AN EXPERIMENT ON PLANT SUCCESSION ON A 1979 FORD FALCON

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Background

In January 1997 the habitat (a cream 1979 Ford Falcon station wagon) which is the subject of this study was travelling a roughly sinusoidal path in the plane of a freshly graded gravel road near Cust just before the experiment commenced.

Method

First the interstices between tyres and rims were inoculated with macerated tissue from roadside *Agrostis tenuis, Anthoxanthum odoratum* and *Trifolium repens*. A second or so later tissue culture was attempted on front bumper and radiator. Tissue, including cork, cork cambium, phloem, cambium and primary xylem from a large off-road *Salix fragilis*, was forced into the bumper and radiator mesh. After leaving the inoculations about 30 minutes in shaded conditions the culture was moved. As it is our laboratory's policy to outsource major items of lab equipment, a tractor was hired to move the habitat to the road plane. It was then transferred to a semishaded site and left mainly undisturbed. From time to time in hot nor'west conditions the doors were opened.

Results

None of the inoculations were successful. After about six months *Protococcus* sp. appeared on all parts of the habitat except the roof. After a year an unidentified grey crustose lichen appeared, mainly on the partly shaded bonnet but also on the sides of the car. Several colonies of the orange lichen *Xanthoria parietina* appeared on the sides of the car. After two years the bonnet was almost completed covered with a grey unidentified lichen which had largely succeeded the *Protococcus* and the *Xanthoria* colonies were up to 30 mm in diameter. A plant

of *Muehlenbeckia australis* about 20 mm high was growing from the floor carpet and small sporophytes of unidentified ferns were appearing here too. *Funaria* sp. was quite common on the carpet. *Protococcus* remained the dominant plant on the exterior window surfaces. At this point ecological catastrophe intervened in the form of a car restorer. Nearly all plant life was stripped from the exterior surfaces and the carpet was hung out to dry.

Discussion

During the period of the experiment temperatures ranged from –10°C to over 40°C, with temperatures inside probably reaching up to 50°C. Roof and bonnet were snow covered for several days each year. Bird droppings and flowers and leaves from *Escallonia* 'Apple Blossom' and *Pseudotsuga menziesii* adjacent to the habitat would have provided nutrients for the plants on the roof and bonnet.

Conclusions

The high pH of anionic surfactants together with the abrasive action of rubbing compounds make the reappearance of plants other than microorganisms such as bacteria and yeasts unlikely. With the habitat soon to reach classic car status these conditions are likely to apply into the forseeable future. The failure of culture attempts while volunteer species survived even in harsh conditions, and the intervention of ecological catastrophe are interesting illustrations of the strong and weak forms of Murphy's Law.

Reference

Child, John & Martin, William. 1972. *New Zealand Lichens*. Reed, Wellington.