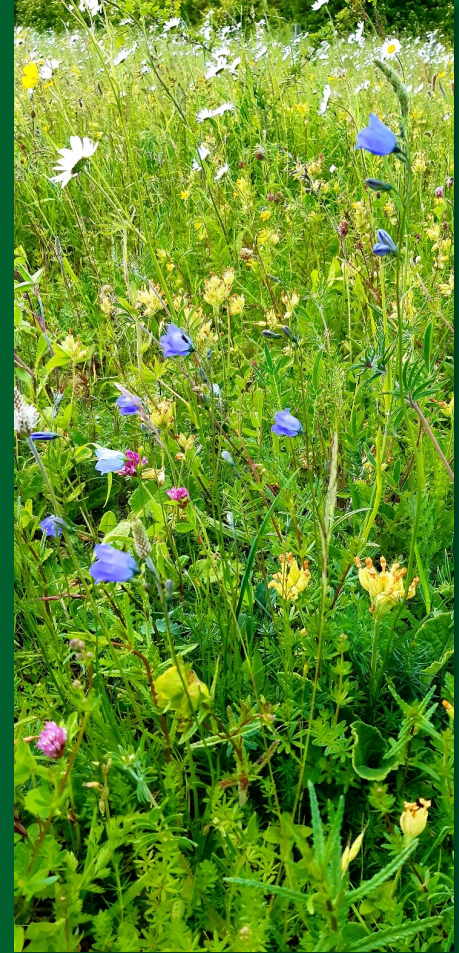


Natural Basingstoke

***Introduction  
to Flora Identification***



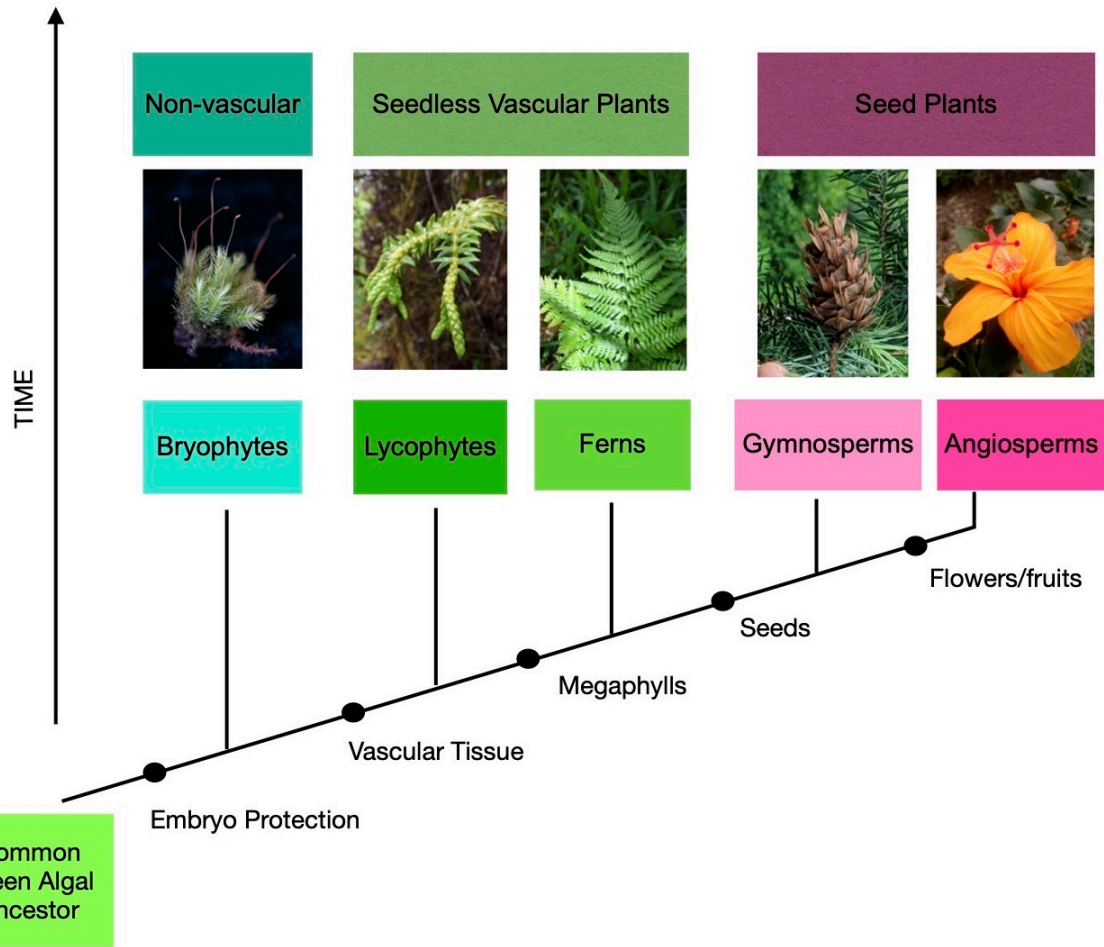
- **Course Lead:** Martina Jones (Natural Basingstoke, Advisor Board member for Flora)
- **Participants will be introduced to :**
  - ✓ Beginners' guide to flora identification
  - ✓ Habitat definitions, classifications and coding



# THE PLANT KINGDOM AND ITS CLASSIFICATION

Embryophytes: The Land Plants						
Nonvascular Plants "Bryophytes"			Vascular Plants			
Liverworts	Hornworts	Mosses	Seedless Plants		Seed Plants	
			Lycophytes	Pterophytes	Gymno-sperms	Angio-sperms
			Club Mosses	Whisk Ferns		
			Quillworts	Horsetails		
			Spike Mosses	Ferns		

# GYMNOSPERMS AND ANGIOSPERMS (I)



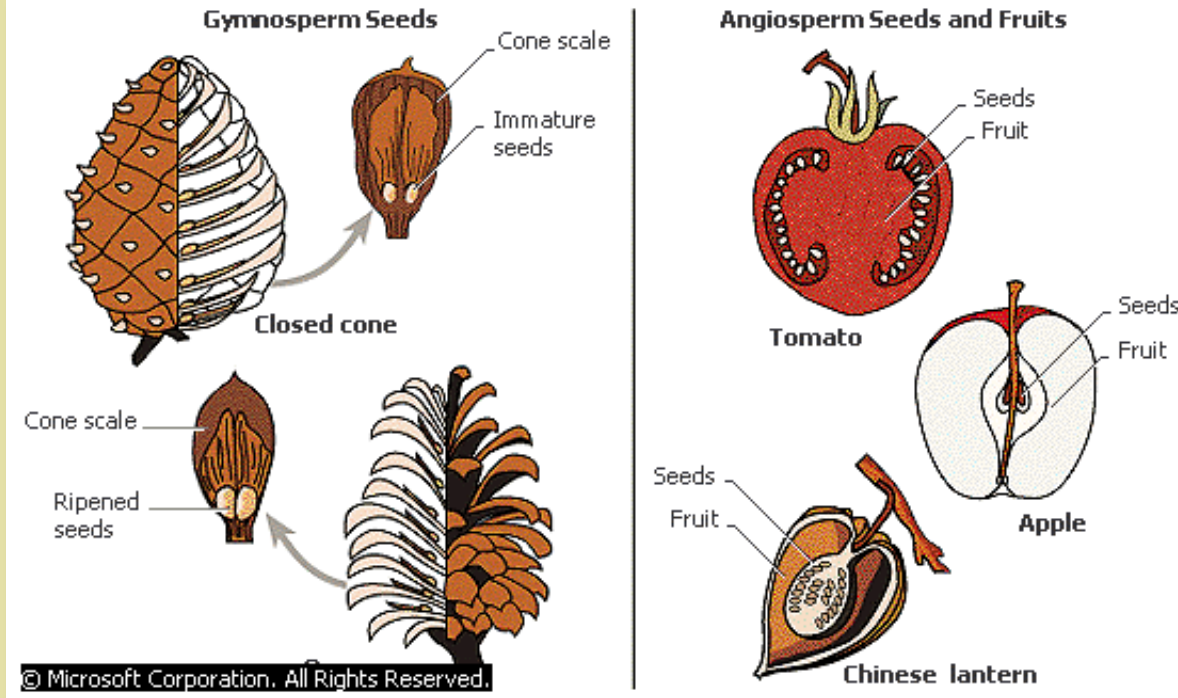
Reference: 8.1: Gymnosperms - Biology LibreTexts

## Gymnosperms and angiosperms

Angiosperms	Gymnosperms
Flowers; seed in ovary	Cones; naked seed
Many insect pollinated	Usually wind pollinated
Evergreen or deciduous	Mostly evergreen
All life cycles and habitats	Mostly perennial shrubs or trees; often dry habitats.
Non-resinous	Resinous
Xylem vessels	Xylem tracheids

Reference: (491) Pinterest

# GYMNOSPERMS AND ANGIOSPERMS (2)



*Reference: Angiosperms Vs Gymnosperms - Forestrypedia*

## Four divisions of gymnosperms

1. Conifers



2. Cycads





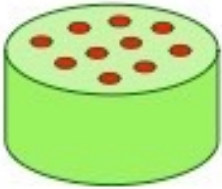




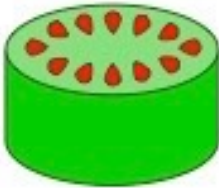


3. Gingkoes



4. Gnetophytes



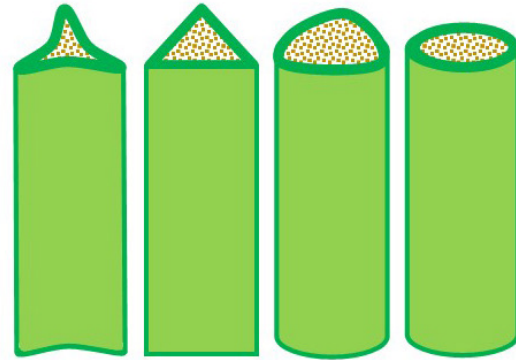
# ANGIOSPERMS - MONOCOTS AND DICOTS

	Seed	Root	Vascular	Leaf	Flower
Monocot					
	One cotyledon	Fibrous roots	Scattered	Parallel veins	Multiples of 3
Dicot					
	Two cotyledon	Tap roots	Ringed	Net-like veins	4 or 5

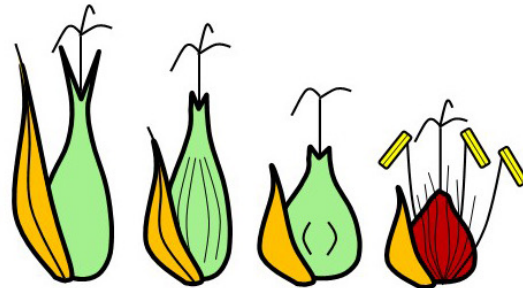
*Reference: Monocots versus Dicots | BioNinja*

# SEDGES, GRASSES AND RUSHES

## Sedges



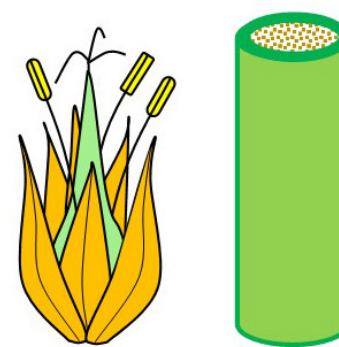
Stems triangular or round with pithy center.



1 scale under each flower or seed.

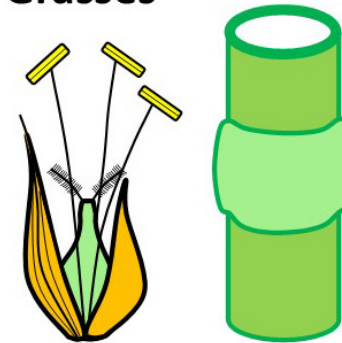
*“Sedges have edges, rushes are round, grasses have joints, all the way to the ground.”*

## Rushes



6 scales surround each flower.  
Stems round with pith.

## Grasses



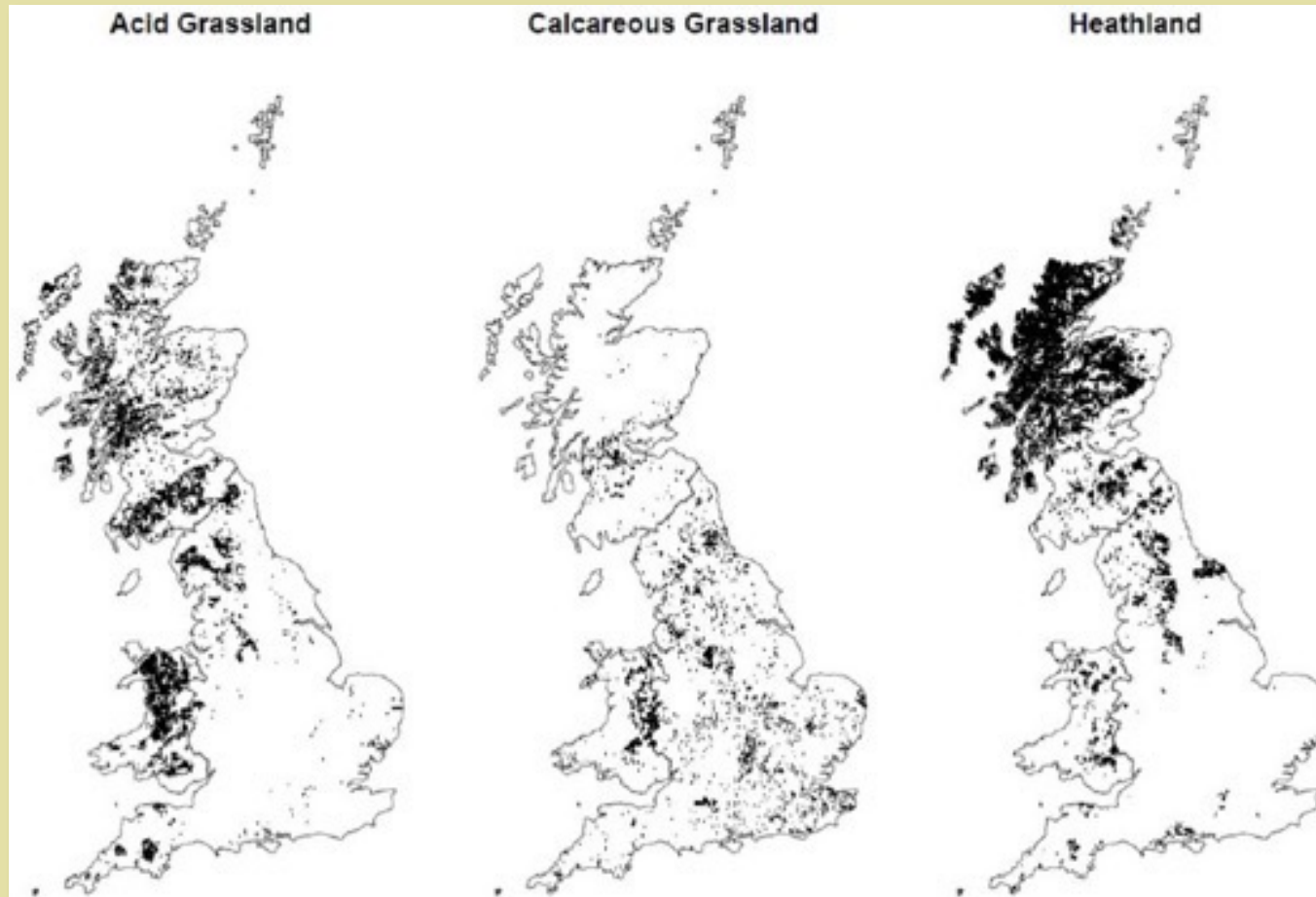
2 scales under each flower or seed. Stems round and hollow with nodes

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# CALCAREOUS GRASSLAND DISTRIBUTION IN THE UK



## CALCAREOUS GRASSLAND DISTRIBUTION IN THE UK



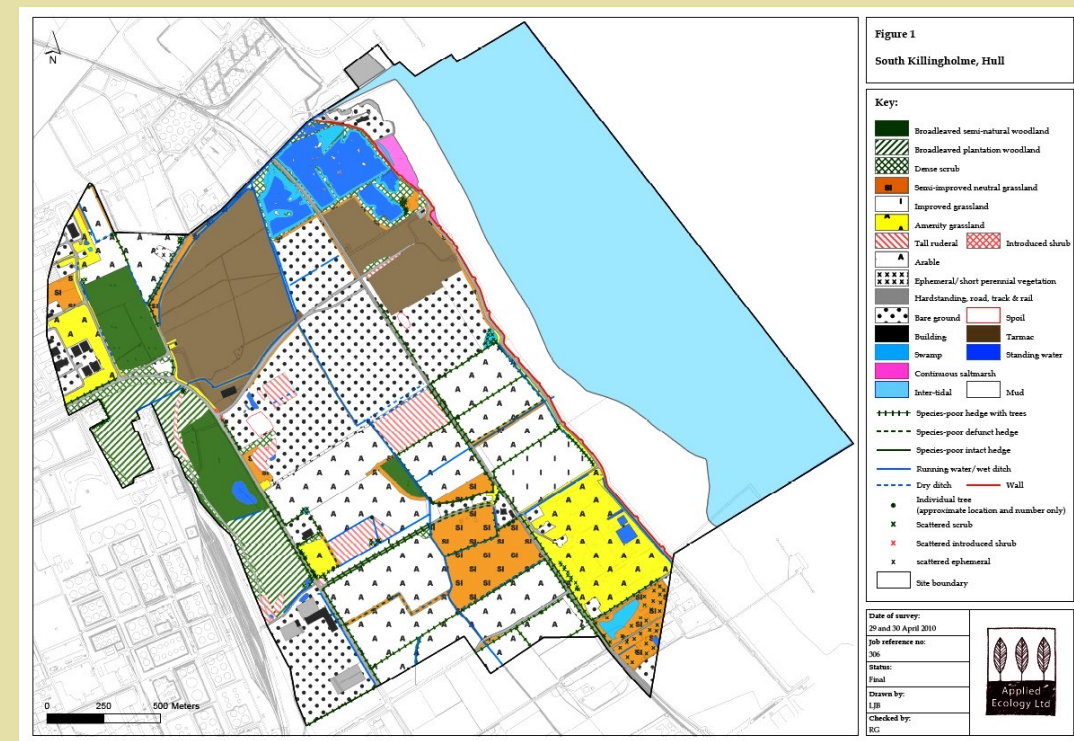
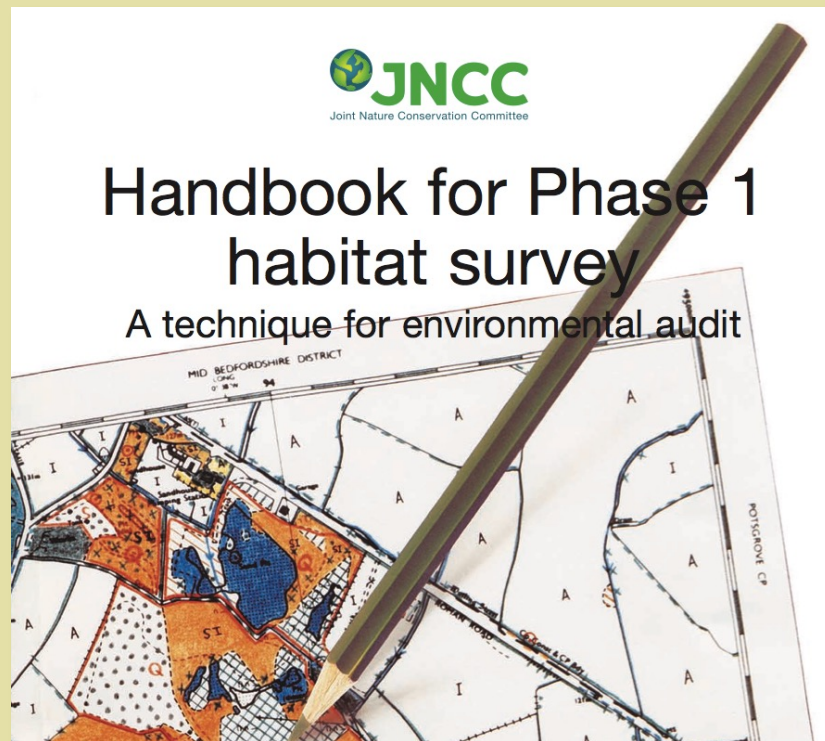
- Distribution of three semi-natural habitats: calcareous grassland; acid grassland; and heathland over Great Britain according to Land Cover Map 2000.
- Shown and mapped at 1 km<sup>2</sup> resolution when habitat was dominant type in the 1 km<sup>2</sup>.

*[Reference: Henrys, Peter & Stevens, C. & Smart, Simon & Maskell, Lindsay & Walker, Kevin & Preston, C.D. & Crowe, Andrew & Rowe, Edwin & Gowing, David & Emmett, B.. (2011). Impacts of nitrogen deposition on vascular plants in Britain: An analysis of two national observation networks. Biogeosciences. 8. 3501-3518. 10.5194/bg-8-3501-2011].*

# THE NATIONAL VEGETATION CLASSIFICATION (NVC) (I)

## Habitat definitions, classifications and coding










*Reference: Joint Nature Conservation Committee (2010): Handbook for Phase 1 habitat survey. A technique for environmental audit. Nature Conservation Council. Peterborough. UK.*



# THE NATIONAL VEGETATION CLASSIFICATION (NVC) (2)

Reference: Joint Nature Conservation Committee (2010): Handbook for Phase 1 habitat survey. A technique for environmental audit. Nature Conservation Council. Peterborough. UK.

Group	Description
A	Woodland and scrub
B	Grassland and marsh
C	Tall Herb and fen
D	Heathland
E	Mire
F	Swamp, marginal and inundation
G	Open Water
H	Coastland
I	Rock, exposure and waste
J	Miscellaneous

B Grassland and marsh	
1 Acid grassland	
1 Unimproved	 Orange
2 Semi-proved	 Orange
2 Neutral grassland	
1 Unimproved	 Orange
2 Semi-improved	 Orange
3 Calcareous grassland	
1 Unimproved	 Orange
2 Semi-improved	 Orange
4 Improved grassland	 No colour
5 Marsh/marshy grassland	 Purple over orange
*6 Poor semi-improved grassland (optional)	 No colour

## LOWLAND CALCAREOUS GRASSLAND - GENERAL INFORMATION

- Floristically rich habitat (over 40 species/m<sup>2</sup>) found on low chalk or hard limestone hills or coastal cliffs
- One of the most ancient grassland types on thin, well-drained soil
- Chalk rock - CaCO<sub>3</sub>- formed in tropical seas about 100 mil years ago in the Cretaceous Period
- Evolved after woodland clearance in Mesolithic period, followed by subsequent grazing



## LOWLAND CALCAREOUS GRASSLAND – APPEARANCE

- A shallow soil deficient in many plant nutrients + grazing → short grassland with a few vigorous grasses
- Lime-loving herbaceous species  
+  
• Scrub  
+  
• Solitary shrubs



## Flora

Wild thyme

Salad burnet

Small scabious

Rock-rose

Kidney vetch

Marjoram

Dropwort

Carline thistle

Agrimony

Bird's-foot-trefoil

Purple, common spotted, pyramidal, fragrant, bee orchids

Hoary plantain

Quaking grass

Sheep's fescue

Greater knapweed



## Invertebrates

Hazel pot beetle

Wart-biter bush cricket

Phantom hoverfly

Carline thistle leafhopper

## Butterflies

Duke of Burgundy

Silver-spotted skipper

Lulworth skipper

Dingy skipper

Brown argus

Marbled white

Meadow brown

## Birds

Skylark

Corn bunting

Turtle dove

Yellowhammer

Meadow pipit

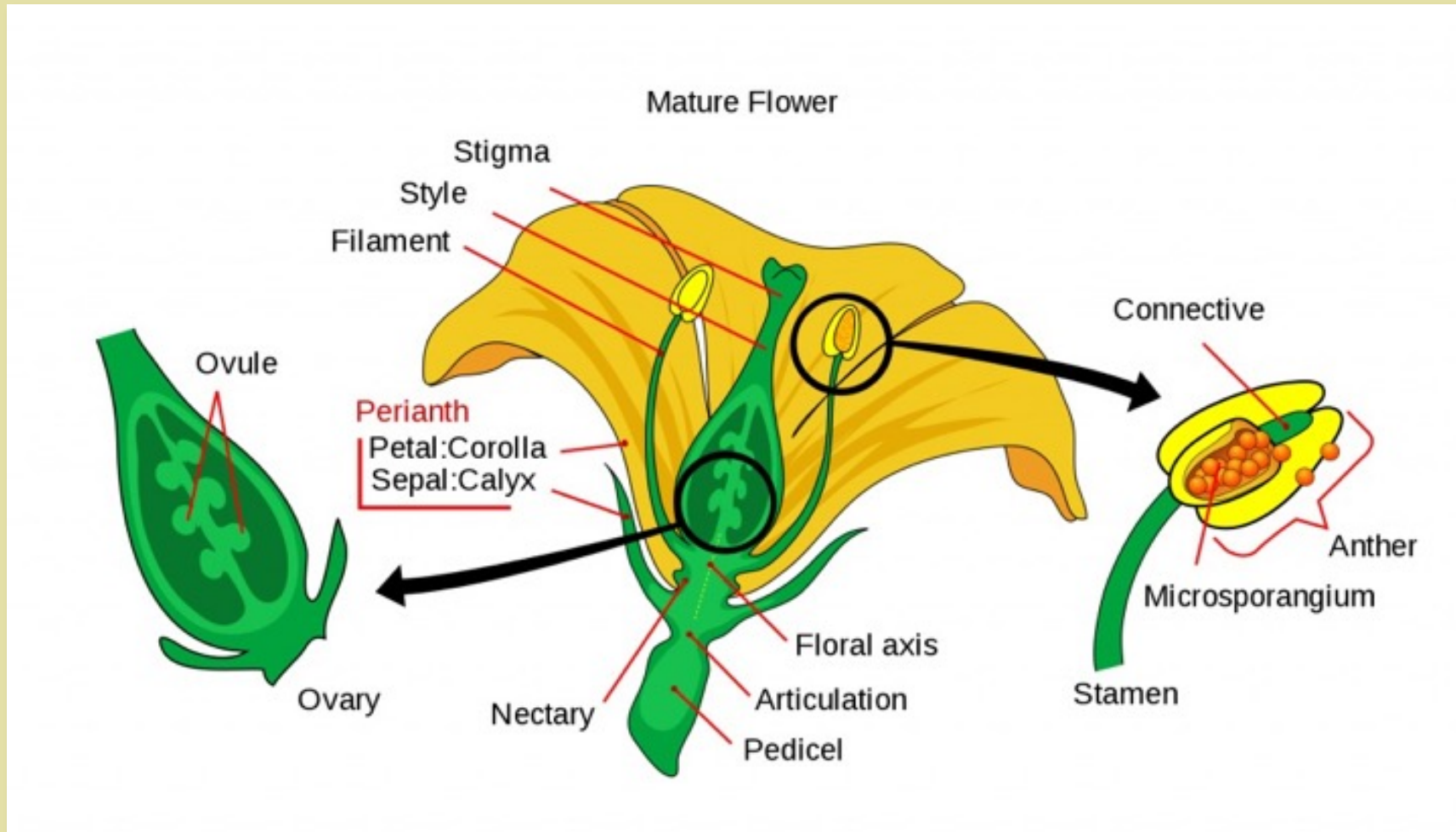
Kestrel

Curlew

Lapwing



Small + Adonis + Chalkhill + Large + common blue



Reference: <https://www.coolkidfacts.com/nectar-facts/>

## Adonis blue

- larval foodplant - horseshoe vetch
- adults - horseshoe vetch

## Large blue

- larval foodplant - wild thyme, later ant grubs
- adults - selfheal, marjoram, wild thyme



## Chalkhill blue

- larval foodplant - horseshoe vetch
- adults - knapweeds and scabiouses



## Small Blue

- larval foodplant - kidney vetch
- adults - bird's-foot-trefoil, horseshoe vetch

## Common blue

- larval foodplant - clovers, restharrow, bird's-foot trefoil
- adults - kidney vetch, clovers, thistles, ragworts, knapweeds, bird's-foot trefoil



## Duke of Burgundy

- larval foodplant - cowslip, primrose
- adults - blackthorn, hawthorn, wood forget-me-not

## Silver-spotted skipper

- larval foodplant - sheep's-fescue
- adults - red clover, thistles, bird's-foot-trefoil, knapweeds



Duke of Burgundy (male/upperwing), Andrew Cooper  
<https://butterfly-conservation.org/butterflies/duke-of-burgundy>



Silver-spotted Skipper (female/upperwing), Bob Eade  
<https://butterfly-conservation.org/butterflies/silver-spotted-skipper>

## Marbled white

- larval foodplant - red fescue, sheep's-fescue, Yorkshire-fog
- adults - clovers, knapweeds, thistles, marjoram, yarrow

## Dingy skipper

- larval foodplant - bird's-foot-trefoil, horseshoe vetch
- adults - bird's-foot trefoil, horseshoe vetch, buttercup, hawkweeds



## REFERENCES & FURTHER INFORMATION

- Joint Nature Conservation Committee (2010): Handbook for Phase 1 habitat survey. A technique for environmental audit. Nature Conservation Council. Peterborough. UK. [[http://jncc.defra.gov.uk/PDF/pub10\\_handbookforphase1habitatsurvey.pdf](http://jncc.defra.gov.uk/PDF/pub10_handbookforphase1habitatsurvey.pdf)]
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