Mustela nivalis **System:** Terrestrial

Kingdom	Phylum	Class	Order	Family
Animalia	Chordata	Mammalia	Carnivora	Mustelidae

Common name

Synonym

Similar species *Mustela erminea*

Summary Mustela nivalis (weasel) are the smallest mustelid species and the smallest member of the order Carnivora. They have a large native range throughout the Holoarctic and have been introduced to New Zealand and other islands where they feed on native birds, mammals, invertebrates and reptiles leading to population declines of some species

view this species on IUCN Red List

Species Description
Mustela nivalis (weasel) has a long slender body and short limbs; a long neck and a flat, narrow head; large, black eyes; relatively large, rounded ears; and long vibrissae. Summer pelage is about 10mm in length and generally is chocolate brown on the dorsal side. The white underparts often have brown spots or blotches. The line of demarcation between the upperbrown and the lower-white colours is straight in most forms and irregular in some European and American forms. Winter pelage is ca. 15-16mm in length and is entirely white in northern populations, but remains brown in southern populations. The feet, each with five digits, have sharp non-retractable, curved claws, and the soles, except the pads, are fully furred (taken from Sheffield and King, 1994). It is the smallest member of the Order Carnivora. Weasels are smaller than stoats and do not have a black tail tip.

Notes
Pronounced sexual dimorphism with males is larger. A range of different subspecies exist worldwide. The subspecies introduced to New Zealand (*M. n. vulgaris*) is native to west and central Europe. Weasels have not fared well in New Zealand and are only present at low densities. This is probably due to insufficient food as *Mus musculus* is the only suitable rodent prey present in New Zealand and numbers are often not sufficient to support a population.

Lifecycle Stages
The gestation period of *Mustela nivalis* (weasel) is 34-37 days . Young are born naked, blind and deaf. Weaning begins at 32 days, permanent dentition grows by 40-42 days and weaning is complete around 42-56 days. Young weasels are able to kill prey at around 38 days. Adult body mass is achieved between weeks 12 and 15.

Uses
Mustela nivalis (weasel) has been introduced outside of its native range to control rabbits and rodents. As with stoats (*Mustela erminea*), weasels proved ineffective in this role and they rapidly became a pest species.

Habitat Description
Mustela nivalis (weasels) prefer thick ground cover, so they favour overgrown patches of any habitat from suburban gardens to agricultural land, in scrub and cutover native or exotic forest or at the margins between these and open country (King, 2005). Weasels are commonly found in riparian habitats in North America. Snow does not impede weasels hunting in the slightest and they range above the treeline in arctic and alpine areas (Sheffield and King, 1994).

Reproduction
Ovulation is induced by the stimulus of copulation and, unlike stoats, weasels do not delay implantation. Litter sizes in the native range average around 6.5 and in the introduced range in New Zealand the litter size averages 4.5. Females may produce two litters per year but mortality is often high in the second litter. Females become sexually mature at around three months and in periods of ample food spring-born females may breed in their first year.

Nutrition
Mustela nivalis (weasel) is a specialised predator of small rodents such as voles and mice. Weasels are able to alter their diet to follow changes in relative abundances of different rodents throughout the year. They may also take bird's eggs, small lagomorphs, beetles, carrion and lizards if food is scarce (Sheffield and King, 1994). In their introduced range in New Zealand weasel stomachs have been found to contain birds, lizards, mice, lagomorphs, skinks, other lizards, geckos and wetas (King, 2005).

General Impacts
Mustela nivalis (weasels) are voracious predators and they are able to take a wide variety of prey. In the introduced range of the species in New Zealand mice account for a large portion of their diet but native birds, invertebrates and reptiles are also taken (King, 2005). Weasels in New Zealand have been recorded feeding on Whitaker's skinks (see *Cyclodina whitakeri* in IUCN Red List of Threatened Species) in the last mainland population of this endemic species (Hoare et al., 2007). Whitaker's skinks are listed as vulnerable by the World Conservation Union due to small population size and acute range restriction. Weasels have also been introduced to Sao Tomé Island off West Africa as a means of rodent control and are now considered a significant threat to the critically endangered endemic white toothed shrew (see *Crocidura thomensis* in IUCN Red List of Threatened Species) (Dutton, 1994).

Management Info
Physical: In the UK *Mustela nivalis* (weasels) are not regarded as a particular threat by gamekeepers but they are legally shot and trapped to protect game birds (McDonald *et al*. 1998). In New Zealand stoats are far commoner than weasels so most predator control programmes focus on catching stoats and any weasels killed are an additional benefit (King, 1995). The Fenn trap is the most commonly used device for catching weasels and over 6 years of trapping at Trounsen Kauri Park in Northland, New Zealand 98.5% of all weasels caught were trapped in Fenn traps. Only 66 weasels were caught in the course of this study compared to 268 stoats (Gillies *et al*. 2003). Regional Councils in New Zealand encourage community groups to set up predator control programmes and councils are able to provide advice, support, equipment and sometimes funding to such groups (see links to Auckland and Northland Regional Council websites).
Chemical: Weasels are also susceptible to secondary poisoning through the consumption of rodents that have been exposed to anticoagulant toxins (McDonald *et al*. 1998; Murphy *et al*. 1998). In a study of weasels and stoats trapped or shot on British game estates, McDonald *et al*. (1998) found that 3 out of the 10 weasels examined had been exposed to anticoagulant toxins. Levels of toxin were generally low and the authors were unable to comment on likely lethal doses for weasels. It is unlikely that any animals exposed to a lethal dose of toxin would be found as weasels tend to be secretive and hide in burrows if they are unwell (McDonald *et al*. 1998). A study in New Zealand found that 71% of 14 weasels trapped following brodifacoum poisoning to control rats and possums contained traces of toxin.

Pathway
Mustela nivalis (weasels) were introduced to new areas to control rodent and lagomorph populations

Principal source: Sheffield, Steven R.; Carolyn M. King. 1994. *Mustela nivalis*. Mammalian Species, No. 454. (Jun. 2, 1994), pp. 1-10.;
King, C.M., 2005. Weasel. In: The Handbook of New Zealand Mammals (ed C.M. King) pp. 81-94. Oxford University Press, Auckland.

Compiler: IUCN/SSC Invasive Species Specialist Group (ISSG) with support from ASB Community Trust, New Zealand

Review:

Pubblication date: 2008-04-08

ALIEN RANGE

[1] EGYPT
[5] GREECE
[1] MAGHREB
[27] NEW ZEALAND
[2] SAO TOME AND PRINCIPE
[1] FRANCE
[3] ITALY
[1] MALTA
[1] PORTUGAL
[2] SPAIN

Red List assessed species 17: CR = 2; EN = 4; VU = 9; NT = 1; DD = 1;

Amaurocichla bocagei **VU**
Apteryx haastii **VU**
Crocidura thomensis **EN**
Deinacrida fallai **VU**
Deinacrida parva **DD**
Erithacus komadori **NT**
Neospiza concolor **CR**
Phalacrocorax chalconotus **VU**
Sterna albostriata **EN**
Anas chlorotis **EN**
Bostrychia bocagei **CR**
Cyanoramphus unicolor **VU**
Deinacrida heteracantha **VU**
Deinacrida rugosa **VU**
Larus bulleri **EN**
Oligosoma whitakeri **VU**
Poliocephalus rufopectus **VU**

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