

THE ART OF MERISTEM RECOGNITION*

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"The art of picking vegetables at the best stage of growth is the art of recognizing meristems". In my experience, this claim by US-based forager, Samuel Thayer, in his excellent new book *Nature's Garden*, is certainly true. The edible parts of plants fall into three general categories that give food for thought at different times of the year: winter; storage organs (tubers and roots), summer; reproductive parts (flowers, fruits and seeds) and, of course, spring, a time of rapid new growth and, hence, new stem shoots or meristems..

Spring, then, and, in particular, the months of April and May, presents a unique opportunity to make use of a vast array of differently flavoured and textured plant stems. At other times these stems would be totally absent, too tough, too thin, too pithy or simply dried out. Learning to identify meristems is part of the ongoing process of building up a more thorough and complete picture of the plants in your wild food repertoire, and learning to recognise their individually unique variation in form throughout their life cycle. It also greatly expands your wild food repertoire if, for instance, you apply the principles of meristem identification to wild foods from which you have frequently eaten the leaves at later stages of growth. To give an example, I've been eating dock and bristly ox-tongue leaves for years, and it was a delightful revelation a few years back to discover that the young succulent stems of both plants were, in fact, perhaps the most delicious edible parts of all. However, apply this principle with caution. To give an extreme example, you may have safely eaten small quantities of the soft fruit (excluding seeds) of the yew tree. That does not mean it's safe to try new yew shoots. That could have deadly consequences. So let's follow Sam once more with his seven-step guide to identifying meristems and learning the difference, as he puts it, between ingesting roughage and eating food!

- 1) They bend, break, or snap more easily than mature stems.
- 2) They may droop or bend over at the top, due to lack of cellulose.
- 3) The leaves they bear are not fully formed.
- 4) They are thicker in proportion to their length.
- 5) They come to an abrupt end.
- 6) They may be lighter or different in colour than mature stems.
- 7) Features such as hairs, ridges, thorns, or roots may be absent or not fully developed. *

* From *Nature's Garden: A guide to Identifying, Harvesting, and Preparing Edible Wild Plants* by Samuel Thayer. Forager's Harvest 2010. The book covers 42 plants found in the US, but over half can be found in the UK

The list** opposite includes the ones I commonly use, representing plants which, for the most part, are themselves fairly common. Some are simply stems rather than meristems, eg, dandelion. Although I've indicated that some do not need peeling, in many instances this only applies when the stems are 2-3 inches long. The flavours range

from mild (members of the daisy family) and strong and distinct (most members of the carrot family), to eye-wateringly pungent (a few members of the cabbage family). Any part of the dittander plant - root, stem, leaf or flower, for instance - can make your eyes water in response to its robust mustardy-horseradish-wasabi flavour! These more pungent stems are best chopped finely and added to all kinds of salads, tempura-ed or pickled. Some of the more substantial stems are suitable for cooking, unpeeled, in a pit oven or on hot embers. Alexanders, burdock, sea kale and reedmace are particularly well suited for such treatment.

Dittander



Often found near rivers, this plant VERY unusually is growing from submerged wood, but nicely illustrates the perfect size for stem harvesting. Much bigger and it will be too tough.

- **Spear Thistle** (*Cirsium vulgare*) Daisy/Asteraceae family: Firm, refreshing, succulent solid stem. Needs peeling.
- **Sea Aster** (*Aster tripolium*) Daisy/Asteraceae family: Very solid aromatic stem; no need to peel.
- **Burdock** (*Arctium minus* and *A. lappa*) Daisy/Asteraceae family: Thick, solid, firm, mild, delicious, versatile. Needs peeling.
- **Bristly Ox-tongue** (*Picris echioides*) Daisy/Asteraceae family: Mild, refreshing, solid and crunchy texture. Needs peeling.
- **Smooth Sow Thistle** (*Sonchus oleraceus*) Daisy/Asteraceae family: Hollow, slightly bitter. Soak before use. No need to peel.
- **Dandelion** (*Taraxacum* spp) Daisy/Asteraceae family: Thin, hollow, slightly bitter. Chop, and add to salads. No need to peel.
- **Alexanders** (*Smyrniolus olusatrum*) Carrot/Apiaceae family: Full-flavoured, solid when young; then hollow. Needs peeling.
- **Wild Angelica** (*Angelica sylvestris*) Carrot/Apiaceae family: Distinct flavour. Peel; cook.
- **Wild Carrot** (*Daucus carota*) Carrot/Apiaceae family: Succulent and refreshing carrot flavour. Peel.
- **Fennel** (*Foeniculum vulgare*) Carrot/Apiaceae family: Aniseed flavour. Solid when young. No need to peel.
- **Lady's smock** (*Cardamine loxostemonoides*) Cabbage/Cruciferae family: Thin, pungent. No need to peel.
- **Dittander** (*Lepidium latifolium*) Cabbage/Cruciferae family: Solid, hot mustard flavour. No need to peel.
- **Sea Kale** (*Crambe maritima*) Cabbage/Cruciferae family: Firm, solid; cabbage flavour. Only peel after flowers begin opening.
- **Garlic Mustard** (*Alliaria petiolata*) Cabbage/Cruciferae family: Solid, mild garlic, mustard, cheese flavour. No need to peel.
- **Broad-leaved Dock** (*Rumex obtusifolius*) Dock/Polygonaceae family: Solid, refreshing lemon citrus flavour. Needs peeling.
- **Japanese knotweed** (*Polygonum japonicum*) Dock/Polygonaceae family: Solid, acidic flavour needs peeling once over 12".
- **Wild Asparagus** (*Asparagus officinalis*) Lily/Liliaceae family: Asparagus flavour, of course. Solid. No need to peel.
- **Reedmace** (*Typha latifolia* and *T. angustifolia*) Bulrush/Typhaceae family: Dry cucumber/watermelon flavour. Needs peeling.
- **Blackberry** (*Rubus fruticosus*) Rose/Rosaceae family: Shoots off main stem. Best cooked in a change of water.
- **Hop** (*Humulus lupulus*) Hemp/Cannabaceae family: Top 2-3" of shoot top. No need to peel. Cook.
- **Staghorn sumac** (*Rhus typhina*) Cashew/Anacardiaceae family: New shoots and young branches. Peeling essential.

* Consult a good wild flower guide for precise habitat info. and identification. Alternatively, my old business partner Miles Irving's excellent *The Forager Handbook* has a wealth of such edibility info (but is not a wild food id guide)..



Reedmace Shoots

Reedmace before and after peeling away outer leaves. Plant on far left showing connected rhizome; on far right, the edible core. Note this can be distinguished from toxic yellow flag by the roundish stems. Yellow flag is more flattened and elliptical.

When harvesting the stems of these plants, it is more important than usual to gather only a small percentage of the plants in a particular area, the reason being that taking the central flowering stem means that, for most of these plants, there will be no possibility of flowering and, hence, producing seed for the next generation. Of course, that's not such a big issue with those that are perennial. In any case, be vigilant. For some plants the opportunity to harvest stems lasts no longer than 2 weeks. Also remember that the young leaves or unopened flower buds or clusters of half of these plants are good to eat so don't throw them away.

One plant that puts out a main flower stem and several smaller ones is Cow parsley. This, together with wild carrot, wild angelica and alexanders are plants you must confidently be able to distinguish from toxic lookalikes in the same family, notably hemlock (Conium maculatum), fools parsley (Aethusa cynapium), rough chervil (Chaerophyllum temulum) - all superficially like cow parsley - and hemlock water-dropwort (Oenanthe crocata) - superficially like both Alexanders and angelica. On one occasion I saw all these plants growing within 50 metres of each other. Note also that skin contact with sap and/or leaves is known to cause contact dermatitis in some people when handling wild angelica and wild carrot. Nevertheless, don't be fearful but do be careful out there!

wild carrot in situ. Note the distinctively shaped old seed head placed in the picture - like a hand with partially turned in fingers. Often found near the coast but also dry grassy areas and wasteground in land. Prefers full sun.



Cow Parsley also somewhat confusingly sometimes called wild chervil.

from left, far left cow parsley basal leaf (gooved and more or less finely haired stem), hemlock water-dropwort central stem and basal leaf (hairless rounded basal stem - partially grooved below 1st division of leaf where newly forming leaf is encased) 2 basal leaves of hemlock (both central stem and basal leaves hairless, and more or less purple spotted)



hemlock water-dropwort. Usually growing by or near fresh water. This plant near no obvious water source.

The easiest way to prepare and eat any of these stems is to simply munch them there and then when you encounter them when you are out walking. However, they do lend themselves well to the following uses in particular: whole stems raw as a crudité starter dipped in various dipping sauces (much nicer than celery); pickled and served with cold meats or in green salads; lacto-fermented and used as for pickles or incorporated into soups; grated and/or finely sliced and turned into coleslaw, finely chopped mixed stem cold raw salad or in taboulé /rice salads; stuffed like cannelloni (Alexanders and large sow thistles), shallow or deep-fried with or without first dipping in batter - indeed, all those that would otherwise need peeling can be deep or shallow-fried without peeling, the cooked insides being sucked out as you pull the stem between your front teeth; and finally, of course, they can be used as side vegetables, raw or cooked. To cook, peel when necessary; boil for 2-3 minutes and toss in butter. Seasoned and served with a squeeze of lemon juice, most are delicious.

Right now I'm particularly busy collecting Japanese Knotweed. This is an invasive plant, so collect to your heart's content. Of course, it must be borne in mind that it is illegal to cause the spread of this plant, so any parts not being used for food must be rendered non-viable by burning, desiccating, boiling etc. In addition, permission to gather and/or certain knowledge that contractors have not been in to inject the roots or spray the plant with weed killer must be sought before harvesting.

The most succulent and substantial stems are those at what I call the alien asparagus stage, between 2 and 10 inches in length. If longer, grasp the whole top part and give a fast twist of the wrist. Like asparagus, it will snap with a pop to leave you with just the tender part that doesn't need peeling. This can be cooked as a side vegetable and goes especially well with duck and pork or can be used just like rhubarb - it tastes very similar. That sharp flavour results from the high oxalic acid content, so do not consume large amounts if you have a known sensitivity to rhubarb or suffer from gout or kidney stones. If you wish to be really clever, you can soak the young shoots in sweetened and flavoured high alcohol spirits for a week and then dip and set in melted chocolate or, indeed, set in boiled sugar on a stick in the manner of toffee apples!



Japanese knotweed stems soaking in alcohol prior to freezing and dipping in melted chocolate. Note, when collected young stems like those shown, the whole stem often pulls away. Cut these from the base until hollow centre is revealed or all bitter tasting yellow bottom part is removed. If storing in alcohol for more than 10 days, transfer to fresh sweetened spirit to prevent any fermentation.

Perhaps, of all the stems on my list, Japanese knotweed (closely followed by Alexanders) is the most versatile from a culinary and bushcraft perspective. (The peeled stems of 6-foot plants make great cordage and I even caught a pike once, using an old stem as a fishing rod.) But, if I had to choose a favourite it would be lesser burdock. (I've not tried greater burdock as it's not so common locally.) The solid stem is just superb, raw or cooked, and is one of those foods that, after eating, make you feel really well nourished.

Burdock stem peeled and unpeeled. The peeled stem rapidly discolours brown but this does not affect the flavour. Tender stems range from 6-24 inches in length. If it bends and feels flexible the core will make good eating.



Wild asparagus, which looks just like the stuff you buy and, fortunately, grows in abundance near me, is a delight to harvest yourself but can be quite hard to spot amongst the long wild grasses in its favoured coastal habitat. Indeed, the search really needs to begin in July when the mature plants with red and green berries are easy to spot, revealing a suitable location to return to the following spring. Nevertheless, if unable to find some, make use, instead, of what has rather disparagingly been referred to as poor man's asparagus - hop tops. You need to pick quite a lot to make a substantial portion. Nevertheless, they can be found growing in profusion in the hedgerows and at woodland edges. A simple classic seasonal wild food dish has to be a St George's Mushroom and Hop Top Omelette!



Other great things to try: Alexander 'Cannelloni' Blue Cheese and St George's Mushroom Bake: Sometimes, you can find alexanders stems that you can fit your thumb inside. These are excellent, peeled and alternately stuffed with blue cheese and mushrooms, covered in good tomato sauce and baked for 30 minutes. Sow Thistle sushi: Similarly, very large sow thistles stems can be soaked in lemon water overnight and then stuffed with sushi rice, mixed with dulce seaweed and served cold with a suitable dipping sauce. Dittander, garlic mustard, Lady's Smock and sweetcorn fritters: Chop the stems; mix with egg, flour and seasoning. Spoon out into a frying pan and shallow-fry on both sides until just browning.

Finally, all of the stems listed can be candied, apart from dandelion, sow thistle, sea kale, dittander, garlic mustard and hops. These ones aren't robust enough or simply don't taste good. Most stems I candy get incorporated into cakes and biscuits but they also make a good snack. I've not tried the procedure in a bushcraft/camping situation, but if you're in the same spot for a few days, it would be well worth the effort to make such sweet and uplifting trail foods. The basic procedure is to peel your stems, roughly weigh out the same amount of sugar and dissolve it in enough water to just cover your stems in a pan. Boil the syrup and drop in the stems. Boil for 30 seconds to 5 mins (depending on thickness/robustness of stem). Leave for 8-12 hours or overnight. Strain off syrup and boil to reduce by a third. Submerge stems in syrup and again leave for 8-12 hours repeating this whole process four times in total. Finish by drying stems in the sun.



peeled Alexander stems, stem peel remnants and cut out stem nodes. The stems are a joy to peel using a knife. If any visible fibres remain use a knife to pull them away. If they break they're tender enough to leave.

Wild Asparagus

Wild asparagus (July). The search for tender spring asparagus shoots in May, unless you know precisely where to look, must begin in July or August of the previous year. Then the mature plants can easily be spotted amongst the often knee-high grasses of its favoured coastal habitat.