

Anyone beginning on brambles is likely to struggle to identify them from a book, and will need confirmations at first, until they become familiar with the common kinds in their locality. As referee for Scotland I am always happy to look at photos and give determinations where possible (send to butesedge@yahoo.co.uk). My purpose here is to tell you how to take photos that will make such confirmation possible.

In the early stages it is most important to restrict yourself to one area in respect of brambles, since they are likely to be quite different if you go any distance away. You will learn quicker if you become confident of a few local species before slowly extending into adjacent districts where your familiar species may be scarce or absent and others strange to you may be common.

Three things you should always remember when choosing which bush to photograph

- Beware bushes in **heavy shade**. Brambles respond to shade by growing larger leaves, less stem armature and small inflorescences. Unless you see good flowers on them, avoid the bushes.
- Check that stems have not been **damaged**. Brambles respond to cutting or other damage to their stems by increasing the number and size of prickles and other arms, which can be misleading to anyone looking at the photo.
- Be aware that brambles of different species often grow close together and it can be very hard to ensure that all your photos are really of the same bush. Check this very carefully, as it is totally confusing to receive a **mixed bunch**!

Keep these things in mind and you should have no problems in taking lots of good bramble photos, though not all would be useful for ID. There is no need for special equipment. Modern phones are perfectly adequate. Of course if you have an SLR take advantage of it to get really technically superb photos!

What needs to be in your photo if it is to be useful for ID?

This is not obvious. Recently an experienced VCR sent me a set of photos of a bramble, saying 'I didn't take any of the flowers as I assume that like roses they are of little or no use'. A logical enough assumption, but completely wrong. Bramble flowers provide many of the most helpful characters, and ID is much harder without them. Some indication of habitat is also helpful, if it comes readily. A sprig of Sitka, or hawthorn, or a clump of sphagnum, or a bit of litter to suggest a brownfield site, etc.

One general point: **Focus is critical**. Many of the essential features are small, and the photo must be zoomable on screen to a resolution similar to looking through a binocular microscope or good hand-lens at x20. This is entirely feasible. You just have to persuade your camera to focus on what you want, not what its auto setting wants. Putting a hand or finger behind a stem may ensure that it doesn't focus on background leaves. Always check after taking, and delete and try again if focus is not good. Wrongly focused photos waste everyone's time.

What you now need to know is **which particular features of the bush should I be focusing on**.

To be sure you don't miss anything too vital remember first the three groups: **stem, leaf, flower**. All three have many characters essential for accurate identification, so you must have at least one good photo of each. But what makes a good photo also a useful one?

We can look at **stem features** first.

To get a useful stem photo you need to know a little about **how brambles grow**. In the second part of summer (while flowering and fruiting is going on) fresh stems grow up from the ground and begin to arch over. These are called primocanes and have an important role in bramble ID. The following year, branches grow from these and bear the flowers and fruits. Both the primocanes and the branches bear armature and leaves, but of different sorts. Stem leaves are often quinate, branch leaves usually ternate, etc. Both are useful for ID, but especially the primocanes, in their first year only. Old stems that have over-wintered become worn and are of no value for ID.

Bramble **stems** are pentagonal in cross-section, and so have five edges and faces. The faces may be flat, concave with sharp edges, or convex, making the stem almost round. Some species have stems with only prickles, and these are usually on the angles. Others have smaller pricklets, often on the faces also. They may have acicles too, and/or stalked glands, usually on the faces. A stem photograph must show all these features clearly if present. Many stems also have hairs of different lengths, though these are sometimes lost as the season advances, and almost invariably over winter, so that old stems are useless for ID (they often lose everything except worn-down prickles). All these features are often more abundant on the rachis and an additional photo of this can be helpful, but it does not substitute for a stem photo. If primocanes are not present (e.g. early in the season) use the lower part of a branch for your stem photo and mention this fact.

Leaves are the second main subject, and the preferred option is a set of five leaflets from a primocane (again a branch may serve in absence of primocanes). As in all cases it is important to select a typical example, since there is often considerable variation. A shot of this will show the general shape and layout of the leaflets, their colour and shape, whether they are spaced or overlapping and the character of the serration, all of which are useful. One important character it may not show well is the shape of the terminal leaflet tip, which is often hidden or distorted by the curvature of the leaf, and may need to be supported by a finger. A useful second photo is the underside of a leaflet, which may have hairs of different kinds variously disposed. This needs a perfect focus, but need only cover a part of the leaflet. It is essential to say whether it is a stem or branch leaflet, as these are often different. If some of the petiole is included in either photo this can be of use, since it may show characters not visible in the stem photo.

Moving to the **inflorescence**, a general picture of this is often helpful, especially if able to show the character of the rachis. Otherwise a separate photo of this is desirable, since its armature may be quite unlike that of the lower stems. Later in the season, if flowering is over, a general photo of a fruiting inflorescence may be substituted; though this is much less useful than when flowering it still has much information to offer about the sepals, and the rachis and pedicel armature.

The most important parts of the **flower** for ID are the sepals, stamens and carpels.

The disposition of the **sepals** is significant, but can be misleading, as it varies at different times in different species. Some reflex as soon as the petals open and rise up after they fall, sometimes clasping the fruit. Others remain patent till petal-fall and then reflex, while some remain more or less patent throughout, or rise later. Different stages are often seen in the inflorescence photo. Long tips are often found on the sepals of terminal flowers; some species have these on all sepals, on others the tips are usually short. It is good to include a bud where possible, as the sepals are well seen at that stage, especially their outer (abaxial) face which can be hard to see later.

The presence or otherwise of **anther hairs** is the most important character of the stamens. These only occur on a few species, but can be extremely helpful when present, and sometimes when absent. Here sharp focus is essential, and they are best seen against a dark background where this can be arranged. The height of the stamens is also useful, and a side-on photo of the flower is needed to show whether or by how far they rise above the styles.

Carpel hairs are a very useful character, but not easy to photograph. You need to remove some stamens from a flower to reveal the carpels at the base of the styles and focus in as nearly as possible with maximum sharpness. Roughly half of our species have hairy carpels, but some only at the tip. Unfortunately, the hairs usually drop off quite soon as the fruit develops, or it would be easy to see them at that stage.

Petals are useful too, of course, but hardly need special attention from the photographer, except in so far as they are generally best seen from directly above when fully spread, so that an additional flower photo from that angle is a useful extra.

In general, bright cloudy weather is best. Sunshine tends to over expose pink flowers so they look white, and shadows are almost unavoidable, creating black holes in the picture. Rain and dripping vegetation should also be avoided, as it obscures the necessary features, especially hairs. But don't miss your chance, identification is often possible from less than ideal photos!