

FUMITORIES IN CANTERBURY

PHIL GARNOCK-JONES

The fumitories, *Fumaria* and *Corydalis*, are rather delicate-looking plants which will be familiar to most gardeners in New Zealand as introduced weeds of disturbed or cultivated ground or as small ornamentals. The tangled dissected glaucous leaves and racemes of pink or purplish zygomorphic flowers of *Fumaria* are quite distinctive. Some gardeners will grow one or more species of *Corydalis*, which often have white or yellow flowers and, unlike *Fumaria*, several-seeded dehiscent capsules.

Most species of *Fumaria* are European, whereas *Corydalis* is a Eurasian genus with many species in the Himalayas. Of the five species of *Fumaria* and one of *Corydalis* known to be naturalised in New Zealand, only one, *F. capreolata*, has not been collected in Canterbury.

In spite of their small, zygomorphic flowers, the fumitories are considered to be related to the poppies. Like the poppies they have two sepals and four petals in two decussate whorls of two, but their flowers are very different in shape. Also they contain a complex series of alkaloids, some of which have minor medicinal uses, but none of which are narcotics as in some poppies. Usually the fumitories and poppies are treated as separate, but closely related, families, the Fumariaceae and Papaveraceae.

Although the corolla of fumitories is tubular and of a complex shape, the four petals are not united. One outer petal, the uppermost, is spurred at the base. The lower petal is spoon-shaped or boat-shaped at the tip, and the margin may be expanded into a spreading wing in some species.

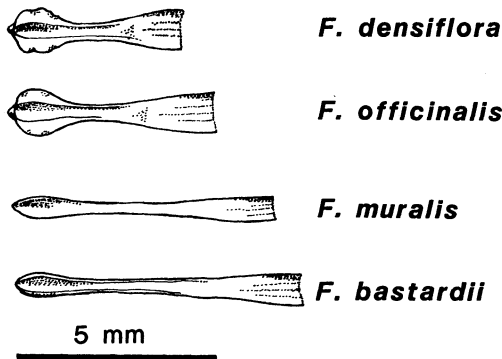


Fig. 1: Lower petals of *Fumaria*

The six stamens are united into two bundles of three and enclosed within the narrow corolla. In *Corydalis* the fruit is a slender dehiscent pod-like capsule with several seeds; in *Fumaria* it is a rounded indehiscent one-seeded nutlet with two small pits near the apex.

Fumitories growing in shaded sites tend to produce smaller paler flowers than those in open sites. Thus flower sizes are not always a reliable character for distinguishing the species.

KEY TO THE WILD FUMITORIES IN CANTERBURY

1. Fruit a 2-6-seeded pod-like capsule; petals yellow, without dark colouring at the tips ..... CORYDALIS LUTEA  
Fruit a 1-seeded nutlet; petals pink, at least the inner ones with dark red, purple or black tips ..... 2
2. Lower petal spathulate with broad spreading margins; leaf lobes of linear or linear-lanceolate order; flowers, including spur, 5-8-(9) mm long ..... 3  
Lower petal linear, boatshaped at tip, with erect or very narrowly spreading margins; leaf lobes of oblong, oblanceolate or cuneiform order; flowers, including spur, usually 8 mm or more long ..... 4
3. Sepals broader than corolla, 2.5-4 X 2.5-3.5 mm; bracts longer than fruiting pedicels; fruit as broad as long, subacute to rounded at apex ..... FUMARIA DENSIFLORA  
Sepals narrower than corolla, 2-2.5 X 0.7-1 mm; bracts shorter than, or rarely almost equalling, fruiting pedicels; fruit broader than long, truncate to retuse at apex .....  
..... FUMARIA OFFICINALIS
4. Inflorescence with more than 20 flowers, its stalk shorter than the flowering portion; fruit rugose when dry; plants usually tufted,  $\pm$  erect ..... FUMARIA BASTARDII  
Inflorescence with fewer than 15 flowers, its stalk longer than the flowering portion; fruit smooth when dry; plants scrambling ..... FUMARIA MURALIS

*Corydalis lutea*, yellow fumitory, is not a common wild plant but a casual garden escape. It has been collected from rubbish tips, waste land and old gardens, places where plants may have been discarded with garden rubbish. One plant grew from a grating in an old brick wall in Christchurch for some years. *C. ochroleuca*, with white flowers, and *C. cheilanthifolia*, with olive green fern-like leaves, sometimes establish in gardens, as self-sown plants near cultivated plants.

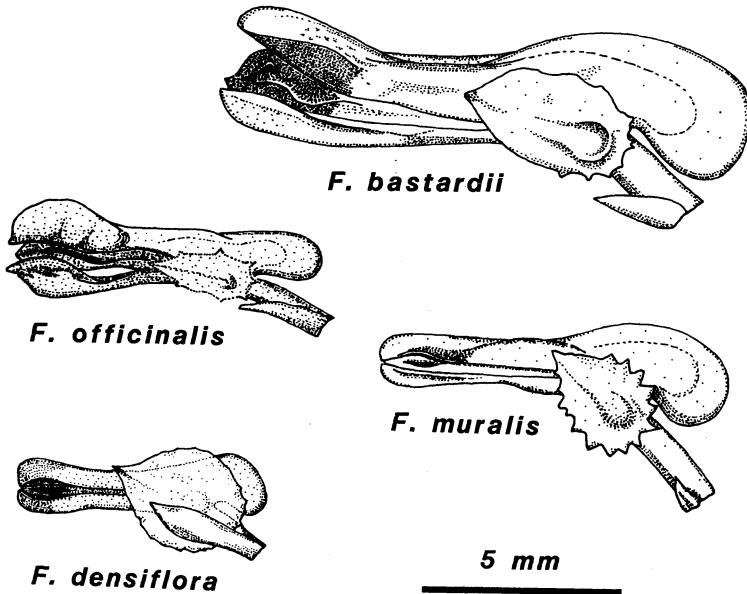


Fig. 2: Flowers of *Fumaria*

*Fumaria bastardii*, Bastard's fumitory (named after the French botanist T. Bastard (1784-1846) and therefore to be pronounced with emphasis on the second syllable!) is a quite common plant in many parts of New Zealand. It has often been confused with *F. muralis*, but it has a less scrambling habit and larger flowers, 10-13 mm long (Fig. 2). The lateral and lower petals often have a golden-yellow midvein and the lower petal often hangs down after pollination. Its fruit is roughened when dry. The many-flowered inflorescences and relatively short peduncles are particularly distinctive. It grows in gardens, fields and waste land.

*F. densiflora* has been collected only once in Canterbury, from waste land at Kaiapoi. It is a very distinctive fumitory with densely crowded flowers, long bracts and very broad sepals (Fig. 2). The margins of the lower petal are spreading, and the fruit is roughened when dry.

*F. muralis*, scrambling fumitory, is the commonest species in Canterbury. Its stems are weak and scrambling, often gaining support from small shrubs or other weeds. The raceme of 10-15 pale pink flowers has a long peduncle. The corolla is 6-10 mm long and remains quite tightly closed at the tip (Fig. 2). The margins of the lower petal are not spreading and the fruit is smooth when dry. Scrambling fumitory is common in gardens, cultivated fields and waste land.

*F. officinalis*, fumitory, is less common than *F. muralis* and probably more restricted to drier habitats. Its racemes have 10-20 (sometimes as many as 40) flowers and are quite compact but never very dense as in *F. densiflora*. The bracts are shorter than the pedicels and the sepals are narrower than the corolla (Fig. 2), but it can always be distinguished from *F. muralis* and *F. bastardii* by the widely spreading margins of the spatulate lower petal. The fruit is rugose when dry, and broad with a retuse or truncate apex. *F. officinalis* is most often collected in cultivated fields, but can also occur in gardens and waste land, most commonly in the drier parts of the province.