

Versioned Archive and Review of Biotic
Interactions and Taxon Names Found within
globalbioticinteractions/cruaud
hash://md5/39af42eb37420f454a33d1554217dbc9

by Nomer, Elton and Preston, three naive review bots
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<https://globalbioticinteractions.org/contribute>
<https://github.com/globalbioticinteractions/cruaud/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/cruaud, has fingerprint hash://md5/39af42eb37420f454a33d1554217dbc9, is 34.6KiB in size and contains 203 interactions with 1 unique type of association (e.g., parasiteOf) between 155 primary taxa (e.g., Ceratosolen sp.) and 198 associated taxa (e.g., Ficus variegata). This report includes detailed summaries of interaction data, a taxonomic review from multiple catalogs, and an archived version of the dataset from which the reviews are derived.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:

Cruaud A, Rønsted N, Chantarasuwan B, Chou LS, Clement WL, Couloux A, Cousins B, Genson G, Harrison RD, Hanson PE, Hossaert-McKey M, Jabbour-Zahab R, Jousselin E, Kerdelhué C, Kjellberg F, Lopez-Vaamonde C, Peebles J, Peng Y, Pereira RAS, Schramm T, Ubaidillah R, van Noort S, Weiblen GD, Yang D, Yodpinyanee A, Libeskind-Hadas R, Cook JM, Rasplus J, Savolainen V (2012) An extreme case of plant-insect co-diversification: figs and fig-pollinating wasps. *Systematic Biology* 61(6): 1029-1047. <http://dx.doi.org/10.1093/sysbio/sys068>
<https://github.com/globalbioticinteractions/cruaud/archive/0c67c201affa44ec9c47ef0b8d31a77660b53c9a2025-07-04T23:10:12.033Z> hash://md5/39af42eb37420f454a33d1554217dbc9

For additional metadata related to this dataset, please visit <https://github.com/globalbioticinteractions/cruaud> 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	0.15.13
nomer	0.5.17
globinizer	0.4.0
mlr	6.0.0
jq	1.6
yq	4.25.3
pandoc	3.1.6.1
duckdb	1.3.1

The review process can be described in the form of the script below ¹.

```
# get versioned copy of the dataset (size approx. 34.6KiB) under review
elton pull globalbioticinteractions/cruaud

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

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

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

or visually, in a process diagram.

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/cruaud`) before being able to generate reviews (e.g., `elton review globalbioticinteractions/cruaud`), extract interaction claims (e.g., `elton interactions globalbioticinteractions/cruaud`), or list taxonomic names (e.g., `elton names globalbioticinteractions/cruaud`)

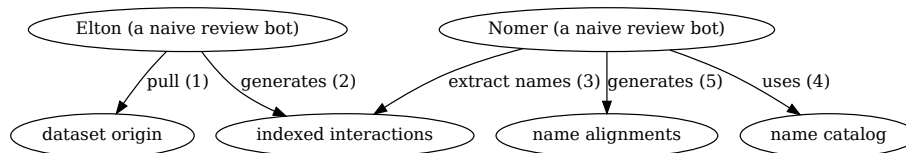


Figure 1: Review Process Overview

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 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

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-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)
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.parquet	species interaction claims indexed from the dataset under review in Apache Parquet 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

filename	description
indexed-names.parquet	taxonomic names found in the dataset under review in Apache Parquet 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
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-col.parquet	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 Apache Parquet 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

filename	description
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-discoverlife.parquet	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 Apache Parquet 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
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-gbif.parquet	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 Apache Parquet format

filename	description
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-itis.parquet	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 Apache Parquet 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
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

filename	description
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-mdd.parquet	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 Apache Parquet 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-ncbi.parquet	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 Apache Parquet format

filename	description
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
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-pbdb.parquet	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 Apache Parquet 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

filename	description
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-tpt.parquet	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 Apache Parquet 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
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-wfo.parquet	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 Apache Parquet format

filename	description
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-resolved-worms.parquet	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 Apache Parquet 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
nanopub-sample.trig	first 500 species interaction claims as expressed in the nanopub format (Kuhn and Dumontier 2014)

filename	description
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 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/cruaud, has finger-

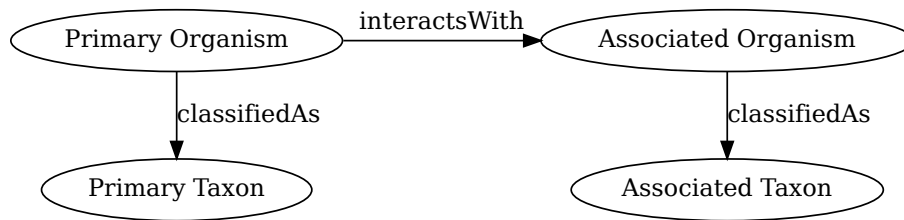


Figure 2: Biotic Interaction Data Model

print hash://md5/39af42eb37420f454a33d1554217dbc9, is 34.6KiB in size and contains 203 interactions with 1 unique type of association (e.g., parasiteOf) between 155 primary taxa (e.g., *Ceratosolen* sp.) and 198 associated taxa (e.g., *Ficus variegata*).

An exhaustive list of indexed interaction claims can be found in gzipped csv, tsv and parquet 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	interactionType	targetTaxonName	referenceCitation
Agaon fasciatum Waterston, 1914	parasiteOf	Ficus cyathistipula cyathistipula	Cruaud, A., Ronsted, N., Chantarasuwan, B., Chou, L. S., Clement, W. L., Couloux, A., ... Savolainen, V. (2012). An Extreme Case of Plant-Insect Coadiversification: Figs and Fig-Pollinating Wasps. Systematic Biology, 61(6), 1029–1047. doi:10.1093/sysbio/sys068

sourceTaxonName	interactionType	targetTaxonName	referenceCitation
Agaon obtusum Wiebes, 1989	parasiteOf	Ficus cyathistipuloides	Cruaud, A., Ronsted, N., Chantarasuwan, B., Chou, L. S., Clement, W. L., Couloux, A., ... Savolainen, V. (2012). An Extreme Case of Plant-Insect Coadiversification: Figs and Fig-Pollinating Wasps. Systematic Biology, 61(6), 1029–1047. doi:10.1093/sysbio/sys068
Agaon sp.	parasiteOf	Ficus scott-elliottii	Cruaud, A., Ronsted, N., Chantarasuwan, B., Chou, L. S., Clement, W. L., Couloux, A., ... Savolainen, V. (2012). An Extreme Case of Plant-Insect Coadiversification: Figs and Fig-Pollinating Wasps. Systematic Biology, 61(6), 1029–1047. doi:10.1093/sysbio/sys068

sourceTaxonName	interactionTypeName	targetTaxonName	referenceCitation
Agaon sp.	parasiteOf	Ficus preussii	Cruaud, A., Ronsted, N., Chantarasuwan, B., Chou, L. S., Clement, W. L., Couloux, A., ... Savolainen, V. (2012). An Extreme Case of Plant-Insect Coadiversification: Figs and Fig-Pollinating Wasps. Systematic Biology, 61(6), 1029–1047. doi:10.1093/sysbio/sys068

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

interactionTypeName	count
parasiteOf	203

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

sourceTaxonName	count
Ceratosolen sp.	16
Pegoscapus sp.	8
Kradibia sp.	5
Waterstoniella sp.	5
Blastophaga sp.	4
Dolichoris sp.	4
Tetrapus sp.	4
Kradibia gestroi afrum (Wiebes, 1969)	3
Wiebesia sp.	3
Agaon sp.	2
Ceratosolen cf. emarginatus Mayr, 1906	2

sourceTaxonName	count
Elisabethiella stuckenbergi Grandi, 1955	2
Pegoscapus gemellus Wiebes, 1995	2
Platyscapa sp.	2
Agaon fasciatum Waterston, 1914	1
Agaon obtusum Wiebes, 1989	1
Agaon spatulatum Wiebes, 1968	1
Agaon taiense Wiebes, 1989	1
Alfonsiella longiscapa Joseph, 1959	1

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

targetTaxonName	count
Ficus variegata	2
Ficus fistulosa	2
Ficus sur	2
Ficus sp	2
Ficus virgata sessilis	2
Ficus cyathistipula cyathistipula	1
Ficus cyathistipuloides	1
Ficus scott-elliotii	1
Ficus preussii	1
Ficus lyrata	1
Ficus tessellata	1
Ficus natalensis natalensis	1
Ficus craterostoma	1
Ficus thonningii	1
Ficus lutea	1
Ficus chlamydocarpa fernandesiana	1
Ficus erecta	1
Ficus carica	1
Ficus deltoidea	1

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

sourceTaxonName	interactionType	targetTaxonName	count
Agaon fasciatum Waterston, 1914	parasiteOf	Ficus cyathistipula cyathistipula	1

sourceTaxonName	interactionType	targetTaxonName	count
Agaon obtusum Wiebes, 1989	parasiteOf	Ficus cyathistipuloides	1
Agaon sp.	parasiteOf	Ficus scott-elliotii	1
Agaon sp.	parasiteOf	Ficus preussii	1
Agaon spatulatum Wiebes, 1968	parasiteOf	Ficus lyrata	1
Agaon taiense Wiebes, 1989	parasiteOf	Ficus tessellata	1
Alfonsiella longiscapa Joseph, 1959	parasiteOf	Ficus natalensis natalensis	1
Alfonsiella pipithiensis van Noort, 2007	parasiteOf	Ficus craterostoma	1
Alfonsiella sp.	parasiteOf	Ficus thonningii	1
Allotriozoon heterandromor- phum Grandi, 1916	parasiteOf	Ficus lutea	1
Allotriozoon nigeriense Wiebes, 1974	parasiteOf	Ficus chlamydocarpa fernandesiana	1
Blastophaga nipponica Grandi, 1921	parasiteOf	Ficus erecta	1
Blastophaga psenes (L., 1758)	parasiteOf	Ficus carica	1
Blastophaga quadrupes (Mayr, 1885)	parasiteOf	Ficus deltoidea	1
Blastophaga sp.	parasiteOf	Ficus ischnopoda	1
Blastophaga sp.	parasiteOf	Ficus stenophylla	1
Blastophaga sp.	parasiteOf	Ficus chapaensis	1
Blastophaga sp.	parasiteOf	Ficus oleifolia	1
Ceratosolen abnormis Wiebes, 1963	parasiteOf	Ficus dammaropsis	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
Agaon fasciatum	HAS_ACCEPTED_NAME	col	Agaon fasciatum
Agaon obtusum	HAS_ACCEPTED_NAME	col	Agaon obtusum
Agaon spatulatum	HAS_ACCEPTED_NAME	col	Agaon spatulatum
Agaon	HAS_ACCEPTED_NAME	col	Agaon

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	45
col	genus	17
col	species	285
col	subspecies	8
col	variety	2
discoverlife	NA	350
gbif	NA	30
gbif	genus	17
gbif	species	293
gbif	subspecies	15
gbif	variety	3
itis	NA	321
itis	genus	2
itis	species	27
mdd	NA	350
ncbi	NA	40
ncbi	genus	17
ncbi	species	291
ncbi	subspecies	2
pbdb	NA	336
pbdb	genus	3
pbdb	species	11
tpt	NA	350
wfo	NA	167
wfo	genus	1
wfo	species	180
wfo	subspecies	2
wfo	variety	2
worms	NA	338
worms	genus	1
worms	species	11

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	285
col	NONE	45
col	SYNONYM_OF	95
discoverlife	NONE	353
gbif	HAS_ACCEPTED_NAME	329
gbif	SYNONYM_OF	122
gbif	NONE	30
itis	NONE	324
itis	HAS_ACCEPTED_NAME	29
itis	SYNONYM_OF	3
mdd	NONE	353
ncbi	SAME_AS	305
ncbi	NONE	40
ncbi	SYNONYM_OF	10
pbdb	NONE	339
pbdb	HAS_ACCEPTED_NAME	14
pbdb	SYNONYM_OF	5
tpt	NONE	353
wfo	NONE	169
wfo	HAS_ACCEPTED_NAME	164
wfo	HAS_UNCHECKED_NAME	2
wfo	SYNONYM_OF	43
worms	NONE	341
worms	HAS_ACCEPTED_NAME	13

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)

catalog name	alignment results
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)
tpst	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
2025-07-08T01:09:12Z	summary	https://github.com/globalbioticinteractions/cruaud/arc
2025-07-08T01:09:12Z	summary	203 interaction(s)
2025-07-08T01:09:12Z	summary	0 note(s)
2025-07-08T01:09:12Z	summary	0 info(s)

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

: Most frequently occurring review notes, if any.

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.

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



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.

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.

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

⁵At time of writing (2025-07-08) 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."

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.

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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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