Asteraceae
aster family

Worldwide, the aster relatives comprise a vast family, with around 20,000 species. Nearly 10% of Nova Scotia's flora consists of members of this family, at 160 plus species of annual or perennial herbs.

Formerly known as the Compositae, that name best describes the flower structure of the family. The 'flowers' are actually composite clusters of small florets upon a common receptacle. Some florets are disk florets, individuals of a tubular form and forming a disk or button. Other florets are ray florets, straplike in outline and tubular only at the base; these have the appearance of petals, although each is actually a functional flower.

Species may have only disks (discoid) or only rays (ligulate), or they may have both (radiate) types of flowers within the heads. The florets contain an inferior ovary producing an achene. The calyx is reduced to a pappus which is an assemblage of scales, teeth or bristles. In some cases, the pappus is absent.

The receptacle may be scaly or chaffy and may or may not be subtended by an involucre.

Identification is made easier if both flowers and fruit are present. To assist in separating the large numbers of species, several keys follow, firstly based on the floret arrangements.

Key

Heads radiate.	
Ray florets yellow or orange.	Key 1
Ray florets not yellow or orange.	Key 2
Heads discoid.	Key 3
Heads ligulate.	Key 4

Key 1
Flowers radiate, rays yellow or orange

A. Receptacle chaffy.	B
B. Leaves opposite, at least basally.	C
C. Plants >1m height; disk >1cm; leaves simple.	*Helianthus*
cc. Plants <1m height; disk <1cm across; leaves simple or compound.	*Bidens*
bb. Leaves alternate.	D
D. Involucral bracts dry and scarious; margin not green; receptacle slightly convex.	*Anthemis*
dd.Involucral bracts herbaceous, with green margins; receptacle strongly convex.	*Rudbeckia*
aa. Receptacle naked.	E
E. Pappus a short crown of obvious scales or awns.	F
F. Pappus a short crown; disk yellow.	G
G. Rays <5mm long.	*Tanacetum*
gg. Rays 6 or more mm long.	*Leucanthemum*

ff. Pappus of scales or distinct awns; disk purple or brown. *Helenium*
ee. Pappus filiform bristles, sometimes with shorter outer bracts. H
H. Leaves opposite. *Arnica*
hh. Leaves basal or cauline leaves alternate. I
I. Involucre of a single series. J
J. Cauline leaves reduced to bracts; flowering before leaves appear. *Tussilago*
jj. Cauline leaves present; flowers after leaf-out. K
K. Leaves mostly basal, few cauline leaves. *Packera*
kk. Stem leafy, leaves reducing in size upward gradually. *Senecio*
ii. Involucre of overlapping scales, in several series. L
L. Inflorescence of several heads; disks 2–5cm across. M
M.Annual; involucres <8mm in dia. *Dittrichia*
mm Perennial; involucres >10mm in dia. *Inula*
ll. Inflorescence of many small heads; disks <1cm. N
N. Leaves with resin dots; inflorescence flat-topped, corymbiform. *Euthamia*
nn. Leaves without resin; inflorescence not as above. *Solidago*

Key 2
Flower-heads radiate, not yellow nor orange

A. Receptacle chaffy. B
B. Leaves mostly or entirely opposite. C
C. Pappus of numerous scales; flower heads small; rays white; weedy. *Galinsoga*
cc. Pappus absent or a minute cup; heads large; rays pink (white); lacustrine coastal plain. *Coreopsis*
bb. Leaves alternate. D
D. Heads large, terminal on the branches; rays white, 5–13mm long. *Anthemis*
dd. Heads small, inflorescence corymbiform; rays white (pink), 1-5mm long. *Achillea*
aa. Receptacle naked. E
E. Pappus absent or a short corona. F
F. Leaves all basal. *Bellis*
ff. Leaves basal and cauline. G

G. Receptacle flat or convex; leaves lobate and toothed, but not finely dissected. H

H. Plant aromatic. *Tanacetum*

hh. Plant not aromatic. *Leucanthemum*

gg. Receptacle conical or slightly domed; leaves finely dissected. I

I. Plant aromatic. *Matricaria*

ii. Plant not aromatic. *Tripleurospermum*

ee. Pappus of filiform bristles. J

J. Basal leaves large, white-tomentose below, lobate. *Petasites*

jj. Basal leaves various, but not lobate nor tomentose. K

K. Ray florets very short, <3mm, white. *Conyza*

kk. Ray florets >3mm, white, pink, or blue. L

L. Receptacle nearly flat; disks yellow; early-flowering. *Erigeron*

ll. Receptacle hemispheric or cylindrical; disks yellow, red or purple; late-flowering. M

M. Rays white,fewer than 14. *Solidago* (in part)

mm. Rays white, pink or blue; >14. (asters). N

N. Plant arising from creeping rootstocks; inflorescence few-flowered or a corymb. *Eurybia*

nn. Plant not arising from rhizomes; inflorescence a panicle (corymb in 1 genus). O

O. Involucre, achenes and sometimes the leaves glandular. *Oclemena*

oo. Plants not glandular. P

P. Inflorescence paniculate; pappus a single series; if arising from creeping rootstock, plants pubescent. *Symphyotrichum*

pp. Inflorescence a corymb; pappus a double series; tall unbranching; plants glabrous. *Doellingeria*

Key 3
Flower heads discoid

A. Receptacle hirsute or chaffy. B

B. Pappus absent, or of awns or scales. C

C. Pappus present. D

D. Leaves cauline and basal, cauline leaves opposite. *Bidens*

dd. Leaves all basal, or cauline leaves alternate. E

E. Involucral bracts hooked distally. *Arctium*

ee. Involucral bracts not hooked. *Centaurea*

cc. Pappus absent. F

F. Flower-heads perfect; involucre not spiny nor prickly. G

G. Flower heads in terminal panicled spikes, leafy bracts absent. *Cyclachaena*

gg.Flower heads in spikes or racemes in the axils of leaves or leafy bracts. *Iva*

ff.Flower-heads unisexual; staminate florets uppermost; involucre of pistillate florets burrlike or prickly. H

H. Involucre of hooked spines. *Xanthium*

hh. Involucre of straight spines. *Ambrosia*

bb. Pappus of filiform bristles. I

I. Plants not prickly; achenes attached obliquely to the receptacle. *Centaurea*

ii. Plants prickly; achenes basally attached. J

J. Leaves mottled white. *Silybum*

jj. Leaves not white-mottled. K

K. Pappus bristles not plumelike, barbed. *Carduus*

kk. Pappus bristles plumelike, not barbed. *Cirsium*

aa. Receptacle naked. L

L. Pappus chaffy or awned. M

M. Inflorescence spikelike or a raceme. *Artemisia*

mm. Inflorescence of solitary heads, or a corymb. N

N. Heads solitary. *Cotula*

nn. Heads corymbiform. O

O. Receptacle flat or convex. *Tanacetum*

oo. Receptacle conical. *Matricaria*

ll. Pappus of filiform bristles. P

P. Plants not tomentose. *Erectites*

pp. Plants tomentose, at least on lower leaf surfaces. Q

Q. Flowers not all perfect. R

R. Plants not dioecious. S

S. Plant perennial; unbranched, compact inflorescence, the flower-heads sessile. *Omalotheca*

ss. Plant annual or biennial; inflorescence stalked and branching T

T. Inflorescence a terminal corymb; plant erect. *Pseudognaphalium*

tt. Inflorescence occupying most of *Gnaphalium*

	the plant; stems decumbent.	
rr. Plants dioecious, or with the outer florets pistillate.		U
	U. Basal leaves conspicuous, persistent; cauline leaves bracteate.	*Antennaria*
	uu. Basal leaves deciduous; cauline leaves equal to basal leaves in size and numerous.	*Anaphalis*
qq. Flowers all perfect.		V
V. Plants prickly.		*Onopordum*
vv. Plants unarmed.		W
W. Flower heads yellow or orange; leaves alternate.		*Senecio* (*Packera*)
ww. Flower heads white, pink (purple); leaves opposite.		X
X. Leaves opposite or whorled; involucral bracts in 2–3 series.		*Ageratina*
xx. Leaves opposite; petiolate; bracts nearly equal.		Y
	Y. Leaves whorled.	*Eupatoriadelphus*
	yy. Leaves opposite, perfoliate.	*Eupatorium*

Key 4
Flower heads ligulate

A. Pappus of simple filiform bristles.		B
B. Achenes round or angled, scarcely flattened.		C
C. Achenes with delicate spines.		*Taraxacum*
cc. Achenes smooth, not ornamented.		D
D. Florets white to cream coloured (purple in 1 species), nodding.		*Prenanthes*
dd. Florets bright yellow or orange, erect.		E
	E. Cauline leaves linear to lanceolate if present, reducing in size upwards; margins involute; plants widespread.	*Hieracium*
	ee. Cauline leaves linear, flat, reduced to bracts distally; limited introduction.	*Crepis*
bb. Achenes strongly flattened.		F
F. Leaves with prickles on the margins; achenes beakless.		*Sonchus*
ff. Leaves unarmed; achenes beaked.		*Lactuca*
aa. Pappus of scales or plumelike bristles, or even absent.		G
G. Flowers blue; pappus comprising scales.		*Cichorium*
gg. Flowers orange, yellow; pappus plumelike bristles, or absent.		H
H. Pappus absent.		I
I. Involucral bracts herbaceous; stems not inflated below the inflorescence.		*Lapsana*

ii. Involucral bracts fleshy; stems inflated.	*Arnoseris*
hh. Pappus of plumelike bristles.	J
J. Involucre in a single series; leaves linear.	*Tragopogon*
jj. Involucre in multiple series; leaves not linear.	K
K. Receptacle with chaffy bracts.	*Hypochoeris*
kk. Receptacle naked.	*Leontodon*

Achillea L.
yarrow

About 75 species comprise this genus of perennials, primarily of Eurasia and limited mostly to the northern hemisphere. The white, pink or yellow florets are radiate, the many flower heads arranged in a corymb. Leaves are alternate, finely pinnately dissected, toothed or pinnate. Several hybrids are used ornamentally.

Key to species

	Achillea millefolium
Leaves pinnately dissected.	
	A. ptarmica
Leaves entire, but finely toothed.	

Achillea millefolium L.
Yarrow; achillée millefeuille; herbe à dindons

Photo by Ross Hall

All parts of this species are aromatic, some say it resembles sage in scent. Stems are puberulent, to 1m. Leaves are sessile and finely pinnate. Numerous heads are produced, each from 2–4mm across the disk and the rays from 2–3mm long. The inflorescence is a tightly packed corymb.

This species is a polyploidy complex of native and introduced plants that hybridize and intergrade with each other. Some plants with the pinkest of rays are most likely of European origin.

Flowers from July to September.

Frequents dry soils as in fields, meadows, roadsides, gravelly shores. Acidic soils.

Species is common throughout.

Photo by Martin Thomas

Ranges from Greenland west and south, across the continent.

***Achillea ptarmica* L.**
Sneezeweed; achillée ptarmique

Photo by Martin Thomas

With clumped stems, this species only reaches 60cm in height. Leaves are linear and serrate. Flowers are larger than those of the previous species, the 8–10 rays 3–5mm long. The involucre is 4–8mm high. Pappus is absent.

Flowers July to September.

Rocky, gravelly shores and in waste soils. Ornamental escape.

Scattered in NS, although more frequent in north-central counties.

Ranges from Greenland to MB, AB and AK, south to WA and WVA.

Ageratina Spach.

Formerly included in *Eupatorium* and now separated on the basis of the involucral bracts. They are arranged in a single series more or less of the same size, or biseriate. The leaves of the species within are merely opposite and not whorled. A single species reaches NS.

Ageratina altissima (L.) RM King & H. Rob.
(=*Eupatorium rugosum* Hout.)
White Snakeroot; eupatoire rugueuse

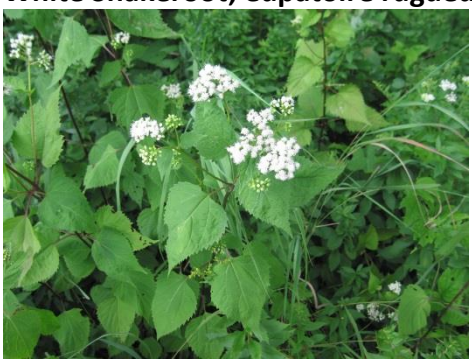

Photo by Sean Blaney

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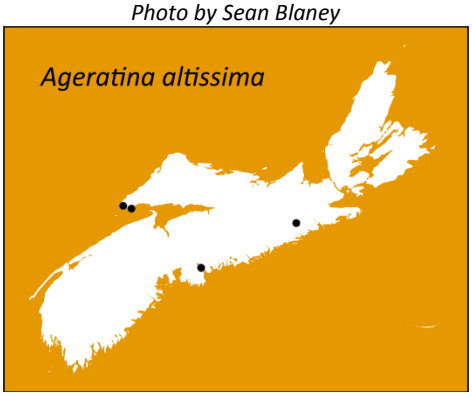


Reaching 1.5m in height, this species bears opposite, ovate leaves. Their blades range from 4–12 cm, are sharply serrate almost to the base and carried on slender petioles. Plants are nearly glabrous. Florets are white, 3–4mm long and the inflorescence is diffuse.

Flowers late summer, August and September.

Grows in moist soils at the edge of fields and forests.

Known from Mill Brook, McGahey Brook and a brook near Refugee Cove, all in Cape Chignecto Provincial Park; older collection from Antigonish County.

NS to ON south to TX and FL; NT.

Ambrosia L.
ragweeds

Annuals or perennials, the ragweeds comprise about 40 species of the Americas; three in Nova Scotia. The leaves are opposite, lobed or dissected. Plants are monecious. A few pistillate florets are scattered amidst many staminate florets, arranged in spikes, panicles or racemes. Flower heads are discoid. Pappus is absent. Involucre is closed around a single pistil, marked near the summit by a few tubercles.

In NS all ragweeds are considered to be noxious, due to the particularly irritating characteristics of the pollen and its connection to respiratory allergies.

Key to species

A. Tall plants, 1–2m; leaves palmately lobed, lobes 3–5.	*Ambrosia trifida*
aa. Plant <1m tall; leaves pinnately divided 1–2 times.	B
B. Annual; stolons or creeping rhizomes absent.	*A. artemisiifolia*
bb. Perennial; with slender, rhizomes.	*A. psilostachya*

***Ambrosia artemisiifolia* L.**

Common Ragweed; petite herbe à poux

Photo by Martin Thomas

A freely branching annual, this plant may reach 1m in height. The leaves are deeply cleft, the basal leaves opposite. Staminate florets are borne distally on short peduncles, from the axis of the inflorescence. Pistillate flower-heads are reduced to a single floret, carried in the axils of the upper leaves. Involucres are armed with six teeth or spines along the upper margins.

Some authors separate var. *elatior* Desc., considered to be the most widespread of the two varieties. The typical variety has simple leaves while var. *elatior* has the leaves at least once-pinnatifid.

Late flowering during August and September.

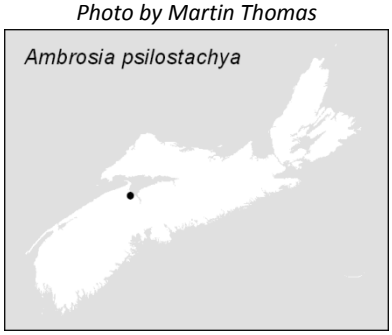
Thrives in coarse light soils as found on beaches, in fields and along roadsides.

Common in the Annapolis Valley and frequent elsewhere.

Ranges from NF to NT and BC, south to FL and TX.

***Ambrosia psilostachya* DC**
Perennial Ragweed; herbe à poux vivace

Photo by Martin Thomas



This species differs from the Common Ragweed in having creeping roots. Leaves may appear nearly succulent; they are merely simply pinnate. Blades may be longer and narrower in outline. The spines are absent on the pistillate involucre. They are armed only with small tubercles near the summit. Plants are coarsely hirsute.

Flowers during August and September.

Dry fallow soils, fields and roadsides.

So far known only from the Annapolis Valley.

Nearly covers the continent and some consider it introduced in the northeast.

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***Ambrosia trifida* L.**
Giant Ragweed; grande herbe à poux

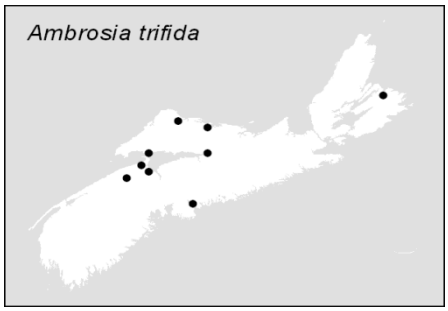
Photo by Martin Thomas

Reaching 1–2m in height this coarse plant is striking. Its opposite leaves are three-parted and coarsely hirsute on both surfaces. The terminal panicles are staminate, while a few pistillate florets are scattered in the upper leaf axils. As with all ragweeds here, the florets are greenish.

Flowers in late summer.

Usually introduced about towns and ports; occasionally

Photo by Martin Thomas



spreading to more fertile sites.

Widespread, from Kings Co. to the Northumberland counties and Sydney.

Ranges from NS to AB, south to CA, TX and FL and Mexico. Absent from NF, BC and the north.

Anaphalis DC
pearly everlasting

North temperate in distribution, there are about 25 species worldwide, mostly in eastern Asia. One species reaches NS, a prominent feature of our late summer flora. Most distinctive, are the shining white involucral bracts that are persistent and scarious. Flower-heads are discoid, and unisexual. Some staminate florets may be scattered amongst the pistillate florets. Corollas of both florets are tubular. Pappus is in the form of bristles. Leaves are alternate, their margins are entire. Plants are tomentose.

***Anaphalis margaritacea* (L.) Benth. & Hook.**
Pearly Everlasting; immortelle blanche

Photo by Sean Blaney

Photo by Martin Thomas

An erect plant, it is white-tomentose, colonial in habit. Individuals range in height from 30–80cm. Stems bear alternate leaves, linear to narrowly lanceolate and sometimes involute. Flower-heads are clustered distally on the branches of the inflorescence. Involucre is pearly white.

Late flowering, from August until frost.

Dry, open sites.

Common throughout.

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

Antennaria Gaertner
pussytoes

Generally restricted to North America, there are about 30 species all told; three reach Nova Scotia, one with several subspecies or varieties. Colonial plants, apomixis is not uncommon. All are tomentose perennials, the leaves forming a basal rosette, or at the ends of the stolons. Cauline leaves are present and alternate. Inflorescence is pedunculate, the peduncles 20–40cm tall and bracteate. Flower-heads are discoid, subtended by an involucre in several series. Pappus comprises long bristles. Fertile florets shed the pappus in a ring.

Key to species

A. Basal leaves with 3–5 veins, the lateral ones reaching nearly to the apex. *Antennaria parlinii*
aa. Basal leaves with a single vein (obscurely 3-veined), lateral veins extending about half way to the apex. B

B. Tips of the phyllaries involucral bracts rose or rose-pink. *A. rosea*
bb. Tips of the phyllaries white (common). *C*

C. Basal leaves abruptly contracted; stolons short, *A. howellii,* ssp. *neodioica*

decumbent.

cc. Basal leaves attenuate at the base; stolons long and procumbent.	C
D. Basal leaves glabrous, or soon becoming glabrate above.	*A. howellii*, ssp. *canadensis*
dd. Basal leaves canescent above, later becoming glabrate.	E
E. Middle and distal cauline leaves of pistillate plants ending in a long coloured subulate tip.	*A. howellii*, ssp. *petaloidea*
ee. Middle and distal cauline leaves of pistillate plants ending in a flat or involute tip.	*A. neglecta*

Antennaria howellii Greene
Howell's Pussytoes; antennaire de Howell

Photo by Sean Blaney

ssp. neodoica
Photo by Martin Thomas

A complex species with several subspecies recognized as present in Nova Scotia. Each has the leaves abruptly contracted to a petiole-like base, mostly less than 15mm wide. The tomentum is variable. All have an involucre of shining white bracts to 6mm long.

Ssp. *canadensis* (Greene) Bayer is found throughout the province in old fields and leached soils. More northern it ranges south as far as NJ.

Ssp. *neodioica* is common especially on gravel soils, as in roadsides, common throughout NS, but less so along the Atlantic side.

Ssp. *petaloidea* (Fernald) Bayer. Our material needs to be re-examined to ascertain its distribution and habitat.

Flowers during May and June.

As above in distribution.

The species ranges from NF to the YT, south to CA, CO and NC.

***Antennaria neglecta* Greene**
Field Pussytoes; antennaire négligée

Somewhat difficult to separate from the above species, the best character remains the tips of cauline leaves on pistillate plants. Leaves are generally narrower (2cm) than those of the following species.

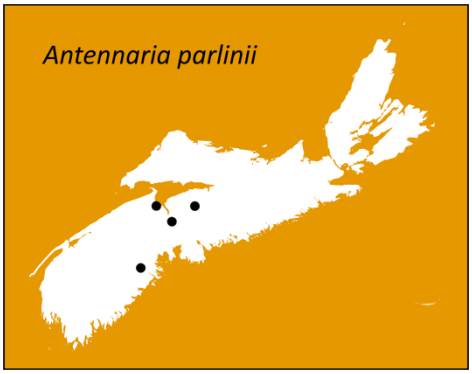
Flowers during May and June.

Sterile leached soils in open habitats.

Collections from Annapolis Co. east to Cape Breton.

Ranges from NS to NT and BC, south to OK and NC. Absent from the Pacific states.

***Antennaria parlinii* Fernald**
antennaire de Parlin



Plants have wider basal leaves, covered in minute pubescence on the upper surface. Lower surface clearly shows three veins. Flower-heads are arranged in clusters of three or more, their involucres to 1cm tall and linear, white or stramineous. Species is dioecious; staminate florets are smaller than the pistillate ones.

Flowers a bit later than the other species, in June or July.

Found in dry soils of pine and oak forests, pastures, oldfields, even rocky banks.

Only known from along the LaHave River (Bridgewater), the Halfway River (Hants Co.) and from several Kings Co. locations. More recently found along the Kennetcook River, Hants Co. and East Branch River John, Pictou Co.

Ranges from NS to MB, south to NM and GA.

STATUS: ORANGE-listed in NS.

***Antennaria pulcherrima* (Hook.) Greene** has been removed from the provincial records.

***Antennaria rosea* Greene**
antennaire des terrains secs

Photo by Marian Munro

The rosy-coloured flowers are distinctive and like no others of the genus in NS. Ours is ssp. *arida* (EE Nelson) Bayer.

It has very recently been confirmed at Cape d'Or.

This ssp. is also found in NF, QC and NU and further west and southwest.

It is suspected to be truly rare (Blaney, pers. comm.) and is currently listed as ORANGE for NS.

Anthemis L.
chamomile

Aromatic plants, these species are mostly Eurasian, 60 in total. Ours are intentional or accidental introductions. Inflorescence comprises radiate flower-heads, their rays white or yellow. The receptacles are conical or convex and chaffy at least towards the centre, a character separating them from *Matricaria*. All have fragrant florets in large flower heads and bear alternate dissected leaves.

Key to species

A. Plants perennial; ray florets yellow.	*Anthemis tinctoria*
aa. Plants annual; ray florets white.	B
B. Rays sterile; receptacle chaffy only near the middle.	*A. cotula*
bb. Rays pistillate; receptacle chaffy throughout.	*A. arvensis*

***Anthemis arvensis* L.**
Corn Chamomile; camomile des champs

Annual, this plant is freely branching, reaching 50cm in height. The leaves are finely divided. Flower-heads are long-pedunculate. White rays number 15–20, each 6–12mm long. Chaff is lanceolate and covers the receptacle. Pappus, if present is a minute crown. Plants tend to be more pubescent than the next species and lack the disagreeable odour of that species. It is also more limited here.

Flowers from July to September.

Associated with railway tracks and other fallow ground.

So far known only from Cumberland Co. Its distribution should be checked.

Ranges from NF to AK, southwards.

Anthemis cotula L.
Stinking Mayweed; camomile des chiens

Photo by Martin Thomas

An annual species, to 60cm tall, this species has finely divided, pinnatifid leaves. The stem and lower leaf surfaces are villous. The flower-heads have rays 5–10mm long, white. Its odour is unpleasant when crushed.

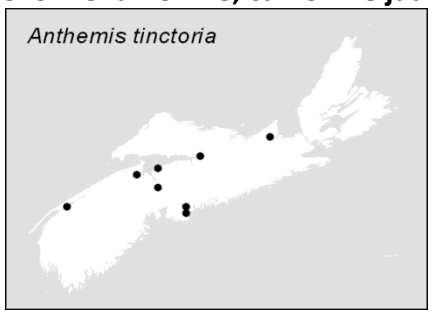
Flowers midsummer, during July and August.

Sites with highly compacted soils and little competition.

Common throughout.

Ranges from NF to AK, south through the US.

Anthemis tinctoria L.
Yellow Chamomile; camomile jaune



A perennial species, it has few branches and numerous pinnatifid leaves. Flower-heads have 20–30 yellow ray florets 5–15mm long, borne on long slender peduncles. Disk is 1.5cm across and covered in chaff; the pappus is a short crown.

Flowers until September.

Readily escapes from gardens in grassy areas and roadsides.

Spread from Halifax and Digby to Truro.

Ranges from NF to AK, south to CA, CO, AR and VA.

Arctium L.
burdock

Only five species are included in this Eurasian genus, three introduced to NS. It is best known by the dried hooked involucral bracts forming burrs that stick fast to passing mammals, including ourselves! All the florets are perfect, the tubular corolla is pink or purple. The flat receptacle is densely hirsute. Achenes are angled, bearing a pappus of short bristles within the dry serrated linear bracts of the involucre. Generally biennial, the species produce large alternate leaves.

Key to species

	Arctium minus
Flower heads 1.5–2.5cm wide; inner involucral bracts shorter than the florets, exposing them; common.	
Flower-heads 3–4cm wide; florets obscured by the involucral bracts; infrequent.	*A. vulgare*

Arctium minus (Hill.) Bernh.
Common Burdock; petite bardane

Photo by Martin Thomas

Tall robust plant reaching 1.5m, the leaves may be as wide as 40cm. Inflorescence is racemiform, the flower-heads are on short peduncles. Involucre is less woolly than that of *A. tomentosum*, the inner bracts short, exposing the purplish florets. White flowers are common. Achenes measure 4–5.5mm long.

Flowers from June to September.

Photo by Sean Blaney

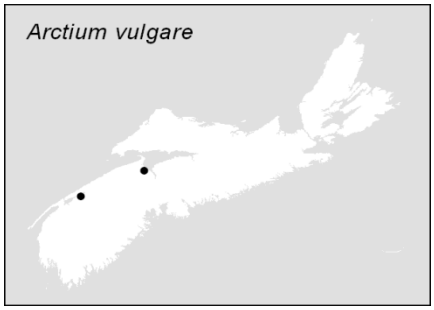
Usually found on disturbed sites.

Common throughout.

Ranges from NF to BC, south to CA, TX and GA; Greenland.

***Arctium tomentosum* P. Mill., Woolly Burdock** was historically reported from Pugwash, Cumberland Co. This exotic has not been seen in 50 years.

Arctium vulgare (Hill) Evans
(=*A. nemorosum* Lej.)
Woodland Burdock; petite bardane



Resembles Common Burdock, but for the longer involucral bracts obscuring the florets. The inflorescence may be racemiform or corymbiform.

Flowers July and August.

Found on disturbed soils.

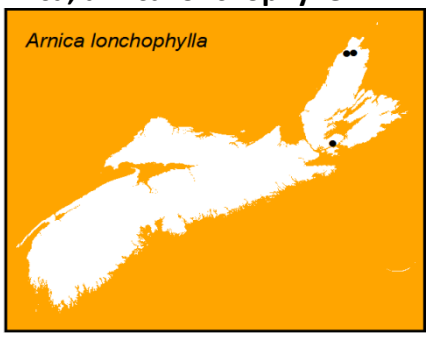
Two localities to date: Annapolis Royal and Wolfville.

Reported from NS; New England south to PA, VA and KS.

Arnica L.

A circumboreal genus including 27 species, it is best developed in western North America. A single perennial is found in Nova Scotia, one of our rarest species. Its leaves are opposite, lanceolate to ovate, but narrow. The plant is covered in pubescence. The radiate flowers may be different shades of yellow. The rays are toothed. Generally a calciophile, here it is limited to cliff-ledges in Cape Breton.

Arnica lonchophylla Greene
Arnica; arnica lonchophylle



Ranging from a mere 7–50cm tall, each plant bears one-several terminal flower-heads with wide yellow ray florets 10–20mm long and bearing 3–4 teeth distally. Involucral bracts are long and lanceolate. The pappus is composed of white barbed bristles.

Flowers during July and August.

Limited to calcareous gravels, cliff ledges.

Rare and known only from Cape Breton: Grand Anse River, Inverness Co.; Big Southwest Brook, Victoria Co. and an unknown site in Richmond Co.

As ssp. *lonchophylla* found throughout Canada; AK south to WY.

Arnoseris Gaertner
lamb succory

A monotypic genus, native to the Mediterranean region. Introduced to North America but perhaps not yet established.

Arnoseris minima (L.) Schweig.
Lamb Succory; porcelle des moutons

A small annual species, it rarely exceeds 30 cm in height. The leaves are all basal, oblanceolate in outline. Florets are ligulate, borne in flower-heads atop long peduncles, which are inflated below the inflorescence.

Flowers produced from July to September.

Waste ground and ballast.

Reported only by Fernald from Yarmouth Co. Not recorded since and perhaps best considered as historic.

Elsewhere it has been reported from Maritime Canada and the US just south along the Great Lakes and New England.

Artemisia L.
wormwoods

Wormwoods are northern hemisphere and South American plants, totalling 100 species approximately. Of the 50 known from North America, we have only six in Nova Scotia. Several are ornamentals, grown for their attractive leaves; others are culinary herbs.

Annuals or perennials, all have lobed or dissected leaves. Flower-heads are numerous and discoid, sometimes even nodding. Receptacles are variously flat, hemispheric or convex and covered in villous pubescence but no chaff. The achene is flattened but there is no pappus.

Key to species

A. Leaves glabrous, green on both surfaces.	B
B. Ultimate leaf lobes toothed; weedy in disturbed sites.	*Artemisia biennis*
bb. Ultimate leaf lobes entire; native northern species.	*A. campestris*
aa. Leaves silky-pubescent on at least one surface.	C
C. Receptacle with long pubescence between the disk florets.	*A. absinthium*
cc. Receptacle glabrous.	D
D. Lobes of the leaves >2mm wide.	E
E. Leaves silky pubescent on both surfaces.	*A. stelleriana*
ee. Leaves glabrous above, finely pubescent below.	*A. vulgaris*
dd. Lobes of leaves 1mm wide or less.	*A. pontica*

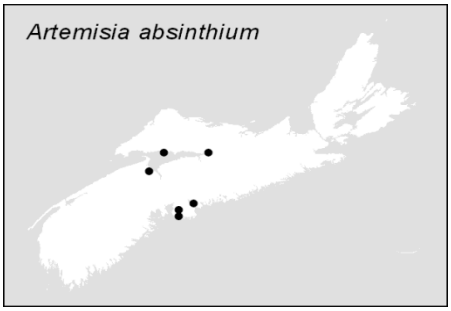
Artemisia absinthium L.
Wormwood; armoise absinthe

Photo by Sean Blaney

A tall perennial, it may reach 1m. The leaves are pinnatifid, silvery on both surfaces. The inflorescence is freely branching, the small flowers less than 4mm wide and nodding. They are subtended by ovate bracts, papery on the margins, 2–3mm tall. Receptacles are villous.

Flowers during August and September.

A garden escape to waste ground, disturbed sites nearby.



Collections exist from central NS.

Widespread: NF to BC south to UT and MD; SC. Introduced.

***Artemisia biennis* Willd.**
Biennial Wormwood; armoise bisannuelle

Photo by Martin Thomas

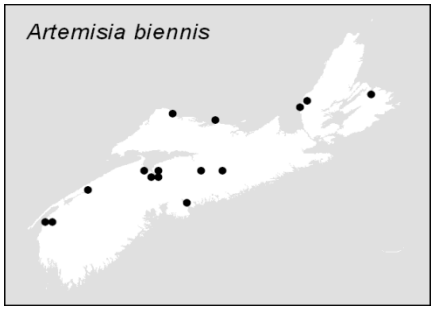
A tall unbranched species, its stems may reach up to 1m in height. The leaves are pinnately divided into narrow, toothed segments. Upper and lower leaf surfaces are green and glabrous, as is the involucre, which stands 2–3mm tall.

Flowers in late summer.

Frequents waste soils as along roads.

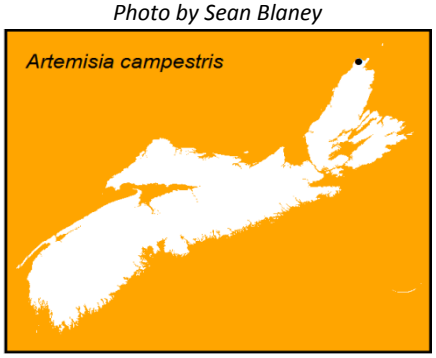
Scattered from Digby to Cape Breton and the Northumberland shores.

Found from NS to AK, south to CA, NM and TN after its introduction eastward.



***Artemisia campestris* L.**
Field Sagewort; armoise des champs

Photo by Sean Blaney



Crowded stems arise from a stout rootstock, reaching 30 – 80cm. Leaves are pinnate, their lobes filiform, crowded at the base and 10cm long. Cauline leaves reduce in size towards the top. The inflorescence has a reddish hue and the involucres are puberulent, 3–5mm high.

Ours are reported to belong to ssp. *borealis* (Pall.) Hall and Clements. Re-examination of provincial material is required to check the status of ssp. *caudata* here.

Flowers midsummer, July and August.

Favours natural talus slopes.

Collected only once at Lockhart Brook, Salmon River, Victoria Co.

Circumpolar, south to CA, NM, TX and FL

STATUS: ORANGE-listed in Nova Scotia.

***Artemisia pontica* L.**
Roman Wormwood; armoise de la mer Noire

A perennial species, appearing to be half-shrubby, it arises from a creeping rootstock, to 1m. Leaves are greyish, 2–3cm long and bearing two small lobes at the base of the petiole, resembling stipules. Flower-heads are clustered in a racemiform inflorescence or paniculate. Involucre is densely pubescent, about 4mm wide and 3mm tall.

Flowers in August.

Garden escape, waste ground.

Collected only from Dartmouth and Sydney.

NS; QC to MB south to KY and DE. Introduced from southeastern Europe.

Artemisia stelleriana Bess.
Beach Wormwood; Dusty Miller; armoise de Steller

Photo by Sean Blaney

Photo by Martin Thomas

A softly tomentose plant, it has many decumbent branches, 30–70cm long. Leaves are pinnate. Flower-heads are relatively large and subtended by an involucre 6–7.5mm tall. They are white-woolly. The ghostly colour of this plant make it unmistakable where found.

Flowers early August.

Rocky and sandy beaches.

Scattered around the coast.

Ranges from NS to Great Lakes, south to NC; LA; FL; AK; WA. Introduced ca1880 from northeast Asia, and spreading since then.

Artemisia vulgaris L.
Mugwort; Common Wormwood; armoise vulgaire

Photo by Sean Blaney

A perennial species, it reaches near 1.5m, on a simple stem. Its leaves are pinnate, the lobes softly pubescent below, glabrous above. Flower-heads are tomentose, 4mm tall arranged in a spikelike panicle.

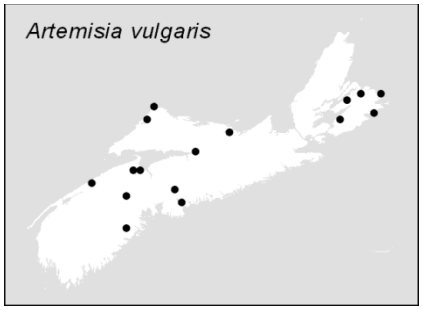
Flowers mid-summer.

Roadsides, waste soils, disturbed sites.

Scattered from Annapolis and Lunenburg counties to Cape Breton.

From NF to BC, south to CA and FL. Absent from the desert and southwestern plains. Introduced from Europe.

Photo by Sean Blaney



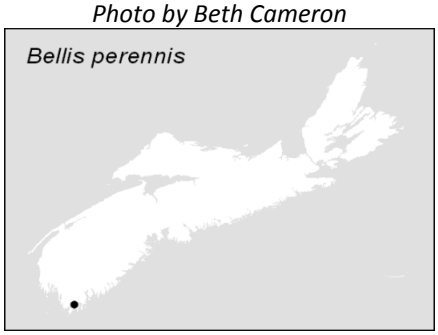
Bellis L.
English Daisy

Commonly planted as perennials elsewhere, a single species has been grown as an annual in Nova Scotia. Introduced from the Mediterranean region, it is one of 15 species, found in Eurasia and northern Africa. In several localities, it is persistent.

Flower heads are solitary and radiate, the white, pink or reddish ray florets crowded around a yellow disk of perfect florets. The leaves are mostly basal, ovate and finely toothed. Pappus is absent on a flattened achene, marked by a pair of nerves. The entire plant is somewhat villous.

Bellis perennis L.
English daisy; pâquerette vivace

Photo by Beth Cameron



Small in stature, this annual rarely exceeds 10cm here. The attractive flowers bear a smooth receptacle and the fruit has no pappus.

Flowers from May through September.

Limited to sodded areas, as in lawns, meadows, and pastures.

Persisting in Barrington area of Shelburne Co. and the Sydney-North Sydney area of Cape Breton.

NF to ON, south to TN and NC; in the west from AK to CA.

Bidens L.
beggar's-ticks

There are almost 200 species of this cosmopolitan genus, with six in Nova Scotia. All terrestrial or emergent species here are annual, herbaceous and typified by having hooked awns on the pappus. Leaves are simple or compound, toothed and always opposite. Both discoid and radiate flower-heads are found in Nova Scotia. Ray florets are often fewer than eight and usually yellow. Involucre is in two series, the inner shorter.

Key to species

A. Plants aquatic; leaves submerged and their divisions nearly filiform.	*Bidens beckii*
aa. Plants emergent or terrestrial; leaves not as above.	B
B. Leaves sessile.	C
C. Flower-heads domed and nodding; outer bracts reflexed.	*B. cernua*
cc. Flower-heads campanulate, erect; outer bracts ascending.	*B. hyperborea*
bb. Leaves petiolate.	D
D. Petioles may be winged; leaves simple, deeply lobed.	*B. connata*
dd. Petioles not winged; leaves pinnate, merely toothed.	E
E. Bracts >10.	*B. vulgata*

ee. Bracts <8. *B. frondosa*

***Bidens beckii* Torr.**
(*Megalodonta b.* Torr.)
Water-marigold; bident de Beck

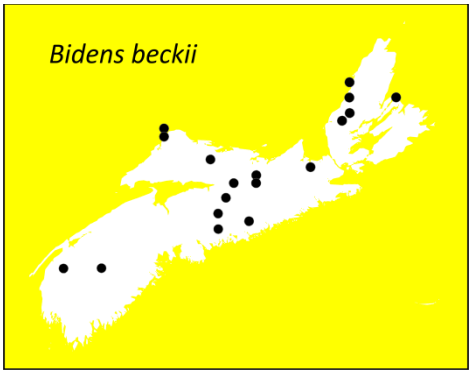


Photo by David Mazerolle

Of all the species in the aster family, this is our only truly aquatic one. A perennial, the flower-heads emerge with the first pair of lanceolate, serrate leaves above the water, from long-trailing tenuous stems. The filiform pinnate leaves remain below the surface. Flower-heads are yellow and often solitary, the disc about 1cm wide, the rays to 1.5cm long.

Flowers during August and September.

Found in shallows of sluggish streams and ponds.

Scattered throughout but more abundant from Pictou northward.

NS to SK; BC, south to OR, MO and MD. Absent from the Great Plains area.

***Bidens cernua* L.**
Nodding Bur-marigold; bident penché


Photo by Ross Hall

A tall species, reaching 1m, with lanceolate serrate leaves. Flower-heads are often nodding, with a tightly packed disc. The ray florets if present number eight or fewer, and yellow. The outer series of bracts are leafy and conspicuously longer than the disc. Achenes bear four awns, with reflexed barbs.

Flowers from July through September.

Thrives in wet soils, swamps, thickets and streamsides.

Ranges from Annapolis and Lunenburg counties to Cape Breton; infrequent in southern NS.

Found across Canada, south to CA, TX and GA.

***Bidens connata* Muhl.**
Swamp Beggar's-ticks; bident à feuilles connées

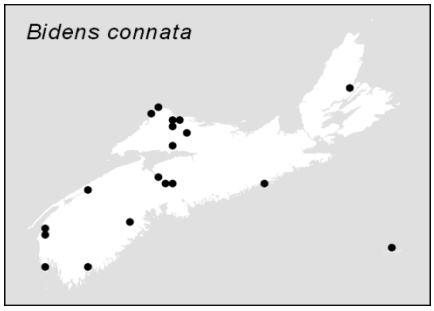

Photo by David Mazerolle

A robust species, this plant may reach 2m. The leaves are pinnate, the segments sharply serrate. They are carried on petioles to 3cm, that are sometimes winged. Flower-heads are domed and bear rays less than 8mm long, if they are present.

Flowers during August and September.

Wet soils as in swales, bogs, thickets and in paludal soils

Photo by Sean Blaney



even behind coastal beaches.

Scattered along the Atlantic side from Lunenburg to Guysborough counties; along the Minas Shore and Fundy; Sable Island.

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

***Bidens discoidea* (T&G) Britt.,** Beggar's-ticks is now considered to be extirpated in Nova Scotia.

Bidens frondosa L.
Common Beggar's-ticks; bident feuillu

Photo by Martin Thomas

Plants glabrous, ranging from only a few cms to over 1m. The leaves are coarsely serrate, arising from slender petioles. Flower-heads are subtended by 5–8 involucral bracts which are lanceolate and foliose, and extend well beyond the disk. Rays are usually absent.

Flowers late summer.

Moist soil.

Common throughout.

Ranges from NF to AK, south to FL and CA. Introduced.

Bidens hyperborea Greene
Northern Beggar's-ticks; bident hyperboréal

Photo by Sean Blaney

A small plant, it may reach 70cm. The leaves are sessile, sometimes tapering to a winged petiole, glabrous and finely serrate, with three pairs of teeth. The flower-heads are erect and campanulate, the yellow rays barely 1cm long.

Flowers in August.

Its habitat is limited to estuarine conditions. Reported from River Philip and known from Antigonish and Inverness counties.

Ranges from NS to NU, south to NY.

STATUS: ORANGE-listed.

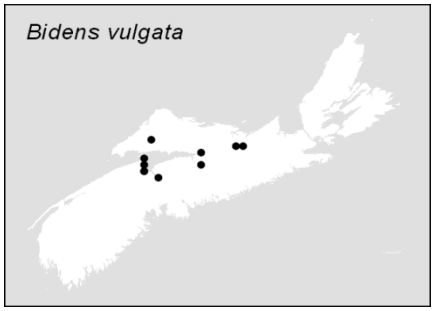
Bidens vulgata Greene
Beggar's-ticks; bident vulgaire

Photo by Sean Blaney

Plants resemble *B. cernua*, with its petiolate compound leaves. This species has larger flower-heads, with more tightly packed disk florets. The involucre numbers 10–16 bracts. Achenes are large, 10–12mm long, they soon become exposed.

Also flowers through late summer.

Widely tolerant of habitats, from waste urban ground to dykelands.



Scattered from Kings and Cumberland counties to Pictou. Reported to be common at Truro.

Ranges from NF to AK, south to GA, LA and CA. Absent from the arid southwest.

Carduus L.

Nearly 100 species are included in this genus of thistle-like plants, mostly Eurasian. Resembling *Cirsium*, they differ in the pappus form. The bristles are hairlike and not plumose. The achenes are compressed, marked by nerves numbering 5–10, or they may be angled. Flowers are perfect; the flower-heads are discoid. The florets are tubular and may be rose pink to purple. The stem is winged and spiny. The alternate leaves are toothed or serrate and very spiny, with each lobe ending in a sharp spine.

Key to species

A. Flower-heads 3–7cm wide, solitary and nodding on naked peduncles.	*Carduus nutans*
aa. Flower-heads <2.5cm wide, several to an inflorescence on winged peduncles.	
B. Leaves tomentose below.	*C. crispus*
bb. Leaves glabrescent below, but ciliate on the midrib and veins.	*C. acanthoides*

Carduus acanthoides L.
chardon épineux

Photo by Sean Blaney

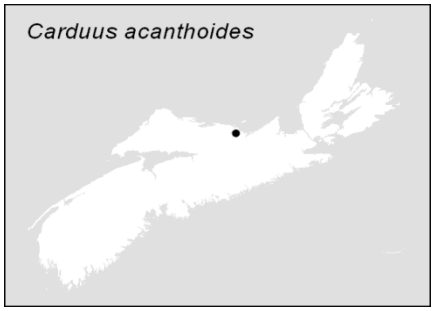
Biennial in growth, this robust species may reach 1m tall. Resembling *C. crispus*, its leaves are broader, more deeply cut and glabrous beneath.

Flowers from July to September.

Limited to waste soils and ballast heaps.

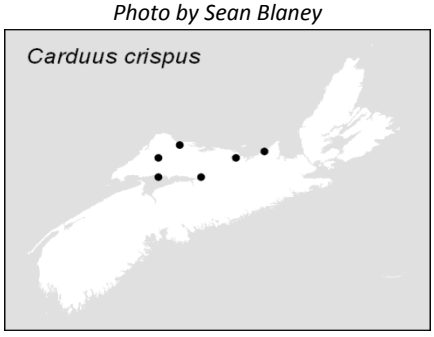
Perhaps an historic occurrence, not collected since Fernald's reports from Yarmouth and a collection from Pictou. (Photo is of an Ontario plant).

Ranges from NS to ON; BC and southward. Introduced from Europe.



***Carduus crispus* L.**
Welted Thistle; chardon crépu

Photo by Sean Blaney



Standing to 2m tall, the flower-heads are borne on a peduncle that is weakly spiny and winged. The lobed leaves are also spiny, tomentose beneath, a character differentiating it from the species above. The flower-heads are carried at the ends of the upper branches or carried in a short inflorescence. Bright purple in colour, they are mostly 2cm wide. The involucral bracts are narrowly lanceolate and thorny; the outer series is shorter than the inner ones.

Flowers during July and August.

Roadsides and waste places.

Scattered in the Northumberland counties.

NS to ON; BC; south to AR.

***Carduus nutans* L.**
Nodding Thistle; chardon penché

Photo by Sean Blaney

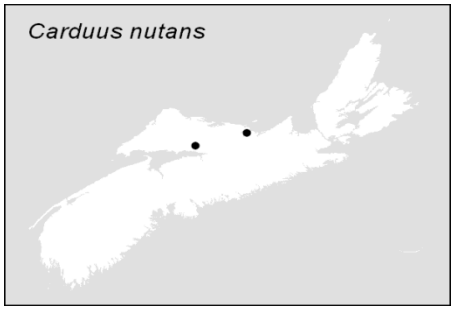
Another biennial species arising from a winged and prickly stem. The alternate leaves are sharply lobed, ending in a spine. Flower-heads are rose coloured, 5–6cm wide. They are usually solitary, terminally placed on the branches.

Flowers July and August.

Disturbed soils as in waste places and roadsides.

Known from Londonderry, Colchester Co.

Found throughout but for ME; VT; FL and the arctic regions.



Centaurea L.
knapweeds

Mostly Eurasian, worldwide there are 500 species of knapweeds. Nova Scotia has three herbaceous species, with basal or alternate leaves.

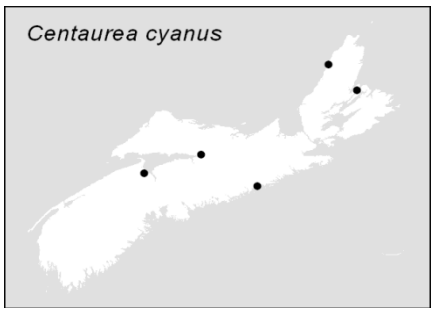
The flower-heads are discoid, sometimes appearing to be radiate as the outer florets are enlarged. The corollas are variously coloured from blue, purple, yellow or white. The involucre is divided into several series of dry bracts and may be spiny; their tips are sometimes fringed. The nearly flat receptacle is densely bristly. Achenes are attached obliquely or laterally, sometimes bearing ribs, mostly not. The pappus is formed of several series of bristles, which may be reduced in size.

Key to species

A. Involucre <8mm wide, the bracts without inflated tips.	B
B. Leaves entire, linear; a garden escape.	*Centaurea cyanus*
bb. Leaves divided or lobed, pinnate.	*C. stoebe*
aa. Involucre >10mm wide, the outer bracts with inflated deeply lobed apices.	C
C. Involucral bracts with apical appendages 1–2mm long, 8 or fewer fringe segments on each margin; outer florets may be enlarged, appearing raylike.	*C. nigrescens*
cc. Involucral bracts with apical appendages more than 2 mm long, 7–15 fringe segments on each margin; outer florets not enlarged.	*C. nigra*

Centaurea cyanus L.
Bachelor's Buttons; Cornflower; centaurée bleuet

Photo by Sean Blaney



An ornamental species, planted for its beautiful blue flowers. A slender and freely branching plant, to 1m tall, it bears cauline leaves, linear in outline and entire along the margins. Flower-heads appear to be radiate. This is due to the marginal florets being enlarged. Usually blue, some individuals may be pink or white. The involucre is up to 1.5cm and the narrow bracts are imbricate.

Late summer flowering.

A garden escape near old dwellings and on roadsides. It is known to become weedy in cultivated fields.

Local but scattered about the mainland and Cape Breton.

Ranges from NF to BC and YT, southward. Absent from SK. Introduced.

***Centaurea nigra* L.**
Knapweed; centaurée noire

Photo by Martin Thomas

Photo by Sean Blaney

A robust plant to 80cm, it arises on a freely-branching and woody stem. The leaves are variously lobed. Flower-heads are terminal on the branches, the florets rose-purple. The involucre is 1.5cm tall, wider than tall. Its bracts are expanded at the apex and deeply lobed, black in colour.

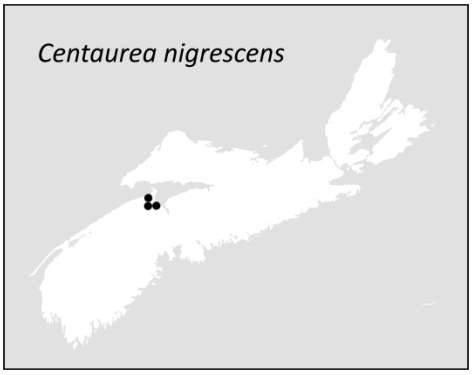
Flowers from July to September.

Our most common knapweed, frequents roadsides and other fallow soils.

Common throughout.

Ranges from NF to ON, south to MO and NC; WA to CA and inland. Native of Europe and weedy here.

***Centaurea nigrescens* Willd.**
centaurée noirâtre



Very similar to the previous species, but with the bracts of the involucre brown and not black. They are also ciliate and not lobed. Many of the florets are also fringed, so that the flower heads are quite showy.

Flowers earlier than *C. nigra,* in June and July.

Run-out or sterile soils as in fields or roadsides.

Local from Hants to Pictou counties.

Ranges from NS to ON, south to VA and MO; BC south and eastward. Introduced from Europe

C. x *moncktonii* CE Britton has been reported from NS. More information is needed here, preferably a collection.

***Centaurea stoebe* L**
(=*C. maculosa* Lam.)
Spotted Knapweed; centaurée maculée

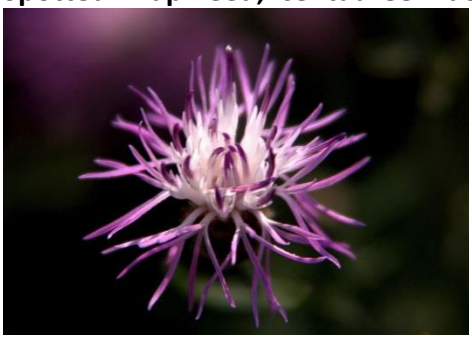
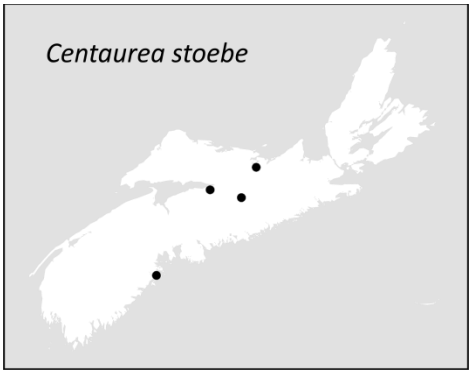


Photo by Jamie Ellison



Generally perennial or biennial and short-lived, this knapweed is freely branching towards the top of the plant. It may reach 1m in height. The alternate leaves are 1–5cm long and deeply lobed. Upper cauline leaves may even be linear. The flower heads are terminal, with pinkish purple florets subtended by a dark involucre standing 1cm tall. The bracts are narrow and fringed, black in colour. Ours is ssp. *micranthos* (Gugler) Hayek.

Flowers from July through September.

Sandy soils in meadows, fields, gardens and on roadsides.

Local and limited to Kings Co.

Ranges from NS to ON; AB to YT, south to CA, LA and FL. Introduced from Europe.

Cichorium L.

A small genus it includes only nine Mediterranean species, with one a cosmopolitan introduction in North America. All have perfect ligulate flowers, ranging from white to blue in colour. Involucral bracts are arranged in two series, the outer shorter than the inner. Pappus is present, consisting of scales also in series. The compressed achenes are striated.

Cichorium intybus L.
Chicory; chicorée sauvage

Photo by Martin Thomas

Photo by Martin Thomas

Coarse stems arise from deep taproots, and some individuals may reach 1.5m in height. The basal leaves are oblanceolate and deeply lobed, while the upper cauline are reduced in size towards the top. Flower-heads in clusters of 1–3 are axillary towards the top; their colour is bright blue. The involucre is glandular and stands less than 1cm tall. Chicory flowers are particularly visible in low light, when the flower-heads are freshly opened.

Flowers from late July onward.

Found in hedgerows, roadsides and fallow soils.

Common throughout.

Ranges from the boreal north to the Gulf of Mexico.

Cirsium Miller
thistles

Mostly plants of the northern hemisphere, North America hosts about one-third of the 200 described. Three of the four Nova Scotian species are introductions. Characteristic are the medium to large discoid flower-heads, with perfect (usually) and tubular florets. Colours vary from white to yellow or purple. Involucral bracts are usually spine-tipped. Receptacles are flat to domed and densely bristly. Achenes are often ornamented with yellow collars but otherwise smooth. They are basally attached. The pappus is a ring of plumose bristles, soon dropping away. Leaves are alternate, toothed or pinnately lobed and also spiny.

Key to species

A. Flower heads large, >3cm across; involucres 3–4cm high.	B
B. Leaves decurrent; phyllaries long-spined.	*Cirsium vulgare*
bb. Leaves not decurrent; phyllaries mostly spineless.	*C. muticum*
aa. Flower heads smaller, less than 3cm across; involucres 1–2cm tall.	C
C. Leaves decurrent; without rhizomes.	*C. palustre*
cc. Leaves not strongly decurrent; with rhizomes.	*C. arvense*

Cirsium arvense (L.) Scop.
Canada Thistle; chardon des champs

Photo by Sean Blaney

This perennial species is rhizomatous, vigorously forming extensive colonies. A leafy species, it is also very prickly. Plants produce copious flower-heads of pink or purple florets, subtended by an involucre, of green-tipped bracts. The leaves are deeply lobed, scarcely decurrent; the upper leaves are merely sessile. Plants are unisexual. The pistillate florets are longer than the staminate florets.

Flowers July and August.

Frequents fields, pastures, roadsides, wast ground and dykeland. A common and troublesome species on agricultural land.

Scattered to common throughout.

Throughout the continent, but for the extreme south, after

Photo by Martin Thomas

its introduction from Eurasia.

Cirsium muticum Michx.
Swamp Thistle; chardon mutique

Photo by Sean Blaney

Photo by David Mazerolle

Generally unbranched, plants stand up to 3m in height, producing few flower-heads. The purplish florets are packed into a flower-head 3cm across, subtended by an involucre in 8–12 series. The outer whorl of bracts are shorter and blunt than the long acute bracts of the inner series. They are weakly bristly.

Flowers late July into August.

Species of wetlands such as wooded swamps and meadows.

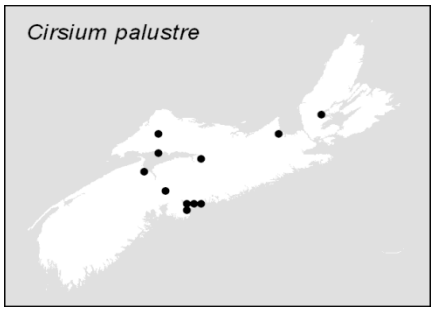
Scattered throughout the province.

Ranges from NF to SK, south to FL and TX. Our only native thistle.

***Cirsium palustre* (L.) Scop.**
Marsh Plume Thistle; chardon des marais

Photo by Sean Blaney

Photo by Sean Blaney



Although reaching 1.5m tall, this is a slender species. Its stem is winged and covered with spines. The purple florets are tightly clustered in pedunculate flower-heads. The involucral bracts are black-tipped, which may be spiny. Pappus is of plumose bristles. Leaves are shallowly sharp-lobed, bearing short spines.

Flowers earlier, during June and July.

Edge habitat in field, forests,and on fallow ground.

Ranges from Halifax and Hants counties northward and eastward to Inverness Co.

NF to ON, south to NY and WI; BC. Introduced from Eurasia.

***Cirsium vulgare* (Savi) Tenore**
Bull Thistle; chardon vulgaire

Photo by Sean Blaney

Stems are usually solitary, but robust reaching 1.5m. Alternate leaves are deeply cleft into sharply bristled lobes. Bull Thistle bears several flower-heads, each exceeding 3cm across, subtended by an involucre standing 3cm. The phyllaries are long-spined. The pappus is a cluster of plumose bristles.

Flowers from July through October.

Found along roadsides, farmyards, fields and uncultivated hillsides.

Scattered throughout.

Throughout the continent, but for NU and YT. Introduced from Eurasia.

Conyza Less.

Tropical and sub-tropical in distribution, only one species is found in Nova Scotia. Typified by radiate flower-heads, the ligulate florets are very short scarcely exceeding the pappus in length (3mm). Generally there are at least 35 per head. Disk florets are fewer, not usually exceeding 20. The achenes may bear two ridges, or none.

***Conyza canadensis* (L.) Cronq.**
Horseweed; vergerette du Canada

Photo by Martin Thomas

An annual plant with a simple stem, it may reach 1.5m tall. Short linear cauline leaves present. The inflorescence is freely branching, the branches slender. Often there are a few discoid flower-heads borne in the leaf axils. Involucres are scarcely 4mm tall. This plant has a ragged appearance.

Flowers from July throughout the summer.

Grows in light soils on fallow or cultivated land.

Common throughout on suitable soils.

Ranges across Canada and south to Mexico.

Coreopsis L.

Resembling daisies, this genus of 100 species is widespread in tropical and subtropical regions. One species reaches Nova Scotia along the Atlantic Coastal Plain, found only at a few stations in the extreme southwest.

Typically, these species have radiate flower-heads located at the top of slender stems. The ray florets are toothed, while the disk florets are tubular, and usually perfect. Achenes are compressed and may be ornamented. Leaves are mostly cauline and opposite.

Some species have been cultivated as ornamentals.

***Coreopsis rosea* L.**
Pink Coreopsis; Pink Tickseed; coréopsis rose

Photo by David Mazerolle

Photo by Martin Thomas

The slender, erect plants bear glabrous linear leaves. Flower-heads are terminal and solitary, the rays pink (rose to white) and the disks yellow.

Flowers from late July to September, depending on water levels.

Lacustrine: sand-cobble or peaty lower shorelines of lakes with large seasonal water level fluctuations.

One of our rarest species, it is limited to the Tusket River valley in Yarmouth Co.

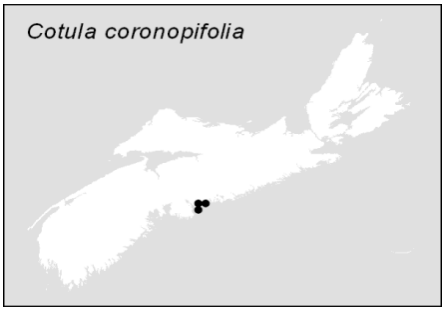
STATUS: RED-listed due to rarity and imminent threat of habitat destruction in Nova Scotia.

Cotula L.

Generally distributed throughout the southern hemisphere, a single species reaches Nova Scotia, a perennial native to South Africa. Typically they may be annual or perennial, trailing or lax, rooting from the nodes. Flower-heads are discoid and yellow. The involucre is arranged in 1–2 series of bracts of unequal size. Achenes are striated or nerved.

***Cotula coronopifolia* L.**
Brass-buttons; cotule pied-de-corbeau

Photo by Sean Blaney



This small and trailing succulent may reach upwards about 10cm. Leaves are lanceolate and 1–2cm long The buttonlike flowers are only half a cm wide, and borne on the terminal ends of slender peduncles. Flowers are perfect but for a ring of pistillate ones around the perimeter.

Flowers throughout the summer.

Associated with saltmarshes, brackish pools and muddy banks.

Along the coast from Prospect to Lawrencetown, Halifax Co.

Ranges from Maritime Canada to eastern QC; MA; AK south to AZ. Introduced

Crepis L.
hawk's-beard

Generally of the northern regions, only two of 200 species are found in Nova Scotia as introductions. It is similar to *Leontodon* but for the simple pappus branches. The basal leaves are coarsely toothed; cauline leaves reduce in size upwards. The achenes are lanceolate but beakless, bearing a white bristly pappus.

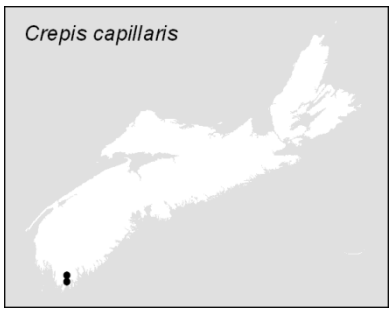
Key to species

Inner involucral series puberulent on the inner face; achenes purplish >2.5mm long.	*Crepis tectorum*
Inner involucral series smooth on the inner face; achenes light brown <2.5mm long.	*C. capillaris*

***Crepis capillaris* (L.) Wallr.**
Hawk's-beard; crépis capillaire

Photo by Martin Thomas

Photo by Martin Thomas



A sparsely branching species, it reaches 90cm in height. Its basal leaves are oblanceolate, toothed to sometimes nearly lobed. Cauline leaves are lanceolate to linear, and sessile. Flower-heads number from 1-several, their involucres stand 5–8mm tall, the two series unequal in size. Achenes are tawny coloured and only 2.5mm long at most.

Flowers throughout the summer.

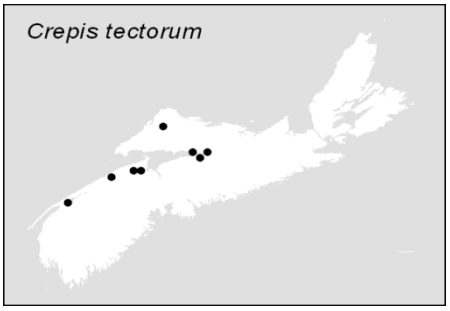
Found in oldfields and pastures.

Historically known from Shelburne and Yarmouth counties, possibly not long-persistent.

NS to MB southward; AK southward. Occasionally introduced from Europe, possibly in turf seed.

***Crepis tectorum* L.**
crépis des toits

Photo by Sean Blaney



An annual species, freely branching at the top, it often reaches 1m in stature. Basal leaves are coarsely toothed and appear early. Cauline leaves reduce in size upwards to mere linear bracts. Flower heads are ligulate, small and numerous. Pappus is white. At maturity, the involucre stands about 7mm tall. Achenes are purplish brown, lanceolate and only about 3mm long, bearing 10 nerves.

Flowers June through September.

Roadsides and fallow ground after introduction through livestock grains.

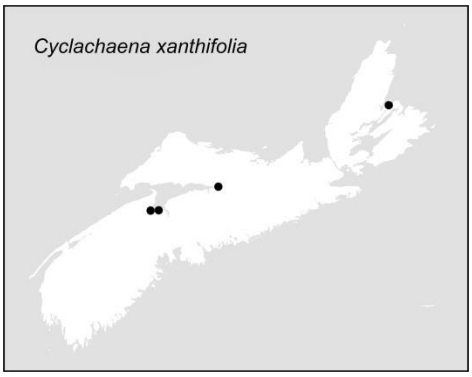
Known from the edges of Highway 104 between Amherst and Truro; Maitland, Digby, Kingston and Kentville.

Ranges across Canada, southward; from Eurasia.

Cyclachaena Fresenius

Formerly this genus was included in *Iva*, but now considered a monotypic genus. As an annual, it may reach 1m (2) in height, its stem mostly unbranched. The leaves are cauline and generally opposite, appearing alternate towards the apex. They are deltate to ovate and usually lobed, and generally canescent or strigose and glandular on one or both surfaces and toothed. Flower-heads are discoid and arranged in paniculate inflorescences. Receptacles are domed or hemispheric. Generally there are fewer functionally pistillate florets than staminate ones. Pappus is absent.

***Cyclachaena xanthifolia* (Nutt.) Fresen.**
(=*Iva x*. Nutt.)
Giant Sumpweed; ive à feuilles de lampourde



An annual reaching nearly 2m, it bears broadly ovate leaves, irregularly toothed on the margins. Long-petiolate they are opposite on the stems. Inflorescence is terminal, comprising many small flower-heads. Sessile, they are neither subtended by leaves nor bracts. Involucre may be arranged in two or more series.

Flowers during July and August.

Found only in farmyards where western grains are used.

Collections from Kings Co., Truro and Big Bras d'Or and reported from Sydney.

Western North America, introduced north and eastward.

Dittrichia Greuter

A genus of annuals or perennials with only two species; one has only recently been found in Nova Scotia. Glandular-pubescent, the stems may reach over 1m in height. The leaves are alternate, sessile and entire or toothed. Flower-heads are radiate, subtended by a campanulate involucre. Receptacle is more or less flat and smooth. The ray florets are pistillate and fertile, their corollas yellow ageing darker as with the disk florets. Pappus is fragile but persistent, of bristles, connate at the base.

***Dittrichia graveolens* (L.) Greuter**
Stinkwort

Photos by David Mazerolle

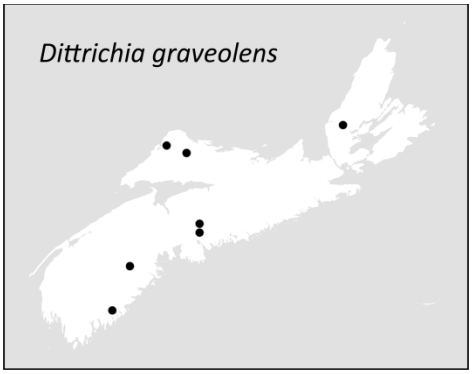
A sticky foul-smelling plant, it is covered in glands and usually pilose. The leaves are lanceolate to linear, their margins entire or denticulate. Flower-heads are numerous, their corollas ageing reddish.

Fall-flowering in September.

A ruderal weed.

Found along Highway 102 near Enfield, Halifax Co. and in roadside gravel at Sheas Brook, Inverness Co.

So far known from NS; CT, NY and NJ; CA. Introduced.



Doellingeria Nees
tall flat-topped aster

These asters are tall perennials arising on erect smooth stems that may exceed 1–2m in height. Plants are rhizomatous, forming colonies. The leaves are both basal and cauline, alternate and sessile. They may be lanceolate or elliptic, scarcely reducing in size towards the top. The inflorescence may also have reduced leaves amongst the flower-heads. Arranged in a corymbiform array, the clusters are flat-topped. Involucre of bracts to 4.5mm tall are arranged in 3–5 series, each phyllary with a single nerve. Ray florets are pistillate and white; disk florets bisexual and yellow. Pappus is persistent and arranged in four series. The outer series is short and formed of whitish scales; the inner three are bristles, white to tan. Of eastern North America, Nova Scotia has a single species of the three described.

Doellingeria umbellata (Miller) Nees
(=*Aster umbellatus* Mill.)
Tall leafy White Aster; aster à ombelles

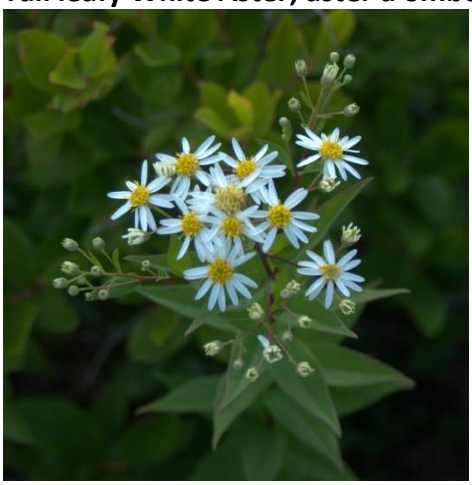


Photo by Alain Belliveau

Plant is tall, standing up to 2m. it is nearly smooth throughout. Leaves are lanceolate and numerous, nearly opposite and sessile. Array of flower-heads is much-branched, but flat topped. Ray florets 7–12, 5–8mm long and white. The involucral phyllaries may be pilose at the apices. Disk florets are yellowish. Pappus is double, the outer series shorter than the inner.

Flowers through September.

Found at edges of swamps, also barrens and ditches roadside and in wetlands.

Common throughout.

Ranges from NF to ON, south to MS and GA.

Photo by Sean Blaney

Erechtites Raf.

Resembling groundsel, the 12 species of this genus are best known south of Mexico, South America and in Australia. One species is found northward. Bearing discoid flower-heads, they are subtended by a single series of phyllaries, lanceolate in outline. The genus is similar to *Senecio* but has the leaves merely shallowly toothed and not lobed.

Erechtites hieracifolia (L.) Raf.
Fireweed; érechtite à feuilles d'épervière

Photos by Andy Dean

Photo by Sean Blaney

Upwards of 1m in height, plants are nearly glabrous throughout. Lanceolate leaves are alternate and sharply toothed. Flower-heads are tubular and discoid. Involucre has greenish phyllaries. Pappus comprises shining white bristles.

Flowers during August and September.

Frequents rocky forests, clearings, burned land and even marshes.

Common throughout the mainland; less frequent in northern Cape Breton.

Ranges from NS to ON, south to TX and FL; WA to CA.

Erigeron L.
fleabane

Fleabanes account for about 200 species from the northern temperate regions. Five species reach Nova Scotia. Flower-heads are radiate, the ray florets are fertile and pistillate, ranging from white to bluish in colour. Disk florets are yellow. Involucre is narrow, its phyllaries leafy or imbricate. Achenes are ornamented with two or four ribs. Pappus is composed of hairlike setae. Leaves are alternate and cauline.

Key to species

A. Flower-heads solitary, long pedunculate. B
- B. Plant cespitose, arctic-alpine, caudex short thickened and sometimes branched; taprooted; leaves lobed or toothed. *Erigeron compositus*
- bb. Plant erect, not cespitose nor decumbent; arising from a rhizomatous base; calciophile; leaves simple and linear. *E. hyssopifolius*

aa. Flower heads more than 1. C
- C. Leaves clasping the stem; rays pinkish. *E. philadelphicus*
- cc. Leaves sessile, but not clasping; rays nearly white. D
  - D. Cauline leaves midway coarsely toothed, ovate to lanceolate. *E. annuus*
  - dd. Cauline leaves midway linear to lanceolate and entire or nearly so. *E. strigosus*

Erigeron annuus (L.) Pers.
Daisy Fleabane; vergerette annuelle

Photo by Martin Thomas

Annual or biennial, this plant may reach 1m in stature. Basal leaves are widely lanceolate, borne on long petioles, their margins coarsely toothed. Cauline leaves are serrate and alternately arranged. Flower-heads are crowded with many rays (100+) and arrayed in a freely branched inflorescence. They may be white or pinkish and are less than 1cm long.

Flowers late July into September.

Fallow land, fields and roadsides.

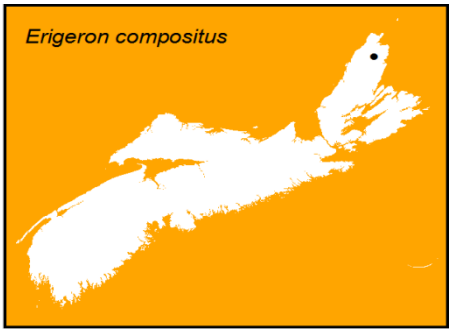
Common throughout.

Found across Canada and throughout the US, but for the arid southwest. Introduced from Europe.

Photo by Jamie Ellison

Erigeron compositus Pursh
Dwarf Mountain Fleabane; vergerette à feuilles segmentées

Photo by Marian Munro



A perennial species, it arises from a taproot, its caudices simple or branched. Leaves are basal and persistent arising from stems very lightly hispid or pilose. Leaves lobed or toothed, the cauline ones are reduced to mere bracts. Flower-heads are solitary and occasionally discoid. Rays are purple (white to blue) when present. Involucre may reach 2cm tall, arranged in several series, the phyllaries purple-tipped. Pappus of the inner series is setaeiform; outer series has bristles.

Flowers June and July.

Limited to sub-alpine cliffs, talus and meadows.

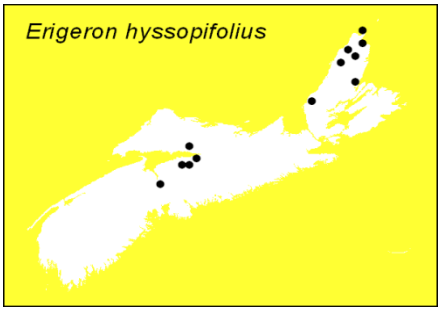
So far known only from a cliff ledge along Clyburne Brook, Cape Breton Highlands National Park. (Photo from a plant in BC).

Ranges from Greenland; arctic Canada south to NS and QC in the east and CA in the west.

Erigeron hyssopifolius Michx.
vergerette à feuilles d'hysope

Photo by Sean Blaney

A slender species, with multiple stems arising from the base. The leaves are linear, 1–2cm long. Flowers are solitary, borne on scapes. The rays, 20–30 may be white or pale lavender, 4–6mm long. Receptacle measures 4–6mm high. Plant is often colonial.



Flowers during July and August.

Limited to gypsum outcrops or damp stream banks and ledges in calcareous regions.

Hants Co.; near Antigonish and in northern cape Breton.

Ranges from NF to YT, south to AB, MI and NY.

***Erigeron philadelphicus* L.**
vergerette de Philadelphie

Photo by Sean Blaney

Photo by Martin Thomas

Small in stature, rarely exceeding 50cm, it bears ovate or lanceolate leaves. Their margins are coarsely toothed, rapidly reducing in size towards the top. Flower-heads are numerous, the arrays with ascending branches. Ray florets are very crowded numbering at least 100, 5–10mm long and pinkish. Phyllaries are lanceolate and even, forming an involucre only 5mm tall.

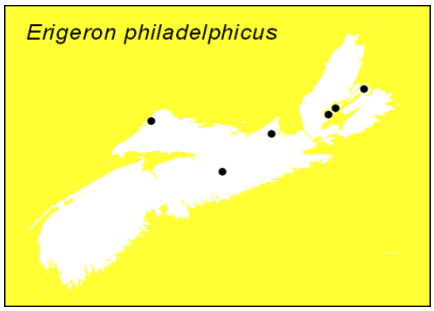
Flowers from June to August.

Habitats include fields, meadows and springy slopes.

Not common, scattered stations from Digby and Cumberland counties to central Cape Breton.

Ranges across the continent and south.

STATUS: YELLOW-listed in NS.



***Erigeron strigosus* Muhl.**
Daisy Fleabane; vergerette rude

Photo by Martin Thomas

Photo by Martin Thomas

Resembles *E. annuus* but it is generally smaller, with narrower leaves. Leaves are toothed near the apex and both the stem and leaves are covered in an appressed pubescence. The corollas are white, pink or blue. Both the typical variety and the var. *septentrionalis* (Fern. & Wieg.) Fern. are known from the province.

They are separated on the basis of pubescence on the phyllaries and on the stem. Var. *septentrionalis* has the stems sparsely and loosely strigose with the hairs ascending to spreading. The phyllaries have the hairs flattened. Those of the typical variety have the hairs terete and the pubescence of the stem appressed to ascending.

Flowering from July to September.

Neglected fields, roadsides and other disturbed sites.

Common throughout.

Found throughout the continent, but for the arid southwest.

Eupatoriadelphus (King & HE Rob)
joe-pye-weeds

Formerly included with *Eupatorium*, the joe-pye-weeds have been separated from bonesets on the basis of having whorled leaves. Perennials, the species are generally tall and foliose and produce flat-topped clusters of discoid flower-heads. Florets are pink to purple. Receptacles are naked, without chaff. Angled achenes bear 5–8 ribs. Pappus comprises a single series of bristles.

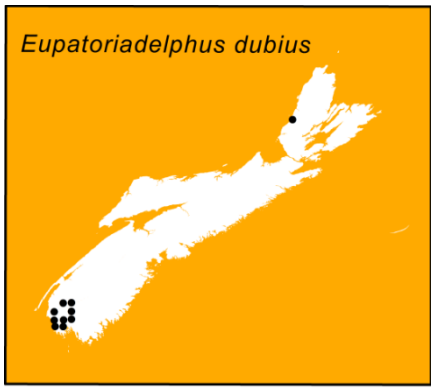
Key to species

	Eupatoriadelphus dubius
Leaves rounded at the base; plants sticky; florets <10.	
aa. Leaves cuneate at the base; plants not sticky; florets >9 per	*E. maculatus*

flower-head

***Eupatoriadelphus dubius* (Willd.) King & HE Robins.**
eupatoire douteuse

Photo by Sean Blaney



A rare smaller relative of the common species, it may reach 1m in height. Leaves are lanceolate to ovate, abruptly narrowing to the petiole. Veins are more conspicuous at the leaf base than distally. Plants are sticky to touch, especially at the top. Inflorescence exceeds 6 cm across, each head bears 5–12 florets.

Flowers during August and September.

Associated with wetlands, as along streams, rocky lakes and in damp thickets.

Found on lakeshores of the Tusket River valley and also collected in Inverness Co. Local to rare.

Ranges along the coastal plain from NS; ME to SC.

STATUS: ORANGE-listed in NS.

***Eupatoriadelphus maculatus* (L.) King & HE Robins.**
Spotted Joe-pye-weed; eupatoire maculée

Photo by Martin Thomas

Photo by Martin Thomas

Usually unbranching except for the inflorescence, this colonial species is a conspicuous and tall plant, exceeding 2m. Its stem is purple blotched or streaked. Each whorl of leaves contains 3–5 serrated lanceolate leaves, cuneate at the base. Inflorescence is flat-topped and may exceed 20cm across, with the flower-heads containing 8–20 florets. Achenes are glandular-spotted, the glands yellow. Two forms are known here, var. *foliosum* (Fern.) Wieg. and the typical variety. The typical variety is found in more northerly stations of the species distribution here. Its upper leaves are shorter than the height of the corymb, while var. *foliosum* has its upper leaves longer.

Flowers in July through to October.

Forms colonies along streams, banks, meadows and swamps.

Common from Digby Neck to northern Cape Breton.

Ranges from NF to BC, south to WA, AZ and GA.

Eupatorium L.
boneset

Similar to *Eupatoriadelphus* but for the opposite pairs of leaves, rather than whorls of more than two. Also perennial, they can be tall and with simple stems, branching only in the inflorescence. Florets are a dirty white, perfect and tubiform. Involucral bracts are imbricate, in several series. *Ageratina* is separated on the basis of the involucral bracts being of a single series.

Eupatorium perfoliatum L.
Boneset; Thoroughwort; eupatoire perfoliée

Photo by Martin Thomas

Photo by Sean Blaney

A stout plant to 1.5m tall, it bears long pairs of connate leaves, perforated by the stem. Rugose on both surfaces, their margins are finely scalloped. Inflorescence is rounded, with tight clusters of white florets, each less than 4mm long. A pink form was reported from the St. Croix River area of Hants Co.

Flowers during late summer, into October.

Wet soils as on shores, in swamps, bogs, ditches and bog margins.

Scattered throughout, less so in northern Cape Breton.

Ranges from NS to MB, south to FL and TX.

Eurybia (Cass.) Cass.

A genus formerly included within *Aste*r, these perennials are sparsely branching, their stems up to 1.2m tall. The alternate leaves may be sessile or petiolate and both basal and cauline leaves are present. Blades range from ovate or cordate to lanceolate, often reducing in size upwards along the stem. Flower-heads are radiate and usually borne in a corymbiform inflorescence subtended by an involucre of several to many series. The phyllaries may be ciliate. The receptacles are flat to convex. Rays are pistillate and fertile, usually white to purple and coiling at maturity. The disks are bisexual and fertile, yellow maturing to purple. The pappus is of 2–4 series of bristles, variously coloured.

Key to species

Plants glandular; leaves cordate, petiolate.	*Eurybia macrophylla*
Plants not glandular; leaves lanceolate, sessile.	*E. radula*

***Eurybia macrophylla* (L.) Cass.**
Bigleaf Aster; aster à grandes feuilles

Photo by Sean Blaney

Photo by Sean Blaney

A coarse plant, with large heart-shaped leaves, its flowering stems may reach 1m. Leaves 10–15cm wide, are borne on long slender petioles. They are coarsely serrate. A colonial species from rhizomes, it is often found not flowering. The pappus may be orange or tawny.

Flowers throughout the summer.

Found in dry open forests, thickets and on open barrens. Tolerates light shade.

Common from Colchester Co. southwestward. Less frequent east of Truro.

Ranges from NS to MB, south to MO and GA.

Eurybia radula
Bog Aster; Rough aster; aster rude

Photo by Sean Blaney

Photo by Sean Blaney

Bog arises from a simple stem. Leaves are lanceolate, rarely exceeding 2cm wide with the lower cauline leaves usually deciduous. The inflorescence has few flower-heads, but they are showy, each with no more than 25 purple ray florets. The involucre stands 8–15mm tall; the bracts are broad and green-tipped.

Flowers July to September.

Growing in peaty soils, usually limited to swales, thickets, barrens and clearings in coniferous forest.

Common throughout, especially along the Atlantic coast.

Ranges from NL to ON, south to KY and VA.

Euthamia Nutt.
goldenrods

A native genus, there are eight North American species; two in Nova Scotia. Most distinctive is the flat-topped corymbiform array of radiate flower-heads. Rays number from 7–30 and are pistillate. The disk florets are perfect and all are fertile. The pappus is formed of white setaeform bristles. Achenes are both ribbed and pubescent. All flower from late summer into the autumn.

Key to species

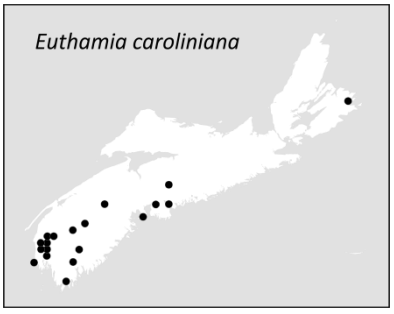
Stems glabrous or nearly so; leaf blades to 6mm wide, noticeably glandular-spotted; lacustrine. — *Euthamia caroliniana*

Stems glabrous to hirsute; leaf blades to 12mm wide, only sparsely glandular; variety of habitats. — *E. graminifolia*

Euthamia caroliniana (L.) Greene
(includes *E. galetorum* Greene and *E. tenuifolia* (Pursh) Nutt.)
Coastal Plain Goldenrod

Photo by Sean Blaney

Photo by Alain Belliveau



A sparsely branching species, then only at or near the top, this plant may be 1m in height. It is mostly glabrous, but not glaucous. The linear leaves are sessile and blunt-tipped, bearing 1–5 veins and glandular. The array of radiate flower-heads is flat-topped and sparse, sometimes slightly convex, subtended by an involucre with green-tipped bracts.

Flowers from August through September.

Found on low biomass shorelines of lakes, mainly restricted to the southwestern counties.

Scattered from Cape Breton County along the southern shores to Digby and Shelburne counties.

Ranges from NS; ME to FL and LA along the coastal plain.

***Euthamia graminifolia* (L.) Nutt.**
Grass-leaved Goldenrod; verge d'or à feuilles de graminée

Photo by Sean Blaney

An erect plant to 1.5m tall and freely branching. Flower-heads are sessile, and arranged in small arrays. The ray florets are numerous but inconspicuous. Leaves are linear, with 3–5 veins and tapering at both ends, or narrowly lanceolate.

Flowers during August and September.

Widely tolerant of acidic soils, ditches, swamps, lakeshores and other poorly drained sites.

Common throughout.

Ranges across Canada and south.

Galinsoga Ruiz & Pavón
quickweeds

A genus comprising 14 species, of North and South America. Some are weedy and a single introduction has reached Nova Scotia. Generally annuals, their leaves are opposite and toothed. Flower-heads are long-pedunculate and radiate, each bearing a few white or pink rays, scarcely exceeding the disks. Receptacle is conical. The involucral bracts are green and nerved, each subtending a ray floret. Achene is four-angled. The pappus is a cluster of scales.

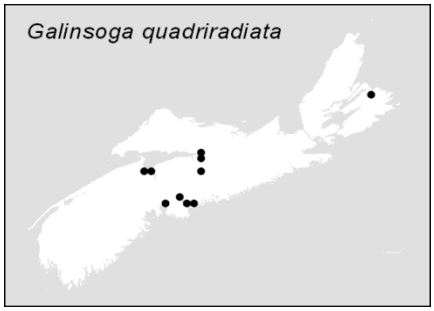
Galinsoga quadriradiata Ruiz & Pavón
Common Quickweed; galinsoga cilié

Photo by Martin Thomas

A freely branching plant, standing only 20–60cm. It is sticky from the glandular hairs on the stems and involucre. The flower-heads are scant, with only a few disk florets within 4–5 white ray florets. The involucre is only 3–4mm tall, with ovate phyllaries.

Flowers late summer.

Found in sidewalk cracks, dooryards, gardens and



roadsides.

Spreading from Kings and Halifax counties northeastward.

Ranging across Canada south to CA and FL. Absent from the arid southwest. Introduced from further south.

Gnaphalium L.
cudweeds

A widespread genus of the Americas, Australia, Asia and Africa, there are 38 species in total. Generally taprooted annuals, most are tomentose but not glandular, their stems decumbent or reclining at the base. The leaves are alternate and sessile, generally cauline and gray-tomentose. The arrays are spikelike or capitate and discoid. The involucre is campanulate and the phyllaries are in several series, and may be from white to tawny-coloured. The receptacle is flat. Pistillate flowers on the outside are more numerous than the inner perfect florets. The corollas are white to purplish. Pappus is composed of deciduous bristles.

Gnaphalium uliginosum L.
Low Cudweed; gnaphale des vases

Photo by Marian Munro

A diffuse species, it is freely branching and rarely exceeds 20cm tall. Flower-heads are clustered within the upper leaf axils or at the end of upper branches. The involucre is brownish and no more than 2–3mm high, tomentose at the base.

Flowers from July through September.

Photo by Sean Blaney

Poorly drained soils as in grain fields and gardens.

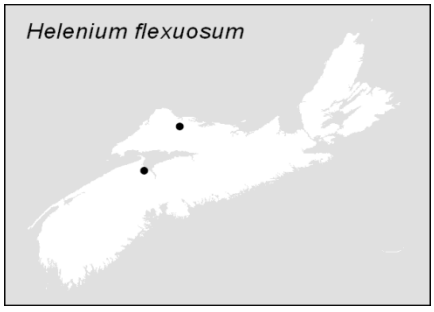
Common weed throughout.

Greenland; NF to AK, south to VA, UT and OR.

Helenium L.

A genus of nearly 40 species, they are found throughout the Americas, with one reaching Nova Scotia. The radiate heads are numerous. Ray florets are usually yellow, each notched with three teeth. The disk florets are purple or brown. The involucre is divided into two series of phyllaries, soon becoming deciduous.

Helenium flexuosum Raf.
Sneezeweed; hélénie nudiflore



A perennial herb, the stem may reach 1m in height. The leaves are alternate and decurrent. The flower-heads are borne on slender pedicels. Disk florets are deep brown on a spherical receptacle. The yellow rays are notched, 2cm in length.

Flowers in August.

Photo by Sean Blaney

Grassy roadsides and recently seeded areas.

So far known only from Kejimkujik National Park entrance and Crowley Brook, Cumberland Co.

Ranges from NS; QC to ON, south to FL and TX. Introduced from further south.

Helianthus L.
sunflowers

Only four of 50 species of sunflowers have been introduced to Nova Scotia, from further south and west. Familiar to most, they have radiate flower-heads. The conspicuous yellow ray florets are staminate, and surround the perfect disk florets. The receptacle is flat or conical and may sometimes be chaffy. The involucre is green; the pappus is of a pair of awns. The simple leaves are opposite at least towards the base. Hybridization is common.

Key to species

A. Annual; receptacle flat; phyllaries short-ciliate and pubescent dorsally.	*Helianthus annuus*
aa. Perennial; receptacle conical; phyllaries long-ciliate.	B
B. Leaves narrowly lanceolate, <4cm wide.	*H. giganteus*
bb. Leaves widely lanceolate, most >4cm wide.	C
C. Outer involucral bracts long-acuminate, ascending or reflexed	*H. tuberosus*
cc. Outer involucral bracts acute or blunt-tipped; appressed.	*H.* X *laetiflorus*

***Helianthus annuus* L.**
Common Sunflower; tournesol

Photo by Sean Blaney

A crop plant, it reaches 2m or more. Its broadly ovate leaves are coarsely toothed, the lower ones cordate at the base. The disk is at least 5 cm wide, flat and the florets are yellow or red. The phyllaries are ovate, tapering distally.

An annual, it is included here as it is commonly encountered.

Found in fallow soil about yards and farms.

Not common nor persistent.

Introduced from further south and west and found throughout but for NL, NU and YT.

***Helianthus giganteus* L.**
Swamp Sunflower; hélianthe géant

A plant resembling the first, but perennial and with much narrower leaves, less than 2cm wide. Generally it is seen with several flower heads. Involucral bracts exceed the disk.

Flowers in August.

Uusually grows in moist, fertile soils.

Several reports exist: Mabou, Inverness Co., an old dump in Yarmouth, New Glasgow, Pictou Co. and Sherbrooke, Guysborough Co. This species should be field-checked to see if these sites are extant.

NS to MB; AB, south to MS and GA.

Photos by Martin Thomas

***Helianthus tuberosus* L.**
Jerusalem Artichoke; topinambour

Photo by Sean Blaney

Photo by Martin Thomas

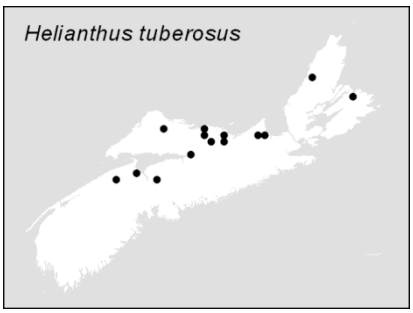
A rhizomatous species, it quickly spreads. The tubers are white, fleshy and a delicious edible. Generally 2m or more in height, it bears thick coarsely serrate leaves. They are widely lanceolate, borne on winged petioles. Flower heads are several, with bright yellow ray florets and dull yellow disk florets. The disk ranges from 1–2cm wide. The phyllaries are also lanceolate and reflexed.

Flowers during September and October.

In moist damp soils as along intervales and in fallow soils.

Actively spreading from Kings Co. through the northern half to Cape Breton.

Ranges from NS to SK; south to FL and TX and CA. Introduced from west and south as an edible and an ornamental.



***Helianthus* x *laetiflorus* Pers.**
hélianthe à belles fleurs

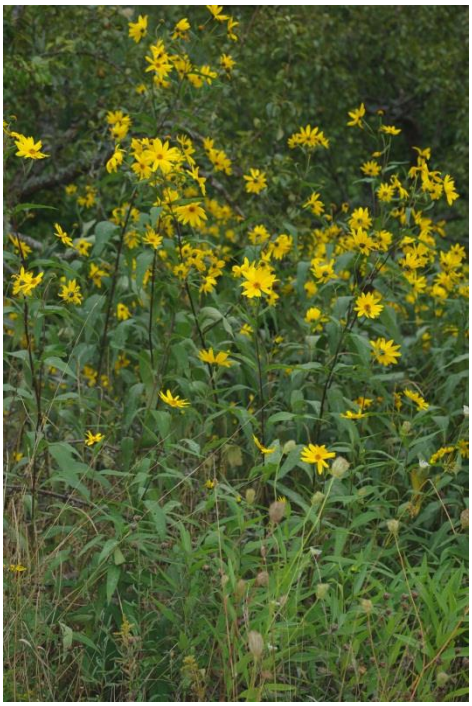
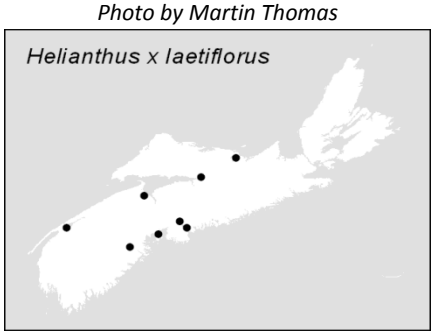


Photo by Martin Thomas



It is distinguished from *H. tuberosus* on the basis of the phyllaries. This hybrid has them blunt-tipped and appressed against the receptacle, not arcuate or reflexed. The tubers are not as fleshy nor as abundant in this hybrid. Disk florets often appear reddish. (*H. tuberosus* X *pauciflorus*).

Flowers in August and September.

An ornamental now found about old gardens, roadsides and in fallow soils.

Collected from Annapolis Royal and Bridgewater, Halifax and Truro to Pictou.

Introduced here from further west.

Photo by Martin Thomas

Hieracium L.
hawkweeds

Temperate or alpine in distribution, this genus contains about 10,000 species and forms in Eurasia alone, owing to apomixis. Nova Scotia is host to 15 species, most of them introduced. Hybridization is common, hence mature plants are required for species determination.

Generally perennial, the plants contain a latex. Flowers are ligulate and perfect, ranging from yellow to orange. The achenes are unadorned, terete and covered with fine white hairs. Leaves are either basal or basal and alternate. Plants are often stellate pubescent on the stems, involucres or leaf surfaces.

Key to species

A. Leaves basal or mostly so, at flowering. B
B. Flower-heads 2–4 per scape, or solitary. C
C. Flower-heads small; involucre 6–8mm tall. *Hieracium lactucella*
cc. Flower-heads large, involucre >8mm tall. D
D. Flower-heads solitary; leaves glaucous below. *H. pilosella*
dd. Flower-heads 1–2 pairs; leaves green below. *H*. X *flagellare*
bb. Flower-heads numerous, in corymbiform inflorescence. E
E. Florets orange-red. *H. aurantiacum*
ee. Florets yellow. F
F. Leaves rugose and pubescent. *H. cespitosum*
ff. Leaves glabrous at least above. G
G. Leaves finely pubescent; plants stoloniferous. *H.* X *floribundum*
gg. Leaves bristly; stolons absent or weak. *H. piloselloides*
aa.Leaves basal and cauline, or cauline only, generally toothed; plants not stoloniferous. H
H. Involucre of >2 series of phyllaries. I
I. Leaves in a basal rosette; cauline leaves few, greatly reduced. J
J. Leaves mottled purple; elliptic to widely lanceolate, sometimes serrate at their bases. *H. lachenalii*
jj. Leaves not mottled; basal leaves coarsely toothed or lobed basally. *H. muorum*
ii. Leaves only cauline, numerous. K
K. Leaves acute at both ends, not clasping, purple blotches; slender species restricted to alpine ledges and crevices. *H. robinsonii*
kk. Leaves clasping and not mottled; tall, stout and widespread. L
L. Plant with bulbous pubescence; phyllaries blunt. *H. sabaudum*
ll. Plant without bulbous hairs; phyllaries acuminate. *H. umbellatum*

hh. Involucre with 2 series of phyllaries. M
M. Plant glabrous but for the base; scapes smooth, lax. *H. paniculatum*
mm. Plants rugose and hirsute; scapes densely glandular. *H. scabrum*

***Hieracium aurantiacum* L.**
Orange Hawkweed; épervière orangée

Photo by Martin Thomas

Photo by Sean Blaney

Standing upwards of 1m tall, this plant is covered with a dark glandular pubescence. Leaves are oblanceolate and glabrous. Inflorescence is a compact corymb. The florets are reddish orange, subtended by a dark green involucre. The phyllaries have paler margins and are bristly. This is our only species without yellow flowers.

Flowers from June through August.

Leached and worn out well-drained soils.

Frequent and abundant from Yarmouth to Cape Breton.

Ranges across Canada, variously south to CA and FL. Introduced from Europe.

A hybrid with *H. floribundum* (*H.* X *dore*i Lepage) has been found at Kejimkujik National Park.

Hieracium cespitosum Dumort
Hawkweed; épervière piloselle

Photo by Sean Blaney

A smaller hawkweed, its height ranges from 20–50cm. Leaves are mostly arranged in a basal rosette, with a few short stolons produced. The dull leaves are rugose, bearing long hairs on the upper and lower surfaces. There are several flower-heads. Involucres are 5–7mm tall, and are covered with glandular black hairs.

Flowers June and July.

Limited to leached out and well-drained soils. Abundant in fields and pastures.

Scattered and local from Digby Co. to northern Cape Breton.

Ranges from NF to MB, south to GA in the east; west coast from BC south to OR and east to WY.

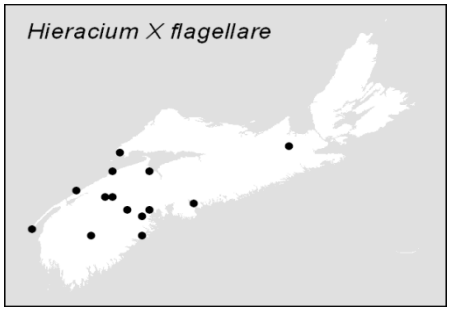
Hieracium x *flagellare* Willd.
épervière à flagelles

Photo by Martin Thomas

It is a hybrid with *Hieracium pilosella* x *cespitosum*. Those plants closest to *H. pilosella* have fewer flower-heads, rarely more than 1–2 per scape. Plants tend to be short, less than 30cm tall. Plants closer to the other parent are stouter and greener, and have upwards of six flower-heads.

Flowers June and July.

Found in old fields, pastures, lawns and other fallow



ground.

Frequently found from Yarmouth and Digby counties to Cumberland and Inverness. Seems not to be collected in the eastern coastal region.

Ranges from NF to ON, south to IN and VA; WY; BC. Introduced.

Hieracium x *floribundum* Wimm. & Grab.
Yellow Hawkweed; épervière à fleurs nombreuses

A hybrid, *H. cespitosum* X *lactucella*, it closely resembles *H. cespitosum*. Vigorously stoloniferous, it produces numerous secondary scapes. Leaves are narrowly oblanceolate; they are nearly smooth or with a few scattered villous hairs along the midvein. The florets are yellow. The involucre is less than 8mm tall; the phyllaries bear long hairs on their veins. The pappus is brownish.

Flowers June to late July.

Roadsides and fields.

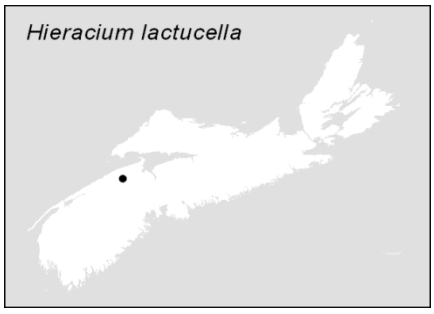
Common throughout, but for the wettest parts of southwestern NS.

Ranges across Canada south to CT and OH. Introduced.

H. x *fernaldii* Lepage was historically collected and originally described, from Eskasoni Brook, Cape Breton Co. It has not been identified since.

All of our material may require re-examination as USDA PLANTS database doesn't include NS in the *H. kalmii* 's range.

Hieracium lactucella Wallr.
épervière petite-laitue



The smallest of our introducced hawkweeds, it bears 2–4 flower-heads per scape. It is also slender, arising from vigorous stolons.

Flowers early, June and July.

Leached soils and bare slopes in turf.

Local: South Mountain, south of Kentville and at Waterville. Scattered elsewhere.

Recently introduced from Europe. So far known from NS; NY.

Hieracium murorum L.
Golden Lungwort; épervière des murs

Photo by Martin Thomas

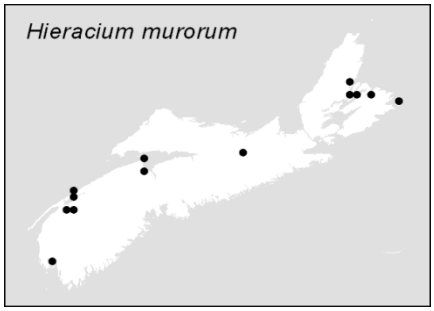
Photo by Martin Thomas

A tall perennial arising from a stout rhizome, it may reach 1m in height. Leaves are widely ovate and mostly basal. They are long-petiolate, coarsely and irregularly toothed, especially at their bases. The bright yellow flower-heads arise on slender glandular peduncles, subtended by an involucre to 1cm high. Phyllaries are also glandular, and linear.

Flowers in July.

Scattered and local from Yarmouth to Halifax and Cumberland counties, east to Sydney.

Ranges from Greenland to ON, south to IL and NJ; AK; BC. Introduced from Europe.



***Hieracium paniculatum* L.**
épervière paniculée

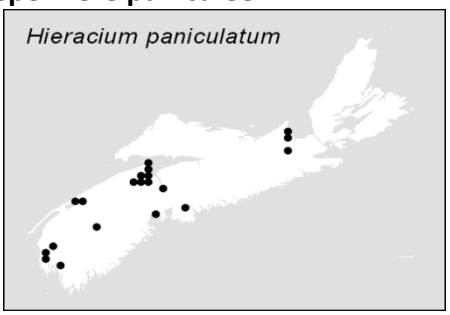


Photo by Sean Blaney

Another tall species, it may reach up to 1m at maturity. Leaves are broadly lanceolate to elliptic, their margins bear widely spaced shallow teeth. Flower array is a loosely branched and widely spread panicle of small flower-heads on slender peduncles. The phyllaries are lightly pubescent, arranged in several series; the involucre stands 1cm tall.

Flowers August and September.

Mixed forest on dryish soils, especially oak.

Occasional from Yarmouth east to Kings and Halifax counties. Common about Kentville and at Keji.

Ranges from NS to ON, south to GA and MS. Native.

***Hieracium pilosella* L.**
Mouse-ear Hawkweed; épervière piloselle

Photos by Sean Blaney

A short species, not exceeding 25cm in height, this species is strongly stoloniferous and readily forms large colonies. Leaves are all basal, oblanceolate and white-villous below. Flower-heads are solitary, 3cm wide, subtended by a involucre covered in short black pubescence. Peduncles are glandular. This species resembles Orange Hawkweed but for the solitary yellow flower-heads. We have both the typical variety, which is widespread and var. *niveum* Müll. Limited to NS, ME, MA and CT. The leaves have a persistent white tomentum below, while the typical variety has less pubescence with age.

Flowers mid-June to early August.

Bare soils on slopes, in pastures, lawns and roadsides.

Common from Digby and Queens counties to northern Cape Breton. Less frequent in southwestern counties.

Found from NF to ON, south to MN and GA; west coast. Introduced from Europe.

***Hieracium piloselloides* Vill.**
King Devil; Tall Hawkweed; épervière des Florentins

Photos by Martin Thomas

Another variable species, this species has several varieties and races. A perennial species, it ranges upwards of 1m in height. The leaves are narrowly oblanceolate, shiny and smooth. The stolons are absent or else weak. Flower-heads are crowded with yellow florets, subtended by black ribbed phyllaries forming a black pubescent involucre 7mm or so tall. Usually found in large patches.

Conspicuous in flower during June and July.

Fields, pastures, roadsides and waste places.

Common, from Digby Co., northward.

Ranges from NF to ON, south to IL and GA; WA; MT. Introduced from Europe.

***Hieracium robinsonii* (Zahn) Fern.**
épervière de Robinson

Photo by Sean Blaney

Photo by David Mazerolle

A short species, it rarely exceeds 35cm tall and bears both basal and cauline leaves. Rosettes of oblong leaves form, with smooth upper surfaces. There are from 1–20 cauline leaves, gradually reducing in size upwards, the lower often sharply serrate. Flower-heads, number 1–5, armed with villous pubescence. The phyllaries are acuminate.

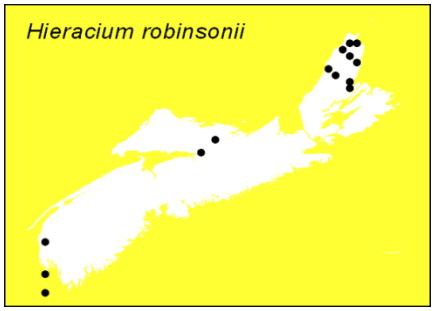
Flowers in July and August.

Found in riparian areas, in cobble, rock crevices and cliff-faces.

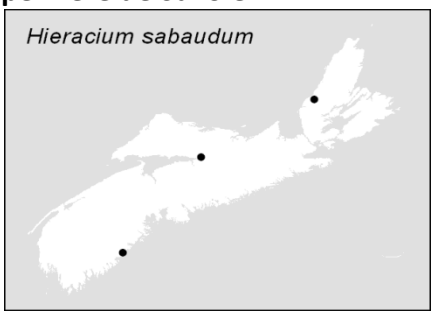
Local. Tusket Islands, Yarmouth Co., Truro area and northern Cape Breton.

Limited to Atlantic Canada and QC; ME and NH.

STATUS: YELLOW-listed.



***Hieracium sabaudum* L.**
épervière de Savoie



A lax species producing thin leaves and growing to 1m. Cauline leaves are obovate and sharply toothed. The lower leaves and the stem are armed with hairs, swollen at their bases. The inflorescence is of yellow flower-heads on slender pedicels. The involucre is 6–7mm tall and may be glandular or pubescent.

Flower during July and August.

Waste soils, grasslands, open forest.

Widely scattered: Mahone Bay, Truro and Strathlorne, Inverness Co.

NS, QC, BC; mid-Atlantic states and WI. Introduced from Europe.

***Hieracium scabrum* Michx.**
Rough Hawkweed; épervière scabre

Photo by David Mazerolle

Photo by Sean Blaney

Reaching 1m in height, the stems are simple bearing obovate or elliptic leaves, reduced in size towards the top of the plant. Both stems and leaves are hirsute, their margins faintly serrate. The inflorescence is a corymb of glandular peduncles bearing yellow flower-heads. The phyllaries are acute and rimmed with paler margins.

Var. *tonsum* Fern. & H. St. John is found only in NS to ON, south to MN and ME. It differs only in the length of integument on the lower stem, 1mm or less with the lower leaf surface glabrous in this var. Var. *scabrum* is found from NS to ON, south to OK and GA. and has the pubescence on stem and midrib of leaves about 2mm long.

Flowers from July through to September.

Usually in poor soils in pastures, fields and fallow sites.

Common throughout.

Ranges given above. Native.

***Hieracium umbellatum* L.**
(incl. *H. kalmii* L.)
épervière en ombelle

Photos by Beth Cameron

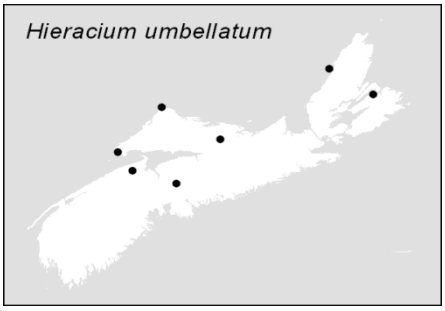
Stems to 1m, the leaves are crenate, linear to narrowly lanceolate in outline, reducing in size upwards on the plant. Margins may have a few widely spaced teeth, in addition to short conical hairs. Yellow flower-heads are showy and few in number on nearly bare scapes. They are subtended by imbricate series of phyllaries, unequal in length and without the dark pubescence of other species.

Flowers during July and August.

Rough ground, open woods and roadsides.

Scattered in central counties. Most frequent in Inverness and Victoria counties.

Ranges from NS to BC, south to MI and OR; MO and various eastern states. Circumboreal.



***Hieracium vulgatum* Fr.**
Common Hawkweed; épervière vulgaire

Perennial in habit, the stem reaches 1m in height. Leaves are mostly basal, arranged in a rosette, tapering to long petioles. Sometimes, they are noticeably streaked purple. The inflorescence is widely spreading, the stalks tomentose and sparsely glandular. The involucre is 7mm tall.

Flowers during July and August.

Found roadside and in nearby thickets.

Photo by Sean Blaney

Scattered from Annapolis and Queens counties to Cape Breton. Common through the Cobequids and locally common at Halifax and White Rock, Kings Co.

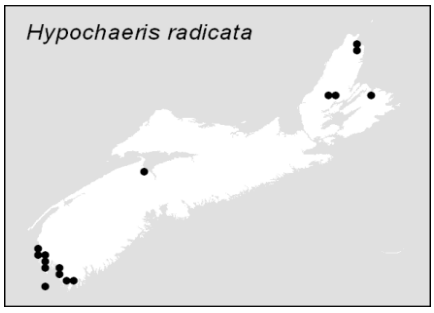
Ranges from Greenland; NF to ON, south to MN and NJ; BC to OR. Introduced from Europe.

Photo by Martin Thomas

Hypochoeris L.
cat's-ear

Cosmopolitan in range, there are about 100 species. One has been introduced into Canada. Resembling *Leontodon*, it may be distinguished on the basis of having chaffy bracts. Sometimes the stems of this species are leafy just below the inflorescence.

Hypochoeris radicata L.
Cat's-ear; porcelle enracinée



The hirsute stems reach 50cm in height. Leaves are coarsely lobed and arranged in a basal rosette. The pappus is sparsely plumose and the receptacle chaffy.

Flowers July to September.

Frequents fallow soils along roadsides, in yards and lawns or railbeds.

Photo by Andy Dean

Common in Yarmouth Co. Documented from Shelburne Digby and Kings counties. Collected from Victoria and Cape Breton counties.

Ranges across Canada, south to Gulf of Mexico, although largely absent from the plains; introduced from Europe.

Inula L.

Mostly Eurasian, this genus of 200 species is only represented in Nova Scotia, by one introduction. Largely associated with French settlements, it was a prized ornamental, now found in disturbed soils nearby.

Flower-heads are radiate, comprising yellow pistillate ray florets and perfect tubular disk florets. The involucre is made up of several imbricate series of phyllaries, the outer ones wider than the inner ones. The receptacle is flat and devoid of chaff. Pappus comprises bristles and the achene is angled or nerved.

Inula helenium L.
Elecampane; inule aunée

Photos by Sean Blaney

Tall plants exceeding 1m, the stem bears alternate leaves, finely serrate along the margins. The lower surfaces are velutinous or tomentose. Flower-heads are radiate; they arise from the upper leaf axils; 2–5. Disks are 3–5cm across, rimmed by the widely spaced ray florets, exceeding 1cm in length. The phyllaries are ovate, 1–2cm high.

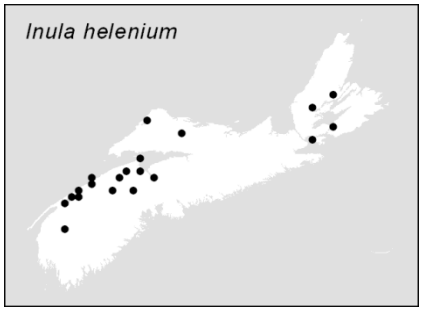
Flowers in August.

Damp soils on roadsides and in neighbouring fields or edges.

Scattered from Digby Co. to Cumberland Co; Whycocomagh area beaches.

Ranges from NS to MB, south to the Gulf; BC to CA; UT. Introduced from Europe.

This species is a noted Acadian medicinal plant and a frequent marker of old Acadian habitation.



Iva L.
marsh-elder

Native to the Americas, they include about 10 species in North America; a single species is found in Nova Scotia. They resemble ragweeds, with spikelike panicles of greenish white flower-heads. All florets are discoid, each head contains from 6–20 florets, nearly sessile on the pedicels. The receptacle is chaffy. Leaves are opposite, but for the reduced leaves below the flower-heads, where they are alternate.

Iva frutescens L.
Marsh-elder; ive arbustive

Photo by Martin Thomas

A shrubby plant, it may reach 2m in height. The opposite leaves are lanceolate, petiolate and crenulate. Flower-heads axillary, or they are solitary on short peduncles. The short involucre is of a few ovate phyllaries.

Our material belongs to ssp. *oraria* (Bartlett) RC Jacks. It is characterized by wider leaves. This ssp. ranges south along the coastal plain to GA; TX.

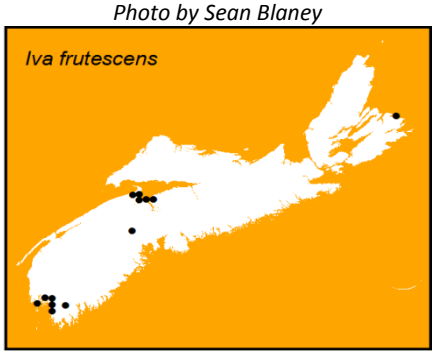
Flowers during August and September.

Disturbed and elevated areas around saltmarshes.

From Yarmouth County; Lunenburg and Kings counties, and in Cape Breton.

NS, ME, south along the coast to TX.

Photo by Sean Blaney



Lactuca L.
lettuce

Of Eurasian, African and North American distribution, lettuce includes 50 species; four reach Nova Scotia. Usually tall plants, they may be biennial or perennial, their leafy stems containing latex. Leaves are alternate, entire or lobed. The flower array is usually paniculate, with each flower-head containing only a few ligulate florets. Corollas are white, blue or yellow, the tube extending most of the length. The achenes are flattened, winged or ribbed on the margins. Pappus is made up of two rows of bristles.

Key to Species

A. Flowers pale blue; achenes short-beaked.	*Lactuca biennis*
aa. Flowers cream; achenes long-beaked.	B
B. Leaves bristly on the margin; achenes prominently ribbed.	*L. serriola*
bb. Leaves not bristly on the margins; achenes with a single rib.	C
C. Flower-heads small; mature involucre <14mm tall; achenes<6mm long	*L. canadensis*

cc.Flower-heads larger; mature involucre >15mm tall; achenes approx. 10mm long. *L. hirsuta*

***Lactuca biennis* (Moench) Fern.**
Tall Wild Lettuce; laitue bisannuelle

Photo by Sean Blaney

Photo by Sean Blaney

The impressive height to 2m, makes this species particularly conspicuous in late summer. It is the only species with bluish flowers in the genus. Pappus is tawny. Leaves are variable, but usually deeply pinnately lobed, with narrow deltate lobes. The achenes are compressed and bear several ribs on each face, tapering to short-beaked tips.

Flowers from July to September.

Grows ins coarse soil as along fields, roadsides and even in clearings in forest.

Scattered throughout Nova Scotia.

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

***Lactuca canadensis* L.**
Canada Lettuce; laitue du Canada

Photo by Sean Blaney

Photo by Sean Blaney

Biennial, it is also a tall plant, with a variable leaf shape, both lobed and unlobed. They may be entire and lanceolate, serrate on the edges or deeply pinnate, with narrow lobes. Flower-heads are numerous in a panicle, the florets cream-coloured. Involucre is up to 14mm tall, some phyllaries longer than others, extending beyond the receptacle.

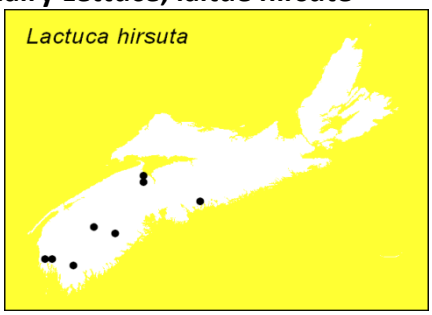
Flowers in July and August.

Found in open forest, cut-overs and edges of thickets.

Scattered throughout and sometimes common.

Ranges from NF to YT, south to FL and CA. Absent from the most arid areas.

Lactuca hirsuta **Muhl.**
Hairy Lettuce; laitue hirsute



Although this plant resembles the previous one, its flower-heads are generally larger. The involucre may show purplish, with reflexed phyllaries, 15–22mm tall. The achenes reach 1cm in length; the prominent pappus is 7–14mm long. Most of the leaves are basal rather than cauline, while *L. canadensis* has a leafy stem. Our plants are var. *sanguinea* (Bigel.) Fern., the leaves hirsute only along the midvein.

Photo by Sean Blaney

Flowers from July through September.

Grows in dryish soils in open forest and cut-overs.

Scattered in the western part of NS.

Ranges from NS; QC to ON, south to GA and TX.

***Lactuca serriola* L.**
Prickly Lettuce; laitue scariole

This species is easily separated on the presence of spiny leaf midribs and margins, and stems. Leaves are usually entire, their margins sharply serrate. Flower-heads are numerous and small. Achenes have several raised veins. Prickly Lettuce has a propensity to form hybrids with cultivated lettuce.

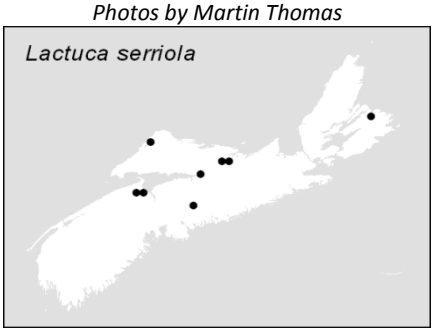
Flowers during August and September.

Roadsides and fallow soils elsewhere.

Collected from Sydney area and in Kings, Colchester , Cumberland and Pictou counties.

An introduced species from Europe, now naturalized throughout the continent.

Photos by Martin Thomas



Lapsana L.

A small genus of nine species, they are native to Eurasia. One annual species, has been introduced to Nova Scotia. Lettuce-like, it contains a milky latex, bearing small alternate leaves, with wide-spaced teeth or lobes. The showy flower-heads are several; the perfect ligulate florets have yellow corollas. Peduncles are pale in colour, appearing woody. Involucres contain a single series of keeled phyllaries. The achenes are linear, curving at both ends. Pappus is absent.

Lapsana communis L.
Nipplewort; lapsane commune

Photo by Sean Blaney

Freely branching this weedy species may reach 1m tall and contains a milky latex. The floral array is corymbiform, with numerous small flower-heads, about 10cm across. The ray florets are off-white and subtended by a smooth green involucre, up to 5mm tall. Pappus is absent.

Flowers mid-summer.

Frequents old gardens and fallow soils. Once established, spreads readily in disturbed shady soils.

Scattered from Kings Co., northeastward.

Ranges from Greenland; NF to AK, south to CA and GA sporadically. Introduced from Europe.

Leontodon L.

Another genus of Eurasian plants, with about 50 temperate species. Typically these plants have a scape bearing one or more flower-heads and a few scalelike bracts. In the Nova Scotian species, the flower-heads are ligulate, the yellow flowers perfect. They are subtended by an ovate or oblong involucre. Receptacle is devoid of chaff, although it may be reticulate or pubescent. The narrow achenes may be beaked or not. The pappus is plumose. Leaves are arranged in a basal rosette, and may be lobed or toothed.

Leontodon autumnalis L.
Fall Dandelion; liondent d'automne

Photos by Andy Dean

Bearing one or two yellow-flower heads, this species differs from *Taraxacum* in not having the white latex. Flower-heads are subtended by an involucre up to 10mm tall; the phyllaries are narrowly lanceolate and puberulent. The tawny pappus is plumose. Achenes measure 4–7mm long. Basal leaves are lobed, the lobes irregular. Peduncles are sparsely branched, near the top. Two ssp. are found in Nova Scotia. The typical is listed above. ssp. *pratensis* (Less.) Koch has the involucre densely pubescent. It is as abundant here as the typical variety and of similar distribution.

Flowers from June through October.

Found on roadsides, lawns, fields and fallow soils.

Common throughout.

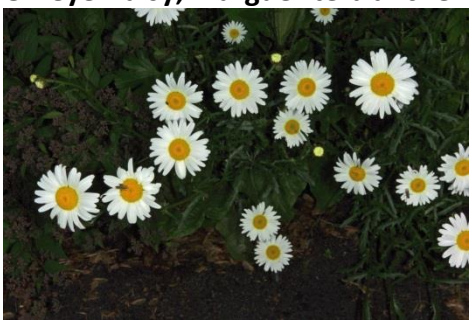
Ranges from Greenland; NF to ON, south to IL and VA; west coast.

Leucanthemum Mill.

Our daisies belong to a genus of 70 perennials and annuals native to Africa, Europe and temperate Asia. Rhizomatous, they form colonies of plants 30–100cm tall. Formerly included with *Chrysanthemum* and separated on the absence of fragrance and pubescence. Nova Scotia has a single species, well-known to most.

Leaves are cauline, irregularly lobed; the stem is usually unbranched terminating in a single radiate flower-head. It is subtended by a green involucre, its phyllaries with black margins. Stems arise from creeping rhizome. The flowers have yellow disk florets on a flat or convex receptacle. The white ray florets are usually pistillate and number about 20. Pappus is absent.

Leucanthemum vulgare Lam.
Ox-eye Daisy; marguerite blanche



Photos by Martin Thomas

Stems arise to 80cm, bearing oblanceolate leaves, with deeply lobed and toothed margins. Lowermost leaves appear to be pinnate. Flower-heads are borne singly on long peduncles, their disks 1–2cm across. Ray florets are pure white, 1–2cm long. The phyllaries have membranous margins. Plants spread vegetatively by rhizomes.

Flowers June and July.

Frequents roadsides, pastures, oldfields, meadows and fallow soils.

Common throughout.

Ranges throughout the continent. Introduced.

Matricaria L.
mayweeds

This is a genus of about 40 species, widespread throughout the northern hemisphere and introduced elsewhere. Typically, the alternate leaves are finely divided. The floral array is in a corymbiform inflorescence. Both discoid and radiate flower-heads are included. If present, the ray florets are white; disks are yellow and conical. The receptacle is devoid of chaff, which separates them from *Anthemis.*

Key to species

Rays absent. — *Matricaria discoidea*

Rays present. — *M. recutita*

***Matricaria discoidea* DC**
(=*M. matricarioides* (Less.) Porter)
Pineapple-weed; matricaire odorante

Photos by Sean Blaney

A small freely branched plant, no more than 20cm tall. The dense finely divided leaves resemble those of carrot. There are many discoid flower-heads, to 8mm across on a conical receptacle. The involucre has ovate phyllaries, their margins transluscent, 4–5mm tall. The pappus is a corona. Plant has a strong scent, not unlike pineapple.

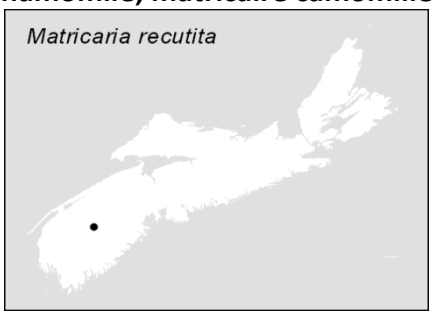
Flowers from July through September.

Yards, roadsides, sidewalks, waste places on disturbed and compacted soil.

Common throughout.

Ranges throughout the continent, but for the Gulf States; Greenland.

***Matricaria chamomilla* L.**
***(=M. recutita* L.)**
Chamomile; matricaire camomille



An annual species, it has radiate flower-heads, Chamomile also has a conical receptacle, which is nearly pointed. The achenes are marked along the margins by a pair of ribs and three ventral ribs. If present, the pappus is a short corona.

Flowers July and August.

Roadsides and fallow soils.

Found at Kejimkujik National Park in Queens Co. and at Truro.

Found across temperate Canada and in disjunct locations further south. Introduced from Europe.

Oclemena EL Greene

Formerly included in the genus *Aster*, these three eastern North American species are now separated on the leaf arrangement. The simple stems are gray tomentose, often red at the base. The leaves are alternately arranged and contain resin glands. Their margins may be toothed or entire. The floral array is from 1–several radiate flower-heads; the disks are yellow and bulbous at the apex; the ray florets are white to blue. Involucre is composed of green phyllaries, purplish along their midribs. The achene is glandular; the pappus is a double whorl of bristles.

Key to species

A. Woodland species; leaves widely lanceolate, toothed, near the top of the plant.	*Oclemena acuminata*
aa. Bog or edge of wetland species; leaves entire or nearly so and nearly linear, reducing in size towards the top.	B
B. Bog species; leaves entire.	*O. nemoralis*
bb. Edge of bogs and forest; leaves nearly linear but toothed.	*O*. x *blakei*

Oclemena acuminata (Michs.) Greene
(*Aster acuminatus* Michx.)
Wood Aster; aster acuminé

Photos by Martin Thomas

Photo by Sean Blaney

A woodland species, it may reach 50cm in height. Leaves are few, they are widely lanceolate and shallowly serrate and positioned only at the top of the plant. Lowermost leaves are smaller and usually deciduous. The flower-heads are few and borne on slender peduncles. Whitish ray florets are 1–1.5cm long and sparse. The involucre is less than 9mm tall.

Flowers August and September.

Found in dry soil, deciduous forest, thickets, clearings and along streams.

Scattered to common throughout.

Ranges from NF to northern ON, south to TN and GA.

Oclemena x _blakei_ (Porter) Nesom
(=_Aster nemoralis_ Ait., var. _blakei_ Porter)
aster de Blake

Photos by Sean Blaney

Photo by Sean Blaney

A hybrid between *Oclemena acuminata* and O.*nemoralis*, it more strongly resembles *O. nemoralis*. The 20–40 leaves are nearly linear but clearly toothed. The plant has a more lax appearance. The floral array is of 1–several flower-heads, the rays pale lilac and 7–20, each less than 1.5cm long.

Flowers August and September.

Found wherever both parents converge, such as the wooded edge of bogs, lacustrine zones, etc.

More common in the south and eastern regions, but found throughout.

Ranges from NS to ON, south to MI and PA.

***Oclemena nemoralis* Ait.**
(=*Aster nemoralis* Ait.)
Bog Aster; aster des tourbières

Photos by Martin Thomas

Photo by Sean Blaney

A neat slender plant 10–150cm tall, arising from a creeping rhizome. Plant is rugose. Leaves number 40–70, about 1–3cm long. Flower-heads 1–few, borne on a slender peduncle with a few reduced leaves immediately below. The involucre stands 5–7mm high, its phyllaries acute. Ray florets count 15–20, lilac in colour and to 0.5cm long.

Flowers in August and September.

Grows ins peaty acidic substrate as on barrens, in marshes, sphagnous bogs and along lakeshores.

Common throughout and especially so along the Atlantic.

Ranges from NF to ON, south to MI and MD.

Omalotheca Cass.

A genus formerly included within *Gnaphalium*. Perennial or annual herbs, their floral arrays are arranged in a spike-like thyrse or in terminal round heads. Pappus is a distinct ring of bristles or united into a ring at the base. Achenes are sparingly strigose.

Omalotheca sylvatica (L.) Sch. Bp and FW Schultz
(=*Gnaphalium sylvaticum* L.)
gnaphale de bois

Photos by Sean Blaney

Photo by Sean Blaney

A tomentose, erect plant, it has a simple stem, reaching 40–60cm. Its leaves are alternate and sessile, nearly linear in outline. The inflorescence is long and narrow, the flower-heads are borne in each of the upper leaf axils. Involucres stand only 5–6mm tall, the phyllaries are lanceolate and dark-edged.

Flowers August and into September.

Fields, forest clearings, edges and waste places.

Scattered from Kings Co. to northern Cape Breton. Infrequent in the southern regions.

Found from NF to ON, south to WI and PA; BC.

Onopordum L.
cottonthistle

A genus including about 40 Asian species, Nova Scotia hosts one introduction. Similar to *Cirsium*, the major difference is in possessing a flat fleshy reticulated receptacle, bearing short bristles on the partitions. The leaves are deeply lobed and very spiny, decurrent and winged.

Onopordum acanthium L.
Scotch Thistle (Scottish Thistle); onoporde acanthe

Photo by Jamie Ellison

A tall stout plant, it may reach upwards to 3m. The stem is winged from the decurrent leaf bases. Flower-heads are solitary and terminal, subtended by imbricate phyllaries tapering to a spiny tip. The pappus bears simple bristles another key character separating *Cirsium* from it.

Flowers mid-summer.

Fallow soils and waste grounds, compost.

Occasionally planted and escaping as in the Kentville area.

Ranges from NS to MB; BC, south to CA, TX and VA. Locally introduced from Europe.

Packera A. & D. Löve
ragworts

A genus of 64 species, formerly included with *Senecio*. Molecular evidence, chromosome numbers and a variety of morphological characters indicate that they differ significantly. In Nova Scotia, two species occur. Their leaves are basal and cauline. Their margins usually have only a few callous denticles, or none. Roots are usually not fleshy and branched while those of *Senecio* are mostly unbranched fleshy.

Distributed throughout North America and eastern Asia, they are herbs with yellow to red ray florets and mostly basal leaves on long petioles.

Key to species

Basal leaves oblanceolate, tapering at the base.	*Packera paupercula*
Basal leaves reniform, strongly cordate at the base.	*P. aurea*

Packera aurea (L.) A. Löve and D. Löve
Golden Ragwort; séneçon doré

Photo by Sean Blaney

Standing up to 80cm, stems arise from a basal rosette of reniform leaves, strongly cordate at the base. They are long petiolate. Cauline leaves are much reduced and sharply torn or serrate. Flower-heads are long-pedicellate in umbel-like cymes. Ray florets are yellow.

Flowers during June and July.

Grows ins moist soils of meadows, thickets and swamps.

Scattered through the province.

Ranges from NF to MB, south to TX and FL.

Packera paupercula (Michx.) A. Löve and D. Löve
Balsam Groundsel; séneçon appauvri

Photos by Sean Blaney

Small in stature this species rarely exceeds 50cm in height. Basal leaves are long-petiolate, acuminate to the petiole; cauline leaves reduce in size upwards along the stem. They are conspicuously serrate. One to several flower-heads bear bright yellow florets, the rays only 1cm long at most. The involucre is 3–4mm tall, its glabrous or tomentose phyllaries lanceolate. Highly variable but varieties are not recognized at present.

Flowers in July.

Confined to calcareous or gypsum soils, on cliffs, talus and outcrops.

Abundant where found but local to Hants Co. north to northern Inverness Co.

Ranges from NL to AK, south to WA, NM and FL.

Petasites P. Miller

Northern hemisphere in scope, only a single species reaches Nova Scotia; it is circumboreal. Generally dioecious, a few florets of the opposite sex are usually present. The flower-heads open prior to the leaves expanding, like *Tussilago*. Typical of the genus is the pappus of shining silky white bristles.

Petasites frigidus (L.) Fries.
Sweet Coltsfoot; pétasite des régions froides

Photos by Sean Blaney

A perennial species, it reaches 20–60cm in height. Typically its long-petiolate leaves are palmately lobed and white-tomentose. Cauline leaves are greatly reduced in size upwards along the stem. Flower-heads are several, creamy white and with ray florets. Fruiting heads are borne on elongating slender pedicels. Including the pappus the flower-heads are 1–2cm long. Ours is var. *palmatus* (Ait.) Cronquist.

Flowers throughout May, later than *Tussilago.*

Frequents moist soils in clearings or forests.

Scattered throughout the central counties to northern Cape Breton. Less frequent in southern NS.

Ranges from NL to AK, south to CA, CO and NY.

Photo by Sean Blaney

Prenanthes L.
rattlesnake-root

Centered in North America and Eurasia, there are 27 species in total. All are perennial herbs, containing a milky latex. Tubers are present. Their leaves are opposite. Nova Scotian species are typified by a paniculate or racemoid inflorescence of nodding flower-heads. Each flower-head comprises 15–35 perfect ligulate florets. Corollas are variously white, pink, purple or yellow. Involucre is one or more series of imbricate phyllaries. Pappus is of deciduous bristles.

Key to species

A. Involucre hispid; florets purple.	*Prenanthes racemosa*
aa. Involucre glabrous; florets not purple.	B
B. Florets 5–6; primary phyllaries 4–6.	*P. altissima*
bb. Florets >8; phyllaries >7.	C
C. Plant <40cm tall; involucre blackish; alpine.	*P. nana*
cc. Plants >40cm tall; involucre not black; widespread.	*P. trifoliolata*

***Prenanthes altissima* L.**
prenanthe élevée

Photos by Martin Thomas

Photo by Martin Thomas

Smaller than *P. trifoliolata*, it also has deltate leaves, cordate at the base, on long petioles. They may have a purplish hue. Always toothed, they may also be lobed at the base. Usually the involucre comprises five phyllaries and is glabrous. There are rarely more than six florets, subtended by an involucre 9–14mm tall.

Flowers during August and September.

Fertile forests and moist thickets.

Ranges from Yarmouth and Digby counties to northern Cape Breton. Less frequent along the Atlantic southwest.

Found from NS to ON, south to GA and TX.

Prenanthes nana (Bigel.) Torr.

A dwarf species, similar to the previous, but shorter in stature and with a blackened involucre. The inflorescence is elongate and narrow; the florets are yellow.

Flowers during July and August.

Found in alpine habitats and barrens along the coast.

From Isle Haute, Cumberland Co., around the Atlantic coast to Cape Breton Co. Recently observed on Margaree Island, Inverness Co.

NS, ME, NH and NY.

Prenanthes racemosa Michx.
Purple Rattlesnake-root; prenanthe à grappe

Photos by David Mazerolle

This plant may reach 120 cm in height although it is often much shorter in Nova Scotia. Leaves are glaucous, ovate, oblong or lanceolate, the basal leaves on long winged petioles. Florets are pink or purple, borne in erect to nodding, pubescent flower-heads.

Flowers during August and September.

Cliff-ledges and windswept headlands.

Rare: Sydney Mines, Sandy Cove, Digby Co.

Ranges from NS to BC, south to KY, and CO.

STATUS: ORANGE-listed.

A hybrid of this species and *P. trifoliolata* known as *P*. X

Photo by Sean Blaney

mainensis Gray has been reported from Sandy Cove. This hybrid is also reported from NY and ME.

***Prenanthes trifoliolata* (Cass.) Fern.**
Lion's-paw; prenanthe trifoliolée

Photos by Beth Cameron

Robust in stature, it may reach 120cm in height. Leaves often have three lobes, the middle cauline leaves are often palmate. Upper cauline leaves are ovate and cordate. Immature plants have basal leaves on long petioles; they are usually deltate. Flower-heads are cylindrical, pale yellow and nodding. Phyllaries are eight, also yellowish, to 14mm long. Pappus is light brown.

Flowers during August and September.

Forests, thickets, dry slopes and other habitats.

Common throughout.

Ranges from NF to ON, south to AL and GA.

Photo by Beth Cameron

Pseudognaphalium Kirp.
cudweeds

Recently this genus segregated from *Gnaphalium* on the basis of floral arrangement. There are 20 species of North America included here, although some are still under dispute. Annual or biennial, they are also white tomentose. Leaves are alternate; the inflorescence is corymbiform or paniculate.

Key to species

A. Leaves decurrent, forming thin wings; tips are acuminate. *Pseudognaphalium macounii*

aa. Leaves tapered at the base, not decurrent; tips are obtuse or merely acute. *P. obtusifolium*

Pseudognaphalium macounii (Greene) Kartesz
(=*Gnaphalium macounii* Greene)
gnaphale de Macoun

Photos by Martin Thomas

A neat erect species, it rarely exceeds 40cm in height. Leaves are narrowly lanceolate, acuminate at the apex and decurrent. Stem is tomentose or glandular. Inflorescence is a crowded corymb, becoming more lax with age. Phyllaries are yellow or ivory and ragged at the apices.

Flowers in August and September.

Open fallow soils, pastures, edges and waste ground.

Scattered in the western half at least to Truro. Once collected in central Cape Breton.

Photo by Martin Thomas

Ranges from NS to BC, south to CA, TX and TN.

***Pseudognaphalium obtusifolium* (L.) Hilliard & BL Burtt**
Povertyweed; gnaphale à feuilles obtuses

Photo by Martin Thomas

An annual species, it may reach 80cm tall, branching only in the ample inflorescence. The linear to lanceolate leaves are sessile, but not decurrent. Involucre is only 5–8mm in height, the phyllaries a dirty white and torn at the tip. Pappus bristles are distinct, falling separately.

Also flowers in August and September.

Grows in sandy, rocky soil in dry sites.

Scattered in southwestern counties, infrequent north to Pictou Co.; Sable Island.

Ranges from NS to ON, south to TX and FL.

Rudbeckia L.
coneflowers

Centred in North America, this genus comprises only 25 species. Flower-heads are radiate, the showy rays yellow, orange or pink. The receptacle is conical, the distinguishing feature. Both species found in NS are planted as garden annuals, and numerous hybrids have been derived from them.

Key to species

Leaves large and lobed; disk greenish yellow; pappus present. *Rudbeckia laciniata*

Leaves lanceolate; disk dark brown; pappus absent. *R. hirta*

Rudbeckia hirta L.
Black-eyed Susan; ronce sétuleuse

Photos by Sean Blaney

Photo by Martin Thomas

A perennial species arising on stiffly erect simple stems, they produce familiar late-summer yellow and brown flower-heads. Leaves are lanceolate, alternately arranged along the stem. Flower-heads solitary at the end of a hirsute peduncle. The yellow ray florets are 2–2.5cm long. The dark brown disk is hemispheric, 2cm wide. The involucre is foliose, hirsute on the margins of the phyllaries. Pappus is absent. Ours is the widespread var. *pulcherrima* Farw.

Flowers July and August.

Found on roadside banks, in old fields and even thickets, often forming masses.

Common from Annapolis and Cumberland counties to the Northumberland Strait. Less common in the southwestern counties and Cape Breton.

Ranges across the continent to the Gulf of Mexico. Introduced in Nova Scotia.

***Rudbeckia laciniata* L.**
Coneflower; rudbeckie laciniée

Photos by Sean Blaney

Photo by Martin Thomas

Photo by Sean Blaney

Another perennial species, reaching more than 2m tall. Lower leaves are up to 20cm wide, with 3–7 pinnate lobes. Flower-heads 1–3, borne on long peduncles. Ray florets number 7–10; they are yellow and about 2cm long. Phyllaries are foliose. The pappus is a corona.

Flowers in August.

Grows in wet fertile soils along the edge of swamps, swales or streams. Often colonial.

Common in Kings Co., isolated colonies from Annapolis and Cumberland counties to Guysborough.

Our native material as var. *gaspereauensis*, was once considered a variety endemic to NS, although authorities no longer recognize the variety.

The species ranges throughout most of the continent, but for the prairie provinces and the southwestern states. It is both native and introduced in Nova Scotia.

Senecio L.
ragworts

A large and diverse genus containing more than 1000 species, even after the splitting off of several additional genera. It is found worldwide. Nova Scotia has nine species, a tenth is considered an historic occurrence, after appearing but once. (*Senecio squalidus*).

Annuals or perennials, all bear lobed or toothed cauline leaves. Radiate or discoid, if the rays are present, they are yellow. Phyllaries are arranged in a single series, sometimes bearing bracteoles at the base of the involucre. Receptacle is flat; chaff is absent. The pappus is formed of numerous white bristles. Achenes are marked by 5–10 ribs.

Key to species

A. Annuals; plant slender, 10–70cm tall.	B
B. Plants densely glandular and sticky.	*Senecio viscosus*
bb. Plants neither glandular nor sticky.	C
C. Rays absent; bracteoles small and black-tipped.	*S. vulgaris*
cc.Rays present, but may be inconspicuous; outer bracteoles not black-tipped.	*S. sylvaticus*
aa. Perennials; coarse plants, 2–100cm tall.	D
D. Flower-heads very large, disks to 4cm across; seashores.	*S. pseudoarnica*
dd. Flower-heads smaller, disks to 1cm wide; common weed.	*S. jacobaea*

Senecio jacobaea L.
Tansy Ragwort; Stinking Willie; séneçon jacobée

Photos by Marian Munro

A biennial or perennial species, to 1m in height, the stems are white tomentose only near the top. Stems are very leafy, the leaves pinnately lobed, with sharp irregular teeth. Flower-heads are numerous, the rays to 1cm long. Phyllaries are lanceolate and black-tipped, forming the involucre which stands 3mm high.

Flowers from July to September.

Colonial along roadsides, fields, waste land.

Photo by Sean Blaney

Very common from Pictou to northern Cape Breton; common west to Yarmouth Co.

Found from NF to ON, south to IL and NJ; BC to CA and WY; casual elsewhere. Naturalized from Europe.

***Senecio pseudoarnica* Less.**
Beach Groundsel; séneçon fausse-arnica

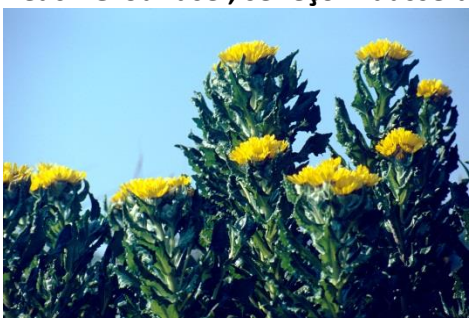


Photo by Mary Primrose

Photo by Alain Belliveau

Arising on stout white-tomentose stems, this species may reach 40cm in height. The leaves are elliptic to ovate and may be entire or coarsely toothed on the margins, to 15cm long. Their undersurfaces are also tomentose. Flower heads numbering one to several and 2cm or wider across, are arranged in a leafy array. Involucre is 2cm tall and covered in a cottony down.

Flowers from late July to August.

Found only on gravelly seashores.

Scattered along the entire Atlantic coast.

Ranges from NF to ON, south to Sable Island and ME; NT, AK south to Vancouver Island; northeastern Asia.

STATUS: YELLOW-listed in NS.

Senecio sylvaticus L.
séneçon des bois

Photos by Sean Blaney

Resembling *S. vulgaris*, but for its greater height, ranging from 10cm to 1m. Freely branching, robust bushy plants bear in excess of 100 flower-heads. Ray florets are very short and recurved. Pappus exceeds the corollas of the disk florets in length.

Flowers throughout the summer.

Found in clearings and on fallow ground, especially along the coast.

Scattered to common throughout.

Ranges from NF to QC, south to ME and variously further south; BC to CA. Naturalized from Europe.

Senecio viscosus L.
Clammy Groundsel; séneçon visqueux

Photos by Martin Thomas

An annual freely branching herb, this plant only reaches 60cm in height. It is covered with a dense glandular pubescence, attracting soil and chaff to cling to it. Flower-heads are numerous with the rays inconspicuous. The involucre is 6–8mm tall. Pappus contains copious bristles.

Flowers from July through December.

Found around urban areas, ports, railways, etc.

Scattered throughout.

Ranges from NF to BC south to ID, IL and NJ. Introduced from Europe.

***Senecio vulgaris* L.**
Common Groundsel; séneçon vulgaire

Photo by Sean Blaney

Another annual, this one is glabrous and green, standing up to 60cm tall. Flower-heads are discoid and numerous. The involucre is 8–10mm high, with a single series of phyllaries and well-developed bracteoles at the base. These are black-tipped. Pappus is formed of copious hairs.

Flowers well into fall. Common to see both florets and seeds at the same time.

Old gardens, near wharves, rails and waste ground.

Common throughout.

Continental North America except for NU. Introduced from Europe.

Silybum Adans.
Milk-thistle

Mediterranean in distribution, only one of the two species reaches Nova Scotia. A stout plant producing spherical flower-heads terminally on the branches. Leaves are wide and barely lobed, clasping at the base. The prickles are weak. Plants contain milky spots along the veins of the leaves. The involucre is foliose the phyllaries imbricate, broadly lanceolate, their tips spiny.

***Silybum marianum* (L.) Gaertn.**
Milk-thistle; chadon Marie

As above. Florets purple.

Flowering in July and August.

Escape from cultivation.

Historically known from Truro and Halifax.

Elsewhere in North America, NS to ON, SK to BC and variously south. Introduced.

Solidago L.
goldenrods

North American in scope, the goldenrods number about 100 species. Nova Scotia hosts about 16. Familiar to most as they frequent dry open sites, especially in late summer.

Typically they have radiate flower-heads, most often yellow. The ray florets are pistillate while the disk florets are perfect. All are fertile. The achenes are angular, marked by several nerves. The pappus is present, made up of filiform bristles. Both basal leaves and cauline leaves may be present. All are simple and alternately arranged. entire or toothed.

Goldenrods may be separated on the form and arrangement of the inflorescences and the presence of axillary flower-heads. Mature flower-heads therefore are required to confirm identity of most species.

Key to species

A. Inflorescence of small axillary clusters in an erect thyrse. B
B. Flower-heads very large; involucre to 11mm tall; phyllaries thin and acute; achenes 4–5mm long, smooth. *Solidago macrophylla*
bb. Heads small, involucre <8mm tall; phyllaries firm, acute or blunt; achenes glabrous or not, <4mm long. C
C. Leaves mostly basal. D
D. Phyllaries very narrow, <1mm wide, tapering to a hairlike tip. *S. puberula*
dd. Phyllaries broad, the middle ones >1.5mm long, blunt. E
E. Lowest leaves, 7–15X longer than wide; lowest petioles sheathing at the base; bogs. *S. uliginosa*
ee. Lowest leaves <7X long as wide; petioles F

not sheathing; upland species.

F. Achenes with persistent hairs; rare species. G

G. Rays 10–20*; p*lants arctic-alpine, Cape Breton. *S. multiradiata*

gg. Rays 7–10; plants not arctic-alpine, mostly mainland. *S. simplex*

ff. Achenes glabrous, at least with age. H

H. Rays yellow. *S. hispida*

hh. Rays silvery white or cream. *S. bicolor*

cc. Leaves mostly cauline. I

I. Leaves with 3 prominent veins; rays 6–18. *S. canadensis*

ii. Leaves without 3 strong veins; rays <8. *S. flexicaulis*

aa. Inflorescence a terminal panicle, nodding at the summit, secund, at least at the base. J

J. Leaves basal and cauline. K

K. Stem and leaves hispid throughout. *S. nemoralis*

kk.Stem and sometimes lower leaf surfaces smooth below the inflorescence, or the stem with long scattered hairs. L

L.Leaves succulent; plants maritime. *S. sempervirens*

ll.. Leaves not succulent, nor maritime. *S. juncea*

jj. Leaves cauline. M

M.Leaves without 3 main veins. N

N.Stem hairy, at least above the middle; plant of Open land throughout. *S. rugosa*

nn.Stem smooth below the inflorescence; wetlands of the southwest. *S. elliottii*

mm.Leaves with 3 main veins. O

O.Stem glaucous, glabrous below the flowers. *S. gigantea*

oo.Stem not glaucous; sparingly pubescent to the middle or lower. *S. canadensis*

***Solidago bicolor* L.**
Silver-rod; White Goldenrod; verge d'or bicolore

Photo by Martin Thomas

A solitary stem arises from the base, to 50cm, often ornamented with grayish pubescence. The leaves are lanceolate to obovate. Basal leaves are petiolate; cauline leaves are sessile, rapidly reducing in size towards the top of the plant. The inflorescence is a narrow cylindrical array of whitish flower-heads, 10–15cmm long. This species should be field-identified as it is difficult to separate from *S. hispida* once dried.

Flowers in August and September.

Frequents dry soil, old fields, barrens and roadsides. Colonizer of burns.

Common throughout, becoming less frequent in Yarmouth and Digby counties.

Ranges from NS to MB, south to GA and LA.

Hybrids form with *S. canadensis*.

Photo by Martin Thomas

***Solidago caesia* L., Blue-stem Goldenrod or Wreath Goldenrod** is now considered historic. There are no extant collections to substantiate its presence in NS although there are reports from Halifax, Kentville and Annapolis Royal. A plant to be expected as climate changes.

***Solidago canadensis* L.**
Canada Goldenrod; verge d'or du Canada

Photo by Martin Thomas

Photo by Alain Belliveau

A tall leafy species, it may reach 1.5m in height. The sharply toothed lanceolate leaves are clearly marked by three main veins. The floral array is freely branching, the flower-heads on secund branches, slightly recurved. Flower-heads small, bearing 10–15 rays, subtended by tiny involucres only 2–3mm high. Our material belongs to the typical variety, although several others are named.

Flowers from late July through most of August, one of our earliest goldenrods to flower.

Typical of edge habitat: fields, forests, roadsides and forming large colonies where competition is low.

Found throughout.

Ranges throughout the continent, with the typical variety mainly northeastern.

***Solidago flexicaulis* L.**
Wood Goldenrod; Zigzag Goldenrod;
verge d'or à tige zigzaguante

Photo by Sean Blaney

Photo by Sean Blaney

This species is noticeable within its habitat. The slender stems appear to zigzag, sometimes reaching a height of 1m. The petiolate leaves are cauline and ovate, acuminate at the tip and sharply toothed around the margins. Petioles are winged. The small flower-head clusters are axillary, each with only 3–4 ray florets, subtended by an involucre standing 6mm.

Flowers from July to September.

Riparian, species-rich deciduous or mixed forests.

Common from Digby County northward. Infrequent along the Atlantic coast.

Ranges from NS to ON, south to KS, LA and GA.

***Solidago gigantea* Aiton**
Giant Goldenrod; verge d'or géante

Photo by Sean Blaney

Photo by Sean Blaney

Photo by Martin Thomas

Very similar to *S. canadensis*, but for the glaucous stems. The inflorescence is also puberulent. Leaves similar but the three main veins may also be ciliate, a character not found in the smaller species.

Flowers in late summer.

Found streamside, on intervales in alluvial soils where it forms robust patches.

Common from central Colchester Co. to north-central Cape Breton. Also collected from Yarmouth, Annapolis, Kings, Lunenburg and Halifax counties.

Found throughout the continent.

***Solidago hispida* Muhl.**
verge d'or hispide

Photo by Sean Blaney

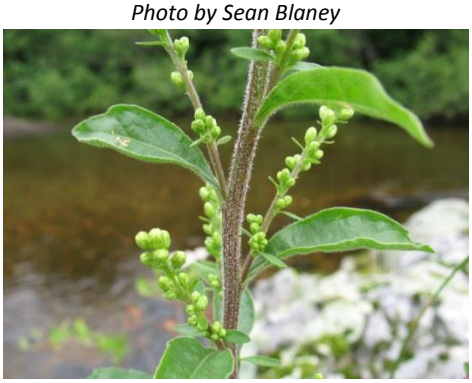
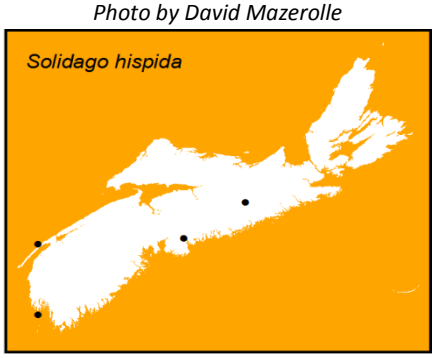


Photo by David Mazerolle



Resembling *S. bicolor* in height and compact inflorescence except in corolla colour. This species has yellow flowers as do all other goldenrods but one. The stem of this species is hispid, or with long spreading hairs.

Flowers during a brief period in August.

Grows in wooded banks and rocky shores.

In frequent, occasionally seen from Yarmouth to Colchester counties.

Ranges from NF to SK, south to OK and LA and GA.

STATUS: ORANGE-listed for Nova Scotia.

***Solidago juncea* Ait.**
Early Goldenrod; verge d' or jonciforme

Photo by Sean Blaney

Another tall species often exceeding a metre in height and arching. The leaves are lanceolate and the basal leaves are also long-petiolate. The large floral array is reflexed and secund, bearing bright yellow florets of 7–12 rays. The tiny involucre is only 2–3mm long. Stems and the inflorescence are glabrous.

Flowering from July to September, this species is usually the

first goldenrod to produce flowers in our region.

Dry soils in fields, thickets and roadsides.

Common from Digby and Lunenburg counties to Cape Breton. Less frequent in southwestern counties.

Found from NS to MB, south to LA and FL.

***Solidago latissimifolia* Mill.**
(=*Solidago elliottii* T & G)
verge d'or d'Elliott

Photo by Sean Blaney

A tall, stout species, often 1m high, its stems bears widely lanceolate to elliptic leaves. The entire plant is glabrous. The inflorescence is from 5–10cm long, with the lowest branches to 10cm wide. There are 6–12 rays crowded around each disk, all subtended by an involucre to 6.5mm tall.

Very similar to *S. rugosa*, but differs in being glabrous.

Flowers in August and September.

Clearings, thickets and bogs, swales and lakeshores.

Common in Yarmouth Co, east to Halifax Co.

Ranges from NS to FL along the coastal plain, west to MS.

***Solidago macrophylla* Pursh**
Large-leaved Goldenrod; verge d'or à grandes feuilles

A stout plant with very wide lanceolate leaves, reaching 1m in height. Lower leaves are borne on long petioles, leaves reducing in size towards the inflorescence which is 10–15cm long. Flower-heads each have 7–12 rays. Floral arrays are axillary in the upper leaves. Involucre measures 8–12mm tall.

Photo by Sean Blaney

Photo by Marian Munro

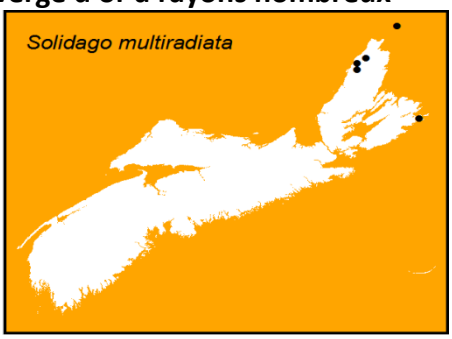
Flowers August through September.

Found on hillsides, in damp ravines and thickets.

Northern in distributions from coastal Cumberland Co, to northern Cape Breton.

Ranges from NL to ON, south to NY

***Solidago multiradiata* Ait.**
verge d'or à rayons nombreux



A perennial species, no more than 45cm tall. Its basal leaves are oblanceolate and glabrescent, reducing in size towards the inflorescence, becoming sessile. Leaf margins are ciliate. The terminal corymb is about 10cm tall, with few flower-heads. Disk florets crowded, with 15–20 ray florets. The involucre is 5–7mm high.

Photo by Sean Blaney

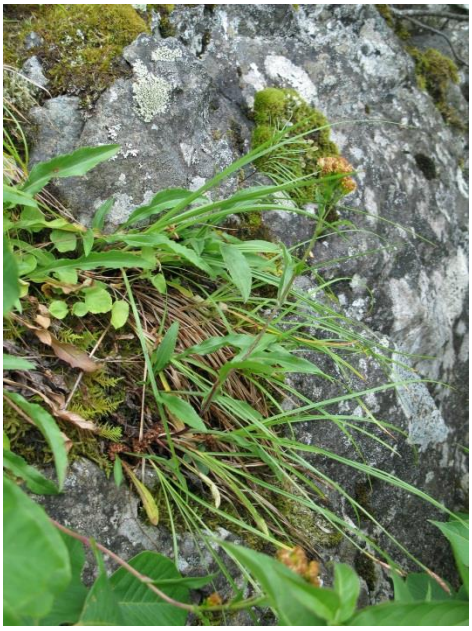


Photo by Sean Blaney

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Flowers in August.

Arctic habitats: barrens, ledges and cliff-faces.

Limited to St. Paul Island and northern Cape Breton, where it is very rare.

Ranges from NL to AK, south to CA, NM and ME; Siberia.

STATUS: ORANGE-listed.

***Solidago nemoralis* Ait.**
Old-field Goldenrod; verge d'or des bois

Photo by Sean Blaney

Photo by Martin Thomas

A small slender plant, it reaches only 30–50cm tall. Leaves are both cauline and basal, with the basal ones oblanceolate becoming lanceolate along the stem. The upper part of the plant is reflexed, the stem covered in a hoary appressed pubescence. The inflorescence is 10–15cm tall, the lower branches 1–3cm long and strongly recurved. Ray florets number 5–8, the heads subtended by an involucre 3mm tall.

Flowers in August and September.

Grows in infertile soils on barrens, roadsides and parking lots.

Scattered from southwestern counties to eastern Nova Scotia where it becomes frequent in suitable habitat.

Ranges from NS to BC, south to FL and NM.

Photo by Sean Blaney

***Solidago puberula* Nutt.**
Downy Goldenrod verge d'or pubérulente

Photo by Sean Blaney

A stiffly erect plant, about 50cm high, it has a simple stem. The floral branches and stem are covered in short stubby hairs. Leaves are lanceolate and smooth, the lower petiolate. The floral array is 10–15cm long and erect, the yellow rays numbering 10. The involucre is 4–6mm high, the phyllaries acutely lanceolate.

Flowers during August and September.

Grows in sterile run out soils as on barrens, plains, headlands and forests.

Very common species.

Ranges from NS to ON, south to LA and FL.

Photo by Sean Blaney

***Solidago rugosa* Ait.**
Rough Goldenrod; verge d'or rugueuse

Photos by Sean Blaney

Photo by Sean Blaney

Arising on a leafy stem reaching 2m, this plant is covered with a spreading hispid or strigose pubescence. The leaves are almost sessile, lanceolate in outline and sharply toothed. Their veins may also be pubescent. The inflorescence is upwards of 15cm tall, its branches widely divergent. Flower-heads are 3–5mm tall, with 6–9 rays.

Although it resembles *S. latissimifolia*, it is a widespread common species, whose stem is always hairy. Our material is all referenced to ssp. *rugosa* and several varieties are also named. FNA considers our material to be of var. *sphagnophila* Graves while var *villosa* is found further south. Perhaps our material should be re-examined. Var. *villosa* (Pursh) Fern. was considered to be scattered throughout NS but for the southwestern counties. It is separated on the lower floral array branches being equal in length to the leaves surrounding them.

Flowers late in August through September.

Frequents waste soils, forests and fallow fields.

Common throughout the province.

The species ranges from NF to ON, south to TX and FL.

***Solidago sempervirens* L.**
Seaside Goldenrod; verge d'or toujours verte

Photo by Sean Blaney

Photo by Sean Blaney

A robust plant to 2m, it arises on a glaucous stem. The widely lanceolate leaves are succulent with entire margins. The inflorescence is ample with secund, recurving branches. Flower-heads produce 10–15 rays, surrounded by an involucre 3–7mm tall.

Flowers from July to September.

Limited to saline habitats: marshes and beaches, dykes and slopes near the sea and even roadsides where salt has built up.

Found around the entire coast and on Sable Island.

Ranges from NF and the St. Lawrence Seaway, around the Great Lakes, south to FL and TX.

Forms hybrids with *S. canadensis* (*S. erskinei* B. Boivin), *S. rugosa (S. asperula* Desf.) and *S. uliginosa* –all present in Nova Scotia.

Photo by Martin Thomas

***Solidago simplex* HBK**
Verge d'or simple

Photos by Sean Blaney

An erect plant, but it is slender, and rarely exceeding 40cm in height. The leaves are smooth and linear, the margins ciliate but entire. Stem is also glabrous but for the short stiff hairs in the inflorescence. The yellow flower-heads are borne on short crowded branches, surrounded by linear phyllaries. Achenes are puberulent.

It is difficult to separate from *S. puberula*, as the pubescence on its stem is variable. Our material belongs to several varieties of ssp. *randii* (Porter) Ringius, although collections should be re-examined

Flowers during August and September.

Found on gravel beaches, headlands, hills or bogs.

Infrequently identified and possibly extirpated from NS. Known from Liscomb, Guysborough Co. and Brier Island, Digby Co.

Ranges from NS to ON, south to TN as ssp. *randii*.

***Solidago uliginosus* Nutt.**
Bog Goldenrod; verge d'or des marais

Photo by Sean Blaney

Photo by Sean Blaney

Stems reaching 1m, there are numerous cauline leaves, narrowly lanceolate reducing in size towards the floral array. Lower leaves are oblanceolate and petiolate. Floral array is often appressed, 4–10cm long and with secund branches. There are from 1–8 rays. We havetwo additional varieties, separated as follows.

Var. *linoides* (T&G) Fern. is from 10–90cm tall, with 5–20 cauline leaves. Var. *terrae-novae* (T&G) Fern. has a very short and slender floral array, 4–5cm wide, with its branches horizontal. This is limited to the Ingonish Barrens.

Grows in wet acidic soils as in peatlands or granitic barrens.

One of our more common goldenrods, wherever suitable habitat occurs.

Ranges from NF to MB, south to AL and GA.

Sonchus L.
sow-thistles

There are 50 species included, Eurasian in origin; three reach Nova Scotia as introductions. Tall plants, they all contain a milky latex . The leaves may be basal or cauline and are alternately arranged. Sometimes they are entire, toothed or dissected, usually the margins are prickly. Flower-heads are ligulate, with up to 80 florets crowded in the flower-head. The involucre is ovate or campanulate. The achenes are compressed with 6–20 midribs, acuminate but not beaked. The pappus comprises white filiform bristles.

Key to species

A. Perennial, stoloniferous; heads 3—5 cm wide; involucre >13mm tall in fruit. *Sonchus arvensis*
aa. Annual, not creeping; flower-heads to 2.5cm wide; involucre <13mm tall at maturity. B

B. Mature achenes with transverse tubercles, rugose with several nerves. *S. oleraceus*
bb. Mature achenes merely ribbed and not rugose. *S. asper*

***Sonchus arvensis* L.**
Perennial Sow-thistle; laiteron des champs

Photo by Martin Thomas

Photo by Sean Blaney

Reaching more than 1m in height, it arises from extensive stolons. Leaves are shallowly lobed and scarcely prickly. Flower-heads are several, 3–5cm wide and subtended by lanceolate phyllaries. The peduncles are glandular pubescent. Pappus is generous, of shining white bristles. Both the typical ssp. and ssp *uliginosus* (M. Bieb.) Nyman are present here. They may be differentiated on the basis of the pubescence on the peduncle and involucre. Ssp. *arvensis* is glandular pubescent, while ssp *uliginosus* is glabrous or merely pubescent.

Flowers from July to October.

Frequents coastal marshes and dykelands, about wharves and in cultivated fields.

Common throughout Nova Scotia.

Ranges across the continent, south to CA, TX and NC.

Photo by Sean Blaney

Sonchus asper (L.) Hill
Spiny Sow-thistle; laiteron rude

Photo by Sean Blaney

The leaves are obovate, less frequently pinnately lobed, with very spiny margins. They clasp the stem at the base, with rounded auricles. Flower-heads are small. Achenes have longitudinal ribs but are not transversely rugose like the next species.

Flowers from July through to October.

Cultivated land, usually in fertile soils.

Scattered throughout.

Ranges from NF to BC and southward. Cosmopolitan weed.

Sonchus oleraceus L.
Annual Sow-thistle; laiteron potager

Photos by Martin Thomas

An annual weed, rarely exceeding 1m, it bears shiny lobed leaves and angular auricles. The size and shape of the lobes are variable although the margins are always toothed and prickly. Flower-heads are small, 1.5–2.5cm wide, with the ray florets lemon yellow. Phyllaries are dark and papery.

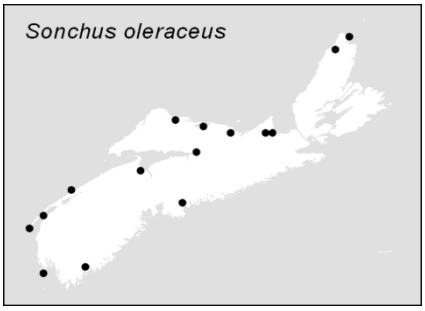
Achenes are striated, flat and rugose, about 1mm wide. Leaves are longer and more lobed than *S. arvensis*, and it lacks the creeping rhizomes.

Flowers July to October.

Coastal species, cultivated fields, gardens and fallow land.

Scattered throughout.

Found across Canada and southward. Absent from NU and YT.



Symphyotrichum Nees
asters

Symphyotrichum like many other genera (*Eurybia, Oclemena* and *Doellingeria*) has been removed from Aster and given generic status. The 90 species include annuals or perennials and are usually colonial or cespitose. In addition leaf heterophylly makes identification challenging. The stems are erect or ascending and not trailing. may be winged, clasped or ciliate. Flower-heads are usually radiate in our species, although there are disciform species known. Their arrays are various sometimes even single. Phyllaries arrannged in multiple series, each bearing a midrib. They are usually lanceolate or oblanceolate. The rays are fertile and pistillate and range in colour from white to purple. Disk florets are perfect and fertile, yellow to white, sometimes maturing to red. The persistent pappi are white or tawny bristles. The genus is North American, but has been introduced to Europe mainly as cultivated ornamentals.

Key to species

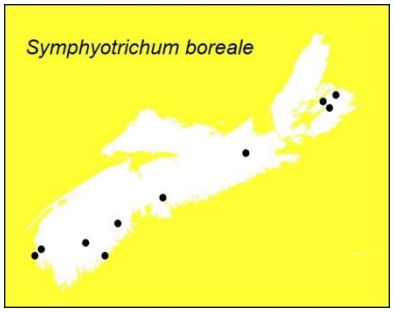
A. Plants annual; leaves and phyllaries ciliate.	B
B. Flower-heads disciform.	*Symphyotrichum ciliatum*
bb. Flower-heads radiate.	*S. ciliolatum*
aa. Plants perennial; leaves and phyllaries not ciliate.	C
C. Ray florets white, sometimes tinged pink or purplish.	D
D. Stems sparsely to densely pubescent;	E

glabrescent at the base.
E. Tips of the phyllaries flat. F
F. Stems ascending, sometimes arching; disks purplish. *S. lateriflorum*
ff. Stems erect; disk florets yellow. *S. lanceolatum*
ee. Tips of the phyllaries involute or folded. G
G. Plants colonial, with long rhizomes or branching caudices. *S. parviceps*
gg. Plants cespitose usually with branching caudices, rarely long-rhizomatous. *S. pilosum*
dd. Stems glabrous or glabrate to puberulent, sometimes hairs in lines in arrays. *S. tradescanti*
cc. Ray florets violet, purple, blue, pink, not white although albinos may be found. H
H. Phyllaries at least in part stipitate-glandular. *S. nova-angliae*
hh. Phyllaries eglandular. I
I. Plants colonial and cespitose; leaves serrate or crenate. J
J. Cauline leaves mostly clasping. *S. undulatum*
jj. Cauline leaves not at all clasping. *S. cordifolius*
ii. Plants merely cespitose; leaves entire or only shallowly serrate. K
K. Phyllaries long-acuminate; whole plant hoary. *S. puniceus*
kk. Phyllaries blunt or acute; plant may be pubescent but not hoary. L
L. Involucre lax; stem >2.5mm thick. *S. novi-belgii*
ll. Phyllaries appressed; stem <2.5mm thick. *S. boreale*

***Symphyotrichum boreale* (Torr. & Gray) A. & D. Love**
(=*A. borealis* (Torr. & Gray) Prov.)
Northern Bog Aster; aster boréal

Photo by Sean Blaney

Arising on simple stems, this aster may reach 1m in height, from an elongated rootstock. The sessile leaves are long and linear. The scanty array may be 20cm high, its branches ascending. Most of the flower-heads are terminal, each with 20–40 nearly-white rays, about 1cm long.



Flowers during August and September.

Lacustrine gravels, streamsides and edges of peatlands.

Scattered from Yarmouth to Cape Breton and uncommon.

Ranges from NF to AK, south to WVA and CO.

***Symphyotrichum ciliatum* (Ledebour) GL Neson**
Alkali Rayless Aster; aster à rayons courts

Photo by Sean Blaney

An annual species, its single stems may reach 70cm. They may be simple or branched. The leaves are narrow and spatulate, their margins bristly. Lower leaves wither before flowering. Disciform flower-heads are white, rayless and arranged in densely packed inflorescences. The phyllaries are in 3–4 series. Plants are conspicuous in fruit due to the well-developed pappus.

Flowers late in the season, from August to October.

In NS so far found along roadsides or on coal mine tips.

A recent introduction to the province. Collected along Hwy 102 at Enfield, Elmsdale and Shubenacadie. Also reported from coal tips between Stellarton and Westville, Pictou Co.

Ranges from NS to AK, south to NM and PA.

***Symphyotrichum ciliolatum* (Lindl.) A. & D. Löve**
(=*Aster ciliolatus* Lindl.)
aster ciliolé

Photo by Sean Blaney

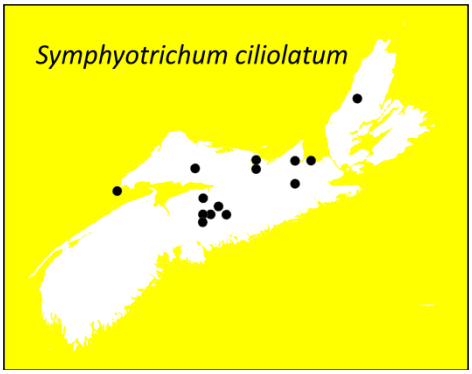
Plants are deep green, arising on erect stems to 1m. The leaves are ovate or widely lanceolate, abruptly narrowed to a winged petiole. Floral array is scant, the flower-heads interspersed with foliose bracts. Ray florets are bright blue 8–12mm long, subtended by an involucre 5–8mm high.

Flowers during August and September.

Open fields, lawns and edges.

Scattered from Hants and Colchester counties to Cumberland, Pictou and Inverness counties.

Ranges from NF to YT, south to WY and IL and NY.



***Symphyotrichum cordifolium* (L.) Nesom**
(=*Aster c.* L.)
Heart-leaved Aster; aster à feuilles cordées

Photos by Sean Blaney

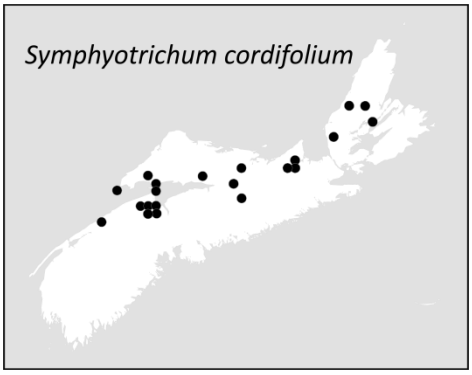
A perennial species, it is usually tall. The cordate leaves are 3–7cm wide, sharply serrate and borne on long slender petioles. The floral array is freely branching, to 15cm wide. The ray corollas are light blue; the involucre 3–6mm high. The corolla colour is highly variable.

Flowers from late summer into October.

Fallow ground, thickets, roadsides and edges; about houses and gardens.

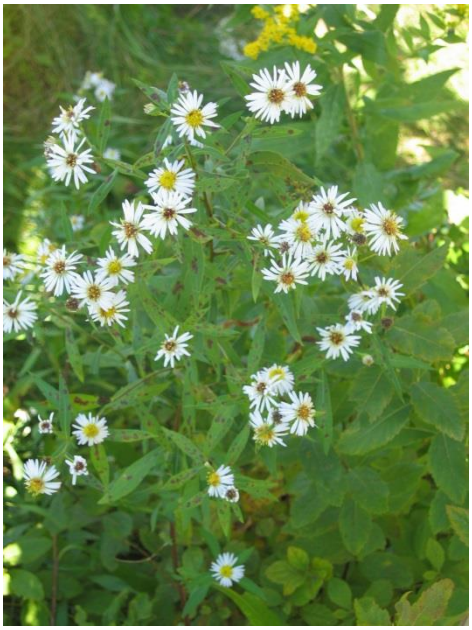
Common from Annapolis Co. and Cumberland Co. to northern Cape Breton. Absent in southwestern counties and infrequent along the eastern shore.

Ranges from NS to MB; BC; south to KS and FL.



***Symphyotrichum lanceolatum* (Willd.) Nesom**
(=*Aster lanceolatus* Willd.)

Photos by Sean Blaney



A colonial species to 1.5m tall, the plants arise on stout stems from creeping rhizomes. Leaves are lanceolate and scarcely serrate, the smaller ones with entire margins. The floral array is foliose, to 30cm wide. Each flower-head has 20–30 pistillate rays to 1cm long and pale violet to white, subtended by a short involucre 5mm tall. The phyllaries have a midvein extending to the tip, green.

Flowers during August and September.

Grows in damp soils as along intervales, edges of fields and thickets.

Scattered from Yarmouth Co. east to Cape Breton and common in the central region.

Ranges from NF to NT south to the Gulf of Mexico.

***Symphyotrichum lateriflorum* (L.) A. & D. Löve**
(=*Aster lateriflorus* (L.) Britt.)
aster latériflore

Photos by Sean Blaney

A slender freely-branching aster rarely reaching 1m in height. The stem and branches are densely pubescent. Leaves are lanceolate with the upper ones less than 4cm long. The floral array is also freely branched, the long racemes arching and forming most of the height. Each flower-head has 10–14 white pistillate florets and a purplish disk. The involucre is 4–6mm tall.

A more slender form has been named var. *tenuipes* Wieg. It is reported from Pictou Co. east to Cape Breton. Difficult to separate.

Flowers from July through October.

Grows in sterile soils of barrens, fields, roadsides and edges of forests.

Common throughout.

Ranges from NS to MB; BC; south to FL and TX.

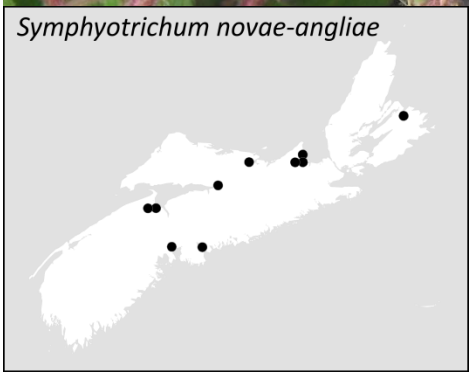
***Symphyotrichum novae-angliae* (L.) Nesom**
(=*Aster n-a* L.)
New England Aster; aster du Nouvelle Angleterre

Photos by Sean Blaney

One of our tallest asters, it often reaches 2m. Generally it grows in patches from creeping rhizomes. The lanceolate leaves are entire and sessile, but clasping the stem. Flower-heads are few, the peduncles are densely glandular pubescent. The pistillate florets are narrow, numbering 25–100 per head and generally reddish-purple.

It has often been grown as an ornamental.

Symphyotrichum novae-angliae



Cultivated material occasionally escapes. Found on roadsides, edges of fields and forests.

Widespread collections from Kings Co. and Halifax northeastward.

Ranges from NS to MB; BC; variously south to CA and GA. Absent from the prairies and arid plains. Introduced.

Symphyotrichum novi-belgii **(L.) Nesom**
(=*A. novi-belgii* L.)
New York Aster

Photos by Sean Blaney

This is a stout foliose plant, freely branching and upwards to 1m. Leaves are variously lanceolate to elliptic, often narrowing at the base and clasping the stem. Their margins may be entire or serrate. Floral array is branching, to 30cm wide, the ray florets from blue to mauve or rose-coloured. They are showy and number 20–40. The involucre is 5–7mm high. One of our most common blue asters and highly variable. Some of our material may belong to var. *elodes*.

More study is required of this complex.

Flowers from July through September.

Fields, damp soils, seashores, saltmarshes, headlands and coastal turfs.

Common throughout.

Ranges from NF to QC, south to SC.

Symphyotrichum parviceps (Burgess) Nesom (=*Aster p.* (Burgess) Mack. And Bush.)

A slender species from 30–80 cm tall. It bears linear leaves 10cm long. The floral array is diffuse, borne on bracteate peduncles. Ray florets are white, 12–15 surrounding a disk of 6–12 perfect florets. The involucre is barely 4mm tall.

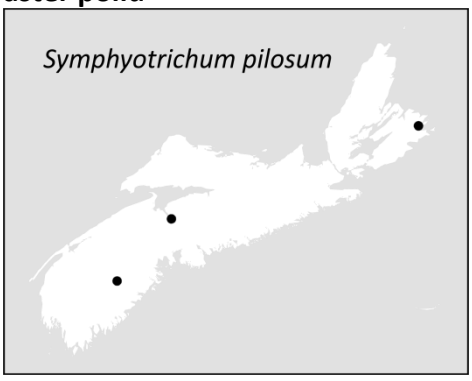
Flowers in August and September.

Grows in dry open soils, in fields and thickets.

Previously known from several acres west of Wentworth, Hants Co. Appears to be historic at this point.

Range is limited to IA to IL and OK; SC; introduced in to NS and ON.

Symphyotrichum pilosum (Willd.) Nesom (=*Aster pilosus* Willd.)
aster poilu



Another freely-branching aster to 1m in height. The leaves are short and narrow, rigidly borne. Inflorescence bears many flower-heads on bracteate peduncles. The rays are white 15–25 of them surrounding a crowded disk. The involucre is 3.5–5mm high, the phyllaries have the apices involute and green.

Flowers during August and September.

Frequents old fields and meadows.

Collected from Windsor area and Cape Breton, with reports from Wedgeport, Yarmouth Co.

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

in Nova Scotia.

***Symphyotrichum puniceum* (L.) Nesom**
(=*Aster p*. L.)
Rough Aster

Photo by Martin Thomas

Photo by Sean Blaney

A coarse species, it may reach 2m in height. The stem is reddish, bearing clasping lanceolate leaves. The terminal portion of the plant is generally coarsely pubescent. The lax floral array is foliose and freely-branching, to 20cm across. The phyllaries are lanceolate, subtending 30–50 bright blue ray florets.

Flowers from late July to September.

Grows on wet sites: swamps, swales and streamsides.

Scattered to common eastward from Annapolis and Lunenburg counties.

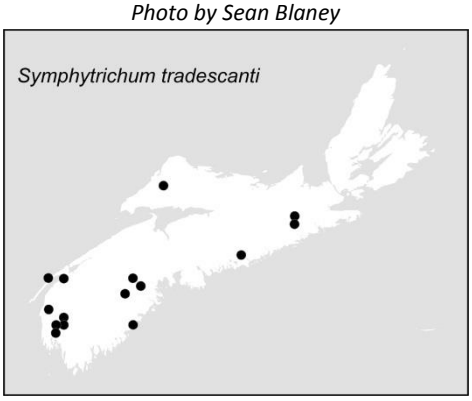
Ranges from NF to BC and NT, variously south to TX and GA

Known hybrids with this and *S. cordifolius* have been called *S*. x t*ardiflorus* (L.). It too is a tall plant, with the leaves abruptly tapering to a clasping winged petiole. Known from Cumberland and Richmond counties in NS, and also NB and QC.

***Symphyotrichum tradescanti* (L.) Nesom**
(=*Aster t*. L.)
aster de Tradescant

Photo by David Mazerolle

Photo by Sean Blaney



A small and slender species it arises from creeping rhizomes, its simple stems rarely exceed 40cm. The leaves are narrowly lanceolate. The floral array comprises short foliose branches or solitary flower-heads in the axils. Rays 15–20 and nearly white, are subtended by a small involucre 4mm tall.

Flowers during August and September.

Grows on gravelly shoreline sands of lakes and streams.

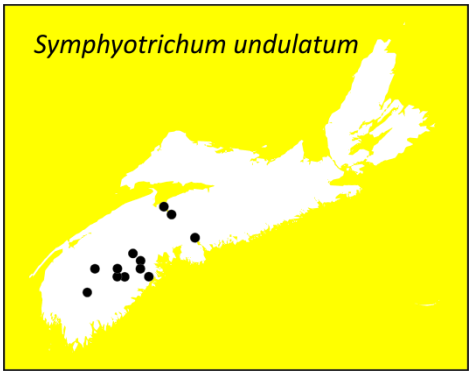
Scattered in southwestern counties to Cape Breton Co.

Ranges from NF to QC, south to NJ.

***Symphyotrichum undulatum* (L.) Nesom**
(=*Aster undulatus* L.)
aster ondulé

Photo by Sean Blaney

Photo by Sean Blaney



A robust aster, it reaches 1m in height. Its leaves are cordate at the base with clasping winged petioles. Upper leaves are sessile and ovate in outline. The upper leaf surfaces are minutely puberulent. The floral array is much-branched and widely divergent. The flower-heads are subtended by an involucre about 4mm high, the phyllaries green and acute. Rays are few, pale violet and from 5–8mm long.

Flowers during August and September.

An aster of edges of fields and forests.

Scattered about Lunenburg Co., Queens, Hants, Kings and Halifax counties.

Ranges from NS;ON, ME south to FL and LA.

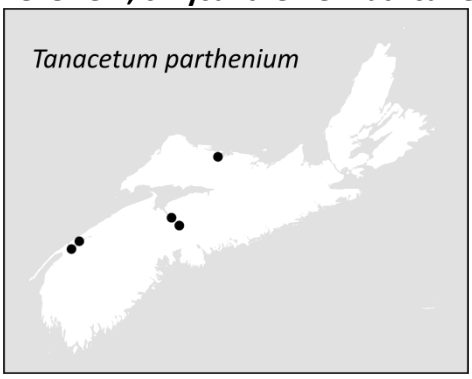
Tanacetum L.

These perennials include 70 plus widespread temperate species of the northern hemisphere. Resembling daisies, they differ in being aromatic. Disk florets have five teeth. The achenes are five-angled. The leaves are sharply toothed and pinnately lobed.

Key to species

Flower heads discoid; corollas yellow.	*Tanacetum vulgare*
Flower-heads radiate; ray corollas white.	*T. parthenium*

Tanacetum parthenium (L.) Schultz- Bip.
(=*Chrysanthemum parthenium* (L.) Bernh.)
Feverfew; chrysanthème matricaire



Freely branching and reaching 60cm, feverfew bears coarse pinnately lobed leaves, whose margins are also deeply toothed. The foliose array is lax, comprising many flower-heads. The yellow disks are less than 1cm across, surrounded by 10–20 white rays, 4–8mm long.

Flowers July to October.

Frequents fallow soils around gardens and dwellings.

Scattered from Annapolis and Digby to the Northumberland shore.

Ranges from NS to MB south to MS and AL; BC to CO and CA. Introduced here from Europe.

Photo by Pierre M Taschereau

Tanacetum vulgare L.
Tansy; taniasie vulgare

Photo by Martin Thomas

Photo by Martin Thomas

Strongly aromatic this perennial arises from a stout caudex. Cespitose, it reaches 40–150cm tall. The flower-heads are discoid and buttonlike, numerous. They are yellow and measure 6–10mm wide. Leaves are finely pinnate.

Flowers during midsummer.

Roadsides, fields, orchards and elsewhere in fertile soils.

Scattered throughout Nova Scotia.

Now ranges from NF to AK, south to CA, NM, LA and VA, after its introduction from Europe.

An Acadian medicinal plant.

Taraxacum Wiggers
dandelions

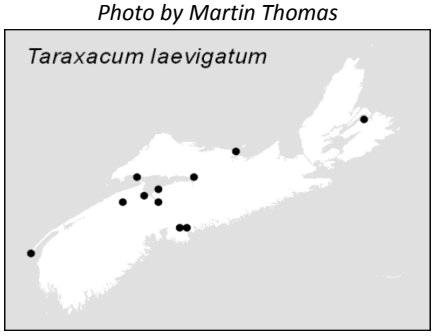
Dandelions include 60 temperate species in the northern hemisphere. Two are found in Nova Scotia and probably are the most recognized of all our wild flora. Flower-heads are ligulate and all are perfect. The involucre comprises two series of phyllaries, the outer shorter than the inner and reflexed at maturity. The achenes are tubular, and marked by 4–5 angles. The filiform bristles of the pappus are white. The stem is simple, hollow and produces a sticky latex, arising from the basal rosette of leaves, each of which is deeply lobed.

Key to species

Inner phyllaries with an appendage near the tips; achenes reddish or purple at maturity.	*Taraxacum laevigatum*
Inner phyllaries without appendages; achenes brown or tawny at maturity.	*T. officinale*

Taraxacum erythrospermum Andrcz.
***(=T. laevigatum* (Willd.) DC)**
Red-seed Dandelion; pissenlit à graines rouges

Photo by Martin Thomas



Easiest to confirm its identity when mature, this dandelion is less frequent. The achenes are rugose and reddish, with a stramineous beak, extending half their length.

Flowers late May through June.

Dry soils as found on turfy hillsides, pastures, recent clearings and open forest. Less aggressive than the next species.

Scattered throughout the province and common in the Annapolis Valley.

Ranges throughout most of North America. Introduced from Europe.

***Taraxacum officinale* Weber**
Dandelion; pissenlt officinal

*Photo by Sean B**laney***

The bright-yellow flower-heads are borne single atop a scape. The involucre reaches 2.5cm tall, and is formed of two series of phyllaries. The inner series is erect, while those in the outer series are reflexed. The achenes are greenish brown with tubercles at the summit.

The irregularly pinnate leaves show great variety in size and shape. Numerous named varieties reflect this, although our collections do not show this.

Photo by Sean Blaney

Flowers from May through July.

Can be an aggressive weed in lawns, pastures and even cultivated fields. Difficult to eradicate, due to vegetative spread via root fragments.

Common throughout.

Throughout the continent and now cosmopolitan.

Tragopogon L.
goat's-beards

Herbaceous plants, the 50 species included here are centred in Europe and North Africa. The species occurring in Nova Scotia are introductions. Typically the leaves are alternate, linear and clasping; their margins are entire. The ligulate flower-heads are carried singly at the ends of the branches. All florets are perfect. The involucre is campanulate or tubular with the phyllaries arranged in a single series. Receptacles are naked of chaff. Achenes are linear and may be round or angled in cross-section and sometimes beaked. Pappi are composed of a single series of bristles.

Key to species

A. Rays purple. *Tragopogon porrifolius*

aa. Rays yellow. B

B. Peduncles swollen and hollow above; phyllaries longer than the ray florets. *T. dubius*

bb. Peduncles not swollen in flower, barely so in fruit; phyllaries not exceeding the rays in length. *T. lamottei*

Tragopogon dubius Scop.
Western Salsify; salsifis majeur

*Photo by Sean B**laney***

This perennial species is smooth with hollow peduncles, even in flower. The phyllaries measures 5–7mm in height, exceeding the length of the rays. Achenes are also slightly longer, at 2.5–3.5mm.

Flowers during July and August.

Disturbed soils as on roadsides and fallow fields.

Collected only from Sydney.

Absent in North America only from the extreme southeast.

***Tragopogon pratensis* L.**
(=*Tragopogon lamottei* Rouy)
Goat's-beard; salsifis des prés

*Photo by Sean B**laney***

Photo by Martin Thomas

A common and conspicuous plant in flower, with its large globular flower-head and ample pappus. The involucre comprises several phyllaries 2–3cm long. Achenes bear long beaks and are nearly 2.5cm in length.

Flowers from June through August.

Frequents turf and meadows, fallow soils.

Scattered throughout, although less frequent on the northern plateau of Cape Breton.

Found across Canada and variously south to CA, OK and GA.

***Tragopogon porrifolius* L.**
Purple Salsify; Oyster Plant; salsifis cultivé

A cultivated species with bronze or purple rays, it reaches only 60cm in height. The phyllaries are longer than the rays.

Flowers from July to September.

A cultivated species grown for the flowers, edible tubers and as an herbal medicine. Escaping to nearby fields.

Reported from the ridge above Grand Pré. No collections to date.

Ranges from NS to MB; BC, variously south to CA, TX and GA.

Tripleurospermum Schultz-Bip.

A genus of about 38 herbaceous annuals and perennials resembling daisies. Formerly included with *Matricaria*, they are now separated on the characters of the fruit. Achenes have three midribs and a pair of resinous glands at the base. The leaves are alternate and deeply incised, with 1–3 pairs of leaflets split almost to the midrib. Flower-heads are radiate, at least in our single species.

Tripleurospermum maritimum (L.) WDJ Koch
Seaside Mayweed; Scentless Mayweed; matricaire maritime

Photo by Sean Blaney

A common succulent herb, this species resembles our Ox-eye Daisy. The finely dissected leaves are rather fleshy. Flower-heads are borne singly terminal on the branches of the floral array. The receptacles are hemispheric. Ray florets are white; disks are yellow. The plants are scentless unless crushed, when they exude a very faint chamomile scent.

Flowers from June to August.

Seashores, roadsides and about wharves.

Common around the coast. Infrequently seen in urban waste ground.

NF to AK, south to OH and NJ; west coast. Introduced from Europe.

Tussilago L.
Coltsfoot

A monotypic genus, originating from the Eurasian continent, Coltsfoot is now naturalized in Canada and the US and is invasive. A perennial species, it spreads by creeping rhizomes, sometimes forming large colonies. It is probably our first vascular plant to flower, often in March. Flower-heads yellow, borne

singly at the top of scapes bearing imbricate scales, prior to the leaves appearing. Leaves appear after seed-set. They are alternate and nearly cordate, scalloped and dentate, with a white tomentum below.

***Tussilago farfara* L.**
Coltsfoot; tussilage pas-d'âne

Photos by Ross Hall

The scapes may reach 50cm tall, bearing pink scales and white pubescence. The yellow radiate flower-heads produce tubular seed-heads with copious shining white bristles. Leaves are cordate and dark green above, white woolly below.

Flowers as early as mid-March to early May.

Disturbed stony soils in ports and gravel bars, roadsides. Forms pure colonies. Invasive in rocky streams and streamsides.

Common throughout.

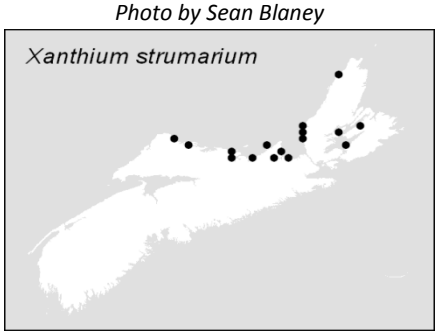
Ranges from NF to ON, south to TN and NC; BC and WA.

Xanthium L.
cocklebur

A small genus of only three species, the cockleburs are North and South American in range. Generally they have small flower-heads; the staminate and pistillate florets are separate on the same plant. Staminate florets are uppermost. The involucre is absent or vestigial. Pistillate flower-heads are split and the involucre encloses two florets forming an armed burr.

Xanthium strumarium L.
Cocklebur; lampourde glouteron

Photo by Sean Blaney



This plant is prostrate to ascending, reaching 60cm in height. The large coarse leaves may reach 12cm in width, irregularly toothed or lobate. The pappus is absent. Burrs enclose the seeds. They are yellow to light brown and provide certain identification. At maturity they measure 2cm in length and are armed with hooked and toothed bristles. Ours is considered to belong to var. *canadense* (Mill.) Torr. & Gray.

Flowers during August and September.

Frequents sandy gravelly seashores, just above the salt water reach, and occasionally spreading into nearby fields.

Most frequent along the Northumberland Strait, extending northward and into the Bras d'Or region. Also collected in Wolfville area.

Ranges from NS to BC, south to the Gulf of Mexico. Cosmopolitan.