

# Overview of ferrets – part one: conditions and behaviour

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**Wendy Bament** RVN, looks at taxonomy and housing needs before moving on to consider ferret anatomy and physiology

**FERRETS (*Mustela putorius furo*) have a long history of being domesticated, and their playful interactions with their owners make them entertaining and endearing pets. As a working animal they are efficient hunters and easy to train and handle.**

Nonetheless, it is vital to appreciate the specific husbandry (including dietary and behavioural) requirements and the animal's predisposition to certain conditions to help maintain healthy and happy ferrets.

Mustelidae is claimed to be one of the oldest living carnivore mammalian families and includes polecats, weasels, otters, badgers, and skunks. The names Mustelidae and *Mustela* are thought to translate from the Latin “seeker of mice”.

Ferrets have an added subspecies name because they are widely accepted as a domesticated version of the European polecat (*Mustela putorius*) and ferrets were originally named *Mustela furo*. Furo is derived from the Latin word furonem, meaning “little thief”, and putorius is from the Latin word putor meaning “stench”<sup>1</sup>. However, many studies suggest ferrets may be more closely related to the Steppe polecat (*Mustela eversmanni*).

Domestication of ferrets is likely to have happened more than 3,000 years ago and is even suggested in some texts of the Old Testament<sup>1</sup>. Whether in ancient times or in today's culture, ferrets fall into two domesticated categories; working animals or house pets.

## Working ferrets

There is clear documentation that in the Middle Ages, ferrets were recognised for their high energy and efficient hunting skills for large prey. The sport of ferreting became popular and well established in the UK and is still an important strategy in vermin control for many estates. It helps, as with other working animals, to understand the terminology and relationship between man and ferret so you can communicate with the client and provided effective veterinary care ([Table 1](#))<sup>2</sup>.

## Pet ferrets

Ferrets also appear in historical documents as pets, particularly of the wealthy and even with royalty, including Queen Elizabeth I<sup>3</sup>. Not much has changed and even celebrities are reported to prefer ferrets as pets, which may contribute towards their recent growing popularity in the pet industry, with at least 800,000 thought to be kept in the UK<sup>4</sup>. Consequently, the number of ferrets recorded in rehoming centres and pets released into the wild has been increasing as well.

## Natural behaviour and social activity

Ferrets are not as nervous of humans as their wild counterparts, the European polecat (*Mustela putorius*), and while the polecat is solitary and highly territorial, the ferret is social and enjoys contact.

Ferrets quickly become habituated and bonded to their owners. This gregarious nature must be satisfied by owners investing time to interact with their pet and/or keeping them with at least one other ferret. Ferrets love to play and behave like excitable puppies, even initiating tag games where they are chased and perform elaborate leaps, such as the “weasel war dance”<sup>3</sup>. They should be housed in same sex groups unless intended for breeding, where only a single female and single male is appropriate. Vigilance is required for unrest in the group, or during mating, as any fights can result in serious wounds or death.

They need to sleep for 16 to 20 hours during the day to support their high energy activities, such as hunting and play during the night. However, some ferrets will become used to being woken up around dawn and dusk for playtimes, but they can take a while to rouse from their typical deep sleep.

## Captive housing requirements

Ferrets were, in the past, the classic outdoor pet in a hutch at the bottom of the garden, but there is an increasing trend in keeping ferrets indoors. The first obvious downside is the ferret’s pungent smell and scent-marking behaviour, such as rubbing its body and anus against objects, as well as carefully selecting defaecation sites (latrines). This territorial behaviour will continue even when

neutered, although the scent is greatly reduced.

It is advisable to keep ferrets outdoors as they are hardy and are highly prone to heat stress when housed indoors. Due to their intensely inquisitive nature they should be supervised when exercising indoors to ensure they don't disappear down crevices, chew electric cables or hide items.

If ferrets are kept outdoors, they will need protection from the elements (wind, rain and direct sunlight) and it is highly recommended to construct an aviary-type enclosure big enough for a person to walk into. Large aviaries are referred to as courts by serious ferret owners and they can include a variety of enrichment materials for the ferret(s) by securing varying height levels, branches, nest boxes, hammocks and swinging platforms. Ferrets require lots of exercise, and should be allowed to express both climbing and burrowing behaviours. Rope walkways from which toys containing treats can hang keep them amused, and some owners use specially designed harnesses to take ferrets out for evening walks, although encountering dogs can be a risk. It is ferrets' acrobatic and inquisitive nature that makes them a favourite animal in country shows and competitions.

Other appropriate materials, such as straw or shredded paper for bedding, and a cat bed or "igloo" should be provided, as ferrets love to snuggle together into soft bedding and will often mould a nest to their preference.

Food and water bowls should be used with care as ferrets are likely to spill the contents, so heavy ceramic bowls are advised for food, and water sipper bottles are preferable, although these must be changed regularly.

## **Anatomy and physiology**

Ferrets have a characteristically long, sleek, flexible body, perfect for slinking into crevices and tunnels, and they can sometimes appear to fold in half when sleeping or playing. They have small, but strong, limbs and can move relatively fast when pursuing something exciting ([Table 2](#) [3](#) [5](#) [6](#)). Normal haematological ranges in the ferret are in [Table 35](#).

## **Digestive system**

The stomach of the ferret is simple and it has a weak cardiac sphincter meaning it is capable of vomiting.

The small intestine is relatively short, as is the large intestine, which does not have an ileocaecal valve or the need for extensive microflora<sup>5</sup>. Consequently, gut transit times are short at approximately three to four hours and ferrets should, therefore, not be starved more than four to six hours and should be offered food little and often, and as soon as they show locomotion following an anaesthetic<sup>7</sup> [8](#). Ferrets possess a gall bladder and their spleen is relatively large and may vary

depending on age and size of the ferret<sup>5</sup>.

At the very caudal part of the rectum are two anal glands that produce the characteristic strong smell associated with ferrets and other mustelids such as skunks. In the UK, the RCVS deems the removal of these glands as unnecessary mutilation and removal should be performed only when a specific condition requires it<sup>5</sup>.

## Reproductive system

Male ferrets are referred to as hobs. On reaching sexual maturity, male ferrets will be twice the size of a mature female. The testes are relatively small, are close together and more spherical in shape resembling cat testes, and are easy to identify as they have a closed inguinal canal and do not retract testes into the abdomen. However, during their breeding season (March to September) the testes do noticeably enlarge. Males possess a prostate accessory gland located where the bladder meets the urethra. The hob's J-shaped os penis is located cranially along the ventral abdomen like dogs rather than rodents and rabbits, creating a relatively long anogenital distance.

Female ferrets are referred to as jills. Their uterus is bicornuate with two uterine horns meeting caudally with a common short uterine body<sup>5</sup>. They possess a single cervix opening into the vagina and the urethra enters after this point, creating a shared urogenital opening. The vulva is located close and cranial to the anus.

## Breeding

Jills are seasonally polyoestrous, induced ovulators (as with cats), and come into season in the spring and then around late summer or autumn. Jills will normally put on weight (40 per cent in entire jills) during the winter and lose weight in the summer<sup>6</sup>. An obvious swelling develops around the jill's genitalia when it is in season and it will remain in this state (up to three weeks) until brought out of season from mating or artificially from hormone suppressants. If a jill is not brought out of season, the result could be fatal where constant high oestrogen levels cause bone marrow suppression<sup>5</sup>. The act of mating can be quite aggressive where the male bites the back of the female's neck and this can lead to serious trauma, but, without this, the jill will not be stimulated to ovulate<sup>9</sup>.

Palpation of suspected pregnant females can be performed from 10 days after the vulval swelling has gone<sup>1</sup>. Ferret offspring are referred to as kits. They are altricial, being completely dependent on their mother and deaf, blind and with little fur initially<sup>5</sup> ([Figure 8](#)).

## Blood sample sites

Blood sampling in ferrets can be achieved from a variety of veins including the cephalic, jugular,

saphenous, femoral and if under general anaesthetic, the cranial vena cava. As with other small mammals, no more than 10 per cent of the total blood volume (seven per cent of bodyweight) should be taken in a non-anaemic or compromised patient<sup>10</sup>.

\*Calculation example:

**1kg ferret Total blood volume** =  $1\text{kg}/100 \times 7\% = 70\text{ml}$

**Total blood sample** =  $70\text{ml}/100 \times 10\% = 7\text{ml}$  **ONLY**

Ferret haematology resembles that of cats and dogs ([Table 3](#)).

In part two of this article, the author will look at handling, nutrition, and health problems.

## References

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**Figure 1 (left). A juvenile ferret demonstrating the typical “polecat” coat markings, rounded ears, binocular vision, and whisker placement.**

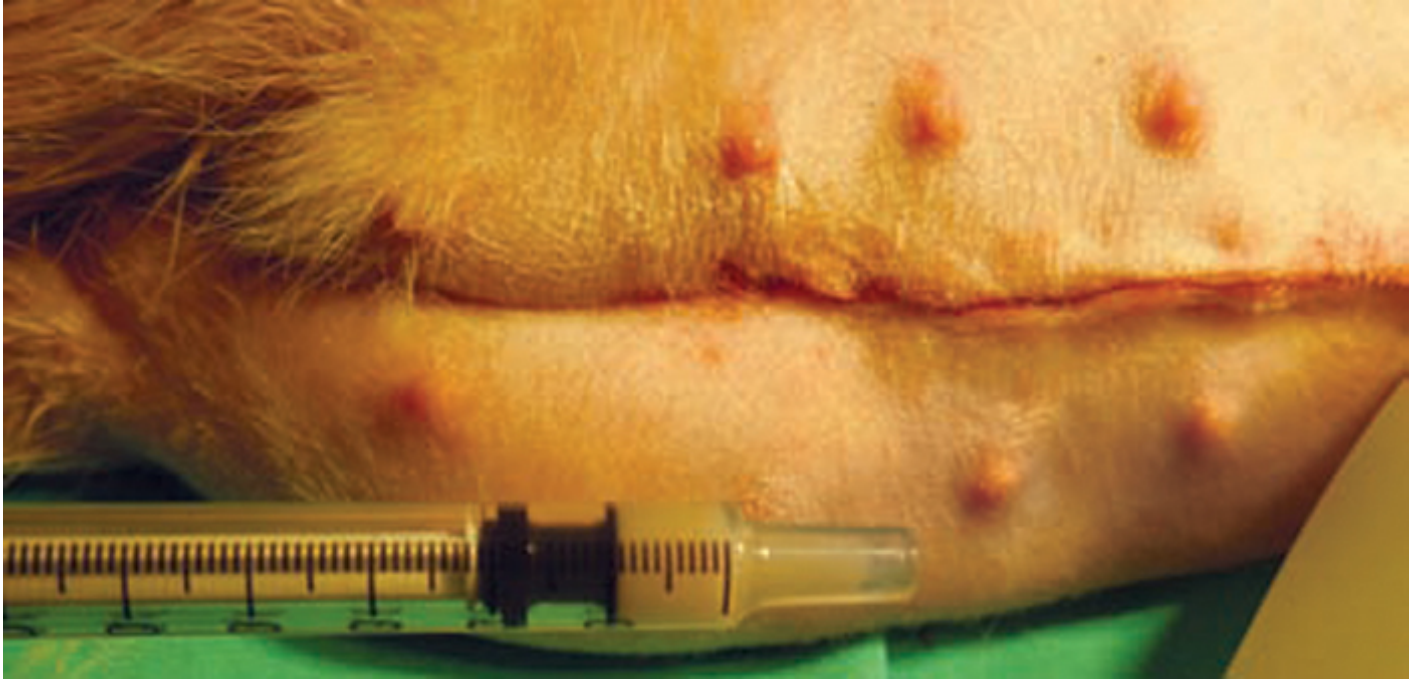




**Figure 2 (right). The normal appearance of incisors and canines in an adult ferret.**



**Figure 3. The hind foot of a ferret showing the five digits.**



**Figure 4. The mammary glands of a female ferret immediately after a caesarean and showing the collection of colostrum for the offspring's first meal.**



**Figure 5. A sedated ferret showing frothing at the mouth preceding regurgitating pieces of chicken fed too soon to administering the sedation. Owners must be informed of the risk of aspiration pneumonia and encouraged to confess if the ferret managed to eat within the six-hour fast.**





**Figure 6. The normal appearance of an adult male's genitalia. Note the large distance between the penis and anus.**



**Figure 7 (inset). The normal appearance of an adult female's genitalia.**





**Figure 8 (main). A newborn kit from a caesarean section.**

UK ferreting terminology	Meaning
Business	The term for a group of ferrets
Court	A relatively large enclosure for ferrets resembling a bird aviary
Cub	A relatively small enclosure resembling a rabbit hutch
Fitch/fitchet	The fur of a ferret with polecat-type markings (for example, dark mask)
Hobble	A castrated male
Hoblet	A vasectomised male
Hob	A male ferret
Intractability	A ferret that isn't tame is likely to bite when handled
Jill	A female ferret
Kit	A young ferret (less than four months)
Scours	Diarrhoea
Sweats	Overheated

**TABLE 1.** Useful ferret terminology employed by owners of working ferrets<sup>2</sup>.





Country of origin	Unknown, but widespread fossils found throughout the globe.
Species status (IUCN)	Domesticated species, therefore not on the Red list. However, the closely related black-footed ferret ( <i>Mustela nigripes</i> ) is listed as endangered (IUCN).
Skin and fur characteristics	Sebaceous glands found all over the body are responsible for the characteristic ferret musk, but these are found in higher density around the mouth and anus. During the breeding season (February to October) and in older ferrets, the skin and fur appears yellow, greasy/waxy due to these glands' secretions. Their skin can be particularly tough over the scruff region, especially in males, and could be reinforcement during fights <sup>5</sup> . They have relatively coarse thick hair shafts, which are sparsely arranged, although the hair on their tail can be denser. They moult twice a year (spring and autumn).
Eye characteristics	Binocular vision, okay ability in low light and poor long-distance vision <sup>6</sup> . Pupil has a horizontal slit. Possess a tapetum lucidum allowing good vision at low light levels, but they generally have poor eyesight and find it difficult to adjust to sudden light changes <sup>3</sup> . Poor eyesight is compensated by a good sense of smell.
Whiskers	Dense but relatively short. They possess a good sense of hearing.
Pinna	Rounded and laterally placed, usually with fine soft fur covering its surface.
Dental formula	I 3/3, C 1/1, PM 3/3, M 1/2 (adult/from seven weeks of age). The presence of canines in predatory species are for grasping and holding prey. Molars don't have the grinding surface seen in herbivorous species such as rabbits, and these are used for cutting and tearing meat <sup>5</sup> . I 3/0, C 1/1, PM 3/3, M 0/0 (Deciduous teeth from three weeks of age).
Colour of incisors	White
Skull characteristics	Narrow, rodent-shaped, although flattened, appearance. Nasal turbinates are extensive and demonstrate scent preferences for food, which is usually established in the first three months of age <sup>6</sup> .
Vertebral formula	C7, T15, L5-7, S3, Cocc18(ave)
Number of digits on fore feet	Five, all with unretractable claws.
Number of digits on hind feet	Five, all with unretractable claws.
Limb characteristics	Shortened, "stumpy", with hindlimbs being slightly longer, but generally contributing to the "low to the ground" locomotion unless posturing.
Male (vestigial) nipples	Four pairs.
Female (mammary) nipples	Four pairs.
Breed variations	Three common colour variations of ferret fur are: fitchet (polecat marking with black mask and darkened limbs and tail), albino and cinnamon.

**TABLE 2.** Basic anatomical characteristics and aetiology of ferrets<sup>3 5 6</sup>.

Parameter	Range
RBC ( $\times 10^{12}/L$ )	7.3 – 12.18
PCV (L/L)	0.36 – 0.53
Hb (g/dL)	15.2 – 17.7
ALKP IU/L	14 – 144
ALT IU/L	48 – 292
AST IU/L	46 – 118

**TABLE 3.** Normal haematological ranges in the ferret<sup>5</sup>.