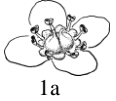


Generic key revised to recognize *Brewerimitella* segregated from *Pectiantia* based on recent molecular studies. Folk, R., R. Stubbs, N. Engle-Wrye, D. Soltis, and Y. Okuyama. 2021. Biogeography and habitat evolution of Saxifragaceae, with a revision of generic limits and a new tribal system. TAXON 70(2): 263–285.)

SAXIFRAGACEAE Saxifrage Family

Fls mostly ♀, perig to epig, radially to occ ± bilaterally symmetrical, solitary or few–∞ in racemes, pans, cymes, or thyrses; calyx greenish to petaloid, gen ± adnate to pistil to form a hypan, often with free, connate, flared to tubular portion, lobes (4)5(6), equal or ± unequal; petals as many as sepals or sometimes fewer or lacking, gen borne above (or with) the stamens on hypan or at edge of a disclike nectary; stamens gen 5 or 10 (occ 2–9); carpels mostly 2–3 (4 or even 5 or 6), from completely fused to almost distinct, ovary superior to completely inferior, 1–several-celled, cells or placentae as many as the carpels; fr caps or follicular; ann, bien, or per herbs with mostly alt (opp), stip or gen exstip, simple to compound lvs.



1a



2a

1a Petals lacking, sepals 4, stamens 4–8; fls greenish, small

Chrysosplenium

1b Petals present or sepals 5 and stamens 5 or 10 (rarely 3); fls often showy

2a Lf bls peltate, mostly > 1 dm wide; petioles 2–15 dm; fl sts scapose, 7–20 dm, developing before lvs

Darmera

2b Lf bls not peltate, often < 1 dm wide; petioles often < 2 dm; fl sts lfy or < 7 dm, or developing with lvs

3a Ovary 1-celled, with 2(3) parietal (to semibasal) placentae

Group 1

3b Ovary 2(–5)-celled, with axile placentation

Group 2, lead 14a

Group 1

4a Fr with 2 very unequal, sterile, dehiscent upper portions (valves) > fertile basal portion; stamens 10; petals entire, linear

Tiarella

4b Fr with 2(3) ± equal sterile upper portions or fertile to the tip; stamens 3, 5, or 10; petals entire to lacinate

5a Styles or stigmas 3; petals white to pink, deeply lobed or lacinate; pls often bulblet-bearing in lf axils or underground, occ also in infl

Lithophragma

5b Styles or stigmas mostly 2; petals variously colored, entire to lobed or lacinate; pls seldom bulbiferous

6a Petals entire (occ lacking)

7a Calyx greenish-purple, strongly oblique and split nearly to base on 1 side; petals gen 4, linear-subulate, brownish-purple; stamens gen 3

Tolmiea

7b Calyx radially to slightly bilaterally symmetrical, not split nearly to base on 1 side; petals gen 5 or occ lacking, wider than linear, white to pink or greenish-yellow; stamens mostly 5 but occ 1 or more rudimentary

8a Infl a pan or thyrse (occ spikelike with short lateral brs), fls gen ∞; styles gen present; seeds finely spiny in longitudinal rows

Heuchera

8b Infl racemose, unbr, loosely 5–12-fld; styles absent; seeds shallowly muriculate in longitudinal rows

Conimitella

6b Petals trifid to pectinately lobed

9a Stamens 10

10a Fl sts flless, to 25 cm; calyx saucer-shaped; petals greenish-yellow, filiform, pectinately lobed into ± 8 lateral divisions

Mitella

10b Fl sts with 2–3 lvs, 40–80 cm; calyx camp-tubular; petals greenish-white to pink, lanceolate, pinnately lacerate

Tellima

9b Stamens 5

11a Calyx, including the adnate portion, (6–)7–10 mm; petals 4–7 lobed (rarely unlobed); style > 1 mm

Elmera

11b Calyx, including adnate portion, 2–4 mm, or up to 6 mm, but then the petals trilobed and styles < 1 mm

12a Stamens opp of petals

Pectiantia

12b Stamens opp of sepals

13a Petals trifid at tips, white to pinkish; calyx cup-shaped to camp, gen considerably longer than wide

Ozomelis

13b Petals pectinately lobed along margins, greenish-yellow to white; calyx broadly camp to saucer-shaped, gen wider than long (becoming cup-shaped in fr)

14a Stigma unlobed; infl blossoming from top downward (basipetalous); anthers < filaments; fl sts lfy

Mitellastra

14b Stigma bilobed; infl blossoming from base upwards (acropetalous); anthers > filaments; fl sts flless

Brewerimitella



4a



5a



7a



8a



8b



10a



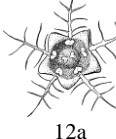
10b



11a



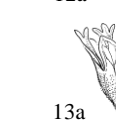
11b



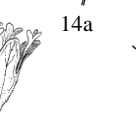
12a



12b



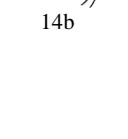
13a



13b

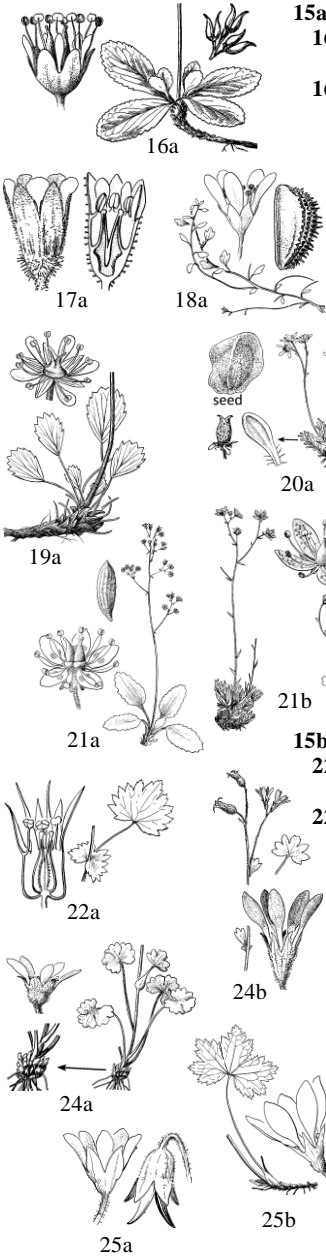


14a



14b

Group 2



15a Stamens 10

16a Carpels distinct almost to base, adnate to calyx < 1/5 length; lvs mostly basal, leathery, ± elliptic, 3–6 cm, crenate but not lobed; pls rhizomatous **Leptarrhena**

16b Carpels ± fused or adnate to calyx ≥ 1/5 length or pls not otherwise as above

17a Hypan free from ovary for 1–3.5 mm; petals pink to deep red; calyx camp, gen reddish, (5–)6–10 mm; lvs petiolate, reniform **Telesonix**

17b Hypan free from ovary for < 0.2 mm; gen either petals white or calyx not at once camp, red, and as much as 6 mm; lvs sessile or petiolate, shape various

18a Seeds with ca 8 rows of comb-like spines; lvs all cauline, entire to 3-toothed; calyx camp-turbinate, slightly keeled below sinuses of acute sepals; pls rhizomatous, delicate, ± succulent, sts ± lax **Cascadia**

18b Seeds smooth, tuberculate, or finely papillate; lvs basal and cauline or all basal; calyx not keeled below the gen rounded sepals

19a Petioles jointed near attachment to lf bl, the bl shed separately from petiole, obovate-cuneate, tapered to base and coarsely 7–11-toothed at tip; styles fused at base; hairs unicellular **Saxifragopsis**

19b Petioles not jointed near attachment to lf bl; styles free; hairs multicellular

20a Seeds covered with loose, plainly cellular testa; caps purple-mottled; lvs pyriform to spatulate, 3–12 mm, crowded on prostrate lfy sts; fl st gen < 10 cm, ± lfless; filaments clavate to petaloid (*M. tolmiei*) **Micranthes**

20b Seeds smooth to ribbed, papillate, or tuberculate, not covered with loose testa; other characters not combined as above

21a Lvs strictly basal in a rosette, the fl st naked below infl (infl bracts rarely lfy); filaments clavate, petaloid, linear, or subulate; lvs never with toothed lobes; seeds ribbed **Micranthes**

21b Lvs basal and cauline, the fl st with 1 or more lvs or bracts below infl; filaments linear to subulate (clavate only in *S. mertensiana*, with reniform, lobed lvs, the lobes again toothed); seeds smooth, papillate, or tuberculate **Saxifraga**

15b Stamens 5

22a Calyx not adnate to ovary, camp, (10–)12–16 mm, with lanceolate-acuminate sepals; st lvs prominently toothed-stip **Bolandra**

22b Calyx gen ± adnate to ovary; st lvs often lacking or without toothed stips

23a Pls bulbiferous at crown, neither stoloniferous nor strongly rhizomatous, rootstocks filiform or lacking; fl sts rarely > 2 dm; upper st lvs prominently stip; petals white or violet

24a Petals white, 3–5 mm; ovary 1/2 inferior; basal lvs 3(5)-lobed much > halfway to base **Hemieva**

24b Petals violet to pink (rarely white), 6–9 mm; ovary 2/3 inferior; basal lvs shallowly 5–9-lobed rarely > halfway to base **Suksdorfia**

23b Pls not bulbiferous at crown, gen stoloniferous or rhizomatous, either fl sts > 3 dm or upper st lvs not prominently stip; petals white

25a Petals 1.5–2.5 mm, withering-persistent; calyx mostly 2.5–3 mm; sts gen < 2.5 dm; pls stoloniferous **Sullivantia**

25b Petals mostly 4–7 mm, deciduous; calyx rarely < 4 mm; sts (1.5–)2–8(–10) dm; pls rhizomatous, never stoloniferous **Boykinia**