

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

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

Species	Common Name	Family	Habitat	Foodplan	NHM	QUM	Focal Brood	Focal Month	Latitude	GB Red List Category
<i>Thymelicus acteon</i>	Lulworth Skipper	Hesperiidae	S	S	544	NA	Univoltin	May		Near Threatened
<i>Thymelicus lineola</i>	Essex skipper	Hesperiidae	G	G	707	NA	Univoltin	May		Not Listed
<i>Thymelicus sylvestris</i>	Small skipper	Hesperiidae	G	G	918	98	Univoltin	May		Not Listed