

Treatment revised to add *M. subcordata*, which was included within *M. platyphylla* in the original treatment, but the name was not accounted for explicitly; *M. ambigua* from original treatment is synonymized within *M. umbratilis*.

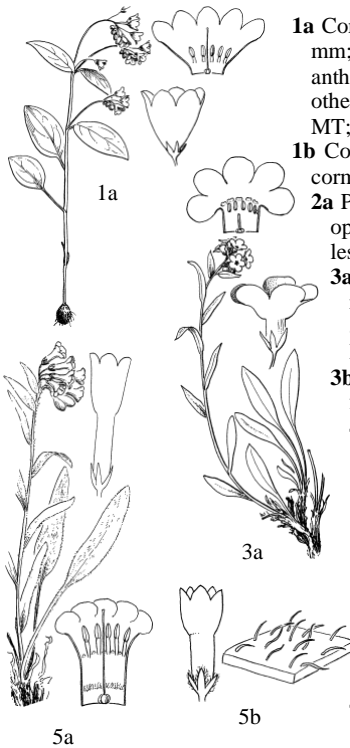
References: Nazaire, M. 2020. *Mertensia*. Pp. 413–418 in S.C. Meyers, T. Jaster, K. E. Mitchell, T. Harvey and L. K. Hardison (eds.), *Flora of Oregon*. Vol. 2: Dicots A–F. BRIT Press, Botanical Research Institute of Texas Press, Fort Worth, TX.

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Mertensia Roth Bluebells; Lungwort; Mertensia

Fls in compound, ebracteate, pan-like, few–∞-fld cymes terminating the st and brs, proximalmost fls often solitary in lf axils; calyx gen cleft at least to midlength, often to base; corolla blue, or in occ individuals white or pink, shallowly 5-lobed, gen abruptly expanded at the throat and thus evidently divided into tube and limb, the fornicies gen evident; filaments attached at or below the level of the fornicies, often conspicuously expanded (lig), occ filiform (stipe-like); nutlets attached laterally to the gynobase at or below middle, gen rugose; glab to strigose, pustulate, or hirsute per herbs, the hairs not pungent. (For F.C. Mertens, 1764–1831, German botanist).

Defining and measuring *Mertensia* corolla features varies with treatment author. To assist with field identifications, here we divide the corolla into tube and limb based on a side view of the fl and without dissection to determine attachment point of the fornicies. As in the 1st ed., we compare lengths of limb to corolla tube. Taxonomy follows draft *Flora of North America* treatment (M. Nazaire, unpubl.). *Mertensia lanceolata* (Pursh) DC. ex A. DC. app our area in w MT and sc OR.



1a Corolla camp, flaring from near base, not sharply divided into tube and limb, 6–10 mm; filaments slender, attached ca 1 mm above corolla base, slightly > the 1 mm anthers; lvs with evident lateral veins; caudex ovoid, corm-like; wet meadows and other moist places up to mid elev in mts; Cas of c OR to CA, also in c ID and adj w MT; beautiful or Oregon b. or l. **1 M. bella** Piper

1b Corolla ± sharply divided into tube and limb, often well > 10 mm; caudex never corm-like

2a Pls seldom > 4 dm, gen without evident lateral veins in the cauline lvs; pls gen of open or lightly shaded flats, slopes, or ridges and fl as soon as temperatures permit, less often in subalp to alp meadows

3a Filaments stipe-like, < 0.5 mm, anthers included in corolla tube, the tips barely reaching the fornicies; corolla 7–14 mm, tube glab within, the limb ≤ corolla tube and tending to be widely flared; subalp and alp meadows; sw MT to WY, CO, and NM; alp b. (*M. alpina* G. Don illegitimate) **2 M. tweedyi** Rydb.

3b Filaments more conspicuous, wide and flattened, 0.9–3 mm; anthers exserted from tube, the bases even with to elevated well above the fornicies; lowl to alp

4a Corolla tube bearing a ring of hairs inside and below the tube midlength (or sometimes the hairs scattered over much of the inner surface); sts erect to ascending, 1–several from base

5a Sts and lower lf surfaces glab; anthers 0.9–1.3 × filament length; limb << to = corolla tube; corolla 7–14 mm; lake margins, rocky outcrops, and steep slopes, subalp to alp; MT, WY, CO, and UT; green b., leathery b. (*M. c. var dilatata*, *M. viridis* vars. c., d.) **3 M. coriacea** A. Nelson

5b Sts and lower lf surfaces pubescent; lowl to mont; anthers 0.6–1.1 × filament length; limb ≤ corolla tube; corolla 10.5–14 mm; sagebr des to alp rocky outcrops and moist slopes; c WA to MT, WY, and UT; beautiful b. (*M. foliosa* var. a., *M. oblongifolia* var. a.) **4 M. amoena** A. Nelson

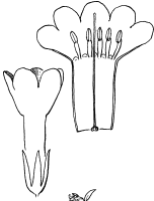
4b Corolla tube glab inside, rarely hairy in no 7; valleys and foothills to mont; e Cas and e



6a

Illustration Needed

7a



7a



9a



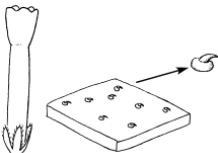
8a



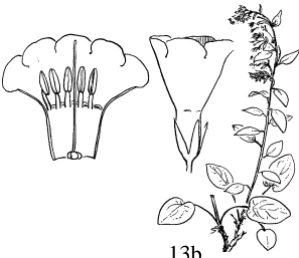
11a

Illustration Needed

11b



13a



13b

6a Sts 1–2(–5) from a short, tuberous-thickened, easily detached, shallow root; basal lvs rarely present at fl time; cauline lvs gen 1.5–4 × as long as wide; limb << corolla tube length; corolla (10–)15–20(–25) mm; sagebr des, grassl, and rocky slopes; BC to CA, e to Alta, ID, and MT;

5 M. longiflora Greene

6b Sts 1–several, clustered on a stouter and more firmly attached br, woody caudex with slender to stout taproot; basal lvs present or absent at fl time

7a Sts densely hairy, spreading to retrorse; lower lf surface densely strigose to spreading pubescent, upper surface densely strigillose to spreading pubescent; basal lvs gen absent at fl time; limb ≤ corolla tube; corolla (7–)9–14.5 mm; stream banks, meadows, and for openings; e Cas, Wheeler Co, OR to CA

6 M. cusickii Piper

7b Sts glab; lower lf surface glab, upper lf surface glab to pustulate or sparsely strigose to strigillose; basal lvs gen present at fl time; limb << = corolla tube

8a Sts seldom 1, more often several to many; upper lf surface glab to pustulate; cauline bls elliptic, oblanceolate, broadly lanceolate or broadly ovate, apex subacute or obtuse; corolla 10–16.5(–19) mm; sagebr des, open slopes, and dry meadows; common in our area, WA to CA, e to Daks, CO, and UT; lfy b. (*M. oblongifolia* vars. *f.*, *nevadensis*)

7 M. foliosa A. Nelson

8b Sts 1–few; upper lf surface sparsely strigose to strigillose; cauline bls narrower, narrowly elliptic to lance-linear or linear, to linear-oblanceolate, apex acute; sagebr des, open slopes, and dry meadows; endemic to MT

8 M. oblongifolia (Nutt.) G. Don

2b Pls relatively tall and robust (4–15 dm when well developed, occ < 4 dm in no 15), with evident lateral veins in the cauline lvs (except often in no 9, marked by its short calyx lobes); growing along streams and in wet meadows

9a Calyx lobes distinctly < the well-developed calyx tube (unique among our spp. in this regard); corolla 15–20 mm, tube glab inside; limb ≤ corolla tube; anthers 2.9–3.4 mm; c ID to n SRP; Idaho b.

9 M. campanulata A. Nelson

9b Calyx lobes distinctly > the gen very short calyx tube; corolla 9–17 mm

10a Anthers 3.5–5.0 mm; cauline lvs broadly ovate to cordate, upper surfaces scab; sts gen arising singly from a stout, br rhizome; calyx lobes 3.5–7 mm; corolla 11.5–15.3 mm

11a Calyces (4–)5–8.2 mm, lobes lanceolate to linear-lanceolate, 3.5–7 mm, apices acute; lowl swamps and wet meadows; OP to sw WA (*M. paniculata* var. *pl.*); broad-lvd b.

10 M. platyphylla A. Heller

11b Calyces 2.5–4.5 mm, lobes deltoid, 1.8–3.5 mm, apices subacute to obtuse; dry to wet meadows and for openings at low elev; sw WA to sw OR (*M. platyphylla* var. *s.*); w b.

11. M. subcordata Greene

10b Anthers 1.2–3.5 mm; cauline lvs lanceolate, elliptic, ovate, or obovate, upper surfaces glab, pustulate, or strigose; growth habit various; calyx lobes 1–6 mm

12a Calyx lobes 3–6 mm, lanceolate to ovate, apices acute to acuminate; sagebr des or mont to subalp areas where moist to wet

13a Corolla 15.5–21 mm, limb < to << corolla tube; anthers 1.8–2.4 mm; upper lf surface sparsely pustulate to short-strigose; pls 3.5–6 dm; sagebr des, open slopes; e Cas, c WA to ne OR; shade b. (*M. ambigua*, *M. arizonica* var. *u.*); perhaps best treated as a var. of no 7

12 M. umbratilis Greenm.

13b Corolla 8–16 mm, limb ≥ corolla tube; anthers 2.2–3.4 mm; upper lf surface glab, pustulate, or strigose; pls 2–7 dm; mont to subalp, stream and riverbanks, wet meadows and talus slopes; common and widespread boreal sp., s to OR, e to GL, not w of Cas in our area except in OM; tall or pan b.; 2 vars. in our area

13 M. paniculata (Aiton) G. Don

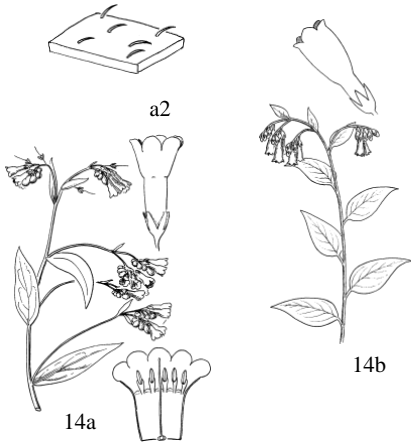
a1 Sts and infl brs glab; upper lf surface glab, occ pustulate; corolla gen glab inside; BC to OR, e to ID and MT

var. **borealis** (J.F. Macbr.) L.O. Williams

a2 Sts and infl brs strigose to spreading-hairy; upper lf surface short strigose; corolla gen pubescent inside; AK to OR, e to n RMS, n Gr Pl, and GL

var. **paniculata**

12b Calyx lobes 1–2(–3) mm, lanceolate to deltoid, apices acute; mont to subalp areas where moist to wet



14a Sts and upper lf surfaces usually glaucous; peds sparsely pustulate (20×), pustules occ with short, strigose hairs, occ glab; calyx lobes oblong to ovate; anthers 1.6–2.5 mm; corolla 9.6–17 mm, limb \geq tube length; pls 4–10(–15) dm; stream and riverbanks, subalp meadows, high elev for openings, marshy areas; ciliate or broad-lf b.; 2 largely sympatric vars.

14 *M. ciliata* (James ex Torr.) G. Don

a1 Lower lf surfaces glab; OR to MT, s to WY, CO, UT, and NM

var. *ciliata*

a2 Lower lf surfaces sparsely hairy, strigose to spreading-hairy; ID to MT, s to WY, CO, and UT

var. *subpubescens* (Rydb.) J.F. Macbr. & Payson

14b Sts and upper lf surfaces pustulate or glab, not glaucous; peds strigose to spreading hispid, not pustulate; anthers 2.3–3.4 mm; corolla 9–13 mm, limb gen = to \gg tube length; pls 2–7.5 dm; stream and riverbanks, wet meadows, and talus slopes; WA to OR, e to ID and MT

15 *M. brachycalyx* Piper