

# Washington Flora Checklist

## A checklist of the Vascular Plants of Washington State

### Hosted by the University of Washington Herbarium

#### Family: Brassicaceae

170 terminal taxa (species, subspecies, and varieties).

The Washington Flora Checklist aims to be a complete list of the native and naturalized vascular plants of Washington State, with current classifications, nomenclature and synonymy.

#### Taxa included in the checklist:

- \* Native taxa whether extant, extirpated, or extinct.
- \* Exotic taxa that are naturalized, escaped from cultivation, or persisting wild.
- \* Waifs (e.g., ballast plants, escaped crop plants) and other scarcely collected exotics.
- \* Interspecific hybrids that are frequent or self-maintaining.
- \* Some unnamed taxa in the process of being described.

Family classifications follow [APG IV](#) for angiosperms, PPG I (J. Syst. Evol. 54:563?603. 2016.) for pteridophytes, and Christenhusz et al. (Phytotaxa 19:55?70. 2011.) for gymnosperms, with a few exceptions. Nomenclature and synonymy at the rank of genus and below follows the [2nd Edition of the Flora of the Pacific Northwest](#) except where superceded by new information.

Accepted names are indicated with blue font; synonyms with black font.  
Native species and infraspecies are marked with **boldface** font.

**Please note:** This is a working checklist, continuously updated. Use it at your discretion.

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Available online at <https://burkeherbarium.org/waflora/>

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# Dicots:

## Brassicaceae [FNA7, HC2] Mustard Family

### Synonyms:

Cruciferae [HC]

Our taxonomy and nomenclature follows the treatments of Flora of North America Vol. 7 (2010) and Rollins (1993a, 1993b, 1993c), unless otherwise noted.

**References:** (none)

### *Alliaria* [FNA7, HC, HC2]

Enum. 161. 1759.

garlic mustard

*Alliaria petiolata* (M. Bieb.) Cavara & Grande [FNA7, HC2]

Bull. Orto Bot. Regia Univ. Napoli. 3: 418.

garlic mustard

*Alliaria officinalis* Andr. ex M. Bieb. [HC]

### *Alyssum* [FNA7, HC, HC2]

Sp. Pl. 2: 650. 1753; Gen. Pl. ed. 5, 293. 1754.

alyssum

*Alyssum alyssoides* (L.) L. [FNA7, HC, HC2]

Syst. Nat. ed. 10. 2: 1130.

small alyssum, pale madwort

*Alyssum desertorum* Stapf [FNA7, HC, HC2]

Denkschr. Kaiserl. Akad. Wiss., Wien. Math.-Naturwiss. Kl. 51: 302. 1886.

desert alyssum

### *Arabidopsis* [FNA7, HC, HC2]

Fl. Sachsen. 1: 538. 1842.

[name conserved]

mouse-ear cress, thale cress

*Arabidopsis kamchatica* (Fisch. ex DC.) K. Shimizu & Kudoh [HC2]

Acta Phytotax. Geobot. 56(2): 167.

kamchatka rockcress, lyre-leaved rockcress, western rockcress

(= *Arabidopsis halleri* ssp. *gemmaifera* × *Arabidopsis lyrata* ssp. *petraea*)

*Arabidopsis lyrata* (L.) O?Kane & Al-Shehbaz [FNA7], misapplied

*Arabidopsis lyrata* (L.) O?Kane & Al-Shehbaz ssp. *kamchatica* (Fisch. ex DC.) O?Kane & Al-Shehbaz

[FNA7]

*Arabis kamchatica* (Fisch. ex DC.) Ledeb. [KZ99]

*Arabis lyrata* L. var. *kamchatica* Fisch. ex DC. [HC]

*Arabis lyrata* L. var. *occidentalis* S. Watson

FNA7: "G. A. Mulligan (1996) treated subsp. *kamchatica* as a species of *Arabis*; R. C. Rollins (1993) treated it as a variety of *A. lyrata*."

*Arabidopsis thaliana* (L.) Heynh. [FNA7, HC, HC2]

Fl. Sachsen. 1: 538.

mouse-ear cress, thalecress

### *Arabis* [FNA7, HC, HC2]

Sp. Pl. 2: 664. 1753; Gen. Pl. ed. 5, 298. 1754.

rockcress

(see also *Arabidopsis*, *Boechera*, *Turritis*)

***Arabis caucasica* Willd. [FNA7, HC2]**

Enum. Pl., Suppl. 45. 1814.  
mountain rockcress

In Washington known only as a garden escape in San Juan County.

***Arabis crucisetosa* Constance & Rollins [FNA7, HC, HC2]**

Proc. Biol. Soc. Wash. 49: 147. 1936.  
crosshaired rockcress

FNA7: "Arabis crucisetosa is known from Idaho, Lewis, and Nez Perce counties in Idaho, from Wallowa County in Oregon, and from Asotin County in Washington."

***Arabis eschscholtziana* Andr. [FNA7, HC2]**

Fl. Altaica. 3: 25.  
hairy rockcress, Pacific coast rockcress

*Arabis hirsuta* (L.) Scop. [HC], misapplied

*Arabis hirsuta* (L.) Scop. var. *eschscholtziana* (Andr.) Rollins [HC]

*Arabis hirsuta* (L.) Scop. var. *glabrata* Torr. & A. Gray [HC]

FNA7: "G. A. Mulligan (1996) recognized *Arabis eschscholtziana* as a distinct species; R. C. Rollins (1941, 1993) treated it as a variety of *A. hirsuta*. As discussed under *A. pycnocarpa*, *A. hirsuta* does not occur in North America, and the characters separating all three species (see key to species), as well as the different ploidy levels, support Mulligan's conclusion. Both M. Hopkins (1937) and R. C. Rollins (1941, 1993) recognized the glabrous or subglabrate forms native to North America as a distinct variety, var. *glabrata*; G. A. Mulligan (1996) did not accord such forms any taxonomic status. Glabrous and subglabrate forms occur in both *Arabis eschscholtziana* and *A. pycnocarpa* and sometimes even within a population that has moderately to densely pubescent forms. I support Mulligan's view in not recognizing the glabrous forms as an infraspecific taxon."

***Arabis furcata* S. Watson [FNA7, HC, HC2]**

Proc. Amer. Acad. Arts. 17: 362.  
Cascade rockcress, Columbia Gorge rockcress, fork-haired rockcress

*Arabis furcata* S. Watson var. *furcata* [KZ99]

*Arabis suksdorfii* Howell

Although accepted by Rollins (1993b), *A. furcata* var. *olympica*, a Washington endemic, is known only from the type collection, which apparently was from a single depauperate and anomalous plant and may be synonymous with *A. hirsuta* var. *glabrata* (VPPN2; Buckingham et al. 1995). FNA7: "*Arabis furcata* is known in Washington from Chelan, Kittitas, Klickitat, Okanogan, Skamania, and Yakima counties, and in Oregon from Clackamas, Hood River, Multnomah, and Wasco counties."

***Arabis nuttallii* (Kuntze) B.L. Rob. [FNA7, HC, HC2]**

Syn. Fl. N. Amer. 1(1,1): 160.  
Nuttall's rockcress

*Arabis bridgeri* M.E. Jones

*Arabis macella* Piper [Abrams]

*Erysimum nuttallii* Kuntze

***Arabis olympica* Piper [FNA7, HC2]**

Contr. U.S. Natl. Herb. 16: 208.  
Olympics rockcress

*Arabis furcata* S. Watson var. *olympica* (Piper) Rollins [Rollins 1993a]

FNA7: "*Arabis olympica*, which is known from two collections, J. B. Flett s.n. (holotype, US; isotype, WS) and N. Buckingham 1577 (WS) that were made from Jefferson and Clallam counties, respectively, was reduced by R. C. Rollins (1936, 1941, 1993) to a variety of *A. furcata*. An examination of the type collections of both species reveals that they are distinct. Although the fruits and seeds of *A. olympica* are not fully mature, they are clearly different in width and orientation from those of *A. furcata* at the same developmental stage. The striking differences in fruit width and orientation, stem indument, and seed and flower size support their maintenance as distinct species. Although both species grow in Washington, the

range of *A. olympica* seems to be restricted to Clallam and Jefferson counties and is disjunct from Chelan, Kittitas, and Yakima counties, where *A. furcata* grows."

***Armoracia*** B. Mey. & Scherbius [FNA7, HC2]

Oekon. Fl. Wetterau. 2: 426. 1800.  
horseradish

***Armoracia rusticana*** P. Gaertn., B. Mey. & Scherb. [FNA7, HC2]

Oekon. Fl. Wetterau. 2: 426.  
horseradish

*Rorippa armoracia* (L.) A.S. Hitchc. [HC]

***Athysanus*** [FNA7, HC, HC2]

Bull. Calif. Acad. Sci. 1: 72. 1885.  
athysanus, sandweed

***Athysanus pusillus*** (Hook.) Greene [FNA7, HC, HC2]

Bull. Calif. Acad. Sci. 1: 72.  
sandweed

*Athysanus pusillus* (Hook.) Greene var. *glabrior* S. Watson  
*Thysanocarpus oblongifolius* Nutt.  
*Thysanocarpus pusillus* Hook.

***Aubrieta*** [FNA7, HC2]

Fam. Pl. 2: 420. 1763.

***Aubrieta deltoidea*** (L.) DC. [FNA7, HC2]

Syst. Nat. 2: 294.  
rockcress

***Barbarea*** [FNA7, HC, HC2]

Hortus Kew. 4: 109. 1812.  
[name conserved]  
wintercress

***Barbarea orthoceras*** Ledeb. [FNA7, HC, HC2]

Index Seminum (Dorpat). 2.  
American wintercress rocket, yellow rocket

*Barbarea americana* Rydb. [Abrams]  
*Barbarea orthoceras* Ledeb. var. *dolichocarpa* Fernald [Peck]  
*Barbarea stricta* Andr. [FNA7], misapplied  
*Campe orthoceras* (Ledeb.) A. Heller

***Barbarea verna*** (Mill.) Asch. [FNA7, HC, HC2]

Fl. Brandenb. 1: 36.  
Belle Isle cress, landcress, early yellow rocket, early wintercress

*Barbarea praecox* (Sm.) R. Br.  
*Campe verna* (Mill.) A. Heller  
*Erysimum praecox* Sm.  
*Erysimum vernum* Mill.

***Barbarea vulgaris*** W.T. Aiton [FNA7, HC, HC2]

Hortus Kew. 4: 109.  
yellow rocket, bitter wintercress

*Barbarea arcuata* (Opiz ex C. Presl) Rchb.  
*Barbarea vulgaris* W.T. Aiton var. *arcuata* (Opiz ex C. Presl) Fr.  
*Barbarea vulgaris* W.T. Aiton var. *brachycarpa* Rouy & Foucaud [Peck]  
*Erysimum arcuatum* Opiz ex C. Presl  
*Erysimum barbarea* L.

***Berteroa*** [FNA7, HC, HC2]

Mém. Mus. Hist. Nat. 7: 232: 290. 1821.

berteroa

***Berteroa incana*** (L.) DC. [FNA7, HC, HC2]

Syst. Nat. 2: 291.

hoary alyssum

*Alyssum incanum* L.

***Boechea*** [FNA7, HC2]

Bot. Not. 128: 513. 1976.

rockcress

***Boechea atrorubens*** (Suksd. ex Greene) Windham & Al-Shehbaz [FNA7, HC2]

Harvard Pap. Bot. 11: 64.

dark-red-flowered rockcress

*Arabis atrorubens* Suksd. ex Greene [Abrams]

*Arabis sparsiflora* Nutt. var. *atro-rubens* (Suksd. ex Greene) Rollins [HC]

FNA7: "*Boechea atrorubens* is often treated as a variety of *B. sparsiflora* (e.g., R. C. Rollins 1993), it is readily separated from that species by having proximal stems sparsely (versus densely) pubescent with much smaller (0.15 versus 1.5 mm) trichomes. The two taxa rarely grow in proximity and, in areas where they are sympatric, *B. atrorubens* is further distinguished by its narrower (1.5-2 versus 2-5 mm) petals that are dark reddish purple to indigo (versus lavender or white)."

***Boechea calderi*** (G.A. Mulligan) Windham & Al-Shehbaz [FNA7, HC2]

Harvard Pap. Bot. 11: 259.

Calder's rockcress

*Arabis calderi* G.A. Mulligan

FNA7: "Morphological evidence suggests that *Boechea calderi* is an apomictic species that arose through hybridization between *B. lyallii* and *B. stricta* (see M. D. Windham and I. A. Al-Shehbaz 2007 for detailed comparison)."

***Boechea cascadiensis*** Windham & Al-Shehbaz [FNA7, HC2]

Harvard Pap. Bot. 11: 260.

Cascades rockcress

*Arabis microphylla* Nutt. var. *thompsonii* Rollins [KZ99]

FNA7: "Morphological evidence suggests that *Boechea cascadiensis* is an apomictic species that arose through hybridization between *B. microphylla* and *B. paupercula* (see M. D. Windham and I. A. Al-Shehbaz 2007 for detailed comparison). It is known from two collections: the type specimens from Kittitas County, Washington, and a more recent collection from Baker County, Oregon."

***Boechea cusickii*** (S. Watson) Al-Shehbaz [FNA7, HC2]

Novon. 13: 384.

Cusick's rockcress

*Arabis cusickii* S. Watson [HC]

FNA7: "Peripheral populations of *Boechea cusickii* in south-central Idaho and northern Nevada have a higher proportion of branched hairs, possibly resulting from hybridization with *B. sparsiflora*."

***Boechea divaricarpa*** (A. Nelson) Á. Löve & D. Löve [FNA7, HC2]

Bot. Not. 128: 513.

spreading-pod rockcress

*Arabis* ~~*divaricarpa*~~ A. Nelson [HC, Rollins 1993a]

*Arabis divaricarpa* A. Nels. var. *divaricarpa* [VPPNW2]

FNA7: "The name *Arabis* (*Boechea*) *divaricarpa* has been applied to nearly every hybrid containing a genome derived from *B. stricta*. This presents a serious barrier to understanding the evolution of *Boechea* and also is contrary to the International Code of Botanical Nomenclature, because some names usually placed in synonymy (i.e., *B. grahamii* and *B. brachycarpa*) have priority at species level (M. D. Windham

and I. A. Al-Shehbaz 2007b). To address this problem, we treat the following as distinct species: *B. acutina*, *B. grahamii* (= *B. brachycarpa* of R. D. Dorn 2001), and *B. pratincola* (all considered synonyms of *A. divaricarpa* by R. C. Rollins 1993), and *B. calderi*, *B. elkoensis*, and *B. quebecensis* (taxa described after 1993). Detailed comparison among these taxa are provided by Windham and Al-Shehbaz (2007, 2007b). The narrow concept of *B. divaricarpa* advocated here encompasses apomictic triploid populations containing three distinct genomes, one each derived from *B. retrofracta*, *B. sparsiflora*, and *B. stricta*. If the species is defined more broadly, the name *B. grahamii* has priority."

***Boechera grahamii* (Lehm.) Windham & Al-Shehbaz [FNA7, HC2]**

Harvard Pap. Bot. 12: 241.

Graham's rockcress

*Arabis dacotica* Greene

NA7: "Morphological evidence suggests that *Boechera grahamii* is an apomictic species that arose through hybridization between *B. collinsii* and *B. stricta*. Previous authors have assigned these specimens to *Arabis* (*Boechera*) *divaricarpa* (see M. D. Windham and I. A. Al-Shehbaz 2007b for detailed comparison); if these taxa are treated as conspecific, the name *B. grahamii* has priority."

***Boechera lemmonii* (S. Watson) W.A. Weber [FNA7, HC2]**

Phytologia. 51: 370.

Lemmon's rockcress

(see also *Boechera drepanoloba*, *Boechera paddoensis*)

*Arabis lemmonii* S. Watson [HC, Peck]

*Arabis lemmonii* S. Watson var. *lemmonii* [HC]

FNA7: "*Boechera lemmonii* is easily recognized by its combination of secund fruits, mat-forming habit, purplish sepals, and obovate-oblongate cauline leaves. Both sexual and apomictic collections are known; further study is needed to determine whether they truly are conspecific. The taxa traditionally treated as *Arabis* (*Boechera*) *lemmonii* vars. *depauperata*, *drepanoloba*, and *paddoensis* are apomictic hybrids here recognized as distinct species (see M. D. Windham and I. A. Al-Shehbaz 2007 for detailed comparison)."

***Boechera lyallii* (S. Watson) Dorn [FNA7, HC2]**

Vasc. Pl. Wyoming ed. 3. 376. 2001.

Lyall's rockcress, murray's rockcress

*Arabis lyallii* S. Watson [HC]

*Arabis lyallii* S. Watson var. *lyallii* [KZ99]

*Arabis murrayi* G.A. Mulligan

FNA7: "Completely glabrous individuals of *B. lyallii* are sometimes confused with *B. davidsonii*, but they are easily distinguished by the absence of persistent leaf bases on caudex branches, erect and appressed (versus ascending) fruits, and biseriate to sub-biseriate (versus uniseriate) seeds. Both sexual and apomictic collections are known; further study is needed to determine whether they truly are conspecific."

***Boechera microphylla* (Nutt.) Dorn [FNA7, HC2]**

Vasc. Pl. Wyoming ed. 3. 376.

little-leaf rockcress, small-leaved rockcress

*Arabis microphylla* Nutt. [HC]

*Arabis microphylla* Nutt. var. *microphylla* [HC]

FNA7: "*Boechera microphylla* is recognizable by its minute (0.05-0.1 mm), 4-8-rayed leaf trichomes, mat-forming habit, simple and 2-rayed trichomes on stems proximally, and ascending fruits. Both sexual and apomictic collections are known; further study is needed to determine whether they truly are conspecific. The taxa traditionally treated as *Arabis* (*Boechera*) *microphylla* vars. *macounii* and *thompsonii* are here recognized as *B. macounii* and *B. cascadiensis*, respectively (see M. D. Windham and I. A. Al-Shehbaz 2007 for detailed comparison)."

***Boechera paddoensis* (Rollins) Windham & Al-Shehbaz [FNA7, HC2]**

Harvard Pap. Bot. 11: 268.

Mt. Adams rockcress

*Arabis lemmonii* S. Watson var. *paddoensis* Rollins [HC]

FNA7: "Morphological evidence suggests that *Boechera padoensis* is an apomictic species that arose through hybridization between *B. lemmonii* and *B. lyallii* (see M. D. Windham and I. A. Al-Shehbaz 2007 for detailed comparison). *Boechera padoensis* is known only from the mountains of central Washington and northeastern Oregon."

***Boechera pauciflora* (Nutt.) Windham & Al-Shehbaz [FNA7, HC2]**

Harvard Pap. Bot. 11: 268.

Columbia rockcress, few-flowered rockcress, small-flowered rockcress

*Arabis sparsiflora* Nutt. var. *columbiana* (Macoun) Rollins [HC]

*Arabis sparsiflora* Nutt. var. *subvillosa* (S. Watson) Rollins [HC]

*Boechera holboellii* (Hornem.) Å. Löve & D. Löve [FNA7], misapplied

Check which accepted taxa occur in StateProvince.

*Boechera pinetorum* (Tidestr.) Windham & Al-Shehbaz [FNA7, HC2], misapplied

FNA7: "Morphological evidence suggests that *Boechera pauciflora* is an apomictic species that arose through hybridization between *B. retrofracta* and *B. sparsiflora*. Specimens of *B. pauciflora* are commonly identified as *Arabis holboellii* var. *pinetorum* (= *B. pinetorum*), a superficially similar species restricted to the northern Sierra Nevada and southern Cascade Range (see M. D. Windham and I. A. 2007 for detailed comparison). *Arabis elegans* A. Nelson (1900), not Tineo & Lojaccono (1886) is an illegitimate name, sometimes found in synonymy with *Boechera pauciflora*." "Most authors (e.g., R. C. Rollins 1993; R. D. Dorn 2001; S. L. Welsh et al. 2003; N. H. Holmgren 2005b) have treated *Boechera pinetorum* as a variety of *Arabis* (*Boechera*) *holboellii*. Under this guise, the name has been applied to a vast array of plants collected throughout western North America. This includes a diversity of sexual diploids plus nearly every hybrid containing a genome from *B. retrofracta*. Based on re-examination of the type collection, we have adopted a much narrower concept of the species. Morphological evidence suggests that *B. pinetorum* is an apomictic triploid hybrid containing three different genomes, derived from *B. rectissima*, *B. retrofracta*, and *B. sparsiflora*. Plants closely resembling the type of *B. pinetorum* are confined to the northern Sierra Nevada and adjacent southern Cascades. The majority of collections previously associated with the epithet *pinetorum* represent *B. pauciflora* (see M. D. Windham and I. A. Al-Shehbaz 2007 for detailed comparison)."

***Boechera paupercula* (Greene) Windham & Al-Shehbaz [FNA7, HC2]**

Harvard Pap. Bot. 11: 75.

small-flowered rockcress

*Arabis lyallii* S. Watson var. *nubigena* (J.F. Macbr. & Payson) Rollins

FNA7: "*Boechera paupercula* is usually subsumed under *Arabis* (*Boechera*) *lyallii* but is amply distinct (see M. D. Windham and I. A. Al-Shehbaz 2006 for detailed comparison)."

***Boechera pendulocarpa* (A. Nelson) Windham & Al-Shehbaz [FNA7, HC2]**

Harvard Pap. Bot. 11: 77.

dangle-pod rockcress

*Arabis holboellii* Hornem. var. *pendulocarpa* (A. Nelson) Rollins [HC]

*Boechera holboellii* (Hornem.) Å. Löve & D. Löve [FNA7], misapplied

Check which accepted taxa occur in StateProvince.

FNA7: "Though often treated as a variety of *Arabis* (*Boechera*) *holboellii* (e.g., R. C. Rollins 1993), *B. pendulocarpa* is easily distinguished from that species by having simple and 2-4-rayed (versus 4-8-rayed) trichomes proximally on stems, cauline leaves without auricles, fruiting pedicels gently (versus sharply) recurved, and shorter (2-)2.5-3.8 (versus 3.5-6.5) cm, non-secund fruits. The two taxa have allopatric distributions, with *B. pendulocarpa* found in the mountains of western North America and *B. holboellii* apparently confined to Greenland. Recent use of the name *A. (Boechera) exilis* for this taxon (e.g., G. A. Mulligan 1996; R. D. Dorn 2001; N. H. Holmgren 2005b) is based on misinterpretation of the type (M. D. Windham and I. A. Al-Shehbaz 2006)."

***Boechera polyantha* (Greene) Windham & Al-Shehbaz [FNA7, HC2]**

Harvard Pap. Bot. 11: 78.

many-flowered rockcress

***Boechera puberula* (Nutt.) Dorn [FNA7, HC2]**

Brittonia. 55: 3.



Blue Mountain rockcress, hoary rockcress

*Arabis puberula* Nutt. [HC]

FNA8: "*Boechera puberula* is a diploid species that appears to intergrade with both *B. retrofracta* and *B. subpinnatifida*. The glabrous-fruited specimens discussed by R. C. Rollins (1993) represent apomictic hybrids with other species, primarily *B. pendulocarpa*."

***Boechera retrofracta* (Graham) Å. Löve & D. Löve [FNA7, HC2]**

Taxon. 31: 125.

reflexed rockcress

*Arabis exilis* A. Nelson [ILBC2]

*Arabis holboellii* Hornem. var. *retrofracta* (Graham) Rydb. [HC]

*Arabis holboellii* Hornem. var. *secunda* (Howell) Jeps. [ILBC2]

*Arabis retrofracta* Graham

*Arabis secunda* Howell [Abrams]

*Boechera holboellii* (Hornem.) Å. Löve & D. Löve [FNA7], misapplied

Check which accepted taxa occur in StateProvince.

FNA7: "Though often treated as a variety of *Arabis* (*Boechera*) *holboellii* (e.g., R. C. Rollins 1993; G. A. Mulligan 1996; N. H. Holmgren 2005b), *B. retrofracta* is easily distinguished from that species by having narrower (0.9-1.8 versus 2-2.5 mm), mostly non-secund fruits that are almost always appressed to rachises. The two taxa have allopatric distributions, with *B. retrofracta* found on the North American continent (mostly west of the Great Plains) and *B. holboellii* apparently confined to Greenland. *Boechera retrofracta* has formed hybrids with at least 12 other species. Besides differing in macromorphological characters, all those hybrids are distinct from *B. retrofracta* in the strict sense in having wider (20-30 versus 13-16 Åµm), spheroid pollen grains with asymmetric colpi. *Arabis kochii* Blankinship is an illegitimate name, sometimes found in synonymy with *Boechera retrofracta*."

***Boechera sparsiflora* (Nutt.) Dorn [FNA7, HC2]**

Vasc. Pl. Wyoming ed. 3. 376. 2001.

elegant rockcress, slender rockcress

(see also *Boechera atrorubens*, *Boechera pauciflora*)

*Arabis arcoidea* A. Nelson

*Arabis campyloloba* Greene [Abrams]

*Arabis peramoena* Greene

*Arabis polytricha* Greene

*Arabis sparsiflora* Nutt. [HC]

*Arabis sparsiflora* Nutt. var. *peramoena* (Greene) Rollins

*Arabis sparsiflora* Nutt. var. *sparsiflora* [HC]

FNA7: "As circumscribed by R. C. Rollins (1993), *Boechera sparsiflora* included six varieties encompassing three sexual diploids and a number of apomictic hybrids. The most distinctive of those elements are recognized here as the separate species *B. arcuata*, *B. atrorubens*, *B. californica*, and *B. pauciflora*. The narrow circumscription of *B. sparsiflora* adopted here includes only sexual diploids. It is distinguished from other taxa previously assigned to it by having proximal stems densely pubescent with predominantly simple (some 2-rayed) trichomes to 1.5 mm, usually glabrous distal stems, and ascending fruiting pedicels with spreading, usually simple trichomes (rarely glabrous)."

***Boechera stricta* (Graham) Al-Shehbaz [FNA7, HC2]**

Novon. 13: 389.

Canadian rockcress, Drummond's rockcress

*Arabis albertina* Greene

*Arabis connexa* Greene

*Arabis drummondii* A. Gray [HC]

FNA7: "*Arabis drummondii* is the correct name for this species in that genus; the epithet *stricta* has priority in *Boechera*. This very distinctive species is easily recognized by having basal leaves with branched trichomes, all sessile and 2-rayed (malpighiaceous). It is also the most promiscuous, having formed apomictic hybrids with at least 15 other species of *Boechera*."

***Boechera suffrutescens* (S. Watson) Dorn [FNA7, HC2]**



Brittonia. 55: 3.  
woody rockcress

*Arabis suffrutescens* S. Watson [HC]

FNA7: "Boechera suffrutescens is recognizable by its prominently suffrutescent habit and wide (greater than 3 mm), reflexed fruits. Both sexual and apomictic collections are known; further study is needed to determine whether they truly are conspecific. The taxon previously known as *Arabis suffrutescens* var. *horizontalis* appears to be of hybrid origin; it is treated here as a distinct species (see M. D. Windham and I. A. Al-Shehbaz 2007 for detailed comparison)."

**Brassica** [FNA7, HC, HC2]

Sp. Pl. 2: 666. 1753; Gen. Pl. ed. 5, 299. 1754.  
cabbage, mustard  
(see also *Sinapis*)

**Brassica juncea** (L.) Czern. [FNA7, HC, HC2]

Consp. Pl. Charcov. 8.  
brown mustard, leaf mustard

*Brassica japonica* (Thunb.) Siebold ex Miq.

*Brassica juncea* (L.) Czern. var. *crispifolia* L.H. Bailey [VPPNW2]

*Brassica juncea* (L.) Czern. var. *juncea* [VPPNW2]

*Sinapis juncea* L.

FNA7: "Brassica juncea is cultivated in North America primarily as a vegetable and condiment, and is currently being developed as an oilseed crop in western Canada. Its greatest diversity of forms occurs in Asia, where the species is widely cultivated as a vegetable and as an oilseed crop (I. A. Al-Shehbaz 1985). Two main variants are distinguished on the basis of seed color: oriental mustard is yellow-seeded, and brown or Indian mustard is brown-seeded. The species is an allotetraploid derived from hybridization between *B. nigra* (n = 8) and *B. rapa* (n = 10). Its center of origin is uncertain but is most likely the Middle East, with possibly independent multiple origins within overlapping ranges of the putative parental taxa (S. I. Warwick and A. Francis 1994)."

**Brassica napus** L. [FNA7, HC2]

Sp. Pl. 2: 666.  
rapeseed

*Brassica napobrassica* (L.) Mill.

Known in Washington mostly from old collections in Bingen, Klickitat Co. FNA7: "Brassica napus is both a crop and a sporadically occurring naturalized weed in North America, grown in two forms recognized by some as subspecies. Subspecies *napus* (rape, rapeseed, or canola) is an annual with slender roots widely cultivated as an oil crop and is the most commonly naturalized. Subspecies *rapifera* Metzger [= subsp. *napobrassica* (Linnaeus) Hanelt] (rutabaga, swede, or Swedish turnip) is a biennial with fleshy roots that rarely escapes from cultivation. Brassica napus is an allotetraploid derived from hybridization between the *B. oleracea* complex (n = 9) and *B. rapa* (n = 10). Its center of origin is uncertain but likely Mediterranean Europe, with molecular data supporting evidence of multiple independent origins between the parental taxa *B. oleracea* and *B. rapa* and its related n = 9 species (Song K. et al. 1993). Specimens from West Virginia have not been observed."

**Brassica nigra** (L.) W.D.J. Koch [WTUJ]

Deutschl. Fl. ed. 3. 4: 713.  
black mustard

*Mutarda nigra* Bernh.

*Sinapis nigra* L.

**Brassica oleracea** L. [FNA7, HC2]

Sp. Pl. 2: 667.  
cabbage, wild cabbage

*Brassica oleracea* L. var. *oleracea* [Stace 1997]

FNA7: "Brassica oleracea is widely cultivated worldwide as a vegetable crop, and its various forms are generally recognized as varieties instead of subspecies; these include var. *acephala* de Candolle (kale and

collards), var. botrytis Linnaeus (cauliflower), var. capitata Linnaeus (cabbage), var. gemmifera Zenk (Brussels sprouts), var. gongylodes Linnaeus (kohlrabi), and var. italica Plenck (broccoli). It also occurs sporadically as a weedy escape from cultivation and seems unlikely to persist for long periods of time. It is reported to be naturalized on coastal cliffs (maritime slopes) in the northern Central Coastal Region and the central and southern North Coastal Region in California (Marin, San Francisco, San Mateo, Santa Barbara, and Ventura counties) (J. T. Howell et al. 1958; Howell 1970; H. G. Baker 1972; R. C. Rollins 1993b)."

*Brassica rapa* L. [FNA7, HC2]

Sp. Pl. 2: 666.

common mustard, field mustard, wild turnip

*Brassica campestris* L. [HC]

*Brassica rapa* L. ssp. *campestris* (L.) Clapham [Stace 1997]

*Brassica rapa* L. var. *rapa* [KZ99]

*Cakile* [FNA7, HC, HC2]

Gard. Dict. Abr. ed. 4. vol. 1. 1754.

searocket

*Cakile edentula* (Bigelow) Hook. [FNA7, HC, HC2]

Fl. Bor.-Amer. 1: 59.

American sea-rocket

var. *edentula* [FNA7, HC2, KZ99]

Fl. Bor.-Amer. (Hooker) 1(2): 59.

American sea-rocket

*Cakile edentula* (Bigelow) Hook. var. *californica* (A. Heller) Fernald [Peck]

<i>C. edentula</i>, dispersed by the sea, moved 2000 miles, from its point of introduction in San Francisco, to Kodiak Island, Alaska, in 50 years (Barbour & Rodman 1970).

*Cakile maritima* Scop. [FNA7, HC, HC2]

Fl. Carniol. ed. 2. 2: 35. 1772.

European sea-rocket

*Bunias cakile* L.

FNA7: "Subspecies *maritima* is naturalized in Pacific North America (M. G. Barbour and J. E. Rodman 1970); it is also reported on the eastern shores of Chesapeake Bay, Maryland."

ssp. *maritima* [FNA7, HC2]

Fl. Carniol. ed. 2. 2: 35.

European sea-rocket

*Camelina* [FNA7, HC, HC2]

Stirp. Austr. Fasc. 1: 17. 1762.

falseflax

*Camelina microcarpa* Andr. ex DC. [FNA7, HC, HC2]

Syst. Nat. 2: 517.

hairy false flax, littlepod false flax

*Camelina sativa* (L.) Crantz ssp. *microcarpa* (Andr. ex DC.) Em. Schmid

*Capsella* [FNA7, HC, HC2]

Pfl.-Gatt. 85. 1792.

[name conserved]

shepherd's-purse

*Capsella bursa-pastoris* (L.) Medik. [FNA7, HC, HC2]

Pfl.-Gatt. 85.

shepherd's-purse

*Capsella rubella* Reut.

FNA7: "According to M. Coquillat (1951), *Capsella bursa-pastoris* is the second most common weed on earth, after *Polygonum aviculare*."

***Cardamine*** [FNA7, HC, HC2]

Sp. Pl. 2: 654. 1753; Gen. Pl. ed. 5, 295. 1754.  
bittercress, toothwort

***Cardamine angulata*** Hook. [FNA7, HC, HC2]

Fl. Bor.-Amer. 1: 44.  
angled bittercress, seaside bittercress

*Cardamine angulata* Hook. var. *alba* Torr. & A. Gray  
*Cardamine angulata* Hook. var. *hirsuta* O.E. Schulz  
*Cardamine angulata* Hook. var. *pentaphylla* O.E. Schulz  
*Dentaria grandiflora* Raf.

***Cardamine bellidifolia*** L. [FNA7, HC, HC2]

Sp. Pl. 2: 654.  
alpine bittercress

*Cardamine bellidifolia* L. var. *bellidifolia* [HC]  
*Cardamine bellidifolia* L. var. *pachyphylla* Coville & Leiberg [HC]

***Cardamine breweri*** S. Watson [FNA7, HC, HC2]

Proc. Amer. Acad. Arts. 10: 339.  
Brewer's bittercress

*Cardamine breweri* S. Watson var. *breweri* [HC]  
*Cardamine breweri* S. Watson var. *leibergii* (Holz.) C.L. Hitchc. [HC]  
*Cardamine breweri* S. Watson var. *orbicularis* (Greene) Detling [HC]  
*Cardamine breweri* S. Watson var. *oregana* (Piper) Detling  
*Cardamine callosicrenata* Piper  
*Cardamine foliacea* Greene  
*Cardamine oregana* Piper

***Cardamine cordifolia*** A. Gray [FNA7, HC, HC2]

Mem. Amer. Acad. Arts, n. s. 4: 8.  
heart-leaved bittercress, large mountain bittercress, Lyall's bittercress

*Cardamine cordifolia* A. Gray var. *cordifolia* [HC]  
*Cardamine cordifolia* A. Gray var. *lyallii* (S. Watson) A. Nelson & J.F. Macbr. [HC]  
*Cardamine lyallii* S. Watson

FNA7: "*Cardamine cordifolia* is highly variable in leaf morphology, especially in leaf width, depth of the cordate base, and indumentum. This variation occurs throughout the species range and is rather weakly or not at all correlated with geography. In the absence of a detailed biosystematic study over the entire species range, we follow N. H. Holmgren (2005b) in not recognizing any infraspecific taxa, instead of accepting the three rather poorly defined varieties recognized by R. C. Rollins (1993)."

***Cardamine flexuosa*** With. [FNA7, HC2]

Arr. Brit. Pl. ed. 3. 3: 578.  
wavy bittercress

*Cardamine flexuosa* With. ssp. *debilis* O.E. Schulz  
*Cardamine flexuosa* With. var. *debilis* (O.E. Schulz) T.Y. Cheo & R.C. Fang  
*Cardamine hirsuta* L. ssp. *flexuosa* (With.) F.B. Forbes & Hemsl.  
*Cardamine scutata* Thunb. ssp. *flexuosa* (With.) H. Hara

Easily mistaken for native *C. pensylvanica*. FNA7: "According to J. Lihová et al. (2006), the populations referred to *Cardamine flexuosa* in North America comprise two taxa of different polyploid origins and evolutionary histories: tetraploid *C. flexuosa* (2n = 32), native to Europe, and the octoploid taxon informally called "Asian *C. flexuosa*" (2n = 64), native to eastern Asia. For the latter, the name *C. flexuosa* subsp. *debilis* can be used. Nevertheless, these two taxa should be recognized at species level and the correct name for the Asian species should be sought. Based on available data, both taxa occupy the same habitats in North America, but the Asian taxon is much more widespread. The occurrence of European *C.*

flexuosa was, until now, confirmed only for Washington, where both taxa have been recorded. More detailed studies of the North American distributions of both these weeds are needed."

***Cardamine hirsuta* L. [FNA7, HC2]**

Sp. Pl. 2: 655.

hairy bittercress, shotweed

Common weed in lowland western Washington, easily mistaken for native *C. oligosperma*.

***Cardamine nuttallii* Greene [FNA7, HC2]**

Bull. Calif. Acad. Sci. 2: 389.

beautiful bittercress, Nuttall's toothwort, slender toothwort

*Cardamine californica* (Nutt.) Greene var. *gemmata* (Greene) O.E. Schulz

*Cardamine nuttallii* Greene var. *covilleana* (O.E. Schulz) Rollins

*Cardamine nuttallii* Greene var. *dissecta* (O.E. Schulz) Rollins

*Cardamine nuttallii* Greene var. *gemmata* (Greene) Rollins [KZ99]

*Cardamine nuttallii* Greene var. *nuttallii* [Rollins 1993a]

*Cardamine pulcherrima* Greene [HC]

*Cardamine pulcherrima* Greene var. *pulcherrima* [HC]

*Cardamine pulcherrima* Greene var. *tenella* (Pursh) C.L. Hitchc. [HC]

*Cardamine quercetorum* Howell

*Dentaria tenella* Pursh var. *pulcherrima* (Greene) Detling [Peck]

FNA7: "The infraspecific taxonomy of *Cardamine nuttallii* has been based almost entirely on the division and margin of rhizomal leaves. The treatments by O. E. Schulz (1903), L. E. Detling (1937), and R. C. Rollins (1993), though utilizing the same characters, varied considerably, especially in the application of names to varieties. The absence of rhizomal leaves on most specimens makes varietal determination an almost impossible task. Furthermore, leaf morphology is so highly variable that it is not useful for formally recognizing some of the other variants in the species. We therefore prefer to not subdivide the species."

***Cardamine occidentalis* (S. Watson) Howell [FNA7, HC, HC2]**

Fl. N.W. Amer. 50.

western bittercress

*Cardamine neglecta* Greene

*Cardamine pratensis* L. ssp. *occidentalis* S. Watson

Washington reports and specimens (WTU) called *Cardamine penduliflora* appear to be *Cardamine occidentalis*. They lack the diagnostic long petals and prolonged fruit beak of *C. penduliflora*, a western Oregon endemic.

***Cardamine occulta* Hornem. [HC2]**

wood bittercress

*Cardamine debilis* D. Don, misapplied

Recently established in landscaping in King County, WA. Also known from Vancouver, BC, and as a greenhouse weed in Corvallis, OR. Often confused with or synonymized under *C. flexuosa*, a polyploid native to western Asia derived from *C. amara* x *C. hirsuta*. By contrast, *C. occulta* is apparently a polyploid derived from *C. amara* x *C. parviflora* and a third unknown species. The name *Cardamine debilis* has been misapplied to *C. occulta* in North America.

***Cardamine oligosperma* Nutt. [FNA7, HC, HC2]**

Fl. N. Amer. 1: 85.

few-seeded bittercress, little western bittercress  
(see also *Cardamine umbellata*)

*Cardamine oligosperma* Nutt. var. *oligosperma* [HC]

***Cardamine pensylvanica* Muhl. ex Willd. [FNA7, HC, HC2]**

Sp. Pl. 3: 486.

Pennsylvania bittercress, quaker bittercress

*Cardamine flexuosa* With. ssp. *pensylvanica* (Muhl. ex Willd.) O.E. Schulz

*Cardamine hirsuta* L. var. *pensylvanica* (Muhl. ex Willd.) P.W. Graff

*Dracamine pensylvanica* (Muhl. ex Willd.) Nieuwl.

***Cardamine pratensis* L. [FNA7, HC2]**

Sp. Pl. 2: 656.  
cuckooflower

*Cardamine pratensis* L. var. *pratensis* [Rollins 1993a]

FNA7: "The taxonomy of *Cardamine pratensis* in North America requires further detailed study. Most, if not all, populations of this species were introduced from Europe. Some specimens resemble the European *C. dentata* Schultes (high polyploid, characterized by all leaves, including distalmost, pinnate with petiolate and sometimes deciduous leaflets) and these populations might be native."

***Cardamine umbellata* Greene [FNA7, HC2]**

Pittonia. 3: 154.  
Siberian bittercress, umbellate bittercress

*Cardamine oligosperma* Nutt. var. *kamtschatica* (Regel) Detling [HC]

FNA7: "Recent molecular data (J. Lihová et al. 2006) indicate that *Cardamine umbellata*, often treated as a variety of *C. oligosperma*, represents a distinct lineage more closely related to taxa from New Zealand; this does not exclude *C. oligosperma* as one of the possible parents of this polyploid."

***Caulanthus* [FNA7, HC, HC2]**

Botany (Fortieth Parallel). 27, plate 3. 1871.  
wild cabbage, caulanthus

***Caulanthus lasiophyllus* (Hook. & Arn.) Payson [FNA7, HC2]**

Ann. Missouri Bot. Gard. 9: 303.  
wild cabbage, California mustard

*Caulanthus lasiophyllus* (Hook. & Arn.) Payson var. *lasiophyllus* [Rollins 1993a]

*Guillenia lasiophylla* (Hook. & Arn.) Greene [JPM]

*Thelypodium lasiophyllum* (Hook. & Arn.) Greene [HC]

*Thelypodium lasiophyllum* (Hook. & Arn.) Greene var. *inalienum* B.L. Rob. [Abrams]

*Thelypodium lasiophyllum* (Hook. & Arn.) Greene var. *utahense* (Rydb.) Jeps. [Abrams]

FNA7: "*Caulanthus lasiophyllus* is highly variable in flower size, leaf morphology, fruit morphology (length, width, curvature, presence or absence of indumentum) and orientation, number of ovules per ovary, and plant height. This species is badly in need of thorough studies at both populational and molecular levels, and it is very likely that some varieties recognized by E. B. Payson (1923), such as var. *rigidus*, may well represent distinct species or subspecies." Last collections made in Washington in the 1940s, are held at PSM, and need verification.

***Chorispora* [FNA7, HC, HC2]**

Mém. Mus. Hist. Nat. 7: 237. 1821.  
[name conserved]  
chorispora, blue mustard

***Chorispora tenella* (Pall.) DC. [FNA7, HC, HC2]**

Syst. Nat. 2: 435.  
crossflower, blue mustard

*Chorisporum tenellum* (Pall.) R. Br.  
*Raphanus tenellus* Pall.

***Cochlearia* [FNA7, HC, HC2]**

Sp. Pl. 2: 647. 1753; Gen. Pl. ed. 5, 292. 1754.  
scurvygrass, spoonwort

***Cochlearia groenlandica* L. [FNA7, HC2]**

Sp. Pl. 2: 647. 1753  
Danish scurvy-grass, spoonwort

*Cochlearia arctica* Schltdl. ex DC.

*Cochlearia fenestrata* R. Br.  
*Cochlearia officinalis* L. [HC], misapplied  
*Cochlearia officinalis* L. ssp. *oblongifolia* (DC.) Hultén [VPPNW2]  
*Cochlearia officinalis* L. var. *arctica* (D.F.K. Schltld. ex DC.) Gelert

FNA7: "R. C. Rollins (1993) treated the North American plants with  $2n = 14$  as members of *Cochlearia officinalis*. That species is a strictly European tetraploid with  $2n = 24$ . In our opinion, plants of the arctic and subarctic *C. groenlandica* complex represent an evolutionary lineage with  $x = 7$ , which is entirely distinct from that including the European *C. officinalis* and its relatives with  $x = 6$ . The systematic relationships of the  $x = 7$  group to the  $2n = 14$  Icelandic plants of the *C. pyrenaica* complex are still unresolved. The North American plants are extremely variable in flower size, petal shape, and fruit shape and size. They are much in need of detailed cytological, morphological, and molecular studies. *Cochlearia groenlandica* is known in California from nesting areas on off-shore rocks in Del Norte County; in Oregon it occurs on ocean bluffs in Coos and Curry counties (A. Liston, pers. comm.). It appears to be naturally occurring in both states."

***Conringia*** [FNA7, HC, HC2]

Enum. 160. 1759.  
hare's-ear mustard

***Conringia orientalis*** (L.) Dumort. [FNA7, HC, HC2]

Fl. Belg. 123.  
hare's-ear mustard, treacle mustard

***Cusickiella*** [FNA7, HC2]

J. Jap. Bot. 63: 68. 1988.  
cusickiella

***Cusickiella douglasii*** (A. Gray) Rollins [FNA7, HC2]

J. Jap. Bot. 63: 69.  
alkali false whitlow-grass, Douglas' whitlow-grass  
*Draba douglasii* A. Gray [HC]

***Descurainia*** [FNA7, HC, HC2]

Hist. Nat. Îles Canaries. 3(2,3): 72. 1836.  
[name conserved]  
tansymustard

***Descurainia incana*** (Bernh. ex Fisch. & C.A. Mey.) Dorn [FNA7, HC2, JPM]

Vasc. Pl. Wyoming. 296.  
mountain tansymustard

*Descurainia richardsonii* O.E. Schulz [HC]

*Descurainia richardsonii* O.E. Schulz var. *macrosperma* O.E. Schulz [HC]

*Descurainia richardsonii* O.E. Schulz var. *richardsonii* [HC]

***Descurainia incisa*** (Engelm. ex A. Gray) Britton [FNA7, HC2]

Mem. Torrey Bot. Club. 5: 173.  
cut-leaved tansymustard

ssp. ***incisa*** [FNA7, HC2]

Mem. Torrey Bot. Club. 5: 173  
cut-leaved tansymustard

*Descurainia incana* (Bernh. ex Fisch. & C.A. Mey.) Dorn ssp. *incisa* (Engelm. ex A. Gray) Kartesz & Gandhi [KZ99]

*Descurainia incana* (Bernh. ex Fisch. & C.A. Mey.) Dorn ssp. *viscosa* (Rydb.) Kartesz & Gandhi [KZ99]

*Descurainia incisa* (Engelm. ex A. Gray) Britton ssp. *viscosa* (Rydb.) Rollins

*Descurainia richardsonii* O.E. Schulz ssp. *incisa* (Engelm. ex A. Gray) Detling [Abrams]

*Descurainia richardsonii* O.E. Schulz ssp. *viscosa* (Rydb.) Detling [Peck]

*Descurainia richardsonii* O.E. Schulz var. *sonnei* (B.L. Rob.) C.L. Hitchc. [HC]

*Descurainia richardsonii* O.E. Schulz var. *viscosa* (Rydb.) M. Peck [HC]

Here we follow the treatment in FNA that recognizes two subspecies - *incisa* and *paysonii*, the latter of which is out of our area. FNA authors describe *D. incisa* as being highly variable in almost all features, likely the result of hybridization with other members of the genus with which it shares a common range.

***Descurainia longepedicellata* (E. Fourn.) O.E. Schulz [FNA7, HC2]**

Pflanzenr. 86[IV,105]: 324. (as *longipedicellata*).

mountain tansymustard, narrow tansymustard, sticky tansymustard

*Descurainia incisa* (Engelm. ex A. Gray) Britton ssp. *filipes* (A. Gray) Rollins [Rollins 1993a]

*Descurainia pinnata* (Walter) Britton ssp. *filipes* (A. Gray) Detling [KZ99]

*Descurainia pinnata* Britton var. *filipes* (A. Gray) M. Peck [HC]

FNA7: " L. E. Detling (1939) treated *Descurainia longepedicellata* as subsp. *filipes* of *D. pinnata*, whereas R. C. Rollins (1993) and N. H. Holmgren (2005b) treated it as a subspecies and variety, respectively, of *D. incisa*. Molecular data, both nuclear and plastidic (B. E. Goodson 2007), place the three taxa in different, well-supported clades. R. C. Rollins (1993) and N. H. Holmgren (2005b) reported  $2n = 28$  and  $42$  for *Descurainia longepedicellata* (as *D. pinnata* var. *filipes*), but these counts are not vouchered. Rollins indicated that the taxon range extends into California and New Mexico; we have not seen material from those states. *Descurainia longepedicellata* resembles *D. incisa* subsp. *paysonii* in having long fruiting pedicels and linear leaf lobes with entire margins. The latter is easily distinguished by being canescent (versus not canescent) and having fruits strongly curved inward (versus straight). Because the two taxa are not closely related (B. E. Goodson 2007), the similarities in fruiting pedicels and distalmost leaf segments represent convergence."

***Descurainia nelsonii* (Rydb.) Al-Shehbaz & Goodson [FNA7, HC2]**

Harvard Pap. Bot. 12: 422.

Nelson's tansymustard, sagebrush tansymustard

*Descurainia pinnata* (Walter) Britton ssp. *nelsonii* (Rydb.) Detling [Rollins 1993a]

*Descurainia pinnata* Britton var. *nelsonii* (Rydb.) M. Peck [HC]

FNA7: " *Descurainia nelsonii* was treated by L. E. Detling (1939) and R. C. Rollins (1993) as a subspecies of *D. pinnata*, but the latter in the sense of these authors is not monophyletic, comprising instead either four or two unrelated species, respectively. ITS molecular data (B. E. Goodson 2007) suggest that *D. nelsonii* is most closely related to *D. longepedicellata* and *D. paradisica*. It can be distinguished from the latter species by its linear fruits with cuneate tips; *D. paradisica* has obovoid fruits with rounded tips. *Descurainia nelsonii* resembles *D. pinnata* subsp. *brachycarpa* in the orientation of fruiting pedicels and in having short styles (to 0.3 mm) and small seeds (to  $1 \times 0.5$  mm). It differs in being branched (versus simple) at base and in having smaller flowers (petals 0.7-1 versus 1.5-2.6 mm), fewer ovules (6-12 versus 16-40) per ovary, linear (versus subclavate) fruits, and uniseriate (versus biseriate) seeds."

***Descurainia pinnata* (Walter) Britton [FNA7, HC, HC2]**

Mem. Torrey Bot. Club. 5: 173.

western tansymustard

(see also *Descurainia longepedicellata*, *Descurainia nelsonii*)

**ssp. *brachycarpa* (Richardson) Detling [FNA7, HC2]**

Amer. Midl. Naturalist. 22: 509.

shortpod tansymustard, western tansymustard

*Descurainia brachycarpa* (Richardson) O.E. Schulz

*Descurainia pinnata* Britton var. *brachycarpa* (Richardson) Fernald [HC]

*Descurainia pinnata* Britton var. *intermedia* (Rydb.) C.L. Hitchc. [HC]

***Descurainia sophia* (L.) Webb ex Prantl [FNA7, HC, HC2]**

Nat. Pflanzenfam. 55(III,2): 192.

flixweed

***Diplotaxis* [FNA7, HC, HC2]**

Mém. Mus. Hist. Nat. 7: 243. 1821.

wall rocket

***Diplotaxis tenuifolia* (L.) DC. [FNA7, HC2]**



Syst. Nat. 2: 632.  
slimleaf wall rocket

***Draba* [FNA7, HC, HC2]**

Sp. Pl. 2: 642. 1753; Gen. Pl. ed. 5, 291. 1754.  
draba, whitlow-grass, whitlow-wort  
(see also *Cusickiella*)

***Draba albertina* Greene [FNA7, HC2]**

Pittonia. 4: 312.  
Alaska draba, slender whitlow-grass

*Draba crassifolia* Graham var. *albertina* (Greene) O.E. Schulz  
*Draba crassifolia* Graham var. *nevadensis* C.L. Hitchc.  
*Draba stenoloba* Ledeb. var. *nana* (O.E. Schulz) C.L. Hitchc. [HC]

***Draba aurea* Vahl ex Hornem. [FNA7, HC, HC2]**

Fors. Oecon. Plantel. ed. 2. 599.  
golden draba, golden whitlow-grass

*Draba aurea* Vahl ex Hornem. var. *aurea* [VPPNW2]  
*Draba aurea* Vahl ex Hornem. var. *aureiformis* (Rydb.) O.E. Schulz  
*Draba aurea* Vahl ex Hornem. var. *leiocarpa* (Payson & H. St. John) C.L. Hitchc. [VPPNW2]

FNA7: "Draba aurea is extremely variable in plant size, number of cauline leaves, number of bracteate flowers, style length, and fruit size, shape, orientation, twisting, and indumentum. Much of the variation in the number of bracts, style length, fruit twisting, and growth habit occurs in Greenland, where the type specimen was collected and where the species is found near sea level. The highly deviant chromosome counts (e.g.,  $2n = 40 + 1$ , 64, 82) listed by R. C. Rollins (1993) and S. I. Warwick and I. A. Al-Shehbaz (2006) are mostly unvouchered and have to be disregarded; counts of  $2n = ca. 80$  have been re-assigned to *Draba glabella*. Published (G. A. Mulligan 2002) and unpublished counts made by Mulligan and M. D. Windham from Alaska, British Columbia, Colorado, Quebec, Utah, and Yukon indicate that the most common chromosome number of *D. aurea* is  $2n = 74$  (or 72). This suggests that the species is an allopolyploid (hexaploid or higher), incorporating genomes from both euploid and aneuploid lineages (M. A. Beilstein and Windham 2003). Detailed cytological and molecular studies are much needed to fully understand this widely distributed and highly variable species."

***Draba aureola* S. Watson [FNA7, HC, HC2]**

Bot. California. 2: 430.  
alpine whitlow-grass, great alpine whitlow-grass, Mt. Lassen whitlow-grass  
*Draba aureola* S. Watson var. *paniculata* L.F. Hend.

***Draba cana* Rydb. [FNA7, HC2]**

Bull. Torrey Bot. Club. 29: 241.  
lance-leaved draba

*Draba breweri* S. Watson var. *cana* (Rydb.) Rollins  
*Draba lanceolata* Royle [HC], misapplied

Listed in FNA7 as occurring in WA but no specimens from WA currently known. FNA7: "The limits of *Draba cana* have long been confused, and the species was treated as a synonym of the Himalayan *D. lanceolata* Royle (M. L. Fernald 1934; C. L. Hitchcock 1941) or as a variety of the western North American *D. breweri* (R. C. Rollins 1993). However, G. A. Mulligan (1971) clearly demonstrated that all three are distinct and should be maintained."

***Draba crassifolia* Graham [FNA7, HC, HC2]**

Edinburgh New Philos. J. 7: 182.  
Rocky Mountain draba, thick-leaved draba, snowbed whitlow-grass

*Draba crassifolia* Graham var. *parryi* (Rydb.) O.E. Schulz  
*Draba parryi* Rydb.

FNA7: "M. D. Windham (2004) presented morphological and chromosomal data suggesting that *Draba crassifolia* is an allopolyploid produced by hybridization between *D. albertina* and *D. fladnizensis*. Although the species is distinctive in large part, some individuals can be difficult to place and there is evidence of

rare backcrossing (Windham, unpubl.)."

***Draba densifolia* Nutt. [FNA7, HC, HC2]**

Fl. N. Amer. 1: 104.

Nuttall's draba, dense-leaf whitlow-grass

*Draba caeruleomontana* Payson & H. St. John [Abrams]

*Draba caeruleomontana* Payson & H. St. John var. *piperi* Payson & H. St. John

*Draba nelsonii* J.F. Macbr. & Payson [Abrams]

*Draba pectinata* (S. Watson) Rydb.

*Draba sphaerula* J.F. Macbr. & Payson [Abrams]

***Draba incerta* Payson [FNA7, HC, HC2]**

Amer. J. Bot. 4: 261. 1917.

whitlow-wort, Yellowstone draba whitlow-wort

*Draba exalata* E. Ekman

*Draba incerta* Payson var. *incerta* [Rollins 1993a]

*Draba incerta* Payson var. *laevicapsula* (Payson) Payson & H. St. John

*Draba incerta* Payson var. *peasei* (Fernald) Rollins

*Draba laevicapsula* Payson

*Draba peasei* Fernald

***Draba lonchocarpa* Rydb. [FNA7, HC, HC2]**

Mem. New York Bot. Gard. 1: 181.

lancefruit draba, whitlow-wort

*Draba lonchocarpa* Rydb. var. *denudata* O.E. Schulz

*Draba lonchocarpa* Rydb. var. *exigua* O.E. Schulz [HC]

*Draba lonchocarpa* Rydb. var. *lonchocarpa* [HC, Rollins 1993a]

*Draba lonchocarpa* Rydb. var. *semitonsa* Payson & H. St. John

*Draba lonchocarpa* Rydb. var. *vestita* O.E. Schulz

*Draba nivalis* Lilj. ssp. *lonchocarpa* (Rydb.) Hultén

*Draba nivalis* Lilj. var. *denudata* (O.E. Schulz) C.L. Hitchc.

*Draba nivalis* Lilj. var. *elongata* S. Watson [Peck]

*Draba nivalis* Lilj. var. *exigua* (O.E. Schulz) C.L. Hitchc.

FNA7: "Draba lonchocarpa is a highly variable species within which O. E. Schulz (1927), G. A. Mulligan (1974), and R. C. Rollins (1993) recognized three to five varieties. By contrast, C. L. Hitchcock (1941) united it with *D. nivalis* and recognized six varieties (see 68. *D. nivalis* for differences). Some of the infraspecific taxa of *D. lonchocarpa* are based on trivial characteristics and are listed in the synonymy above without further comment. The most problematic are briefly discussed below. Authors recognizing var. *vestita* claim that it differs from var. *lonchocarpa* by having pubescent (versus glabrous) stems and pedicels, 1- or 2-leaved (versus 0 or 1-leaved) scapes, and fruits appressed (versus not appressed) to the rachises. These characteristics do not appear to be strongly correlated. A case in point is the holotype sheet of var. *semitonsa*, which includes plants with puberulent or glabrous fruits, as well as with pubescent and glabrous stems that are 0-4-leaved. Leafless and densely pubescent scapes are found in Trelease 3913 (MO), whereas completely glabrous, 0-2-leaved stems, and fully appressed fruits are found in Calder 5617a (DAO). Other exceptions can be cited, though the vast majority of the plants examined have leafless, glabrous scapes. An examination of the type collections of var. *thompsonii*, Thompson 9512 (holotype, UC; isotypes, DS, GH, MO, NY, RSA, US), clearly shows that the taxon usually has oblong to lanceolate fruits 2-3.2 mm wide, as opposed to linear fruits less than 2 mm wide in var. *lonchocarpa*. Indeed, a casual observation would immediately justify the recognition of var. *thompsonii*. Both fruit types can be found in plants of the same population (e.g., the RSA isotype) or even on the same plant (e.g., Thompson 10816, MO). Furthermore, fruits to 2.5 mm wide occur sporadically in various parts of the species range. For these reasons, and in the absence of a comprehensive study of the species, we choose to not recognize var. *thompsonii* at present."

***Draba nemorosa* L. [FNA7, HC, HC2]**

Sp. Pl. 2: 643.

woods draba, woodland whitlow-grass

*Draba dictyota* Greene

*Draba nemoralis* Ehrh.  
*Draba nemorosa* L. var. *leiocarpa* Lindblom  
*Tomostima nemorosa* (L.) Lunell

***Draba novolympica* Payson & H. St. John [FNA7, HC2]**

Proc. Biol. Soc. Wash. 43: 113.  
Payson's draba, Payson's whitlow-grass

*Draba paysonii* J.F. Macbr. var. *treleasei* (O.E. Schulz) C.L. Hitchc. [HC]

FNA7: "Draba novolympica is the same taxon that C. L. Hitchcock (1941) and R. C. Rollins (1993) called *D. paysonii* var. *treleasei*, and G. A. Mulligan (2002) called *D. paysonii*. The two are amply distinct and should be recognized as separate species. *Draba novolympica* is easily distinguished from *D. paysonii* by having fruit valves pubescent with 2-6-rayed (occasionally some simple) trichomes 0.05-0.4 mm, sepals 1.5-2.5 mm, petals 2-3.5(-4) × 1.5-2 mm, fruits (2.5-)3-4(-5) × 1.5-3.5 mm, styles 0.2-0.6(-0.8) mm, and ovules 1.2-1.8 × 0.8-1.1 mm. By contrast, *D. paysonii* has fruit valves pubescent with simple and 2-rayed (some 4- or 5-rayed) trichomes (0.2-)0.4-1 mm, sepals 2.8-3.5 mm, petals (4-)5-6 × (1.5-)2-3 mm, fruits (5-)6-9 × (3-)3.5-5 mm, styles (0.6-)0.8-1.2 mm, and ovules 1.7-2.2 × 1-1.4 mm. Both R. C. Rollins (1993) and N. H. Holmgren (2005b) indicated that *Draba novolympica* (as *D. paysonii* var. *treleasei*) occurs in Alaska and Yukon, but we have not seen any material from there, and it is likely that their records were based on misidentified plants. Previous reports of *D. paysonii* from Canada (e.g., G. A. Mulligan 1971b) pertain instead to *D. novolympica*."

***Draba oligosperma* Hook. [FNA7, HC, HC2]**

Fl. Bor.-Amer. 1: 51.  
few-seeded draba, few-seeded whitlow-grass

*Draba oligosperma* Hook. var. *andina* Nutt.  
*Draba oligosperma* Hook. var. *microcarpa* Blank.  
*Draba oligosperma* Hook. var. *oligosperma* [HC]  
*Draba subsessilis* S. Watson [Abrams]

Rollins (1993): This species reproduces by agamospermy, which largely explains morphological variation among populations. Historically such variation received sub-specific ranking, but it seems best to leave the deviants undesignated taxonomically. FNA7: "Draba oligosperma is a highly variable and widespread species that has been shown to be apomictic (G. A. Mulligan and J. N. Findlay 1970; Mulligan 1972). It has been divided into species and infraspecific taxa by previous authors; the variation is continuous in every character; there are no clear geographical and morphological patterns that support its division. For characteristics separating *D. oligosperma* from the closely related *D. pectinipila*, see 80. *D. pectinipila*. *Draba andina* (Nuttall) A. Nelson (1899), not Philippi (1858) is an illegitimate name, sometimes found in synonymy under *D. oligosperma*."

***Draba platycarpa* Torr. & A. Gray [FNA7, HC2]**

Fl. N. Amer. 1: 108.  
broad-pod whitlow-grass

*Draba cuneifolia* Nutt. ex Torr. & A. Gray var. *platycarpa* (Torr. & A. Gray) S. Watson [HC]  
*Draba viperensis* H. St. John

FNA7: "Draba platycarpa is occasionally treated as a variety of *D. cuneifolia*, but is amply distinct from that species (R. L. Hartman et al. 1975)."

***Draba praealta* Greene [FNA7, HC, HC2]**

Pittonia. 3: 306.  
tall whitlow-grass

*Draba cascadiensis* Payson & H. St. John [Abrams]  
*Draba columbiana* Rydb.  
*Draba dolichopoda* O.E. Schulz  
*Draba lonchocarpa* Rydb. var. *daseycarpa* O.E. Schulz  
*Draba yellowstonensis* A. Nelson

***Draba reptans* (Lam.) Fernald [FNA7, HC, HC2]**

Rhodora. 36: 368.  
Carolina whitlow-grass

*Arabis reptans* Lam.

*Draba reptans* (Lam.) Fernald ssp. *stellifera* (O.E. Schulz) Abrams [Abrams]

*Draba reptans* (Lam.) Fernald var. *micrantha* (Nutt.) Fernald [Abrams]

*Draba reptans* (Lam.) Fernald var. *reptans* [HC]

*Draba reptans* (Lam.) Fernald var. *stellifera* (O.E. Schulz) C.L. Hitchc. [HC]

*Tomostima caroliniana* (Walter) Raf.

FNA7: "Draba reptans is often confused with *D. cuneifolia*, but the two are easily separated. The rachises and pedicels of *D. reptans* are usually glabrous (rarely with a few isolated trichomes); those of *D. cuneifolia* are always densely pubescent. Interestingly, both species show parallel variations in chromosome number; it is currently unclear whether this variation is real or the result of misidentified specimens and/or erroneous counts."

***Draba ruaxes* Payson & H. St. John [FNA7, HC2]**

Proc. Biol. Soc. Wash. 43: 117.

coast mountain draba, coast mountain whitlow-grass

*Draba ventosa* A. Gray var. *ruaxes* (Payson & H. St. John) C.L. Hitchc. [HC]

FNA7: "C. L. Hitchcock (1941) treated *Draba ruaxes* as a variety of *D. ventosa*; as demonstrated by G. A. Mulligan (1971b), the two are quite distinct. *Draba ruaxes* is an outcrossing hexaploid with well-formed anthers and pollen, and abundant, simple trichomes on leaves, stems, sepals, and fruits. By contrast, *D. ventosa* is an apomictic triploid with abortive anthers and/or pollen, and no simple trichomes anywhere on the plant."

***Draba stenoloba* Ledeb. [FNA7, HC, HC2]**

Fl. Ross. 1: 154.

Alaska whitlow-grass

(see also *Draba albertina*)

*Draba acinacis* H. St. John

*Draba hirta* L. var. *siliquosa* Cham. & Schtdl.

*Draba nemorosa* L. var. *stenoloba* (Ledeb.) M.E. Jones [HC]

*Draba stenoloba* Ledeb. var. *oligantha* (Greene) O.E. Schulz

*Draba stenoloba* Ledeb. var. *stenoloba* [HC, Rollins 1993a]

FNA7: "Draba stenoloba is occasionally confused with *D. albertina*, but is easily recognized by having exclusively 2-4-rayed (versus mostly simple) trichomes on stems proximally. It is rarely encountered and apparently confined to the Pacific Northwest. In contrast, *D. albertina* is common and widespread in the mountains of western North America."

***Draba taylorii* G.A. Mulligan & Al-Shehbaz [HC2]**

Harvard Pap. Bot. 18(2): 114, fig. 8.

Taylor's draba, Taylor's whitlow-grass

***Draba thompsonii* (C.L. Hitchc.) G.A. Mulligan & Al-Shehbaz [HC2]**

Harvard Pap. Bot. 18(2): 117.

Thompson's draba

*Draba lonchocarpa* Rydb. var. *thompsonii* (C.L. Hitchc.) Rollins [HC]

*Draba nivalis* Lilj. var. *thompsonii* C.L. Hitchc.

***Draba verna* L. [FNA7, HC, HC2]**

Sp. Pl. 2: 642.

spring whitlow-grass

*Draba verna* L. var. *aestivalis* Lej. [Peck]

*Draba verna* L. var. *boerhaavii* H.C. Hall [HC]

*Draba verna* L. var. *verna* [HC]

*Erophila verna* (L.) DC. ssp. *spathulata* Walters

*Erophila verna* (L.) DC. var. *praecox* (Steven) Diklic [Stace 1997]

*Erophila verna* (L.) DC. var. *verna* [Stace 1997]

Autogamy and aneuploidy lead to establishment of many uniform and slightly differing populations, which Rollins (1993b) does not recognize taxonomically. FNA7: "Draba verna represents a highly variable and taxonomically difficult complex within which species, subspecies, varieties, and forms have been named

(O. E. Schulz 1927); only those synonyms pertaining to North America are listed above. Most of the taxonomic difficulties are the results of dispoloidy, autogamy, and hybridization. The morphological extremes are connected by intermediate forms in every conceivable character. Furthermore, there appears to be no correlation between morphology, cytology, geography, and ecology to support the division of this complex into meaningful taxa. A complex cytological picture was presented by Ø. Winge (1940), including the highest count of  $2n = 94$ , which has not been confirmed by subsequent botanists. *Erophila vulgaris* de Candolle is an illegitimate name for *Draba verna*."

***Eruca* [FNA7, HC, HC2]**

Gard. Dict. Abr., ed. 4. vol. 1. 1754.  
garden-rocket, rocket-salad

***Eruca vesicaria* (L.) Cav. [FNA7, HC2]**

Descr. Pl. 426.  
arugula

**ssp. *sativa* (Mill.) Thell. [FNA7, HC2]**

III. Fl. Mitt.-Eur. 4: 201.  
garden rocket

*Brassica eruca* L.  
*Eruca sativa* Mill. [HC]

P. Miller coined *E. sativa* in 1754, preceeding Garsault's *E. sativa* in 1767. FNA7: "Subspecies *sativa*, widely naturalized and cultivated, was first introduced as a weed in North America in Flathead County, Montana, in 1898, with additional reports from 1900 to the 1920s as a seed contaminant of alfalfa fields in the United States. Subspecies *vesicaria* and *pinnatifida* (Desfontaines) Emberger & Maire are endemic to Spain and North Africa and have escaped from cultivation in Europe; they seem not to have become adventive in North America (R. C. Rollins 1993). Recent molecular studies by S. I. Warwick and L. D. Black (1993) support the treatment of subsp. *vesicaria* and its presumed derivative subsp. *sativa* as a single species; subsp. *pinnatifida* is maintained as *Eruca pinnatifida* (Desfontaines) Pomel. The earliest cultivation of subsp. *sativa* dates back to the ancient Romans and Greeks. It is currently grown in Europe and North America as a salad plant and in Asia for cooking oil and as food for animals. The oil is also used as an industrial lubricant and for cosmetic and medicinal purposes (I. A. Al-Shehbaz 1985). The seed cake and the entire plant are used as fodder for domestic animals. The oil is high in erucic acid and glucosinolates and is known to cause various skin allergies."

***Erucastrum* [FNA7, HC, HC2]**

Fl. Sicul. 92. 1826.  
dog mustard

***Erucastrum gallicum* (Willd.) O.E. Schulz [FNA7, HC, HC2]**

Bot. Jahrb. Syst. 54(Beibl. 119): 56.  
dog mustard, hairy rocket

*Erucastrum pollichii* Schimp. & Spenner  
*Sisymbrium gallicum* Willd.

FNA7: "A European native, *Erucastrum gallicum* was first recorded for North America from Massachusetts and Wisconsin (see J. O. Luken et al. 1993 for history of introduction and spread). It is naturalized in all the provinces of Canada and in parts of the United States, particularly the Midwest. It is an allopolyploid, with the  $n = 7$  component from *Diplotaxis erucoides*/ *D. cossoniana* and  $n = 8$  from the *E. nasturtiifolium* complex (S. I. Warwick and L. D. Black 1993). I have not seen specimens from Maryland."

***Erysimum* [FNA7, HC, HC2]**

Sp. Pl. 2: 660. 1753; Gen. Pl. ed. 5, 296. 1754.  
wallflower

***Erysimum arenicola* S. Watson [FNA7, HC, HC2]**

Proc. Amer. Acad. Arts. 26: 124.  
sand-dwelling wallflower

*Cheiranthus arenicola* (S. Watson) Greene

*Erysimum arenicola* S. Watson var. *arenicola* [HC]  
*Erysimum arenicola* S. Watson var. *torulosum* (Piper) C.L. Hitchc. [HC]  
*Erysimum torulosum* Piper

FNA7: "Erysimum arenicola is distributed at the higher elevations of northern Oregon northward into the Olympic and Cascade mountains in Washington and Vancouver Island. Both G. B. Rossbach (1958) and R. C. Rollins (1993) recognized Erysimum arenicola as a distinct species. It is closely related to E. perenne and both can be easily distinguished from E. capitatum, with which they hybridize where their ranges meet, by the strongly torulose (versus not torulose) fruits and the longer styles 1.5-5.5 versus 0.2-2.5(-3) mm."

***Erysimum capitatum* (Douglas ex Hook.) Greene [FNA7, HC2, Peck]**

Fl. Francisc. 269.  
sand dune wallflower

*Erysimum asperum* (Nutt.) DC. [FNA7, HC, HC2], misapplied

**var. *capitatum* [FNA7, HC2]**

Fl. Francisc. 2: 269-270.  
prairie rocket, rough wallflower

*Cheiranthus angustatus* Greene

*Erysimum asperum* (Nutt.) DC. var. *capitatum* (Douglas ex Hook.) B. Boivin

*Erysimum asperum* (Nutt.) DC. var. *elatum* (Nutt.) Torr.

FNA7: "Although its overall distribution is extensive, var. capitatum has been collected only sporadically outside the main range in western Idaho, western Nevada, and the Pacific states. There is some local differentiation in California that has been recognized formally. For example, some populations in the Mohave desert in Kern, Los Angeles, and San Bernardino counties, as well as disjunct ones in eastern San Luis Obispo County, differ from typical var. capitatum by having yellow petals, fruits to 3.3 mm wide, and seeds to 4 × 2 mm; these were recognized by G. B. Rossbach (1958) and R. C. Rollins (1993) as var. bealianum. Variety angustatum, which is highly localized in Contra Costa County and was recognized by both Rossbach and Rollins, differs from typical var. capitatum by having elongated (versus not elongated) woody caudices, 4-angled (versus latiseptate) fruits, and much-branched (versus moderately-branched or simple) fruiting racemes."

***Erysimum cheiranthoides* L. [FNA7, HC, HC2]**

Sp. Pl. 2: 661.  
treacle mustard, wormseed wallflower

*Cheiranthus cheiranthoides* (L.) A. Heller

*Cheirnia cheiranthoides* (L.) Link

***Erysimum cheiri* (L.) Crantz [FNA7, HC2]**

Cl. Crucif. Emend. 116. 1769.  
Aegean wallflower

*Cheiranthus cheiri* L. [Flora Europaea]

***Erysimum occidentale* (S. Watson) B.L. Rob. [FNA7, HC, HC2]**

Syn. Fl. N. Amer. 1(1,1): 144.  
pale wallflower, western wallflower

*Cheiranthus occidentalis* S. Watson

*Cheirinia occidentalis* (S. Watson) Tidestr.

FNA7: "Erysimum occidentale is restricted to sand deposits along or near the Columbia River and its tributaries. It is distributed in Gilliam, Hood River, Morrow, Sherman, and Umatilla counties in Oregon, and in Franklin, Grant, Kittitas, Klickitat, Lincoln, Walla Walla, and Yakima counties in Washington."

***Erysimum repandum* L. [FNA7, HC, HC2]**

Demonstr. Pl. 17.  
spreading wallflower

*Cheirinia repanda* (L.) Link

***Euclidium* [FNA7, HC, HC2]**

Hortus Kew. 4: 74. 1812.

[name conserved]  
euclidium

*Euclidium syriacum* (L.) W.T. Aiton [FNA7, HC, HC2]

Hortus Kew. 4: 74.  
euclidium, Syrian mustard

*Anastatica syriaca* L.  
*Bunias syriaca* (L.) M. Bieb.

***Hesperis*** [FNA7, HC, HC2]

Sp. Pl. 2: 663. 1753; Gen. Pl. ed. 5, 297. 1754.  
rocket

*Hesperis matronalis* L. [FNA7, HC, HC2]

Sp. Pl. 2: 663.  
mother-of-the-evening, dame's rocket

***Hirschfeldia*** [FNA7, HC2]

Methodus. 264. 1794.  
shortpod mustard

*Hirschfeldia incana* (L.) Lagr.-Foss. [FNA7, HC2]

Fl. Tarn Garonne. 19.  
Mediterranean hoary mustard, short-podded mustard, summer mustard  
*Sinapis incana* L.

***Hornungia*** [FNA7, HC2]

Deutschl. Fl. 1: 33. 1837.

*Hutchinsia* [HC]

*Hornungia procumbens* (L.) Hayek [FNA7, HC2]

Repert. Spec. Nov. Regni Veg. Beih. 30: 480.  
hutchinsia, prostrate hutchinsia, ovalpurse

*Bursa procumbens* (L.) Kuntze  
*Capsella procumbens* (L.) Fr.  
*Hutchinsia procumbens* (L.) Desv. [HC, Rollins 1993a]  
*Hymenolobus procumbens* (L.) Nutt. ex Torr. & A. Gray  
*Lepidium procumbens* L.  
*Noccaea procumbens* (L.) Rchb.  
*Thlaspi procumbens* (L.) Wallr.

FNA7: "Hornungia procumbens is highly variable, especially in fruit size and shape, number of seeds per fruit, indumentum, plant size, and shape and number of leaf divisions. Many of its morphological extremes were recognized at specific and infraspecific ranks, and more than 40 synonyms exist."

***Idahoa*** [FNA7, HC, HC2]

Bot. Gaz. 56: 474. 1913.  
scalepod

*Idahoa scapigera* (Hook.) A. Nelson & J.F. Macbr. [FNA7, HC, HC2]

Bot. Gaz. 56: 474.  
flatpod, scalepod  
*Platyspermum scapigerum* Hook.

***Isatis*** [FNA7, HC, HC2]

Sp. Pl. 2: 670. 1753; Gen. Pl. ed. 5, 301. 1754.  
woad

***Lepidium*** [FNA7, HC, HC2]



Sp. Pl. 2: 643. 1753; Gen. Pl. ed. 5, 291. 1754.  
hoarycress, peppergrass, pepperweed

*Cardaria* [HC]  
*Coronopus* [HC]

*Lepidium appelianum* Al-Shehbaz [FNA7, HC2]

Novon. 12: 7.

globepodded hoarycress, whitetop

*Cardaria pubescens* (C.A. Mey.) Jarm. [HC]

*Cardaria pubescens* (C.A. Mey.) Jarm. var. *elongata* Rollins [Peck]

*Hymenophysa pubescens* C.A. Mey.

FNA7: "*Lepidium appelianum* has become a noxious weed in most of its range in North America."

*Lepidium campestre* (L.) W.T. Aiton [FNA7, HC, HC2]

Hortus Kew. 4: 88.

field cress, field peppergrass, pepperwort

*Neolepia campestre* (L.) W.A. Weber

*Thlaspi campestre* L.

*Lepidium chalepense* L. [FNA7, HC2]

Cent. Pl. II. 23.

chalapa hoarycress, lens-podded hoarycress, Asian white-top

*Cardaria chalapensis* (L.) Hand.-Maz. [HC], orthographic variant

*Cardaria chalepensis* (L.) Hand.-Mazz.

*Cardaria draba* (L.) Desv. ssp. *chalapensis* (L.) O.E. Schulz [ILBC2], orthographic variant

*Cardaria draba* (L.) Desv. var. *repens* (Schrenk) O.E. Schulz [VPPNW2]

*Lepidium draba* L. ssp. *chalapensis* (L.) Thell. [Stace 1997]

*Lepidium repens* (Schrenk) Boiss. [Abrams]

FNA7: "From the synonymy above, it is evident that the disposition of *Lepidium chalepense* has varied: more than one species (e.g., R. C. Rollins 1940; G. A. Mulligan and C. Frankton 1962), one species (e.g., Rollins 1993), a variety of *Lepidium* (*Cardaria*) *draba* (N. H. Holmgren 2005b), or a synonym of the latter species (C. L. Hitchcock 1936). In our opinion, the differences in fruit morphology and chromosome number justify its recognition as a distinct species."

*Lepidium densiflorum* Schrad. [FNA7, HC, HC2]

Index Seminum (Göttingen). 1832: 4.

common peppergrass, elongate peppergrass, hairy-fruited peppergrass, large-fruited peppergrass, prairie peppergrass

*Lepidium densiflorum* Schrad. var. *densiflorum* [HC, Rollins 1993a]

*Lepidium densiflorum* Schrad. var. *elongatum* (Rydb.) Thell. [HC, Rollins 1993a]

*Lepidium densiflorum* Schrad. var. *macrocarpum* G.A. Mulligan [HC, Rollins 1993a]

*Lepidium densiflorum* Schrad. var. *pubicarpum* (A. Nelson) Thell. [HC, Rollins 1993a]

*Lepidium elongatum* Rydb.

*Lepidium neglectum* Thell.

*Lepidium pubicarpum* A. Nelson

FNA: "North American records of *Lepidium apetalum* Willdenow mostly represent misidentifications of *L. densiflorum*. The latter has obovate fruits widest beyond the middle, whereas *L. apetalum* has elliptic fruits widest at the middle. The number and limits of the varieties recognized in *Lepidium densiflorum*, as well as the characters used to delimit them, vary among authors (A. Thellung 1906; C. L. Hitchcock 1936; G. A. Mulligan 1961; R. C. Rollins 1993; N. H. Holmgren 2005b). The variation almost always does not correlate with geography, and the recognition of varieties in this species is neither practical nor very useful. All of those authors admitted that these varieties are "very weak at best" (Rollins, p. 554). Of them, perhaps var. *pubicarpum* (including var. *elongatum*) might merit recognition. It is distributed in almost all of the Mountain and Pacific states and is distinguished from the other varieties solely by the presence of trichomes or minute papillae on the fruit valves. The density of these trichomes ranges from moderate and covering the entire valve surface to very sparse and represented by individual papillate trichomes restricted to the valve margin. Furthermore, the length of these trichomes may vary from ca. 0.01 to 0.3 mm. In some species

(e.g., *L. dictyotum*) both glabrous- and pubescent-fruited forms occur, yet none of the above authors gave formal recognition to both forms. It is not known if both glabrous and puberulent fruits occur within the same population in *L. densiflorum*. The species is autogamous, but nothing is known about the rates of gene flow between and within populations." Rollins, 1993: "The original area of *L. densiflorum* sens. lat. is impossible to know because of its weedy tendencies. Many of the localities where it now occurs are probably outside of its native range." The varieties of *L. densiflorum* are poorly defined and may not be taxonomically distinct.

***Lepidium dictyotum* A. Gray [FNA7, HC, HC2]**

Proc. Amer. Acad. Arts. 7: 329.

alkali peppergrass, veiny peppergrass

*Lepidium dictyotum* A. Gray var. *dictyotum* [HC, Rollins 1993a]

***Lepidium didymum* L. [FNA7, HC2]**

Syst. Nat. ed. 12. 2: 433. 1767; Mant Pl. 1: 92.

lesser swinecress, lesser wartcress

*Coronopus didymus* (L.) Sm. [HC]

***Lepidium draba* L. [FNA7, HC2]**

Sp. Pl. 2: 645.

heart-podded hoarycress, hoary pepperwort

*Cardaria draba* (L.) Desv. [HC]

*Cardaria draba* (L.) Desv. ssp. *draba* [ILBC2]

*Lepidium draba* L. ssp. *draba* [Stace 1997]

***Lepidium heterophyllum* Benth. [FNA7, HC, HC2]**

Cat. Pl. Pyrénées. 95.

purple-anther pepperweed, Smith's pepperweed

***Lepidium latifolium* L. [FNA7, HC, HC2]**

Sp. Pl. 2: 644.

dittander, broad-leaved peppergrass, broad-leaved pepperwort

*Cardaria latifolia* (L.) Spach

***Lepidium nitidum* Nutt. [FNA7, HC, HC2]**

Fl. N. Amer. 1: 116.

shining peppergrass

*Lepidium leiocarpum* Hook. & Arn.

*Lepidium nitidum* Nutt. var. *howellii* C.L. Hitchc.

*Lepidium nitidum* Nutt. var. *nitidum* [Rollins 1993a]

*Lepidium nitidum* Nutt. var. *oreganum* (Howell ex Greene) C.L. Hitchc.

***Lepidium oblongum* Small [FNA7, HC2]**

Fl. S.E. U.S. 468, 1331.

oblong pepperweed

***Lepidium oxycarpum* Torr. & A. Gray [FNA7, HC, HC2]**

Fl. N. Amer. 1: 116.

forked pepperwort, sharpfruited pepperwort

*Nasturtium oxycarpum* (Torr. & A. Gray) Kuntze

FNA7: "*Lepidium oxycarpum* apparently did not persist in British Columbia following its introduction there over 110 years ago (G. A. Mulligan 2002b). That record is based on Macoun s.n. (GH, MO, NY, US), which was collected on 31 May 1893 from the vicinity of Victoria, Vancouver Island." Rollins, 1993: "Apparently introduced to southern Vancouver Island. It was collected in the vicinity of Victoria, British Columbia in 1893, but we have not seen any recent collections".

***Lepidium perfoliatum* L. [FNA7, HC, HC2]**

Sp. Pl. 2: 643.

clasping-leaved peppergrass, round-leaved peppergrass, yellow-flowered peppergrass

*Nasturtium perfoliatum* (L.) Besser

***Lepidium ramosissimum* A. Nelson [FNA7, HC, HC2]**

Bull. Torrey Bot. Club. 26: 124.  
branched peppergrass

*Lepidium ramosissimum* A. Nelson var. *bourgeauanum* (Thell.) Rollins

*Lepidium ramosissimum* A. Nelson var. *ramosissimum*

FNA7: "As noted by R. C. Rollins (1993, p. 581), the varieties of *Lepidium ramosissimum* are "weak at best." They are based largely on the branching habit and, most importantly, on the presence versus absence of trichomes on the fruit valve. In some collections (e.g., Scoggan 4233, GH; Boivin et al., 13221, GH), both puberulent- and glabrous-fruited forms occur. It is almost certain that the same situation exists not only in other populations of this species, but in other North American *Lepidium*. It is also clear that some populations might consist entirely of one of the two forms, but it is highly unlikely that this variation has any geographical basis. Therefore, we believe that the separation of varieties solely on the basis of presence or absence of the fruit trichomes is taxonomically meaningless."

***Lepidium strictum* (S. Watson) Rattan [FNA7, HC, HC2]**

Syn. Fl. N. Amer. 1(1,1): 129.  
upright peppergrass

Recently collected (May 2016) at Port Townsend, Jefferson County, Washington. Also known as an historical waif near Portland, Oregon. More common in California.

***Lepidium virginicum* L. [FNA7, HC, HC2]**

Sp. Pl. 2: 645.  
tall pepperweed

**ssp. *menziesii* (DC.) Thell. [FNA7, HC2]**

Mitt. Bot. Mus. Univ. Zürich. 28: 230.  
coastal peppergrass, hairy peppergrass

*Lepidium bernardinum* Abrams

*Lepidium hirsutum* Rydb.

*Lepidium idahoense* A. Heller [Abrams]

*Lepidium menziesii* DC. [Abrams]

*Lepidium virginicum* L. var. *medium* (Greene) C.L. Hitchc. [HC]

*Lepidium virginicum* L. var. *menziesii* (DC.) C.L. Hitchc. [HC]

*Lepidium virginicum* L. var. *pubescens* (Greene) Thell. [HC]

*Lepidium virginicum* L. var. *robinsonii* (Thell.) C.L. Hitchc.

**ssp. *virginicum* [FNA7, HC2]**

Sp. Pl. 2: 645.  
tall peppergrass

*Lepidium virginicum* L. var. *linearifolium* Farw.

*Lepidium virginicum* L. var. *virginicum* [HC]

***Lobularia* [FNA7, HC, HC2]**

J. Bot. Agric. 3: 162. 1815.  
[name conserved]  
sweet alyssum

***Lobularia maritima* (L.) Desv. [FNA7, HC, HC2]**

J. Bot. Agric. 3: 162.  
sweet alyssum

*Alyssum maritimum* (L.) Lam.

*Clypeola maritima* L.

*Koniga maritima* (L.) R. Br. [Abrams]

***Lunaria* [FNA7, HC, HC2]**

Sp. Pl. 2: 653. 1753; Gen. Pl. ed. 5, 294. 1754.  
honesty

***Lunaria annua* L. [FNA7, HC, HC2]**

Sp. Pl. 2: 653.  
honesty, money plant

*Lunaria biennis* Moench  
*Lunaria inodora* Lam.

FNA7: "Lunaria annua is cultivated for its attractive flowers but especially for the infructescences, which are used in dry bouquets after removal of the fruit valves and seeds."

**Matthiola** [FNA7, HC2]

Hortus Kew. 4: 119. 1812. (as Mathiola), name and orthography conserved.

*Matthiola incana* (L.) W.T. Aiton [FNA7, HC2]

Hortus Kew. 4: 119. (as Mathiola).  
hoary stock

*Matthiola longipetala* (Vent.) DC. [FNA7, HC2]

Syst. Nat. 2: 174. 1821.

**Mutarda**

Syst. Verz. (Bernhardi) 184.

**Nasturtium** [FNA7, HC2]

Hortus Kew. 4: 110. 1812.  
watercress

*Nasturtium microphyllum* Boenn. ex Rchb. [FNA7, HC2]

Fl. Germ. Excurs. 683.  
onerow watercress

Recently collected in Klickitat County (2012).

*Nasturtium officinale* W.T. Aiton [FNA7, HC2]

Hortus Kew. 4: 110.  
watercress

*Rorippa nasturtium-aquaticum* (L.) Hayek [HC]  
*Sisymbrium nasturtium-aquaticum* L.

**Neslia** [FNA7, HC, HC2]

J. Bot. Agric. 3: 162. 1815.  
[name conserved]

*Neslia paniculata* (L.) Desv. [FNA7, HC, HC2]

J. Bot. Agric. 3: 162.  
ball mustard

*Myagrum paniculatum* L.

**Noccaea** [FNA7, HC2]

Suppl. Meth. 89. 1802.  
claspleaf pennycress, perfoliate pennycress

*Microthlaspi* [FNA7, HC2]

**Noccaea fendleri** (A. Gray) Holub [FNA7, HC2]

Preslia. 70: 108.  
wild candytuft, Fendler's pennycress

*Thlaspi alpestre* L., misapplied  
*Thlaspi fendleri* A. Gray [HC]

ssp. **glauca** (A. Nelson) Al-Shehbaz & M. Koch [FNA7, HC2]

Syst. Bot. 29: 382.  
wild candytuft

*Thlaspi cochleariforme* DC. [VPPNW2]

*Thlaspi fendleri* A. Gray var. *glaucum* (A. Nelson) C.L. Hitchc. [HC]  
*Thlaspi fendleri* A. Gray var. *hesperium* (Payson) C.L. Hitchc. [VPPNW2]  
*Thlaspi glaucum* (A. Nelson) A. Nelson [Abrams]  
*Thlaspi montanum* L. var. *montanum* [Rollins 1993a]

FNA7: "Subspecies *glaucum*, which is the most morphologically variable and most widespread North American taxon in *Noccaea*, corresponds to *Thlaspi montanum* var. *montanum* in the sense of P. K. Holmgren (1971) and R. C. Rollins (1993). As indicated above, that variety is a strictly European taxon."

*Noccaea perfoliata* (L.) Al-Shehbaz [WTU]

Harvard Pap. Bot. 19(1): 44.

*Microthlaspi perfoliatum* (L.) F.K. Mey.

*Thlaspi perfoliatum* L.

***Phoenicaulis*** [FNA7, HC, HC2]

Fl. N. Amer. 1: 89. 1838.

daggerpod

***Phoenicaulis cheiranthoides*** Nutt. [FNA7, HC, HC2]

Fl. N. Amer. 1: 89.

daggerpod

*Arabis pedicellata* A. Nelson

*Parrya cheiranthoides* (Nutt.) Jeps.

*Phoenicaulis cheiranthoides* Nutt. ssp. *glabra* (Jeps.) Abrams [Abrams]

*Phoenicaulis cheiranthoides* Nutt. ssp. *heiranthoides* [Abrams]

*Phoenicaulis cheiranthoides* Nutt. ssp. *lanuginosa* (S. Watson) Abrams [Abrams]

*Phoenicaulis cheiranthoides* Nutt. var. *cheiranthoides* [VPPNW2]

*Phoenicaulis cheiranthoides* Nutt. var. *lanuginosa* (S. Watson) Rollins [VPPNW2]

*Phoenicaulis pedicellata* (A. Nelson) A. Heller

***Physaria*** [FNA7, HC, HC2]

Gen. Amer. Bor. 1: 162. 1848.

bladderpod, double bladderpod, twinpod

*Lesquerella* [HC]

***Physaria alpestris*** Suksd. [FNA7, HC, HC2]

W. Amer. Sci. 15: 58.

alpine twinpod, Washington twinpod

*Lesquerella alpestris* (Suksd.) G.A. Mulligan

***Physaria didymocarpa*** (Hook.) A. Gray [FNA7, HC, HC2]

Gen. Amer. Bor. 1: 162.

common twinpod

ssp. ***didymocarpa*** [FNA7, HC2]

Gen. Amer. Bor. 1: 162.

common twinpod

*Physaria didymocarpa* (Hook.) A. Gray var. *didymocarpa* [HC]

***Physaria douglasii*** (S. Watson) O?Kane & Al-Shehbaz [FNA7, HC2]

Novon. 12: 322.

Columbia bladderpod, Douglas' bladderpod

*Lesquerella douglasii* S. Watson [HC]

ssp. ***douglasii*** [FNA7, HC2]

Novon. 12: 322.

Douglas's bladderpod

ssp. ***tuplashensis*** (Rollins, K.A. Beck & Caplow) O?Kane & Al-Shehbaz [FNA7, HC2]

Novon. 12: 322.

White Bluffs bladderpod

*Lesquerella tuplashensis* Rollins, K. A. Beck & Caplow

FNA7: "It is possible that subsp. *tuplashensis* is simply an ecotype, or that its phenotype is in response to its severe habitat on the White Bluffs of the Columbia River."

***Physaria geyeri* (Hook.) A. Gray [FNA7, HC, HC2]**

Gen. Amer. Bor. 1: 162.

Geyer's twinpod

*Coulterina geyeri* (Hook.) Kuntze

*Lesquerella geyeri* (Hook.) G.A. Mulligan

*Vesicaria geyeri* Hook.

**ssp. *geyeri* [FNA7, HC2]**

Gen. Amer. Bor. 1: 162.

double bladderpod, Geyer's twinpod bladderpod, Geyer's twinpod

*Physaria geyeri* (Hook.) A. Gray var. *geyeri* [HC]

***Physaria occidentalis* (S. Watson) O?Kane & Al-Shehbaz [FNA7, HC2]**

Novon. 12: 326.

western bladderpod

*Lesquerella occidentalis* (S. Watson) S. Watson [HC]

**ssp. *occidentalis* [FNA7, HC2]**

Novon. 12: 326.

western bladderpod

*Lesquerella cusickii* M.E. Jones [Abrams]

*Lesquerella occidentalis* (S. Watson) S. Watson ssp. *cusickii* (M.E. Jones) Maguire & A.H. Holmgren

*Lesquerella occidentalis* (S. Watson) S. Watson ssp. *occidentalis*

*Lesquerella occidentalis* (S. Watson) S. Watson var. *cusickii* (M.E. Jones) C.L. Hitchc. [HC]

*Lesquerella occidentalis* (S. Watson) S. Watson var. *occidentalis* [HC]

***Physaria oregona* S. Watson [FNA7, HC2]**

Proc. Amer. Acad. Arts. 17: 363.

Oregon twinpod

*Coulterina oregona* (S. Watson) Kuntze

*Lesquerella oregona* (S. Watson) G.A. Mulligan

*Physaria oregana* S. Watson [HC], orthographic variant

***Polyctenium* [FNA7, HC, HC2]**

Leaf. Bot. Observ. Crit. 2: 219. 1912.

combleaf

***Polyctenium fremontii* (S. Watson) Greene [FNA7, HC, HC2]**

Leaf. Bot. Observ. Crit. 2: 219.

combleaf

*Smelowskia fremontii* S. Watson

FNA7: "*Polyctenium fremontii* is highly variable in fruit size and the compactness of the fruiting raceme, but in habit, flower size and color, leaf morphology, indumentum, fruiting pedicel length and orientation, number of ovules per ovary, and basically every other aspect of the plants, it is quite constant. If one examines only the types of those two taxa and that of *P. fremontii*, it seems that perhaps two or three taxa might be recognized. Upon careful study of extensive material, one realizes that only one taxon, instead of three or more, is represented. The alleged differences between *P. fremontii* and *P. williamsiae* in characters other than fruit morphology do not hold. As for fruit size, it was said to be 2-4 × 2-2.5 mm in *P. williamsiae* and (4-)6-13(-20) × 1-2 mm in *P. fremontii*. Fruit lengths in material annotated by Rollins as *P. fremontii* are 2-7 mm in Tiehm 8108 and 3.5-11 mm in Ertter 5726, both at GH. Furthermore, the compactness of the infructescence can be equally variable, and in the holotype of var. *confertum* there are 12-15 pedicels along 1 cm in the middle of the rachis, whereas in Ertter 5726 (GH) there are 6-12. On one sheet, Schoolcraft 1287 (GH), compact and lax racemes and relatively short (3 mm) and longer (7 mm)

fruits are represented. The variation in fruit length and width depends largely upon the number of ovules maturing into seeds, and in plants with very short fruits, including the type collection of *P. williamsiae*, none of the ovules matured into seeds, whereas in those with longest and narrowest fruits almost all ovules matured into seeds. Regardless of how long the fruit is or how many ovules mature into seeds, the ovule number is fairly constant throughout the range of the species. In my opinion, except for the type species of *Polyctenium*, all of the other taxa recognized in this genus do not represent biologically distinct entities. To my knowledge, *Polyctenium fremontii* is known from counties in California (Lassen, Modoc, Mono, Siskiyou), Idaho (Gooding), Nevada (Churchill, Douglas, Humboldt, Lyon, Mineral, Washoe), and Oregon (Crook, Deschutes, Harney, Klamath, Lake, Malheur)."

***Raphanus* [FNA7, HC, HC2]**

Sp. Pl. 2: 669. 1753; Gen. Pl. ed. 5, 300. 1754.  
radish

***Raphanus raphanistrum* L. [FNA7, HC, HC2]**

Sp. Pl. 1: 669.  
jointed charlock, wild radish

FNA7: "North American representatives of *Raphanus raphanistrum* are referable to subsp. *raphanistrum*. Four other subspecies are restricted to Europe."

***Raphanus sativus* L. [FNA7, HC, HC2]**

Sp. Pl. 2: 669.  
garden radish

FNA7: "*Raphanus sativus* is an important crop plant that is cultivated and/or weedy in most temperate regions worldwide. It is unknown as a wild plant, but suggested to be derived from *R. raphanistrum* subsp. *landra*, which is endemic to the Mediterranean region (L. J. Lewis-Jones et al. 1982)."

***Rorippa* [FNA7, HC, HC2]**

Fl. Carniol. 520. 1760.  
yellowcress  
(see also *Armoracia*, *Nasturtium*)

***Rorippa austriaca* (Crantz) Besser [FNA7, HC2]**

Enum. Pl. 103. (as *Roripa*).  
Austrian yellowcress field-cress

*Camelina austriacum* (Crantz) Pers.  
*Cochlearia austriaca* (Crantz) Ledeb.  
*Myagrum austriacum* (Crantz) Jacq.  
*Nasturtium austriacum* Crantz

This species is classified as a noxious weed in WA, however few supporting specimens have been seen. Some reports (KZ99; a R. Old pers. comm.) may be based on *Rorippa* × *armoracoides* (Tausch) Fuss, the hybrid between *R. austriaca* and *R. sylvestris* (L.) Besser, which has been called *Rorippa prostrata* (Bergeret) Schinz & Thell. in the North American literature.

***Rorippa columbiae* (S. Watson) Howell [FNA7, HC2]**

Fl. N.W. Amer. 40. (as *Roripa*).  
Columbia yellowcress cress

*Nasturtium columbiae* (S. Watson) Suksd.  
*Nasturtium sinuatum* Nutt. var. *columbiae* S. Watson  
*Radicula columbiae* (S. Watson) Greene  
*Rorippa calycina* (Engelm.) Rydb. var. *columbiae* (S. Watson) Rollins [HC]  
*Rorippa sinuata* (Nutt.) Hitchc. var. *columbiae* (S. Watson) Howell

***Rorippa curvipes* Greene [FNA7, HC2]**

Pittonia. 3: 97. (as *Roripa*).  
blunt-leaved yellowcress, truncate yellowcress

*Rorippa curvipes* Greene var. *curvipes*  
*Rorippa curvipes* Greene var. *truncata* (Jeps.) Rollins



*Rorippa obtusa* (Nutt.) Britton [HC], misapplied  
*Rorippa teres* (Michx.) Stuckey [FNA7], misapplied

***Rorippa curvisiliqua* (Hook.) Bessey ex Britton [FNA7, HC, HC2]**

Mem. Torrey Bot. Club. 5: 169.  
western yellowcress

*Nasturtium curvisiliqua* (Hook.) Nutt.

*Rorippa curvisiliqua* (Hook.) Bessey ex Britton var. *curvisiliqua* [HC]

*Rorippa curvisiliqua* (Hook.) Bessey ex Britton var. *lyrata* (Nutt.) C.L. Hitchc. [HC]

*Rorippa curvisiliqua* (Hook.) Bessey ex Britton var. *nuttallii* (S. Watson) Stuckey [KZ99]

*Rorippa curvisiliqua* (Hook.) Bessey ex Britton var. *orientalis* Stuckey [KZ99]

*Rorippa curvisiliqua* (Hook.) Bessey ex Britton var. *procumbens* Stuckey [KZ99]

*Sisymbrium curvisiliqua* Hook.

FNA7: "*Rorippa curvisiliqua* is a highly variable species divided artificially by R. L. Stuckey (1972) into seven varieties. They were only reluctantly recognized by R. C. Rollins (1993) and N. H. Holmgren (2005b), though these authors felt, and I concur, that it is impossible to determine any of them reliably. A collection from New Brunswick, Blaney s.n. (DAO, MO, NBM, UNB), Northumberland County, 2 Sep 2004, was most likely introduced by migratory birds."

***Rorippa palustris* (L.) Besser [FNA7, HC2]**

Enum. Pl. 27. (as *Roripa*).  
bog yellowcress, marsh yellowcress

*Rorippa islandica* (Oeder ex Murray) Borbás [HC], misapplied

*Rorippa islandica* (Oeder ex Murray) Borbás var. *fernaldii* Butters & Abbe [Peck]

*Rorippa palustris* (L.) Besser var. *palustris* [Rollins 1993a]

**ssp. *hispida* (Desv.) Jonsell [FNA7, HC2, KZ99]**

Symb. Bot. Upsal. 19(2): 159.  
hipsid bog yellowcress

*Rorippa islandica* (Oeder ex Murray) Borbás var. *hispida* (Desv.) Butters & Abbe [HC]

*Rorippa palustris* (L.) Besser var. *hispida* (Desv.) Rydb. [JPM]

**ssp. *palustris* [FNA7, HC2]**

bog yellowcress

*Rorippa islandica* (Oeder ex Murray) Borbás var. *glabrata* (Lunell) Butters & Abbe [HC]

*Rorippa islandica* (Oeder ex Murray) Borbás var. *islandica* [HC], misapplied

*Rorippa islandica* (Oeder ex Murray) Borbás var. *occidentale* (Wats.) Butters & Abbe [HC],  
orthographic variant

*Rorippa islandica* (Oeder ex Murray) Borbás var. *occidentalis* (S. Watson) Butters & Abbe

*Rorippa palustris* (L.) Besser ssp. *fernaldiana* (Butters & Abbe) Jonsell [KZ99]

*Rorippa palustris* (L.) Besser ssp. *occidentalis* (S. Watson) Abrams [KZ99]

*Rorippa palustris* (L.) Besser var. *fernaldiana* (Butters & Abbe) Stuckey [Rollins 1993a]

*Rorippa palustris* (L.) Besser var. *occidentalis* (S. Watson) Rollins [JPM]

***Rorippa sinuata* (Nutt.) Hitchc. [FNA7, HC, HC2]**

Key Spring Fl. Manhattan. 18. (as *Roripa*).  
spreading yellowcress

***Rorippa sphaerocarpa* (A. Gray) Britton [HC2, FNA7]**

Mem. Torrey Bot. Club. 5: 170.  
roundfruit yellowcress

Recently (2018) collected along the Columbia River in Skamania County.

***Rorippa sylvestris* (L.) Besser [FNA7, HC, HC2]**

Enum. Pl. 27. (as *Roripa*).  
creeping yellowcress

***Rorippa tenerrima* Greene [FNA7, HC2]**

Erythea. 3: 46. (as *Roripa*).  
Modoc yellowcress

(see also *Rorippa curvipes*)

**Sandbergia** [FNA7, HC2]

Leaf. Bot. Observ. Crit. 2: 136. 1911.

**Sandbergia perplexa** (L.F. Hend.) Al-Shehbaz [FNA7, HC2]

Harvard Pap. Bot. 12: 426.

puzzling halimolobos

*Halimolobos perplexa* (L.F. Hend.) Rollins [HC], orthographic variant

*Halimolobos perplexa* (L.F. Hend.) Rollins var. *lemhiensis* C.L. Hitchc. [HC], orthographic variant

*Halimolobos perplexa* (L.F. Hend.) Rollins var. *perplexa* [HC, Rollins 1993a], orthographic variant

*Sisymbrium perplexum* L.F. Hend.

*Sophia perplexa* (L.F. Hend.) Rydb.

FNA7: "I have seen limited material of var. *lemhiensis*, and all the differences given by R. C. Rollins (1993) to separate it from var. *perplexa* (e.g., style and pedicel length, density of indumentum) are quantitative characters that show continuous, uncorrelated variation. *Sandbergia perplexa* is known from counties in Idaho (Adams, Butte, Custer, Idaho, Lemhi, Valley), Montana (Beaverhead), and Washington (Douglas)."

**Sandbergia whitedii** (Piper) Greene [FNA7, HC2]

Leaf. Bot. Observ. Crit. 2: 137.

fissurewort, whited's halimolobos fissurewort

*Arabis whitedii* Piper

*Halimolobos whitedii* (Piper) Rollins [HC, Rollins 1993a]

FNA7: "In Washington state, *Sandbergia whitedii* appears to be restricted to Chelan, Douglas, Grant, Kittitas, Lincoln, and Okanogan counties."

**Sinapis** [FNA7, HC2]

Sp. Pl. 2: 668. 1753; Gen. Pl. ed. 5, 299. 1754.

*Rhamphospermum*

**Sinapis arvensis** L. [WTU]

Sp. Pl. 2: 668.

charlock, corn mustard, wild mustard

*Brassica arvensis* Rabenh., homonym (illegitimate)

*Brassica kaber* (DC.) L.C. Wheeler [HC]

*Brassica kaber* (DC.) L.C. Wheeler var. *pinatifida* (Stokes) L.C. Wheeler [Peck]

*Brassica sinapistrum* Boiss.

*Mutarda arvensis* (L.) D.A. German

*Sinapis kaber* DC.

**Sisymbrium** [FNA7, HC, HC2]

Sp. Pl. 2: 657. 1753; Gen. Pl. ed. 5, 296. 1754.

hedgemustard, tumbledustard

*Schoenocrambe* [HC]

**Sisymbrium altissimum** L. [FNA7, HC, HC2]

Sp. Pl. 2: 659.

Jim Hill mustard, tumble mustard, tall rocket

**Sisymbrium linifolium** (Nutt.) Nutt. [FNA7, HC2]

Fl. N. Amer. 1: 91.

lava cress, rush mustard, flax-leaved plains mustard, Salmon River plains mustard

*Erysimum glaberrimum* Hook. & Arn.

*Nasturtium linifolium* Nutt.

*Schoenocrambe linifolia* (Nutt.) Greene [HC]

FNA7: "N. H. Holmgren (2005b) recognized *Sisymbrium linifolium* and others (see 86. *Hesperidanthus*) in *Schoenocrambe* even though the molecular evidence (S. I. Warwick et al. 2002) overwhelmingly shows

that the latter is nested within *Sisymbrium*, whereas the species of *Hesperidanthus* are not closely related. Indeed, I. A. Al-Shehbaz et al. (2006) placed *Hesperidanthus* and *Sisymbrium* in different tribes. This is an example where the superficial resemblances in fruit morphology are the result of convergence and can easily mislead to erroneous taxonomy."

*Sisymbrium loeselii* L. [FNA7, HC, HC2]

Cent. Pl. I. 18.

false London rocket, Loesel's tumbledustard

*Sisymbrium officinale* (L.) Scop. [FNA7, HC, HC2]

Fl. Carniol. ed. 2. 2: 26.

hedge mustard

*Erysimum officinale* L.

*Sisymbrium officinale* (L.) Scop. var. *leiocarpum* DC. [VPPNW2]

*Sisymbrium officinale* (L.) Scop. var. *officinale* [VPPNW2]

*Smelowskia* [FNA7, HC, HC2]

Icon. Pl. 2: 17, plate 151. 1830.

[name conserved]

smelowskia

*Smelowskia americana* Rydb. [FNA7, HC2]

Bull. Torrey Bot. Club. 29: 239.

alpine smelowskia, Siberian smelowskia

*Smelowskia calycina* (Stephan) C.A. Mey. [HC, Peck], misapplied

*S. calycina* is restricted to Asia.

*Smelowskia calycina* (Stephan) C.A. Mey. var. *americana* (Regel & Herder) W.H. Drury & Rollins [HC]

FNA7: "Both R. C. Rollins (1993) and N. H. Holmgren (2005b) listed  $2n = 44$  for *Smelowskia americana* (as *S. calycina* var. *americana*), but no such number is known for any species of the genus (*S. I. Warwick* and I. A. Al-Shehbaz 2006). It is most likely that the first two authors erred in reporting  $2n = 22$  for the species. The latter count is likely to represent a dysploid reduction of tetraploid populations based on  $x = 6$ . Previous North American authors (e.g., W. H. Drury Jr. and R. C. Rollins 1952; Rollins 1993; N. H. Holmgren 2005b) believed that the central Asian *Smelowskia calycina* and the North American plants also attributed to it are conspecific. *S. I. Warwick et al.* (2004b) clearly demonstrated that they are different species. The North American plants, *S. americana*, are easily distinguished from *S. calycina* by having readily caducous instead of persistent calyces. As recognized by Rollins (1993), the North American *S. calycina* represented three distinct taxa (*S. americana*, *S. media*, *S. porsildii*) none of which belongs to that species."

*Smelowskia ovalis* M.E. Jones [FNA7, HC, HC2]

Proc. Calif. Acad. Sci. ser. 2. 5: 624.

short-fruited smelowskia

*Smelowskia ovalis* M.E. Jones var. *ovalis*

FNA7: "*Smelowskia ovalis* appears to be rare in Oregon, common at Mt. Lassen (Shasta County, California), and widespread at high elevations in Washington."

*Streptanthella* [FNA7, HC, HC2]

Fl. Rocky Mts. 364, 1062. 1917.

streptanthella

*Streptanthella longirostris* (S. Watson) Rydb. [FNA7, HC, HC2]

Fl. Rocky Mts. 364.

long-beaked fiddle mustard, streptanthella

*Streptanthella longirostris* (S. Watson) Rydb. var. *derelicta* J.T. Howell [Abrams]

FNA7: "*Streptanthella longirostris* is most widely distributed in southern California, Nevada, and southern and central Utah, and appears to be restricted elsewhere: Colorado (Mesa, Montezuma, Montrose, San Miguel), Idaho (Butte), Montana (Carbon), New Mexico (San Juan), Washington (Franklin, Grant), and Wyoming (Fremont, Natrona, Sweetwater, Uinta)."

***Strigosella*** [FNA7, HC2]

Diagn. Pl. Orient. 3(1): 22. 1854.

***Subularia*** [FNA7, HC, HC2]

Sp. Pl. 2: 642. 1753; Gen. Pl. ed. 5, 290. 1754.  
awlwort

***Subularia aquatica*** L. [FNA7, HC, HC2]

Sp. Pl. 2: 642.  
water awl-wort

ssp. ***americana*** G.A. Mulligan & Calder [FNA7, HC2]

Rhodora. 66: 132, plate 1295, fig. 1. 1964.  
awlwort

*Subularia aquatica* L. var. *americana* (G.A. Mulligan & Calder) B. Boivin [KZ99]

FNA7: "Subspecies *americana* appears to be the sole representative of *Subularia* in North America. It differs from subsp. *aquatica*, which is restricted to northern Europe and Russia, by having persistent (versus caducous) sepals, fruiting pedicels ascending at 30-50° (versus 50-90°) angles, and broadly ellipsoid to broadly obovoid (versus ellipsoid) fruits. G. A. Mulligan and J. A. Calder (1964) indicated that plants slightly intermediate between the two subspecies grow sporadically in North America, and it is not known whether they represent hybrids."

***Teesdalia*** [FNA7, HC, HC2]

Hortus Kew. 4: 83. 1812.  
shepherd's cress

***Teesdalia nudicaulis*** (L.) W.T. Aiton [FNA7, HC, HC2]

Hortus Kew. 4: 83.  
shepherd's cress

*Iberis nudicaulis* L.

***Thelypodium*** [FNA7, HC, HC2]

Gen. Pl. 11: 876. 1839.  
thelypody  
(see also *Caulanthus*)

***Thelypodium howellii*** S. Watson [FNA7, HC, HC2]

Proc. Amer. Acad. Arts. 21: 445.  
Howell's thelypody

ssp. ***howellii*** [FNA7, HC2]

Proc. Amer. Acad. Arts. 21: 445.  
Howell's thelypody

***Thelypodium integrifolium*** (Nutt.) Endl. [FNA7, HC, HC2]

Repert. Bot. Syst. 1: 172. 1842.  
entire-leaved thelypody

ssp. ***integrifolium*** [FNA7, HC2]

entire-leaved thelypody

*Pleurophragma lilacinum* (Greene) Rydb.

*Thelypodium lilacinum* Greene

*Thelypodium lilacinum* Greene var. *subumbellatum* Payson

***Thelypodium laciniatum*** (Hook.) Endl. [FNA7, HC, HC2]

Repert. Bot. Syst. 1: 172.  
cut-leaf thelypody, thick-leaved thelypody  
(see also *Thelypodium milleflorum*)

*Thelypodium laciniatum* (Hook.) Endl. var. *laciniatum* [HC]

*Thelypodium laciniatum* (Hook.) Endl. var. *streptanthoides* (Leiberg ex Piper) Payson [HC]

***Thelypodium milleflorum*** A. Nelson [FNA7, HC2]

Bot. Gaz. 52: 263. 1911.  
many flowered thelypody

*Thelypodium laciniatum* (Hook.) Endl. var. *milleflorum* (A. Nelson) Payson [HC]

***Thelypodium sagittatum*** (Nutt.) Endl. [FNA7, HC, HC2]

Rept. Bot. Syst. 1: 172.  
slender thelypody

ssp. ***sagittatum*** [FNA7, HC2]

In W. G. Walpers, Rept. Bot. Syst. 1: 172.  
sagittate thelypody, slender thelypody

***Thlaspi*** [FNA7, HC, HC2]

Sp. Pl. 2: 645. 1753; Gen. Pl. ed. 5, 292. 1754.  
pennycress  
(see also *Microthlaspi*, *Noccaea*)

***Thlaspi arvense*** L. [FNA7, HC, HC2]

Sp. Pl. 2: 646.  
fanweed, field pennycress

*Teruncius arvensis* (L.) Lunell

FNA7: "Thlaspi arvense is a cosmopolitan weed of Eurasian origin."

***Thysanocarpus*** [FNA7, HC, HC2]

Fl. Bor.-Amer. 1: 69, plate 18, fig. A. 1830.  
fringe-pod, lacepod

***Thysanocarpus curvipes*** Hook. [FNA7, HC, HC2]

Fl. Bor.-Amer. 1: 69, plate 18, fig. A.  
sand fringe-pod, lacepod

*Thysanocarpus curvipes* Hook. var. *elegans* (Fisch. & C.A. Mey.) B.L. Rob. [Peck]

*Thysanocarpus curvipes* Hook. var. *longistylus* Jeps. [Abrams]

FNA7: "Thysanocarpus curvipes is the most widespread and variable species in the genus. Variants have been named as varieties or species, but they grade into each other imperceptibly. Notable among these are var. *elegans*, a form with incised or perforate fruit wings, and var. *eradiatus*, a form with rayless, entire wings. Some of these may be the result of hybridization with other taxa. For instance, var. *elegans* has large fruits and occurs in the vicinity of *T. radians*, the largest-fruited member of the genus. Furthermore, fruits of var. *elegans* often have pointed hairs like those usually found on fruits of *T. radians*; such hairs are not found on fruits of any other members of the genus. *Thysanocarpus curvipes* includes both diploid and tetraploid populations (M. D. Windham, unpubl.), but these do not appear to segregate into recognizable groups. Although the variation in *T. curvipes* is considerable, its great complexity prevents recognition of infraspecific taxa at this time."

***Turritis*** [FNA7, HC2]

Sp. Pl. 2: 666. 1753; Gen. Pl. ed. 5, 298. 1754.  
tower-mustard

***Turritis glabra*** L. [FNA7, HC2]

Sp. Pl. 2: 666.  
tower-mustard

*Arabis glabra* (L.) Bernh. [HC]

*Arabis glabra* (L.) Bernh. var. *furcatipilis* M. Hopkins

*Arabis glabra* (L.) Bernh. var. *glabra* [ILBC2]

## Cruciferae (see Brassicaceae)