GLOBAL INVASIVE SPECIES DATABASE

FULL ACCOUNT FOR: ***Trichosurus vulpecula***

Trichosurus vulpecula 简体中文 正體中文

System: Terrestrial

Kingdom	Phylum	Class	Order	Family
Animalia	Chordata	Mammalia	Diprotodontia	Phalangeridae

Common name Fuchskusu (German), brushtail possum (English)

Synonym *Trichosurus fuliginosus* , Ogilby, 1831

Similar species

Summary The brushtail possum (Trichosurus vulpecula) is a solitary, nocturnal, arboreal marsupial introduced from Australia. It damages native forests in New Zealand by selective feeding on foliage and fruits and also preys on bird nests and is a vector for bovine tuberculosis.

view this species on IUCN Red List

Species Description
Trichosurus vulpecula are cat-sized phalanger (2-4kg) with a bushy, prehensile tail, strong claws, a pointed snout, brown eyes and prominent ears, which are naked on the inside. The fur is thick and woolly; either grey or \"black\". Grey individuals have a grizzled back and sides, with paler (whitish) underparts, a dark snout and chin and a pink nose. The sternal gland stains a streak of brown fur on the chest (most marked in adult males). The tail is thick and cylindrical, turning to black at around mid point, with a naked underside towards the end. \"Black\" individuals are actually a dark brown, tinged with rufous, paler on the forequarters and underside, with an almost entirely black tail. Adult females have a forward-opening pouch with two mammaries. Adult males have testes in a pendulous scrotum, situated anterior to the penis.

Lifecycle Stages
Reproduction is highly seasonal with the main breeding season in autumn. A secondary season in spring sometimes occurs when nutrition is good. Gestation is 17-18 days. Single newborn young (c. 0.2g) crawl into the pouch and attach to a teat. Most development occurs within the pouch, where they remain for 120 - 140 days. Young remain with the mother (initially riding on her back) for a further 100 days or more, becoming independent from 240 -270 days old. Females may mature at one year old; males at 15 months or more.

Reproduction
Sexual: 1 - 2 young per year. Females can breed at one year of age.

Nutrition
In its native Australia, the brushtail possum (*Trichosurus vulpecula*) feeds mainly on *Eucalyptus* leaves, but high levels of phenolics, terpenoids and other chemical defences in eucalypt foliage limits the intake of any one species. In New Zealand forests a high proportion of plant species is palatable and brushtail possum diets include a wide variety of foliage and fleshy fruits. The New Zealand plants most favoured by possums tend to be those producing foliage or fruits high in carbohydrate. In addition to their staple diet of foliage and fruits, possums also feed on flowers, the pollen cones of introduced pines, insects, and bird eggs and nestlings.

General Impacts
Trichosurus vulpecula have multiple impacts, as a browser of forest vegetation, frugivore, competitor for tree hollows, predator of invertebrates and bird nests, and disease vector. Long term changes in forest structure and composition (including canopy collapse in extreme cases) can result from sustained possum browsing pressure. Some highly palatable and chemically \"unprotected\" plant species are so preferred by brushtail possums that their selective browsing can result in local plant extinctions. Effects on native wildlife include depletion of fruit crops, competition for tree hollows, and predation by possums on invertebrates and the eggs and nestlings of birds (including threatened species). Possums are vectors of bovine tuberculosis, and consequently pose a significant threat to cattle, deer and dairy industries.

Management Info
Preventative measures: Harbouring and releasing brushtail possums (*Trichosurus vulpecula*) in New Zealand was made illegal in the 1940s (Cowan, 2005)
\r\nCultural: Bounties were offered for possums in New Zealand between 1951 and 1962. In this 11 year period about 8.2 million bounties were paid but the bounty system probably encouraged the illegal spread and release of possums (Cowan, 2005).\r\n
Physical: Possums are trapped for fur throughout New Zealand but pelts from the South Island are worth more. In periods of high fur prices trappers may have a significant impact on possum populations but this control is limited to accessible areas (Cowan, 2005; Marks, 2006). Possums were eradicated from Rangitoto and Motutapu islands using a combination of methods including aerial 1080 drops (estimated to kill 93% of the population), trapping using leg hold traps and ground based shooting with dogs. Helicopters fitted with forward looking infra-red cameras were used to identify areas of possum activity at night. The eradication of possums from both islands (joined by a small causeway) took 6 years (Mowbray, 2002). Possums have been removed from a number of areas surrounded by predator proof fences (e.g. Karori Sanctuary in Wellington) although the fences need constant monitoring for breaches that would allow possums and other introduced mammals back into the fenced area.
Chemical: Possum control in New Zealand using poison is coordinated by three main groups: the Animal Health Board (to minimise the Tb risk to domestic stock); the Department of Conservation (to protect forests and native wildlife); and the Regional Councils (for Tb control and conservation reasons). 1080 in carrots or cereal baits is spread using helicopters to treat large areas. Smaller areas are generally treated using ground based poisoning utilising toxins such as 1080, cyanide (in paste or capsule form), cholecalciferol, and various anticoagulants. Ground based poison control is often backed up with physical methods such as trapping and shooting (Cowan, 2005).
Biological: Two methods of biological control are being investigated: immunological interference with fertility and disabling the normal hormonal control of reproduction (Cowan, 2005). Tompkins and Ramsey (2007) investigated different methods of distributing fertility control vaccines through bait stations and concluded that the delivery method would not affect success of fertility control operations. Instead, the success depends on vaccine characteristics, namely: “its expense relative to existing tools, its longevity in the field, and its efficacy at reducing female breeding success”.
Integrated management: Possum control using poisons (particularly aerial drops) frequently controls rodent species and in turn predators such as mustelids and feral cats through secondary poisoning.

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ALIEN RANGE

[10] NEW ZEALAND

Red List assessed species 22: CR = 2; EN = 9; VU = 8; NT = 3;

Anas chlorotis **EN**
Apteryx haastii **VU**
Cyanoramphus malherbi **CR**
Falco novaeseelandiae **NT**
Hemiphaga novaeseelandiae **NT**
Larus bulleri **EN**
Nestor meridionalis **EN**
Phalacrocorax chalconotus **VU**
Phalacrocorax onslowi **CR**
Poliocephalus rufopectus **VU**
Procellaria westlandica **VU**
Apteryx australis **VU**
Callaeas cinereus **EN**
Cyanoramphus novaezelandiae **VU**
Hebe barkeri **VU**
Hymenolaimus malacorhynchos **EN**
Metrosideros bartlettii **EN**
Nestor notabilis **VU**
Phalacrocorax featherstoni **EN**
Plectrophenax hyperboreus **NT**
Porphyrio hochstetteri **EN**
Sterna albostriata **EN**

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