

= Least weasel =

The least weasel (*Mustela nivalis*), or simply weasel in the UK , is the smallest member of the genus *Mustela* and of the family *Mustelidae* (as well as the smallest of the *Carnivora*) , native to Eurasia , North America and North Africa , though it has been introduced to New Zealand , Australia , Malta , Crete , Bermuda , Madeira Island , the Azores , the Canary Islands , Sao Tome , the Falkland Islands , Argentina and Chile . It is classed as being of least concern by the IUCN , due to its wide distribution and presumed large population .

Least weasels from various parts of its range vary greatly in size . The body is slender and elongated and the legs and tail are relatively short . The colour varies geographically , as does the pelage type and length of tail . The dorsal surface , flanks , limbs and tail of the animal are usually some shade of brown while the underparts are white . The line delineating the boundary between the two colours is usually straight . At high altitudes and in the northern part of its range , the coat becomes pure white in winter . Eighteen subspecies are recognised .

Small rodents form the largest part of the least weasel 's diet , but it also kills and eats rabbits and other mammals , and occasionally birds , birds ' eggs , fish and frogs . Males mark their territories with olfactory signals and have exclusive home ranges which may intersect with or include several female ranges . Least weasels use pre-existing holes to sleep , store food and raise their young . Breeding takes place in the spring and summer , and there is a single litter of about six kits which are reared exclusively by the female . Due to its small size , fierce nature and cunning behaviour , the least weasel plays an important part in the mythology and legend of various cultures .

= = Taxonomy and evolution = =

The least weasel was given its scientific name *Mustela nivalis* by Carl Linnaeus in his 12th edition of *Systema Naturae* in 1766 . The type locality was Westrobothnia in Sweden . As an animal with a very wide distribution , the morphology of the least weasel varies geographically . The species was reviewed by Reichstein in 1957 and again by van Zyll de Jong in 1992 and Reig in 1997 . Youngman (1982) placed it in the subgenus *Mustela* while Abramov (1999) considered it should be included in the subgenus *Gale* . Based on skull characteristics , Reig (1997) proposed that the taxon should be split into four species , *M. subpalmata* , *M. rixosa* , *M. vulgaris* and *M. eskimo* . Abramov and Baryshnikov (2000) disagreed , recognising only *M. subpalmata* as a separate species .

Within the genus *Mustela* , the least weasel is a relatively unspecialised form , as evidenced by its pedomorphic skull , which occurs even in large subspecies . Its direct ancestor was *Mustela praenivalis* , which lived in Europe during the Middle Pleistocene and Villafranchian . *M. praenivalis* itself was probably preceded by *M. pliocaenica* of the Pliocene . The modern species probably arose during the Late Pleistocene . The least weasel is the product of a process begun 5 ? 7 million years ago , when northern forests were replaced by open grassland , thus prompting an explosive evolution of small , burrowing rodents . The weasel 's ancestors were larger than the current form , and underwent a reduction in size to exploit the new food source . The least weasel thrived during the Ice Age , as its small size and long body allowed it to easily operate beneath snow , as well as hunt in burrows . It probably crossed to North America through the Bering land bridge 200 000 years ago .

= = = Subspecies = = =

The least weasel has a high geographic variation , a fact which has historically led to numerous disagreements among biologists studying its systematics . Least weasel subspecies are divided into 3 categories :

The *pygmaea* ? *rixosa* group (small weasels) : Tiny weasels with short tails , pedomorphic skulls , and pelts that turn pure white in winter . They inhabit northern European Russia , Siberia , the

Russian Far East , Finland , northern Scandinavian Peninsula , Mongolia , northeastern China , Japan and North America .

The boccamela group (large weasels) : Very large weasels with large skulls , relatively long tails and lighter coloured pelts . Locally , they either do not turn white or only partially change colour in winter . They inhabit Transcaucasia , from western Kazakhstan to Semirechye and in the flat deserts of Middle Asia . They are also found in Morocco , Algeria , and Tunisia .

The nivalis group (average weasels) : Medium @-@ sized weasels , with tails of moderate length , representing a transitional form between the former two groups . They inhabit the middle and southern regions of European Russia , Crimea , Ciscaucasus , western Kazakhstan , southern and middle Urals and montane parts of Middle Asia , save for Koppet Dag .

As of 2005 , 18 subspecies are recognised .

= = Description = =

The least weasel has a thin , greatly elongated and extremely flexible body with a small , yet elongated , blunt @-@ muzzled head which is no thicker than the neck . The eyes are large , bulging and dark coloured . The legs and tail are relatively short , the latter constituting less than half the body length . The feet are armed with sharp , dark @-@ coloured claws , and the soles are heavily haired . The skull , especially that of the small rixosa group , has an infantile appearance when compared with that of other members of the genus *Mustela* (in particular , the stoat and kolonok) . This is expressed in the relatively large size of the cranium and shortened facial region . The skull is , overall , similar to that of the stoat , but smaller , though the skulls of large male weasels tend to overlap in size with those of small female stoats . There are usually four pairs of nipples but these are only visible in females . The baculum is short , 16 to 20 mm (0 @.@ 6 to 0 @.@ 8 in) , with a thick , straight shaft . Fat is deposited along the spine , kidneys , gut mesenteries and around the limbs . The least weasel has muscular anal glands under the tail , which measure 7 by 5 mm (0 @.@ 3 by 0 @.@ 2 in) , and contain sulphurous volatiles , including thietanes and dithiacyclopentanes . The smell and chemical composition of these chemicals are distinct from those of the stoat . The least weasel moves by jumping , the distance between the tracks of the fore and hind limbs being 18 to 35 cm (7 to 14 in) .

Dimensions vary geographically , to an extent rarely found among other mammals . Least weasels of the vulgaris group , for example , may outweigh the smaller races by almost four times . In some large subspecies , the male may be 1 @.@ 5 times longer than the female . Variations in tail length are also variable , constituting from 13 ? 30 % of the length of the body . Average body length in males is 130 to 260 mm (5 to 10 in) , while females average 114 to 204 mm (4 @.@ 5 to 8 @.@ 0 in) . The tail measures 12 to 87 mm (0 @.@ 5 to 3 @.@ 4 in) in males and 17 to 60 mm (0 @.@ 7 to 2 @.@ 4 in) in females . Males weigh 36 to 250 g (1 @.@ 3 to 8 @.@ 8 oz) , while females weigh 29 to 117 g (1 @.@ 0 to 4 @.@ 1 oz) .

The winter fur is dense , but short and closely fitting . In northern subspecies , the fur is soft and silky , but coarse in southern forms . The summer fur is very short , sparser and rougher . The upper parts in the summer fur are dark , but vary geographically from dark @-@ tawny or dark @-@ chocolate to light pale tawny or sandy . The lower parts , including the lower jaw and inner sides of the legs , are white . There is often a brown spot at the corner of the mouth . The dividing line between the dark upper and light lower parts is usually straight but sometimes forms an irregular line . The tail is brown , and sometimes the tip is a little darker but it is never black . In the northern part of its range and at high altitudes , the least weasel changes colour in the winter , the coat becoming pure white and exhibiting a few black hairs in rare circumstances .

= = Behaviour and ecology = =

= = = Reproduction and development = = =

The least weasel mates in April ? July and there is a 34- to 37 @-@ day gestation period . In the Northern Hemisphere , the average litter size consists of 6 kits and these reach sexual maturity in 3 to 4 months . Males may mate during their first year of life , though this is usually unsuccessful . They are fecund in February ? October , though the early stages of spermatogenesis do occur throughout the winter months . Anestrus in females lasts from September until February .

The female raises its kits without help from the male . They are 1 @.@ 5 to 4 @.@ 5 g (0 @.@ 05 to 0 @.@ 16 oz) in weight at birth . Newborn kits are born pink , naked , blind and deaf , but gain a white coat of downy fur at the age of 4 days . At 10 days , the margin between the dark upper parts and light under parts becomes visible . The milk teeth erupt at 2 to 3 weeks of age , at which point the young start to eat solid food , though lactation can last 12 weeks . The eyes and ears open at 3 to 4 weeks of age , and by 8 weeks , killing behaviour is developed . The family breaks up after 9 to 12 weeks . There is a single litter each year and least weasels can live for 7 or 8 years .

= = = Territorial and social behaviours = = =

The least weasel has a typical mustelid territorial pattern , consisting of exclusive male ranges encompassing multiple female ranges . The population density of each territory depends greatly on food supply and reproductive success , thus the social structure and population density of any given territory is unstable and flexible . Like the stoat , the male least weasel extends its range during spring or during food shortages . Its scent marking behaviour is similar to that of the stoat ; it uses faeces , urine and anal and dermal gland secretions , the latter two of which are deposited by anal dragging and body rubbing . The least weasel does not dig its own den , but nests in the abandoned burrow of another species such as a mole or rat . The burrow entrance measures about 2 @.@ 5 cm (0 @.@ 98 in) across and leads to the nest chamber located up to 15 cm (5 @.@ 9 in) below ground . The nest chamber (which is used for sleeping , rearing kits and storing food) measures 10 cm (3 @.@ 9 in) in diameter , and is lined with straw and the skins of the weasel 's prey .

The least weasel has four basic vocalisations ; a guttural hiss emitted when alarmed , which is interspersed with short screaming barks and shrieks when provoked . When defensive , it emits a shrill wail or squeal . During encounters between males and females or between a mother and kits , the least weasel emits a high @-@ pitched trilling . The least weasel 's way of expressing aggression is similar to that of the stoat . Dominant weasels exhibit lunges and shrieks during aggressive encounters , while subdominant weasels will emit submissive squeals .

= = = Diet = = =

The least weasel feeds predominantly on mouse @-@ like rodents , including mice , hamsters , gerbils and others . It usually does not attack adult hamsters and rats . Frogs , fish , small birds and bird eggs are rarely eaten . It can deal with adult pikas and gerbils , but usually cannot overcome brown rats and sousliks . Exceptional cases are known of least weasels killing prey far larger than themselves , such as capercaillie , hazel hen and hares . In England , a favoured prey item is the field vole (*Microtus agrestis*) . These have fluctuations in population size , and in years of abundance may form up to 54 % of the weasel 's diet . In years of scarcity , birds form a greater proportion of the diet and female least weasels may fail to breed .

Despite its small size , the least weasel is a fierce hunter , capable of killing a rabbit five to ten times its own weight . Although they are commonly taken , the rabbits are usually young specimens , and become an important food source during the spring , when small rodents are scarce and rabbit kits are plentiful . Male least weasels take a higher proportion of rabbits than females , as well as an overall greater variety of prey . This is linked to the fact that being larger , and having vaster territorial ranges than females , males have more opportunities to hunt a greater diversity of prey .

The least weasel forages undercover , to avoid being seen by foxes and birds of prey . It is adapted for pursuing its prey down tunnels , though it may also bolt prey from a burrow and kill it in the open . The least weasel kills small prey , such as voles , with a bite to the occipital region of the skull or the neck , dislocating the cervical vertebrae . Large prey typically dies of blood loss or circulatory shock .

When food is abundant , only a small portion of the prey is eaten , usually the brain . The average daily food intake is 35 g (1 oz) , which is equivalent to 30 ? 35 % of the animal 's body weight .

= = = Predators and competitors = = =

The least weasel is small enough to be preyed upon by a range of other predators . Least weasel remains have been found in the excrement of red foxes , sables , steppe and forest polecat , stoats , eagle owls and buzzards . The owls most efficient at capturing least weasels are barn , barred , and great horned owls . Other birds of prey threatening to the least weasel include broad @-@ winged and rough @-@ legged buzzards . Some snake species may prey on the least weasel , including the black rat snake and copperhead . Aside from its smaller size , the least weasel is more vulnerable to predation than the stoat because it lacks a black predator deflection mark on the tail .

In areas where the least weasel is sympatric with the stoat , the two species compete with each other for rodent prey . The weasel manages to avoid too much competition by living in more upland areas , feeding on smaller prey and being capable of entering smaller holes . It actively avoids encounters with stoats , though female weasels are less likely to stop foraging in the presence of stoats , perhaps because their smaller size allows them to quickly escape into holes .

= = = Diseases and parasites = = =

Ectoparasites known to infest weasels include the louse *Trichodectes mustelae* and the mites *Demodex* and *Psoregates mustela* . The species may catch fleas from the nests and burrows of its prey . Flea species known to infest weasels include *Ctenophthalmus bisoctodentatus* and *Palaeopsylla m. minor* , which they get from moles , *P. s. soricis* , which they get from shrews , *Nosopsyllus fasciatus* , which they get from rodents and *Dasypsyllus gallinulae* which they get from birds .

Helminths known to infest weasels include the trematode *Alaria* , the nematodes *Capillaria* , *Filaroides* and *Trichinella* and the cestode *Taenia* . Least weasels are commonly infected with the nematode *Skrjabingylus nasicola* , adults of which are found in the nasal sinuses and can damage the skull . There is no evidence that this has serious detrimental effects on even heavily infested animals .

= = Distribution and habitat = =

The least weasel has a circumboreal , Holarctic distribution , encompassing much of Europe and North Africa , Asia and parts of northern North America , where it occurs mainly in places where the stoat is not found , though it has been introduced in New Zealand , Malta , Crete , the Azore Islands and also Sao Tome off west Africa . It is found throughout Europe and on many islands , including the Azores , Britain (but not Ireland) , and all major Mediterranean islands . It also occurs on Honshu and Hokkaido islands in Japan and on Kunashir , Iturup , and Sakhalin Islands in Russia .

The least weasel occupies a similar type of habitat as the stoat but it less often frequents wet places . It can be found in fields , open woodland , bushy or rocky areas , parks and gardens , and at altitudes of up to about 3 @, @ 000 metres (9 @, @ 800 ft) .

= = Conservation status = =

The least weasel has a very wide circumboreal range and a large total population and is therefore listed by the International Union for Conservation of Nature as being of " least concern " . Its chosen habitat is in areas of coarse vegetation and in some regions its numbers may be decreasing because of changes in agricultural practices , but altogether its population trend is thought to be steady . It is relatively common in Eurasia but less abundant in North America and is thought to be rare in the southeastern United States . It is subject to considerable variations in numbers in areas where its main rodent prey is liable to large population fluctuations . In years of rodent population

booms , the least weasel numbers may rise by up to ten @-@ fold , only to slump again as prey becomes scarce again in the following years .

= = In folklore and mythology = =

The Ancient Macedonians believed that to see a least weasel was a good omen . In some districts of Macedon , women who suffered from headaches after having washed their heads in water drawn overnight would assume that a weasel had previously used the water as a mirror , but they would refrain from mentioning the animal 's name for fear that it would destroy their clothes . Similarly , a popular superstition in southern Greece had it that the least weasel had previously been a bride , who was transformed into a bitter animal which would destroy the wedding dresses of other brides out of jealousy . According to Pliny the Elder , the least weasel is the only animal capable of killing the basilisk ;

To this dreadful monster the effluvium of the weasel is fatal , a thing that has been tried with success , for kings have often desired to see its body when killed ; so true is it that it has pleased Nature that there should be nothing without its antidote . The animal is thrown into the hole of the basilisk , which is easily known from the soil around it being infected . The weasel destroys the basilisk by its odour , but dies itself in this struggle of nature against its own self .

The Chippewa believed that the least weasel could kill the dreaded wendigo giant by rushing up its anus . In Inuit mythology , the least weasel is credited with both great wisdom and courage , and whenever a mythical Inuit hero wished to accomplish a valorous task , he would generally change himself into a least weasel . According to Matthew Hopkins , a witch hunter general during the English Civil War , least weasels were the familiars of witches .