

A Survey of the Land Winkle *Pomatias elegans* (Müller, 1774) in the Burren, Co. Clare.

Platts E., Bailey S., McGrath D., McGeough G.

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Abstract

The first Irish colony of the land winkle *Pomatias elegans* was found in the Burren, Co. Clare, in 1976, but the site was never surveyed. From the 28 July to the 7 August 2000 the extent and abundance of the *P. elegans* population was established in this locality. Standard searches by three people for five minutes each were used to determine the distribution of the snails. Live specimens were found to occupy an area of approximately 9ha of limestone pavement south of the wall along the coastal road north of Cnoc an Bhoirinn hill. Empty shells of *P. elegans* were found on a further 6ha of limestone immediately south of this area. No specimens were found in the area of grassland (ε5ha) that occurs within the limestone area. To estimate abundance, additional searches were carried out in standard areas of 2m² following a stratified random sampling protocol. For this, the survey area was divided into rectangles of approximately 0.2ha using a differential GPS navigation system, and a single measurement was made at random within each rectangle. In order to estimate the fraction of the population that was found by this sampling procedure, a mark–release–recapture sampling programme was carried out at three sites where the snail was known to be common. The mean density of *P. elegans* was calculated, and the minimum population was estimated to be 247,000 individuals. The precision of the sampling methods and the pressures of grazing and housing development on the site are briefly discussed.