

Pretty Species Info Table for Paper

Heywood et al.

```
library(tidyverse)

Species_info <- left_join(read_csv('../data/brood_table.csv'),
                          read_csv('../data/names_table.csv'))>%
  select( Sp = `Taxon name`,
          maximum_plausible,
          minimum_plausible)

NHM_ForFitting <- read_csv( '../data/NHM_for_models_monthly.csv')>%
  left_join(Species_info)
OUM_ForFitting <- read_csv( '../data/OUMNH_for_models_monthly.csv')
SpeciesToInclude<- unique(read_csv('../statsresults/NHM_Posterior_Summaries_M1.csv')$Sp)

UKRedList <- read_csv('../data/ButterflyRedlistUK.csv')
specialism <- read_csv( '../data/specialism_with_nhm.csv')
```

Making Table 1

Table summarising each species. Might end up in SI

```
left_join(NHM_ForFitting %>% group_by(Sp) %>%
  count(name = 'NHM_n') ,
  OUM_ForFitting %>%group_by(Sp) %>%
  count(name = 'OUM_n') ) -> CountsUsedInModels

## Joining with 'by = join_by(Sp)'

left_join(read_csv('../data/brood_table.csv'),
          read_csv('../data/names_table.csv'))>%
  left_join(specialism) %>%
  filter(`Taxon name` %in% SpeciesToInclude) %>%
  left_join(UKRedList, by = c('Taxon name'='Species')) %>%
  left_join(CountsUsedInModels, by = c('Taxon name' = 'Sp')) %>%
  mutate( Habitat = ifelse( Specialism %in% c('Habitat and foodplant generalist' ,
                                              'Habitat generalist and foodplant specialist'),
                           'G', 'S'),
          Foodplant = ifelse( Specialism %in% c('Habitat and foodplant generalist' ,
                                              'Habitat specialist and foodplant generalist'),
                              'G', 'S')) %>%
  mutate( `Focal Brood` = ifelse(Univoltine,
```

```

      'Univoltine',
      paste0( FocalBrood, ': ',
              month.abb[FirstMonthBrood_focal], '-',
              month.abb[LastMonthBrood_focal])) %>%
arrange(Univoltine, `Taxon name` ) %>%
mutate(`Common Name` = ifelse( !is.na(EnglishName), EnglishName,
                              ifelse( !is.na(`Elsa name` ),
                                      `Elsa name` ,
                                      'TO BE ADDED' ) ) %>%
mutate(`GB Red List category` = ifelse( is.na(`GB Red List category`),
                                         'Not Listed',
                                         `GB Red List category` ) %>%

select(Species = `Taxon name`,
       `Common Name`,
       Family,
       Habitat,
       Foodplant,
       NHM_n,
       OUM_n,
       `Focal Brood`,
       FocalMonthLateLarval ,
       `GB Red List category` ) %>%
knitr::kable()

```

```

## Rows: 100 Columns: 19
## -- Column specification -----
## Delimiter: ", "
## chr (12): Elsa name, Taxon name, NHM name, Family, Month egg laid, Month la...
## dbl (5): FocalBrood, FirstMonthBrood_focal, LastMonthBrood_focal, maximum_p...
## lgl (2): Include, Univoltine
##
## i Use 'spec()' to retrieve the full column specification for this data.
## i Specify the column types or set 'show_col_types = FALSE' to quiet this message.
## Rows: 55 Columns: 3
## -- Column specification -----
## Delimiter: ", "
## chr (3): Elsa name, NHM name, Taxon name
##
## i Use 'spec()' to retrieve the full column specification for this data.
## i Specify the column types or set 'show_col_types = FALSE' to quiet this message.
## Joining with 'by = join_by('Elsa name', 'Taxon name', 'NHM name')'
## Joining with 'by = join_by('Taxon name')'

```

Species	Common Name	Family	Habitat	Foodplant	NHM_n	OUM_n	Focal Brood	FocalMonthLateLarval	GB Red List category
Aglaia urticae	Small tortoiseshell	Nymphalidae	C	S	971	34	1: Jun-Aug	May	Not Listed
Aricia agestis	Brown argus	Lycaenidae	S	S	975	42	2: Aug-Oct	July	Not Listed

Species	Common Name	Family	Habitat	Foodplant	NHM	QUM	Focal Brood	FocalMonth	GB Red List Category
Celastrina argiolus	Holly blue	Lycaenidae	G	G	303	25	2: Aug-Oct	June	Not Listed
Lasiommata megera	Wall	Nymphalidae	Gae	G	619	62	2: Aug-Oct	June	Endangered
Leptidea sinapis	Wood White	Pieridae	S	S	791	70	1: Mar-Jun	JulyBefore	Endangered
Lycaena phlaeas	Small copper	Lycaenidae	G	S	2877	65	2: Jul-Oct	June	Not Listed
Pararge aegeria	Speckled wood	Nymphalidae	Gae	G	471	38	2: Jul-Aug	June	Not Listed
Pieris brassicae	Large white	Pieridae	G	S	344	44	2: Jul-Sep	June	Not Listed
Pieris napi	Green-veined white	Pieridae	G	G	766	NA	2: Jul-Sep	June	Not Listed
Pieris rapae	Cabbage white	Pieridae	G	G	445	NA	2: Jul-Sep	June	Not Listed
Polygonia c-album	Comma	Nymphalidae	Gae	G	466	39	1: Jun-Aug	June	Not Listed
Polyommatus bellargus	Adonis Blue	Lycaenidae	S	S	4830	63	2: Aug-Sep	July	Vulnerable
Polyommatus icarus	Common blue	Lycaenidae	G	G	3752	63	2: Aug-Sep	July	Not Listed
Aglais io	Peacock	Nymphalidae	Gae	S	505	80	Univoltin	June	Not Listed
Anthocharis cardamines	Orange tip	Pieridae	G	G	1661	64	Univoltin	JulyBefore	Not Listed
Apatura iris	Purple emperor	Nymphalidae	Sae	S	124	NA	Univoltin	March	Not Listed
Aphantopus hyperantus	Ringlet	Nymphalidae	Gae	G	2206	NA	Univoltin	June	Not Listed
Argynnis paphia	Silver washed fritillary	Nymphalidae	Gae	S	1447	83	Univoltin	June	Not Listed
Boloria euphrosyne	Pearl-bordered Fritillary	Nymphalidae	Gae	S	1865	NA	Univoltin	April	Vulnerable
Boloria selene	Small Pearl-bordered Fritillary	Nymphalidae	Sae	S	1925	NA	Univoltin	April	Vulnerable
Callophrys rubi	Green hairstreak	Lycaenidae	G	G	990	NA	Univoltin	JuneBefore	Not Listed
Carterocephalus palaemon	Chequered Skipper	Hesperiidae	S	S	604	NA	Univoltin	AugustBefore	Not Listed
Coenonympha pamphilus	Small Heath	Nymphalidae	Gae	S	3058	NA	Univoltin	April	Vulnerable
Coenonympha tullia	Large Heath	Nymphalidae	Sae	S	1409	44	Univoltin	April	Endangered

Species	Common Name	Family	Habitat	Foodplant	NHM	QUM	Focal Brood	Focal Month	Local Lagony	GB Red List
Cupido minimus	Small Blue	Lycaenidae	G	S	1453	89	Univoltin	July	Before	Near Threat-ened
Erynnis tages	Dingy skipper	Hesperiidae	G	S	856	85	Univoltin	August	Before	Not Listed
Euphydryas aurinia	Marsh Fritillary	Nymphalidae	Gae	S	1926	NA	Univoltin	May		Vulnerable
Fabriciana adippe	High Brown Fritillary	Nymphalidae	Gae	S	994	NA	Univoltin	May		Endangered
Favonius quercus	Purple hairstreak	Lycaenidae	G	S	494	83	Univoltin	May		Not Listed
Gonepteryx rhamni	Brimstone	Pieridae	G	S	483	81	Univoltin	June		Not Listed
Hamearis lucina	Duke of Burgundy	Riodinidae	S	S	951	NA	Univoltin	July	Before	Vulnerable
Hesperia comma	Silver-spotted Skipper	Hesperiidae	S	S	646	103	Univoltin	June		Vulnerable
Hipparchia semele	Grayling	Nymphalidae	Sae	G	1654	NA	Univoltin	April		Endangered
Limenitis camilla	White Admiral	Nymphalidae	Sae	S	761	97	Univoltin	May		Vulnerable
Maniola jurtina	Meadow brown	Nymphalidae	Gae	G	4730	70	Univoltin	April		Not Listed
Melanargia galathea	Marbled white	Nymphalidae	Gae	G	2169	101	Univoltin	May		Not Listed
Melitaea athalia	Heath Fritillary	Nymphalidae	Gae	G	1619	NA	Univoltin	March		Endangered
Melitaea cinxia	Glanville Fritillary	Nymphalidae	Sae	S	579	NA	Univoltin	March		Endangered
Nymphalis polychloros	Large Tortoiseshell	Nymphalidae	Gae	G	197	NA	Univoltin	June		Regionally Extinct
Ochlodes sylvanus	Large skipper	Hesperiidae	G	G	1029	NA	Univoltin	May		Not Listed
Papilio machaon	Swallowtail	Papilionidae	Se	S	166	54	Univoltin	July	Before	Vulnerable
Plebejus argus	Silver-studded Blue	Lycaenidae	S	G	7105	NA	Univoltin	May		Vulnerable
Polyommatus coridon	Chalk Hill Blue	Lycaenidae	G	S	19584	NA	Univoltin	June		Vulnerable
Pyrgus malvae	Grizzled Skipper	Hesperiidae	G	G	1285	108	Univoltin	July		Vulnerable
Pyronia tithonus	Gatekeeper	Nymphalidae	Gae	S	2313	125	Univoltin	June		Not Listed
Satyrrium pruni	Black Hairstreak	Lycaenidae	S	S	377	NA	Univoltin	May		Endangered
Satyrrium w-album	White-letter Hairstreak	Lycaenidae	S	S	346	NA	Univoltin	May		Vulnerable
Speyeria aglaja	Dark Green Fritillary	Nymphalidae	Gae	S	1028	51	Univoltin	May		Near Threat-ened
Thecla betulae	Brown Hairstreak	Lycaenidae	G	S	165	NA	Univoltin	June		Vulnerable

Species	Common Name	Family	Habitat	Foodplant	NHM	QUM	Focal Brood	Focal Month	GB Red List Category
Thymelicus acteon	Lulworth Skipper	Hesperiidae	S	S	544	NA	Univoltine	May	Near Threat- ened
Thymelicus lineola	Essex skipper	Hesperiidae	G	G	707	NA	Univoltine	May	Not Listed
Thymelicus sylvestris	Small skipper	Hesperiidae	G	G	918	98	Univoltine	May	Not Listed