

GROUNDSELS AND FIREWEEDS

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With over 1500 species worldwide, the herbaceous groundsels and fireweeds of the genus *Senecio* make up a significant portion of the daisy (Asteraceae) family. This genus has many interesting features and relationships, including two intriguing stories. The first explores how the hardy South African sticky groundsel (*Senecio viscosus*) imposed grief and extensive heartache up on the 'Imperial Bushmen Contingent' troops during the Boer War and the second describes the strange but painful exploding trousers problem arising from efforts to control the rampant Ragwort weed (*S. jacobaea*).

GROUNDSELS EXHIBIT ATTRACTIVE FLORAL DISPLAYS

Before exploring further the above two stories, let's highlight some of the fascinating attributes of the numerous groundsels and fireweeds species. Many species are horticultural gems appreciated for their contributions towards colourful garden displays. Well known are the reliable winter flowering, shade loving 'florists cineraria', *S. cruenta* and the old fashioned grey-leaved 'dusty miller', *S. cineraria*. Others include the garden gem, California geranium *S. petasitis* with its distinctive lobed foliage enveloping delightful yellow panicles and the bold bright yellow flowering trusses of the big-leaf groundsel *S. grandiflorus*.

ALPINE AND WOODLAND GROUNDSELS AROUND

Tasmania is privileged to have 23 indigenous species including a suite of alpine Groundsels such as the single flowering yellow and cream forms of *S. pectinatus*, the floriferous *S. leptocarpus* and the showy *S. primulaefolius*. Common woodland species include the shrubby and common fireweeds, *S. minimus* and *S. linearifolius* and the differing forms of the variable groundsel *S. lautus*. These grow prolifically with their characteristic yellow daisy flowers, often dominating any bare soil. The more drought-tolerant natives, such as the silvery cotton fireweed, *S. quadridentatus*, hill fireweed, *S. hispidulus* and the annual fireweed *S. glomeratus* (with its distinctive covering of soft cobweb-like hairs), carry out a scab-like protective role particu-

larly after bush fires and vegetation clearing. By temporarily protecting the soil from water erosion, they contribute significantly towards re-establishing the original woodland community and its delicately balanced interrelationships.

BUTTERFLY-ATTRACTING FLOWERS PRODUCE FLUFFY GREY BEARDED SEED HEADS

Most species develop a characteristic fluffy grey or white parachute-like seed heads (pappus). Since these resembled an old man's beard this feature resulted in the botanical name *Senecio*, derived from the Latin for old man 'Senex'. Their common name, groundsel, came from 'grundeswyle', Old German for 'Earth glutton'. It reflects upon the ability of its wind-blown seed to germinate freely, enabling them to act as pioneering colonisers. Close examination of their yellow flower heads, reveals many tiny ray and disc shaped florets, packed tightly together to resemble a single flower. This flower form evolved to provide a wonderfully simple way for nectar seeking insects to easily pollinate many flowers during only one visit. Hence it is not uncommon to observe them enveloped in a cloud of insect pollinators such as beetles, hoverflies, moths, native bees, flies, flower spiders and lady birds. The chaostola and donnysa Skippers along with the white grass dart and yellow banded dart butterflies take advantage of this feature, collecting nectar in exchange for their pollination services. Under protection of darkness their larva browses on native grasses or sedges and finally pupates by forming cylindrical cells, out of the leaves that they tie and roll together.

These butterflies are very territorial towards their groundsels, displaying aggression against other males or insects with buffeting and spiralling flight patterns. Their orange, brown and black colourations send a clear message to potential predators that they contain a highly toxic alkaloid (pyrrolizidine). In fact they have absorbed substantial amounts whilst feeding on the groundsel's pollens and flower parts. This same alkaloid has been linked to irreversible liver damage and death of stock. Flour (grain crops), milk (grazing cows) or honey (foraging bees) contaminated by groundsel are constant concerns to primary producers.

STICKY GROUNDSEL AND RAGWORT CAUSED DISASTROUS IMPACTS

Unfortunately, the *Senecio* genus contains a number of environmental weeds including the highly toxic ragwort *S. jacobaea* and the pretty purple groundsel *S. elegans*. Ragwort, being a prolific weed confronting pastoralists both in Australia and New Zealand was the focus of a major control program in the 1930's, using the unstable but effective potassium chlorate. However, the dust from this chemical trapped itself within the cotton fibres

of horsemen's trousers. Once heated by riding friction it dramatically exploded causing severe burns and major loss of dignity to many devastated horsemen. It was soon replaced by another safer herbicide by the late 1930's.

Sticky groundsel is the most toxic of all groundsel weeds and this fact brings us back to our Boer War story. The trouper's horses making up the ranks of the Light-Horse Regiment were decimated by this toxic little South Africa native. This situation was described vividly in a quote by Adamson in the book *The Private Capital*. "*Horse sickness, a disease particular to South Africa, is doing its work: a horse starts out perfectly well and is dead by noon*". No wonder its war record had an enormous impact on the moral of the Aussie Light Horsemen, whose horses had accompanied them all the way from home. Beyond this strong bonding, their survival was a tribute to their trusty steeds.

As an aside, its succulent leaves have enabled to flourish, as a weed on gravel bedding along railway lines in the USA. Its fine roots clamber over the stone surfaces, scavenging moisture that condenses in the cool of the night between the stones. With its ability to kill most leaf-feeding insects, its insecticidal qualities are attracting research dollars.

PARROT'S FAVOURITE TREAT

On a happier note, the common groundsel *S. vulgaris* often revives memories of those by-gone days when one's pet parrot, canary or finch was given a fresh sprig as a treat. Many of our feathered friends also enjoy without ill effects, pecking the developing seed heads from our native groundsel. These birds include the introduced European goldfinch, the greenfinch, the beautiful firetail (Tassie's only native finch) along with our colourful blue-winged parrot, Eastern and green rosellas and musk lorikeets. As gardeners feeding the birds is one of the many great reasons for growing a selection of hardy but cheery groundsel and fireweeds!