The biology and non-chemical control of Procumbent Pearlwort (*Sagina procumbens* L.)

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Procumbent pearlwort

(birdseye pearlwort, common pearlwort, prostrate pearlwort)
***Sagina procumbens* L.**

Occurrence

Procumbent pearlwort is a matted, native perennial frequent on paths, ditch sides, in lawns and occasionally in short turf in pasture throughout the UK (Stace, 1997). It occurs more rarely as a summer or winter annual (Grime *et al.*, 1988). It is locally common in gardens and arable fields on bare soil and in open vegetation, particularly where moisture is present for long periods (Clapham *et al.*, 1987; Copson & Roberts, 1991). Procumbent pearlwort is resistant to treading and colonises the cracks between paving slabs. It is found growing in commercial container grown plants and potted garden plants. It is recorded up to 3,780 ft in Britain (Salisbury, 1961).

In a seedbank survey of arable soils in Denmark in 1964 procumbent pearlwort was on of the most frequent species recorded (Jensen, 1969). The average number of viable seeds per m^2 was 1,891.

Procumbent pearlwort is phenotypically plastic and genotypically variable (Grime *et al.*, 1988).

Biology

Procumbent pearlwort flowers from May to September (Clapham *et al.*, 1987). The flowers self-pollinate automatically. Seed is set from June to October (Grime *et al.*, 1988). Each seed capsule contains 60 to 80 fine seeds (Unpublished information).

In Petri-dish studies under low and high light intensity, and in darkness, germination was complete in the light but just 1% of seeds germinated in the dark (Grime & Jarvis, 1976). Field emergence in plots cultivated at monthly, 3 monthly or yearly intervals or not at all, extended throughout the year (Chancellor, 1964). The majority of seedlings emerged in two peaks, one in March-April and the other October-December. The greatest number of seedlings emerged in the uncultivated plots and the least in those cultivated monthly.

Procumbent pearlwort seedlings are frost tolerant (Salisbury, 1962).

Persistence and Spread

Procumbent pearlwort can develop a large seedbank (Grime *et al.*, 1988). Seed may persist for more than 8 years in a stable habitat such as a lawn or pasture. Seeds have been recorded in enormous numbers in the soil beneath pastures even though the plant may be poorly represented in the vegetation (Chippindale & Milton, 1934). In a survey of pasture soils in the Netherlands in 1966, procumbent pearlwort was not common in the vegetation cover but was well represented in the soil seedbank (Van Altena & Minderhoud, 1972).

The small seeds are readily wind dispersed. Seed has been found in horse droppings (Salisbury, 1961).

The prostrate shoots root readily and produce lateral shoots. Shoots that become detached can form new plants (Grime *et al.*, 1988).

Management

It is a low growing plant and is therefore susceptible to competition from taller plants (Grime *et al.*, 1988). However, it can develop an ascending habit in taller vegetation. Procumbent pearlwort is unlikely to be troublesome on arable land and normal tillage operations should keep it in check (Morse & Palmer, 1925). In grassland grazed by horses, procumbent pearlwort is often found growing in latrine areas (Gibson, 1996).

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