

# Know your umbellifers! – THIS COULD ‘SAVE YOUR SKIN’ AND EVEN YOUR LIFE!

Since compiling the wildflower challenge, I’ve been asked what the difference is between **cow parsley** and **hemlock/poison hemlock**, as the plants look similar. However, one can be picked safely, some parts foraged and eaten without a problem and the other causes awful skin damage and blistering, if handled, and is very poisonous if ingested. (You may remember from history that the Greek philosopher, Socrates (in 399 BC), was executed by consuming a hemlock derived drink. Hemlock was used in ancient Greece to poison condemned prisoners.





In addition, there are other ‘look-alikes’, of which some are ‘sweet and innocent’ but the most super-sized and highly toxic one of them all is **giant hogweed**. It is currently in the news, as with the recent warm weather it is growing fast and flowering early and, as it tends to grow where people are now enjoying more outside freedom after lock down children, in particular, are being attracted to its unique appearance and suffering horrifying, life-changing consequences by **just touching it** (see photographs right). (More on how to spot giant hogweed and other ‘look-a-likes’ later, after comparing our first two.)

Here’s a bit of **botany** (info about plants) from which you will see that cow parsley and poison hemlock are ‘related’, have many similar characteristics and it’s not surprising they are often confused!

An **umbel** is an ‘inflorescence’ – now don’t be put off! (**Inflorescence** just means a group/cluster of flowers on a main stem or a branched stem.) So, an umbel has a number of flowers on short flower stalks (**pedicels**) which spread from a common point, like the ‘ribs’ of an umbrella. (The word umbel was introduced to botany in 1590, from the Latin *umbella* meaning ‘parasol or sunshade’.) The arrangement of the short stalks can vary from producing a flat-topped umbel to almost spherical.



You may have seen umbels of different shapes in all sorts of places.







Parsley ( <i>Apiaceae</i> family)	Ivy ( <i>Araliaceae</i> family)	Onion (allium) ( <i>Alliaceae</i> family)	Cowslip ( <i>Primulaceae</i> family)
			





Both cow parsley and hemlock belong to the plant family *Apiaceae* or ***Umbelliferae*** – plants with mainly umbrella-shaped umbels are also known as **umbellifers**. Economically important cultivated family members include **parsley, carrot, celery, fennel, parsnip and angelica**. Cow parsley is a member not normally cultivated and it is not poisonous. However, the family also includes some phototoxic species (that sensitise human skin to sunlight), such as **giant hogweed** (see later) which has a giant umbrella-like umbel and some highly poisonous species, such as, **poison hemlock**, water hemlock, water dropwort and spotted cowbane.



Back to distinguishing our first **two** umbellifers: **cow parsley** and **hemlock/poison hemlock**. This is best done by comparing their features in a table.

Feature	Cow parsley ( <i>Anthriscus sylvestris</i> )	Hemlock ( <i>Conium maculatum</i> )
Other names	Wild chervil/ <a href="#">Queen Anne's Lace</a>	<b>Poison hemlock</b> /spotted hemlock/poison parsley
Where does it grow?	Originally native to Europe and southwest Asia and naturalised to North America and Australia.	Originally native to Europe and North Africa but found in all other continents, now, except Antarctica.
Habitat	Roadside verges, wood edges, riverbanks, wild meadows and beside paths.	Roadside verges, damp places - such as riverbanks, ditches, waste ground and beside paths.
When does it flower?	March–June (perennial – flowers every year)	June–July (perennial)
Height	2-5 ft (0.5–1.5 m)	5-10 ft (2-3 m) or more, so twice as big, when fully grown!
Toxicity/ poisonous?	<p>Not poisonous.</p> 	<p><b>Poisonous</b> to all mammals and many other animals that eat it. All parts: flowers, leaves, stems, roots and seeds. Experts wear protective clothing when working to remove. Don't compost! Livestock poisoning occurs if in their hay.</p>  <p>A 'stand' of hemlock, much taller than the cow parsley in Flaxton's Back Lane (opposite)!</p>



Feature	Cow parsley ( <i>Anthriscus sylvestris</i> )	Hemlock ( <i>Conium maculatum</i> )
Effects on humans	 <p>Not poisonous – some plant parts are used by foragers.</p> <p>Young basal leaves taste like parsley.</p> <p>Young stems (April) are steamed, stir-fried and used in salads.</p>	 <p>Touching it causes a severe rash, like a burn.</p> <p><b>Poisoning</b> occurs after ingesting any part of the plant as all contain <b>toxic</b> alkaloids (including coniine and gamma-coniceine). These affect the nervous system causing muscular paralysis and even small internal doses cause respiratory failure and eventually death. To date there is no antedote.</p>
Stems	 <ul style="list-style-type: none"> <li>• Cross section of stem - a bit like a <b>D on its side</b>/stem has a groove a bit like celery.</li> <li>• <b>Hairy</b> (very fine and short, may be hard to see but give a rough feel). <i>A useful tip is to remember 'the Queen has hairy legs'!</i></li> <li>• Highly branched</li> <li>• Greenish purple, sometimes just purple but NEVER blotchy.</li> <li>• Hollow</li> </ul>	 <ul style="list-style-type: none"> <li>• Cross-section of stem – <b>round</b></li> <li>• <b>Hairless</b> – posh word for this is 'glabrous'! (This adjective is used to describe hairless skin, too, so remember it almost sounds more 'glamorous'!)</li> <li>• Highly branched</li> <li>• Purple-red blotches and streaks, especially near the base; these can be few, especially when a young plant.</li> <li>• Hollow</li> </ul>

Feature	Cow parsley ( <i>Anthriscus sylvestris</i> )	Hemlock ( <i>Conium maculatum</i> )
<p><b>Flowers</b></p>	 <ul style="list-style-type: none"> <li>• Flower heads – umbel-shaped – 2-6cm across.</li> <li>• White tiny flowers have 5 petals</li> </ul>	 <ul style="list-style-type: none"> <li>• Flower heads – umbel-shaped – 2-5cm across.</li> <li>• White tiny flowers have 5 petals</li> </ul>
<p><b>Leaves</b></p>	 <ul style="list-style-type: none"> <li>• Hairy – matt finish</li> <li>• Finely divided (feathery – <b>pinnated</b> – see leaf notes in the box below). Slightly lighter green</li> <li>• Triangular shape</li> <li>• Smell of parsley/carrot-like, if crushed</li> </ul>	 <ul style="list-style-type: none"> <li>• Hairless, so smooth – slightly glossy</li> <li>• Finely divided – more than cow parsley</li> <li>• (feathery – <b>pinnated</b> – see leaf notes in the box below).</li> <li>• Triangular shape</li> <li>• Smell - unpleasant musty smell when brushed against (acid/ammoniacal). (Described as like mouse pee – but this is not a smell many are familiar with these days!)</li> </ul>

Feature	Cow parsley ( <i>Anthriscus sylvestris</i> )	Hemlock ( <i>Conium maculatum</i> )
Seeds	 <ul style="list-style-type: none"> <li>• Fruit – brown case</li> <li>• Seeds – brown/grey, 6-10mm long, thin, flattened, smooth</li> </ul>	 <ul style="list-style-type: none"> <li>• Small green/brown fruits with wavy ribs, containing highly poisonous seeds (2-3.5 mm) that resemble seeds of anise, fennel or caraway seeds</li> <li>• Seeds are viable for years. Seeds recovered from excavations, dating back 50 years have germinated</li> </ul>

The **similarities** are:

- flower inflorescences - umbellifers, white, tiny 5 petalled flowers
- leaves – colour green, similar shaping – triangular, size - much 'feathering'.

The main **differences** are:

- Overall - cow parsley is the **hairy** one, hemlock isn't!
- Stem structure – cow parsley has a groove like celery, hemlock is round
- Stem appearance – hemlock has purple spots and blotches, cow parsley doesn't
- Leaf appearance – hemlock is more matt than cow parsley
- Leaf smell – hemlock is the smelly one and cow parsley smells like parsley!
- Seed shape – hemlock's seeds are round and cow parsley's long and thin.

Notes on **leaf structure** (a bit more botany):

In botany, 'pinnation' of a leaf is an arrangement of leaflets around the axis (central line of the leaf, known as the **rachis**). Plants with **pinnate** leaves are sometimes just called 'feather-leaved'. There are many terms to describe different pinnations, e.g. depending on the depth of the leaf division, the number of divisions and whether they are symmetrically opposite or alternating along a rachis. If a leaf has lots of leaflets (it's a **compound** leaf) and if the leaflets have leaflets it is known as **bipinnate**! Both cow parsley and hemlock are bipinnate.

Having got to grips with some botany and compared two family members, let's look at some other umbellifers. The 'little and large' of Flaxton are **pignut** and **hogweed/common hogweed** but it's definitely worth knowing how to distinguish hogweed/common hogweed from **giant hogweed**, as this really could save a lot of your skin and your eyesight!



## More umbellifers: the ‘Little and Large’ - Pignut and Hogweed and the ‘Giant’ - Giant Hogweed

**Pignut** is one of the smallest umbellifers and grows in Flaxton – seen here on the Kell (right). It’s very safe, delicate (compared with others) and innocent.



**Hogweed** is attractive to look at but has its dangers and grows in Flaxton (as seen left, in the Back Lane).



What is 14 feet tall, green, hairy and covered in toxic sap? Not something out of ‘The Day of the Triffids’ (novel 1951/film 1962/TV series – many) but ‘just’ **GIANT HOGWEED!**







**Giant hogweed** is the biggest umbellifer, as its name suggests, and looks very impressive (photo above right)! However, when fully grown it’s invasive and potentially very harmful. Fortunately, **it has not been seen in Flaxton!**

The giant hogweeds were introduced to Britain and Europe from the Caucasus Mountains (Eurasia) in the late 19<sup>th</sup> century. Being very aesthetically impressive they were eventually widely planted throughout Britain in ornamental gardens. Sadly, seeds were dispersed, as each plant can produce 20,000 seeds that can fall 30 feet from the plant and even further if dispersed on wind or water. So, it’s not surprising that giant hogweeds are now widely naturalised as invasive species throughout Britain and Europe. **It’s very unfortunate that many people are unaware of the toxic effects just touching it can have before the damage is done by the sun.**

Here is some information about these three umbellifers, how to identify them and some words of caution with regards to two of them:





Feature	Pignut ( <i>Conopodium majus</i> )	Hogweed ( <i>Heracleum sphondylium</i> )	Giant Hogweed ( <i>Heracleum mantegazzium</i> )
Other names	Earth chestnut/hognut From its popularity with pigs come the names pignut, hognut and indirectly – St Anthony’s nut (who was the patron saint of swineherds)!	Common hogweed Cow parsnip The species name <i>sphondylium</i> , meaning ‘vertebrate’, refers to the shape of the segmented stem. Characteristic ‘farmyard’, pig-like smell gives it its name – also pigs/hogs like to eat the leaves and roots!	hogsbane
Plant family	<i>Apiaceae</i>	<i>Apiaceae</i>	<i>Apiaceae</i> (formally <i>Umbelliferae</i> )








Feature	Pignut ( <i>Conopodium majus</i> )	Hogweed ( <i>Heracleum sphondylium</i> )	Giant Hogweed ( <i>Heracleum mantegazzium</i> )
Where does it grow?	Common in Europe and North Africa	Europe and Asia	Britain and Europe and other continents.
Habitat	Open woodland, hedgerows, grassland and meadows. On Flaxton Kell in this photo. 	Grassland, meadows, hedges, road verges, railway embankments, waste land, rough fields and unkempt gardens. Here in Flaxton's Back Lane (east). 	Woodland, heathland, common land, waste ground, riverbanks, even gardens intentionally and not intentionally! 
When does it flower?	May-June	June-September (biennial or perennial)	June-July (flowers biennially – every second year)
Height	As for long grass – but up to 40cm.	1.5-2m (4.5 – 6ft)	1.5–5m (5-16 ft) - full height after 4-5 years
	  Pignut growing on the Kell (just grass height).	  Hogweed not even hedge height, in the Back Lane.	  Giant hogweed (double hedge height and in a public area) cordoned off for safety reasons.
Parts that are dangerous	None	Plant contains some of the <b>phytophototoxic</b> substances found in giant hogweed but at a lower concentration. Note - the 'phyto' bit just means - relating to plants and 'photo' - to light.	All parts: roots, stems, leaves, flowers and seeds. The chemicals which do the damage are called furanocoumarins.








Feature	Pignut ( <i>Conopodium majus</i> )	Hogweed ( <i>Heracleum sphondylium</i> )	Giant Hogweed ( <i>Heracleum mantegazzium</i> )
Effects on humans	 <p>None. Roots are edible; taste a bit like hazelnuts. Digging for the 'nuts' was once a popular pastime among children.</p> <p>If foraging – you must do this on private land with the landowner's permission.</p>	<p>People experience <b>phytophotodermatitis</b>, (skin sensitivity after getting the sap on their skin and then it being exposed to sunlight). This combination results in rashes/blisters - as for giant hogweed, so care needs to be taken when cutting or trimming to prevent 'strimmer's rash'. The photo below is of a forager's hand with blisters developed after harvesting some. The sap can persist on the skin – so washing it off before exposure to bright sunlight reduces the threat of blistering.</p>  <p><b>Uses:</b> The young stems are considered excellent eating by foragers – recommended don't eat raw.</p>  <p><i>Borscht</i> derives from an ancient soup originally cooked from pickled stems, leaves and umbels of common hogweed. In Eastern European countries, especially in Romania, Common Hogweed is used as an aphrodisiac and to treat gynaecological and fertility problems and also impotence! It is sometimes recommended for epilepsy. (Note no clinical evidence to substantiate any of these uses.)</p>	<p>Sap is <b>phototoxic</b>, causes photodermatitis or photosensitivity – the furocoumarins damage your DNA and change the skin's ability to defend itself from UV light; skin becomes sensitive to sunlight causing very severe skin blisters (that can be the size of ping pong balls – see photo)) and burns.</p>  <p>The burns can take months to heal and can result in long-lasting scars.</p>  <p>Blindness can result if the sap comes into contact with your eyes and if you breathe in sap particles from the air, it can damage your lungs.</p> <p><b>Advice:</b> Don't touch the plant at all! If you get sap on your skin, wash it with soapy water immediately, seek medical advice and avoid exposing the area to the sunlight for a long time. (It can take up to 7 years for the skin to repair after a hogweed burn.) Don't touch your eyes if you get sap on your hands.</p>






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<b>Control</b>	None needed	Best left alone in the wild but if trying to remove from your garden wear protective gloves and cover skin (don't wear shorts)! Best to remove before it goes to seed.	<p>Listed in Schedule 9 of the Wildlife and Countryside Act (England and Wales) – it is an offence to plant or cause to grow these species in the wild.</p> <p>There is no statutory obligation for landowners to eliminate it, but local authorities may take action to remove infestations in public areas. (Get in the professionals with complete protective clothing and face masks. Anything contaminated is potentially hazardous!)</p> 
<b>Roots</b>	<p>Fine roots, about 15-20cm long which have dark brown tubers. Tubers resemble a chestnut in appearance. These are edible; taste a bit like hazelnuts. Popular with foragers. Best harvested when shoots are young and before flowering.</p> 	<p>Sometimes thick and a bit parsnip-like, often with thin branching. Bit too woody to be eaten!</p> 	<p>Large roots which, as it's related to the carrot, resemble it a bit. This photo shows a young root.</p> 

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Stems			
	<p>Delicate, green and thin with no significant hair</p>	<ul style="list-style-type: none"><li>• Hollow</li><li>• Ridged</li><li>• Bristly short hairs</li><li>• Starts purple (not blotchy) becomes green</li><li>• The strong hollow stems were popular with children as 'pea-shooters', however, with the potential of causing severe blisters on the face this practise is definitely to be avoided and children should be educated about the potential dangers.</li></ul>  <p>Cross section of trimmed common hogweed in Flaxton's Back Lane.</p>	<ul style="list-style-type: none"><li>• Hollow</li><li>• Ridged</li><li>• Thick bristly stems/green with purple spots/blotches.</li><li>• If the wide hollow stems of giant hogweed were used as pea shooters the consequences would be horrendous.</li><li>• Stiff white hairs – a thick circle of hairs at base of each leaf stalk.</li></ul> 



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Flowers	 <p>Tiny, white flowers on open umbel – (umbrella-like clusters) Only 1-2 cm across</p>	 <ul style="list-style-type: none"> <li>• 5 petalled pinkish or white flowers</li> <li>• Umbel up to 30cm (1ft) across – with 15-30 rays off the main stem.</li> <li>• Umbels flat-topped, with petals on the outermost flowers of the little umbels slightly larger than rest.</li> <li>• Can be perennial or biennial, so may not have flowers some years.</li> </ul>	 <ul style="list-style-type: none"> <li>• 5 petalled white flat-topped umbels – all little flowers on them face upwards.</li> <li>• Flower heads can be 60 cm (2ft) across</li> <li>• Flowers appear in the second year.</li> <li>• (It is a <b>biennial</b> – so be aware of the dangerous leaves, without flowers, in the first year.)</li> </ul>
Leaves	  <p>Initially look like carrot leaves, then, as the stem grows, they appear spaced out small and feathery (pinnate) up the stem.</p>	 <ul style="list-style-type: none"> <li>• Serrated; divided into 3-5 lobed segments</li> <li>• Can measure 50cm (20 in) long.</li> <li>• Once or twice pinnate</li> <li>• Hairy</li> </ul>	 <ul style="list-style-type: none"> <li>• Jagged lobed - looks a bit like a rhubarb leaf with irregular sharp jagged edges</li> <li>• Can measure 1-1.5m (Over 3–5ft) wide and 3m long</li> <li>• Deeply divided into smaller leaflets.</li> <li>• Underside of leaf is hairy.</li> </ul>

Feature	Pignut ( <i>Conopodium majus</i> )	Hogweed ( <i>Heracleum sphondylium</i> )	Giant Hogweed ( <i>Heracleum mantegazzium</i> )
Seeds	 <p>Small (3-4.5 mm long) green oval seeds with a red flush form where the flowers were.</p>	 <p>Small fruits are flattened and winged (for wind dispersal) Elliptical and glabrous 1cm long Seeds can be dried and used as a spice – flavour similar to pungent bitter cardamon/orange peel. (When ground they can apparently help flavour a good parkin!)</p>	 <p>The fruits produce seeds in flattened oval pairs. Seed 1cm long, tan with brown lines over part of their length.</p> <p>Giant hemlock is growing in many more places this year – it is thought that is because its many seeds have been dispersed further afield due to all the flooding that happened in the winter.</p>

With both common hogweed and giant hogweed having their issues regarding the skin's sensitivity to their sap, especially once exposed to UV rays in sunlight, both are best left alone. (If you do strim where hogweed is growing, do get covered up - including wearing gloves and eye/face protection.)

There is really no mistaking **giant hogweed** when you spot it but the key identifying characteristics are: size, red/purple blotches on stems and white hairs round the stems at the base of the leaf stalks. It's being aware of the problems touching it causes, and the consequences this can have, that is the issue and it's important to make others you are with, especially **younger family members**, aware of the danger. So, now that folk are venturing further afield to meet up and enjoy outdoor recreation in parks and the countryside, 'exercise' due diligence!

So 'little' pignut is safe and innocent, 'large' hogweed gets a 'pretty' but 'take care', whilst 'giant' giant hogweed, which is said to resemble 'cow parsley on steroids', is highly dangerous! Recent headlines state it is: **'Britain's most dangerous plant'** and it is getting more prolific. <https://www.bbc.co.uk/news/uk-england-manchester-33509053>

I hope that you will find knowing more about some of the umbellifers useful and **take great care if you spot anything that looks like (poison) hemlock or giant hogweed. Look, but please don't touch! In fact – 'BE ALERT and MAINTAIN SOCIAL DISTANCING from'** - can apply to some umbellifers, too! (Handwashing, if you do touch the harmful ones, also applies!)

Gill Ramsden (Wroe)

Notes: All the information in this article was obtained from the internet and, as far as I am aware, is correct. Many of the photographs for cow parsley, pignut and (common) hogweed were taken by me, as these three are flowering in Flaxton (May,2020).

The photographs of hemlock/poison hemlock and giant hogweed were obtained from the net and are used for your information and without any financial benefit, so not in breach of copyright.

Disclaimer: please take great care if you forage and be sure to get the landowner's permission. You should not pick wildflowers in Flaxton (see website for details).

