# **Washington Flora Checklist**

# A checklist of the Vascular Plants of Washington State Hosted by the University of Washington Herbarium

# Family: Amaranthaceae

65 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 <u>APG IV</u> 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 <u>2nd Edition of the Flora of the Pacific Northwest</u> except where superceded by new information.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.

Created from the Washington Flora Checklist Database on April 19th, 2024 at 1:05am PST. Available online at <a href="https://burkeherbarium.org/waflora/">https://burkeherbarium.org/waflora/</a>

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# **Dicots:**

# Amaranthaceae [FNA4, HC, HC2] Amaranth Family

# Synonyms:

Chenopodiaceae [FNA4, HC] (Goosefoot Family)

Taxonomy follows APG III (http://www.mobot.org/mobot/research/apweb/welcome.html).

References: (none)

#### Amaranthus [FNA4, HC, HC2]

Sp. Pl. 2: 989. 1753; Gen. Pl., ed. 5, 427. 1754. amaranth, pigweed

Amaranthus albus L. [FNA4, HC, HC2]

Syst. Nat. ed. 10. 2: 1268. white pigweed, tumbleweed

Amaranthus albus L. var. pubescens (Uline & W.L. Bray) Fernald Amaranthus pubescens (Uline & W.L. Bray) Rydb.

FNA: "Amaranthus albus and A. blitoides are rather often confused in herbaria. The species are easily distinguished by their seed size and luster."

#### Amaranthus blitoides S. Watson [FNA4, HC2]

Proc. Amer. Acad. Arts. 12: 273. (as Amarantus). matweed, prostrate pigweed

Amaranthus graecizans L. [FNA4, HC], misapplied

Often confused with Amaranthus albus L., but differentiated by seed size and luster. Taxonomy follows FNA. Amaranthus graecizans is native to the Mediterranean, and has never been found in the western United States.

# Amaranthus blitum L. [FNA4, HC2]

Sp. Pl. 2: 990. livid amaranth, pale amaranth

Amaranthus ascendens Loisel. Amaranthus blitum L. ssp. polygonoides (Moq.) Cattetero Amaranthus lividus L.

Amaranthus californicus (Moq.) S. Watson [FNA4, HC, HC2]

Bot. California. 2: 42. (as Amarantus). California amaranth

Mengea californica Moq.

Amaranthus deflexus L. [FNA4, HC2]

Mant. Pl. 2: 295. Argentina amaranth

#### Amaranthus hybridus L. [FNA4, HC2]

Sp. Pl. 2: 990.

green amaranth, hybrid amaranth, smooth amaranth, green pigweed, smooth pigweed

Often mistaken for Amaranthus powellii or A. retroflexus.

# Amaranthus powellii S. Watson [FNA4, HC, HC2]

Proc. Amer. Acad. Arts. 10: 347. (as Amarantus). green amaranth, Powell's amaranth

Amaranthus bracteosus Uline & W.L. Bray Amaranthus powellii S. Watson ssp. bouchonii (Thell.) Costea & Carretero [KZ99] Amaranthus powellii S. Watson ssp. powellii [KZ99] Atriplex retroflexus L. var. powellii (S. Watson) B. Boivin

Amaranthus retroflexus L. [FNA4, HC, HC2]

Sp. Pl. 2: 991. redroot pigweed, rough pigweed

Amaranthus retroflexus L. var. salicifolius I.M. Johnst.

### Atriplex [FNA4, HC, HC2]

Sp. Pl. 2: 1052. 1753; Gen. Pl. ed. 5, 472. 1754. greasewood, orache, saltbush, shadscale, silverscale (see also *Grayia*)

# Atriplex argentea Nutt. [FNA4, HC, HC2]

Gen. N. Amer. Pl. 1: 198. silver orache, silverscale orache

# var. argentea [FNA4, HC2, KZ99]

Gen. N. Amer. Pl. 1: 198. silver saltbush, silverscale

Atriplex volutans A. Nelson

# Atriplex canescens (Pursh) Nutt. [FNA4, HC, HC2]

Gen. N. Amer. Pl. 1: 197. fourwing saltbush, hoary saltbush, shadscale, wingscale (see also *Atriplex gardneri*)

Atriplex nuttallii S. Watson [HC] Atriplex nuttallii Wats. var. nuttallii [HC]

# var. canescens [FNA4, HC, HC2]

Gen. N. Amer. Pl. 1: 197. hoary saltbush

Atriplex canescens (Pursh) Nutt. var. angustifolia (Torr.) S. Watson Atriplex canescens (Pursh) Nutt. var. occidentalis (Torr. & Frém.) S.L. Welsh & Stutz

FNA4 includes Washington within the range of this taxon, indicating a population in eastern Washington near Spokane.

# Atriplex dioica Raf. [FNA4, HC, HC2]

Amer. Monthly Mag. & Crit. Rev. 2(2): 119. thickleaf orache, saline saltbush

Atriplex dioica (Nutt.) J.F. Macbr., misapplied Atriplex patula L. var. subspicata (Nutt.) S. Watson Atriplex subspicata (Nutt.) Rydb.

This is the common native annual of coastal salt marshes and beaches in our area. Taxonomy and nomenclature follow FNA. FNA4: "The distribution of the species is evidently bipartite, with an eastern coastal series extending northward mainly from New Jersey to Newfoundland and along the St. Lawrence seaway, and perhaps extending to James Bay of Hudson Bay. The western grouping lies mainly west of the 95th meridian of longitude, where it has been collected since early historical times to the present in saline marshes or other saline sites from the Yukon Territory and Northwest Territories, southward to southern California, northern Arizona, northern New Mexico, and Oklahoma. Rafinesque gave the following information: "Stem upright angular branched, leaves petiolate, deltoid, acute, thick, scaly, the proximal opposite toothed, the distal alternate, hastated, entire: flowers dioical glomerate, male spiked naked, female unequal, sepals deltoid, warty-crested." The name Atriplex dioica Rafinesque antedates Chenopodium subspicatum Nuttall by half a year, being published in December 1817. Hence, it is the correct name for the widely ranging species, which has passed most recently under the name A. subspicata. Nuttall/////s description of the habitat of Chenopodium subspicatum is: "In saline soils around Mandan Village, Missouri," a designation of habitat that applies to this day. The species forms a mirror-image set of specimens with the remarkably similar Atriplex prostrata, from which it may be distinguished in most cases by the thickened, merely ovate to lanceolate leaf blades, and less commonly but in some localities exclusively triangular-hastate to lanceolate, mostly scurfy and prominently 3-veined leaf blades. In some specimens, including the types of both Chenopodium subspicatum and Atriplex carnosa, the blades bear a hastate lobe at or above the base and sometimes match triangular-hastate profile of A. prostrata. The leaves of A. prostrata are typically thin-textured, green, not scurfy, and the veins of the blade are obscure. I. J. Bassett et al. (1983) disallowed within A. dioica (as A. subspicata) any but those with lanceolate blades, including those with the proximalmost leaves with a pair of subbasal hastate lobes. However, there are numerous specimens in which the blades are thickened and transitional in that regard to the triangular-hastate profile as in A. prostrata. Certainly those specimens with triangular or triangular-hastate leaves taken prior to the introduction of A. prostrata sometime late in the nineteenth or early twentieth century, clearly belong to the indigenous A. dioica. Whether there are intermediates between diploid (2n = 18) A. prostrata and tetraploid or hexaploid (2n = 36, 54) A. dioica is not known. There does not seem to be any consistent feature or combination of features by which all specimens can be assigned to one or the other of the two taxa. It seems probable, however, that A. prostrata is a late introduction from Europe, and that it, along with the related A. heterosperma, is now invading habitats previously occupied exclusively by the indigenous A. dioica."

#### Atriplex gardneri (Moq.) D. Dietr. [FNA4, HC2]

Syn. Pl. 5: 537. Gardner's saltbush

# var. falcata (M.E. Jones) S.L. Welsh [FNA4, HC2]

Great Basin Naturalist. 44: 191. moundscale, gardner's saltbush, sickle saltbush, saltsage

Atriplex falcata (M.E. Jones) Standl. [KZ99] Atriplex nuttallii S. Watson var. falcata M.E. Jones [HC]

#### Atriplex gmelinii C.A. Mey. ex Bong. [FNA4, HC2]

Mém. Acad. Imp. Sci. St. Pétersbourg, Sér. 6, Sci. Math. 2: 160. Gmelin's orache, Gmelin's saltbush

var. gmelinii [FNA4, HC2]

Mém. Acad. Imp. Sci. St. Pétersbourg, Sér. 6, Sci. Math. 2: 160. Gmelin's orache, Gmelin's saltbush

Atriplex gmelinii C.A. Mey. ex Bong. var. zosterifolia (Hook.) Moq. Atriplex patula L. var. obtusa (Cham.) C.L. Hitchc. [HC] Atriplex patula L. var. zosteraefolia (Hook.) Hitchc. [HC] Atriplex patula L. var. zosterifolia (Hook.) C.L. Hitchc.

#### Atriplex heterosperma Bunge [FNA4, HC, HC2]

Beitr. Fl. Russl. 272. orache, Russian atriplex orache

# Atriplex micrantha Ledeb. [KZ99], misapplied

FNA4: "Russian atriplex occurs with greasewood, saltgrass, cottonwood, tamarix, and weedy annuals. It is a handsome, vigorous ruderal, weedy annual indigenous to Europe east to Chinese Turkestan that appears to be invading saline lowland and other disturbed areas throughout much of North America. It is similar to Atriplex prostrata from which it can be distinguished by the entire margin and smooth surfaces of the fruiting bracteoles. Additionally, the leaves are thick-textured and often bear one or more lobes or teeth irregularly along the blade above the subbasal main hastate lobe. The staminate spikes when young are very slender, mainly less than 2.5 mm thick."

# Atriplex hortensis L. [FNA4, HC, HC2]

Sp. Pl. 2: 1053.

garden orache, French spinach

Atriplex nitens Schkuhr

FNA4: "Atriplex hortensis has been widely grown as a potherb, has escaped from cultivation, and is now established especially in moist ruderal sites. It is easily distinguished by its rounded, samaralike, entire, and smooth fruiting bracteoles, and the presence of two kinds of pistillate flowers, the one enclosed by bracteoles and lacking sepals, the other without bracteoles but subtended by sepals. Atriplex nitens (see list of excluded taxa) is distinguished from A. hortensis in Flora Europea (P. Aellen 1964b) by having leaf

blades densely white scurfy beneath, the distal surface lustrous, as opposed to green and dull for A. hortensis. Occasional specimens, treated here as A. hortensis, have leaves somewhat scurfy."

Atriplex littoralis L. [FNA4, HC2]

Sp. Pl. 2: 1054. grassleaf orache, narrow-leaved orache

Atriplex patula L. var. littoralis (L.) A. Gray [HC]

#### Atriplex longipes Drejer [Flora Europaea, HC2]

Fl. Excurs. Hafn. 107.

long-stalked orache, Baltic saltbush

Atriplex longipes Drejer ssp. praecox (Hülph.) Turesson Atriplex nudicaulis Boguslaw [FNA4], misapplied Atriplex praecox Hülph.

#### Atriplex oblongifolia Waldst. & Kit. [FNA4, HC2]

Descr. Icon. Pl. Hung. 3: 278, plate 211. oblongleaf orache

Reported for Washington in Bassett et al. (1983). FNA4: "I. J. Bassett et al. (1983) indicated that Atriplex oblongifolia formed abundant, very fertile hybrids with A. patula in the Botanic Garden at Manchester University. This is a weedy species with facies similar to both A. dioica and A. glabriuscula var. acadiensis. The proximal branches at least are opposite, similar to phases of the nearly allied A. patula, however. It is likewise an introduced ruderal weed of roadsides and other waste places. Its spread in North America awaits documentation. The thin, entire fruiting bracts without appendages are pointed to as diagnostic of this entity from other similar species."

## Atriplex patula L. [FNA4, HC, HC2]

Sp. Pl. 2: 1053. halberdleaf orache, spear orache (see also *Atriplex gmelinii*, *Atriplex littoralis*, *Atriplex prostrata*)

Atriplex hastata L. ssp. patula (L.) S. Pons Atriplex hastata L. var. patula (L.) Farw. Atriplex patula L. var. patula [HC]

FNA4: "Atriplex patula appears to have been a rather recent introduction in North America from Eurasia, not arriving perhaps until sometime in the early to mid-eighteenth century. It simulates depauperate specimens of A. dioica, A. glabriuscula, and other similar species when leaves are reduced to a near-linear profile. Such specimens are difficult if not impossible to assign to any of the species."

#### Atriplex prostrata Boucher ex DC. [FNA4, HC2]

Fl. Franç. ed. 3. 3: 387. fat hen, hastate orache, thin-leaf orache

#### Atriplex triangularis Willd. [JPM]

A common annual introduction in coastal habitats, also found east of the Cascades. FNA4: "Atriplex prostrata often grows with willow, tamarix, Scirpus (Schoenoplectus and Bulboschoenus segregates), Juncus, Distichlis, and Typha. Perhaps the phase along coastal eastern North America is indigenous, but this and the related Atriplex heterosperma evidently moved quickly from one palustrine habitat to another following subsequent introductions from the Old World. They were probably initially introduced as ballast waifs, and subsequently dispersed by waterfowl. The two species are now commonplace in lands within and adjacent to marshes in much of North America west of the initial sites of introduction. The name for the species taken up here follows the nomenclatural interpretation of J. McNeill et al. (1983)."

# Atriplex rosea L. [FNA4, HC, HC2]

Sp. Pl., ed. 2. 2: 1493. red orache, tumbling orache

FNA4: "At least some early collections were from ballast dumps at harbors on both coasts. It seems probable that the plants were quickly spread inland from initial centers of introduction by birds and more recently along railroads."

Atriplex truncata (Torr. ex S. Watson) A. Gray [FNA4, HC, HC2]

Proc. Amer. Acad. Arts. 8: 398. wedge orache, wedgeleaf orache, wedgescale orache

Atriplex subdecumbens M.E. Jones Atriplex truncata (Torr. ex S. Watson) A. Gray var. stricta A. Gray

## Bassia [FNA4, HC, HC2]

Mélanges Philos. Math. Soc. Roy. Turin. 3: 177. 1766. bassia, smotherweed

## Bassia hyssopifolia (Pall.) Kuntze [FNA4, HC, HC2]

Revis. Gen. Pl. 2: 547. five-hook bassia, five-hook smotherweed

Echinopsilon hyssopifolium (Pall.) Moq. Salsola hyssopifolia Pall.

#### Bassia scoparia (L.) A.J. Scott [HC2]

Feddes Repert. 81(2?3): 108. red belvedere, mock cypress, summer cypress

Chenopodium scoparium L. Kochia alata Bates Kochia scoparia (L.) Schrad. [FNA4, HC] Kochia scoparia (L.) Schrad. f. *trichophylla* (A. Voss) Stapf ex Schinz & Thell. Kochia scoparia (L.) Schrad. ssp. *scoparia* [FNA4]

# Beta [FNA4, HC, HC2]

Sp. Pl. 1: 222. 1753; Gen. Pl. ed. 5, 103. 1754.

#### Blitum [HC2]

goosefoot, povertyweed

Monolepis [FNA4] Monolepsis [HC], orthographic variant

#### Blitum capitatum L. [HC2]

Sp. Pl. 1: 4. strawberry blite, Indian ink, Indian paint

Chenopodium capitatum (L.) Ambrosi [FNA4, HC] Chenopodium capitatum (L.) Ambrosi var. capitatum [FNA4]

# Blitum hastatum Rydb. [HC2]

Bull. Torrey Bot. Club 28: 273. Indian ink , Indian-paint, strawberry-blight

Chenopodium capitatum (L.) Ambrosi var. parvicapitatum S.L. Welsh [FNA4] Chenopodium overi Aellen

# Blitum nuttallianum Schult. [HC2]

Mant. 1: 65.

Nuttall's povertyweed

Monolepis chenopodioides Moq. Monolepis nuttalliana (Schult.) Greene [FNA4] Monolepsis nuttalliana (Schultes) Greene [HC], orthographic variant

# Blitum spathulatum (A. Gray) S. Fuentes, Uotila & Borsch [HC2]

Willdenowia 42(1): 17. prostrate monolepis

Monolepis spathulata A. Gray [FNA4] Monolepsis spathulata Gray [HC], orthographic variant

Not reported in WA by either H&C or FNA, however identification of single specimen collected in WA verified by Noel Holmgren in 2011 in association with publication of final volume of Intermountain Flora.

Presence in WA represents significant disjunction from known range from southern ID, southeastern OR south to Baja California.

Blitum virgatum L. [HC2]

Sp. Pl. 1: 4-5. leafy goosefoot

Chenopodium foliosum (Moench) Asch. [FNA4, HC] Chenopodium virgatum Thunb. [Abrams]

FNA4: "Chenopodium foliosum is probably native to the mountains of south and central Europe and western Asia. Several closely related segregate species are currently recognized within the C. foliosum group (P. Uotila 1979, 1993, 1997). Chenopodium foliosum listed and illustrated in J. C. Hickman (1993) is in fact C. capitatum var. parvicapitatum."

#### Chenopodiastrum [HC2]

goosefoot

Chenopodiastrum murale (L.) S. Fuentes, Uotila & Borsch [HC2]

Willdenowia 42(1): 14. nettleleaf goosefoot, wall goosefoot, sowbane

Chenopodium murale L. [FNA4, HC] Chenopodium urbicum L. [FNA4, HC], misapplied

KZ notes Chenopodium urbicum was reported from farmyards in Whatcom Co. by Muenscher (1930), whose voucher may be at CU or WS. However, Muenscher (1941) does not list the species again, instead listing C. murale from farmyards. The FNA authors did not find a specimen to verify the Washington report of C. urbicum, or reports from Oregon and British Columbia, so the occurrence of Chenopodium urbicum must remain dubious in the Pacific Northwest. Validated FNA records of C. urbicum are all mapped in the northeastern United States. FNA4: "Chenopodium murale is distinctive and is one of the more common species of the genus in the world, especially in tropical and subtropical regions."

Chenopodiastrum simplex (Torrey) S. Fuentes, Uotila & Borsch [HC2]

Willdenowia 42(1): 14. giant goosefoot, maple leaf goosefoot

Chenopodiastrum hybridum (L.) S. Fuentes, Uotila & Borsch, misapplied Chenopodium gigantospermum Aellen Chenopodium hybridum L. var. gigantospermum (Aellen) Rouleau Chenopodium hybridum L. var. simplex Torr. Chenopodium simplex (Torr.) Raf. [FNA4]

A forest species that can occur in waste ground. Here we follow the taxonomy of FNA, and consider Chenopodium hybridum L. to be an Old World species not recorded in our area, with differences in the seed coat, pericarp, and chromosome number (Baranov 1964). FNA4: "A closely related Eurasian diploid species, Chenopodium hybridum Linnaeus, probably also occurs in North America as introduced. Its occurrence in the New World needs confirmation. Chenopodium simplex differs from its Eurasian counterpart in having a smoother seed coat, a yellowish pericarp that is more adherent to the seed, and a different chromosome number (A. I. Baranov 1964; R. D. Dorn 1988b)."

#### Chenopodium [FNA4, HC, HC2]

Sp. Pl. 1: 218. 1753; Gen. Pl. ed. 5. 103. 1754. goosefoot, lamb's quarters, pigweed (see also *Blitum, Chenopodiastrum, Dysphania, Oxybasis*)

Chenopodium album L. [FNA4, HC, HC2]

Sp. Pl. 1: 219. lambsquarters, pigweed

Chenopodium album L. var. album [KZ99] Chenopodium album L. var. missouriense (Aellen) Bassett & Crompton [KZ99] Chenopodium album L. var. stevensii Aellen [KZ99]

FNA4: "Chenopodium album, one of the worst weeds and most widespread synanthropic plants on the

Earth, in its broad circumscription is also among the most polymorphic plant species. It is a loosely arranged aggregate of still insufficiently understood races. Hundreds of segregate microspecies and infraspecific entities (including nomenclatural combinations) of the C. album aggregate have been described and/or recognized by various authors. Some authors have recognized numerous segregate intergrading species, while others have developed elaborate infraspecific hierarchies with numerous subspecies, varieties, forms, and even numerous subforms (e.g., B. Jüttersonke and K. Arlt 1989), or have combined both approaches. Neither approach has brought satisfactory and uncontroversial results. It is evident that most recent evolutionary processes within the group were greatly affected by anthropic factors, including extensive recent invasions, hybridization between previously geographically isolated taxa, poly-ploidy, intensive selective processes and mutagenesis in synanthropic habitats, gene drift, and so forth. All of these modern factors further complicated the taxonomic situation. Consequently, no infraspecific taxa are formally recognized in the present treatment. We attempt, however, to outline below the most common or noteworthy groups currently placed in Chenopodium album sensu lato. Although we list such groups under binomials, they should be considered here as informal groupings rather than accepted species. It should be also kept in mind that many enigmatic and deviant forms of the Chenopodium album aggregate are in fact hybrids with other (occasionally several) species, and between infraspecific entities. C. album hybridizes with C. suecicum (producing C. xfursajevii Aellen & Iljin), C. opulifolium (producing C. xpreissmannii Murr), C. strictum [producing C. xpseudostriatum (Zschacke) Murr], C. ficifolium (producing C. xjedlickae Dvorák or C. xzahnii Murr), C. berlandieri (producing C. ×variabile Aellen), and some other species."

#### Chenopodium atrovirens Rydb. [FNA4, HC2]

Mem. New York Bot. Gard. 1: 131. pinyon goosefoot

Chenopodium fremontii S. Watson var. atrovirens (Rydb.) Fosberg [HC]

Similar to C. pratericola.

#### Chenopodium berlandieri Moq. [FNA4, HC2]

Chenop. Monogr. Enum. 23. Berlandieri's goosefoot

#### var. zschackei (Murr) Murr ex Graebn. [FNA4, HC2]

Syn. Mitteleur. Fl. 5(1): 81. pitseed goosefoot

Chenopodium berlandieri Moq. ssp. zschackei (Murr) A. Zobel Chenopodium zschackei Murr

Very similar in appearance to <i>C. album</i>, but distinguished from that species by having more open inflorescence, honeycomb-pitted pericarp, and strongly carinate (keeled) sepals in fruit. Need mature fruits to distinguish between the two taxa.

# Chenopodium fremontii S. Watson [FNA4, HC, HC2]

Botany (Fortieth Parallel). 287. (as fremonti). Fremont's goosefoot (see also *Chenopodium atrovirens*)

Chenopodium fremontii S. Watson var. fremontii [HC]

#### Chenopodium leptophyllum (Moq.) Nutt. ex S. Watson [FNA4, HC, HC2]

Proc. Amer. Acad. Arts. 9: 94. narrowleaf goosefoot (see also *Chenopodium desiccatum, Chenopodium subglabrum*)

Chenopodium album L. var. leptophyllum Moq. Chenopodium leptophyllum (Nutt. ex Moq.) S. Watson var. leptophyllum [HC]

# Chenopodium pratericola Rydb. [FNA4, HC2]

Bull. Torrey Bot. Club. 39: 310. desert goosefoot, narrowleaf goosefoot

Chenopodium desiccatum A. Nelson var. leptophylloides (Murr) Wahl

Chenopodium strictum Roth [FNA4, HC2]

Nov. Pl. Sp. 180. white goosefoot

Chenopodium album L. ssp. striatum (Kra?an) Murr Chenopodium album L. var. microphyllum Boenn. [KZ99] Chenopodium album L. var. striatum Kra?an [KZ99] Chenopodium striatum (Kra?an) Murr Chenopodium strictum Roth ssp. striatiforme (Murr) Uotila

FNA4: "Presumed native American plants of Chenopodium strictum were recognized as a separate species, subspecies, or variety [C. glaucophyllum Aellen; C. strictum subsp. glaucophyllum (Aellen) Aellen; C. strictum var. glaucophyllum (Aellen) Wahl]. These plants are very variable, and usually have broader leaves and more lax inflorescences, which might be a result of hybridization with other species of the C. album aggregate. The native status of such forms is very questionable. Typical C. strictum also occurs in North America, but seems to be less common. Some narrow species and hybrids of the C. strictum aggregate are recognized in Eurasia (P. Aellen 1928; F. Dvo ák 1989; P. Uotila 1977, 1993, 1997). Some of these taxa, especially C. striatiforme Murr and C. novopokrovskyanum (Aellen) Uotila, are superficially similar to the native North American taxa of subsect. Leptophylla. Eurasian forms of the C. strictum group usually can be distinguished by their venation pattern (in most cases more than three visible veins even in narrowest leaves). Considering the likely alien status and wide variability of C. strictum in North America, no attempt is made here to subdivide it into infraspecific entities."

#### Chenopodium subglabrum (S. Watson) A. Nelson [FNA4, HC2]

Bot. Gaz. 34: 362. smooth goosefoot

Chenopodium leptophyllum (Moq.) Nutt. ex S. Watson var. subglabrum S. Watson [HC]

#### Corispermum [FNA4, HC, HC2]

Sp. Pl. 1: 4. 1753; Gen. Pl. ed. 5. 5. 1754. bugseed, tickseed

#### Corispermum americanum (Nutt.) Nutt. [FNA4, HC2]

Trans. Amer. Philos. Soc., n.s. 5: 165. American bugseed

# var. americanum [FNA4, HC2]

American bugseed

Taxonomy follows FNA, where all members of the genus are considered native in Washington (Bentacourt et al. 1984). Formerly treated as introductions from Europe (Maihle & Blackwell 1978).

## Corispermum hookeri Mosyakin [FNA4, HC2]

Novon. 5: 349. Hooker's bugseed

Corispermum hyssopifolium L. [FNA4, HC], misapplied

#### var. pseudodeclinatum Mosyakin [FNA4, HC2]

Novon. 5: 350.

Hooker's bugseed

Known in Washington from the mouth of Okanogan River, and possibly along the Columbia River in Grant County. May intergrade with C. pallasii.

# Corispermum pacificum Mosyakin [FNA4, HC2]

Novon. 5: 345, fig. 1A. Pacific bugseed

Corispermum hyssopifolium L. [FNA4, HC], misapplied

Our most common species in Washington, on the banks of the Snake and Columbia Rivers. Putative hybrids with C. villosum reported in FNA. FNA4: "Corispermum pacificum seems to be closely related to Siberian C. crassifolium Turczaninov and C. maynense Ignatov. The latter species occurs in the northeastern Russian Far East and may be expected to occur in Alaska. Corispermum pacificum differs from C. maynense by its usually more robust habit, and its wing rounded (rarely rounded-truncate or

indistinctly emarginate, but not triangular) at apex. From C. crassifolium it may be distinguished by the constant presence of perianth segments, and more flattened black mature fruits. Corispermum pacificum probably also occurs in adjacent regions of British Columbia. Corispermum pacificum is placed in subsect. Crassifolia (S. L. Mosyakin 1997). This subsection seems to be of Siberian origin, with its central species, C. crassifolium, being closest to the hypothetic ancestral taxon. The presence of perianth segments in C. pacificum may be explained by ancient hybridization with representatives of subsect. Pallasiana. Reproductive isolation between the sympatric species of Corispermum may be achieved by different flowering periods. Occasional hybrids between C. pacificum and C. villosum are similar in their habit to C. pacificum in having usually broad leaves and rather dense inflorescences but they have mostly aborted fruits suggesting that C. pacificum and C. villosum are taxonomically distant species."

# Corispermum pallasii Steven [FNA4, HC2]

Mém. Soc. Imp. Naturalistes Moscou. 5: 336. Pallas' bugseed

Corispermum hyssopifolium L. [FNA4, HC], misapplied

Occurs along the Columbia River Basin and tributaries in Washington, with collections from Okanogan, Grant, and Wahkiakum counties.

#### Corispermum pallidum Mosyakin [FNA4, HC2]

Novon. 5: 347, fig. 1B. pale bugseed

Corispermum nitidum Kit. ex Schult. [FNA4, HC], misapplied

Recently described from sand deposits in Douglas and Grant Cos. (Mosyakin 1995), last collected in 1931. FNA4: "The combination of characteristics of Corispermum pallidum is very distinctive: pale, flattened, and small fruit body; very wide (especially as compared to the fruit dimensions), thin, translucent wing with erose margins, long style bases (ca. 0.7-1 mm, including their parts adnate to wing), distinctly divided in their upper parts to below the edge of the wing. Young bracts and distal leaves of C. pallidum are often papillose on margins and veins, in combination with typical branched trichomes. Corispermum pallidum seems to be related to the eastern Asian C. macrocarpum Bunge ex Maximowicz aggregate (subsect. Platyptera Mosyakin)."

# Corispermum villosum Rydb. [FNA4, HC2]

Bull. Torrey Bot. Club. 24: 191. (as Coriospermum). hairy bugseed

Corispermum hyssopifolium L. [FNA4, HC], misapplied

Closely related to Corispermum americanum and C. pallasii. FNA4: "Corispermum villosum may also occur in British Columbia, Manitoba, Nevada, South Dakota, and Utah. It is probably introduced rather than native in Ontario (where it is found mostly in Thunder Bay district, known for its grain elevators and mills), Quebec, and Wisconsin. Plants from Minnesota and North Dakota are transitional toward C. americanum. Corispermum villosum is also distinguished by having style bases forming a triangular "beak" distinctly protruding over the edge of the wing/fruit. Some specimens of C. villosum are very similar to the small-fruited and narrow-winged European representatives of C. pallasii. Together with some Eurasian species, C. pallasii, C. americanum, and C. villosum belong to the same group of closely related species, and occasional transitional forms between these taxa are not uncommon in North American material. The names Corispermum orientale Lamarck and C. hyssopifolium were commonly misapplied to C. villosum."

# Cycloloma [FNA4, HC2]

Chenop. Monogr. Enum. 17. 1840. cycloloma, pigweed

Dysphania [FNA4, HC2]

Prodr. 411. 1810.

Dysphania ambrosioides (L.) Mosyakin & Clemants [FNA4, HC2] Ukrayins?k. Bot. Zhurn., n. s. 59: 382. Mexican tea, wormseed

Chenopodium ambrosioides L. [HC]

Teloxys ambrosioides (L.) W.A. Weber

FNA4: "Southern populations of Dysphania ambrosioides are native while those populations in the northern part of the flora area are introduced."

Dysphania botrys (L.) Mosyakin & Clemants [FNA4, HC2]

Ukrayins?k. Bot. Zhurn., n. s. 59: 383. Jerusalem oak goosefoot, Jerusalem oak

Chenopodium botrys L. [HC] Teloxys botrys (L.) W.A. Weber

The similar Eurasian and African species Chenopodium schraderiana Schult. should be sought as an adventive, acording to FNA. It has keeled perianth parts with nearly sessile glands, and a leafy inflorescence, compared to C. botrys. FNA4: "Dysphania botrys is related to a species from Africa and southern Eurasia, D. schraderiana (Schultes) Mosyakin & Clemants, which may occur locally in North America as introduced. Dysphania schraderiana has distinctly keeled perianth segments with mostly sessile or subsessile glands. The general inflorescence in D. schraderiana is usually leafy almost to the top, distal cauline leaves are similar to proximal ones (in D. botrys distal leaves are normally much reduced, and the distal portion of the general inflorescence appears nearly leafless). H. A. Wahl (1954) reported that D. schraderiana (as Chenopodium schraderianum) had been grown in Ontario. He did not indicate that it had escaped."

#### Dysphania pumilio (R. Br.) Mosyakin & Clemants [FNA4, HC2]

Ukrayins?k. Bot. Zhurn., n. s. 59: 382. small crumbweed, clammy goosefoot

Chenopodium pumilio R. Br. [HC] Teloxys pumilio (R. Br.) W.A. Weber

FNA4: This species has gone under the misapplied name Chenopodium carinatum R. Brown (now Dysphania carinata).

# Grayia [FNA4, HC2]

Bot. Beechey Voy. 387. 1841. hopsage

Zuckia [FNA4]

# Grayia spinosa (Hook.) Moq. [FNA4, HC2]

Prodr. 13(2): 119. spiny hopsage

Atriplex spinosa (Hook.) Collotzi [HC] Chenopodium spinosum Hook.

# Halogeton [FNA4, HC, HC2]

Icon. Pl. 1: 10, plate 40. 1829. halogeton

Halogeton glomeratus (M. Bieb.) C.A. Mey. [FNA4, HC, HC2]

Icon. Pl. 1: 10. halogeton, saltlover

Anabasis glomerata M. Bieb.

FNA4: "A noxious and toxic weed in disturbed, barren, alkaline soils, Halogeton glomeratus is able to withstand high concentrations of salinity. It is often associated with Sarcobatus vermiculatus and Atriplex confertifolia and is found in the cold deserts of western United States. The first collection of Halogeton in the United States was by Ben Stahmann in Wells, Nevada, in 1934. It was not until the fall of 1942, when a herder lost 160 sheep, that the species was recognized as toxic to livestock (J. A. Young et al. 1999)."

# Krascheninnikovia [FNA4, HC2]

Novi Comment. Acad. Sci. Imp. Petrop. 16: 551. 1772. white sage, winter sage, winterfat

Eurotia [HC]

### Krascheninnikovia lanata (Pursh) A. Meeuse & A. Smit [FNA4, HC2]

Taxon. 20: 644. winterfat

Ceratoides lanata (Pursh) J.T. Howell Diotis lanata Pursh Eurotia lanata (Pursh) Moq. [HC] Eurotia lanata (Pursh) Moq. var. subspinosa (Rydb.) Kearney & Peebles

FNA4: "<i>Krascheninnikovia lanata</i> often forms pure stands. It occurs throughout the intermountain region except in the northwest corner of central Oregon. It is called winterfat because of its nutritional importance for domestic livestock, especially sheep."

#### Micromonolepis [FNA4, HC2]

Nat. Pflanzenfam., ed. 2. 16c: 499. 1934. povertyweed

Micromonolepis pusilla (Torr. ex S. Watson) Ulbr. [FNA4, HC2]

Nat. Pflanzenfam., ed. 2. 16c: 500. red povertyweed

Monolepis pusilla Torr. ex S. Watson Monolepsis pusilla Torr. [HC], orthographic variant

Micromonolepis is monotypic, and restricted to the western United States.

# Oxybasis [HC2]

goosefoot

#### Oxybasis chenopodioides (L.) S. Fuentes, Uotila & Borsch [HC2]

Willdenowia 42(1): 15. low goosefoot, red goosefoot

Blitum chenopodioides L. Chenopodium botryodes Sm. Chenopodium chenopodioides (L.) Aellen [FNA4, HC]

The Linnaean basionym was neotypified (Uotila 2001). FNA4: "The name Chenopodium botryodes Smith was sometimes applied to C. chenopodioides because of uncertainty about the proper application and typification of the name Blitum chenopodioides Linnaeus. The recent publication by P. Uotila (2001) provides a reasonable solution by maintaining the traditional usage through neotypification of the Linnaean name."

#### Oxybasis glauca (L.) S. Fuentes, Uotila & Borsch [HC2]

Willdenowia 42(1): 15.

glaucous goosefoot, oakleaf goosefoot

Chenopodium glaucum L. [FNA4, HC]

#### ssp. glauca [HC2]

oak-leaf goosefoot

Chenopodium glaucum L. var. glaucum [FNA4]

Recently (2015) collected in Franklin County; native to Eurasia.

# ssp. salina (Standl.) Mosyakin [HC2]

Phytoneuron 2013-56: 5. Rocky Mountain goosefoot

Chenopodium glaucum L. ssp. salinum (Standl.) Aellen Chenopodium glaucum L. var. salinum (Standl.) B. Boivin [FNA4] Chenopodium salinum Standl. [KZ99]

Taxonomy follows FNA.

# Oxybasis macrosperma (Hook. f.) S. Fuentes, Uotila & Borsch [HC2]

Willdenowia 42(1): 15. large seed goosefoot

Chenopodium farinosum Standl.

Chenopodium macrospermum Hook. f. [FNA4] Chenopodium macrospermum Hook. f. var. farinosum (S. Watson) J.T. Howell [KZ99] Chenopodium macrospermum Hook. f. var. halophilum (Phil.) Aellen [KZ99] Chenopodium murale L. var. farinosum S. Watson

FNA4: "Chenopodium macrospermum is native and diverse in South America. Much, if not all, of the North American material is introduced from there and appears to represent more than one part of the variation. Until a reliable treatment of the South American material is published we are not assigning names to the variants in North America."

## Oxybasis rubra (L.) S. Fuentes, Uotila & Borsch [HC2]

Willdenowia 42(1): 15. red goosefoot

Chenopodium rubrum L. [FNA4, HC]

# var. *humilis* (Hook.) Mosyakin [HC2]

Phytoneuron 2013-56: 4. marshland goosefoot

Chenopodium humile Hook. Chenopodium rubrum L. ssp. humile (Hook.) Aellen Chenopodium rubrum L. var. humile (Hook.) S. Watson [FNA4, HC]

FNA4: Chenopodium rubrum var. humile has been treated as a species, variety, or form, or not recognized at all. It is native in western North America and introduced east of the plains. Sometimes it has been misidentified as C. chenopodioides. Patterns of distribution of these taxa in North America are in need of further study."

#### var. rubra [HC2]

red goosefoot

Chenopodium rubrum L. var. rubrum [FNA4, HC]

FNA4: "Hybrids between Chenopodium rubrum and C. glaucum are known as C. xschulzeanum Murr and have been seen from waste areas in Illinois and Washington. These plants in general resemble C. rubrum with small, mealy leaves and horizontal seeds, but they also have some leaves shaped like those of C. glaucum."

### Salicornia [FNA4, HC, HC2]

Sp. Pl. 1: 3. 1753; Gen. Pl. ed. 5. 4. 1754. glasswort, saltwort, samphire

# Salicornia depressa Standl. [FNA4, HC2]

N. Amer. Fl. 21: 85. low saltwort

Salicornia europaea L. [HC], misapplied Salicornia maritima S.L. Wolff & Jefferies [FNA4], misapplied Salicornia virginica L. [HC]

H&C name S. europaea is misapplied. This is the common native annual species in coastal marshes. FNA suggests S. virginica may be the best name for this plant, if the Atlantic and Pacific populations are the same taxon. As with all our Corispermum taxa, for many decades this plant was mistakenly given the binomial and introduced status of a European species. FNA4: "Salicornia depressa is the common and widespread species in coastal areas of North America. No detailed taxonomic investigation of the tetraploid populations has ever been undertaken in North America. It is possible that a number of different taxa exist; the Pacific Coast populations in particular seem distinct from those of the Atlantic Coast. This species has generally been called Salicornia europaea by North American authors, but that name refers to a diploid European species that does not occur in North America. The earliest name that is probably referable to this species is Salicornia virginica Linnaeus, which must be typified by specimens collected by John Clayton

probably from Virginia. The specimens are sterile but clearly annual, as indicated by Linnaeus in the protologue. The name was applied to an annual species by P. C. Standley (1916), but subsequently came to be misapplied to the perennial species of the east coast now treated in Sarcocornia."

### Salicornia pacifica Standl. [WTU]

N. Amer. Fl. 21: 83. woody glasswort, pickleweed

Sarcocornia pacifica (Standl.) A.J. Scott Sarcocornia perennis (Mill.) A.J. Scott

Taxonomy of <i>Salicornia</i> and <i>Sarcocornia</i> has presented challenges over the last few decades. Piirainen et al. (2017) firmly establish <i>Sarcocornia</i> as paraphyletic. <i>Salicornia perennis</i> is a European species and is a misapplied name in the North American flora.

Piirainen, M., O. Liebisch, and G. Kadereit. 2017. Phylogeny, biogeography, systematics and taxonomy of Salicornioideae (Amaranthaceae / Chenopodiaceae) ? A cosmopolitan, highly specialized hygrohalophyte lineage dating back to the Oligocene. Taxon 66:109?132.

#### Salicornia rubra A. Nelson [FNA4, HC, HC2]

Bull. Torrey Bot. Club. 26: 122. red glasswort saltwort

Salicornia borealis S.L. Wolff & Jefferies

Salicornia rubra is known only from Okanogan Co. in Washington. FNA4: "Salicornia rubra is very similar to the Eurasian species S. prostrata Pallas, which occurs in very similar inland habitats. No direct comparison of these two species has been possible and it is not at all clear how they differ from each other."

#### Salsola [FNA4, HC, HC2]

Sp. Pl. 1: 222. 1753; Gen. Pl. ed. 5, 104. 1754. Russian thistle

Salsola tragus L. [FNA4, HC2] Cent. Pl. II. 13. Russian thistle, tumbleweed

> Salsola australis R. Br. Salsola iberica (Sennen & Pau) Botsch. ex Czerepanov Salsola kali L. [FNA4, HC, HC2], misapplied Salsola kali L. var. tenuifolia Tausch ex Moq. [VPPNW2] Salsola pestifer A. Nelson

Salsola kali L. subsp. pontica (Pall.) Mosyakin has been collected in Multnomah Co., Oregon, and may be found in Washington. Recent molecular work may change the nomenclature again (Ryan & Ayers 2000). FNA4: "Salsola tragus probably was introduced to South Dakota in 1870 or 1874 in flaxseed imported from Russia (J. C. Beatley 1973c; C. W. Crompton and I. J. Bassett 1985; S. L. Mosyakin 1996). Now this noxious weed occupies almost all of its potential range in North America. It seems, however, to be quite rare in the southeastern part of the United States. Salsola tragus has been known in North American and European botanical literature under numerous names (for detailed synonymy see S. L. Mosyakin 1996 and S. Rilke 1999). Judging from the photographs of the Linnaean specimen of S. tragus (LINN 315.3), which should be regarded as a lectotype, it is the correct name for the widespread, narrow-leaved, weedy representative of the S. kali aggregate (Á. Degen 1936-1938, vol. 2; N. N. Tzvelev 1993; S. L. Mosyakin 1996; S. Rilke 1999). In the present circumscription, Salsola tragus is an extremely polymorphic species consisting of several more or less distinct races (subspecies or segregate species). Several varieties may be recognized within S. tragus, many of them are just morphological variants of little or no taxonomic value. Studies using allozymes and DNA-based molecular markers in some North American and Eurasian representatives of Salsola tragus indicate that there are at least two cryptic genetically divergent populations (F. J. Ryan and D. R. Ayres 2000). More studies may clarify distribution, origin, and taxonomic status of these infraspecific taxa (or cryptic species). In spite of being a noxious weed, Salsola tragus is an additional forage source for livestock in arid rangelands. The mature plant may break off at the stem base to form a tumbleweed."

## Spinacia [FNA4, HC, HC2]

Sp. Pl. 2: 1027. 1753; Gen. Pl. ed. 5, 452. 1754.

# Suaeda [FNA4, HC, HC2]

Onomat. Bot. Compl. 8: 797. 1776. [name conserved] seablite

# Suaeda calceoliformis (Hook.) Moq. [FNA4, HC2]

Chenop. Monogr. Enum. 128. paiuteweed, common seablite, horned seablite, pahute weed

Chenopodium calceoliformis Hook. Suaeda americana (Pers.) Fernald Suaeda depressa (Pursh) S. Watson [HC], misapplied Suaeda depressa (Pursh) S. Watson var. erecta S. Watson Suaeda maritima (L.) Dumort. [FNA4, HC, HC2], misapplied Suaeda maritima (L.) Dumort. ssp. maritima, misapplied

Found in coastal salt marshes and inland. Similar to Suaeda occidentalis, differing only in floral bracts and branching pattern. McNeill et al. (1977) discuss the misapplication of the name Suaeda depressa for this plant. FNA4: "The name Suaeda depressa has been misapplied to this species (J. McNeill et al. 1977). In the northeastern part of its range, S. calceoliformis was long known as S. americana, but the two were found to be conspecific (I. J. Bassett and C. W. Crompton 1978). Suaeda calceoliformis can easily be confused with S. occidentalis, with which it is sympatric in the Great Basin; see comments under S. occidentalis. Plants of the annual Mexican seepweed, S. mexicana (Standley) Standley also are similar to S. calceoliformis, but are more or less shiny, yellowish or light brown, and have opposite leaves at the base and alternate ones distally. Suaeda mexicana has been reported once (in 1895) from El Paso County, Texas, but no specimens have been located to substantiate the report."

#### Suaeda nigra (Raf.) J.F. Macbr. [FNA4, HC, HC2]

Contr. Gray Herb. 56: 50. bushy seablite seepweed

Suaeda fruticosa (L.) Forssk., misapplied Suaeda intermedia S. Watson [HC] Suaeda moquinii (Torr.) Greene [KZ99] Suaeda torreyana S. Watson [Abrams]

FNA4: "Suaeda nigra is the correct name for the species previously known as Suaeda moguinii. The type specimen was collected in 1820 by Edwin James along the Canadian River in the Texas panhandle. J. Torrey (1827) tentatively identified it as "Chenopodium maritimum L. ?". Rafinesque named it Chenopodium nigrum, long before Torrey\\'s publication of the name Chenopodina moguinii in 1856. C. O. Hopkins and W. H. Blackwell (1977) suggested that the name Chenopodium nigrum was both a nomen nudum and a superfluous name. But the publication of that name included a clear reference to Torrey/\'s 1832 publication, which means that the name was not a nomen nudum, and the specimen belonged to a new species, which means that the name was not superfluous. "Suaeda fruticosa" with the incorrect author combination (Linnaeus) Forsskål has been misapplied to this species (H. J. Schenk and W. R. Ferren Jr. 2001). Suaeda nigra exhibits much phenotypic plasticity, as well as genetic variability, and is wide ranging. This combination has resulted in the naming of many variants that often reflect a response to localized or regional habitat conditions such as degree of wetness, salinity, or freezing temperatures (C. O. Hopkins and W. H. Blackwell 1977). In California and adjacent states, for example, glabrous plants (S. torrevana var. torrevana) and pubescent plants (S. torrevana var. ramosissima) occur throughout the distribution of the species. In California it is coastal but not estuarine in the San Francisco Bay area and in Orange and San Diego counties. Plants of northern latitudes or higher elevations that are prone to freezing tend to have annual stems from a woody base. Plants that occur in more southern or milder conditions are usually shrubs with perennial stems. Plants in seasonally flooded wetlands tend to be facultative annuals. In the western and northern part of the range, most plants of Suaeda nigra are glabrous or sparsely pubescent and more or less long leaved."

Suaeda occidentalis (S. Watson) S. Watson [FNA4, HC, HC2] Proc. Amer. Acad. Arts. 9: 90. slender seablite, western seepweed

Schoberia occidentalis S. Watson

Found in saline situations east of the Cascades. FNA4: "This species is easily confused with Suaeda calceoliformis, which occurs throughout its range. There are virtually no differences in floral characters. Bracts of S. occidentalis often appear thin-margined at the base in dried specimens but not in fresh material, whereas bracts of S. calceoliformis have visible membranous margins in both. Differences in bract and branching characteristics are usually distinct in fresh specimens. Larger specimens of S. occidentalis are usually branched throughout, with the spreading branches resulting in a more-or-less spherical shape of the plant. The mostly ascending branches of the more-erect S. calceoliformis tend to be concentrated in the upper half of the main stems, with primary branches sometimes arising from the base, and therefore creating a candelabrum shape of the plant."

# Chenopodiaceae (see Amaranthaceae)