Versioned Archive and Review of Biotic Interactions and Taxon Names Found within globalbioticinteractions/uredinales-belgium-checklist hash://md5/bc19f522fd3d83040dc293e8e2fc0222

by Nomer, Elton and Preston, three naive review bots
review@globalbioticinteractions.org
https://globalbioticinteractions.org/contribute

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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/uredinales-belgium-checklist, has fingerprint hash://md5/bc19f522fd3d83040dc293e8e2fc0222, is 91.8KiB in size and contains 677 interactions with 1 unique type of association (e.g., parasiteOf) between 518 primary taxa (e.g., Abies alba) and 237 associated taxa (e.g., Coleosporium tussilaginis (Pers.: Pers.) Lév. ex Tul.). This report includes detailed summaries of interaction data, a taxonomic review from multiple catalogs, and an archived version of the dataset from which the reviews are derived.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 :

> Vanderweyen A, Fraiture A, Groom Q, Desmet P, Reyserhove L (2019). Catalogue of the Rust Fungi of Belgium. Botanic Garden Meise. https://github.com/globalbioticinteractions/uredinales-belgium-checklist/archive/43fd7a8344b4157e1e2f9e7351c3219492ecdd62.zip 2026-06-02T20:07:25.559Z hash://md5/bc19f522fd3d83040dc293e8e2fc0222

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	0.11.1
elton	0.16.11
nomer	0.6.5
globinizer	0.4.0
mlr	6.0.0
jq	1.6
yq	4.25.3
pandoc	3.1.6.1
duckdb	1.3.1
mapserver	7.6.4

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

```
# get versioned copy of the dataset (size approx. 91.8KiB) under review
elton pull globalbioticinteractions/uredinales-belgium-checklist

# generate review notes
elton review globalbioticinteractions/uredinales-belgium-checklist \
 > review.tsv

# export indexed interaction records
elton interactions globalbioticinteractions/uredinales-belgium-checklist \
 > interactions.tsv

# export names and align them with the Catalogue of Life using Nomer
elton names globalbioticinteractions/uredinales-belgium-checklist \
 | 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.

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

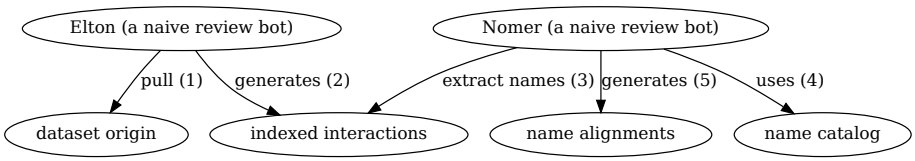


Figure 1: Review Process Overview

Results

In the following sections, the results of the review are summarized [2]. Then, links to the detailed review reports are provided.

Files

An extensive list of files produced as part of the review process can be found in Appendix A. Review Files.

Archived Dataset

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

Biotic Interactions

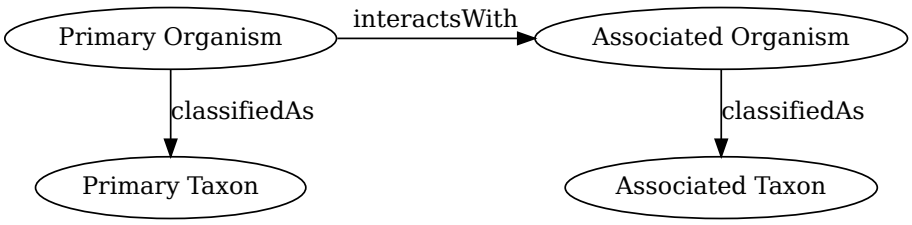


Figure 2: Biotic Interaction Data Model

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/uredinales-belgium-checklist, has fingerprint hash://md5/bc19f522fd3d83040dc293e8e2fc0222, is

[2]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.

91.8KiB in size and contains 677 interactions with 1 unique type of association (e.g., parasiteOf) between 518 primary taxa (e.g., Abies alba) and 237 associated taxa (e.g., Coleosporium tussilaginis (Pers.: Pers.) Lév. ex Tul.).

An exhaustive list of indexed interaction claims can be found in gzipped csv, tsv, geopackage 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 2: Sample of Indexed Interaction Claims

sourceTaxonName	interactionTypeName	targetTaxonName	referenceCitation
Cystopteris fragilis	parasiteOf	Hyalopsora polypodii (Dietel) Magnus	Vanderweyen A & Fraiture A (2009) Catalogue des Uredinales de Belgique, 1re partie, Chaconiaceae, Coleosporiaceae, Cronartiaceae, Melampsoraceae, Phragmidiaceae, Pucciniastraceae, Raveneliaceae et Uropyxidaceae. Lejeunia, Revue de Botanique. Page: 11

sourceTaxonName	interactionTypeName	targetTaxonName	referenceCitation
Abies alba	parasiteOf	Melampsorella caryophyllacearum J. Schröt	Vanderweyen A & Fraiture A (2009) Catalogue des Uredinales de Belgique, 1re partie, Chaconiaceae, Coleosporiaceae, Cronartiaceae, Melampsoraceae, Phragmidiaceae, Pucciniastraceae, Raveneliaceae et Uropyxidaceae. Lejeunia, Revue de Botanique. Page: 11
Symphytum officinale	parasiteOf	Melampsorella symphyti Bubák	Vanderweyen A & Fraiture A (2009) Catalogue des Uredinales de Belgique, 1re partie, Chaconiaceae, Coleosporiaceae, Cronartiaceae, Melampsoraceae, Phragmidiaceae, Pucciniastraceae, Raveneliaceae et Uropyxidaceae. Lejeunia, Revue de Botanique. Page: 11

sourceTaxonName	interactionTypeName	targetTaxonName	referenceCitation
Larix decidua	parasiteOf	Melampsoridium betulinum (Fr.) Kleb.	Vanderweyen A & Fraiture A (2009) Catalogue des Uredinales de Belgique, 1re partie, Chaconiaceae, Coleosporiaceae, Cronartiaceae, Melampsoraceae, Phragmidiaceae, Pucciniastraceae, Raveneliaceae et Uropyxidaceae. Lejeunia, Revue de Botanique. Page: 12

Table 3: Most Frequently Mentioned Interaction Types (up to 20 most frequent)

interactionTypeName	count
parasiteOf	677

Table 4: Most Frequently Mentioned Primary Taxa (up to 20 most frequent)

sourceTaxonName	count
Abies alba	5
Euphorbia cyparissias	5
Urtica dioica	5
Urtica urens	5
Pinus sylvestris	4
Allium ursinum	4
Senecio ovatus	4
Rumex acetosella	4
Elymus repens	4
Larix decidua	3
Picea abies	3
Rubus caesius	3

sourceTaxonName	count
Rumex acetosa	3
Ranunculus ficaria	3
Adoxa moschatellina	3
Berberis vulgaris	3
Arrhenatherum elatius	3
Crepis capillaris	3
Cirsium oleraceum	3

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

targetTaxonName	count
Coleosporium tussilaginis (Pers.: Pers.) Lév. ex Tul.	20
Puccinia coronata Corda	20
Melampsora epitea Thüm.	16
Puccinia persistens Plowr.	15
Puccinia graminis Pers.	13
Puccinia hieracii H. Mart. var. hieracii	12
Puccinia calcitrapae DC.	11
Puccinia cnici-oleracei Pers.	11
Melampsora populnea (Pers.: Pers.) P. Karst.	10
Uromyces lineolatus (Desm.) J. Schröt.	9
Puccinia arenariae (Schumach.) G. Winter	9
Puccinia sessilis Schneid ex J. Schröt.	9
Puccinia striiformis Westend.	9
Gymnosporangium sabinae (Dicks.) G. Winter	8
Melampsora capraearum Thüm.	7
Uromyces anthyllidis J. Schröt.	7
Uromyces rumicis (Schumach.) G. Winter	7
Puccinia pygmaea Erikss.	7
Melampsorella caryophyllacearum J. Schröt	6

Table 6: Most Frequent Interactions between Primary and Associate Taxa (up to 20 most frequent)

sourceTaxonName	interactionTypeName	targetTaxonName	count
Taraxacum	parasiteOf	Puccinia hieracii H. Mart. var. hieracii	2

sourceTaxonName	interactionTypeName	targetTaxonName	count
Cystopteris fragilis	parasiteOf	Hyalopsora polypodii (Dietel) Magnus	1
Abies alba	parasiteOf	Melampsorella caryophyllacearum J. Schröt	1
Symphytum officinale	parasiteOf	Melampsorella symphyti Bubák	1
Larix decidua	parasiteOf	Melampsoridium betulinum (Fr.) Kleb.	1
Abies alba	parasiteOf	Milesina blechni (Syd. & P. Syd.) Syd.	1
Vaccinium myrtillus	parasiteOf	Naohidemyces vaccinii (G. Winter) S. Sato, Katsuya & Y. Hirats.	1
Agrimonia eupatoria	parasiteOf	Pucciniastrum agrimoniae (Dietel) Tranz.	1
Picea abies	parasiteOf	Pucciniastrum areolatum (Fr.) G.H. Otth	1
Abies alba	parasiteOf	Pucciniastrum circaeae (G. Winter) Speg. ex De Toni	1
Abies alba	parasiteOf	Pucciniastrum epilobii G.H. Otth	1
Galium mollugo	parasiteOf	Pucciniastrum guttatum (J. Schröt.) Hyl., Jørst. & Nannf.	1
Pyrola minor	parasiteOf	Pucciniastrum pyrolae Arthur	1
Phegopteris connectilis	parasiteOf	Uredinopsis filicina Magnus	1
Picea abies	parasiteOf	Chrysomyxa abietis Unger	1

sourceTaxonName	interactionTypeName	targetTaxonName	count
Picea abies	parasiteOf	Chrysomyxa pyrolata G. Winter	1
Pinus sylvestris	parasiteOf	Coleosporium tussilaginis (Pers.: Pers.) Lév. ex Tul.	1
Pinus pinaster	parasiteOf	Cronartium flaccidum (Alb. & Schwein.) G. Winter	1
Pinus sylvestris	parasiteOf	Cronartium quercuum Miyabe ex Shirai s.l.	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

Geospatial Distribution

If geospatial information was extracted from the dataset under review, the map below will show their distribution. These maps were generated using MapServer (McKenna et al. 2025) tools configured via map configuration indexed-interactions.map :

```
MAP
  SIZE 1600 800
  EXTENT -180 -90 180 90
  PROJECTION
    "init=epsg:4326"
  END
  LAYER # MODIS WMS map from NASA
    NAME         "modis_nasa"
    TYPE         RASTER
    OFFSITE      0 0 0
    STATUS       ON
    CONNECTIONTYPE WMS
    CONNECTION "https://gibs.earthdata.nasa.gov/wms/epsg4326/best/wms.cgi?"

    METADATA
      "wms_srs" "EPSG:4326"
      "wms_name" "OSM_Land_Water_Map"
      "wms_server_version" "1.1.1"
      "wms_format" "image/jpeg"
    END
    CLASS
      STYLE
        COLOR        232 232 232
        OUTLINECOLOR 32 32 32
      END
    END
  END
  LAYER
    NAME "indexed-interactions"
    TYPE POLYGON
    STATUS ON
    CONNECTIONTYPE OGR
    CONNECTION "indexed-interactions-h3.gpkg"
    DATA "indexed-interactions-h3"
    CLASS
      STYLE
        COLORRANGE 253.0 231.0 37.0 32.0 164.0 134.0
        DATARANGE NULL NULL
        RANGEITEM "log_number_of_records"
        OUTLINECOLOR 0 0 0
      END
    END
  END
END
```

Associated data can be found in the geopackage files at indexed-interactions

Hexagonal grid cells indicate that interactions claims are available for selected geospatial area: light yellow means relatively fewer claims, dark green relatively more claims.

Figure 5: Hexagonal grid cells indicate that interactions claims are available for selected geospatial area: light yellow means relatively fewer claims, dark green relatively more claims.

.gpkg for point data and indexed-interactions-h3.gpkg for data clustered in geospatial h3 hexagonals.

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 7: Sample of Name Alignments

providedName	relationName	resolvedCatalogName	resolvedName
Carduus crispus	SYNONYM_OF	col	Carduus acanthoides
Carduus crispus	HAS_ACCEPTED_NAME	col	Carduus crispus
Melampsora euphorbiae	HAS_ACCEPTED_NAME	col	Melampsora euphorbiae
Calamagrostis	HAS_ACCEPTED_NAME	col	Calamagrostis

Table 8: 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	63
col	family	1
col	genus	84
col	species	598

resolvedCatalogName	resolvedRank	count
col	subspecies	45
col	variety	6
discoverlife	NA	753
gbif	NA	54
gbif	family	1
gbif	genus	84
gbif	species	609
gbif	subspecies	53
gbif	variety	7
itis	NA	302
itis	family	1
itis	genus	81
itis	species	367
itis	subspecies	3
itis	variety	1
mdd	NA	753
ncbi	NA	139
ncbi	family	1
ncbi	genus	84
ncbi	species	528
ncbi	subspecies	1
pbdb	NA	700
pbdb	family	1
pbdb	genus	38
pbdb	species	14
tpt	NA	751
tpt	genus	2
wfo	NA	260
wfo	family	1
wfo	genus	84
wfo	species	406
wfo	subspecies	12
worms	NA	534
worms	family	1
worms	genus	55
worms	species	163
worms	subspecies	7
worms	variety	1

Table 9: 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	SYNONYM_OF	415
col	HAS_ACCEPTED_NAME	657
col	NONE	63
discoverlife	NONE	755
gbif	HAS_ACCEPTED_NAME	918
gbif	SYNONYM_OF	511
gbif	NONE	54
itis	HAS_ACCEPTED_NAME	431
itis	NONE	302
itis	SYNONYM_OF	45
mdd	NONE	755
ncbi	SAME_AS	599
ncbi	SYNONYM_OF	24
ncbi	NONE	139
pbdb	NONE	700
pbdb	HAS_ACCEPTED_NAME	56
tpt	NONE	753
tpt	HAS_ACCEPTED_NAME	2
wfo	HAS_UNCHECKED_NAME	101
wfo	HAS_ACCEPTED_NAME	478
wfo	SYNONYM_OF	125
wfo	NONE	260
worms	HAS_ACCEPTED_NAME	256
worms	SYNONYM_OF	53
worms	NONE	534

Table 10: 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)

catalog name	alignment results
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 11: First few lines in the review notes.

reviewDate	reviewCommentType	reviewComment
2026-06-03T16:43:41Z	summary	https://github.com/globalbioticinteractions/uredinales-belgium-checklist/archive/43fd7a8344b4157e1e2f9e7351c3219492
2026-06-03T16:43:41Z	summary	677 interaction(s)
2026-06-03T16:43:41Z	summary	0 note(s)
2026-06-03T16:43:41Z	summary	679 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.



Figure 6: 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 succesfully 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 7: 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

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

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

[5] At time of writing (2026-06-03) the version of the GloBI dataset index was available at https://globalbioticinteractions.org/datasets

indication of the open-ness[6] 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 procesing 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 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.

Appendix A. Review 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

[6] According to http://opendefinition.org/: "Open data is data that can be freely used, reused and redistributed by anyone - subject only, at most, to the requirement to attribute and sharealike."

filename	description
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)
indexed-interactions-col-kingdom-col-kingdom.svg	network diagram showing the taxon kingdom to taxon kingom 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.png	species interaction claims indexed from the dataset under review plotted on a map

filename	description
indexed-interactions.map	mapserver configuration to plot species interaction claims indexed from the dataset under review on a map
indexed-interactions.gpkg	species interaction claims indexed from the dataset under review in GeoPackage format
indexed-interactions-h3.gpkg	geospatially clustered h3 species interaction claims indexed from the dataset under review in GeoPackage 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.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

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-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
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

filename	description
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
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

filename	description
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
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

filename	description
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
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-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
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

filename	description
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
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

filename	description
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)
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

filename	description
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

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