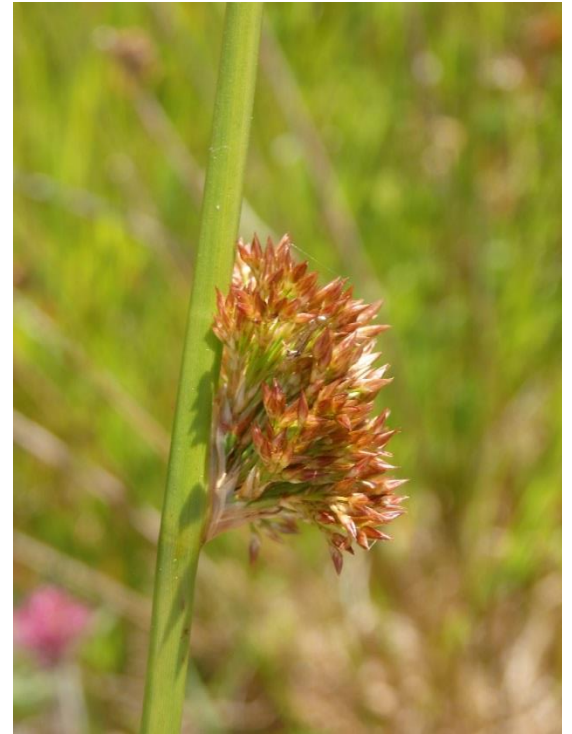


Rushes

ID tips to get you started



Lynda Weekes

Important terminology for rush identification

Flower



Perianth segments

Fruiting capsule



Inflorescence

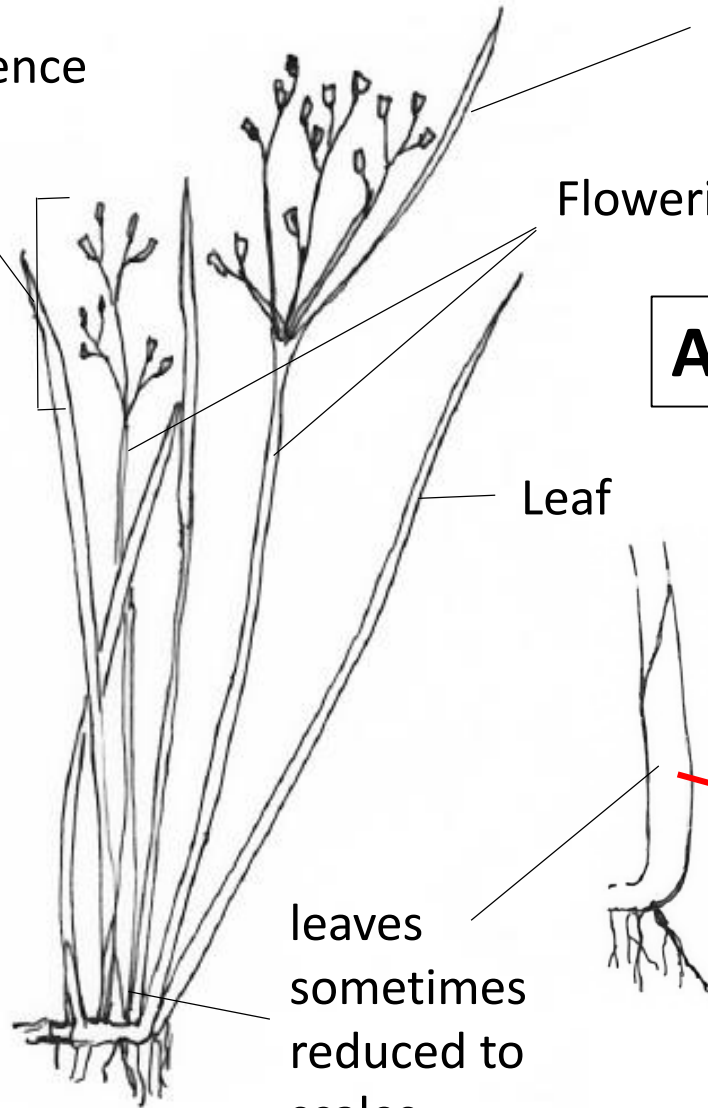
Bract

Flowering stems






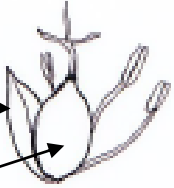
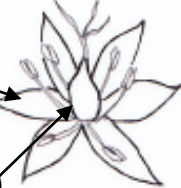
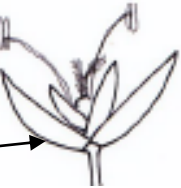
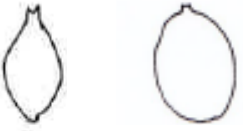


A typical rush

Leaf

leaves sometimes reduced to scales



Grass, sedge or rush?

	Sedges (Cyperaceae)	Rushes (Juncaceae)	Grasses (Poaceae)
Stem	Often triangular Mostly solid 	Mostly rounded 	Rounded Hollow 
Ligule	Often fused 	Often have none	Free along length 
Flowers	Single glume-like scale  Glume → Flower (utricle) →	Six flower segments  Segment → Flower (capsule) →	Two glumes  Glume →
Fruits	Single achene per flower 	Fruit capsule bearing numerous seeds 	Single grain-like seed per flower 

How many Species?



RUSHES	24
<i>Juncus</i>	18
<i>Luzula</i>	6

Is it *Juncus* or *Luzula*?

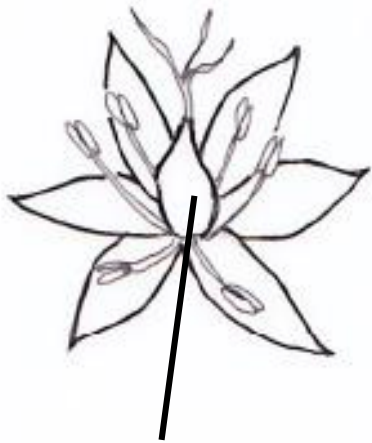
Juncus spp.



Fruiting capsule with **3 seeds within**



Leaves often cylindrical & **hairless**



Fruiting capsule

Luzula spp.



Fruiting capsule with **many seeds within**



Leaves flat & **hairy**

***Juncus* - 18 species**

Juncus filiformis

Juncus inflexus

Juncus effusus

Juncus conglomeratus

Juncus acutus

Juncus maritimus

Juncus articulatus

Juncus acutiflorus

Juncus subnodulosus

Juncus squarrosus

Juncus gerardii

Juncus compressus

Juncus tenuis

Juncus bulbosus

Juncus planifolius

Juncus bufonius

Juncus ranarius

Juncus foliosus

***Juncus* - 18 species**

Juncus filiformis

Juncus inflexus

Juncus effusus

Juncus conglomeratus

Juncus acutus

Juncus maritimus

Juncus articulatus

Juncus acutiflorus

Juncus subnodulosus

Juncus squarrosus

Juncus gerardii

Juncus compressus

Juncus tenuis

Juncus bulbosus

Juncus planifolius

Juncus bufonius

Juncus ranarius

Juncus foliosus

INFLORESCENCE TO ONE SIDE OF STEM

Leaves reduced to scales at base of stem

Juncus filiformis

Juncus inflexus

Juncus effusus

Juncus conglomeratus



J. effusus



- Stem glossy & smooth
- Epidermis easily peeled
- Spongy pith dense

J. conglomeratus



- Stem dull & ridged & bluish
- Epidermis not easily peeled
- Spongy pith irregular spaces

J. inflexus



- Stem obvious ridges
- Epidermis not easily peeled
- Spongy pith with regular air spaces

J. filiformis



- Very slender plant
- Inflorescence from middle of stem
- Very rare
- From Lough Allen

Ivar Leidus

***Juncus* - 18 species**

Juncus filiformis

Juncus inflexus

Juncus effusus

Juncus conglomeratus

Juncus acutus

Juncus maritimus

Juncus articulatus

Juncus acutiflorus

Juncus subnodulosus

Juncus squarrosus

Juncus gerardii

Juncus compressus

Juncus tenuis

Juncus bulbosus

Juncus planifolius

Juncus bufonius

Juncus ranarius

Juncus foliosus

INFLORESCENCE TO ONE SIDE OF STEM

Leaves (non-flowering) and stems (flowering) present

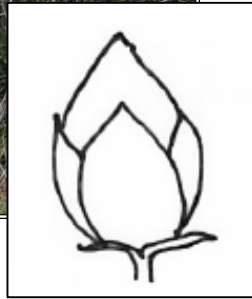
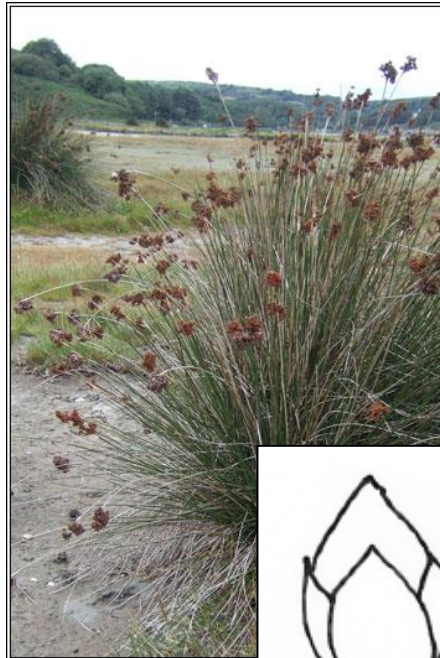
Juncus acutus
Juncus maritimus



J. acutus



Jenny seawright



Both coastal

J. maritimus



M Storey



- Perianth segments shorter than capsule
- Capsule glossy red-brown
- Large tussocks
- Stems dangerously sharp points
- Very rare

- Perianth segments as long as capsule
- Capsule light brown
- Clumps but not large tussocks
- Stems sharp points
- Frequent

***Juncus* - 18 species**

Juncus filiformis

Juncus inflexus

Juncus effusus

Juncus conglomeratus

Juncus acutus

Juncus maritimus

Juncus articulatus

Juncus acutiflorus

Juncus subnodulosus

Juncus squarrosus

Juncus gerardii

Juncus compressus

Juncus tenuis

Juncus bulbosus

Juncus planifolius

Juncus bufonius

Juncus ranarius

Juncus foliosus

INFLORESCENCE AT TOP OF STEM

Leaves hollow with internal transverse partitions



Juncus articulatus

Juncus acutiflorus

Juncus subnodulosus

Juncus articulatus



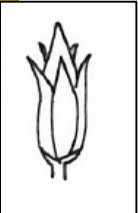
- Leaves transverse sections only
- Leaves flattened
- Often grows parallel to ground
- Capsule rounded tip



Juncus acutiflorus



Jenny seawright



- Leaves transverse sections only
- Cylindrical leaves
- Grows upright
- Capsule sharply pointed

Juncus subnodulosus



- Leaves both transverse and longitudinal partitions
- Perianth segments straw-coloured
- Inflorescence divergent

***Juncus* - 18 species**

Juncus filiformis

Juncus inflexus

Juncus effusus

Juncus conglomeratus

Juncus acutus

Juncus maritimus

Juncus articulatus

Juncus acutiflorus

Juncus subnodulosus

Juncus squarrosus

Juncus gerardii

Juncus compressus

Juncus tenuis

Juncus bulbosus

Juncus planifolius

Juncus bufonius

Juncus ranarius

Juncus foliosus

INFLORESCENCE AT TOP OF STEM

Leaves solid and channelled, 1-2mm wide



Juncus squarrosus
Juncus gerardii
Juncus compressus
Juncus tenuis

J. gerrardii



M Storey

**Both
Coastal**

**Confirmation
by anthers
stigmas and
seed size**

- Stems 3 angled, stiff & erect
- Leaves dull green
- Perianth segments dark brown & pointed
- Frequent

J. compressus



Christian Fischer



Kristian Peters

- Stems flattened, curved
- Leaves blue-green
- Perianth segment pale & blunt
- Very rare (Near R. Shannon)



J. squarrosus

- Leaves tough and waxy
- rosette
- Peaty uplands



J. tenuis

- Obvious long bracts
- Roadside and tracks
- Introduced (N USA)

***Juncus* - 18 species**

Juncus filiformis

Juncus inflexus

Juncus effusus

Juncus conglomeratus

Juncus acutus

Juncus maritimus

Juncus articulatus

Juncus acutiflorus

Juncus subnodulosus

Juncus squarrosus

Juncus gerardii

Juncus compressus

Juncus tenuis

Juncus bulbosus

Juncus planifolius

Juncus bufonius

Juncus ranarius

Juncus foliosus

FLORETS IN CLUSTERS IN BRANCHED INFLORESCENCE

Leaves appear solid <1 wide, flowers often viviparous



Flowers often viviparous



Perianth segments narrow and shorter than capsule

Juncus bulbosus

Stem a two-tubed in cross section (hand lens)



Aquatic form in flowing waters

***Juncus* - 18 species**

Juncus filiformis

Juncus inflexus

Juncus effusus

Juncus conglomeratus

Juncus acutus

Juncus maritimus

Juncus articulatus

Juncus acutiflorus

Juncus subnodulosus

Juncus squarrosus

Juncus gerardii

Juncus compressus

Juncus tenuis

Juncus bulbosus

Juncus planifolius

Juncus bufonius

Juncus ranarius

Juncus foliosus

INFLORESCENCE AT TOP OF STEM

Leaves flat 3-5mm wide



Juncus planifolius



- Confusion with *Luzula* spp. but has no hairs
- Very rare
- Connemara
- Introduced (S. America & Aust)

***Juncus* - 18 species**

Juncus filiformis

Juncus inflexus

Juncus effusus

Juncus conglomeratus

Juncus acutus

Juncus maritimus

Juncus articulatus

Juncus acutiflorus

Juncus subnodulosus

Juncus squarrosus

Juncus gerardii

Juncus compressus

Juncus tenuis

Juncus bulbosus

Juncus planifolius

Juncus bufonius

Juncus ranarius

Juncus foliosus

FLORETS SPACED SINGLY ALONG LENGTH OF STEM

Leaves solid <1 wide very fine and thread-like



Juncus bufonius
Juncus ranarius
Juncus foliosus



Juncus bufonius sensu lato

- used to be one species
- now split up in to 3



Juncus bufonius



- Plant green
- Damp muddy & brackish
- All segments longer than capsule

Juncus ranarius



- Plant light brown
- Salt marshes or calcareous
- Inner segments slightly shorter than capsule

Juncus foliosus



- Plants shiny bright green
- Damp muddy freshwater
- Segments usually dark stripes

***Luzula* - 6 species**

Luzula pilosa

Single floret



Jenny Seawright

Luzula luzuloides

Whitish inflorescence

VR - Co, Fermanagh



James K. Lindsey

Luzula spicata

Drooping inflorescence

VR – 1 record Co. Kerry



Mat Laviin

***Luzula* - 6 species**

Luzula campestris

Often stolons



Dry pastures
Spherical seeds

Luzula multiflora

No stolons



Peaty soil
Oblong seeds

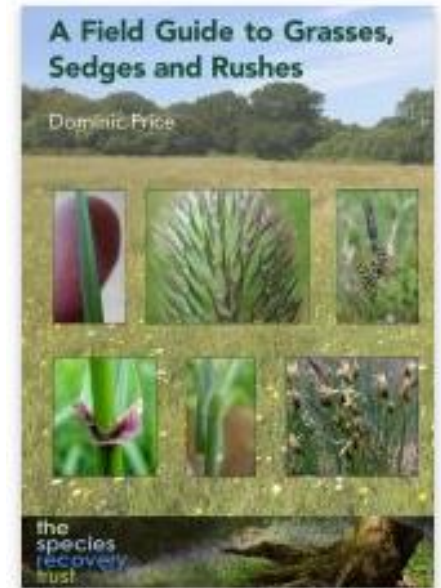
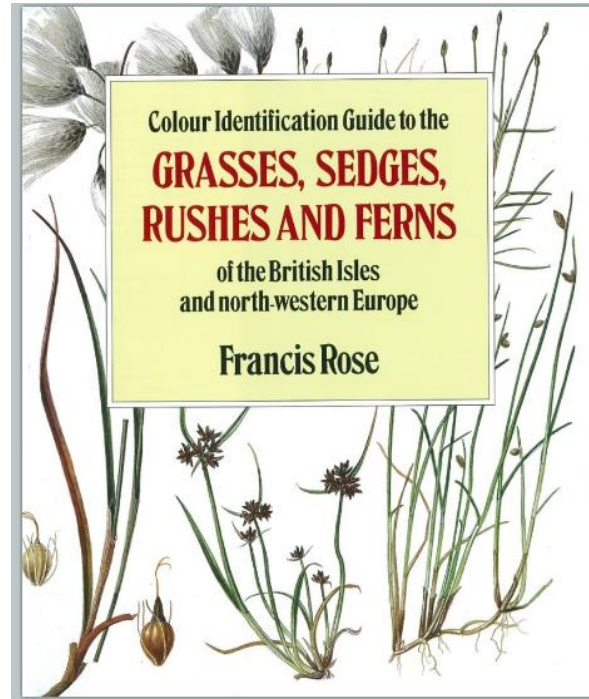
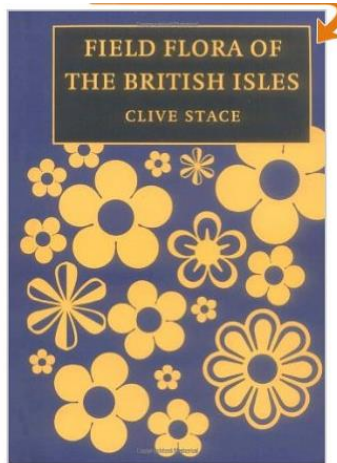
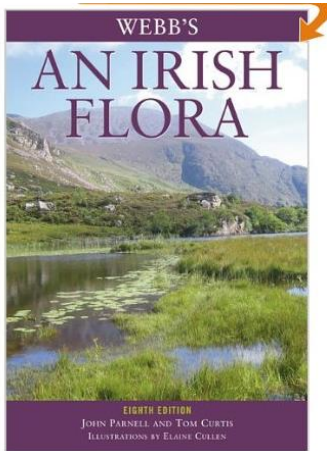
Luzula sylvatica

Wide leaves 6-20mm



Large diffuse
inflorescence

Keys and guides




A National Biodiversity Data Centre: Sedge and Rush guide is planned for 2018.

A Inflorescence to one side of stem. Stems only, leaves reduced to scales at base of stems

Juncus effusus
Soft-rush

VC



Lynda Weekes

- Inflorescence a diffuse cluster when mature
- **Stems glossy and feel smooth to the touch**

Flowering period: July-August



Size: up to 100cm

Habitat: Damp fields, stream sides, ditches, marshes

Distribution: Common and widespread

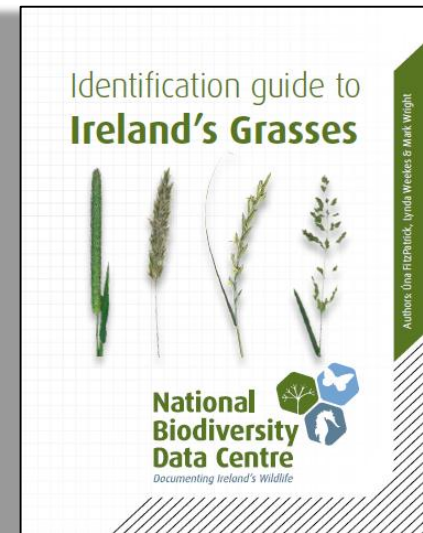
Notes: Spongy pith minute air spaces, easy to separate outer green layer to expose a spongy column. Leaf scales reddish at base of stem

Hybrid:
Juncus inflexus x effusus
known as *Juncus x diffusus*
found occasionally (see page X)



Lynda Weekes

Stems >1.5mm wide, inflorescence arising closer to the top of the stem



Similar format to the
Grass Guide.

