

Apiaceae Comparison Charts

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Apiaceae Comparison Chart 1 (of 6): Species with Pinnately Compound Leaves				
Species:	<i>Pastinaca sativa</i>	<i>Sium suave</i>	<i>Heracleum sphondylium</i>	<i>Pimpinella saxifraga</i>
	wild parsnip	water parsnip	common hogweed	burnet saxifrage
Plants	4–20 dm tall, biennial; glabrous to stiffly hairy	3–20 dm tall, perennial; glabrous	5–15 dm tall, perennial; stem ridged coarsely hairy	3–9 dm tall, perennial; glabrous to finely hairy
Leaves	pinnate , to 45 cm long × 15 cm wide; leaflets 5–15, oblong-lanceolate, 5–10 cm long; margins serrate to incised, terminal leaflet 3-lobed	emergent leaves pinnate , leaflets 5–17 linear-lanceolate, 3–15 cm long × 6–13 mm wide ; margins finely serrate; submersed leaves bipinnate , leaflets finely dissected; often emergent in low water levels	pinnate-pinnatifid , to 50 cm long, leaflets 3–7 , coarsely pinnatifid, oblanceolate, 5–10 cm long, margins coarsely incised and serrate, leaflets all pinnatifid, with broad, coarse lobes	mainly basal, pinnate , leaflets 9–17, ovate to obovate, 1.5–2.5 cm long and wide; apex rounded , margins serrate; cauline leaves deeply pinnate-pinnatifid , lobes narrow
Compound Umbels	flat-topped; 7–20 cm across, with 5–25 umbellets, each with ± 10–32 flowers	domed; 4–12.5 cm across, with 10–25 umbellets, each with ± 10–35 flowers	flat-topped; to 20 cm across, with 15–45 umbellets, each with ± 15–50 flowers	flat-topped, 5–8 cm across, with 7–35 umbellets, each with ± 10–30 flowers
Involucre & Involucel	usually none	involucre with 6–10 bracts; involucels bracts smaller	involucre and involucels bracts present, narrow	usually none
Flowers	petals yellow, not notched, tips strongly incurved; stylopodium greenish-yellow ; styles divergent	petals white, notched, tips incurved; stylopodium white; styles short, ascending	petals white to pink-tinged, tips incurved; stylopodium white; styles ascending	petals white, notched, tips incurved; stylopodium white, styles ascending
Fruit (schizocarp)	oval to obovate, 4–8 mm long; flat , glabrous, with 4 oil tubes ± to the base	ovoid, 2.5–3 mm long; compressed , glabrous, with 5 prominent ribs, edges winged	oval, 7–8 mm long; flat , glabrous, with 4 oil tubes > 1/2 the length of the fruit	ellipsoid-ovoid, 2–2.5 mm long; glabrous, with faint ribs

Apiaceae Comparison Chart 2 (of 6): Species with Bipinnately and Ternately Compound Leaves				
Species:	<i>Aegopodium podagraria</i>	<i>Ligusticum scoticum</i>	<i>Osmorhiza berteroi</i>	<i>Osmorhiza depauperata</i>
	goutweed	beach lovage	mountain sweet cicely	blunt sweet cicely
Plants	4–9 dm tall, perennial; glabrous, stems green	3–6 dm tall, perennial; glabrous, stems reddish-purple , at least basally	4–10 dm tall, perennial; stems green, with stiff hairs (hirsute) ; leaves pubescent	1.5–7 dm tall, perennial; stems green, finely pubescent ; leaves pubescent
Leaves	bipinnate and ternate , each of the 3 sections with 3–5 oblong to ovate leaflets (4–9 on lower leaves), 3–8 cm long; sheaths slightly inflated	bipinnate and ternate , 5–20 cm long; leaflets ovate, fleshy, often shiny , 2.5–5 cm long; leaf sheaths close to the stem, slightly inflated	bipinnate and ternate , each of the 3 sections with 3 ovate, serrate leaflets, each 2–9 cm long × 1–5.5 cm wide; sheaths close to the stem	bipinnate and ternate , each of the 3 sections with 3 lanceolate to ovate, serrate leaflets, each 1.5–6 cm long × 1–4 cm wide; sheaths close to the stem
Compound Umbels	flat-topped, 6–12 cm wide ; umbellets 10–25, with about 20–30 flowers	flat-topped; 4–6 cm across, umbellets 8–20 ; with about 15–30 flowers	few-rayed, with ascending to spreading rays, umbellets 3–7, each with 2–3 flowers	few-rayed, with divergent rays ; umbellets 3–5 each with 2–3 flowers
Involucre/ Involucel	involucre and involucels lacking	Involucre 0–few bracts; involucel 1–few bractlets	involucre and involucels lacking	involucre and involucels lacking
Flowers	petals usually white , notched, tip incurved; stylopodium conical, prominent, white; styles reflexed , 1.5 mm long	petals white to pinkish , tips incurved; stylopodium conical, white, styles ascending, shorter than the stylopodium	petals greenish-white , tips incurved; stylopodium longer than wide, 2 mm long , pale green; styles ±1 mm long	petals greenish-white , tips incurved; stylopodium wider than long, 0.8–1.2 mm long , pale green; styles <0.5 mm long
Fruit (schizocarp)	ellipsoid , wider than thick, 3–4 mm long , glabrous, ribs inconspicuous	ellipsoid , wider than thick, 8–10 mm long, light to medium brown, glabrous, ribs prominent	narrow oblanceolate, 11–18 mm long, beak conical ; blackish, with appressed bristles	narrow oblanceolate, 8–12 mm long , blunt at the apex, blackish, with stiff, appressed bristles

Apiaceae Comparison Chart 3 (of 6): <i>Angelica</i> and <i>Ligusticum</i>				
Species:	<i>Angelica atropurpurea</i>	<i>Angelica sylvestris</i>	<i>Angelica lucida</i>	<i>Ligusticum scoticum</i>
	purplestem angelica	woodland angelica	seabeach angelica	beach lovage
Stem	1–3 m tall, perennial, stout stems purple, or green tinged with purple , glabrous below the umbels	1.5–2 m tall, perennial; stems usually purple , glabrous below the umbels	0.3–1.5 m tall, coastal perennial, stems green or greenish-purple , glabrous below the umbels	3–6 dm tall, perennial; stems reddish-purple , at least basally; glabrous throughout
Leaves	2× to 3× ternately divided ; lower leaves 1.5–6 dm long; leaflets lanceolate to ovate, 4–15 cm long; margins sharply serrate	bipinnate to tripinnate , lower leaves to 6 dm long; leaflets lanceolate to ovate, 2–8 cm long, sharply serrate, lower surface pubescent	2× to 3× ternately divided , 1–3 dm long; leaflets ovate to obovate, 3–8 cm long, irregularly serrate	bipinnate and ternate , 0.5–2 dm long; leaflets ovate, fleshy, often shiny, 2.5–5 cm long
Petiolar Sheaths	blade-bearing sheaths highly inflated , 2–5 cm wide	blade-bearing sheaths inflated, longer than wide	blade-bearing sheath broad, inflated, the summit with rounded lobes	blade-bearing sheaths close to the stem, only slightly inflated
Compound Umbels	spherical or nearly so, 1–3 dm across ; rays finely pubescent, umbellets 20–46	domed to hemispherical , 0.6–2 dm across; peduncle and rays finely pubescent, umbellets 20–50	domed , to 1.5 dm across, dense; peduncle and rays finely pubescent to ± scabrous , umbellets 20–50	flat-topped ; 4–6 cm across, peduncles and rays glabrous; umbellets 8–20
Involucre/ Involucels	involucre absent; involucre bractlets narrow, lanceolate, shorter than the pedicels	involucre bracts 0 or 1–3, deciduous; involucels bractlets numerous, linear, about equal to the pedicels	involucre bracts 0 or few, deciduous; involucre bractlets numerous, linear, longer than the pedicels	involucre with 0 or few bracts, involucels bractlets 1 to few, usually shorter than the pedicels

Flowers	petals greenish-yellow, tips incurved; stylopodium green; styles spreading to divergent in fruit	petals white, pinkish, or lavender, tips incurved; stylopodium white to pink; styles recurved in fruit	petals greenish-white to purplish, tips incurved; stylopodium greenish-yellow; styles recurved in fruit	petals white to pinkish, tips incurved; stylopodium whitish, styles short, ascending in fruit
Fruit (Schizocarp)	oblong, wider than thick, 5–10.5 mm long; mericarps 3-ribbed, 2-winged on the edges	oblong, wider than thick, 4–6 mm long; mericarps 3-ribbed, 2-winged on the edges	ellipsoid, somewhat wider than thick, 4–7 mm long; mericarps with 3 thick ribs, wings absent	ellipsoid, about as wide as thick, 8–10 mm long, mericarps with 5 equally prominent ribs

Apiaceae Comparison Chart 4 (of 6): <i>Heracleum</i>			
Species:	<i>Heracleum maximum</i>	<i>Heracleum mantegazzianum</i>	<i>Heracleum sphondylium</i>
	cow parsnip	giant hogweed	common hogweed
Stem	Warning: Sap from <i>Heracleum</i> plants will produce a severe rash on unprotected moist skin when exposed to sunlight; gloves and protective clothing should be used when handling these plants.		
	perennial; 1–3 m tall, vertically ridged, green to purplish, but never blotchy; stems covered with soft, woolly hairs	biennial or short-lived, monocarpic perennial; 1–4+ m tall, not vertically ridged, raised purple blotches and a stiff bristle emerging from the centre of each blotch	perennial; 5–15 dm tall, vertically ridged, green , stems covered with stiff, bristly hairs
Leaves	ternate , 2–5 dm long and wide, each of the 3 leaflets, 1–3 dm long, is palmately divided into 3–5 lobes, margins coarsely-serrate; petiolar sheaths enlarged	ternate, 10-25 dm long × 17 dm wide , each of the 3 coarsely incised leaflets, 1–5 dm long, with 3–5 broadly pinnatifid lobes, margins sharply serrate; petiolar sheaths enlarged	pinnate-pinnatifid , to 5 dm long; each of the 3–7 leaflets is 0.5–1 dm long, with 3–9 deeply pinnatifid lobes , margins coarsely serrate; petiolar sheaths enlarged
Compound Umbels	domed to flat-topped, 1–2+ dm across, with 15–30 umbellets ; 1–10 lateral umbels may occur	domed, 2–8 dm across, with 50–150 umbellets ; 4–12 lateral umbels often produced below the main compound umbel	slightly domed or flat-topped, to 3 dm across; with 15–30 umbellets
Involucre/ Involucels	involucre bracts few, deciduous; involucel bractlets several, narrow	involucre bracts few, deciduous; involucels bractlets 10–18, narrow	involucre absent; involucel bractlets several, narrow
Flowers	petals white (to pinkish in <i>H. sphondylium</i>), deeply notched, tips incurved; outer petals of marginal flowers enlarged ; stylopodia white; styles ascending to divergent in fruit		
Fruit (schizocarp)	obcordate, 7–12 mm long , flat, glabrous; outer surface with 4 brown teardrop-shaped oil ducts (vittae) in the upper 1/2 of each mericarp	elliptic, 6–18 mm long , flat, pubescent when immature; obtuse to rounded at the apex ; outer surface with 4 brown teardrop-shaped oil ducts (vittae) in the upper 3/4 of each mericarp	oval to nearly circular, 7–8 mm long , flat, glabrous; outer surface with 4 brown teardrop-shaped oil ducts (vittae) in upper 1/2 of each mericarp

Apiaceae Comparison Chart 5 (of 6): Species with Bipinnate to Tripinnate Leaves & Narrow Leaflets			
Species:	<i>Carum carvi</i>	<i>Cicuta bulbifera</i>	<i>Daucus carota</i>
	wild caraway	bulblet water-hemlock	Queen Anne's lace
Plant	2–7.5 dm tall, glabrous; an aromatic biennial or monocarpic perennial, leaves and fruits have the taste and aroma of caraway	1.5–10 dm tall; glabrous , perennial; 1–several ovoid bulblets, 1–3 mm long, usually in upper leaf axils; Warning: extremely poisonous	3–16 dm tall, biennial or short-lived perennial; stems solid, stiffly or bristly pubescent
Leaves	bipinnate to tripinnate , about 20 cm long; leaflets finely pinnatifid; lobes filiform to linear or oblanceolate, 3–5 mm long × 1–2 mm wide , sheaths slightly inflated	bipinnate to tripinnate , to 30 cm long; lower leaves often ternate; leaflets linear , 1–8 cm long × less than 5 mm wide, margins entire or sparsely serrate; sheaths slightly inflated	bipinnate to tripinnate , 5–40 cm long, fern-like; leaflets pinnatifid, with 3–7 linear to lanceolate lobes 2–15 mm long × less than 4 mm wide; sheaths barely inflated
Compound Umbels	flat-topped, about 2.5–6 cm across; umbellets 3–15; each with up to 20 flowers	domed to flat-topped, 2–10 cm across; umbellets 5–15, each with about 15–30 flowers	flat-topped to concave in fruit , 4–10 cm across; umbellets 50+; central flower reddish-purple, sterile
Involucre/ Involucel	involucre of 0–4 linear bracts; involucel bractlets lacking	involucre lacking; involucels of several narrow elliptic bractlets	involucre bracts pinnately divided with 5–7 linear segments; involucel bractlets narrow, simple
Flowers	petals white to pinkish, notched, apices strongly incurved; stylopodium yellowish-green; styles divergent in fruit	petals white, apices incurved; stylopodium pale green; styles spreading in fruit	petals white, deeply notched, apices incurved; outer petals of peripheral flowers enlarged; stylopodium white; styles spreading in fruit
Fruit (schizocarp)	elliptic, 3–5 mm long, wider than thick; mericarps with 3 prominent ribs	broadly ovoid, 1.5–2 mm long , wider than thick, flat at the summit; ribs inconspicuous; rarely maturing	ellipsoid , 3–4 mm long, wider than thick; with barbed bristles along each rib

Apiaceae Comparison Chart 6 (of 6): Species with Tripinnate Fern-like Leaves			
Species:	<i>Conioselinum chinense</i>	<i>Anthriscus sylvestris</i>	<i>Myrrhis odorata</i>
	hemlock parsley	wild chervil	garden myrrh
Plant	usually 1–7.5 dm tall, to 10 dm tall in forested habitat, perennial; glabrous	0.3–1.5 m tall, biennial or short-lived monocarpic perennial; stems and leaves finely hairy	0.7–2 m tall, perennial, soft-hairy, fragrant, with a strong scent of licorice or anise
Leaves	2×–3× pinnate to ternate , fern-like, blade 15–20 cm long × 10–15 cm wide; leaflets 1–5 cm long, ovate, pinnate-pinnatifid	2×–3× pinnate , ovate to triangular, fern-like, blade 10–30 cm long ; pinnate segments 4–12 cm long, with ovate, pinnatifid leaflets; lower surface sparsely hairy	2×–4× pinnate , triangular, fern-like, blade 30–50 cm long ; pinnate segments with pinnatifid leaflets, lower surface finely hairy
Compound Umbels	domed to flat-topped, 2–5 cm across, with 10–13 umbellets	domed to flat, 2–6 cm across, with 6–15 umbellets	domed to flat-topped, to 5 cm across, with 5–20 umbellets
Involucre/ Involucel	involucre usually of 1–2 linear to narrow-elliptic bracts, 1–1.5 cm long; involucels of 5–8 linear bractlets, 5–10 mm long	involucre lacking; involucels with 4–8 ovate bractlets, 3–5 mm long, green to pinkish, with hairy margins	involucre lacking, involucels with 5–7 lanceolate bractlets, light green, with hairy margins
Flowers	petals white, tips curved inward, stylopodium pale greenish - yellow; styles spreading in fruit	petals white, shallowly notched, tips slightly incurved; stylopodium white ; styles spreading in fruit	petals white , notched, tips incurved; stylopodium greenish - yellow; styles ascending to spreading in fruit
Fruit (schizocarp)	elliptic, 4.5–6 mm long × 4 mm wide, wider than thick; mericarps with 3 prominent ribs and 2 short, lateral wings	narrowly lanceoloid; 5–10 mm long × 1–1.6 mm wide, dark brown to black at maturity, smooth and glossy, with a beak ±1 mm long	cylindrical to fusiform, 5-angled, 15–25 mm long × 3–4 mm wide , finely hairy when immature, shiny dark brown to black when ripe