

BEGINNER'S CORNER

Getting to know the common thistles

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The thistles are a group that seem to demand our attention. Often tall and stately, they flower for extended periods over summer and attract a great diversity of insects to their flowers, including some of our most attractive butterflies. They also impose themselves on us with their needle-like spines, which most certainly demand attention! Quite a range of plants find themselves with 'thistle' in their name – globe-thistles, sow-thistles, star-thistles – most of which are not particularly closely related to the true thistles, but which are spiny, nevertheless.

This article looks at the commoner species of true thistle, in the genera *Cirsium* and *Carduus*, which gives us a manageable eight species to consider. These are typically upright plants with a basal rosette of spiny leaves giving rise to densely spiny (and often downy/woolly) stems and rich, reddish-purple flowers carried in a cluster at the tips of the main stem or its side branches. Apart from Creeping Thistle and Stemless Thistle, which are perennials, all are usually biennial, with the basal leaves produced in the first year and the flowering stems in the second. Most thistles can grow to 1–2 metres in height with the exception of Stemless Thistle, which actually has very short stems, barely as long as its flowerheads. The flowers are followed

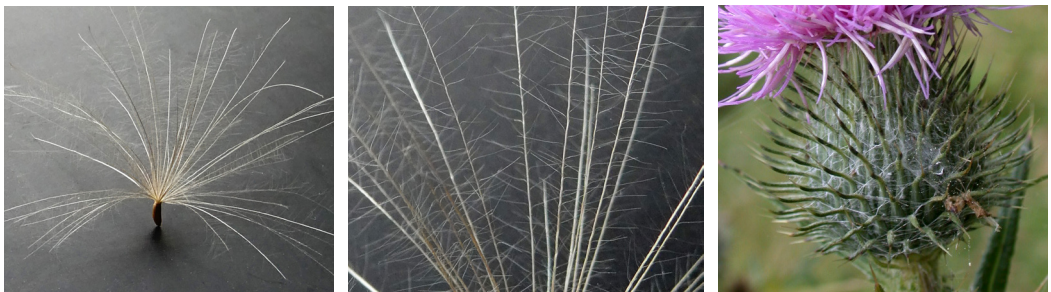
by seeds that have a feathery 'parachute' for wind dispersal called a pappus and which drift across the landscape in late summer.

Cirsium or *Carduus*?

The first port of call in the process of identifying a thistle is narrowing down the choice of which genus it is in. Two features can be used to determine this; in plants already bearing seeds, a close look at the pappus with a hand lens will reveal whether the silky hairs are simple or whether they are feathered, i.e. they have side branches along their length. Simple hairs indicate a *Carduus* species, while feathered hairs indicate a *Cirsium*. The second feature is more variable and thus less useful, but involves the phyllaries – the greenish or brownish bracts that surround the outside of the flowerhead in the thistle family. As a general rule of thumb, phyllaries that are pressed tightly against the flowerhead indicates *Cirsium*, but spiny, outward-spreading phyllaries could indicate either genus.

The character suite

While some characters will be found in more than one species, a suite of characters can be unique to a species and this helps us to identify thistles. For each



Left to right: a typical thistle pappus; the feathered pappus of Creeping Thistle (*Cirsium arvense*); the spiny phyllaries of Spear Thistle (*C. vulgare*). Photographs by the author.

species, it pays to look at details of the leaves, stem, and the phyllaries of the flowerheads, with the latter especially giving good clues to the identification. You will find that, while some characters are shared, the combination of these features is different for each species and will provide you with an identification.

Here, we'll go through each species in turn and look at these features. Note that Woolly and Stemless Thistles are absent from Ireland.

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Creeping Thistle (*Cirsium arvense*). Widespread and common throughout Britain and Ireland. The bane of farmers and gardeners; a perennial with far-reaching, creeping roots and thus differing from other thistles by forming persistent colonies of stems with no basal leaf rosettes. Stem leaves greyish-green with undulating margins. Stems smooth and spineless. Phyllaries pressed against the flowerhead with just the pointed tips curving outwards. Flowerheads small, distinctively pale lilac (rarely pink), in small clusters.



Spear Thistle (*Cirsium vulgare*). Widespread and common throughout British and Ireland. Leaves with long, lanceolate segments, tipped with long, needle-like spines. Stems lightly hairy and with spiny wings, especially in the upper part of the plant. Phyllaries spreading, long and spiny. Flowerheads large, reddish-purple, carried singly or up to three per stem.



Marsh Thistle (*Cirsium palustre*). Common throughout Britain and Ireland in damp meadows and marshy places. Leaves with more slender segments than those of Spear Thistle and often purple-tinged, especially around their margins. Stems downy and with many spiny wings. Phyllaries pressed against the flowerhead with just the pointed tips curving outwards. Flowerheads small, reddish-purple, carried in many-headed clusters. This species commonly produces plants with white flowers (though they can rarely occur in other species, too).



Stemless Thistle (*Cirsium acaule*). Widespread south and east of a line from the Humber to the Severn, but largely absent from Devon and Cornwall and low-lying, alluvial areas such as the Fens, Norfolk Broadland and the Thames Basin. Forms small clusters of basal leaf rosettes in chalk and limestone grassland. Leaves with swept-back segments, rather like a spiny dandelion. May produce short, spineless stems in longer grassland. Phyllaries pressed against the flowerhead. Flowerheads slender, reddish-purple, carried singly.



Woolly Thistle (*Cirsium eriophorum*). A plant of chalky soils, having its best populations in the Yorkshire Wolds, southward from the eastern Peak District to Cambridgeshire and from the West Midlands south through the Cotswolds to Wiltshire and the Isle of Wight. The 'Queen of Thistles', forming a magnificently stately plant. Leaves ladder-like, with long, narrow segments, whitish underneath and tipped with long, needle-like spines. Stems thickly covered in cobweb-like hairs. Phyllaries spreading, with down-curved, spiny tips hidden amongst dense cobwebbing. Flowerheads single, large, reddish-purple, often nodding under their own weight.



Musk Thistle (*Carduus nutans*). Widespread but often local on dry, usually calcareous, soil through much of Britain, but absent from the uplands and much of Scotland and Ireland. A greyish-green plant; leaves with short, downy, intricately twisted and spined side lobes. Stems very downy and with spiny wings. Phyllaries strongly recurved, long and spiny and with white cobwebbing. Flowerheads large, reddish-purple, carried singly and distinctively nodding to one side when mature (an alternative name is 'Nodding Thistle').



Welled Thistle (*Carduus crispus*). Widespread throughout much of the country, but largely absent from higher ground; rare in Ireland. Typically a plant of nutrient-enriched substrates, including streamsides, brownfield land and arable field margins. Leaves variable but typically with broader side lobes than those of Spear or Marsh thistles and with spiny margins. Stems downy, with several rows of spiny wings. Phyllaries slender, projecting outward for much of their length. Flowerheads small, reddish-purple, usually clustered.



Slender Thistle (*Carduus tenuiflorus*). Mostly a coastal species and particularly common on the heavier soils around estuarine habitats. Scattered inland, often where introduced. An annual or biennial, growing to 1m in height but often less. Leaves variable but typically with broader side lobes than those of Spear or Marsh thistles and often becoming grey with mildew later in the season. Stems downy and with several rows of wings bearing long spines. Phyllaries broad-based, tapering to a point and projecting outward for much of their length. Flowerheads small, pale pinkish-purple, carried in tight clusters.