

All British Columbia populations of *P. oakesianus* have been determined to be incorrectly identified (2021). This species is removed from inclusion in the Flora region. Image of the fruit of *P. epihydrus* added to show keel structure described in key lead.

Potamogeton L. Pondweed

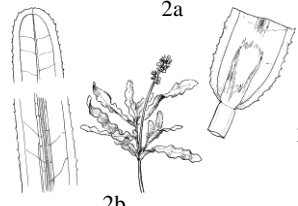
Pls ♀-fld; fls sessile in pedunculate spikes; perianth segms 4, clawed; stamens (2)4, fused with claws of the perianth segms, anthers 2-celled, sessile; pistils 4, sessile, 1-carpellate, stigma sessile or on a short, persistent, often curved style; pls submersed or partially floating; lvs all alt or the uppermost occ opp, the submersed lvs always imp for identification, gen much thinner, shorter-petioled, and narrower than the floating lvs (if any), some spp with a wide band of lacunae (wide cells) flanking bl midvein, with or without a pair of easily overlooked nodal st glands at base of bl (check at least 5 nodes for their presence or absence); tips of late season vegetative shoots of some spp. producing turions (compact winter buds) formed from ∞ short overlapping lvs and stips; infl emergent or submersed; fr semifleshy, flattened, becoming hardened, occ keeled, crested, or winged. (Gr *potamos*, river, and *geiton*, neighbor, in allusion to the habitat).

The straplike, opaque lvs and flattened st of sterile *Heteranthera dubia* (Pontederiaceae) can be mistaken for a sp. of *Potamogeton*. Previous records of *P. oakesianus* from BC are misidentifications, so it is no longer included in the Flora region. Several *Potamogeton* spp. are now in *Stuckenia*.



1a Submersed lf margins serrate (10×); submersed lvs 3–10 mm wide, 2-ranked; floating lvs absent

2a Sts ± round; infl a spike or a bracteate pan of spikes, but pls rarely fl; stips fused to lf base, forming a prominent white to greenish-brown lig above base of free lf bl, fibrous with age; lvs stiffish, bl expanded and curved at junction with stip, with contrasting pale margins; fr 3–5 mm, beak 0.7–0.9 mm; shallow to deep water, lakes and slow rivers; AK to CA, esp w Cas, e to Alta, w MT, WY, and UT, also in e N Am; Robbin's p. **1 *P. robbinsii* Oakes**



2b Sts flat; infl an unbr spike; stips not fused to bl, inconspicuous, translucent to white, not fibrous; lvs ± soft, bl slightly expanded and curved at base where attached to st, margins green like bl; fr 6 mm, beak 2–3 mm; calm and occ brackish or eutrophic water, lakes and rivers; Eurasian intro; s BC s, both sides Cas, to CA, e to Sask and CO, e N Am; C Am, S Am; curled p. **2 *P. crispus* L.**

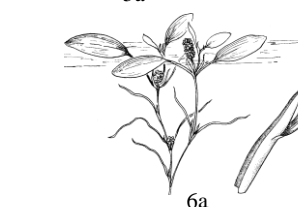
1b Submersed lf margins ± entire (10×); submersed lvs 0.25–58 mm wide, 2-ranked or spiral on the st; floating lvs present or absent

3a Some floating lvs gen present in colony
4a Submersed lvs mostly 0.25–4 mm wide



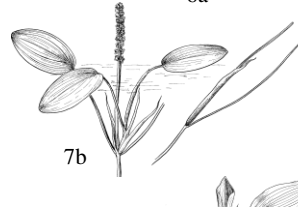
5a Submersed lvs with prominent band of lacunae flanking midrib; fr with lateral and dorsal keels, dorsal keel 0.2–1.2 mm wide; lakes and rivers, calm or flowing water; AK to CA, e to MT and CO, also in e N Am; Europe; ribbon-lf p. (*P. e. var. nuttallii*) **3 *P. epihydrus* Raf.**

5b Submersed lvs ± without prominent band of lacunae flanking midrib; fr without lateral keels, dorsal keels absent or ≤ 0.2 mm wide



6a Stips of submersed lvs adnate to base of lf and forming a sheath around st, lf bls thus not attached directly at the nodes; submersed lvs filiform, 0.1–0.5 mm wide; stips with inconspicuous pale brown to red-brown lig above base of lf bl, never fibrous; submersed lvs not 2-ranked, bl straight at junction with stip, margins entire (10×); fr 1–1.5 × 0.9–2 mm; floating lvs small; shallow streams, ponds; Deschutes and Lane cos, OR to CA, AZ, Mex, e to w MT, and s ID, also in e N Am; water-thread p. **4 *P. diversifolius* Raf.**

6b Stips of submersed lvs free from base of the lf, lf bls thus attached directly at the nodes



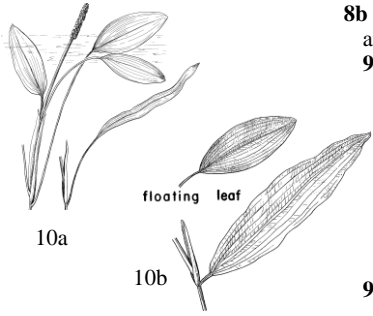
7a Fr 1.9–2.3 mm; submersed lvs 1–4(–27) mm wide (see leads 12a–12b) **9 *P. alpinus* Balb.**

10 *P. gramineus* L.

7b Fr mostly 3.5–5 mm; submersed lvs 0.8–2 mm wide; floating lvs 5–10 × 2.5–6 cm, with 13–37 veins, lf base subcordate (rounded in strong current); petiole with a pale band and bent at tip; calm water, lakes and slow streams; common and widespread, AK to CA, e to Atl; broad-lf or floating-lf p. **5 *P. natans* L.**



4b Submersed lvs gen 4–58 mm wide
8a Fr (4–)5–6.7 mm; submersed lvs with 19–49 veins, petiolate, bls arching, margins often wavy; floating lvs with 27–49 veins; sts often rusty-spotted; often in deep calm water; c BC s, both sides Cas, to CA, e to Atl; large- or broad-lvd p. **6 *P. amplifolius* Tuck.**



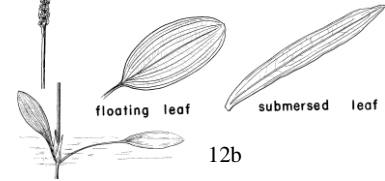
10a

10b



11a

11b



floating leaf

submerged leaf

12b

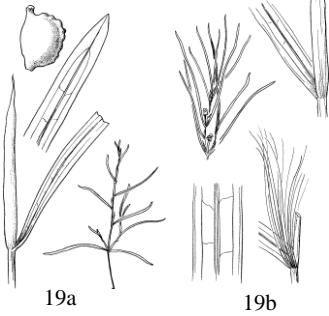


13a

13b



14a



15a

15b

8b Fr 1.9–4.5 mm; submersed lvs with 3–21 veins, sessile or petiolate, bls flat or arching, margins wavy or not; floating lvs with 7–41 veins; sts spotless

9a Stips (1–)3–9 cm; submersed lvs with 7–21 veins

10a Submersed lvs on petioles (2–)5–13 cm, lf tip acute; fr red to red-brown, keel toothed; shallow to deep water of lakes and slow rivers or reservoirs; s BC s, both sides Cas, to CA, e to Atl; C Am, S Am, Eurasia; long-lf p.

7 P. nodosus Poir.

10b Submersed lvs sessile or on petioles to 4 cm, lf tip acuminate to abruptly mucronate; fr olive-green to gray green, keel ± entire; lakes, sloughs, rivers, streams, often limy water; s BC s, both sides Cas, to CA, e to Atl; C Am, S Am; Illinois p.

8 P. illinoensis Morong

9b Stips 1–3 cm; submersed lvs with 3–13 veins

11a Submersed lvs 2-ranked, straplike, narrowly oblong, sides parallel, with a wide zone of lacunae flanking midrib, lacunae 1–2 mm wide with 5–18 rows of cells on each side of midvein; submersed lvs sessile (see lead 5a)

3 P. epiphydrus Raf.

11b Submersed lvs spiraled, narrowly elliptic to elliptic-oblong, with inconspicuous zone of lacunae flanking midrib, lacunae 0–0.5 mm wide with 0–4 rows of cells on each side of midvein; submersed lvs gen sessile, occ petiolate

12a Fr 2.5–3.5 mm, plump, hard, the embryo coiled 1 complete spiral; sts unbr to few-br; lvs 4.5–25 cm, reddish-tinted (sometimes more obvious if dried); lf margins smooth; calm water of lakes and slow streams; AK s, both sides Cas, to CA, e to Sask, MT, and CO, also e N Am; Eurasia; n or reddish p. (*P. a.* var. *tenuifolius*)

9 P. alpinus Balb.

12b Fr 1.9–2.3 mm, slightly flattened laterally, soft, the embryo coiled < 1 complete spiral; sts few–∞-br; lvs 1.5–10 cm, green; upper lf margins on new growth with scattered small 1-celled broad-based points or spines (20×), these often shed early; calm or flowing water of lakes, streams, and rivers; AK s, both sides Cas, to CA, e to Atl; grass-lvd p. (*P. g.* vars. *maximus*, *myriophyllus*)

10 P. gramineus L.

3b All lvs submersed

13a Submersed lvs 5–46 mm wide and base clasping st or not

14a Lf base not clasping st; submersed lvs petiolate or sessile

15a Submersed lf tip abruptly mucronate; submersed lvs with 7–19 veins (see lead 10b)

8 P. illinoensis Morong

15b Submersed lf tip acute to blunt; submersed lvs with 3–9 veins (see leads 12a–12b)

9 P. alpinus Balb.

10 P. gramineus L.

14b Lf base clasping st; submersed lvs sessile

16a Lf margins smooth; lf apex hoodlike, splitting when pressed; rhizome red-brown spotted; stips long-persisting before decaying; lfy sts ± zigzag; fr 4–5.7 mm; gen deep lake water; AK s, both sides Cas, to CA, Mex, e to Atl; Eurasia; long-stalked p., white-st p.

11 P. praelongus Wulfen

16b Lf margins with scattered small, broad-based teeth or 1-celled spines (20×); lf apex flat, not splitting; rhizome unspotted; stips quickly decaying and fibrous; fr 2.2–4.2 mm; lfy sts straight; lakes, streams, rivers, often limy; AK s, both sides Cas, to CA, e to Atl; Richardson's p.

12 P. richardsonii (A. Benn.) Rydb.

13b Submersed lvs 0.1–5 mm wide and base not clasping st

17a Nodal st glands entirely (or mostly) absent at base of lf (10×)

18a Sts strongly flattened; lf veins 15–35; lvs 2–5 mm wide; lf tips acute to acuminate; lf sheaths or lf bases with inconspicuous green or white fibers; calm or slowly flowing water of lakes and streams; AK s, both sides Cas, to CA, e to Alta, ID, MT, and further e to Atl; eel-grass or flatst p.

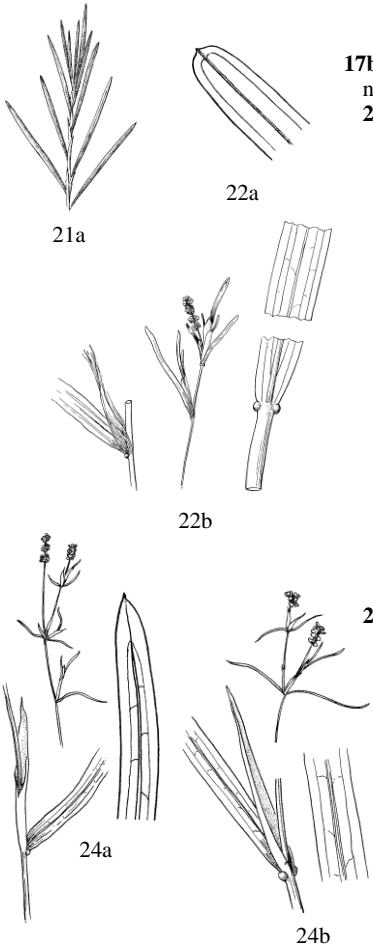
13 P. zosteriformis Fernald

18b Sts round to slightly flattened; lf veins 1–5; lvs 0.3–2.3 mm wide; lf tips acute to apiculate; green or white fibers in lf sheaths and lf bases conspicuous or not

19a Inflorescence rarely interrupted; fr olive to greenish-brown, fr keel ≥ 0.2 mm, fr beak 0.2–0.6 mm; stips disintegrating with age, veins occ persisting as fibers; lakes, slow- or fast-flowing streams; common and widespread; AK to CA, Mex, both sides Cas, e to Atl; lfy or close-lvd p. (var. *macellus*)

14 P. foliosus Raf.

19b Inflorescence interrupted; fr pale green, keel and beak each ≤ 0.2 mm



- stip veins persisting as white fibers in age; seldom coll; warm, shallow water, lakes, springs, streams; w WA, se OR, ne CA, e to s ID, WY, UT; fibrous-stip p. (*P. foliosus* subsp. or var. *f.*) 15 **P. fibrillosus** Fernald
- 17b** 2 nodal st glands present at base of each lf on most nodes (check at least 5 nodes at 10×)
- 20a** Stips coarse, fibrous, often whitish; lf veins 3–9
- 21a** Sts round; lvs fairly stiff when removed from water, margins tending to be inrolled later in season; turions flattened with lvs in 1 plane, bud lanceolate; alkaline water, lakes and slow streams; seldom coll; Yukon, e BC, nc WA, Alta, Sask, WY, UT, and e to Atl; stiff-lvd or straight-lvd p. 16 **P. strictifolius** A. Benn.
- 21b** Sts slightly to strongly flattened; lvs limp when removed from water, margins flat; turions with lvs in one or two planes
- 22a** Sts slightly flattened; lf with 2 veins plus midvein (lacunae); lf tips blunt to acute or mucronate; turions with lvs ± all in one plane, the sheaths or lf bases with inconspicuous green or white fibers; frs 2.5–3.6 mm, beaks 0.8–1 mm; lakes, slow streams, alkaline water; AK to nw WA, Alta, MT, WY, e to Atl; blunt-lvd p. 17 **P. obtusifolius** Mert. & W.D.J. Koch
- 22b** Sts strongly flattened; lf with 4–8 veins plus midvein; lf tips acute to mucronate; turions corrugated with conspicuous thick white fibers at base of outer lvs and stips, inner and outer lvs of turion at right angles in 2 planes; frs 1.8–2.5 mm, beaks 0.3–0.7 mm; lakes, slow streams, alkaline water; AK s, e Cas, to ne WA, Alta, e ID, MT, WY, UT, and e to Atl; flat-stalked p. 18 **P. friesii** Rupr.
- 20b** Stips gen delicate, fibrous or not, white, brown, or green; lf veins 1–3(–5)
- 23a** Fr keeled (see leads 19a–19b) 14 **P. foliosus** Raf.
- 15 **P. fibrillosus** Fernald
- 23b** Fr rounded, not keeled, weakly separated on infructescence
- 24a** Lf with up to 2 rows of lacunae flanking each side of midrib; lf tips acute, rarely bristle-tipped; stips closed, fused around st; peduncles mostly terminal, 1–3 per pl; infl gen 2–4 distinct well-spaced whorls; often in alkaline waters, marshes, streams, lakes; Yukon s, both sides Cas, to CA, e to Atl; S Am, Eurasia, Africa; small p. 19 **P. pusillus** L.
- 24b** Lf with up to 5 rows of lacunae flanking each side of midrib; lf tips blunt to acute; stips curled around st but sheath not closed or fused; peduncles axillary or terminal, > 3 per pl; infl gen crowded; often in acidic waters, lakes, slow streams, sloughs, marshes; AK s, both sides Cas, to CA, e to Atl; Eurasia; Berchtold's p. (*P. pusillus* var. *tenuissimus*) 20 **P. berchtoldii** Fieber