

Juncaceae

rush family

There are about 300 species of rushes worldwide, split amongst eight genera. Nova Scotia hosts only two genera. Resembling grasses and sedges, a closer examination reveals the presence of a three-merous perianth. A superior ovary forms three (or many) seeds within a capsule. The inflorescence is generally of tight clusters of heads or cymes, subtended by an involucre leaf. The culms are simple, round or flattened and sometimes septate. Plants are rhizomatous or caespitose.

Seeds are required to confirm identity. The persistent stamens are also important characters.

Key to genera

Plants of wetlands; never pubescent.

Juncus

Plants of dry soils; generally pubescent especially on the stems and leaves.

Luzula

Juncus L.

rushes

A worldwide genus of 200 species, these plants are perennial wetland species borne on simple hollow or solid stems. Leaves are linear with revolute margins. The cymes comprise green or brown flowers, producing capsules with many seeds, which may have appendages. Tepals are present, 4–6 in two whorls. Stamens number 2–6.

Key to species

- A. Inflorescence appearing lateral. B
 - B. Culms caespitose; stamens 3. *Juncus effusus*
 - bb. Culms erect from creeping rhizomes; stamens 6. C
 - C. Inflorescence about midway on the stem. *J. filiformis*
 - cc. Inflorescence much closer to the top. *J. arcticus*
- aa. Inflorescence terminal. D
 - D. Leaves flat or rounded, channelled, never hollow nor septate. E
 - E. Annual; inflorescence half or more the entire height. *J. bufonius*
 - ee. Perennial; inflorescence one-quarter or less entire height. F
 - F. Plant with creeping or floating stems; forms dense mats. *J. bulbosus*
 - ff. Culm erect or almost erect. G
 - G. Inflorescence of 1–2 heads, each with 1–4 H

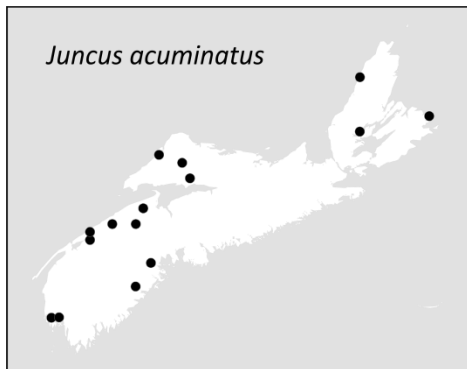
flowers.		
H. Capsule <3.5mm long; northern Cape Breton.		<i>J. trifidus</i>
hh. Capsule >6mm long; bogs throughout Cape Breton.		<i>J. stygius</i>
gg. Inflorescence much-branched, of numerous flowers.		I
I. Culms with at least 1 leaf on the upper half.		J
J. Leaves flat, to 3mm wide; capsule 2.5mm long; sepals bristled or acuminate; freshwater marshes, meadows.		<i>J. marginatus</i>
jj. Leaves <1mm wide, becoming revolute; sepals inrolled at the tip; capsule 2.4–3.3mm long; salt marshes.		<i>J. gerardii</i>
ii. Leaves strictly basal, except for the involucre.		K
K. Leaves flat.		L
L. Capsules with 3 locules.		<i>J. secundus</i>
ll. Capsule with a single locule or incomplete multiples.		M
M. Leaf sheath auricles pointed, membranous, extending at least 1mm above leaf base.		<i>J. tenuis</i>
mm. Leaf sheath auricles rounded, leathery and not extending beyond leaf base.		<i>J. dudleyi</i>
kk. Leaves round.		N
N. Capsules greenish; seeds with long white appendages.		<i>J. vaseyi</i>
nn. Capsule brownish; seeds with short appendages only.		<i>J. greenei</i>
dd. Leaf blades, round, hollow and septate.		O
O. Flowers single or paired along the branches of the inflorescence.		<i>J. pelocarpus</i>
oo. Flowers in glomerules or heads.		P
P. Seeds with white appendages.		Q
Q. Leaves and stems rough; seeds		<i>J. caesariensis</i>

2–2.3mm long.		
qq. Leaves and stems smooth; seeds <1.9mm long.		R
R. Capsule barely exerted; appendage at least 2/3 length of seed body.	<i>J. canadensis</i>	
rr. Capsule strongly exerted; appendages <1/2 length of seed body.		S
S. Inflorescence with erect branches, to 5 times tall as wide.	<i>J. brevicaudatus</i>	
ss. Inflorescence open, diffuse, its branches spreading.		T
T. Appendages 1/5 length of seed body; tepals blunt.	<i>J. brachycephalus</i>	
tt. Appendages 1/3 length of seed body; tepals narrowly acuminate.	<i>J. subcaudatus</i>	
pp. Seeds without white appendages.		U
U. Stamens 3; seeds tiny <.4mm long.	<i>J. acuminatus</i>	
uu. Stamens 6; seeds >.4mm long.		V
V. Heads spherical.	<i>J. nodosus</i>	
vv. Heads not spherical.		W
W. Lower leaf on the culm, erect, exceeding the inflorescence; culm to 1m.	<i>J. militaris</i>	
ww. Lower leaf on the culm not exceeding the inflorescence; culm to 20cm tall.		X
X. Branches of inflorescence spreading.	<i>J. articulatus</i>	
xx. Branches strongly ascending.	<i>J. alpinoarticulatus</i>	

***Juncus acuminatus* Michx.**
jonc à tépales acuminés



Photo by Roger Lloyd



A slender rush, not exceeding 80cm in height, it bears septate leaves. Densely packed flower heads comprise the inflorescence, each with at least 10 flowers. Stamens number three. The lanceolate tepals are about equal in length to the stramineous capsule. Seeds are without tails, a character that separates it from *J. canadensis*.

Flowers and fruit produced from late May until August.

Frequents sand and mud flats, clay soils as in sterile meadows or ditches.

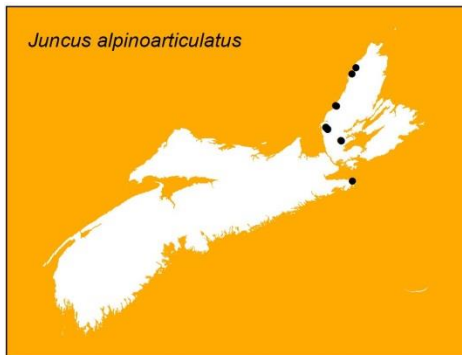
Scattered and local from Yarmouth Co. to Lunenburg, Kings and Cumberland counties and infrequent to Baddeck, Victoria Co.

Ranges from NS; QC to ON, south to FL, TX and CA. West coast. Absent from the prairies and plains.

***Juncus alpinoarticulatus* Chaix**
Richardson's Rush; jonc alpin



Photo by Sean Blaney



Rarely exceeding 50cm in height, this slender species produces a narrow inflorescence at least twice as long, as it is wide. The branches bear few flower-heads, each with 1–10 flowers. The tepals are lanceolate and blunt-tipped and of similar length as the mature capsule. Stamens six.

Forms hybrids with *J. articulatus* called *J. alpiniformis* Fernald which is known from NB and not yet reported from NS.

Flowers and fruit produced during July and August.

Frequents wet shores, marshes, especially in calcareous substrate.

An uncommon species, known only from northern Cape Breton and a Guysborough Co. locality.

Ranges from NL to AK, south to UT, MI and PA.; Greenland; Eurasia.

STATUS: ORANGE-listed.

***Juncus arcticus* Willd.**
jonq arctique



This rush is a slender plant, 30–50cm tall arising from creeping rhizomes. It forms dense colonies. The inflorescence arises from one side of the culm and is overtopped by an involucre leaf. 5–12cm tall. Leaves are absent. Tepals are lanceolate, marked by a purplish stripe on either side of the midrib. Capsule is brown and tapers to a narrow beak, equal to the length of the perianth.

Ours belongs to var. *balticus* (Willd.) Trautvetter.

Photo by David Mazerolle



Photo by Roger Lloyd

Flowers early, from May to September.

Frequents bogs, meadows and upper reaches of saltmarshes.

Common, especially along the coast.

Ranges from NF to AK, south to CA, TX and VA.

***Juncus articulatus* L.**
jonc articulé



Photo by David Mazerolle

Short in stature, it ranges from 20–40cm, bearing 2–4 narrow septate leaves. The inflorescence is 2–5cm tall, its branches irregularly spreading and with many heads of flowers. Capsules are dark brown, exerted beyond the acuminate tepals. Appendages are absent. Stamens number six.

Hybrids formed with *J. brevicaudatus* are known as *J. x fulvescens* Fern. and those with *J. canadensis* are known as *J. x lemieuxii* B. Boivin.



Photo by Roger Lloyd

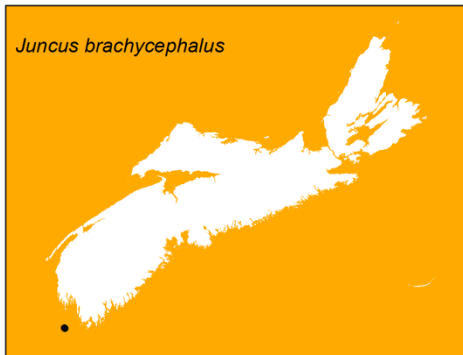
Flowers and fruits produced during July and August.

Found in wet soils in fields, ditches, muddy shores and swamps.

Found throughout and one of our most common *Juncus* species.

Elsewhere from NF to AK, south to NC, TX and CA; Eurasia.

***Juncus brachycephalus* (Engelm.) Buchenau**
jonc à têtes courtes



A slender species to 70cm in height, it has a large expansive inflorescence. The sepals are noticeably shorter than the petals, and have papery margins

Produces flowers and fruits from July to September.

Habitats are calcareous, meadows and shorelines.

Collected from Seal Island, Yarmouth Co. and reported from mainland Yarmouth Co. and Cape Breton.

Ranges from NS to ON, south to GA, AL and OK.

STATUS: ORANGE-listed

***Juncus brevicaudatus* (Engelm.) Fern.**
jonc brévicauté



Photo by Roger Lloyd

A slender cespitose species, it rarely exceeds 50cm in height. The inflorescence has strongly ascending branches, taller than wide. The tepals are shorter than the exerted capsule. Seeds bear tails about half as long as the seed body.

Flowers and fruits produced June to September.

Found in damp substrates in ditches, meadows, swamps, estuaries and fresh water beaches.

Common throughout.

Ranges from NL to BC, variously south to NC and MN.

Juncus bufonius* L.*Toad Rush; jonc des crapauds***Photo by Sean Blaney**Photo by Roger Lloyd*

A highly variable annual species, 10–15cm in height, it has very slender leaves less than 1mm wide. The flowers are single or paired along the branches. Capsule is exceeded in length by the tepals. Smaller and more compact than *J. pelocarpus*, it also has no leaves amongst the flowers.

Flowers and fruit produced from June through to November.

Found in open areas, especially roadside and in farmyards where soil compaction is evident. Also tolerates peatlands and lakeshores.

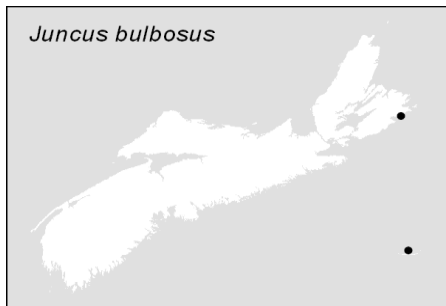
Common throughout.

Ranges across the continent; Greenland and Eurasia.

***Juncus bulbosus* L.**
jonc bulbeux



Photo by Roger Lloyd



Stems of this small rush creep along the substrate or form tangled mats of vegetation. The culms arise from the nodes, bearing a simple inflorescence of 1–6 small heads, each with only a few flowers. The capsules are shorter than the tepals. *J. compressus*, another introduced rush, is very similar to this. It has been reported from Guysborough Co., but requires verification. The only character difference, is in the exerted capsules of *J. compressus*.

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Flowers and fruits produced late July until September.

Found along the edges of fresh water: ditches, ponds, canals, and especially in disturbed alkaline conditions.

Sable Island; eastern Cape Breton.

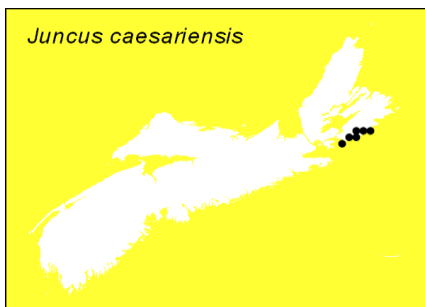
Elsewhere listed from NF, NS, MA;BC to OR. Introduced from Europe.

***Juncus caesariensis* Coville**

New Jersey Rush; jonc du New Jersey



Photo by Roger Lloyd



This cespitose rush reaches from 40–70cm in height. Panicle branches bear clusters of small greenish flowers, each with six stamens. The involucral bract is inconspicuous. Fruit is acutely pointed at maturity and exerted from the perianth. They are dark brown. Seeds bear well-developed appendages. Culm and leaves are rough to touch, like sandpaper, the leaves distinctly marked by septae.

Flowers and fruits produced from July through October.

Grows in peatlands, such as bogs and fens along Cape Breton's southeastern coastal plain.

Known from Gracieville, Lower L'Ardoise to Fourchu, inland to Loch Lomond, all in Cape Breton.

Elsewhere known from NJ to NC; NS.

STATUS: YELLOW-listed.

***Juncus canadensis* J. Gray**
jonc du Canada



Photo by Roger Lloyd

More robust and coarser than most rushes, it may reach 1m in height. The inflorescence is variable, the branches ascending or spreading. Flower-heads are often hemispheric. Brown capsules equal to or only slightly exceed the length of the perianth, containing long-tailed seeds. Leaves are marked by septae.

Flowers and fruits produced from July until October.

Found in wet soils, and often emergent from shallows.

Abundant and common in NS.

Ranges from NF to MB, south to FL and LA; BC to OR.

***Juncus dudleyi* Wieg.**
(=*J. tenuis* var. *dudleyi* (Wieg.) FJ Hermann)
jonc du Dudley



Photo by Roger Lloyd

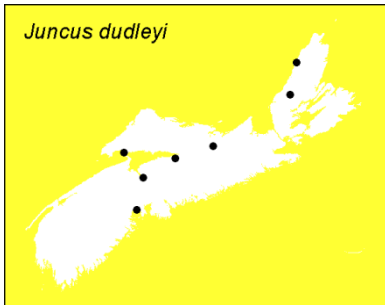
A perennial species to 1m in height, it has densely branching rhizomes. Culms number up to 20 per plant. There are 2–3 basal leaves, their blades flat. Sheaths have yellowish leathery auricles. The inflorescences are compact to loose and lax, with up to 80 flowers in heads. The involucrel bract usually exceeds the flowers. Tepals are nearly equal in size and spreading in fruit. Capsules are tan.

Flowers and fruits midsummer.

A generalist in habitat.

Known from Annapolis, Hants and Lunenburg counties.

Elsewhere known from NL to YT, south to CA, TX and AL; SC.



***Juncus effusus* L.**

(incl. *J. pylaei* Laharpe and *J. conglomeratus* L.)

Soft Rush; jonc épars Darbyshire



Photo by Roger Lloyd

A highly variable species, it now includes those forms listed above, based upon inflorescence form and pedicel length. Culms are densely cespitose and may exceed 1m in height. The culm above the inflorescence is much shorter than that below. Towards the base, there are at least 30 fine longitudinal lines. Leaves are absent.

North American material requires further study from a continental perspective prior to suggesting appropriate species or subspecies from this complex.

Frequents peatlands, such as swamps, thickets, pool margins.

Scattered throughout and fairly common.

Ranges from NL to MB, south to TX and F; AK to AZ. Absent from the high arctic and some of the plains region.

***Juncus filiformis* L.**
jonc filiforme



Photo by Roger Lloyd

A slender perennial species, its stems arising in rows from short rootstocks, no taller than 50cm. The inflorescence is lateral and has much fewer flowers than does *J. effusus*, arising about midway along the culm. The tepals are light brown or green, to 4.2mm long. Seeds have no tails.

Flowers and fruiting from June through August.

Found on lakeshores, in meadows, ditches and swales.

Scattered throughout Nova Scotia.

Ranges from NF to AK and variously south to OR, NM and WVA; Greenland.

***Juncus gerardii* Loisel**
Black Grass; jonc de Gérard



Photo by David Mazerolle

A small colonial rush, it rarely exceeds 30cm in height. Its 1–4 leaves arise from below the middle of the culm.

Inflorescence is terminal, 3–7cm tall, the tepals borne on erect or ascending branches. In fruit the sepals curve inward over the fruit. Seed capsules are longer than the perianth, tepals dark brown and even black.

Flowering and fruiting from June to September.

Brackish soils of the upper saltmarshes around the coast;



Photo by Roger Lloyd

dykelands. May form pure stands.

Common throughout.

Ranges from NF to MB; BC; variously south to OR and VA; Greenland.

***Juncus greenei* Oakes & Tuckerman**
Greene's Rush; jonc de Greene



Photo by Roger Lloyd

A tall and slender rush, it bears short basal leaves, round in cross-section. The mature capsules exceed the perianth in length. Seeds are barely 0.5mm long and bear no tails at either end.

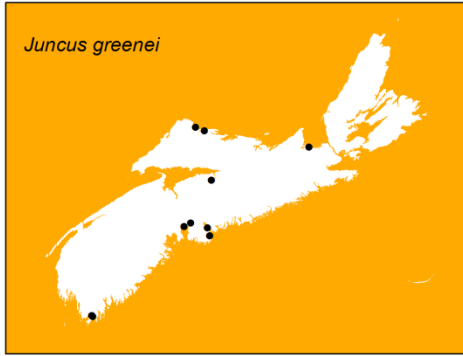
Flowers and fruits produced from June through October.

Found only on sandy soils and in dune hollows.

Frequent where found but known so far only from Shelburne, Halifax, Cumberland and Antigonish counties.

Elsewhere, ranges only from NS to ON, south to IL and NJ.

STATUS: ORANGE-listed in NS.



***Juncus marginatus* Rostk.**
jonc marginé



Photo by David Mazerolle



Photo by Roger Lloyd

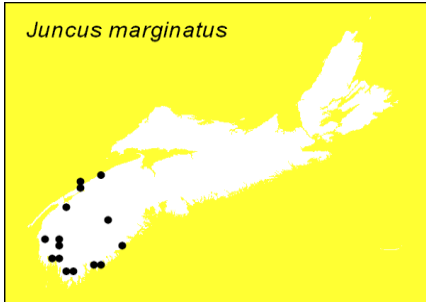
Reaching a height of 20–40cm, this rush has compressed stems and flattened leaves 2–3mm wide. The involucral leaf is much shorter than the inflorescence. Branches of the inflorescence are widely divergent but few. The obovate capsules are crowded into heads, brown or brown-spotted on inconspicuous perianths. Seeds are yellow or light brown.

Flowers and fruits from June through September.

Found in clay soils, along streamsides, or in fields and roadsides.

Local in Yarmouth and Shelburne counties north to Annapolis Co.

Ranges from NS; ON; BC, south to TX and FL; BC to AZ.



***Juncus militaris* Bigelow**
jonc militaire



Photo by David Mazerolle

Distinctive in its size, this rush reaches up to 1.5m in height. The culms are strongly septate. Generally there is at least one leaf arising midway and extending above the flowers. The inflorescence is crowded, freely branching and with many hemispheric flower heads. Capsules are prominently beaked.

Flowers and fruits from late June to September.

Lacustrine: sand and peaty shallows where it is emergent, often forming large colonies.

Common in the southwestern counties and eastward along the Atlantic. Infrequent in the northern waters.

Ranges from Atlantic Canada; ON, south to IN and MD.



Photo by David Mazerolle



Photo by Roger Lloyd

***Juncus nodosus* L.**
jonc noueux



Photo by David Mazerolle

Rarely exceeding 50cm in height this slender species has septate leaves. Leaf sheaths have auricles 1mm high, yellow green in colour. The inflorescence may have a few divergent branches bearing nearly spherical heads crowded with flowers, producing narrow capsules only scarcely longer than the perianth.

A northern species, producing flowers and fruits only in July and August.

Frequents sand and mud, on cobbly shores of lakes and in swales.

From Yarmouth Co. to northern Cape Breton. Few Atlantic collections.

Ranges from NF to AK, south to CA. TX and VA



Photo by Roger Lloyd

***Juncus pelocarpus* E. Meyer**
jonc à fruits bruns



Photo by David Mazerolle

A slender, colonial species, reaching no more than 50cm in height. The leaves are very narrow and septate. Cymes are freely branching bearing solitary or paired flowers. Sometimes, bulblets replace the flowers in the inflorescence.

A rush of bogs and peatlands with fluctuating water levels.

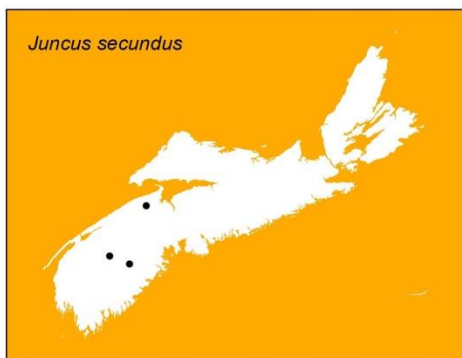
Found throughout the province and especially common in western counties.



Photo by Roger Lloyd

Ranges from NL to ON, south to MN, IN, FL; west coast.

***Juncus secundus* P. Beauv.**
jonc à fleurs unilatérales



Leaves on this rush are short, extending less than a third of the height of the culm. Their sheaths have pale auricles. Involucral leaf is shorter than the inflorescence. Tepals are green and acuminate. Seeds are unadorned by tails. Flowers appear to arise from the inner side of the branches only.

Grows on sterile clay or sandy soils.

Collected only from Kings and Queens counties.

Ranges from NS; ON, variously south to OK, LA and GA.

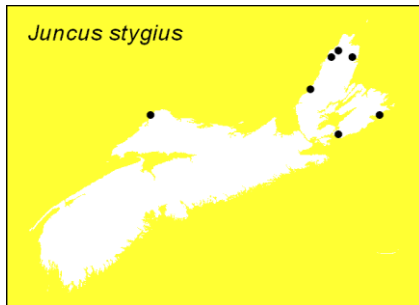
ORANGE-listed in NS.

***Juncus stygius* L.**

Moor Rush



Photo by David Mazerolle



A slender rush, rarely more than 20cm but may reach 40cm tall. One or two short leaves are usually present, marked by imperfect septae. Inflorescence comprises 1–4 flowers in each of 1–2 heads. Capsules are about 6mm long; the seeds may have tails as long as or slightly exceeding their length.

Usually solitary or cespitose, fruiting by July or August.

Bogs, bog pools and wet moss.

Limited to Cape Breton localities, where it may be common but local.

Ranges from NF to AK, south to MN; NY; WY; Eurasia.

STATUS: YELLOW-listed in NS.

***Juncus subcaudatus* (Engelm.) Coville & Blake**

jonc subcaudé



Photo by Martin Thomas

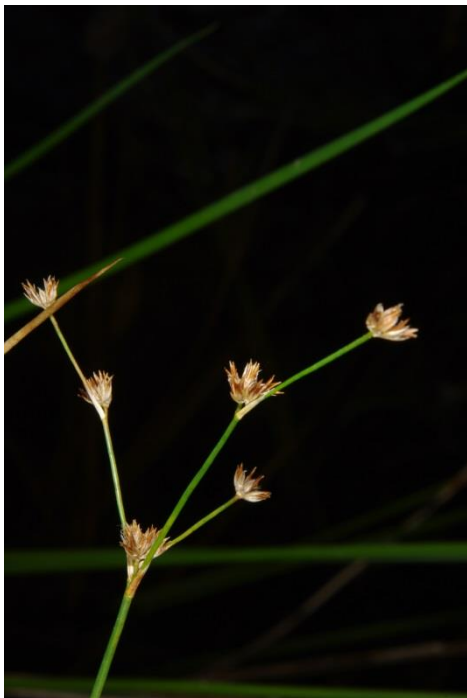


Photo by Martin Thomas

A taller rush, from 30–80cm but slender. The inflorescence is diffuse, its lowermost branches nearly horizontal. Flower clusters may have few flowers or many. Perianth has acute petals and short sepals. The capsules are exerted beyond the perianth. Although similar to *J. canadensis*, it differs in having smaller seeds to 1mm long and shorter tails.

Flowers and fruits produced from July through October.

Conifer woods and spruce swamps, where substrate is soggy.

Scattered from Yarmouth to Kings and Halifax counties. Richmond Co.

Ranges from NF; NS; ME to MO, AL and GA.

YELLOW-listed in NS.

Juncus tenuis* Willd.*jonc grêle***Photo by Roger Lloyd*

Another slender species, ranging from 20–40cm tall and bearing narrow leaves below the middle of the culm. The sheath has a papery projection above the leaf base. The inflorescence has divergent branches; the flowers are secund.

Flowers and fruits from June through September.

A generalist found in fields, along roadsides and in meadows.

Abundant throughout.

Found throughout the continent.

Juncus trifidus* L.*Highland Rush; jonc trifide***Photo by Roger Lloyd*

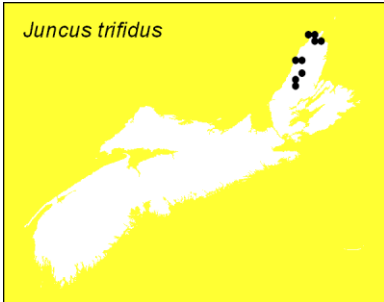
Arising on slender culms at least 20cm in height, this rush produces 2–4 leaves at most. The leaf sheaths are persistent at the base. Inflorescence is usually a solitary flower head, of 2–4 brownish flowers. The involucre extends above the flowers. Capsules are slender and beaked, the beak extending beyond the tepals.

Flowers and fruits from June through August.

Found in dry crevices of cliffs and headlands; barrens on the plateau.

Limited to northern Cape Breton.

Found from NU south to NC and TN; Greenland; Eurasia.



***Juncus vaseyi* Engelm.**
Vasey's Rush; jonc de Vasey



Photo by David Mazerolle

Standing about 50cm tall, this rush produces basal leaves, round in cross-section. The inflorescence is short and compact terminal on the culm and subtended by an involucre leaf extending above it. Capsules are about 5mm long, extending beyond the perianth at maturity. Seeds bear whitish tails at both ends, a distinguishing feature of this species.

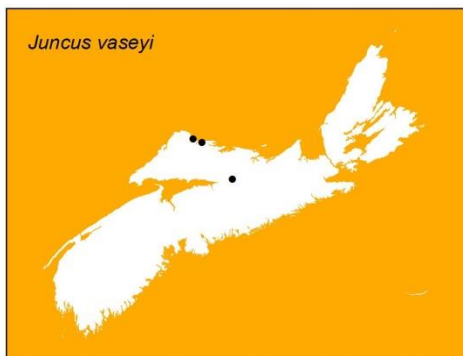
Flowers and fruits in July.

Grows on acidic substrates as on lakeshores and in bogs.

Found only once so far as known, at Linden Cumberland Co.

Ranges from NS to NT, south to UT, IL and VT.

STATUS: ORANGE-listed in NS.



Luzula DC
wood-rushes

Resembling the genus above, they differ mainly in the presence of pubescence in the axils of the leaves. Flowers also tend to be thin and papery in *Luzula* rather than green and substantial. Seeds number three.

Key to species

- A. Flowers solitary, less frequently in pairs in each head. B
 - B. Inflorescence an umbel; early spring flowers. *Luzula acuminata*
 - bb. Inflorescence diffuse, with many branched rays; mid-summer flowers. *L. parviflora*
- aa. Flowers >2 in each cluster or head. C
 - C. Flowers white, 3–6 per head. *L. luzuloides*
 - cc. Flowers few to many per cluster; pale to dark brown. D
 - D. Inflorescence small and interrupted; arching or nodding. *L. spicata*
 - dd. Inflorescence not interrupted, erect. *L. multiflora*

***Luzula acuminata* Raf.**

luzule acuminée



Ranging from 15–30cm tall, this wood-rush produces basal and cauline leaves, the lower ones to 8mm wide. The leaves, stems and flowers are pubescent at their bases only. Straw-coloured flowers bearing three stigmas are arranged in an umbel, 1–2cm in diameter. Pedicels elongate and become lax in fruit. Capsules exerted from the perianth.

Becomes conspicuous in early May in flower and fruit.

Mixed or deciduous forests, along banks and in thickets.

Scattered to common throughout.

NL to AB, south to SD, LA and FL.

Photo by Sean Blaney



Photo by David Mazerolle

***Luzula luzuloides* (Lam.) Dandy and Wilmott**
Forest Wood-rush; luzule blanche



Photo by Roger Lloyd

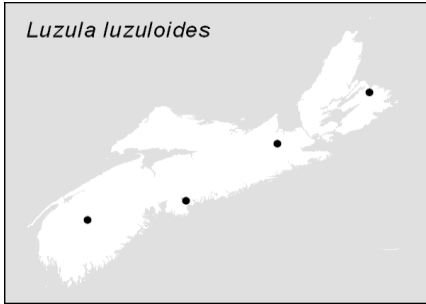
White flowers are arranged in clusters of 2–8, producing reddish capsules. The leaves are long-acuminate.

Flowers and fruits in June.

A weedy species of grasslands.

Scattered to common where found. So far known only from Kejimikujik National Park, Halifax and Sydney.

NS; QC to ON, south to WS, MN and PA. Introduced from Europe.



***Luzula multiflora* (Retz.) Lejeune**
Common Wood-rush; luzule multiflore



Photo by Roger Lloyd

A variable species, but generally it has an ample inflorescence of 3–16 clusters of brown flowers. The leaf sheaths bear copious tufts of spreading pubescence. We have two subspecies.

Tepals of both whorls similar in colour and the presence of acute tips. *ssp. multiflora*

Tepals of both whorls dissimilar in both colour and tips. *ssp. frigida* (Buch.)
Krek.

Flowers and fruits from June through August.

Found in fields, barrens, headlands and open forest.

Abundant throughout Nova Scotia.

Ranges from NF to AK, south to NC, NM and CA; Greenland; Eurasia.

***Luzula parviflora* (Ehrh.) Desv.**

Small-flowered Wood-rush; luzule parviflore



Photo by David Mazerolle

A taller species than our other *Luzulas*, reaching 80cm under optimal growth. Branches of the inflorescence are further divided distally. The flowers are stramineous and nearly transparent, producing brown capsules.

Flowers and fruits throughout the summer.

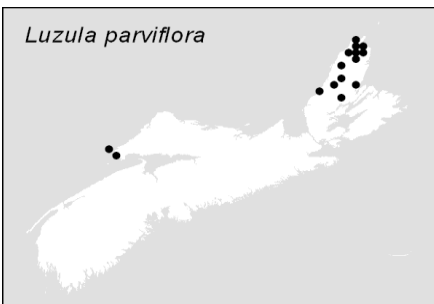
Grows on alluvial soils in intervale forests and rocky streambeds.

Scattered in northern Cape Breton and west to the coastal areas of Cumberland County, where it is rare.

Ranges from NL to AK, south to NY, CA and NM; Greenland; Eurasia.



Photo by Roger Lloyd



***Luzula spicata* (L.) DC**

Spiked Wood-rush; luzule en épi



Arising on reddish stems, the plants reach 10–40cm in height. The inflorescence is lax or arcuate. The sepals are bristle-tipped and the floral bracts are silver, exceeding the flowers.

Flowers and fruit from June through August.

Exposed cliffs and headlands.

Only known from Bay St. Lawrence, Victoria Co. No NS collections are extant.

Ranges from NF to AK, south to NY, NM and CA; Greenland; absent from NB, ON and SK.