

# README or Data Package-level Metadata for International Non-native Insect Establishment Data

## Data Tables:

### Taxonomy Table

1 unique record per taxa (species, genus, family, etc.) as per original source (user\_supplied\_name), matched to a unified taxonomic framework. Note that there are sometimes multiple rows per genus\_species due to spelling mistakes or synonyms in the user\_supplied\_names.

### Occurrence Table

1 unique record per region-taxa combination, giving records of non-native taxa established in a region. Note that intentionally introduced species have not been comprehensively included, but where they have been included they are indicated in the intentional\_release column. Where there is an NA the default is to assume that the species was *not* intentionally released. There are also a few records of species temporarily established but which have since been eradicated (indicated in the "eradicated" column).

### Attribute Table

1 unique record per taxa, giving the biogeographic region in which the taxa is native and its plant feeding status. Plant feeding status was assigned based on characteristics of the taxonomic family or genus.

**Suggestions on bringing tables together-** If you would like data with unique rows for each genus\_species (according to GBIF), you'll need to filter the data to remove the multiple user\_supplied\_names per genus\_species. Afterwards, it is advisable to join the taxonomy table to either the occurrence or attribute tables by the genus\_species column. If coding in R, example code for this join might be

```
new_table <- occurrence_table %>% left_join(taxonomy_table, by = "genus_species")
new_table <- attribute_table %>% left_join(taxonomy_table, by = "genus_species")
```

## Taxonomic Database Citations:

### GBIF

GBIF Secretariat. 2019. GBIF Backbone Taxonomy. Checklist dataset <https://doi.org/10.15468/39omei> accessed via [GBIF.org](https://www.gbif.org) on 2021-04-14.

### Other databases

id	title	updated_at
1	Catalogue of Life	2020-06-15T00:58:02Z
2	Wikispecies	2021-03-18T19:05:38Z
8	The Interim Register of Marine and Nonmarine Genera	2016-10-21T20:54:21Z
152	Aphid Species File	2012-02-09T13:44:21Z
168	Index to Organism Names	2021-01-27T18:15:59Z
169	uBio NameBank	2013-05-31T13:36:47Z
181	The Interim Register of Marine and Nonmarine Genera	2020-05-25T02:16:48Z

**Notes**

- The GBIF taxonomy does not necessarily use the most up to date genus\_species name.
- Other databases may or may not be updated as frequently as GBIF.
- Errors in taxonomy may still remain, especially for taxonomic groups that change frequently.
- Errors in the status of a species in a region may still remain.