

Revised key includes:

- *Sphenosciadium* synonymized within *Angelica* (key to fruits lead 5a; key to vegetative parts lead 25b) K. Spalik, J.-P. Reduron, and S. R. Downie. 2004. The phylogenetic position of Peucedanum sensu lato and allied genera and their placement in tribe Selineae (Apiaceae, subfamily Apioideae). *Plant Syst. Evol.* 243: 189–210.
- Correction to key to fruits in leads 36a through 38a (*Cicuta*, *Oenanthe*, *Sium*), including addition of *Sium* fruit (lead 37a)

APIACEAE (Umbelliferae) Parsley Family

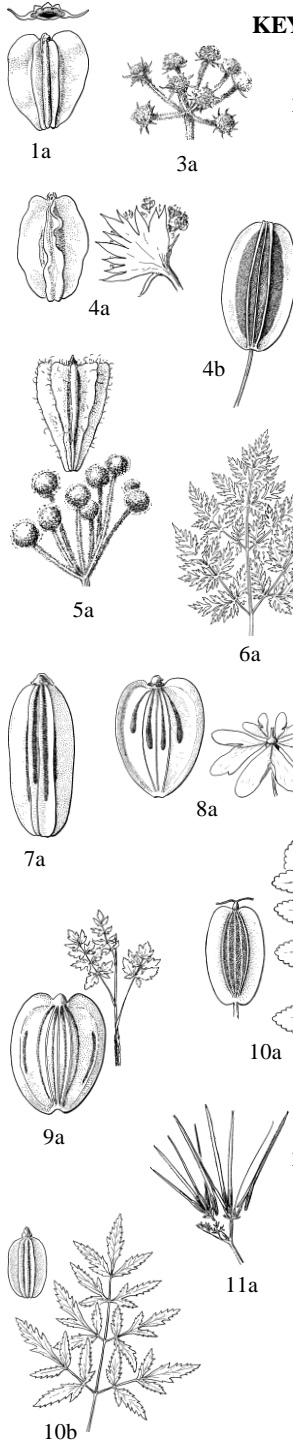
Infl umbel or head, simple or compound, gen pedunculate, invol bracts present or absent, bracteoles gen present in involucels; fls gen radially symmetric, ♀, outer ones occ sterile or neutral and then often ± bilaterally symmetric; calyx lobes (0)5; petals 5, free, gen inflexed at tip, gen yellow or white, less often purple or other colors; stamens 5, inserted on an epig disk, alt with petals; ovary inferior, 2-carpellate, 2-celled, each cell 1-ovuled; styles 2, often swollen at base to form a stylopodium; fr a dry schizocarp, consisting of 2 halves (mericarps) united by their faces (the commissure), each mericarp typically 5-ribbed (2 marginal, 3 dorsal, these sometimes forming wings), gen with 1 or more vertical oil tubes in the intervals between the ribs and on the commissure; mericarps separating at maturity, revealing a slender, central carpophore to which they are attached apically, the carpophore entire to deeply bifid, or sometimes absent by adnation of the separate halves to the commissural faces; ann or per herbs, occ woody at base, often hollow-std, gen aromatic; lvs alt or rarely opp, or sometimes all basal, gen with sheathing petiole and large, compound to variously cleft or dissected bls, simple

and entire in a few genera. The fls are so uniform and the vegetative features often so variable among closely allied spp. that the genera must often be separated largely by technical characters of the mature fr.

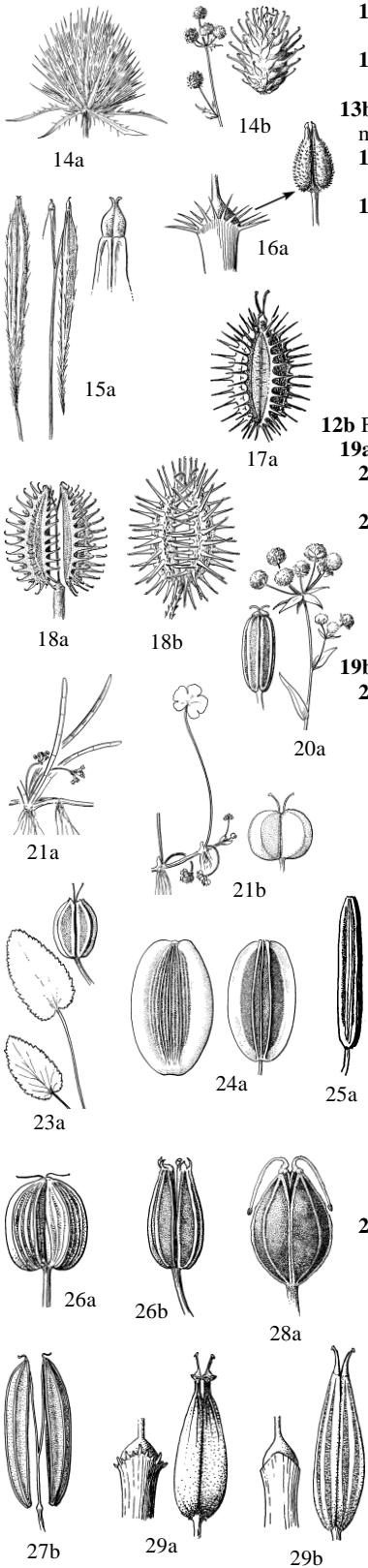
Turgenia latifolia (L.) Hoffm. coll in our area (1912, 1955) but not naturalized; several culinary spp. are also waif intros in our area: *Apium graveolens* L. (celery), *Coriandrum sativum* L. (cilantro), *Levisticum officinale* W.D.J. Koch (garden lovage), *Myrrhis odorata* L. (anise), and *Petroselinum crispum* L. (parsley).

KEY EMPHASIZING CHARACTERS OF THE FRUIT

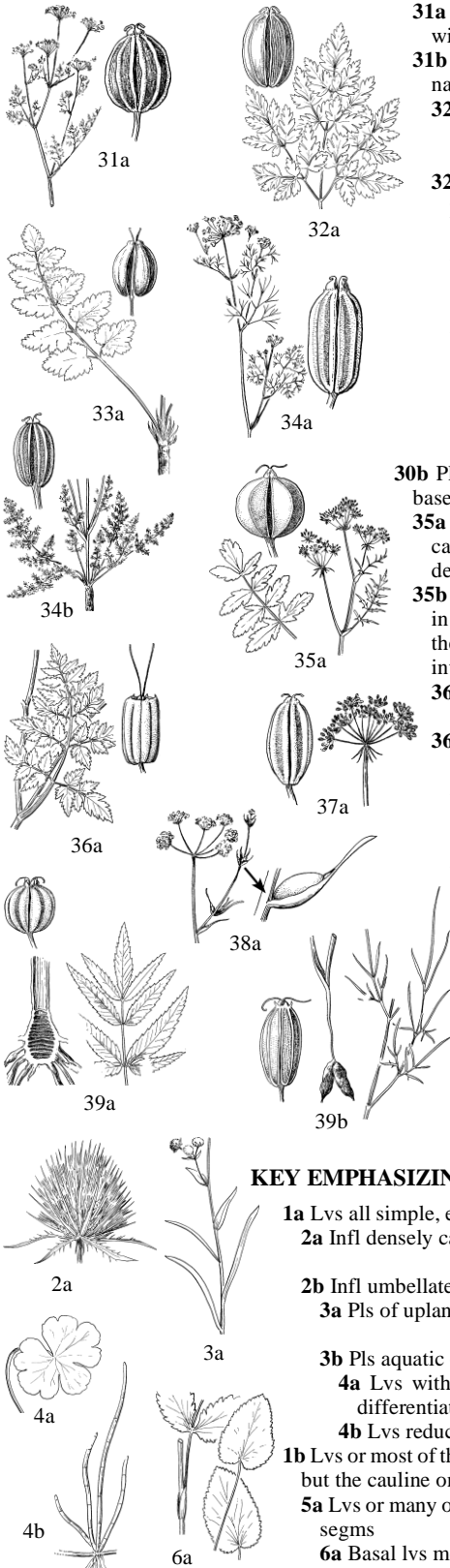
(Key Emphasizing Vegetative Characters on p. ###)



- 1a** Fr \pm strongly compressed dorsally (parallel to the commissure), unarmed, at least the lateral ribs gen winged, only occ wingless; carpophore bifid to the base
- 2a** Stylopodium absent or nearly so, though sometimes \pm evident in the fresh fl
- 3a** Fls sessile; umbellets capitate; maritime pls with well-defined wide lflets; fls white **Glehnia**
- 3b** Fls ped, the peds sometimes very short; umbellets capitate or not; pls not maritime; lvs gen \pm dissected, with small and often narrow ultimate segms, but sometimes with well-defined wide lflets; fls yellow to white or purple
- 4a** Dorsal ribs of fr gen \pm winged, rarely wingless; involucl dimidiate **Cymopterus**
- 4b** Dorsal ribs of fr gen filiform and wingless, occ very narrowly winged; involucl gen not dimidiate **Lomatium**
- 2b** Stylopodium \pm well developed; lvs in most spp. with well-defined wide lflets
- 5a** Umbellets capitate, fls sessile; fr cuneate; dorsal as well as lateral ribs of fr gen winged; fls white **Angelica**
- 5b** Umbellets with ped fls; fr not cuneate; dorsal ribs winged or wingless
- 6a** Lvs dissected, without well-defined lflets or with lflets \pm cleft
- 7a** Fr dorsal ribs prominent, lateral ribs broadly winged; spp. of maritime or riparian sites **Conioselinum**
- 7b** Dorsal ribs filiform, slightly prominent, lateral ribs narrowly winged; pls ann, to 15 dm, erect, br distally; lvs pinnately dissected into filiform segms; fr 3–5 mm, carpophore bifid to base; lvs and seeds anise-scented when crushed; disturbed areas; culinary Eurasian intro, occ escaping cult wherever grown; dill **Anethum graveolens** L.
- 6b** Lvs with \pm definite, entire or merely toothed lflets, or some lflets occ with a few irreg lobes; fr various; pls not maritime except 2 spp. of *Angelica*
- 8a** Oil tubes reaching only partway from the apex toward the base of fr, readily visible through the pericarp; marginal fls of umbel enlarged and radiant, the outer corolla lobes commonly 2-cleft; lvs in our spp. trifoliate, with very large lflets mostly 1–4 dm long and wide; fls white **Heracleum**
- 8b** Oil tubes extending all the way from the apex to the base of the fr, conspicuous or inconspicuous; marginal fls not enlarged, the corolla lobes not 2-cleft; lvs pinnately to ternately compound, with $>$ 3 lflets, these gen $<$ 1 dm wide
- 9a** Pls intro bien weed with yellow fls and merely once-pinnate lvs; invol and involucl gen absent **Pastinaca**
- 9b** Pls per, not weedy; lvs always once-pinnately or gen 2–several \times compound; fls white (pink) or in 1 sp. yellowish
- 10a** Lvs always once-pinnately compound; pls with tuberous-thickened roots; pls only on VI and in Lane Co, OR in our area **Oxypolis**
- 10b** Lvs gen 2–several \times compound; pls taprooted; pls widespread **Angelica**
- 1b** Fr subterete or \pm compressed laterally (at right angles to the commissure), dorsally somewhat compressed only in *Daucus*, which has armed fr and an entire or apically bifid carpophore; ribs of fr lacking to prominent and corky-thickened, but seldom (except *Ligusticum*) winged; carpophore entire or variously bifid, or absent
- 11a** Fr with a conspicuous beak much $>$ the body; intro ann weed with dissected lvs **Scandix**
- 11b** Fr beakless or with a short beak distinctly $<$ body
- 12a** Fr gen with conspicuous scales, or bristly hairs, or hooked or glochidiate or barbed prickles, or tubercles, glab and unarmed only in a few spp. of *Osmorhiza* and *Anthriscus* that have the fr narrowed at the tip to a \pm distinct short beak
- 13a** Carpophore absent; calyx teeth well developed and prominent; frs sessile or nearly so, the ribs gen absent; our spp. per



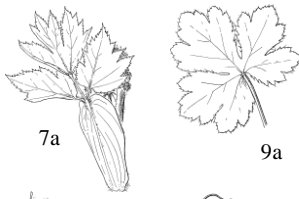
- 14a** Lvs simple, entire or merely toothed; infl capitata, the fls all alike and sessile; fr in our spp. covered with scales **Eryngium**
- 14b** Lvs compound or dissected; fls of 2 kinds, some ♂ and gen ped, others ♀ and sessile or nearly so; fr in our spp. with uncinat prickles **Sanicula**
- 13b** Carpophore well developed, entire or bifid at the apex; calyx teeth evident to more often minute or absent; frs ped; ribs of fr evident to absent
- 15a** Pls per, native, not weedy; lvs with well-defined wide lflets; fr merely bristly-hispid or glab, beakless or short-beaked **Osmorhiza**
- 15b** Pls ann or bien, often weedy; lvs in our spp. dissected into small and narrow ultimate segms; native and intro spp.
- 16a** Fr shortly but distinctly beaked; ribs absent **Anthriscus**
- 16b** Fr beakless; ribs evident
- 17a** Fr dorsally somewhat compressed, provided with glochidiate or barbed prickles **Daucus**
- 17b** Fr laterally compressed, provided with uncinat to straight prickles **Daucus**
- 18a** Invol bracts gen dissected, lflike **Yabea**
- 18b** Invol bracts entire, not lflike, occ absent **Torilis**
- 12b** Fr unarmed and commonly glab, not beaked
- 19a** Lvs all simple, entire or toothed to sometimes palmately lobed
- 20a** Umbels compound; carpophore present, bifid to the base; pls taprooted, growing in upland habitats **Bupleurum**
- 20b** Umbels simple (sometimes proliferous, or aggregated into a scarcely umbellate infl); carpophore absent; pls fibrous-rooted, growing in water or wet places
- 21a** Lvs reduced to narrow, hollow, septate phyllodes **Lilaeopsis**
- 21b** Lvs with a distinct petiole and wide bl **Lilaeopsis**
- Hydrocotyle** (see Araliaceae, p. ###)
- 19b** Lvs compound or dissected (basal lvs merely toothed in our sp. of *Zizia*)
- 22a** Stylopodium absent or nearly so; pls (except *Zizia*) low, scapose or subscapose, not > ca 3 dm
- 23a** Pls per from a cluster of fleshy roots; pls mostly growing in wet places; calyx teeth well developed; carpophore bifid ca halfway to the base; fls yellow; our sp. with the basal lvs simple, merely toothed **Zizia**
- 23b** Pls per from a taproot (with or without a br caudex) or from a thickened, cormlike root; pls mostly growing in dry places; calyx teeth, carpophore, and fl color various; basal lvs compound or dissected
- 24a** Carpophore absent; lateral ribs of fr either corky-winged or merely raised and thickened; commissural face of each mericarp with or without a rib-like projection along its length; lf segms elongate and narrow or relatively wide and ± confluent; root short and tuberous-thickened to more elongate **Lomatium**
- 24b** Carpophore present; fr ribs, commissural face, and lf segms various
- 25a** Frs linear, mostly 8–10 × 1–1.5 mm; w ID and possibly se WA (*L. tenuissimum*) **Lomatium**
- 25b** Frs linear-oblong or broader, 2–7 mm
- 26a** Calyx teeth in our sp. minute or absent; ribs of fr in our sp. filiform and inconspicuous, although fr sometimes grooved-sulcate; pls in WA **Tauschia**
- 26b** Calyx teeth well developed and ± conspicuous; ribs of fr thickened and conspicuous; pls in ID and MT **Musineon**
- 22b** Stylopodium ± well developed; pls often taller and lfy-std
- 27a** Carpophore bifid at apex only, the halves not appearing entirely distinct; growth habit various
- 28a** Pls strongly rhizomatous; fr ovoid, 3–4 mm, laterally compressed; lower lvs long-petiolate, gen biternate, lflets often 9, oblong to ovate, 3–8 cm, margins sharply serrate; umbels dense, 6–12 cm wide; pls 4–10 dm; European intro, occ escaping cult; lowl w Cas; bishop's goutweed; variegated form often cult **Aegopodium podagraria** L.
- 28b** Pls taprooted to fibrous thickened; fr linear-ovate, 4–8 mm
- 29a** Fr body smooth; sts hollow **Anthriscus**
- 29b** Fr body with low, rounded ridges; sts solid **Chaerophyllum**
- 27b** Carpophore bifid at least halfway to base, the halves distinct, not adnate to the mericarps; pls taprooted or with fibrous or tuberous-thickened roots but not rhizomatous
- 30a** Pls taprooted; carpophores bifid at least to middle, often to base



- 31a** Sts purple-spotted; oil tubes ∞ , small, \pm confluent; robust, bien weed with dissected lvs **Conium**
- 31b** Sts not purple-spotted; oil tubes 1–12, size various; bien or per, native or intro spp.
- 32a** Ribs of the fr (except in 1 sp.) distinctly though sometimes rather narrowly winged; pers, not weedy; lvs in most spp. less dissected and with evident lflets **Ligusticum**
- 32b** Ribs of fr not winged; intro, \pm weedy biens or rather short-lived pers; lvs, or some of them, dissected into small and narrow ultimate segms **Pimpinella**
- 33a** Lowermost lvs (in our sp.) merely once compound and with well-defined broad lflets; fls white; our sp. a rather short-lived per **Pimpinella**
- 33b** Lowermost lvs, when well developed, dissected like the others, without well-defined broad lflets
- 34a** Fls yellow; st glaucous; our sp. a robust, short-lived per, 1–2 m when well developed **Foeniculum**
- 34b** Fls white (pink); st not glaucous; our sp. bien, up to ca 1 m **Carum**
- 30b** Pls with fibrous or tuberous-thickened roots; carpophore bifid to the base with the halves sometimes adnate to the mericarps, or absent
- 35a** Ribs of fr inconspicuous; oil tubes ∞ and contiguous; halves of the carpophore adnate to the mericarps, inconspicuous; involucl well developed; roots not thickened **Berula**
- 35b** Ribs of fr gen conspicuous and corky-thickened, except sometimes in spp. of *Perideridia* which have tuberous thickened roots and have the halves of the carpophore separate from the mericarps; oil tubes, invol, and involucl various
- 36a** Calyx teeth well developed, forming a persistent conspicuous crown on the fr; carpophore absent **Oenanthe**
- 36b** Calyx teeth small and inconspicuous, or absent; carpophore bifid, sometimes deciduous or the halves adnate to the mericarps
- 37a** Invol of well-developed, subfoliaceous bracts; roots not tuberous-thickened and pls not bulbiliferous; halves of the carpophore (in our sp.) adnate to the mericarp **Sium**
- 37b** Invol of inconspicuous, often scarious bracts, or absent; gen either some of the roots tuberous-thickened or the upper lvs bearing axillary bulbils; halves of the carpophore distinct, not adnate to the mericarps, persistent or (in *Cicuta*) deciduous
- 38a** Pls with bulbils in the axils of at least the upper lvs **Cicuta**
- 38b** Pls not bulbiliferous
- 39a** Base of st thickened, hollow, and with well-developed transverse partitions; lvs with well-defined broad lflets **Cicuta**
- 39b** Base of st normal in structure, not modified as in *Cicuta*; lvs compound or dissected with mostly narrow and elongate ultimate segms **Perideridia**

KEY EMPHASIZING VEGETATIVE CHARACTERS

- 1a** Lvs all simple, entire or toothed (palmately lobed in *Hydrocotyle*)
- 2a** Infl densely capitate, without rays, fls and frs sessile; lvs often spiny-toothed **Eryngium**
- 2b** Infl umbellate, fls and frs \pm ped; lvs not spiny-toothed
- 3a** Pls of uplands, with a br caudex; lvs narrow and entire, but well developed **Bupleurum**
- 3b** Pls aquatic or semi-aquatic, fibrous-rooted, with simple umbels
- 4a** Lvs with a broad, mostly rotund-reniform, toothed and gen lobed bl well differentiated from the petiole **Hydrocotyle** (see Araliaceae, p. ###)
- 4b** Lvs reduced to long, narrow phyllodes, without a differentiated bl **Lilaeopsis**
- 1b** Lvs or most of them compound or very deeply cleft (basal lvs merely toothed in *Zizia*, but the cauline ones compound)
- 5a** Lvs or many of them with \pm well-defined lflets, not dissected into small and narrow segms
- 6a** Basal lvs merely toothed **Zizia**



- 6b Basal lvs when well developed compound or deeply cleft
- 7a Lflets 3, very large, mostly 1–4 dm long and wide
- 7b Lflets gen > 3, seldom = 1 dm wide

Heracleum

- 8a Pls ann, bien, or per from a taproot or stout caudex, or with fleshy-fibrous roots from a rhizome-caudex in 1 maritime sp. of *Conioselinum*

Group 1, lead 18a

- 8b Pls per from fibrous or fleshy-thickened, fascicled roots without a taproot or well-developed caudex, or pls per from rhizomes and not maritime

- 9a Lvs palmately very deeply cleft or palmately once compound
- 9b Lvs pinnately to ternately 1–several × compound

Sanicula

- 10a Base of st thickened, hollow, and with well-developed transverse partitions; some roots gen tuberous-thickened; primary lateral veins of lflets tending to be directed to the sinuses between the teeth

Cicuta

- 10b Base of st without transverse partitions; roots not tuberous-thickened; veins not directed to the sinuses

- 11a Lvs bipinnately or ternately compound

- 12a Lvs bipinnately compound, lflets coarsely lobed, 1.5–6 cm; often in standing water; widespread, chiefly w Cas

Oenanthe

- 12b Lower lvs biternately, upper lvs 1-ternately, compound, lflets sharply serrate, 3–8 cm; disturbed upland, lowly; uncommon intro sp.; w Cas (see lead 28a of fr key)

Aegopodium podagraria L.

- 11b Lvs once-pinnately compound

- 13a Lflets dimorphic, with submersed lflets linear and non-submersed lflets broadly lanceolate to elliptic, the latter < 5 × longer than wide, margins coarsely dentate to deeply lobed

Berula

- 13b Lflets uniform in appearance

- 14a Lflets narrowly lanceolate, >> 5 × longer than wide, margins sharply serrate; pls widespread

Sium

- 14b Lflets lanceolate to widely ovate, < 3 × longer than wide, margins crenate to serrate or irreg cut; pls only on VI and in Lane Co, OR in our area

Oxypolis

- 5b Lvs ± dissected into mostly rather small and narrow ultimate segms, without well-defined lflets

- 15a St purple-spotted; robust bien weed of moist places, 0.5–3 m, with white fls

Conium

- 15b St not purple-spotted; habit and habitat various

- 16a Pls robust, short-lived per weeds, 1–2 m when well developed, with glaucous sts, yellow fls, and finely dissected lvs, the ultimate segms distinctly < 1 mm wide

Foeniculum

- 16b Pls distinctly otherwise, differing in 1 or gen more respects from the above

- 17a Pls ann or bien, taprooted, often weedy; native and intro spp.; fls white, seldom pink or yellowish, never yellow

Group 2, lead 30a

- 17b Pls per, with or without a taproot; not weedy

Group 3, lead 36a

Group 1

- 18a Pls low, scapose or subscapose (or with a pseudoscape), up to 2 dm; inl, nonmaritime spp.

- 19a Fr dorsally compressed and with evident lateral wings; lflets evidently toothed or cleft; fls ochroleucous to yellow; WA and OR, in and w of Cas

Lomatium

- 19b Fr slightly flattened laterally, very slightly or not at all winged; lflets and fls various

- 20a Pls with a pseudoscape arising from the subterranean crown of a taproot; lflets toothed or lobed; fls white; pls of e OR

Lomatium

- 20b Pls scapose or subscapose from a slightly br caudex and taproot; lflets mostly entire; fls yellow; pls at and near Mt. Rainier, WA

Tauschia

- 18b Pls (except maritime *Glehnia*) taller and gen ± lfy-std

- 21a Pls ann or bien intro spp., often weedy

- 22a Pls ann; fls white or pink; fr prickly

Yabea

- 22b Pls bien, fls white or yellow; fr unarmed; weedy intro spp

- 23a Fls white; fr subterete, cylindrical

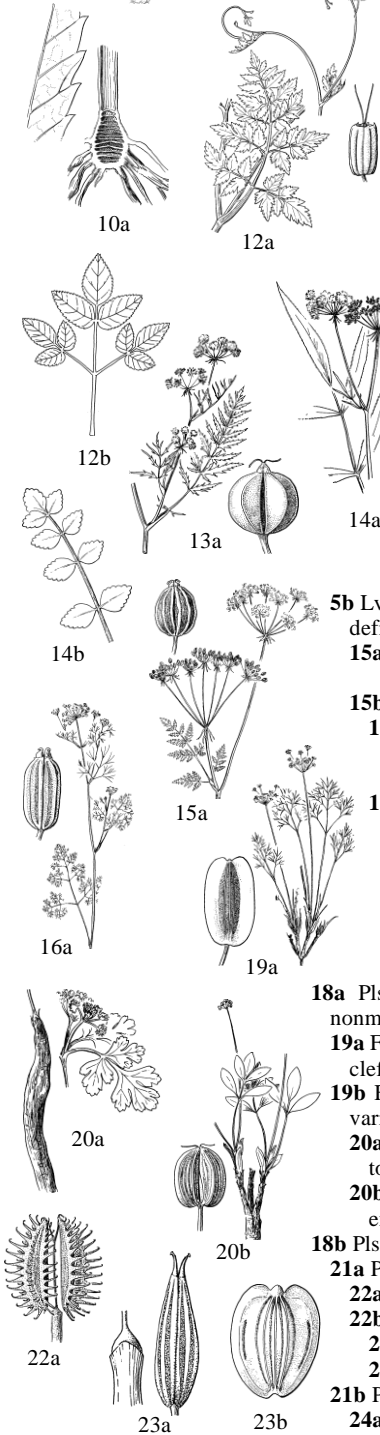
Chaerophyllum

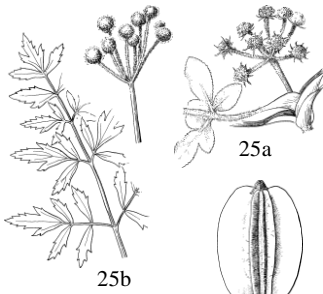
- 23b Fls yellow; fr dorsally flattened

Pastinaca

- 21b Pls per, and except for *Pimpinella*, native and not weedy

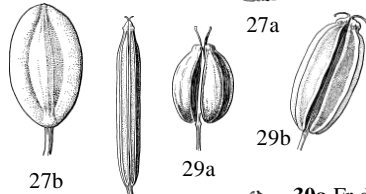
- 24a Umbellets capitate, fls and frs sessile





- 25a Pls low, subcaulescent, < 2 dm; maritime
- 25b Pls taller, mostly 5–18 dm, lfy-std; inl
- 24b Umbellets not capitate, the fls and frs ped

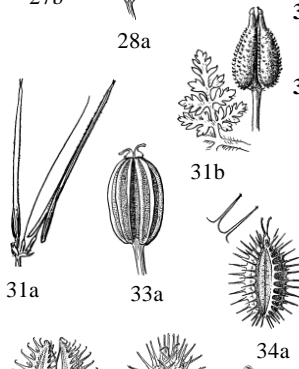
Glehnia
Angelica



- 26a Fr dorsally flattened
- 27a Stylopodium well developed; fls (except 1 sp.) white or occ pinkish (see also *Conioselinum*)
- 27b Stylopodium absent or nearly so; fls (except *L. martindalei*, which might occ be sought here) yellow
- 26b Fr subterete or laterally flattened
- 28a Fr linear or linear-oblong to clavate, not at all winged, 3–22 mm; lvs always with well-defined lflets
- 28b Fr broader and often shorter, often some of the ribs winged; lflets not always well defined
- 29a Fr 2–2.5 mm, the ribs filiform and rather obscure; uncommon in sc OR and sw MT
- 29b Fr 3–7 mm, the ribs prominent and, except in 1 sp., winged; widespread

Angelica
Lomatium
Osmorhiza
Pimpinella
Ligusticum

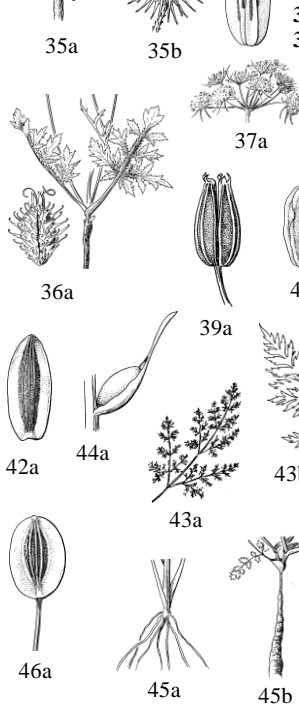
Group 2



- 30a Fr distinctly beaked
- 31a Beak much > body of fr; pls mostly 1–3 dm
- 31b Beak < body of fr; pls mostly 4–15 dm
- 30b Fr beakless
- 32a Fr unarmed, glab
- 33a Pls bien or weak per with base of st sheathed with remnant lf petioles; lvs not anise-scented when crushed
- 33b Pls ann without base of st sheathed with remnant petioles; lvs anise-scented when crushed (see fr key lead 7b)
- 32b Fr prickly
- 34a Fr dorsally somewhat compressed, provided with glochidiate or barbed prickles
- 34b Fr laterally compressed, provided with uncinat prickles
- 35a Invol bracts gen dissected, lflike
- 35b Invol bracts entire, not lflike, occ absent

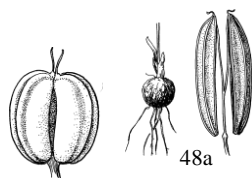
Scandix
Anthriscus
Carum
Anethum graveolens L.
Daucus
Yabea
Torilis

Group 3



- 36a Fr armed with hooked prickles
- 36b Fr unarmed
- 37a Pls maritime
- 37b Pls not maritime
- 38a Pls definitely taprooted, the taproot sometimes fleshy-thickened, but distinctly elongate; taproot often surmounted by a stout br caudex
- 39a Fr essentially wingless, slightly compressed laterally
- 40a Fr without a carpophore; pls of sc and se OR
- 40b Fr with a definite carpophore; pls of MT and ID
- 39b Fr with at least the lateral ribs produced into evident wing margins when fully mature
- 41a Body of fr subterete or slightly compressed laterally
- 41b Body of fr distinctly compressed dorsally
- 42a Dorsal ribs of fr wingless or nearly so, only the lateral ribs distinctly winged
- 42b Dorsal ribs of fr gen winged, the wings sometimes narrower than those of the lateral ribs
- 43a Lvs dissected into ∞ narrow segms; fls yellow
- 43b Lvs divided into many fewer, coarser segms; fls white
- 38b Pls with fibrous or fleshy-thickened roots; roots when fleshy-thickened either clustered or solitary, and when solitary always short, < 2.5 cm
- 44a Pls bearing bulbils in the axils of at least the upper lvs
- 44b Pls not bulbiliferous in the axils
- 45a Roots strictly fibrous, not at all fleshy; growing in water or very wet places
- 45b Roots or some of them \pm fleshy-thickened; wet or more often dry places
- 46a Fr \pm strongly flattened dorsally, the marginal ribs with thin spreading wings at maturity; fls yellow or white

Sanicula
Conioselinum
Lomatium
Musineon
Ligusticum
Cymopterus
Conioselinum
Cicuta
Berula
Lomatium



47a

48a



48b

46b Fr slightly to strongly flattened laterally, wingless or the mericarps with thickened, incurved lateral wings; fls white or pink

47a Fr linear, mostly 8–10 mm; w ID and possibly se WA (*L. tenuissimum*)

Lomatium

47b Fr oblong-elliptic to subterete; widespread

48a Fr oblong-elliptic; root solitary, cormlike, globose; pls to ca 2 dm

Lomatium

48b Fr subterete; roots elongate and thickened but not globose, solitary or often clustered; pls 2–12 dm

Perideridia