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## **Evaluation of Zoletil and other injectable anaesthetics for field sedation of brushtail possums (*Trichosurus vulpecula*)**

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### **Abstract**

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*Ketamine has been used for many years for sedating possums captured in the wild in New Zealand, but its recent reclassification as a Class III drug under the Misuse of Drugs Act (1975) has made its continued use impractical. Consequently, four other injectable anaesthetic compounds (Zoletil, xylazine-butorphanol, medetomidine-butorphanol and Fentazin) were evaluated as replacements for ketamine. Zoletil (a combination of zolazepam and tiletamine) was the only effective alternative. Brushtail possums (*Trichosurus vulpecula*) were sedated adequately for general procedures, such as fitting radio-collars, at an intramuscular dose of 5 mg kg<sup>-1</sup>. At this dose, possums were sedated on average in 3.6 min, and recovery took 65 min on average. Zoletil did not cause sudden arousal as seen with some other anaesthetics, but most possums showed involuntary chewing during recovery, and in some cases excessive salivation. In contrast, Fentazin and combinations of xylazine-butorphanol and medetomidine-butorphanol failed to produce sedation at doses known to be effective in other mammalian species. Zoletil proved similar to ketamine in both performance and cost, and is therefore recommended as a cost-effective anaesthetic and humane method for sedating possums captured in the wild.*

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**Keywords:** anaesthetics, animal welfare, brushtail possum, sedation, wildlife capture, Zoletil