

Polygonaceae

buckwheat Family

A mainly northern temperate family consisting of nearly 1000 species. In Nova Scotia, the Polygonaceae can be recognized immediately by the presence of an "ocrea" sheath around the stem at nodes of annual and perennial herbs. The ocrea may be papery or even ciliate or lacerate and it enhances the swollen appearance of the nodes which give the family its name: Polygonaceae = 'many knees'.

Leaves are generally alternate, less likely whorled or opposite. Inflorescence is terminal or axillary and sometimes subtended by an involucre. Greenish insignificant flowers are unisexual or perfect. Calyx and corolla are often not differentiated. Rather there is a whorl of 2–6 connate tepals, forming a small floral tube. Fruits are achenes. Rhubarb and Buckwheat are cultivated plants from this family.

Key to genera

- A. Achenes with wings, extending beyond the perianth; limited northern distribution. *Oxyria*
- aa. Achenes lenticular or trigonous, not winged, enclosed by perianth; wide-ranging. B
- B. Tepals 6, in 2 series of 3, inner ones enlarged in fruit, or if other, with bitter-tasting leaves. *Rumex*
- bb. Tepals in a single series of 5, nearly equal in size in fruit. C
- C. Achene enclosed by the perianth. *Polygonum*
- cc. Achene not enclosed and extending beyond the perianth. *Fagopyrum*

***Fagopyrum* Mill.**

buckwheat

Erect plants that produce alternate, broadly deltate leaves. Trigonal achenes are strongly exerted from the perianth. The two introductions are annuals of Asian origin that do not persist outside of arable fields and are scarcely reported apart from crop production in recent decades.

Key to species

Flowers tightly packed in compact terminal raceme; tepals white; achenes shining and smooth on the edges. *Fagopyrum esculentum*

Flowers loosely arranged in a protracted raceme; tepals green; achenes dull, rugose on the angles. *F. tataricum*

***Fagopyrum esculentum* Moench**

Buckwheat; sarrasin commun

Broadly deltate leaves are cordate at the base. Inflorescence is a tightly clustered raceme.

Frequents waste ground as around old house and garden sites, railyards and fields where it was

cultivated.

Occasionally seen in the Annapolis Valley and elsewhere.

A widespread introduction from Asia, nearly throughout North America.

***Fagopyrum tataricum* (L.) Gaertn.**
sarrasin de Tartarie

Similar to the previous species, but generally it has a more lax inflorescence. Flowers are not tightly clustered.

It is similar to Buckwheat in habitat, probably introduced with seed and grain. Not persisting long.

Rarely adventive in northeastern North America.

***Oxyria* Hill.**
Mountain Sorrel

A monotypic genus, it has perfect flowers, comprising two series of tepals. Plants are perennial, arising from stout roots. Leaves are long-petiolate, cordate at the bases and kidney-shaped.

***Oxyria digyna* (L.) Hill.**
Mountain sorrel; oxyrie de montagne



Photo by David Mazerolle

It is a compact little plant of very limited distribution is Nova Scotia. Leaves are nearly round. Inflorescence is terminal and branching above the leaves. The flowers form a crowded compact raceme.

Flowering from June to August.

Dripping cliffs and rocky scree.



Photo by David Mazerolle

An arctic-alpine species, restricted to Inverness County.

In the east, ranging from NF to AK, south to NS and NH; in the west south to TX.

STATUS: ORANGE-listed for NS.



***Polygonum* L. knotweed**

Temperate species, they are cosmopolitan in distribution, totalling about 200 species; almost half of the Nova Scotian knotweeds are introductions. Flowers are small and the corolla is absent. The calyx has 4–6 lobes. Stamens number 3–8. Fruit is a lenticular or trigonous achene. For ease in identification, keys to sections are followed by keys to species.

Keys to SECTIONS

- | | |
|--|--------------|
| A. Plants large and fibrous at the base; several meters tall; leaves have a sinus at their base. | PLEUROPTERUS |
| aa. Plant not fibrous at the base; <1m tall; leaves without a sinus at the base, or if sinus present, the plant is a vine. | B |
| B. Stem twining or trailing; outer sepals winged or keeled. | TINARIA |
| bb. Stem prostrate or erect but not a climber; outer sepals without wings or keels. | C |
| C. Stem clinging, with recurved prickles on the angles; leaves sagittate or hastate. | ECHINOCAULON |
| cc. Stems smooth; leaves linear or narrowly lanceolate. | |
| D. Flowers axillary. | POLYGONUM |
| dd. Flowers terminal in spikes or racemes. | E |
| E. Leaves mostly basal; stem upright, unbranched; with a single, dense | BISTORTA |

raceme.
ee. Leaves cauline; stem branching;
flowers in numerous panicles.

PERSICARIA

SECTION BISTORTA

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These are alpine perennials; the two Nova Scotian representatives include a Eurasian adventive and a native species. Leaves are strictly basal. The inflorescence is a showy pink, single panicle of small flowers.

Key to species

Inflorescence includes florets and bulbils.

Polygonum viviparum

Inflorescence without bulbils.

P. bistorta

***Polygonum bistorta* L.**

renouée bistorte

Leaves are broadly lanceolate borne on slender petioles, from the base of the plant. The showy inflorescence is large, with pink flowers.

Flowers in May and June.

Localized in waste ground, fields, meadows and cultivated land. Exotic.

Formerly known from Truro, in Victoria Park, where it was flourishing at several stations and also along Leppers Brook to the railway.

Known from NF; NS, ME, VT and MA in the east; NT to AK in the west.

Polygonum viviparum
Alpine Bistort; renouée vivipare



Photo by David Mazerolle

A stiffly erect plant, it has firm lustrous leaves, their lower surfaces glabrous or minutely pilose. Flowers are borne in an erect spike, with the lower florets replaced by bulbils (small plantlets). Upper florets are sterile, pink to white.

Damp slopes, gravels or rock.

A single locality known in NS: collected from St. Peter's area of Richmond Co.

Elsewhere limited to NF to AK, south to AZ, MI and VT; Eurasia.

STATUS: ORANGE-listed.

SECTION ECHINOCaulon

Two native vines are included here. Both have recurved prickles on the stem angles. Leaves are sagittate or hastate at the base.

Key to species

Leaves with basal lobes pointing downward; peduncle smooth; achenes triangular.

Polygonum sagittatum

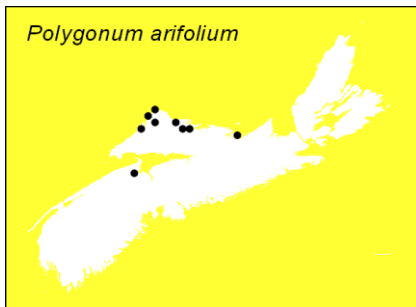
Leaves with the basal lobes flaring outward; peduncle glandular; achenes lenticular.

P. arifolium

***Polygonum arifolium* L.**
renouée à feuilles d'arum



Photo by David Mazerolle



With wide leaves resembling an arrowhead in outline, they may reach 15cm wide and 20cm in length. They are finely pubescent beneath with stellate hairs. Flowers are pink. A distinctive plant, rarely encountered.

Rich swamps subject to long duration of inundation; swamps range from alder thickets to black ash stands.

Collected from Kings, Annapolis, Colchester, Cumberland and Pictou counties.

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

***Polygonum sagittatum* L.**
Tear-thumb; renouée sagittée

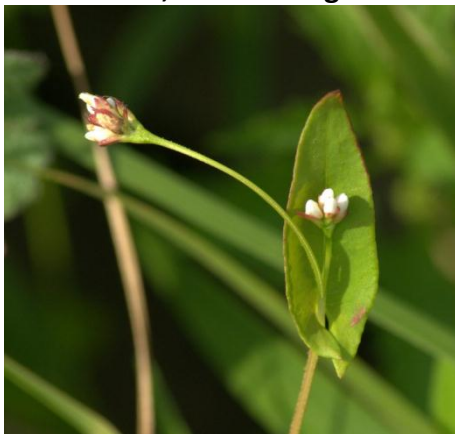


Photo by Alain Belliveau

A distinctive plant as well, it is often felt before seen! Its lanceolate leaves are narrow, tapering distally to a point. They are incised at the base to form two lobes, pointing downward and not flaring. Its stems are armed with recurved barbs. Flower spikes are of white flowers, terminal on the stem.

Flowers July to October.

Fertile soils as along streams or even ditches.

Very common throughout.



Photo by Sean Blaney

NF to MB, south TX and FL; OR.

SECTION PERSICARIA

Erect plants, they have axillary or terminal racemes, either compacted or interrupted. Achenes are lenticular or three-sided. Leaves are borne on short petioles or sessile.

Key to species

- A. Perennial from rhizomes or stolons. B
 - B. Racemes terminal; solitary or in pairs. *Polygonum amphibium*
 - bb. Racemes terminal, or axillary; several to many. C
 - C. Ocreae entire or nearly so, without a bristly fringe. *P. polystachyum*
 - cc. Ocreae ending above in a fringe of bristles. D
 - D. Perianth not glandular. *P. hydropiperoides*
 - dd. Perianth glandular. E
 - E. Racemes compact; leaves 2–3.5cm wide. *P. robustius*
 - ee. Racemes interrupted; leaves <2cm wide. *P. punctatum*
- aa. Annuals, from a taproot. F
 - F. Ocreae entire, not fringed. G
 - G. Outer sepals strongly 3-nerved in fruit; each nerve ending in a fork. *P. lapathifolium*
 - gg. Outer sepals only faintly nerved, not regularly forked. *P. pennsylvanicum*
 - ff. Ocreae fringed with bristles. H
 - H. Perianth not glandular. *P. persicaria*
 - hh. Perianth strongly glandular. I
 - I. Sepals 4; achenes dull, tepals usually pink-tipped; ochrea of inflorescences often swollen *P. hydropiper*
 - ii. Sepals 5; achenes shiny; tepals not pink-tipped; ochrea of inflorescence not swollen *P. punctatum*

***Polygonum amphibium* L.**
 (= *P. natans* (Michx.) Eat.; *P. coccineum* Muhl.)

Water Smartweed; renouée stipulée



Photo by David Mazerolle

A dioecious species, it has two varieties, of terrestrial and aquatic habitats.

Key to varieties

Terrestrial plant, lanceolate leaves; ochreae with spreading green margins. var. *stipulaceum*

Aquatic or floating; leaves elliptic; ochreae without spreading border. var. *emersum*



Photo by Sean Blaney

The deep pink flower clusters are distinctive, reaching 2 cm on short pedicels from the upper axils.

Flowers throughout the summer. Plants of var. *stipulaceum* N. Coleman frequent the muddy edges of ponds and *Typha* marshes, from Queens Co. northward. Var. *emersum* Michx. emerges in shallow waters of ponds, lakes and even slow-flowing streams. More common northward, but found from Annapolis and Cumberland counties north.

NF to AK, south to SC, TX and CA; Eurasia.

***Polygonum hydropiper* L.**

Water-pepper; Smartweed; renouée poivre-d'eau



Photo by Sean Blaney

A freely-branching erect and weedy species, it has narrowly lanceolate leaves. The terminal inflorescence is slender, of pale flowers. The sepals are dotted with dark glands. Achenes are rugose. The plant has a sharp, peppery taste.

Ranging from dried out depressions on arable land to ditches and marshes; a plant of disturbed habitat.

Common throughout the province and most of North America. Introduced.

***Polygonum hydropiperoides* Michx.**
(*P. hydropiperoides* var. *psilostachyum* H. St. John)

Mild Water-pepper; renouée faux-poivre-d'eau



Photo by Sean Blaney

Perennial and sprawling in habit, this species bears spikes of showy reddish pink flowers, 5–7cm tall, often drooping. Ochreae are crowned by a row of bristles. The calyx is not glandular.

Hybridizes with *P. robustius*, forming a plant with very thick stems and nodes, elliptic leaves and spikes of flowers. Collected from Graywood Annapolis Co.

Flowers from July to October.

Grows at edges of rivers, lakes and even beaches, often in masses.

Common in southwestern NS to Annapolis and Lunenburg counties. Uncommon to scattered northward to Cumberland County and east to Guysborough Co.

In the east, NS to ON, FL and TX; western range is limited to coastal regions south to NM South America.



Photo by David Mazerolle

***Polygonum lapathifolium* L.**
(includes *P. lapathifolium* var. *salicifolium* Sibth.; *P. l.* var. *prostratum* Wimm.)
renouée à feuilles de patience



Photo by Sean Blaney

An erect species, it may be branched or unbranched. Flowers are pale, arranged in one or more terminal racemes, borne on smooth or glandular peduncles. Leaves are lanceolate, sometimes tomentose beneath.

Found in a variety of habitats: streamside, lacustrine beaches, or cultivated land.

Scattered throughout the province.



Photo by David Mazerolle

Throughout the continent and Greenland, except for Nunavut; Eurasia.

***Polygonum pensylvanicum* L.**
Pinkweed; renouée de Pennsylvanie



Photos by Sean Blaney

With clusters of large pink flowers, this weedy species is quite showy, occurring as it does, in masses. The multiple inflorescences are carried upon glandular peduncles. The leaves are lanceolate.

Frequently seen in roadside ditches, edges of cultivated fields and along dyked marshes.

Generally northern, from Annapolis and Queens to Cape Breton counties.

Ranges from NF to MB, south to OR, TX and FL; AK.



***Polygonum persicaria* L.**
Lady's Thumb; renouée persicaire



Photo by Sean Blaney

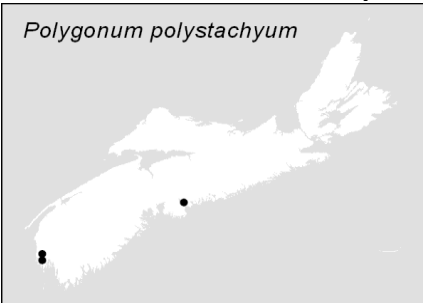
Also bearing lanceolate leaves, this species is often marked with dark blotches on the upper surfaces of the leaves. Ochreas have a row of stiff hairs and the stems are sometimes reddish. The flowers are crowded in the inflorescence which is carried on an eglandular peduncle.

Flowers from June to October.

Found in a variety of habitats, such as fields, in gardens, although it has been collected as *Polygonum puritanorum*, an entity now subsumed, on sandy lakeshores.

Throughout the continent. A European introduction.

***Polygonum polystachyum* Wall.**
Kashmir Plume; renouée à épis nombreux



With shrubby reddish stems, it also has very long narrowly-acuminate lanceolate leaves, truncate at the base. They are distinctively marked with veins.

An Asian ornamental perennial, it sometimes escapes beyond the garden limits. Apt to be seen more frequently in urban areas.

Halifax and Yarmouth collections, but unknown if the populations are still persisting.

NS; MA; BC to CA. Introduced from eastern Asia and considered invasive on the west coast.



Photos by Martin Thomas



***Polygonum punctatum* Ell.**
(includes var. *confertiflorum* (Meisn.) Fassett and var. *parvum* Vict. & Rousseau)
Water Smartweed; renouée ponctuée



Photos by Sean Blaney

A perennial species, it is often rooting from the nodes, especially at the base. Long leaves are broadly lanceolate. Flowers are carried in narrow panicles, that are much-interrupted near the base. Achenes are smooth and shiny, unlike those of *P. hydropiper*, which it resembles.

Marshes and shores of streams or generally wet areas.

Common throughout the province.

NS to BC, south to CA and FL. Absent from AB and NV, NM.



***Polygonum robustius* (Small) Fern.
renouée robuste**



Photo by Sean Blaney

Highly colonial, it forms large masses of plants to 1m in height. It produces white showy flowers.

A coastal plain species, it favours wet mud, often emerging in shallow water.

From Yarmouth Co., north to Antigonish and Inverness counties.

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



Photo by David Mazerolle

SECTION PLEUROPTERIS

Distinctive perennials in their size and tenacity, these plants may reach several metres in height. The stems are erect and stout. Flower clusters are axillary, the florets have an enlarged calyx, winged in fruit. Two species have been cultivated in Nova Scotia, and are now difficult to eradicate from established populations.

Key to species

Leaves round, wedge-shaped at the base, mature leaf blades mostly < 15cm long. *Polygonum cuspidatum*

Leaves ovate and cordate, leaf blades usually > 15cm long. *P. sachalinense*

***Polygonum cuspidatum* Sieb. & Zucc.**
Japanese Knotweed; renouée du Japon



Photo by Sean Blaney

Reaching several metres in height, the internodes are hollow, segmented like bamboo. Leaves are cordate to ovate and squared or cuneate at the base. The drooping panicles are axillary, with profuse whitish florets.

Once established, this perennial is hard to eradicate although clones can be reduced by shading (e.g. tree cover) and eliminated by frequent mowing.

Flowers from August to September.

Grows along roadsides, in neglected paved areas and in fallow land; it is also cultivated as an ornamental hedge.

Throughout the province in large colonies.

Widespread introduction, from Asia.



Photo by Martin Thomas

***Polygonum sachalinense* F. W. Schmidt**
Giant Knotweed; renouée de Sakhaline



Photo by Marian Munro

Nearly shrublike in its robustness, it has very large, ovate leaves with distinctive venation. Base of the leaf is cordate, with adjacent veins meeting distally. Like the previous species, there are many panicles of small white flowers drooping from the axils.

Flowering August to September.

Ornamental occasionally escaping.

Yarmouth to Cape Breton.

NS to ON, south to TN and NC; west coast. Asian origin.

Forms a hybrid with *P. cuspidatum* known as *P. X bohemicum* (J. Chrtek & Chrtkov ) Zika & Jacobson. Pubescence on the veins is intermediate as is the shape of



Photo by Sean Blaney
P. x bohemicum

leaf base.

SECTION POLYGONUM

Annuals, these species have only a single flower or a few in sheaths of distal leaves, borne on short pedicels. Achenes are three-sided, and usually required to confirm species. Some are heterophyllous, meaning that upper leaves of plant are several times smaller than lower leaves. (key after Hinds)

Key to species

- A. Leaves heterophyllous, mature achenes with 3 +/- equal concave sides. B
 - B. Achenes striate papillose, flowers over most of the stem, leaves lanceolate to ovate, pedicels shorter than ocrea. *P. aviculare*
 - B. Achenes smooth and shiny to somewhat roughened--but surface dots not disrupting the shiny surface, flowers distributed over upper half of stems, leaves narrowly elliptic, pedicels projecting from ocrea. *P. ramosissimum*
(var. *ramosissimum*)
- aa. Leaves homophyllous, mature achene various. C
 - C. Achenes smooth, rarely slightly papillate D
 - D. Outer perianth lobes in fruit, conspicuously boat-shaped. E
 - E. Leaves lanceolate or linear, 5-12 times as long as broad. *P. ramosissimum*
(var. *ramosissimum*)
 - ee. Leaves oblong, ovate or obovate, 2-4 times as long as broad. *P. fowleri*
 - dd. Outer perianth lobes in fruit not boat-shaped. *P. oxyspermum*
 - cc. Achenes papillate. F
 - F. Outer perianth lobes in fruit, conspicuously boat-shaped. G
 - G. Leaves lanceolate to linear, 5-12 times as long as broad. *P. ramosissimum*
(var. *prolificum*)
 - gg. Leaves oblong, obovate or ovate, 2-4 times as long as broad. H
 - H. Fruiting perianth divided less than 1/3 to base, achene papillae more or less even over surface. *P. achoreum*

- hh. Fruiting perianth cut down 1/2 or more to base; achenes mostly striate papillose. *P. buxiforme*
- ff. Outer perianth lobes in fruit, not boat shaped. I
 - i. Fruiting perianth divided slightly more than 1/2 to base; leaves oblong to ovate <5X as long as wide *P. arenastrum*
 - ii. Fruiting perianth divided 2/3 to 3/4 to base, leaves linear to lanceolate , >5x as long as wide. *P. bellardii*

***Polygonum achoreum* S. F. Blake**
renouée coriace



Photo by Sean Blaney

Initially growing erect, this plant soon becomes decumbent, with recurved branches. Perianth is yellow-green, forming a constriction above the achene, whose colour ranges from yellow to tan. Late-season achenes are often darker.

Flowers from July to September.

Typical plant of the halophytic communities: salt marshes and beaches.

Reported from the Annapolis Royal and Annapolis River area, but no extant collections.

Very common across Canada from NS to AK, south to OR, CO and WVA.

***Polygonum arenastrum* Boreau**
renouée à petits fruits



Photos by Martin Thomas

A prostrate species, it is freely branching, producing small ovate homophyllous leaves. The pale pink perianth is divided to about midway, with the segments not overlapped. Similar to *P. aviculare*, it can be separated on the basis of the leaves not being dimorphic. The achene shape should separate it from *P. buxiforme*. Additionally the ocreae become brown rather than silver.

A weed of disturbed and compacted soils.

Very common throughout, although not often collected!

Ubiquitous throughout the continent and introduced.



***Polygonum aviculare* L.**
renouée des oiseaux



Photo by Sean Blaney

Another prostrate, spreading plant, it bears its tiny flowers in the leaf axils. Heterophyllous, the sessile leaves are lanceolate or elliptic and much smaller on the branches, than the large pointed leaves on the stem. Very common weed species.

Flowers June to November.

Disturbed soils in dooryards, roadsides and rail lines, where competition from other species is lessened.



Photo by Sean Blaney

Common throughout NS.

Cosmopolitan in North America.

***Polygonum bellardii* All.
(*P. neglectum* Besser; *P. franktonii* Wolff and McNeill)
renouée négligée**

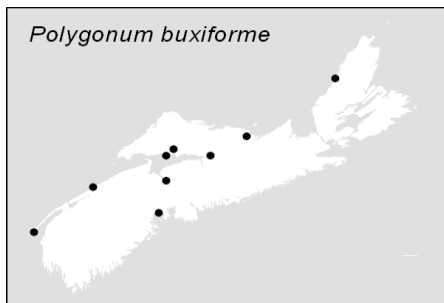
With its long narrowly linear to elliptic leaves, it can be separated from *P. arenastrum*. Of weedy habit, it is a sprawling freely branching species. Perianth is deeply divided, its segments overlapping. Internodes are noticeably long.

Disturbed areas of compacted soils.

Collected from Inverness Co. and central NS and Yarmouth Co.

Considered native in Canada's temperate regions and introduced across northern US south to CA, AR, DC.

***Polygonum buxiforme* Small
renouée faux-buis**



Resembles *P. arenastrum*, but it is limited to native habitats, especially those with saline soils. Plants are glaucous; sheaths are silvery. It produces achenes with three concave sides.

In NS, favours sandy soils at the coast.

Collections from the Fundy shore, Inverness Co. and St. Margarets Bay region on the Atlantic side.

A temperate species, especially common across the prairie provinces, and northern US.

***Polygonum fowleri* B. L. Robinson**
renouée de Fowler



Photo by Sean Blaney

A fleshy species, its ovate or elliptic leaves are glaucous and bluish, with a reddish cast. Rugose achenes are enclosed by the hooded tips of the calyx. The perianth in fruit is divided three-quarters of its length and sports white to pinkish margins.

Flowers mid-July to September.

Uncommon in native habitats along gravelly or sandy seashores.

Scattered from the head of the Bay of Fundy to Yarmouth Co. and Cape Breton, excluding Sable Island.

Labrador to ME and west to Hudson and James Bay regions; AK to OR; eastern Asia.

***Polygonum oxyspermum* C.A. Meyer & Bunge**
renouée à fruits pointus

A prostrate species, glaucous in appearance, freely branching, it has petal-like white sepals. It is distinctly homophyllous, unlike *P. aviculare* which it resembles.

Frequents damp sands and gravels on the coast.

Two subspecies are currently recognized. Ssp. *raii* (Bab.) DA Webb & Chater is separated from ssp. *oxyspermum* on ocreal and achene differences. The typical ssp. has terminally deciduous ocreae with prominent persistent veins. The achenes are more or less smooth and without tubercles. Ssp. *raii* has the achenes roughened and sometimes tubercled; the ocreae are scarcely veined and nearly all deciduous.

Collected from Shelburne and Queens counties, east to Strait of Canso; Bras d'Or Lakes to northern Cape Breton.

The typical ssp. is found only in Nova Scotia. Ssp. *raii* occurs in NF, PEI, NS and QC. Both are European introductions.

Polygonum ramosissimum* Michx.*(*P. exertum* Small)****Bushy Knotweed; renouée à fleurs jaunes***Photo by Sean Blaney*

A spindly plant, it is erect with long lanceolate leaves and pedicellate flowers, which distinguish it from others in the section.

Two varieties are now acknowledged: var. *ramosissimum* has heterophyllous leaves, while var. *prolificum* Small has all leaves the same and the plants are smaller in stature.

Both are plants of saline habitats as at the edges of saltmarshes.

The typical variety is common along the inner Bay of Fundy and along the Northumberland Strait, but uncommon elsewhere. There are no extant collections of the smaller variety in NS herbaria.

Ranges from NS to AK, south to CA, TX and SC.

*Photo by Sean Blaney***SECTION TINIARIA**

This section contains distinctive plants of the genus, as they are vines or twining plants with cordate leaves. At maturity the outer sepals are winged or keeled.

Key to species

A. Calyx widely winged in fruit.

Polygonum scandens

aa. Calyx keeled but not strongly winged in fruit.

B

B. Ocrea fringed at the base with recurved hairs; seeds smooth and

P. cilinode

shining.

bb. Ocrea not fringed at the base; seeds rugose and minutely striate.

P. convolvulus

***Polygonum cilinode* Michx.**

(*Tiniaria cilinodis* (Michx.) Small; *Bilderdykia cilinodis* (Michx.) Greene)

renouée à noeuds ciliés



Photo by Martin Thomas



Photo by Sean Blaney

A perennial species, its ochreas have recurved pubescence. Cordate leaves are twining. The sepals are keeled or winged at maturity.

Flowers June to August.

Thickets and clearings, edges of ditches and cultivated fields.

Scattered throughout NS.

NF to SK, south to GA.

***Polygonum convolvulus* L.**

Wild Buckwheat; renouée liseron



Photo by Martin Thomas

Similar to the previous species, it has no pubescence on the ochreae. Often the stems are reddish and the leaves may be arrow-shaped or merely cordate. Achenes are dull and striate. Flowers form in loose clusters within the inflorescence.

May to November flowers.

Commonly seen as a weed of gardens, fields and disturbed



Photo by Martin Thomas

soils.

Common throughout NS.

Widespread and persistent. Naturalized from Europe.

***Polygonum scandens* L.**

Climbing False Buckwheat; renouée grimpante



Photo by Sean Blaney

Leaves are deltate, the bases cordate and their basal lobes slender,. Flowers arise in whorls along the stem. Calyx is broadly winged in fruit. Achenes are smooth and shiny.

Flowers late, mid-August to October.

Grows on low ground in riparian zones, becoming luxuriant after trees are cleared.

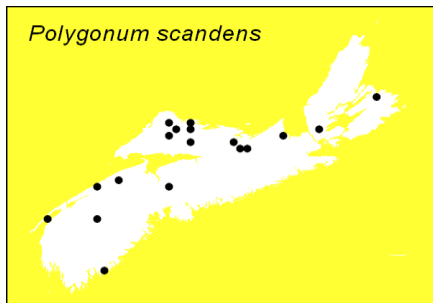
Uncommon and local, from Digby to Richmond counties on the northern side of the province.

NS to AB, south to FL and TX.

STATUS: YELLOW-listed in NS.



Photo by David Mazerolle



Rumex L.
Dock, Sorrel

Nearly worldwide, this genus includes about 200 species. Usually they have rather large inflorescences, of densely whorled clusters of tiny flowers arranged in paniculate racemes. Flowers have a perianth of two series of three tepals, six stamens and three styles. At maturity the inner tepals (called valves) may exhibit an enlarged midrib — an appendage known as a tubercle. Achenes are trigonous.

Key to species

- A. Leaves hastate or sagittate; strongly sour taste. B
 - B. Basal leaf lobes flaring outward; plants small and slender; valves equal to or smaller than the achene; plant <40cm tall. *Rumex acetosella*
 - bb. Basal leaf lobes flaring downward; valves may be larger than the achene; plant to 1m. *R. acetosa*
- aa. Leaves not lobed at the base, tapering at the base or with a sinus. C
 - C. Stem with leafy branches arising from the leaf axils; leaves thick and pale. D
 - D. Plants erect, not limited to seashores; width of tubercles <1/2 width of valves; valves much longer than tubercles. *R. salicifolius*
 - dd. Plants prostrate and freely branching, limited to seashores; width of tubercle >1/2 width of the valve; valves barely longer than the tubercle. *R. pallidus*
 - cc. Stems erect, usually without axillary branches; leaves green, not pale. E
 - E. Valves without tubercles or with one very tiny one. F
 - F. Basal leaves very large, nearly round, with deep broad sinus at the base. *R. alpinus*
 - ff. Basal leaves lanceolate. G
 - G. Valves broader than long or round, one may have small grain; pedicels in fruit may have swollen joint midway. *R. longifolius*
 - gg. Valves round to cordate, longer than wide, never with tubercle; pedicels without swollen joint. *R. occidentalis*
 - ee. Valves with 1–3 distinct tubercles. H
 - H. Valves not toothed. I

- I. Leaves broad, flat; veins right-angles to midrib and distinct halfway to the margin; pedicel with a slight swelling. *R. orbiculatus*
- ii. Leaves lanceolate, curled and wavy on the margins; veins oblique, forked; pedicel with distinct joint. *R. crispus*
- hh. Valves in fruit plainly toothed. J
- J. Teeth of the valves shallow; plants tall, common weeds. *R. obtusifolius*
- jj. Teeth of the valves bristle-like; plants small annual to biennialsof brackish and maritime stations K
- K. Tubercles (the grains within the valves of the inner tepals) straw coloured, almost as wide as inner tepals; inner tepal teeth about equal to width of tepal. *R. persicarioides*
var persicaroides
- kk. Tubercles brown or reddish, much narrower (ca. 0.5 times) than width inner tepal; inner tepal teeth normally 1.5-2.5 times as long as width of tepal. *R. persicaroides*
var fueginus

***Rumex acetosa* L.**

Garden Sorrel; Sourdock; grande oseille



Its clusters of long-petioled arrowhead-shaped leaves are distinctive. Tepals extend beyond the globose achene. Conspicuous in its height, it is sometimes a troublesome weed.

Flowers early June.

Fields and meadows and disturbed soils.

Naturalized and often abundant, this species is found throughout the settled areas of the province.

Local in eastern North America, west to AK, south to OR, WY and OH. Introduced from Eurasia.

Two subspecies are recognized from NS. *Ssp. thrysiflora* has

Photo by Martin Thomas



Photo by David Mazerolle

***Rumex acetosella* L.**

Sheep Sorrel; petite oseille



Photo by Martin Thomas

been collected from Ingonish area. The authors of FNA feel that the typical subspecies are often mislabelled. This variety has a pyramidal and freely-branching panicle not seen in ssp. *acetosa*. Its inner tepals are smaller than those of the typical plants. More study is required of our material to place them properly in these ssp.

Familiar to most, this tidy little plant has distinctive arrow-shaped leaves, their flared lobes pointing outwards. Appearing in large colonies the tiny flowers provide a reddish haze. There may be a whorl of reduced leaves at the base of the branching pedicels. These are linear rather than hastate, like the basal leaves. Achenes nearly fill the valves.

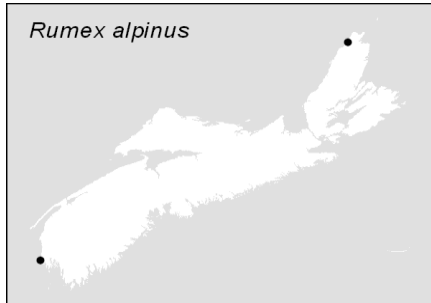
Flowers June to October.

A troublesome, rhizomatous weed of gardens and arable land; it also occurs on roadsides, burnt land, barrens and wherever competition is reduced by disturbance. It is usually indicative of acidic soils of poor fertility.

Very common throughout.

Throughout the continent, except for NU and NT.
Introduced.

***Rumex alpinus* L.**
patience alpine



A tall, erect species, it produces cordate basal leaves, carried on long petioles. Achenes are also cordate or round. There are no visible tubercles. It somewhat resembles rhubarb.

Flowers in the summer, June to August.

Old fields, disturbed soils.

Two collections are extant, Rockville Yarmouth Co. and Red River, Inverness Co. Reported to be introduced into Pictou Co.

Limited to NS, VT and southern ME. Introduced from Europe.

***Rumex aquaticus* L.**
(*R. fenestratus* Greene; *R. occidentalis* S. Wats.)
patience occidentale



Photo by Sean Blaney

Another tall, coarse species, this one has large tapering leaves with a sinus at the base. The inflorescence is slender and loose, with many tiny achenes carried on unjointed pedicels. There is no visible tubercle. Ours is referenced to var. *fenestratus* (Greene) Dorn.

Flowers during August and September.

Found in wet soils, wetlands and shores.

Scattered about.

NF to AK, south to CA, TX and NJ.

***Rumex crispus* L.**
Curled Dock; patience crépue



Photo by David Mazerolle



Photo by Alain Belliveau

A tall plant, it bears coarse wavy leaves, their margins inrolled at maturity. Leaf bases are strongly cuneate. Achenes have plump tubercles within cordate valves. Pedicels swollen towards the base.

Often seen as single plants or small clusters about fields, roadsides, waste ground around habitation.

Common throughout.

Throughout the continent, from Europe.

Known to hybridize with *R. longifolius* and *R. obtusifolius* within the province.

***Rumex longifolius* DC**
patience à feuilles longues



Photo by Sean Blaney



Photo by Sean Blaney

Another tall and coarse species, this one however has broadly lanceolate leaves. Stems are reddish, rather thick and deeply ridged. The crowded inflorescence produces many round achenes.

Flowers from June to October.

Fields, waste ground, cultivated areas, even damp hollows behind coastal beaches.

Scattered to infrequent in the province.

NF to AK, south of the Great Lakes to IL and NY. Introduced from western Europe.

***Rumex obtusifolius* L.**
(incl. var. *sylvestris* (Lam.) Koch.)

Blunt-leaved Dock; patience à feuilles obtuses



Photo by Martin Thomas

The large leaves are cordate at the base, narrowing at the tip and sparsely toothed on the margins. It bears a diffuse inflorescence, freely branched. The achenes have slightly toothed valves; the grains are oval.

Flowers from June to September.

Roadsides, waste places, fields.

Common throughout the province.

Ranges from NF to BC, south to FL and CA, but absent from the prairies. European native and naturalized here.

Known to hybridize with *R. longifolius* in NS.



Photo by Sean Blaney

***Rumex orbiculatus* A. Gray**
Water Dock; patience orbiculaire



Another broad-leaved species, this one has striking prominent venation. Leaf bases are cuneate and the margins are irregular. Narrowly lanceolate leaves are interspersed with flowers throughout the inflorescence. Achenes are strongly striate, with irregular margins. Tubercle, long and narrow.

A species of wet soils, paludal, lacustrine or riparian habitats and sometimes found in swamps a cat-tail marshes.

Photo by Sean Blaney



Photo by Sean Blaney

Scattered to common throughout.

Ranges from NF to BC, south to PA and NE.

Hybrids reported from northern Inverness Co., with *R. longifolius*.

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The former var. *borealis* Rech has now been recognized as *R. britannica* auct. non L. Its presence/status in NS is still undetermined although there is one collection from Hunting Point, Kings Co. at ACAD.

***Rumex pallidus* Bigel.**
Sea-beach Dock; patience pâle



Photo by David Mazerolle

Superficially, this species resembles *R. crispus*. However its leaves are flat and glaucous. A species of beaches, its growth habit is not erect, rather sprawling and prostrate. The achenes have the tubercles nearly the height and width of the valves.

Flowers throughout the summer.

Associated with coastal beaches, sandy, gravelly or rocky.

Yarmouth and Shelburne counties to northern Cape Breton, coastally. Rare along the Strait of Canso and in the Bras d'Or Lake region.

NF to MB, south to NY; Eurasia.



Photo by Martin Thomas

***Rumex persicarioides* L.**
American Golden Dock



Photo by David Mazerolle

This is an annual or biennial of saltmarshes and barrachois. The species has been separated from the European *Rumex maritimus* and our populations are treated in Flora Nova Angliae (Haines, 2011) as part of *Rumex persicarioides*.

Two varieties are present in Eastern North America, the more common is *R. persicarioides* var. *fueginus* which we describe below. Variety *persicarioides* is rarer and noted as less weedy in New England (Haines, 2011). The status of *Rumex persicarioides* var. *persicarioides* in Nova Scotia remains to be determined.

***Rumex persicarioides* var. *fueginus* (Phil.) A. Haines**



Photo by David Mazerolle

Narrowly lanceolate leaves with irregularly toothed margins mark this species. The achenes are nearly sessile, tightly clustered around the stems. Valves bear long bristles the tubercle is lanceolate.

Flowers are golden, from July to October.

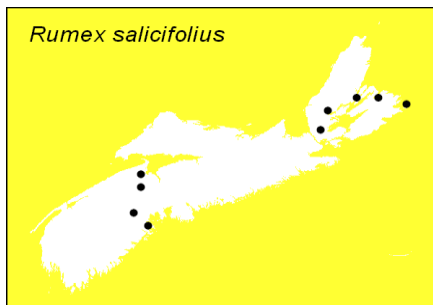
In open, organic coastal microsites, particularly of saltmarshes and barrachois

Infrequently found around the coast from Amherst and Advocate to Queens Co. Abundant on Sable Island; scattered in western Cape Breton.

Taxon previously treated as *Rumex maritimus* var. *fueginus*; Flora North America separates this native species from the European, *Rumex maritimus*.

Ranges from the Anticosti Island to Long Island, NY along the coastal plain, scattered westward to CA and AK; Andean South America; Eurasia.

***Rumex salicifolius* JA Weinm.
(*R. triangulivalvis* (Danser.) Rech. f.)
patience à valves triangulaires**



A tall perennial, it may reach 1m or more, from a taproot. Leaves are long and narrowly elliptic. Valves are thick and triangular in outline. Our plants belong to var. *mexicanus* (Meisn.) CL. Hitchc. This variety is erect and slender compared to the typical form found elsewhere.

Associated with beaches or riparian meadows.

Reported from a few localities only: Sweets Corner, Hants Co., Cornwallis River, Kentville, Kings Co. and the River Inhabitants, Inverness Co.

Ranges from NS to northern BC, south to CA, TX and KY; Eurasia.