

0.05–0.3 mm; ovules 60–116. SEED: in 1 row, 1–1.4 mm; wing to 0.1 mm. 2n=14. Rock outcrops, sandy soil, in grassland, sagebrush steppe, open conifer forest; 900–2900 m. KR, NCoRH, CaRH, SNH, GB; AK, w Can, CO. [Arabis holboellii Hornem. var. retrofracta (Graham) Rydb.] Unabridged synonyms: [Arabis retrofracta Graham] Apr–Aug

**B. shockleyi (Munz) Dorn SHOCKLEY'S ROCKCRESS**  
NATIVE

Caudex ± not woody; crowded, persistent lf bases 0 (present). ST: gen 1 per caudex branch, from center of basal rosette at ± ground surface; gen 2–5 dm, proximally with short-stalked, 7–12-rayed hairs 0.1–0.2 mm. LF: basal 3–10 mm wide, entire; hairs short-stalked, 7–12-rayed, 0.1–0.2 mm; cauline 14–60, distal hairy, basal lobes 0.5–4 mm. INFL: 20–70-fl'd, not 1-sided in fr; fr pedicel spreading-ascending, straight, 7–28 mm, hairs appressed, branched. FL: sepals hairy; petals 6–9 mm, 0.8–1.2 mm wide, lavender; pollen ellipsoid. FR: spreading-ascending, not appressed, 4.5–11 cm, 1.5–2 mm wide, glabrous to ± hairy throughout; style 0.05–0.6 mm; ovules 140–190. SEED: gen in 2 rows, 1–1.3 mm; wing 0.05–0.1 mm wide (0). {rarity link: SYMBOL 1} Rock outcrops, gravelly soil, gen dolomite; 1200–2500 m. SnBr, W&I, DMtns; to UT. [Arabis shockleyi Munz] Apr–May

**B. xylopoda Windham & Al-Shehbaz BIGFOOT HYBRID ROCKCRESS**  
NATIVE

Caudex woody. ST: gen 1 per caudex branch, from center of rosette elevated on woody base; 3–7.5 dm, proximally with short-stalked, 2–5-rayed hairs 0.25–0.9 mm. LF: basal 3–7 mm wide, entire to dentate; hairs short-stalked, 4–8-rayed, 0.15–0.5 mm; cauline 8–18, distal ± hairy, basal lobes 1–2 mm. INFL: 20–38-fl'd, not 1-sided in fr; fr pedicel descending-spreading, gen recurved, 9–20 mm, hairs ± appressed, branched (glabrous). FL: sepals hairy; petals 9–12 mm, 2–3.5 mm wide, purple; pollen spheric. FR: reflexed, not appressed, 5–7 cm, 2–2.5 mm wide, distal 2/3 hairy, glabrous proximally; style 0.1–0.5 mm; ovules 98–126. SEED: ± in 2 rows, 2–2.5 mm; wing 0.2–0.25 mm wide. Rock outcrops, gravelly slopes, gen under shrubs; 800–2500 m. e PR, GB, D; NV. [Arabis pulchra S. Watson var. gracilis M.E. Jones] Mar–May

Boecheera key and descriptions for plants with non-erect fruit

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- 1. Fr, gen ovary hairy
    - 3. Fr pedicel base gen abruptly recurved; fr gen appressed to infl axis..... B. pulchra
    - 3' Fr pedicel base not abruptly recurved; fr gen not appressed to infl axis
      - 5. Proximal sts with simple and 2-rayed hairs only ..... B. arcuata(2)
      - 5' Proximal sts with at least some 3-12-rayed hairs
        - 7. Petals gen < 9 mm
          - 8. St proximally with 7–12-rayed hairs; seeds 1–1.3 mm, gen in 2 rows..... B. shockleyi (2)
          - 8' St proximally with gen 3–7-rayed hairs; seeds 1.4–6 mm, in 1 row..... B. repanda (2)
        - 7' Petals gen > 9 mm
          - 13. Fr gen > 7 cm, sparsely hairy throughout; seeds 1.7-2 mm, gen in 1 row ..... B. californica(2)
          - 13' Fr gen < 7 cm, hairy on distal 2/3, glabrous near base; seeds 2-2.5 mm, gen irregularly in 2 rows..... B. xylopoda
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- 1' Fr, ovary glabrous
    - 14. Cauline lf base not lobed
      - 15. Style > 2.2 mm ... B. parishii
      - 15' Style < 2.2 mm
        - 24. Fr pendent or descending ..... B. retrofracta ("A. holboellii")(2)
        - 24' Fr erect, ascending, or horizontal
          - 29. Basal lvs gen wavy-margined to dentate, gen > 10 mm wide ..... B. repanda (2)
          - 29' Basal lvs entire, gen < 10 mm wide ..... B. dispar
    - 14' Cauline lf base lobed
      - 37. Sts glabrous proximally
        - 42. Fr pendent to strongly reflexed ..... B. rectissima (2)
        - 42' Fr ascending to horizontal or ± descending (± erect) ..... B. peirsonii (2)
      - 37' Sts hairy proximally

50. Fr descending, pendent, or strongly reflexed
51. Fr pedicel base gen abruptly recurved
53. St proximally with branched hairs only ..... B. retrofracta ("A. holboellii")(2)
- 53' St proximally with simple and branched hairs,  
or simple hairs only ..... B. rectissima (2)

51' Fr pedicel base ± recurved or straight

55. Fr pedicel hairy
59. Petals gen > 9 mm; fr gen > 6 cm ..... B. californica (2)
- 59' Petals gen < 9 mm; fr gen < 6 cm ..... B. inyoensis (2)
- 55' Fr pedicel glabrous (sparsely hairy)
- A. Fr base ~horizontal ..... B. perennans
- A'. Fr base ~vertical ..... "A. holboellii"

50' Fr erect, ascending, or horizontal (pendent)

72. St proximally with some simple hairs ..... B. arcuata (2)
- 72' St proximally with branched hairs only
82. St proximally with at least some 2–3-rayed hairs ... B. peirsonii (2)
- 82' St proximally with 4–12-rayed hairs only
89. Petals 1.2–2 mm wide; surfaces of basal lvs with hairs 0.2–0.7 mm;  
seeds 1.7–2 mm; pollen spheric ..... B. inyoensis (2)
- 89' Petals 0.8–1.2 mm wide; surfaces of basal lvs with hairs 0.1–0.2 mm;  
seeds 1–1.3 mm; pollen ellipsoid ..... B. shockleyi (2)

Elevation min	Elevation max	Scientific Name	SnBr locations
9000	11000	Arabis breweri var. pecuniaria	Endemic to San Gorgonio Wilderness
4000	8000	Arabis dispar	Rarely found, and infrequent where it does occur, in dry, rocky openings Endemic to mtns border DMOj
5000	8000	Arabis holboellii var. pinetorum	Frequent in dry openings under conifers
10600	10600	Arabis inyoensis	Only one collection at San

mm. INFL: 10–50-fld, not 1-sided in fr; fr pedicel reflexed, abruptly recurved at base, 4–10 mm, glabrous. FL: sepals hairy; petals 3–4 mm, 0.7–1.2 mm wide, white; pollen ellipsoid. FR: strongly reflexed, gen appressed, 5–9 cm, 1.8–2.5 mm wide, glabrous; style 0.2–0.8 mm; ovules 46–80. SEED: in 1 row, 1.8–2.1 mm; wing 0.15–0.25 mm wide. Rocky slopes in open conifer forest; 1100–2800 m. CaRH, SNH, SnBr; OR. [Arabis rectissima Greene] May–Jul

B. repanda (S. Watson) Al-Shehbaz YOSEMITE ROCKCRESS  
NATIVE

Caudex gen not woody. ST: gen 1 per caudex branch, from center of basal rosette at ± ground surface; gen 2–9 dm, proximally with short- to long-stalked, 2–6-rayed hairs 0.2–0.5 mm (few simple hairs to 1.5 mm). LF: basal 7–50 mm wide, wavy-margined to coarsely dentate (entire); hairs short- to long-stalked, 3–6-rayed, 0.2–0.5 mm; cauline (3)8–30, distal ± hairy, basal lobes 0. INFL: 7–25-fld, not 1-sided in fr; fr pedicel erect to spreading-ascending, straight, 3–10 mm, glabrous or with spreading 2–5-rayed (simple) hairs. FL: sepals glabrous or ± hairy; petals 3.5–6 mm, 0.8–1 mm wide, white; pollen ellipsoid. FR: erect to spreading-ascending, not appressed, 3.5–13.5 cm, 2.5–4 mm wide, glabrous or hairy throughout; style 0.5–1.5 mm; ovules 34–50. SEED: in 1 row, 2.5–6 mm; wing 0.7–1.8 mm wide. 2n=14. Rock outcrops, talus, gravelly soil in meadows, open pine forest; 1400–3600 m. NCoRH, SNH, e WTR, SnGb, SnBr, SnJt; NV. [Arabis repanda S. Watson; Arabis repanda var. greenei Jeps.] Jun–Jul

B. retrofracta (Graham) Á. Löve & D. Löve  
NATIVE

Bien or short-lived per; caudex not woody. ST: gen 1 per caudex branch, from center of basal rosette at ± ground surface; 1.5–10 dm, proximally with short-stalked, 2–8-rayed hairs 0.1–0.2 mm. LF: basal 2–7 mm wide, entire or occ dentate; hairs occ short-stalked, 5–10-rayed, 0.05–0.2 mm; cauline 15–40, distal hairy, basal lobes 0.5–2.5 mm (0). INFL: 15–140-fld, occ ± 1-sided in fr; fr pedicel reflexed, abruptly recurved at base, 7–18 mm, hairs appressed, branched. FL: sepals hairy; petals 4–8 mm, 0.8–2.2 mm wide, white to lavender; pollen ellipsoid. FR: strongly reflexed, gen appressed, 3.5–9 cm, 0.9–1.8 mm wide, glabrous or sparsely hairy throughout; style

Caudex woody. ST: gen 2–5 per caudex branch, arising laterally below sterile shoot or lf rosette, gen elevated on woody base; gen 2–7 dm, proximally with short-stalked, 2-rayed hairs 0.2–0.4 mm, gen mixed with 3–5-rayed (or simple) hairs. LF: basal gen 3–15 mm wide, dentate; hairs short-stalked, 3–6-rayed, 0.2–0.4 mm; cauline 4–17, distal glabrous, basal lobes 0.5–3.5 mm. INFL: 16–35-fld, not 1-sided in fr; fr pedicel ± horizontal near base, gen ± recurved near tip, 6–25 mm, glabrous or hairs few. FL: sepals hairy; petals 5–9 mm, 1–1.5 mm wide, white to ± purple; pollen ellipsoid. FR: pendent, not appressed, 3–7 cm, 1.7–2.1 mm wide, glabrous; style 0.05–0.4 mm; ovules 60–96. SEED: in 1 row, 1.1–1.5 mm; wing 0.1–0.2 mm wide. 2n=14. Rocky slopes, gravelly soil, desert, chaparral, low montane habitats; 500–2000 m. s SNH, SnGb, SnBr, e PR, SNE, D; to UT, NM, n Mex.

*B. pulchra* (S. Watson) W.A. Weber BEAUTIFUL ROCKCRESS  
NATIVE

Caudex woody. ST: gen 1 per caudex branch, from center of rosette elevated on woody base; gen 3–7.5 dm, proximally with short-stalked, gen 4–7-rayed hairs 0.1–0.3 mm. LF: basal 1–3 mm wide, entire; hairs short-stalked, 4–9-rayed, 0.1–0.3 mm; cauline 10–30, distal hairy, basal lobes 0 (to < 0.5 mm). INFL: 8–25-fld, occ gen ± 1-sided in fr; fr pedicel reflexed, abruptly recurved at base, 8–16 mm, hairs appressed, branched. FL: sepals hairy; petals 9–16 mm, 2–5 mm wide, purple (white); pollen ellipsoid. FR: strongly reflexed, gen appressed, 3.3–8 cm, 2.5–4 mm wide, hairy throughout; style 0.1–0.3 mm; ovules 68–106. SEED: in 2 rows, 1.7–2.8 mm; wing 0.25–0.65 mm wide. Rocky, gravelly, sandy slopes in chaparral, sagebrush scrub, evergreen woodland; 600–2800 m. s&e SN, s GV, s SCoR, TR, PR, SNE, DMoj; NV, Baja CA. [*Arabis pulchra* S. Watson]

*B. rectissima* (Greene) Al-Shehbaz  
NATIVE

Bien or short-lived per; caudex not woody. ST: gen 1 per caudex branch, from center of basal rosette at ± ground surface; 2–10 dm, proximally glabrous or with few simple hairs < 0.7 mm. LF: basal 3–13 mm wide, entire or denticulate; hairs simple, < 0.8 mm, gen mixed with short-stalked, 2–3-rayed hairs 0.15–0.5 mm; cauline 6–45, distal ± hairy, basal lobes 1–1.5

6000	9950 <i>Arabis parishii</i>	Bernardino Peak Big Bear endemic, abundant on pebble plains and on carbonate and in other habitats
3500	<i>Arabis perennans</i> 5500 <i>Arabis pulchra</i>	"Reported" widespread on both sides of mtn
5000	<i>Arabis rectissima</i> var. <i>rectissima</i> 9000 <i>Arabis repanda</i> var. <i>repanda</i> <i>Arabis shockleyi</i>	"Reported" Occasional Restricted to NE Big Bear Ranger District on carbonate soils, rock outcrops. Disjunct to DMtns
6000	<i>Arabis sparsiflora</i> var. <i>arcuata</i> <i>Arabis sparsiflora</i> var. <i>californica</i>	Dry slopes

*B. arcuata* (Nutt.) Windham & Al-Shehbaz ARCHING ROCKCRESS  
NATIVE

Caudex ± woody. ST: gen 1 per caudex branch, from center of basal rosette at ground surface or elevated on woody base; gen 3–8 dm, proximally with simple and short-stalked, 2-rayed hairs 0.4–1 mm. LF: basal 2–12 mm wide, gen entire, hairs gen short-stalked, 2–5-rayed, 0.4–0.8 mm; cauline 10–45, distal hairy, basal lobes 2–6 mm. INFL: 12–70-fld, 1-sided in fr; fr pedicel spreading-ascending (horizontal), ± recurved or straight, 8–22 mm, hairs ± appressed, 2–4-rayed. FL: sepals hairy; petals 9–14 mm, 2–4 mm wide, purple; pollen ellipsoid. FR: spreading-ascending (horizontal), not appressed, 6–13 cm, 1.5–2.2 mm wide, glabrous or with few hairs; style < 0.5 mm; ovules 90–250. SEED: gen in 1 row, 1.5–1.7 mm; wing 0.1–0.2 mm wide. Rocky hillsides, cliffs, in pine forest, chaparral; 300–2000 m. SNF, CW, SCo, TR. [*Arabis sparsiflora* Nutt. var. *arcuata* (Nutt.) Rollins] Mar–Jun

*B. californica* (Rollins) Windham & Al-Shehbaz CALIFORNIA  
ROCKCRESS  
NATIVE

Caudex woody. ST: gen 1 per caudex branch, from center of basal rosette on elevated woody bases; gen > 3.5 dm, proximally with short-stalked, 2–4 rayed hairs 0.3–0.9 mm. LF: basal 3–13 mm wide, entire (minutely dentate), hairs short-stalked, 4–8-rayed, 0.2–0.5 mm; cauline 12–55, distal hairy,

basal lobes 1–6 mm. INFL: 30–120-fld, not 1-sided in fr; fr pedicel descending to horizontal, ± recurved (straight), 4–20 mm, hairs appressed, 3–7-rayed. FL: sepals hairy; petals 9–14 mm, 1.5–3 mm wide, purple (± pink); pollen spheric. FR: pendent, not appressed, 6–12 cm, 1.5–2.5 mm wide, glabrous or sparsely hairy throughout; style < 0.3 mm; ovules 140–180. SEED: gen in 1 row, 1.7–2 mm; wing 0.2–0.4 mm wide. Rocky slopes, gravelly soil, in chaparral, oak woodland; 350–2300 m. SW; Mex. [*Arabis sparsiflora* Nutt. var. *californica* Rollins] Mar–Jun

*B. dispar* (M.E. Jones) Al-Shehbaz PINYON ROCKCRESS  
NATIVE

Caudex ± woody. ST: gen 1 per caudex branch, from center of basal rosette at ± ground surface; 0.9–3 dm, proximally with short-stalked, 5–12-rayed hairs 0.1–0.3 mm. LF: basal 2–5 mm wide, entire, hairs short-stalked, 5–16-rayed, 0.1–0.3 mm; cauline 1–5, distal hairy, basal lobes 0. INFL: 4–20-fld, not 1-sided in fr; fr pedicel ascending, straight, 4–15(25) mm, hairs appressed, branched. FL: sepals hairy; petals 5–6 mm, 1–1.5 mm wide, purple to lavender; pollen ellipsoid. FR: spreading-ascending, not appressed, 4–7.3 cm, 2.7–4 mm wide, glabrous; style < 0.5 mm; ovules 44–52. SEED: in 1 row, 1.9–2.3 mm; wing 0.3–0.5 mm wide. {rarity link: SYMBOL 1} Rocky slopes, gravelly soil, in desert scrub, pinyon/juniper woodland; 1200–2500 m. SnBr, SNE, DMtns; sw NV. [*Arabis dispar* M.E. Jones] Apr–May

*B. inyoensis* (Rollins) Al-Shehbaz  
NATIVE

Short-lived per; caudex not woody. ST: gen 1 per caudex branch, from center of basal rosette at ± ground surface; gen 2.5–6.5 dm, proximally with short-stalked, 7–12-rayed hairs 0.1–0.2 mm. LF: basal 1–4(8) mm wide, entire; hairs short-stalked, 3–10-rayed, 0.2–0.7 mm; cauline (7)12–35, distal hairy, basal lobes 0.5–2 mm. INFL: 10–65-fld, not 1-sided in fr; fr pedicel spreading-ascending to horizontal, ± straight, 5–15 mm, hairs few, appressed, branched. FL: sepals hairy; petals 5–8 mm, 1.2–2 mm wide, lavender to ± purple; pollen spheric. FR: spreading-ascending to widely pendent, not appressed, 3.7–6.5 cm, 1.5–2.2 mm wide, glabrous; style < 0.2 mm; ovules 74–134. SEED: in 2(1) rows, 1.7–2 mm; wing 0.1–0.2 mm

wide. 2n=21. Limestone, volcanic outcrops, clay soils, in desert scrub, pinyon/juniper woodland; 1200–3500 m. e SNH, SNE, DMtns; to UT.

*B. parishii* (S. Watson) Al-Shehbaz PARISH'S ROCKCRESS  
NATIVE

Caudex ± woody. ST: gen 1 per caudex branch, from center of basal rosette at ± ground surface; 0.3–1.4 dm, proximally with short-stalked, 2–8-rayed hairs 0.2–0.4 mm. LF: basal 0.5–2 mm wide, entire; hairs short-stalked, 6–12-rayed, 0.07–0.15 mm; cauline 2–8, distal hairy, basal lobes 0. INFL: 5–20-fld, not 1-sided in fr; fr pedicel ascending, straight, 3–7 mm, hairs appressed, branched. FL: sepals hairy; petals 8–13 mm, 2.5–4 mm wide, lavender to purple; pollen ellipsoid. FR: ascending, not appressed, 1.5–2.5 cm, 1.8–2.5 mm wide, glabrous; style 3–8 mm; ovules 12–20. SEED: in 1 row, 1.5–2 mm; wing 0.05–0.2 mm wide. 2n=14. {rarity link: SYMBOL 1} Gravelly hillsides in sagebrush-juniper-pine associations; 1900–2800 m. SnBr. [*Arabis parishii* S. Watson] Mar–May

*B. peirsonii* Windham & Al-Shehbaz PEIRSON'S ROCKCRESS  
NATIVE

Caudex woody. ST: gen 1 per caudex branch, from center of basal rosette at ± ground surface; 1–2.5 dm, proximally glabrous or with few short-stalked, gen 2–5-rayed hairs 0.4–0.6 mm. LF: basal 2.5–6 mm wide, entire; hairs short-stalked, 4–7-rayed, 0.3–0.5 mm; cauline 3–12, distal glabrous or ciliate, basal lobes 0.5–2 mm. INFL: 12–25-fld, not 1-sided in fr; fr pedicel ascending to spreading-descending, straight, 2–6 mm, glabrous. FL: sepals hairy; petals 5–6 mm, 1.5–2 mm wide, purple; pollen spheric. FR: ascending to spreading-ascending, not appressed, 2–3.7 cm, 2–2.8 mm wide, glabrous; style 0.1–0.3 mm; ovules 56–80. SEED: in 1 row, 1–1.5 mm; wing 0.05–0.1 mm wide. {rarity link: SYMBOL 1} Granitic ledges, talus slopes; 2700–3350 m. SnBr. [*Arabis breweri* S. Watson var. *pecuniaria* Rollins]

*B. perennans* (S. Watson) W.A. Weber PERENNIAL ROCKCRESS  
NATIVE