

Odd-bods among the foxgloves

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Digitalis lutea is sometimes called the yellow foxglove, but although the flowers may be pure yellow, they can vary from grubby mustard to dingy brownish cream. They have the same basic shape and flowering time as the common foxglove, *Digitalis purpurea*, but are much smaller, in spikes up to chest high in fertile soil.

Yellow foxglove (also called the straw foxglove) is not a spectacular plant but it has a kind of quiet, curiously compelling charm, and I have reason to be grateful to the friend who gave me a plant 20 years ago, with the ambiguous remark: "This is just the sort of weed that you like to grow."



Fig. 1 *Digitalis* 'Mother of Pearl' is probably a sterile hybrid of *D. lutea* and *D. purpurea*.

Like most weeds, the yellow foxglove can be a nuisance in my garden, but unlike other weeds it has proved to be useful as a parent. After a few summers of spinsterhood it apparently crossed spontaneously with another foxglove species, yielding a handsome plant that throughout the summer put up a succession of graceful spikes of small, blush pink flowers, fading to cream in hot weather. More than 10 years later this hybrid, which I have named *D.* 'Mother of Pearl', has proved to be reliably perennial and continues to flower repeatedly throughout every summer.

Recently *D. lutea* has done a trick again, apparently crossing spontaneously, presumably by courtesy of bumble bees, to produce a genuinely oddball offspring with a long, dense raceme of small flowers with long lower corolla lips.

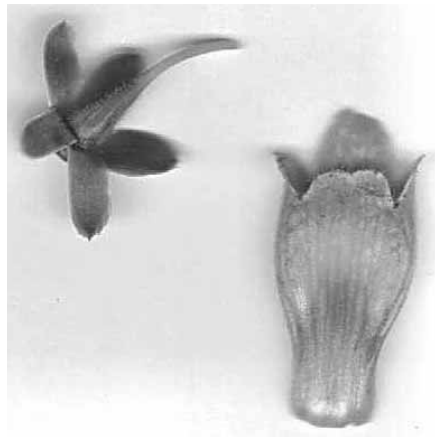


Fig. 2 Calyx and corolla of the mystery foxglove hybrid.

The fleshy corollas are pale yellowish, brushed with purplish pink on the exterior and veined with purple inside the mouth for about half the length of the corolla. The interior is very hairy. The lower lip is rounded except for a very small point. The stem, which reached almost two metres, is taller than expected of *D. lutea*. The leaves are dark green, smooth and glossy, unusual features in a foxglove, and contrast sharply with the duller green leaves of the *D. lutea* plants growing alongside it.



Fig. 3 The leaf of the mystery hybrid is dark green and glabrous.

Initially I assumed that the second parent was *D. purpurea*, the common foxglove, because a very tall plant of the white-flowered form of *D. purpurea* had been growing

alongside the spot where the odd seedling appeared, but a detailed examination discounted this.

Common foxglove is, over-all, a hairy plant, but no hairs are visible on either surface of the leaf or on the stem of the mystery plant, and the upper leaf surface is dotted with what look like glands just below the surface. This definitely cuts out *D. purpurea* but fits both *D. lutea* and *D. ferruginea*.



Fig. 4 The oddball plant that may be a hybrid of *D. lutea* and *D. ferruginea*. Photo: Tonya Frew.

The latter is a European species that grows as tall as the common foxglove but has dark green, narrow leaves and little pot-bellied flowers with long lower lips, veined purple on the inside. However, while the stem and calyx lobes of the mystery plant are glabrous, again as in both *D. lutea* and *D. ferruginea*, its calyx lobes are almost mucronulate, not obtuse as in *D. ferruginea*. The long, dense inflorescence is multi-sided, with flowers all round the stem, and fits the description of *D. ferruginea* but not that of *D. lutea*, which like *D. purpurea* has a one-sided inflorescence.

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The plot thickened when I went out to the garden to check this. Unexpectedly, I found that two other foxgloves growing alongside the mystery plant, and apparently of the same age and origin, have flowers indistinguishable from those of *D. lutea*, but also have more-or-less multi-sided inflorescences, unlike the plants of the true *D. lutea* elsewhere in the garden, which have distinctly one-sided inflorescences.



Fig. 5 *Digitalis lutea* showing the one-sided flower spike.

I used to grow *D. ferruginea* a long time ago. I can't say exactly how many years have passed since it was in the garden but it is at least 15, because in the area where it used to grow a 60-cubic-metre hole and associated trench were made by a large digger in 1992 so that we could have a new soakaway installed for our septic tank. The operator tried his best to keep the topsoil separated so that it could be returned to the top when the hole was filled, but because of the limited room he had to work in this just wasn't possible. If there were any *D. ferruginea* seeds there I'm sure they are now well buried.

So we are left with speculation that the mystery plant and its neighbours have elements of both *D. lutea* and *D. ferruginea*, but no apparent explanation, since one of the parents has been absent about 15 years. One possibility is that the actual cross happened many years ago and since then successive generations of superficially normal-

looking *D. lutea* have been carrying a hybrid gene that has belatedly surfaced. On the face of it this appears to be unlikely, but as we all know real life can at times be stranger than fiction.

Early indications, in the form of numerous fresh vegetative rosettes sprouting in autumn at the base of the stem, are that this horticultural eccentricity has thrown towards the putative seed parent, and become a perennial good for four or five years before needing to be replaced by divisions or fresh seedlings, rather than towards *D. ferruginea*, which is usually monocarpic, i.e., growing leaves in the first season, and usually flowering, seeding, and dying in the second, although occasional plants live to flower a second time.

Digitalis 'Mother of Pearl' definitely takes after the yellow-flowered parent in its longevity. Unlike *D. lutea*, it is somewhat woody at the base and lacks a fibrous rootstock capable of being divided, but it has a reasonably high strike rate from crown cuttings taken in early spring.

The property that to my mind gives *D.* 'Mother of Pearl' outstanding horticultural potential is that it is sterile, which means it does not have to waste energy forming and ripening seeds but can use its surplus energy for flowers instead. This is what enables it to flower repeatedly in a season.

Its parentage is assumed, rather than assured. Initially I believed it to be a seedling from *D. ferruginea* because at the time this species was alongside and overhanging a gravel path where the hybrid appeared among a group of *D. ferruginea* seedlings. The obvious assumption was that it had crossed with one of the numerous white-flowered forms of the common foxglove that were in the garden at the time. When *D.* 'Mother of Pearl' produced its spikes of narrow, very pale, blush pink flowers and proved to be perennial, it became clear that *D. ferruginea* was not a likely parent.

Digitalis ferruginea is one of a small group of foxglove species with pot-bellied flowers and pouting, often veined lower lips. Although *D.* 'Mother of Pearl' appeared in

a scattering of its seedlings, this is circumstantial, not conclusive evidence of its parentage, since foxglove seeds are the size of specks of dust, very light, and have a habit of being blown by the wind into all sorts of odd places.

What I recall of *D. ferruginea* is that you could call its flowers burnt orange if you were feeling kind, but they are really a sort of rusty brown (hence its common name, the rusty foxglove).



Fig. 6 *Digitalis laevigata* is one of a group of species with long-lipped, pot-bellied flowers.

It has a close relative, *D. laevigata*, which can be much more orange. Both species have glabrous leaves and the only easy way to tell the difference between them is by looking through a hand-lens. The former usually has blunt calyx lobes with prominent white margins, while the latter has pointed ones without a white margin. A related species, the Grecian foxglove, *Digitalis lanata*, has hairs on the leaves and also has a large, white lower corolla lip. The leaves of this species are not particularly hairy despite the name, which means woolly. All three are usually monocarpic, but occasionally individual plants may last for a third season. I grew a few plants of *D. laevigata* some years ago, but according to my records they failed to produce seed and disappeared after one generation.

Among other foxglove species that should attract more attention from New Zealand horticulturists is the chocolate foxglove, *Digitalis parviflora*, which is sometimes a

biennial but more often a perennial that can be propagated by division. One of the smaller species, it is an unprepossessing but attractive plant with little, brownish, tubular flowers neatly arranged in spirals up the stems. It does not grow above waist height.

For connoisseurs of alternative foxgloves there is *D. ×mertonensis*, originally created about 1926 at the John Innes horticultural research station, then at Merton, in Surrey, England, by treating a hybrid seedling between *D. purpurea* and *D. grandiflora* with colchicine. The resultant plant is a true-breeding tetraploid hybrid. Plants of this cultivar often flower in the first season and usually live and flower for a second and sometimes third season. The flowers, tightly packed on the stems, are relatively large, oval in cross-section, and a peculiar colour that has been described as crushed raspberries blended with greater or lesser amounts of whipped cream.



Fig. 7 *Digitalis purpurea* 'Campanulata' is a curious form of the common foxglove in which several flowers near the top of the stem are united into a solitary upward-facing flower.

Lesser known alternative foxgloves include *D. purpurea* subsp.

heywoodii, a biennial pale yellow form of the common foxglove with white felted leaves, perhaps more correctly considered a cultivar.

Digitalis purpurea 'Campanulata' is a fasciated mutation of the common foxglove in which several of the uppermost flowers on the stem are united into a single, large, upward-facing, bell-shaped flower. The rest of the flowers on the stem are quite normal-looking.

More modern foxglove cultivars such as *D. purpurea* 'Sutton's Apricot' come in mixed colours, need no staking, and have bigger flowers all around the stem, but fail to charm me. *Digitalis purpurea* 'Foxy' is foreshortened, with spikes only half to two-thirds the normal height. It put me in mind of a cartoon showing a doctor telling a rotund patient: "Your weight is spot on. Your only problem is that your height is 10ft too short." To my eyes the primary appeal of ordinary foxgloves is the peculiar height and grace of their one-sided flower spikes. The latter quality is absent from these modern varieties.

It is all very well to arrange a flower border in harmonious blends or swaths of compatible colours, but many gardeners spend too much time concentrating on colour and not enough on shapes and textures. Gardens need variations in height as much as they need variations in colour and texture. Many of the popular annuals and perennials with which people fill their borders are, well, dumpy, as though they spend too much time sitting down eating jam tarts and cream. You need a bit of 'tall timber' in the border to give the outline a lift and old-fashioned, 'unimproved', weedy foxgloves can do just that.



Fig. 8 *Digitalis purpurea* was first described as growing wild in New Zealand in 1864 and is still the only foxglove species recorded as naturalised in New Zealand. This particular form has white flowers, but others have pink and, as the name '*purpurea*' suggests, purple coloured flowers.

Incidentally, *Digitalis purpurea* thrives in disturbed soil and according to the Dunedin naturalist-

politician-educator G.M. Thomson (*The naturalisation of plants and animals in New Zealand*, Cambridge University Press, 1922) was first recorded as growing wild in New Zealand in 1864, by J.D. Hooker. Thomson does not say where the find was made, but presumably it was in Northland, because he goes on to say that *D. purpurea* is very common in the far north and notes that it took possession of old lava flows in the Hokianga area. Kirk apparently collected it in Wellington in 1877 and Cheeseman recorded it from the "Auckland Isthmus, Thames, and Whangarei" in 1882.

Subsequent spread was so rapid that *D. purpurea* was added to the Noxious Weeds Act 1900 by special Gazette notice in December 1905. Several farmers in the Wairarapa area were fined 50 shillings each after being prosecuted for allowing it to grow in their pastures. There is a certain irony in this, because as Thomson notes, Otago farmers found through experience that where foxgloves were weeded out of pastures the resulting small disturbance of the soil was sufficient to expose fresh seeds and prompt more seedlings to germinate, but where it was left alone in pasture the foxglove disappeared of its own accord after a few seasons.

I am indebted to W.R. Sykes, a co-author of the *Flora of New Zealand*, Vol. 4 (1988) for his assistance in identifying the foxglove species in my garden and for his invaluable suggestions as to the probable parentage of their hybrids.

Derrick Rooney is an Honorary Member of the Royal New Zealand Institute of Horticulture. He was until recently editor of *Indigena*, the quarterly journal of the Indigenous Forests Section of the New Zealand Farm Forestry Association, has written a booklet about native plants suitable for use in farm shelter, and has had numerous articles printed in professional and popular journals and magazines. He wrote a weekly column on gardening and plants for *The Press*, Christchurch, for more than 21 years.