

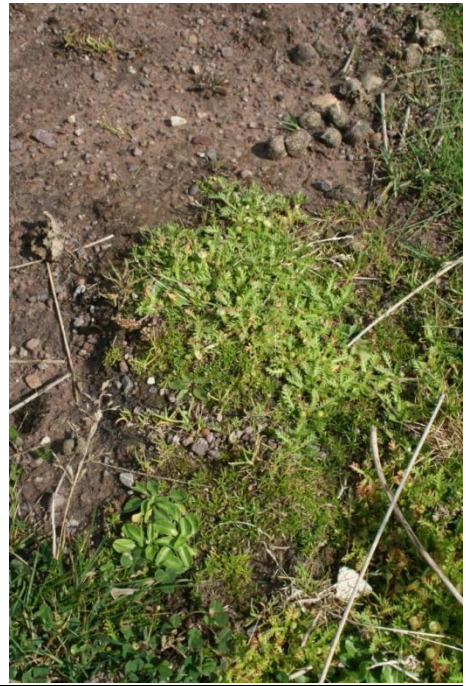
Introduction



Alpine Cotula (*Cotula alpina* (Hook. f.) Hook. f.) is a low-growing, annual or short-lived perennial plant, a member of the daisy family native to Australia (south-eastern New South Wales, eastern Victoria, and Tasmania), which has become well established in north-west Coigach, particularly around the settlements of Dornie and Polbain (tetrad NB91V). Its exact date and method of arrival can only be guessed at: it was possibly introduced with wool shoddy or in jute bags used to collect wool. It was first recorded from Old Dornie [NB984112] in 2005, as an unidentified plant but was already by then well-established [ref. T.C.G. Rich's specimen no. V.2005.001.192 in the herbarium of the National Museum of Wales]. However, it was only in 2009 that it was first brought to my attention. Normally, as Vice-County Recorder, my task would be to watch the arrival and spread of such a species with a detached interest. However, subsequent study and reports of it from a growing number of locations suggest that it has the potential, if unchecked, to spread widely from this initial foothold and, despite its small size, to become a significant, invasive alien plant, to the serious detriment of some native plant communities: it sets copious seeds, is a good pioneer of open ground and can in a short time form relatively dense mats of ground-carpeting rosettes to the exclusion of native vegetation ...



A single seed-head can produce many seeds



An effective 'pioneer' species



In places, as here at Dornie, the carpet of Alpine cotula is sufficiently thick to begin to exclude native vegetation such as grasses

Aims of phase 1

I consider it to be already so well established over a sufficiently wide area as to be difficult to be easily eradicated, particularly if it has – as I suspect – formed an effective seed-bank.

I therefore propose that, while efforts should certainly be started at least to contain its further spread, the priorities in 2014 are:

- to map its current distribution – at least, more exactly than we have done so far¹;
- to pinpoint any other noteworthy plants² or plant communities that might be at risk if spraying or exclusion from grazing turned out to be the favoured options for eradication;
- to open up dialogue with the relevant landowners and crofters/grazing committee(s) involved with the land in question, to discuss the options with them, take due note of their concerns, and to enquire about recent management of the areas in which it occurs (might burning of common grazings, for example, have helped or hindered the plant's spread?);
- to discover more about the biology of the plant itself, in hopes this will suggest the best method for its control: for instance, how long do individual plants live; do they multiply vegetatively and, if so, how (by rhizomes or stolons?); how long do the seeds remain viable in the soil?
- to consider setting up small trial plots to test the best options for eradicating it:
 - how easy are they to dig up, and how likely then to re-emerge from viable seed?
 - once we have a better idea of their total spread and estimate of their number, how long would manual removal take in man-hours?
 - is spraying an option, and if so how susceptible are they to which chemicals, at how low an effective dosage, and at what times of year?
 - would exclusion of grazing allow the natural vegetation to swamp the invader? ³

... with a view to embarking on an eradication programme as phase 2 in 2015.

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¹ It is currently known to occur mainly from Old Dornie through Polbain to the north end of Badentarbat beach – with discrete outliers at a) the viewpoint north of Altandhu (NB984132); b) the road to Achnahaird beach (NC013139-NC015140); c) Bad a' Ghail (NC068114); and d) Achvraie (NC044062).

² I already know for example, of small colonies of the nationally scarce heath cudweed, *Gnaphalium sylvaticum*, and small adder's-tongue, *Ophioglossum azoricum* ... but a more detailed survey is still necessary

³ There is some evidence for this from the only other part of the British Isles in which Alpine cotula has been recorded: Linda Robinson tells me that in NW Yorkshire it needs open ground and gets swamped by grasses if grazing pressure is reduced [see http://www.bsbi.org.uk/Cotula_alpina_in_VC65.pdf]



A plant of the nationally scarce heath cudweed, *Gnaphalium sylvaticum*, at Polbain. Note the seedlings of Alpine cotula established around it; these threaten to swamp the cudweed, but they also show how great care must be taken over any measures to eradicate the cotula: use of herbicide or reduction of grazing pressure to allow grass to grow and outcompete the cotula would probably both themselves threaten the cudweed.