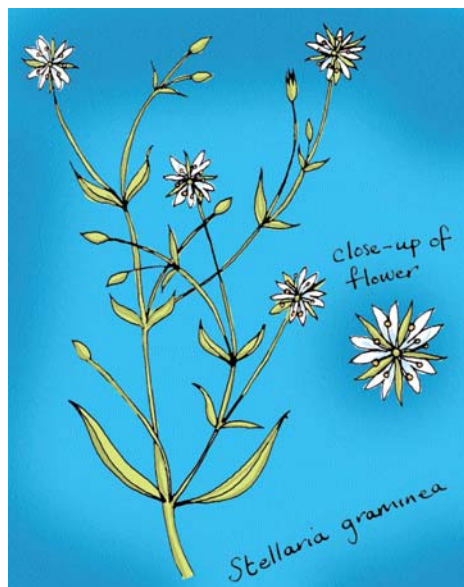


## Stars in the hedge

In my part of the country, this year has seen a profusion of the lesser stitchwort, *Stellaria graminea*, among the luxuriance of the hedgerows. Although this minute white flower is far less evident individually than its earlier-flowering cousin *S. bolostea*,



the greater stitchwort, its effect in the mass is striking, providing a veritable constellation against the darker background. Sometimes the petals are attacked by a minute fungus, which turns them lavender, but so far this year I have not observed this.

The stitchworts and chickweeds, which belong to the genus *Stellaria* and the family Caryophyllaceae, possess a wide background in folklore and have enjoyed considerable medical applications — witness the many vernacular names they have been given. Greater stitchwort, for example, is also called headaches, stinkwort, wedding cake, milkmaids, star-of-Bethlehem, poor man's buttonhole, Daddy's shirt buttons, snapdragon, poppers, old man's shirt, satin flower, adder's meat, adder's spit and pixy flower. In the far southwest of England children refused to gather the flower, below which a viper was supposed to lurk. Elsewhere it was believed that pixies took refuge during the day among its stems and that anyone picking the blossoms after sunset would be led astray by these little people, and subjected to all manner of indignities.

The stitchworts and their coarser and far less attractive cousins, the chickweeds, have played an extensive role in human economies, particularly since they flourish under most climatic conditions, even within the Arctic Circle. The great length of their seeding period has made them a valuable source of food for wild birds, and they readily become naturalised wherever human settlement takes place. Pigs and rabbits browse on chickweeds, although it is said that they do not attract goats.

The name "chickweed" derives from the Anglo-Saxon *cicena-mete* and was used because domestic chickens have been fed

the herb for centuries. The name "stitchwort", by contrast, was derived from the German *Stich* (sting) since it was reputed to cure the sting of poisonous reptiles. However, John Gerard, in the 16th century, believed it was so called because it relieved stitch in the side.

In north-east England *S. media*, applied freshly bruised, was considered good to allay the swelling resulting from a bee sting. In the Orkneys the leaves were made into poultices for inflammation, while in Inverness they were made into an ointment for application to chilblains, rashes, and stiff and rheumatic joints. In Dublin juice from the boiled plant was massaged into a painful limb. Chickweed water, an infusion, was a traditional remedy for obesity, if drunk daily. James, in his 'Pharmacopoeia universalis' of 1747, however, states that a distilled water or an infusion in wine "restores those who are emaciated after long Diseases". And he goes on: "It is good for Convulsions in Children, and they give a Dram of its Root for the Epilepsy. Its Powder being laid on the Piles, stops their immoderate Flux, and asswages the Pain. Its Juice is vulnerary and detersive, good to cleanse the Mouth and take away Inflammations. This Herb put into an Omelette instead of Parsley is good for Spitting of Blood. Applied to the Breasts it dissolves curdled Milk." A universal remedy indeed! I am surprised we have managed to do without it.

## Loss of memory

Samuel Johnson (according to James Boswell, 1783) remarked: "There is a wicked inclination in most people to suppose an old man decayed in his intellects. If a young or middle-aged man, when leaving a company, does not recollect where he laid his hat, it is nothing; but if the same inattention is discovered in an old man, people will shrug up their shoulders, and say 'His memory is going'."

As the neuropsychiatrist Gary W. Small of Los Angeles writes in the *British Medical Journal* for 22 June, memory changes cause concern to many people as they grow older. Doctors need to be able to assess loss of memory with ageing and to discuss interventions that may or may not protect the brain against memory loss.

Ageing inevitably increases the likelihood of memory impairment, in its mildest form recognised by the individual. Cognitive impairment may be more severe, and is associated with the onset of Alzheimer's syndrome. Vascular disorders may make a contribution to late life dementia that interferes with daily living.

Cognitive ability can be assessed by simple word tests that measure power of recall. Evident loss of recall can be assessed by a review of medical history and medicines taken, and screening for depression. Blood tests to detect metabolic causes may help. If dementia is suspected, then cholinesterase

inhibitors may be indicated, sometimes in association with vitamin E therapy. Chronic stress may be detrimental to brain health, probably by an effect on the hippocampus. This may also contribute to depression and anxiety disorders.

Physical activity improves cerebral blood flow. Obesity increases the risk of cerebrovascular disease with the risk of impaired memory function. Antioxidant vitamins such as C and E may protect the brain, but the appropriate dosage is undetermined. The maintenance of intellectual activity has been shown to protect against Alzheimer's syndrome. Smoking increases the risk of it. Curiously enough, moderate alcohol consumption appears to lower the risk of memory impairment in old age, although heavy drinking and total abstinence do not help the ageing process.

The recipe for successful ageing seems to be persisting in meaningful social and intellectual activities, and not growing lazy.

## Reaction the hard way

Most organic chemistry reactions are performed in solution, often with the use of toxic solvents that then have to be disposed of safely. A novel idea, reported to the American Chemical Society and reviewed in *Science* for 7 June, has been devised at the Ames Laboratory of the US Department of energy in Iowa.

The technique involves carrying out reactions between solid compounds by means of mechanical bombardment. Powdered chemicals such as phosphonium salts, solid aldehydes or ketones were treated with anhydrous potassium carbonate in hardened steel vials loaded with steel balls the size of marbles. The vials were shaken violently in a mill for periods of three to 20 hours. This mechanical energy broke down the crystalline reagents and mixed them intimately, facilitating the completion of reactions that normally proceed in organic solvents.

It is believed that the rupture of the crystalline structure of the reagents concerned by impact with the steel balls promoted the reaction. The yield of final product corresponded to the reaction rate of 70 to 99 per cent of the initial compounds. The method would not be applicable to all organic reactions, and in any event there would remain the need to use solvents to separate the reaction products from undesired by-products. But this so-called "dry chemistry" would be useful in syntheses for which toxic solvents would otherwise be necessary.

The method is curiously reminiscent of some of the operations of homoeopathy, such as succussion, where vigorous agitation is employed to increase the potency of a remedy, and is supposed to loosen the bonds between molecules.