

The Brushtail Possum - one tough little critter posing a national challenge

Reviewed by Dr Bob Brockie

The Brushtail Possum – Biology, Impact and Management of an Introduced Marsupial edited by T. L. Montague. Pp. 292. Manaaki Whenua Press, Lincoln. 2000.

Editor T.L. Montague has persuaded 41 specialists to produce an up-to-date and comprehensive survey of the possum situation in New Zealand. Most authors of the book are Christchurch scientists (particularly from Landcare Research, AgResearch and Lincoln University) but there are contributions from as far afield as Australia. Most chapters are easily readable but one or two demand a grasp of higher maths.

The book has 73 illustrations and hundreds of references to original scientific sources. Montague has managed a tour de force in prompting so many specialists to flush valuable information from a scattered scientific literature and from innumerable unpublished reports and advisory notes of 'extant and extinct' boards and government agencies.

This book includes authoritative summaries and comment on the past present possum situation – the invasion of the country by possums, their breeding, behaviour and diet; the impacts of possums on forests, native animals, commercial crops and farm stock; the various strategies, methods, economics and benefits of controlling possums and a discussion of systems for managing them. The book provides all the ammunition needed to demonise possums.

But the most thought-provoking chapters deal with future control policies and programmes. It is clear that poisoning, trapping and shooting can control possums where valuable agricultural or conservation assets are at risk but that the animals rampage uncontrolled over vast areas of New Zealand.

Recent improvements in traditional control methods summarised in the book will make small inroads into possum populations but make little impression on the national problem.

In considering the prospects and future of biological control Phil Cowan reports that surveys in Australia have failed to reveal any bacteria, viruses or parasites that might be released here to control possums.

Sabotaging possum genes appears to be the only new control method on the horizon. This is done by turning the female possum's immune system against possum sperm (immuno-contraception), or by disabling the genes which control embryonic growth or lactation. Modyfying pos-

sum genes is an intensive research area but ten years work and we are still only in the early stages of development. A suitable microbial or parasitic vector for spreading the disabling genes has yet to be found.

However, the anticipated public resistance to the release of GM vectors has forced researchers to explore the possibilities of using carrots to spread the contraceptive. Aerial drops of carrots containing sabotaged possum genes looks quite promising.

Fitzgerald, Wilkinson and Saunderson's chapter on 'Public perceptions and issues of possum control' is very sobering. Until now, policy-makers and pest controllers have had one focus – possums. Now, it seems, we have a bigger problem in the public perception of risks.

The biggest obstacle to developing new control methods appears to be 'dread fears' of poisons, foreign pathogens and genetic engineering – fears of exposure to GM organisms, their uncontrollable spread, widespread impact, unknown and delayed effects on future generations. One writer calls the future controversy 'thunder on the horizon'. Australians are also worried that GM possums may find their way back home.

Of all methods for controlling possums, most people (57%) prefer the least effective means – shooting and trapping. Only 36% of New Zealanders favour our most effective method for controlling possums over large areas (aerial drops of 1080). Most (83%) people would prefer to see possums sterilised rather than killed, yet 30% of people reject genetic engineering – the only practical foreseeable means of sterilising wild possums.

To overcome these obstacles we are urged to 'improve dialogue with communities'. This is noble aim but it is almost impossible to communicate with a largely technophobic and chemophobic public.

Fitzgerald and colleagues point out that "... science-based data is not readily accepted in New Zealand, and the recent public debate on 1080 shows that despite scientific evidence that 1080 is a safe poison, public acceptance of its use decreased during the debate."

Looks like we're in for a rough ride.

The Brushtail Possum is already widely being used for teaching and training programmes, for degree courses in biology, wildlife management and conservation courses, and by high schools, government agencies and local bodies. Highly recommended and timely.