Pretty Species Info Table for Paper

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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/OUNHM\_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\_CTupdates.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') )) %>%  
 select(Species =`Taxon name`,  
 `Common Name`,  
 Habitat,  
 Foodplant,  
 NHM\_n,  
 OUM\_n,  
 `Focal Brood`,  
 FocalMonthLateLarval ,  
 `GB Red List category` ) %>%  
 knitr::kable()

## Rows: 100 Columns: 18  
## ── Column specification ────────────────────────────────────────────────────────  
## Delimiter: ","  
## chr (11): Elsa name, Taxon name, NHM name, Month egg layed, Month larval dev...  
## 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 | Habitat | Foodplant | NHM\_n | OUM\_n | Focal Brood | FocalMonthLateLarval | GB Red List category |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Aglais urticae | small tortoiseshell | G | S | 971 | 34 | 1: Jun-Aug | May | NA |
| Aricia agestis | brown argus | S | S | 975 | 42 | 2: Aug-Oct | July | NA |
| Celastrina argiolus | holly blue | G | G | 303 | 25 | 2: Aug-Oct | June | NA |
| Lasiommata megera | Wall | G | G | 619 | 62 | 2: Aug-Oct | June | Endangered |
| Leptidea sinapis | Wood White | S | S | 791 | 70 | 1: Mar-Jun | JulyBefore | Endangered |
| Lycaena phlaeas | small copper | G | S | 2877 | 65 | 2: Jul-Oct | June | NA |
| Pararge aegeria | speckled wood | G | G | 471 | 38 | 2: Jul-Aug | June | NA |
| Pieris brassicae | large white | G | S | 344 | 44 | 2: Jul-Sep | June | NA |
| Pieris napi | TO BE ADDED | G | G | 766 | NA | 2: Jul-Sep | June | NA |
| Pieris rapae | TO BE ADDED | G | G | 445 | NA | 2: Jul-Sep | June | NA |
| Polygonia c-album | comma | G | G | 466 | 39 | 1: Jun-Aug | June | NA |
| Polyommatus bellargus | Adonis Blue | S | S | 4830 | 63 | 2: Aug-Sep | July | Vulnerable |
| Polyommatus icarus | common blue | G | G | 3752 | 63 | 2: Aug-Sep | July | NA |
| Aglais io | peacock | G | S | 505 | 80 | Univoltine | June | NA |
| Anthocharis cardamines | orange tip | G | G | 1661 | 64 | Univoltine | JulyBefore | NA |
| Apatura iris | TO BE ADDED | S | S | 124 | NA | Univoltine | March | NA |
| Aphantopus hyperantus | TO BE ADDED | G | G | 2206 | NA | Univoltine | June | NA |
| Argynnis paphia | silver washed fritillary | G | S | 1447 | 83 | Univoltine | June | NA |
| Boloria euphrosyne | Pearl-bordered Fritillary | G | S | 1865 | NA | Univoltine | April | Vulnerable |
| Boloria selene | Small Pearl-bordered Fritillary | S | S | 1925 | NA | Univoltine | April | Vulnerable |
| Callophrys rubi | TO BE ADDED | G | G | 990 | NA | Univoltine | JuneBefore | NA |
| Carterocephalus palaemon | TO BE ADDED | S | S | 604 | NA | Univoltine | AugustBefore | NA |
| Coenonympha pamphilus | Small Heath | G | S | 3058 | NA | Univoltine | April | Vulnerable |
| Coenonympha tullia | Large Heath | S | S | 1409 | 44 | Univoltine | April | Endangered |
| Cupido minimus | Small Blue | G | S | 1453 | 89 | Univoltine | JulyBefore | Near Threatened |
| Erynnis tages | dingy skipper | G | S | 856 | 85 | Univoltine | AugustBefore | NA |
| Euphydryas aurinia | Marsh Fritillary | G | S | 1926 | NA | Univoltine | May | Vulnerable |
| Fabriciana adippe | High Brown Fritillary | G | S | 994 | NA | Univoltine | May | Endangered |
| Favonius quercus | purple hairstreak | G | S | 494 | 83 | Univoltine | May | NA |
| Gonepteryx rhamni | brimstone | G | S | 483 | 81 | Univoltine | June | NA |
| Hamearis lucina | Duke of Burgundy | S | S | 951 | NA | Univoltine | JulyBefore | Vulnerable |
| Hesperia comma | Silver-spotted Skipper | S | S | 646 | 103 | Univoltine | June | Vulnerable |
| Hipparchia semele | Grayling | S | G | 1654 | NA | Univoltine | April | Endangered |
| Limenitis camilla | White Admiral | S | S | 761 | 97 | Univoltine | May | Vulnerable |
| Maniola jurtina | meadow brown | G | G | 4730 | 70 | Univoltine | April | NA |
| Melanargia galathea | marbled white | G | G | 2169 | 101 | Univoltine | May | NA |
| Melitaea athalia | Heath Fritillary | G | G | 1619 | NA | Univoltine | March | Endangered |
| Melitaea cinxia | Glanville Fritillary | S | S | 583 | NA | Univoltine | March | Endangered |
| Nymphalis polychloros | Large Tortoiseshell | G | G | 197 | NA | Univoltine | June | Regionally Extinct |
| Ochlodes sylvanus | TO BE ADDED | G | G | 1029 | NA | Univoltine | May | NA |
| Papilio machaon | Swallowtail | S | S | 166 | 54 | Univoltine | JulyBefore | Vulnerable |
| Plebejus argus | Silver-studded Blue | S | G | 7105 | NA | Univoltine | May | Vulnerable |
| Polyommatus coridon | Chalk Hill Blue | G | S | 19584 | NA | Univoltine | June | Vulnerable |
| Pyrgus malvae | Grizzled Skipper | G | G | 1285 | 108 | Univoltine | July | Vulnerable |
| Pyronia tithonus | gatekeeper | G | S | 2313 | 125 | Univoltine | June | NA |
| Satyrium pruni | Black Hairstreak | S | S | 377 | NA | Univoltine | May | Endangered |
| Satyrium w-album | White-letter Hairstreak | S | S | 346 | NA | Univoltine | May | Vulnerable |
| Speyeria aglaja | Dark Green Fritillary | G | S | 1028 | 51 | Univoltine | May | Near Threatened |
| Thecla betulae | Brown Hairstreak | G | S | 165 | NA | Univoltine | June | Vulnerable |
| Thymelicus acteon | Lulworth Skipper | S | S | 544 | NA | Univoltine | May | Near Threatened |
| Thymelicus lineola | TO BE ADDED | G | G | 707 | NA | Univoltine | May | NA |
| Thymelicus sylvestris | small skipper | G | G | 918 | 98 | Univoltine | May | NA |