COMMON FIREWEEDS

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Summary

Erechtites minima, *E. scaberula*, *E. arguta*, *E. quadridentata* and *E. atkinsoniae* are briefly described, along with *Senecio vulgaris*, *S. jacobaea* and *S. sylvaticus*. *E. atkinsoniae* is a weed of some importance and is spreading, but the other *Erechtites* spp. are not troublesome.

Erechtites spp. are usually called fireweeds because they often appear after bush burns. The name is not very appropriate because they appear in equally large numbers when bush or scrub is cleared without burning.

Five *Erechtites* spp. are common in New Zealand. Three erect *Senecio* spp. are also described because of their common occurrence and possible confusion with *Erechtites* spp. *Senecio sylvaticus* resembles *Erechtites* spp. in occurrence and habit and might well be called a fireweed.

In all these species yellow flowers appear at the top of the plant, usually about December, turning white as they open out and release seed. *Senecio jacobaea* has comparatively large flowers but the other species have quite small flowers of similar size and appearance. All species are host to the woolly bear caterpillar (*Nyctemera annulata*).

There is some variation among species in response to hormone weedkillers, *S. jacobaea* being more susceptible than *S. vulgaris* or *E. atkinsoniae*. All species become much more resistant with age.

All species are controlled by pre-emergence applications of triazine herbicides but are very resistant to chlorpropham.

The description of these species given below will be of some assistance in distinguishing them when growing in typical manner, but does not allow reliable identification of all plants. There are New Zealand and Australian forms of some *Erechtites* spp. and there are several rare species of *Erechtites* spp. and *Senecio* spp. A botanist familiar with this group of plants is required for reliable identification, especially of atypical specimens.

Erechtites minima (syn. *prenanthoides*). The name *minima* is preferred by Botany Division, D.S.I.R., on grounds of priority of naming.

Native of New Zealand and Australia. Perennial. Normally 2 to 3 ft tall, rarely to 6 ft. Moist soil and shade appear necessary for this species to grow well. It is commonest in heavy rainfall areas, notably Westland, and is seldom found far from bush or scrub. Unpalatable to stock but not aggressive.

All plants observed have finely toothed lance-shaped leaves of grass-green colour. This species appears to the writer remarkably constant. Figure 1 illustrates mid-stem leaves from five plants growing at intervals of 200 miles through New Zealand. Leaf shape should allow distinction from the other species described.

Fig. 1

Erechtites scaberula

Native of New Zealand and Australia. Normally 2 to 3 ft tall occasionally to 5 ft. Extremely palatable to stock. Sheep on soft feed eat this weed readily. It appears good for them even when eaten in large quantity. It grows well on a variety of soils and tolerates full sunshine and dry soil well. *E. scaberula* and *E. arguta* would probably be weeds of agricultural importance but for their high palatability. A common roadside weed in the North Island and the northern half of the South Island.

Seedlings are easily confused with those of *S. vulgaris*. Typical small plants of *E. scaberula* have leaves larger than *S. vulgaris*, of a lighter green, and rough to the touch. *E. scaberula* has short stiff hairs over the leaves which are not apparent to the eye, but which are very rough to feel even when the plant is young and growing rapidly. *E. arguta*, in contrast, is soft when young or growing well, becoming rough only as it becomes mature.

Leaves of *E. scaberula* are grass-green. The colour varies somewhat in depth, but is always a true green, in contrast with the greyish green normal for *E. arguta* and *S. sylvaticus*.

Leaf shape differs from that of *E. arguta* but not sufficiently for reliable distinction. In both species leaves become narrower towards the top of the stem, the upper leaves being saw-toothed rather than lobed. In both species, leaves are broader and more regularly lobed when growing with adequate soil moisture or shade.

Erechtites arguta

Native of New Zealand and Australia. Perennial. Normally 3 to 5 ft tall, occasionally to 7 ft. Very palatable to stock. Sheep eat large quantities without harm.

E. arguta grows well on a variety of soils but appears more shade-loving than *E. scaberula*. Plants in full sunshine on dry soil may grow tall, but are spindly and of different appearance from plants growing in partial shade with adequate soil moisture. Widespread in New Zealand. The commonest species in Canterbury where it grows in gorse hedges.

The leaves are dark green but many plants have a grey appearance owing to numerous fine white hairs on the underside of leaves. Lower leaves on well grown plants may have overlapping lobes when pressed flat. This never happens with *E. scaberula*.

Plants of *E. arguta* usually have hollow stalks, but those of other *Erechtites* spp. seldom do.

E. arguta and *E. scaberula*, although of similar description, are typically of quite different general appearance and are readily distinguishable when growing together. Normally *E. arguta* grows taller.

Erechtites quadridentata

Native of New Zealand and Australia. Perennial. Normally 1½ to 3 ft tall. Moderately palatable to stock and not surviving in pasture. Very tolerant of dry soil and full sunshine, the largest plants being found on dry, partly bare banks.

This species competes poorly with other vegetation, and is most abundant in dry districts where soil is partly bare, notably on roadsides.

The leaves are very narrow, slightly tapered to a blunt tip and rolled back at both edges. The back of the leaves and the stems are covered with white cottony hairs which give the plant a silver appearance.

Erechtites atkinsoniae (Australian fireweed)

Native of Australia. Perennial. Normally 3 to 6 ft tall, up to 9 ft at Wanganui and 10 ft at Hamilton. This species grows well on a variety of soils and tolerates full sunshine. It occurs in many parts of the North Island but has not yet been reported in the South Island.

Erechtites atkinsoniae showing the strong tendency in this species for regrowth from the base of old stalks.

Erechites arguta (left), *E. scaberula* (centre) and groundsel (right) showing the similar appearance of young plants of these species.

E. atkinsoniae is unpalatable to stock, and is more aggressive than other *Erechites* spp. and is increasing in importance as a weed. In some districts it is able to persist in pasture. Except in the small seedling stage, it is not responsive to hormone weed-killers.

It is probable that this species will spread further and become more troublesome. It is important that new infestations should be recognized and destroyed.

E. atkinsoniae can be recognized by the characteristic shape of the highly divided leaves. The leaves are smooth and yellowish green. The flower heads are quite small even on very large plants.

Erechites valerianaefolia (Brazilian fireweed)

This tall, purple-flowered species is not aggressive and is still confined to Northland.

Senecio vulgaris (Groundsel)

Native of Europe. Strictly annual. Usually 6 to 15 in. tall, occasionally to 2 ft. Widespread in New Zealand but much less common in field crops than in gardens. Sometimes abundant in lucerne. Very poisonous but very unpalatable to stock and able to survive in pasture. In New Zealand it has had ample opportunity to spread in hay and seed, but conditions are apparently not very favourable to this weed for it is less common than in some countries.

In the warmer districts of New Zealand, groundsel flowers and sets seed at all times of the year. In winter it may set seed only two months after germination—sooner than most, if not all, other weeds. In spite of rapid growth it suffers severe competition from other weeds. It is therefore likely to increase in consequence of application of chloropham, MCPB or 2,4-DB to which it is resistant, or even of MCPA or 2,4-D to which it is moderately resistant.

Young groundsel plants are liable to confusion with other species, especially *E. scaberula*. The lower and mid-stem leaves of these two species are illustrated in Fig. 1. Typical young plants of *S. vulgaris* have rather dark green smooth leaves of high water content.

Senecio jacobaea (Ragwort)

Native of Europe. Perennial. Usually 2 to 3 ft tall, occasionally to 4 ft. More poisonous and more unpalatable to cattle than sheep. A pasture weed becoming less common in most districts of New Zealand owing to increasing numbers of sheep and successful control with 2,4-D.

Ragwort can be distinguished from the other species described by its larger flowers with definite rays (petals). It has very indented, smooth, grass-green leaves which have a faint but unpleasant smell.

Senecio sylvaticus (Spelled also *silvaticus* and *sylvestris*)

Native of Europe. Usually an annual but in some plants growth may extend into the second growing season. Usually 1 to 3 ft tall. Unpalatable to stock. Widespread in New Zealand, common in bush clearings often in association with *Erechtites* spp. It may be found growing in forest shade in wet areas, or fully exposed to sunshine on dry gravel. It is not aggressive and is not a weed of pasture or field crops.

All specimens examined in New Zealand have a very powerful but pleasant scent. Well grown plants have highly indented leaves as illustrated in Fig. 1. The colour of the leaf is on the grey or blue side of true green. The flower heads before opening are rather shorter but of rather larger diameter than those of *Erechtites* spp. described.

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