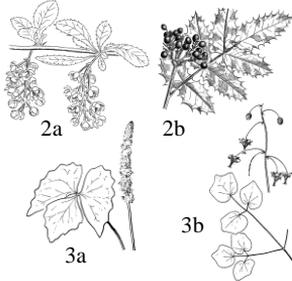


Changes to treatment: *Mahonia* is recognized as distinct from *Berberis*; key to genera revised to incorporate *Mahonia*; *Mahonia* genus description provided, along with key to *Mahonia* species in the flora region.

Yu, C-C and K-F Chung. 2017. Why *Mahonia*? Molecular recircumscription of *Berberis* s.l., with the description of two new genera, *Alloberberis* and *Moranothamnus*. *Taxon* 66(6): 1371–1392.

BERBERIDACEAE Barberry Family

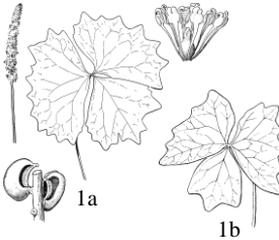
Infl scapose, in terminal or axillary racemes, spikes, or pans; fls gen ♂, radially symmetric; sepaloid bracts 1–9 or absent; sepals (0)6–18, gen in whorls of 3, free; petals (0)6, in 2 whorls of 3, free; sometimes sepals and petals intergrading; stamens 6–12(13), anthers gen opening by 2 uplifting valves or longitudinal slits; pistil 1–carpellary, ovary superior, style 1 or absent, stigma flat or spheric; fr a 1-celled, 1–several-seeded berry, caps, or follicle; per herbs, shrubs or small trees, with alt, simple to compound, evergreen to deciduous lvs; pls often spiny. Molecular studies show strong support for recognizing *Mahonia* as distinct from *Berberis* (Yu & Chung, 2017).



- 1a Shrubs; lvs simple or compound; fr fleshy berries; spines present or absent
- 2a Lvs simple, evergreen or deciduous; sts with spines at nodes **Berberis**
- 2b Lvs compound, evergreen; sts spineless throughout **Mahonia**
- 1b Herbaceous per; lvs ternately compound; fr dry follicles; spines absent
- 3a Fls spicate, perianth lacking; lvs once-ternate **Achlys**
- 3b Fls pan, perianth present; lvs bi- or tritemate **Vancouveria**

Achlys DC. Vanillaleaf; Deerfoot

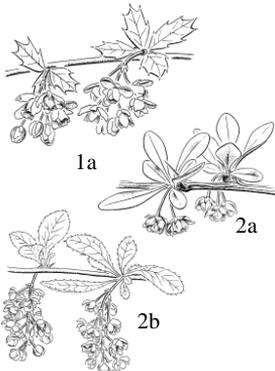
Infl in dense spikes; fls inconspicuous, sepals and petals absent; stamens 8–13, white; lvs basal, alt, 3-foliolate, fllets coarsely sinuate-lobed, central fllet triangular, lateral 2 fllets asymmetrically fan-shaped, petioles long; fr follicle, ± fleshy but dry when ripe, puberulent, the ventral side incurved and with a prominent cartilaginous ridge, 1-seeded; widely rhizomatous, acaulescent, glab, per herbs; (For *Achlys*, Gr goddess of night or obscurity). Our spp. are morphologically confluent, and the characters reportedly separating them often do not correlate. Mixed populations appear to be common.



- 1a Mature frs brown; longest stamens 3.8–5(–6) mm at dehiscence; central fllet (3–)6(–8)–(12)-lobed, mostly 7–16 cm; fl spikes 3–6 cm; scapes 3–5 dm; pls tetraploid; moist, shaded areas in conif for; sw BC s to nw CA, mostly w Cas, occ to e base Cas
 - 1b Mature frs red-purple; longest stamens 3–4 mm at dehiscence; central fllet 3(–5)-lobed, mostly 4–11 cm; fl spikes 2–5 cm; scapes 2–4 dm; pls diploid; shaded areas in conif for and for openings; sw BC to nw CA, from e base Cas to coast; ours subsp. **triphylla**
- 1 **A. californica** Fukuda & H.G. Baker
2 **A. triphylla** (Sm.) DC.

Berberis L. Barberry; Oregon-grape; Mahonia

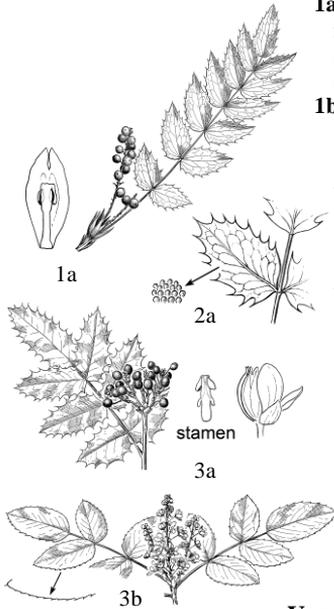
Fls solitary, racemose, pan, or umbellate; bracteoles 3, scalelike, caducous; perianth yellow; sepals (3)6(9), gen biseriata; petals 6, biseriata, slightly smaller than the sepals, bilobed, glandular at base; anthers with 2 uplifting valves; berry 1–10-seeded, red, blue, or dark-purple to black; low to tall shrubs with yellowish inner bark and wood, and simple lvs. (Arabic name, *berberys*, for the pl). (*Mahonia*). *Berberis julianiae* Schneid. is an uncommon adventive in Seattle and Bellingham, WA, and Portland and Eugene, OR.



- 1a Lvs evergreen, thick and rigid, glossy, with a few spiny teeth or shallow lobes, obovate, 1.5–3 × 0.8–1.2 cm; sts tomentose; infl racemose, 10–20-fl'd; berries dark purple, 6–7 mm; wastelots, for edge, and other disturbed areas; S Am intro occ escaping cult; w Cas, sw BC to CA
 - 1b Lvs deciduous, thin and flexible, entire or finely serrate; sts glab
 - 2a Infl umbellate, 1–5-fl'd; lvs entire, obovate to spatulate, 1–2.5 × 0.3–1.5 cm; berries red, 9–10 mm; fields, for edge, roadsides, and other disturbed areas; Asian intro occ escaping cult; s BC s, chiefly w Cas, to Wi Va, also in e WA and c and ne N Am; Japanese b.
 - 2b Infl racemose, 10–20-fl'd; lvs finely serrate, obovate to elliptic, 2–6 × 1–2.5 cm; berries red to purple, 10–11 mm; European intro occ escaping cult; e Cas, s BC to OR, e to ID and MT, also in c and ne N Am; common b.
- 1 **B. darwinii** Hook.
2 **B. thunbergii** DC.
3 **B. vulgaris** L

Mahonia Nutt. Oregon-grape; Mahonia

Infl terminal, racemose or pan; perianth yellow; sepals 9, triseriate; petals 6, biseriate, glandular at base or not; stamens 6; berry 1–7-seeded, blue, dark-purple, or black, often glaucous; low to tall shrubs with yellowish inner bark and wood, and compound, odd-pinnate, evergreen lvs. (For Bernhard M'Mahon, 1775-1816, Philadelphia horticulturist). (*Berberis*, in part).



- 1a** Lflets ave 9–19, ± palmately 3–8-nerved; bud scales coriaceous, 2–4 cm, persistent; filaments not 2-toothed below the anthers; pls widely rhizomatous, sts 1–3(–6) dm; gen in light woodl; s BC to c CA, mostly w Cas, e occ to n ID and nw MT; dull or Cascade O. (*B. n*). 1 **M. nervosa** (Pursh) Nutt.
- 1b** Lflets ave 5–9, pinnately nerved from the main vein; bud scales gen deciduous, < 1 cm; filaments 2-toothed just below the anthers; the following 3 spp. intergrade, alternatively treated as a broadly defined *M. aquifolium*
- 2a** Lower surface of lflets densely covered with minute, raised papillae nearly as long as wide (15×), appearing strongly glaucous; lflets thick and rigid, with 6–12 coarse, spinulose teeth per side; pls mostly 3–8 dm; open woodl and shrubby slopes; Lane Co, OR to n CA; holly-lvd O. (*B. p.*) 2 **M. piperiana** Abrams
- 2b** Lower surface of lflets smooth or with low, rounded papillae, ± shiny to dull or glaucous; lflets with 6–24 teeth per side, these finely to coarsely spinulose
- 3a** Lower surface of lflets shiny to dull, smooth (lacking papillae); lflets mostly 5–9, gen ave at least twice as long as wide, with 6–21 fairly coarse, spinulose teeth per side, mostly shiny on upper surface; pls (1.5–)3–20(–45) dm, stoloniferous to stiffly erect; open for to sagebr-covered hills; both sides Cas, s BC to CA, e to w MT; shining or tall O. (*B. a.*) 3 **M. aquifolium** (Pursh) Nutt.
- 3b** Lower surface of lflets dull and ± glaucous, covered with low, rounded papillae (15×); lflets mostly 5–7, gen ave < twice as long as wide, with 7–24 rather finely spinulose teeth per side, shiny to dull on upper surface; pls 1.5–6(–10) dm, gen stoloniferous; foothills to lower mont for; e Cas, s BC to CA, e to Alta, SD, TX, NM, UT, and NV; creeping or low O. (*B. r.*) 4 **M. repens** (Lindl.) G. Don

Vancouveria C. Morren & Decne. Inside-out-flower

Fls nodding in open, pedunculate pan; perianth segms 18–21, outer 6–9 sepaloid but deciduous by anthesis, inner 6 longer, yellow or white, sharply reflexed; petals 6, < the sepals, reflexed, clawed at base and with ± hooded bl; stamens 6; per herbs. (For Capt. George Vancouver, 1757–1798, early British explorer in the Pacific Northwest).



V. hexandra (Hook.) C. Morren & Decne. White i. Scapose, rhizomatous, herbaceous per; lvs 1–3(–4) dm, long-petiolate, biternate or incompletely triternate, the lflets cordate-ovate, 3-lobed, sparsely pubescent; petioles and base of scapes gen brownish-pilose; fls 10–30, white; peds slender, recurved, 15–40 mm; perianth segms 5–8 mm; sepals minutely glandular-puberulent; filaments flattened, erect; follicles several-seeded; moist, shady woodl; w Cas, s PT to nw CA. (*V. brevicula*, *V. picta*).