

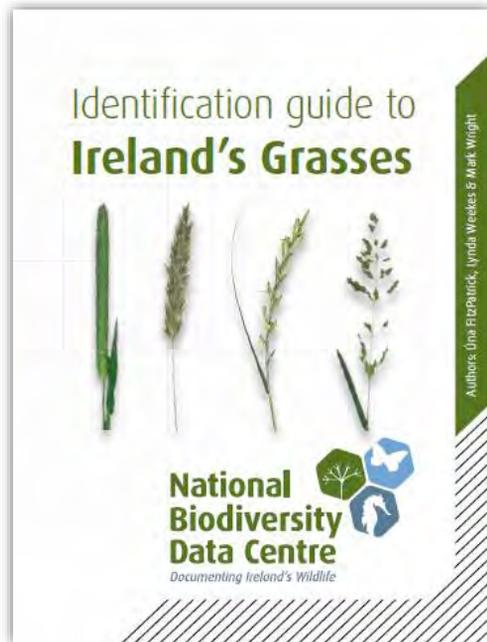
BSBI MINI-WORKSHOP



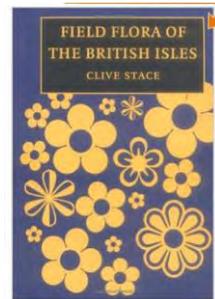
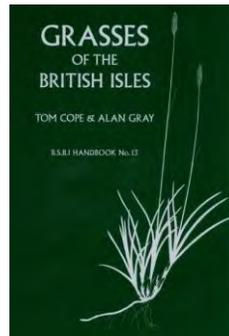
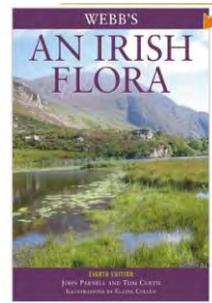
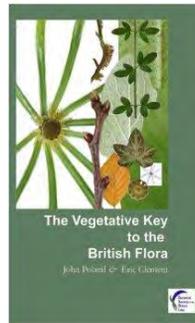
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Tricky Grass Groups

Lynda Weekes



Resources



©James Lindsey@wikicommons

- **Agrostis species (Bent grasses):**
5 species (All native)



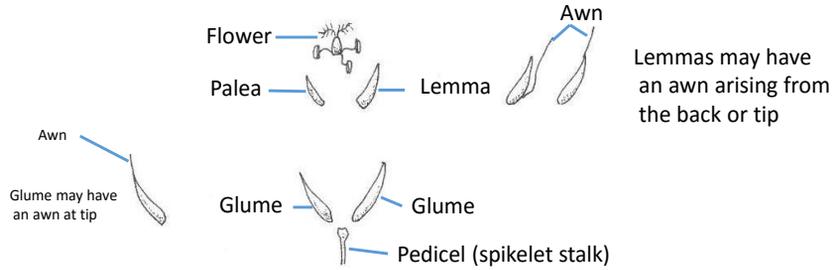
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- **Poa species (meadow-grasses):**
7 species (4 native, 3 introduced)

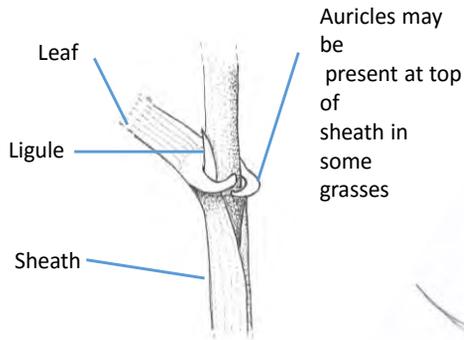
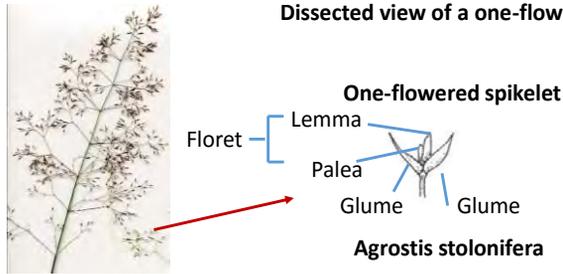
Bromes

SPIKELET STRUCTURE

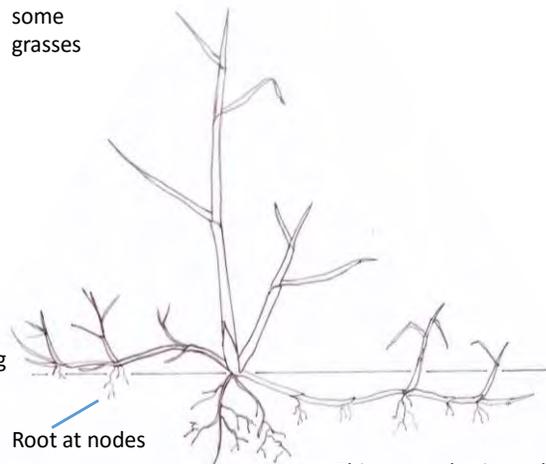
Spikelets are composed of one or more florets enclosed within 2 glumes. Each floret has two 'scales'; the lemma and palea which enclose the flower within.



Dissected view of a one-flowered spikelet



Stolons – horizontal stems that run along surface

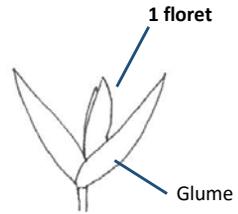


Agrostis spp. (Bent grasses)
Inflorescence a panicle, one fertile floret per spikelet



5 species

Small 1-flowered spikelets
 in a fine feathery panicle



NO awn on the lemma – 3 species

Panicle shape



Agrostis capillaris
 (Common Bent)



Agrostis stolonifera
 (Creeping Bent)



Agrostis gigantea
 (Black Bent)

Panicle very narrow and denser
 than other *Agrostis* spp.

NO awn on the lemma contd.

Agrostis capillaris
(Common Bent)



Ligule very short (up to 1mm)
rounded at tip



Spreads by rhizomes
sometimes stolons.

across habitats
widespread & abundant.

Agrostis stolonifera
(Creeping Bent)



Ligule 1-6mm long
often ragged at tip



Spreads by stolons.

across habitats
widespread & abundant.

Agrostis gigantea
(Black Bent)

A particularly tall grass



Ligules 1.5-6mm long
toothed around tip.

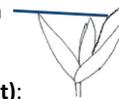


Spreads by rhizomes.

waste ground
occasional.

AWN on the lemma (occasionally awnless) – 2 species

Lemma with awn



Agrostis canina sens. lat.
(Velvet Bent):



Spreads by **stolons rooting at nodes**
Forms a close carpet



Ligule pointed, 2-4mm long **smooth at tip**

Bogs, fens, heaths, mountain grasslands;
abundant.

***Agrostis vinealis* (Brown Bent):**



Spreads by **rhizomes forming dense tufts**



Ligule pointed, 1-5mm long **& ragged at tip**

Heaths, mountain grassland; occasional.

What if occasionally awnless?

Agrostis canina sens. lat.
(Velvet Bent)



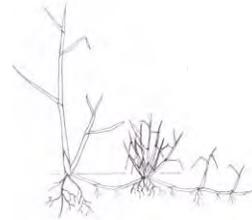
Spreads by stolons.

Agrostis stolonifera
(Creeping Bent)



Spreads by stolons.

Agrostis vinealis (Brown Bent):



Spreads by **rhizomes**
forming dense tufts

Finer-looking panicles

Denser panicles

Ligule smooth at tip

Ligule often ragged at tip

bogs, fens, heaths,
mountain grasslands

across habitats

heaths, mountain grassland

Poa spp. (Meadow grasses)

Inflorescence a panicle, >1 fertile floret per spikelet, glume shorter than lowest lemma



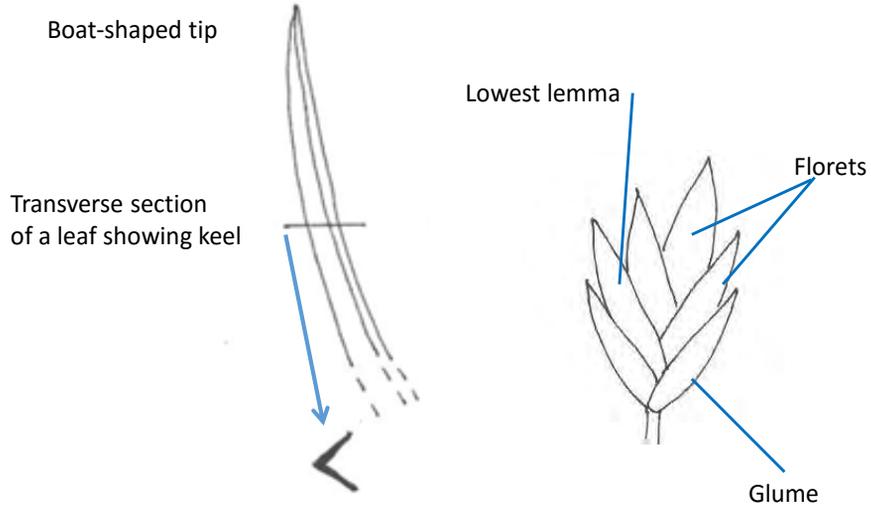
5 native species
2 introduced species

Spikelets flattened, 2-10 flowered

Glumes and leaves keeled

Awnless

Stems slightly or noticeably
flattened



Spikelets Viviparous:

VR *Poa alpina*
(Alpine Meadow-grass)
 Sligo and Kerry
Very rare on mountain cliff ledges
 (Counties Sligo and Kerry)



Don't confuse with *Festuca vivipara*
F. vivipara **P. alpina**
 Bristle like leaves Leaves 2-5mm wide
 Ligule extremely short Ligule up to 6mm

Spikelets not viviparous

Ligule long and pointed (4-10mm)

Poa trivialis
(Rough Meadow-grass)



Leaves taper to a long triangular shaped tip



Damp meadows, waste places; widespread & abundant

Ligules short and blunt

Ligules very short <0.5mm



Poa nemoralis
(Wood Meadow-grass):
 Introduced

Panicle delicate and nodding

Woods and shady areas



© James Lindsey@wikicommons

Plant strongly compressed:

Poa compressa
(Flattened Meadow-grass):
 Introduced

Ligules 0.5-3mm

Panicle stiff

Rhizomes

Dry waste places; rare.



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Ligule short and blunt (1-3mm long)

***Poa pratensis* sens. lat.**
(Smooth Meadow-grass)

P. humilis often included in this species group

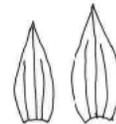
Poa humilis

(Spreading Meadow-grass)

Often confused with *P. pratensis*



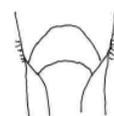
Glumes:
 Lower with 1 vein, upper with 3
 Blunter at tips



Glumes:
 Lower and upper with 3 veins
 Sharply pointed



Not hairy at leaf-sheath junction



Often hairy at leaf-sheath junction

Meadows, waste places; abundant.

Damp meadows, waste places; widespread.

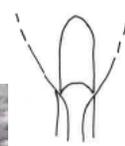
Ligule short and pointed/blunt (2-5mm long)

Poa annua
(Annual Meadow-grass)

Generally a shorter plant

Found flowering all year round

Meadows, waste places; abundant



Transverse wrinkles often on leaves

If very small, and compressed-looking - confusion with *Poa compressa*:

P. annua
Upper glume with 3 veins, lower with 1
No rhizomes (annual)
Ligule more pointed

P. compressa
Upper and lower 3 veins
Rhizomes
Ligule blunt (0.5-3mm)

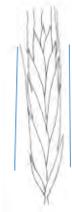
The Bromes

(*Bromus* spp. *Bromopsis* spp. & *Anisantha* spp.)

Inflorescence a panicle, more than 1 fertile floret per spikelet, glume shorter than lowest lemma

Lemmas with awns and leaves and/or stems hairy

<i>Bromopsis</i> spp.	2 species, 1 very rare
<i>Anisantha</i> spp.	3 species, 2 very rare
<i>Bromus</i> spp.	5 species, 2 very rare



***Bromopsis* spp.**
2 species, 1 very rare



***Anisantha* spp.**
3 species, 2 very rare



***Bromus* spp.**
5 species, 2 very rare



***Bromopsis ramosa* (Hairy Brome)**



© Paul Shannon

Spikelets nodding on long drooping branches



© Peter Gateley

Sheaths hairy, has auricles.

Shady woods, waste places widespread.



***Bromopsis erecta* (Upright Brome)**



© Malcolm Storey

Spikelets erect

Sheaths hairless, no auricles.

Waste places, meadows, sand dunes

Most records from east

ANISANTHA spp.

Spikelet parallel sided, and then widening towards the tip as it matures.



Anisantha sterilis
(Barren Brome).
Introduced



© Fabelfrohi@wikicommons

Loose drooping panicle.

Fine rough awn
15-30mm long.

Lower sheaths softly hairy,
upper sheaths usually hairless.

waste places, arable land;
mainly recorded from the east

Anisantha diandra
(Great Brome)
Introduced



© Jenny Seawright

Loose drooping panicle.

Stout rough awn
35-60mm

Lower and upper sheaths
loosely hairy.

waste places, arable land

Anisantha madritensis
(Compact Brome)
Introduced



© Miwasatoshi@wikicommons

Panicle dense, erect.

Fine rough awn
12-18mm long

Lower sheaths softly hairy,
upper sheaths hairless.

waste places

Bromus hordeaceus
(Soft-brome)

Panicle erect and open
Spikelets larger 12-22mm long.



Lemmas hairy keels, blunt at tip. >6mm

Lower and upper sheaths hairy.

Leaves densely hairy.

meadows, waste places
Widespread



© Jenny Seawright

Bromus lepidus
(Slender Soft Brome)
Introduced

Panicle erect and open
Spikelets smaller 7-15mm long



**Lemmas hairless
Two-toothed at tip <6mm**

Lower leaf sheaths hairy,
upper sheaths usually hairless.

Leaves softly hairy

meadows, waste places
Occasional

Bromus racemosus
(Smooth Brome)
rare

Panicle erect and open.

Spikelets 12-16mm long.



**Lemmas hairless,
blunt at tip.**

Lower leaf sheaths hairy,
upper usually hairless.

**Leaves sparsely
hairy underneath.**

Confused with *B. commutatus*

Bromus commutatus
(Meadow Brome)

Panicle loose, drooping
when ripe

Spikelets 18-28mm long.



**Lemmas hairless,
slightly toothed at tip.**

Lower leaf sheaths hairy,
upper sheaths usually
hairless.

**Leaves with very short
hairs**

Confused with *B. racemosus*

Bromus secalinus
(Rye Brome)
Introduced

Panicle erect and open,
but drooping to one side
when ripe.

Spikelets 12-24mm long.



**Lemmas usually hairy
blunt at tip.**

Leaf sheaths usually hairless.

**Leaves long hairs above,
short hairs below.**

THANK YOU

