Plant and possum rights

Hamish Levack

Because possums are mammals, it is clear they can suffer like us, but it took a while before this was acknowledged and mitigated by regulation. During the 1950s, the Wildlife Service would pay two shillings and sixpence for evidence of a dead possum. Only gin traps, with metal jaws designed to seize an animal by a limb, were generally available. A possum caught this way might be in agony for several days, which most trappers were oblivious about. To avoid such suffering, the sale and use of gin traps was curtailed by the Animal Welfare Act 1999.

Because possums are active nocturnally they are not easily controlled by shooting, but other sophisticated systems aimed at diminishing their numbers in relatively humane ways were developed, including the use of 1080, cyanide and other poisons. Nowadays, various 'compassionate' possum traps, such as the self-setting 'Goodnature' and the 'Flipping Timmy' instant-kill traps, can be purchased online.

The prevention of cruelty to animals leads one to wonder if it is possible to be cruel to plants, and if so whether there should be regulations to prevent it. Traditionally, Māori believed in the life principle (or mauri) of trees, and would say a karakia and perform appropriate rites before cutting a tree down. Modern science supports this 'life force' concept. Although they lack brains and neurons, plants use biochemical pathways to react to stimuli and can therefore be said to have a form of intelligence.

Plants respond to light by exhibiting photo-tropism, photo-morphogenesis, photo-periodism and shade avoidance. Root and shoot growth respond to gravity. Plants react to touch, otherwise climbing plants would be unable to curl around objects and carnivorous plants could not snap shut when landed on by insects. Wounded or infected plants produce distinctive volatile smells, such as methyl jasmonate, methyl salicylate and green leaf volatiles. These smells can in turn be perceived by neighbouring plants, which often respond by increasing their defences by, for example, producing chemicals that help protect them against insects or attract insect predators towards them.

Plants use hormonal signalling pathways to coordinate their development and morphology. Several of their hormones, including serotonin, melatonin and acetylcholine, are also involved in animal nervous systems. Plants have a variety of methods of delivering electrical signals. The chemistry of this is too complex to cover here, but they influence processes such as actin-based cytoplasmic streaming, plant organ movements, wound responses, respiration, photosynthesis and flowering. Plant neurobiologists have also researched whether plants have consciousness, feelings and intentionality, but there is disagreement among them about whether they do.

Anyway, just in case, perhaps we should include plants (and in particular trees) within the realm of moral consideration. Actually, the Conservation Act 1987 already forbids the harvesting of about 5 million ha of forest. Moreover, in 2014, New Zealand became the first country in the world to grant legal personality to a natural feature, the Te Urewera, which means the region has 'all the rights, powers, duties, and liabilities of a legal person'. In 2017, the Whanganui River was granted the same standing and soon Mount Taranaki will follow.

If, somehow, the harvesting of all plants (not just those in reservations) could be prevented, all animals, including humans, would of course suffer and then die because either directly or indirectly their survival relies on plant consumption. Such prevention would not stop some plants displacing other plants in the competition for essential resources. So we have to accept that all organisms, including humans, have to obey the natural law of consumption and being consumed, therefore killing plants in order to utilise them or to protect the lives of other plants is morally acceptable. However, as already suggested, plants may be capable of feeling a sort of pain, and if so the onus is on us to minimise it.

What are the implications for a forest owner? So that these trees are not distressed, one would need to ensure they get adequate sunshine and enough moisture and essential minerals. If they are being attacked by a needle blight, then the decent thing to do is to spray with fungicide. One should also ensure that supressed trees do not suffer and take years to die because they are in an overstocked stand. This means that it is kind to thin trees. Also, trees deserve to be protected from being tormented by fire, wind, frost, snow and predators. Happily, these are all things that enlightened forest owners already do. Prince Charles goes further. He says that he talks to plants to make them feel better. Of course, this would be rather too demanding for a forest proprietor who owns even a few thousand pine trees.

Hamish Levack is a Registered Forest Consultant, an NZIF Fellow and the NZFFA's Immediate Past President. Email: hlevack@xtra.co.nz