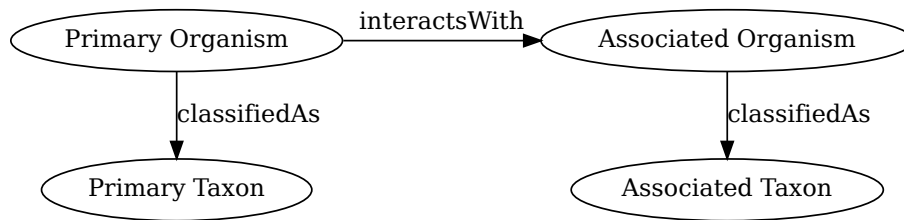


Figure 2: Biotic Interaction Data Model

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/kalro2023`, has fingerprint hash: `md5/b40eee51ae84a24a3d1bde37708b7f73`, is 427KiB in size and contains 1,028 interaction with 8 unique types of associations (e.g., pollinates) between 512 primary taxa (e.g., *Apis mellifera*) and 331 associated taxa (e.g., *Persea americana*).

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` are shown below.

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

Table 3: Sample of Indexed Interaction Claims

sourceTaxonName	interactionTypeNam	targetTaxonName	referenceCitation
Leptoconchus incycloseris	parasiteOf	Fungia (Cycloseris) costulata	Gittenberger, A., Gittenberger, E. (2011). Cryptic, adaptive radiation of endoparasitic snails: sibling species of Leptoconchus (Gastropoda: Coralliophilidae) in corals. Org Divers Evol, 11(1), 21–41. doi:10.1007/s13127- 011-0039-1

sourceTaxonName	interactionTypeName	targetTaxonName	referenceCitation
Leptoconchus infungites	parasiteOf	Fungia (Fungia) fungites	Gittenberger, A., Gittenberger, E. (2011). Cryptic, adaptive radiation of endoparasitic snails: sibling species of Leptoconchus (Gastropoda: Coralliophilidae) in corals. Org Divers Evol, 11(1), 21–41. doi:10.1007/s13127- 011-0039-1
Leptoconchus ingrandifungi	parasiteOf	Sandalolitha dentata	Gittenberger, A., Gittenberger, E. (2011). Cryptic, adaptive radiation of endoparasitic snails: sibling species of Leptoconchus (Gastropoda: Coralliophilidae) in corals. Org Divers Evol, 11(1), 21–41. doi:10.1007/s13127- 011-0039-1

sourceTaxonName	interactionTypeName	targetTaxonName	referenceCitation
Leptoconchus ingranulosa	parasiteOf	Fungia (Wellsofungia) granulosa	Gittenberger, A., Gittenberger, E. (2011). Cryptic, adaptive radiation of endoparasitic snails: sibling species of Leptoconchus (Gastropoda: Coralliophilidae) in corals. Org Divers Evol, 11(1), 21–41. doi:10.1007/s13127- 011-0039-1

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

interactionTypeName	count
pollinates	338
acquiresNutrientsFrom	294
visits	197
visitsFlowersOf	184
parasiteOf	11
preysOn	2
parasitoidOf	1
hostOf	1

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

sourceTaxonName	count
Apis mellifera	121
Apis melifera	38
Megachile sp. 2	16
Agrius convolvuli	14
Macrogalea candida	12
Pseudapis sp.	12

sourceTaxonName	count
Ceratina sp. 3	10
Xylocopa sp.	10
Apis mellifera	9
Apis mellifera Linnaeus	9
Amegilla sp. 1	8
Xylocopa caffra	7
Xylocopa nigrita	7
Xylocopa flavorufa	7
Hypotrigena gribodoi	7
Meliponula ferruginea	6
Lasioglossum sp.	6
Braunsapis sp.	6
Catopsilia florella	6

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

targetTaxonName	count
Persea americana	48
Helianthus annuus L.	30
Acacia tortilis	29
Arctotheca calendula(Cape Marigold)	29
Vernonia cinerea	25
Sesamum indicum	22
Citrullus lanatus	21
Agathisanthemum bojeri Klotzsch	20
Mangifera indica	20
Coffee arabica	17
Phaseolus vulgaris	16
Phaseolus coccineus	15
Helianthus annuus L	14
Trifolium alexandrinum	13
Cucumis sativus	13
Phaseolus vulgaris L	12
Agathisanthemum bojeri	11
Zygophyllum sp.	11
Cucumis melo	11

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

sourceTaxonName	interactionType	targetTaxonName	count
Asclepias cucullata	pollinates	Sisyranthus trichostomus	3
Xylocopa caffra	acquiresNutrientsFrom	Rhynchosia velutina	2
Steganomus sp.	acquiresNutrientsFrom	Crotalaria emarginata Benth	2
Megachile sp. 2	acquiresNutrientsFrom	Indigofera paniculata	2
Xylocopa flavicollis DeGeer	acquiresNutrientsFrom	Rhynchosia velutina Wight & Arn.	2
Apis mellifera scutellata	pollinates	Mangifera indica	2
Apis mellifera scutellata	pollinates	Helianthus annuus	2
Braunsapis spp.	visits	Lantana camara	2
Belenois aurota Fabricius	visitsFlowersOf	Helianthus annuus L.	2
Hemipepsis hilaris Smith	pollinates	Xysmalobium involucreatum	2
Leptoconchus incycloseris	parasiteOf	Fungia (Cycloseris) costulata	1
Leptoconchus infungites	parasiteOf	Fungia (Fungia) fungites	1
Leptoconchus ingrandifungi	parasiteOf	Sandalolitha dentata	1
Leptoconchus ingranulosa	parasiteOf	Fungia (Wellsofungia) granulosa	1
Leptoconchus inlimax	parasiteOf	Herpolitha limax	1
Leptoconchus inpileus	parasiteOf	Halomitra pileus	1
Leptoconchus inpleuractis	parasiteOf	Fungia (Pleuractis) gravis	1
Leptoconchus inpleuractis	parasiteOf	Fungia (Pleuractis) moluccensis	1

sourceTaxonName	interactionTypeName	targetTaxonName	count
Leptoconchus inpleuractis	parasiteOf	Fungia (Pleuractis) paumotensis	1

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.

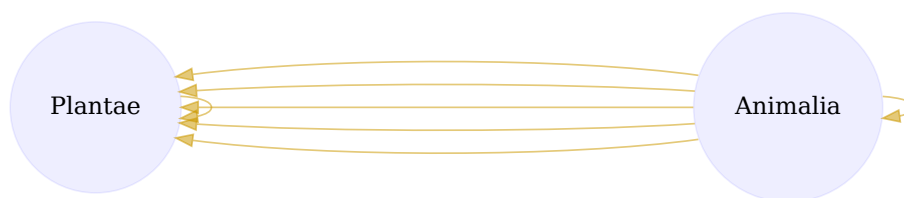


Figure 3: Interactions on taxonomic kingdom rank as interpreted by the Catalogue of Life [download svg](#)

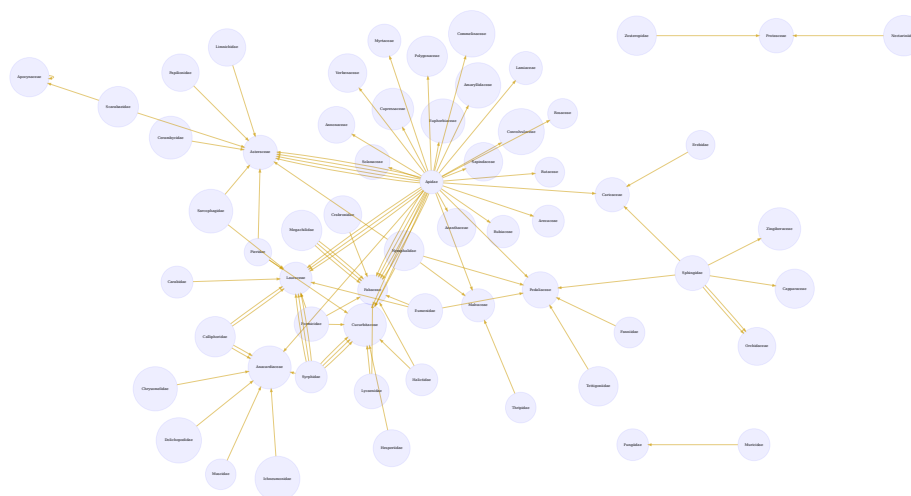


Figure 4: Interactions on the taxonomic family rank as interpreted by the Catalogue of Life. [download svg](#)

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
Abelmoschus esculentus	HAS_ACCEPTED_NAME	col	Abelmoschus esculentus
Brevispica	NONE	col	Brevispica
Abutilon zanzibaricum	SYNONYM_OF	col	Abutilon mauritianum subsp. zanzibaricum
Acacia brevispica	SYNONYM_OF	col	Senegalia brevispica

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	187
col	class	1
col	family	14
col	genus	91
col	order	3
col	section	1
col	species	343
col	subfamily	2
col	subspecies	7
col	variety	1
discoverlife	NA	557

resolvedCatalogName	resolvedRank	count
discoverlife	species	86
gbif	NA	164
gbif	class	1
gbif	family	15
gbif	genus	103
gbif	order	3
gbif	species	356
gbif	subspecies	8
gbif	variety	2
itis	NA	331
itis	class	1
itis	family	14
itis	genus	68
itis	order	3
itis	species	221
itis	subfamily	3
itis	subspecies	1
itis	variety	1
mdd	NA	643
ncbi	NA	236
ncbi	class	1
ncbi	family	14
ncbi	genus	90
ncbi	order	3
ncbi	species	287
ncbi	species group	1
ncbi	subfamily	4
ncbi	subgenus	15
ncbi	subspecies	4
pbdb	NA	567
pbdb	class	1
pbdb	family	15
pbdb	genus	47
pbdb	order	3
pbdb	species	7
pbdb	subfamily	3
tpt	NA	641
tpt	genus	1
tpt	species	1
wfo	NA	450
wfo	genus	16
wfo	species	176
wfo	subspecies	1
wfo	variety	1

resolvedCatalogName	resolvedRank	count
worms	NA	523
worms	class	1
worms	family	13
worms	genus	34
worms	order	3
worms	species	68
worms	variety	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	593
col	NONE	200
col	SYNONYM_OF	170
discoverlife	NONE	730
discoverlife	HAS_ACCEPTED_NAME	94
discoverlife	SYNONYM_OF	30
discoverlife	HOMONYM_OF	5
gbif	HAS_ACCEPTED_NAME	721
gbif	NONE	175
gbif	SYNONYM_OF	304
itis	HAS_ACCEPTED_NAME	427
itis	NONE	376
itis	SYNONYM_OF	44
mdd	NONE	841
ncbi	SAME_AS	602
ncbi	NONE	258
ncbi	SYNONYM_OF	37
pbdb	NONE	690
pbdb	HAS_ACCEPTED_NAME	149
pbdb	SYNONYM_OF	8
tpt	NONE	839
tpt	HAS_ACCEPTED_NAME	2
wfo	HAS_ACCEPTED_NAME	224
wfo	NONE	588
wfo	SYNONYM_OF	54

resolvedCatalogName	relationName	count
wfo	HAS_UNCHECKED_NAME	19
worms	NONE	650
worms	SYNONYM_OF	28
worms	HAS_ACCEPTED_NAME	172

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
2025-04-11T02:40:17Z	note	found unsupported interaction type with name: [Honey production]
2025-04-11T02:40:17Z	note	found malformed doi [doi.org/10.1093/aob/mcv137]
2025-04-11T02:40:17Z	note	found malformed doi [doi.org/10.1093/aob/mcv138]
2025-04-11T02:40:17Z	note	found malformed doi [doi.org/10.1093/aob/mcv139]

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 unsupported interaction type with name: [Honey production]	1
found malformed doi [doi.org/10.1093/aob/mcv137]	1
found malformed doi [doi.org/10.1093/aob/mcv138]	1
found malformed doi [doi.org/10.1093/aob/mcv139]	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 ³

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.

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

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.



Figure 6: Picture of a GloBI Index Badge ⁴

If you'd like to keep track of reviews or index status of the dataset under review, please visit GloBI's dataset index ⁵ 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-ness⁶ 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.

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

⁵At time of writing (2025-04-11) the version of the GloBI dataset index was available at <https://globalbioticinteractions.org/datasets>

⁶According 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."

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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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