

The following is an expanded account of the vegetation occurring at Dungeness to complement the above report:

The primary succession across the shingle ridges commences at the strand-line with the youngest ridge dominated by Babington's orache, *Atriplex glabriuscula*, usually unaccompanied by any other species. The next two or three ridges inland are colonised by more-or-less permanent sea kale, *Crambe maritima*, together with curled dock, *Rumex crispus*, common sorrel, *R. acetosa*, and red fescue, *Festuca rubra*. However, most of the shingle here is still quite basic, and organic soil formation minimum, with a pH of about 7 or above.

From ridge five to fifteen, we find false oat-grass, *Arrhenatherum elatius*, together with sea campion, *Silene maritima*, common cat's ear, *Hypochoeris radicata*, hedge bedstraw, *Galium mollugo*, and mouse-ear hawkweed, *Pilosella officinarum*. The moss, *Hypnum cupressiforme*, is now evident. But there is yet only a thin organic layer at pH 5.3.

Progressing inland to about ridge sixteen, broom, *Cytisus scoparius*, suddenly appears; no other shingle system in Britain has enough ridges to reach this stage of development, and is thus unique to Dungeness, and remains dominant until ridges thirty to thirty-five, after which the species declines. Here, broom forms dense bushes, but degenerates after a fifteen to twenty year cycle, leaving woody debris, thus allowing new species to thrive on this organic soil at pH 5. These include narrow-leaved fescue, *Festuca tenuifolia*, sheep's sorrel, *Rumex acetosella*, wood sage, *Teucrium scorodonia*, English stonecrop, *Sedum anglicum*, the moss, *Dicranum scoparium*, and two lichens, *Cladonia ciliata* and *C. portentosa*.

By this stage, the number of species has doubled on the richer soil, including more lichens, such as *C. gracilis* and *C. chlorophaea*. These are accompanied by such rarities as shepherd's cress, *Teesdalia nudicaulis*, especially on the broom debris, and sheep's bit, *Jasione montana*, more widely scattered. The even scarcer Nottingham catchfly, *Silene nutans*, occurs, and is the major population centre in Britain. Of particular interest also, is the presence of the common dodder, *Cuscuta epithrymum*, which parasitizes a number of plants, such as broom, wood sage, hedge-bedstraw, Nottingham catchfly and narrow-leaved fescue.

Post-broom vegetation, in the past, would have occupied large areas of the older shingle ridges to form acid grassland or lichen heath at pH 4.5. Now, however, amid the Llydd Ranges, it has been mostly obliterated by the army, and only small fragments of the old ridge vegetation now remains.

Dr Graham Godfrey, in association with Dr Brian Ferry.