

Click through the key on-line at
www.naturescene.net/poaceae/
indexpoaceae.html

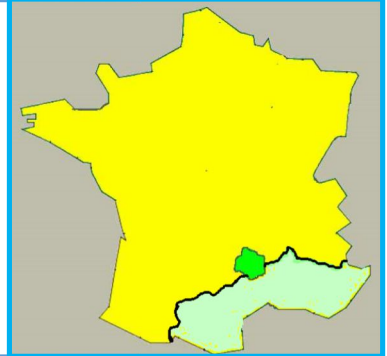
Family: POACEAE the grasses

Version française téléchargeable sur
www.naturescene.net/barmies

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Simplified and partial key to the grasses of the Parc National des Cévennes

Allows identification of the genera, and often the individual species
Follows the approach of 'La Flore de la France méditerranéenne continentale' (2014)
(The Conservatoire Botanique of our region, shown in pale green on the map)
All the genera of our region have been noted,
those within the National Park (darker green) with description and drawing.



*The author is somewhat a beginner for this complex group, and invites you to join him
in discovering a world that is often overlooked.*

Mode of use:

STAGE 1 : Familiarise yourself with the anatomy and vocabulary of grasses (next page)

STAGE 2 : Determine the Group (I-X) by examining the flower head

STAGE 3 : Determine the genus, by using the key of this Group

STAGE 4 : Determine the species, if this has not already been done in Stage 3, by using another guide

Recommended as the most comprehensive for our region, with a key (in French):

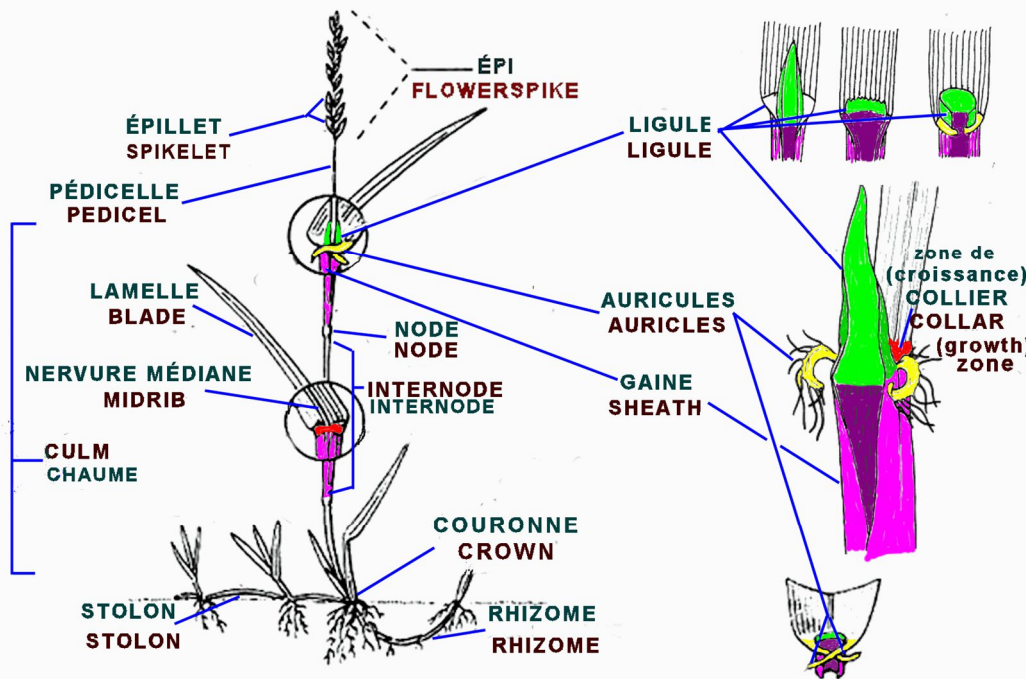
'La Flore de la France méditerranéenne continentale' (2014)

See also (comprehensive coverage only for the Causses), with a key (in French):

Flore des Causses Christian Bernard (2008)

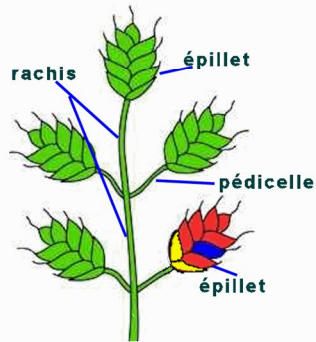
My site 'Flowers of the Cévennes' is pretty pathetic for grasses in early 2017, but the intention is to add many detailed photos in the months to come (without a key, but in taxonomic order).

www.naturescene.net

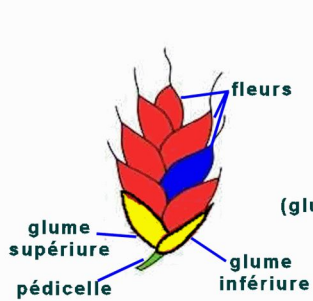


STAGE 1 : Familiarise yourself with the anatomy and vocabulary of grasses

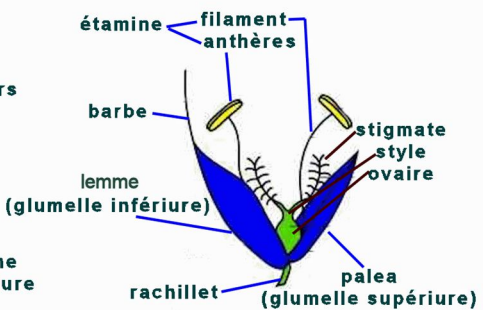
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 Poaceae (grasses) of the
 Parc National des Cévennes



Inflorescence en grappe (racémiforme)

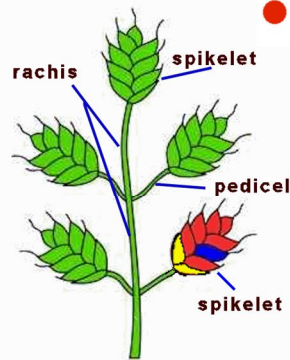


ÉPILLET

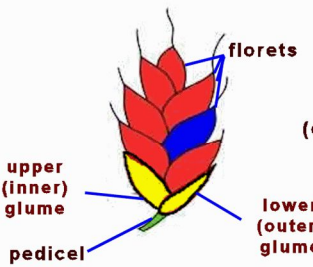


FLEURON (FLEUR)

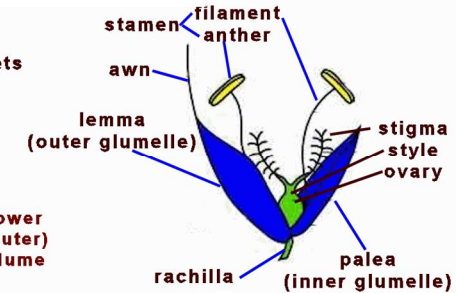
● = spikelet ● = glumes ● = lemme/palea (glumelles) ● = ligule



RACEME-type flowerhead



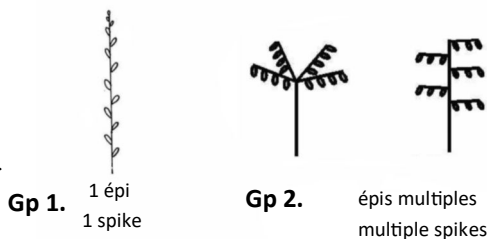
SPIKELET



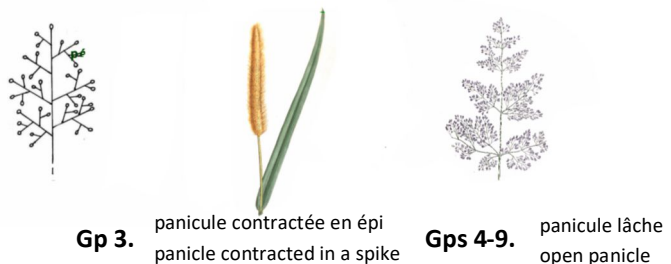
FLORET

INFLORESCENCE

Épillet(s) sur épi(s) sans pédicelles
Gps. 1 & 2
 Spikelets on spike(s) without stalks



Épillet(s) avec pédicelles ramifiées - panicules
Gps 3 - 9
 Spikelets with branched stalks—panicles



STAGE 2 : Determine the Group (I-X) by examining the flower head

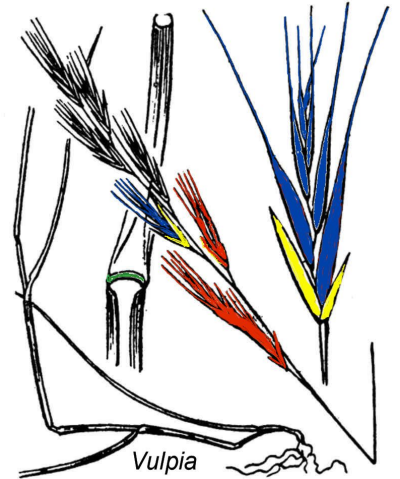
Group I Single spike:

pedicels absent or very short

(80 species, 37 in our area)

Cynosurus, *Taeniatherum*, *Hordeum*, *Hordelymus*, *Gaudinia*, *Psilurus*, *Nardus*, *Mibora*, *Brachypodium*, *Vulpia*, *Micropyrum*, *Lolium*, *Elytrigia*, *Aegilops (Triticum)*, *Heteropogon*, *Pennisetum*, *Cenchrus*, *Elymus*

● = spikelet ● = glumes ● = lemma/palea (glumelles) ● = ligule



Group II 2+ spikes from main axis:

pedicels absent or very short

(19 species, 4 in our area)

Elousine, *Aeluropus*, *Sclerochloa*, *Echinochloa*, *Paspalum*, *Digitaria*, *Stenotaphrum*, *Andropogon*, *Hyparrhenia*, *Bothriochloa*, *Spartina*, *Moorochloa*, *Cynodon*

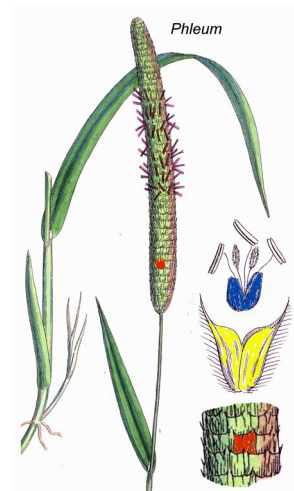


Group III Compact panicle forming a spike:

cylindrical, oval or spherical

(63 species, 27 in our area)

Echinaria, *Phalaris*, (*Cynosurus*—voir groupe I), *Tragus*, *Setaria*, *Sesleria*, *Rostraria*, *Koeleria*, *Dactylis*, *Anthoxanthum*, *Polypogon*, *Gastridium*, *Phleum*, *Alopecurus*, *Pennisetum*, *Imperata*, *Lagurus*, *Sporobolus* (voir groupe V), *Crypsis*, *Ammophila*,

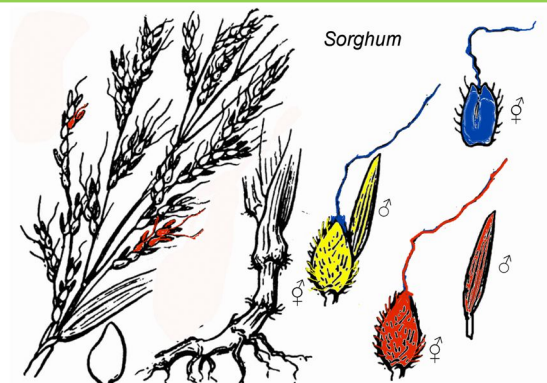


Group IVa: Loose panicle, fertile spikelets mixed with sterile or male spikelets:

Terminal axes articulated and fragile at maturity

(5 species, 1 in our area)

Lamarckia, *Chrysopogon*, *Sorghum halepense*

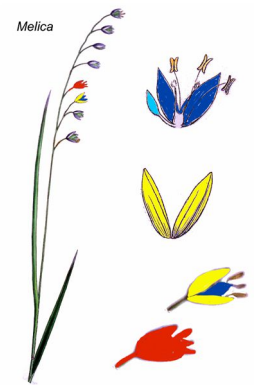


Group IV: Loose panicle, one fertile (hermaphrodite) floret, other florets sterile or male i.e. 3+ glumelles (sometimes reduced to scales):

(14 species, 10 in our area)

Oryza, *Phalaris* (aussi groupe III, q.v.), *Hierochloe*, *Saccharum*, ***Arrhenatherum***, ***Panicum***, ***Melica***, ***Holcus***,

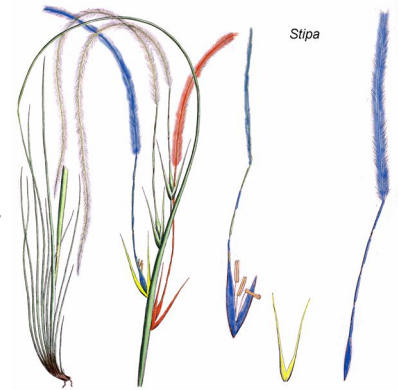
● = spikelet ● = glumes ● = lemma/palea (glumelles) ● = ligule



Group V: Loose panicle, one fertile (hermaphrodite) floret no other sterile i.e only 1-2 glumelles developed

(34 species, 16 in our area)

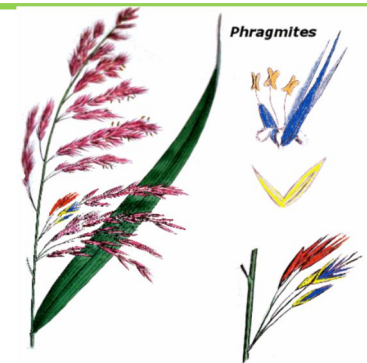
Leersia, *Oryza* (also III, q.v.), *Macrochloa*, *Nassella*, ***Stipa***, ***Calamagrostis***, ***Agrostis***, *Jarava*, ***Piptatherum*** (incl. ***Oloptum***), ***Achnatherum***, *Apera*, ***Sporobolus***, ***Milium***, *Polypogon*



Group VIa: Loose panicle, 2+ fertile (hermaphrodite) florets, each surrounded by long white hairs, giving a silky panicle:

(3 species, 1 in our area)

Arundo, ***Phragmites australis***



Group VI: Loose panicle, 2+ (fertile) hermaphrodite florets, hairy ligule: spikelets almost always without awns:

(12 species, 11 in our area)

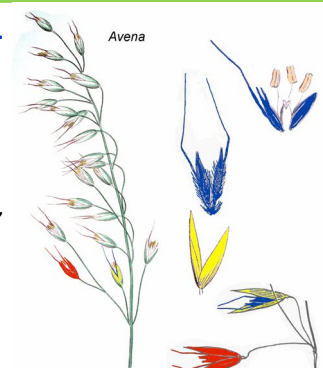
Danthonia, *Schismus*, *Eragrostis*, ***Molinia***, ***Kengia***



Group VII: Loose panicle, 2+ fertile (hermaphrodite) florets, membranous ligule, dorsal awn (not all in *Vententata*) Very long glumes

(34 species, 16 in our area)

Antinoria (*Aira*), *Vententata*, *Pseudarrhenatherum*, ***Avena***, *Helictotrichon*, ***Helictochloa*** (= *Avenula*), ***Avenula***, *Corynephorus*, *Aira*, ***Deschampsia***, ***Trisetum***



Group VIII: Loose panicle, 2+ fertile (hermaphrodite) florets, membranous ligule, awn terminal/sub-terminal/absent; very long glumes

(3 species, 0 in our area)

Melica (see group IV), *Avellinia*, *Aiopsis*

Group IX: Loose panicle, 2+ fertile (hermaphrodite) florets, membranous ligule, absent or terminal/sub-terminal awn; short glumes:

(97 species, 53 in our area)

Dactylis, *Briza*, *Bromus* (incl. *Bromopsis*, *Ceratochloa* et *Anisthanta*), *Ampelodesmos*, (*Vulpia* –see group I), *Festuca* (incl. *Patzkia*), *Sphenopus*, *Glyceria*, *Cutandia*, *Poa*, *Catabrosa*, *Puccinellia*, *Drymochloa*, *Catapodium*, *Schedonorus*



● = spikelet ● = glumes ● = lemma/palea (glumelles) ● = ligule

Group X Grasses with unusual sexuality

- Grasses with mini-plants in place of florets
- Grasses with apparently no flowers
- Grasses with separate male and female flowers on the same plant (monoecious)
- Grasses with separate male and female flowers on different plants (dioecious)

STAGE 3 : Determine the genus, after determining the Group

Simplified and partial key to the grasses of the Parc National des Cévennes

Family: POACEAE

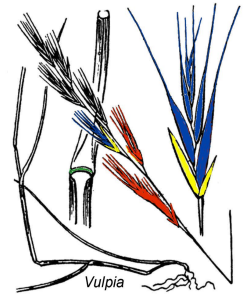
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Group I Single spike:

pedicels absent or very short

● = spikelet ● = glumes ● = lemma/palea (glumelles) ● = ligule

(80 species, 37 in our area) *Cynosurus*, *Taeniatherum*, *Hordeum*, *Hordelymus*, *Gaudinia*, *Psilurus*, *Nardus*, *Mibora*, *Brachypodium*, *Vulpia*, *Micropyrum*, *Lolium*, (*Schedondorus*), *Elytrigia*, *Aegilops* (*Triticum*), *Heteropogon*, *Pennisetum*, *Cenchrus*, *Catopodium* (see groupeIX), *Elytrigia*, *Elymus*

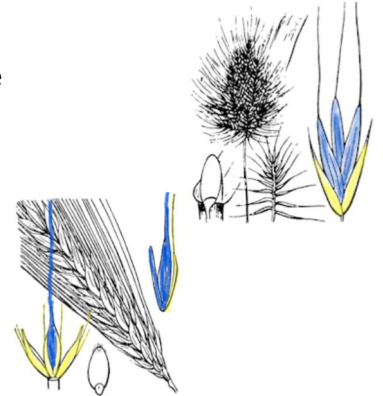


Main species in the Cévennes:

1. a) Each node carries **2-4 spikelets**, which are grouped in 2 rows.

Cynosurus spp.: **P. & A.** Inflorescence **unilateral**, fertile spikelets, and at the exterior, sterile spikelets (acting for protection), both with several florets

Hordeum : **A. & (P.)** inflorescence in a dense **distichous spike**, 3 spikelets for each node, carrying one floret (sometimes a second aborted); middle florets -> glumes with short awns and lemmas with long terminal awns

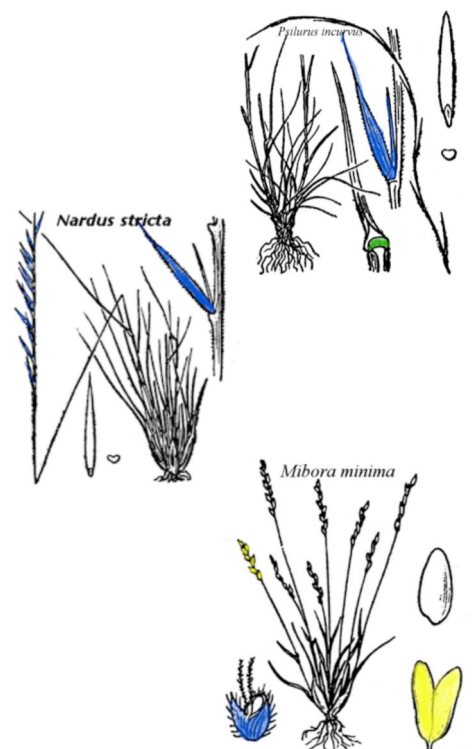


1. b) Each node carries **1 spikelet and a single floret**

Psilurus incurvus **A.** Lemmas with a long **sub-terminal** awn; lemma much shorter than the inter-node. No lower glume.

Nardus stricta **P.** Lemmas with a long **terminal** awn; lemma much longer than the inter-node. No glumes. Spikelets inserted alternately in 2 rows along the axis

Mibora minima **A.** Lemmas not pointed (**without a terminal awn**) ; glumes hide the florets



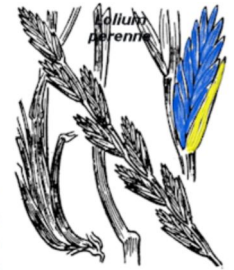
Main species in the Cévennes: Group 1 cont./ :

● = spikelet ● = glumes ● = lemma/palea (glumelles) ● = ligule

1. c) Each node bears 1 spikelet with several fertile florets

1. c) i. **1 single glume**, apart from the terminal spikelet;

Lolium spp. (incl. *Schedonorus*) P. & (A.) solid axis, inflorescence a dense distichous spike. Auricles at the base of the leaf blades



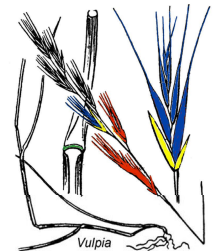
1.c) ii **2 small but equal glumes**

Micropyrum tenellum A. 2 equal glumes longly overtaken by several florets; solid axis, inflorescence in a lax distichous spike



1.c) iii **2 small unequal glumes**

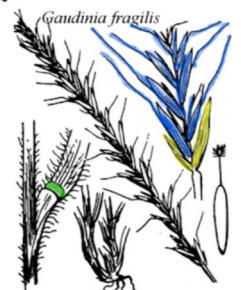
Vulpia A. glumes longly overtaken by the 3-12 florets; lemmas with long terminal awns; spike unilateral (normamally, in our area)



Brachypodium P. & (A.) short glumes with many florets; lemmas with terminal awns, +/- long; caryopsis velvety at the summit, spike neither unilateral nor distichous



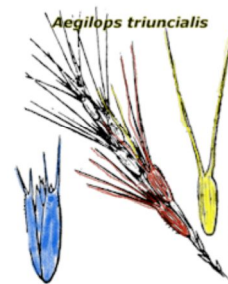
Gaudinia fragilis Lemmas with a dorsal bent awn; spike distichous



1.c) iv **2 longish equal glumes, spikes distichous**

Supplementary awns surrounding the glumes *Aegilops* spp. (*Triticum* following FlorMed) A. Ligule often with 2 hairy auricles, axis deformed, supplementary awns often long, glumes themselves with shorter awns, glumelles toothed or awned

[*Triticum* spp. include wheat, rye, spelt - none of which are cultivated in our region]



Elytrigia spp. P. Glumes similar in length to the several florets; deformed axis, inflorescence a loose distichous spike, long spreading rhizomes (in our area)



Elymus caninus P. Like *Elytrigia*, but clump-forming, glumes awned and lemmas longly awned

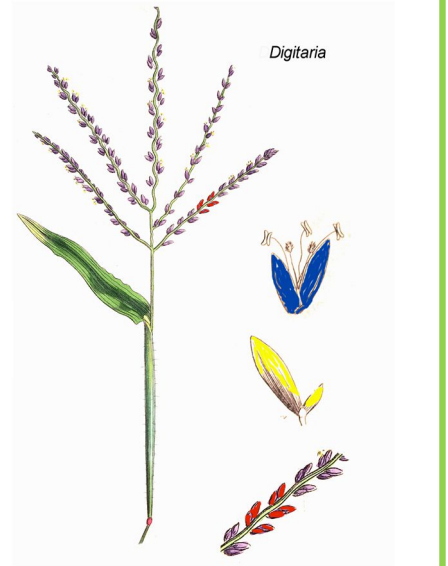


Group II 2+ spikes from main axis:

pedicels absent or very short

(19 species, 4 in our area) *Elousine*, *Aeluropus*, *Sclerochloa*, ***Echinochloa***, *Paspalum*, ***Digitaria***, *Stenotaphrum*, *Andropogon*, *Hyparrhenia*, ***Bothriochloa***, *Spartina*, *Moorochloa*, ***Cynodon***

● = spikelet ● = glumes ● = lemma/palea (glumelles) ● = ligule



Main species in the Cévennes:

2 a Ligule absent

***Echinochloa crus-galli* A.** , unilateral spike-like bunches



2 b Ligule membranous

***Digitaria sanguinalis* A.** spikes with spikelets **twinned in two rows** ; borne on **digitate spike-like branches**



2 c Ligule hairy

(i) ***Cynodon dactylon* P.** spikes with **unilateral** spikelets; borne on **digitate spike-like branches**



(ii) ***Bothriochloa ischaemum* P.** spikelets **hairy**, twinned, one **sterile without an awn**, the other **fertile with an awn**

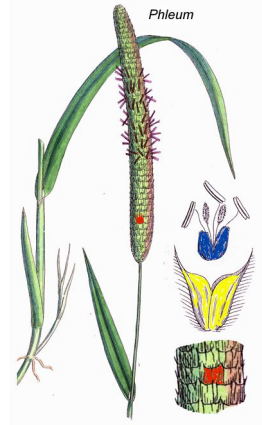


Group III Compact panicle forming a spike

cylindrical, oval or spherical

(63 species, 27 in our area) *Echinaria*, *Phalaris*, (*Cynosurus*—see group I), *Tragus*, *Setaria*, *Sesleria*, *Rostriaria*, *Koeleria*, *Dactylis*, *Anthoxanthum*, *Polypogon*, *Gastridium*, *Phleum*, *Alopecurus*, *Pennisetum*, *Imperata*, *Lagurus*, *Sporobolus* (see group V), *Crypsis*, *Ammophila*,

● = spikelet ● = glumes ● = lemma/palea (glumelles) ● = ligule



Main species in the Cévennes:

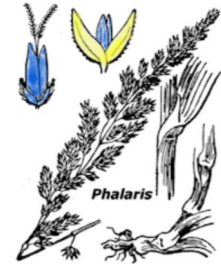
III. a) Inflorescences in characteristic shape

Echinaria capitata A. Inflorescence like a sea-urchin,

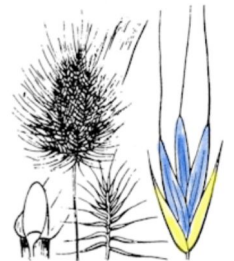


III. b) Spikelets male/sterile around a (hermaphrodite) fertile spikelet

Phalaris spp. A. & P. Spikelets with 1 floret (hidden by the glumes), 2 sterile florets, scale-like

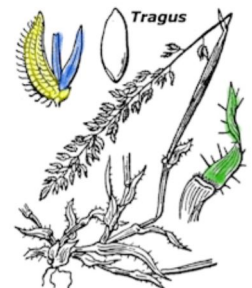


(*Cynosurus* spp. A. & P. —see group I), spikelets with several florets

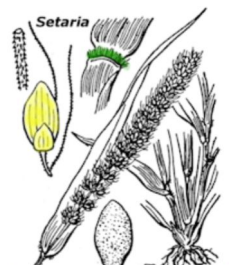


III. c) Spikelets all hermaphrodite and fertile: ligules with hairs

Tragus racemosus A. Upper glume short, with hooked hairs; ligules hairy



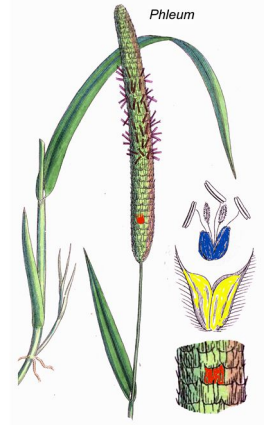
Setaria spp. A. Peduncles (not the spikelets) with long silky awns. Ligules hairy. 2 florets (1 sterile, 1 fertile) hidden by the upper glume.



Group III cont:/ Compact panicle forming a spike

cylindrical, oval or spherical

63 species, 27 in our area) *Echinaria*, *Phalaris*, (*Cynosurus*—see gp. I), *Tragus*, *Setaria*, *Trisetum* (also group VII), *Sesleria*, *Rostraria*, *Koeleria*, *Dactylis*, *Anthoxanthum*, *Polypogon*, *Gastridium*, *Phleum*, *Alopecurus*, *Pennisetum*, *Imperata*, *Lagurus*, *Sporobolus* (see gp. V), *Crypsis*, *Ammophila*,



Main species in the Cévennes: III cont./

III.d) Spikelets with several hermaphrodite florets: ligules without hairs

Trisetum flavescens P. Lemmas with a bent dorsal awn

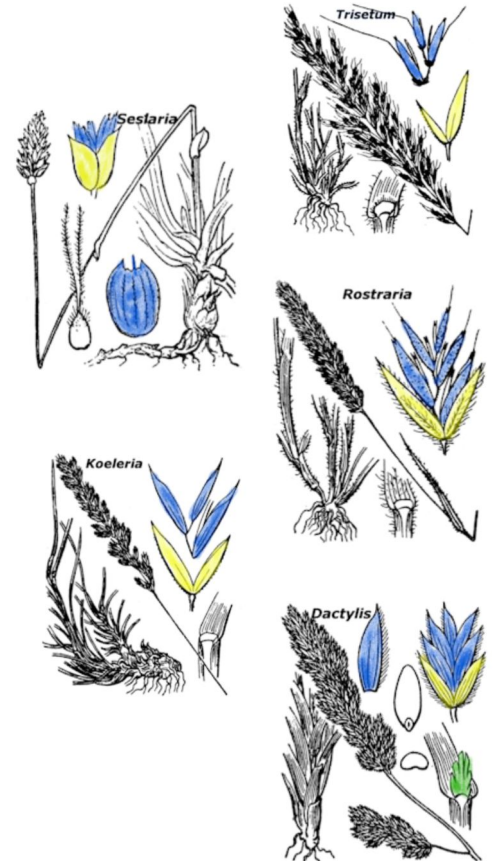
● = spikelet ● = glumes ● = lemma/palea (glumelles) ● = ligule

Sesleria caerulea P. Lemmas with 3 terminal awns

Rostraria cristata A. Lemmas with 1 short, sub-terminal awn

Koeleria spp. P. Lemmas apiculate (ending in a short sharp point)

Dactylis glomerata (voir groupe IX) P. Lemmas with a short awn. Inflorescence unilateral. Glumes and glumelles with a ciliated keel.



III. e) Spikelets containing a single hermaphrodite floret (+/- sterile florets); ligules without hairs

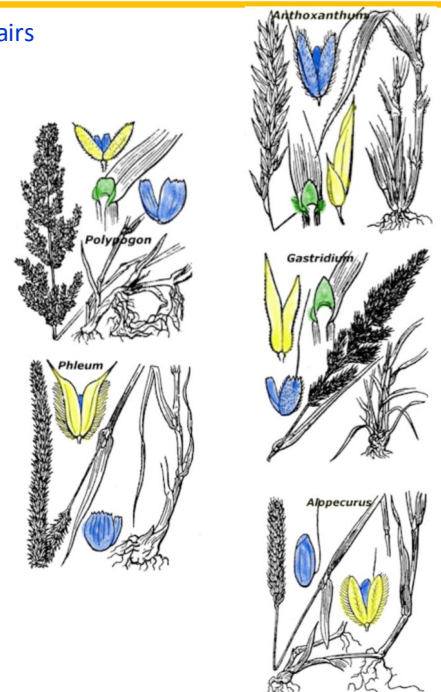
Anthoxanthum spp. P. Spikelet with a single hermaphrodite floret, hidden by 2 sterile florets, with a long awn on the back

Polypogon spp. A. Panicle silky, due to glumes with long silky awns (deciduous). Glumes very ciliated at the summit.

Gastridium ventricosum A. Glumes unequal, swollen at the base, lemmas +/- awn

Phleum spp. P. & (A.) Glumes keeled, ciliated on the keel, awned and not fused, paleas with a thin membrane and 2-toothed (not silky, no awn)

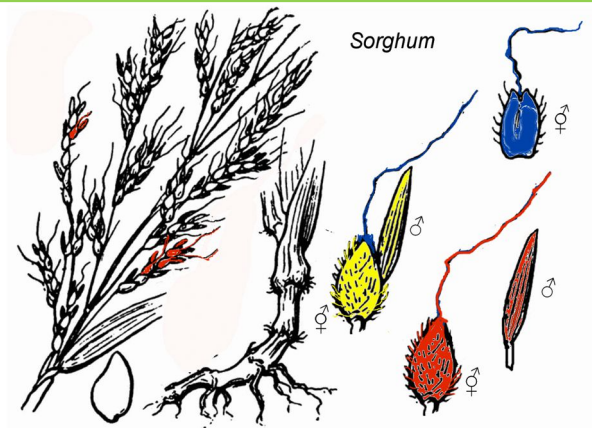
Alopecurus spp. P. & A. Glumes keeled, fused at the base, paleas absent (not silky, no awn)



Group IVa: Loose panicle, fertile spikelets mixed with sterile or male spikelets:

Terminal axes articulated and fragile at maturity

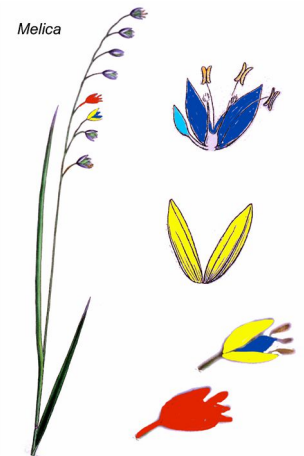
(5 species, 1 in our area) *Lamarckia*, *Chrysopogon*, *Sorghum halepense*



● = spikelet ● = glumes ● = lemma/palea (glumelles) ● = ligule

Group IV: Loose panicle, one fertile (hermaphrodite) floret, other florets sterile or male i.e. 3+ glumelles (sometimes reduced to scales):

(14 species, 10 in our area) *Oryza*, *Phalaris* (also group III, q.P.), *Hierochloa*, *Saccharum*, *Arrhenatherum*, *Panicum*, *Melica*, *Holcus*,



Main species in the Cévennes:

IV. a) Terminal floret hermaphrodite, 1 single male/sterile basal floret, with a well-developed lemma; lvery branched panicle

Arrhenatherum elatius P. Ligules velvety on the back; male floret with a long bent awn; hermaphrodite floret, with a brief awn

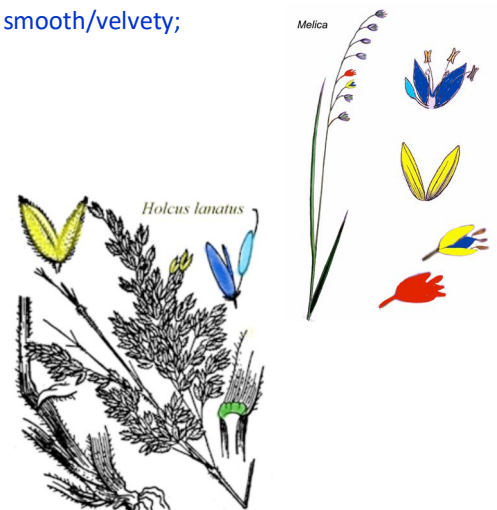
Panicum spp. A. Ligules with long hairs; male floret not pointed



IV. b) Basal hermaphrodite flower, followed by 1-2 male/sterile terminal florets; ligules smooth/velvety;

Melica spp. P. Sterile florets forming a terminal head; lemmas non-awned

Holcus spp. P. Sterile floret awned, as well developed as the non-pointed hermaphrodite floret

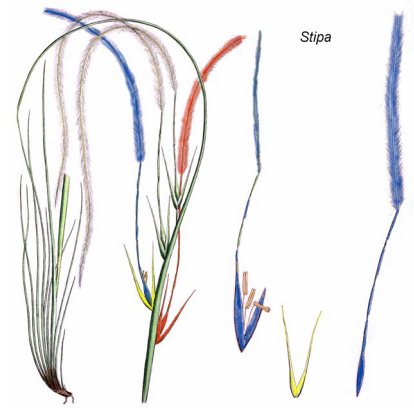


Group V: Loose panicle, one fertile (hermaphrodite) floret

no other sterile i.e only 1-2 glumelles developed

(34 species, 16 in our area) *Leersia*, *Oryza* (also III, q.v.), *Macrochloa*, *Nassella*, ***Stipa***, ***Calamagrostis***, ***Agrostis***, *Jarava*, ***Piptatherum*** (incl. ***Oloptum***), ***Achnatherum***, *Apera*, ***Sporobolus***, ***Milium***, *Polypogon*,

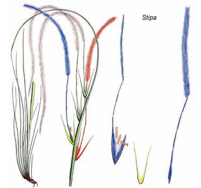
● = spikelet ● = glumes ● = lemma/palea (glumelles) ● = ligule



Main species in the Cévennes:

V. a) Lemmas with a long awn > 4 cm

***Stipa* spp. P.**



V. b) Lemmas with a moderate awn > 2.5 mm (< 4 cm)

***Calamagrostis* spp. P.** Awn of lemmas dorsal ; base of lemmas with long white hairs



***Agrostis* spp. P.** Awn of lemmas dorsal/basal/absent; base of lemmas smooth or with short hairs



***Piptatherum* spp. (incl. *Oloptum miliaceum*) P.** Awn of lemmas terminal; lemmas smooth or slightly velvety



***Achnatherum* spp. P.** Awn of lemmas terminals ; lemmas covered with long silky hairs



V. c) Awn of lemmas absent

***Sporobolus indicus* P.** Ligule very short and velvety; glumes unequal



***Milium effusum* P.** Ligule smooth; glumes rounded on the back



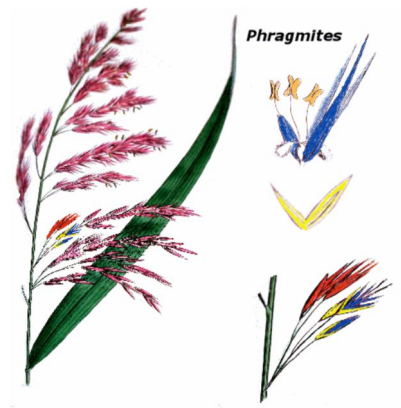
***Agrostis stolonifera* P.** Ligule smooth. Stolon-forming



Group VIa: Loose panicle, 2+ fertile (hermaphrodite) florets, each surrounded by long white hairs, giving a silky panicle:

(3 species, 1 in our area) *Arundo*, *Phragmites australis*

● = spikelet ● = glumes ● = lemma/palea (glumelles) ● = ligule



Group VI: Loose panicle, 2+ (fertile) hermaphrodite florets, hairy ligule: spikelets almost always without awns:

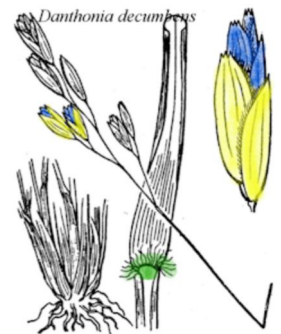
(12 species, 11 in our area) *Danthonia*, *Schismus*, *Eragrostis*, *Molinia*, *Kengia*



Main species in the Cévennes:

VI . a) Glumes clearly longer than the lemma; lower glume \geq upper glume

Danthonia decumbens P. Lemmas $>$ 3 mm



VI . b) Glumes shorter than the lemmas ; lower glume $<$ upper glume

Eragrostis spp. A. spikelets with 4+ **overlapping** florets, upper glume $<$ 3 mm



Molinia caerulea P. spikelets with 2-4 **well-spaced** florets, upper glume generally $>$ 3 mm ; **one single internode** under the flower stalk



Kengia serotina

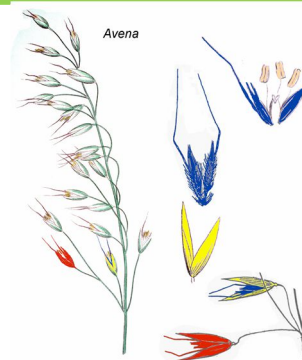
P. spikelets with 2-4 **well-spaced** florets, upper glume generally $>$ 3 mm ; **several internodes** under the flower stalk



Group VII: Loose panicle, 2+ fertile (hermaphrodite) florets, membranous ligule, dorsal awn Very long glumes

(34 species, 16 in our area) *Antinoria* (*Aira*), *Ventenata*, *Pseudarrhenatherum*, ***Avena***, *Helictotrichon*, *Helictochloa* (= *Avenula*), *Avenula*, *Corynephorus*, *Aira*, *Deschampsia*, *Trisetum*

● = spikelet ● = glumes ● = lemma/palea (glumelles) ● = ligule

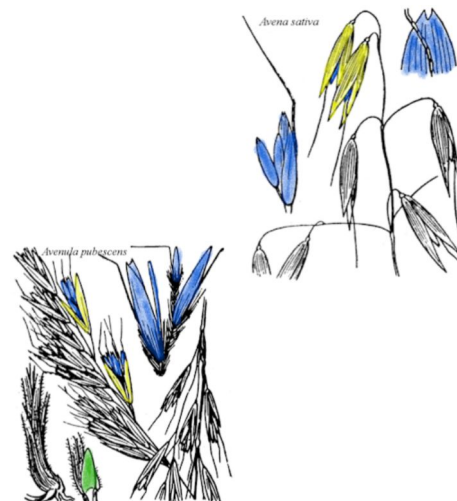


Main species in the Cévennes:

VII. a) Lemma with a dorsal awn; upper glume > 7 mm

***Avena* spp. A.** drooping spikelets; glumes with several veins

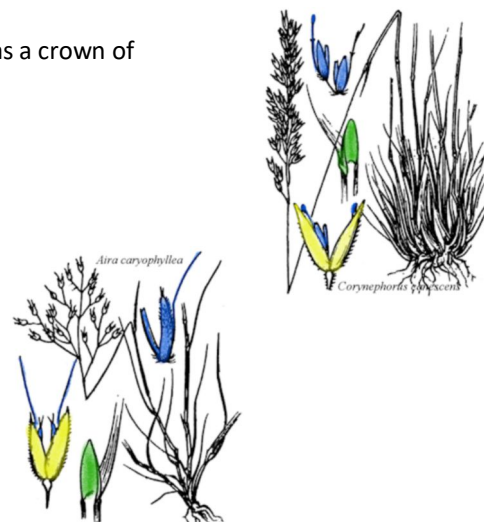
***Avenula* spp. (incl. *Helictochloa*) P.** spikelets more or less upright; glumes with single prominent vein



VII. b) Lemma with a dorsal awn; upper glume < 7 mm

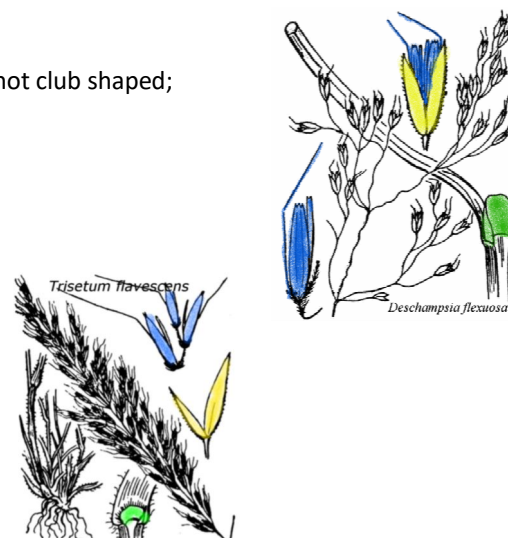
***Corynephorus* spp. P.** Awns of the lemmas articulated at the bend, which has a crown of short hairs; summit of the awn is **club shaped**

***Aira* spp. A.** Awns of the lemmas not articulated at the bend, not club shaped; **glumes clearly passing the summit** of the 2nd floret



***Deschampsia* spp. P.** Awns of the lemmas not articulated at the bend, not club shaped; **glumes barely or not reaching the summit** of the 2nd floret

***Trisetum flavescens* P.** Like *Deschampsia*, but lemmas two toothed rather than 4-toothed



Group VIII: Loose panicle, 2+ fertile (hermaphrodite) florets, membranous ligule, awn terminal/sub-terminal/absent; very long glumes

(3 species, 0 in our area) *Melica* (see group IV), *Avellinia*, *Airopsis*

● = spikelet ● = glumes ● = lemma/palea (glumelles) ● = ligule

Group IX: Loose panicle, 2+ fertile (hermaphrodite) florets, membranous ligule, absent or terminal/sub-terminal awn; short glumes:

(95 species, 51 in our area) *Catapodium*, *Dactylis*, *Briza*, *Bromus* (incl. *Bromopsis*, *Ceratochloa* et *Anisthanta*), *Ampelodesmos*, (*Vulpia* –see group I), *Festuca* (incl. *Patzkia*), *Catapodium*, *Schedonurus*, *Sphenopus*, *Glyceria*, *Cutandia*, *Poa*, *Catabrosa*, *Puccinellia*, *Drymochloa*

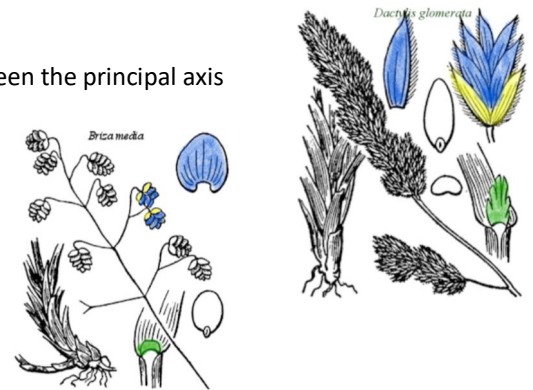


Main species in the Cévennes:

Group IX. a) Spike with a characteristic form

***Dactylis glomerata* A.** Spikelets in compact bunches, branches naked between the principal axis and these bunches. Leaf-sheaths very flattened

***Briza* spp. A & P.** Spikelets drooping and trembling



Group IX. b) Lemma or glumes with awns

***Bromus* spp. (incl. *Bromopsis*, *Ceratochloa* et *Anisthanta*)** Lemmas split/two-toothed with a subterminal awn; spikelet longer than 15 mm (without awns); leaf-sheaths (and often leaves) frequently velvety **see next page**

***Festuca* spp. (incl. *Patzkia paniculata*)** Lemmas entire/toothed with a terminal awn (sometimes subterminal < 0.5 mm from the summit); spikelets compressed laterally; leaf-sheaths little or not compressed; lower glume > 2/3 upper glume. **Basal leaves very narrow with the blade folded from the base, < 3.5 mm wide see next page**



Group IX. c) Lemma or glumes without awns (or at most a small point < 0.5 mm). Spikelets with medium or long stalks, spike not divaricate or unilateral

***Glyceria* spp., *Poa* spp. see next page**



Group IX. d) Lemma or glumes without awns

Spikelets with a very short stalk, spike divaricate or unilateral

***Catapodium rigidum*, *Schedonurus pratense*, *Schedonurus arundinaceum* see next page**



Group IX. b) cont./

Bromus species in FlorMed (15 in our area) : divided by TelaBotanica/FloraGallica (and thus Naturescene) in 4 genera:

Group 1 : Bromopsis (= Bromus subgenus Festucoides)

Lemmas bi-toothed, by less than 0.5 mm; lower glume with 1 vein

Group 2 : Ceratochloa (= Bromus subgenus Ceratochloa)

Lemmas bi-toothed, by less than 0.5 mm; lower glume with several veins

Group 3 : Bromus (= Bromus subgenus Bromus)

Lemmas bi-toothed, by more than 0.5 mm; lower glume with several veins

Group 4 : Anisthanta (= Bromus subgenus Stenobromus)

Lemmas bi-toothed, by more than 0.5 mm; lower glume with 1 vein

Group IX. b) cont./

Festuca species (17 in our area) :

Patzkea paniculata (= Festuca paniculata) Base of plant swollen into a bulb, ligules 2-lobed, forms dense mat

Group 2 in FlorMed

Lemmas smooth or with a narrow membranous border; ligules <0.5 mm ; caryopsis adherent to the palea; **flower-free shoots with leaf-sheaths fused right to the summit**

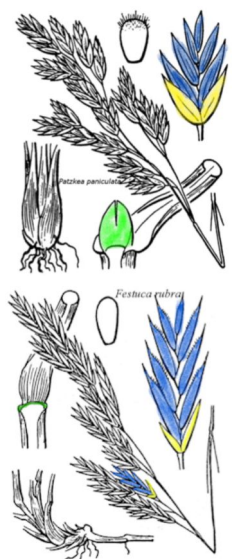
Festuca rubra, Festuca rivularis, Festuca nigrescens, Festuca heteromalla, Festuca heterophylla

Group 3 in FlorMed

Lemmas smooth or with a narrow membranous border; ligules <0.5 mm ; caryopsis adherent to the palea; **flower-free shoots with leaf-sheaths fused for less than 2/3 of length**

Festuca valesiaca, Festuca marginata, Festuca filiformis, Festuca ovina, Festuca airoides, Festuca heteroidea, Festuca billyi, Festuca christiani-bernardii, Festuca auquieri, Festuca longifolia, Festuca arvernensis

(Group 1 in FlorMed Not in our area) Lemmas rough; ligules 1-7 mm ; caryopsis free



Group IX c)

Group IX. c) Lemma or glumes without awns (or at most a small point < 0.5 mm)

Spikelets with medium or long stalks, spike **not** divaricate or unilateral

Spike branched in lower section, spikelets with a very short stalk

Glyceria P. Lemmas 7+ veins, very obvious ; upper glumes with a single, slightly transparent vein

Poa A & P. Lemmas with 3-5 veins ; upper glumes with 3+ veins

● = spikelet ● = glumes ● = lemma/palea (glumelles) ● = ligule



Group IX d)

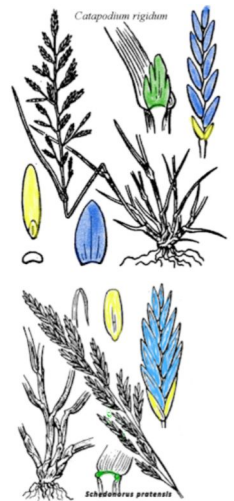
Group IX. d) Lemma or glumes without awns. Spikelets with a very short stalk, spike divaricate or unilateral

Catapodium rigidum A. ligule oblong and torn

Schedonurus pratense P. ligule reduced to 2 lateral auricles, glabrous and fairly pointed

Schedonurus arundinaceum P. ligule reduced to 2 lateral auricles, ciliated and fairly blunt

● = spikelet ● = glumes ● = lemma/palea (glumelles) ● = ligule



Group X Grasses with unusual sexuality

- Lemmas transformed into leafy mini-plants, in place of florets.
- Grasses with apparently no flowers
- Grasses with separate male and female flowers on the same plant (monoecious)
- Grasses with separate male and female flowers on different plants (dioecious)

Main species in the Cévennes:

X. a) 'viviparous':

Lemmas transformed into leafy mini-plants, in place of florets.

(3 species, all in our area) *Poa bulbosa* var. *vivipara*, *Deschampsia caespitosa*, *Molinia caerulea*

Poa bulbosa var. *vivipara* P. see Group IX 10-40 cm, sometimes forms tussocks; stalks swollen as a bulb at the base; very common in our area, normally as the viviparous form

Molinia caerulea P. see Group VI 30-100 cm, thick tough base; hairy ligules; viviparous form not common

Deschampsia caespitosa P. see Group VII 30-150 cm, forms dense tussocks in wet places; never seen the viviparous form yet.

● = spikelet ● = glumes ● = lemma/palea (glumelles) ● = ligule



X. b) Plant monoecious; male inflorescences terminal, without leaves; female inflorescences axillary and enclosed in a leaf-sheath

Zea mays A. Widely cultivated (maize)

X. c) Plant dioecious : impressively tall tufted clump ; spikes 2-3 M

Cortaderia selloana P. Rarely escapes from gardens in our area

X. d) No flowers (except rarely); woody stems

Phyllostachys spp. P. Loose panicle , but flowering rare, and is followed by death of plant
Several species, rarely escapes in our area. The bamboos (includes other rarer genera)

