

THUMPER, FIVER, WEE-ER, BITER – THE NATURAL BEHAVIOUR OF RABBITS AND ITS INFLUENCE ON BEHAVIOUR PROBLEMS

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In the past 20 years, pet behaviour therapy for dogs has become well established and the last decade has seen a similar trend for cats. Most UK veterinary practices either refer animals to a professional behaviourist or, provide such treatment in-house. Despite this widespread recognition that problem behaviour in dogs and cats can benefit from therapy, eyebrows are still raised at the idea that badly behaved bunnies may also benefit! Indeed, there are many who consider the treatment of rabbit problems to not really be of interest, or ‘worth the effort’. However, if we look back just a decade or so, a similar statement could be made about the cat!

According to the Federation of Companion Animal Societies (2006) 2.5 million UK households keep 6 million small mammals and it is estimated that over 1 million of these are rabbits (PFMA, 2005), making the rabbit the third most popular mammal pet. Estimates from the continent suggest there are 1.4 million in Germany (Wegler, 2003), in Switzerland, while numbers of rabbits per se is not known, 50% of households keep small mammals (Muser-Leyfraz, 2005) and in France over 600,000 dwarf rabbits are kept, the numbers for other breeds not being recorded (Larousse, 2001). While figures for those abandoned or given up to rescue societies can only be guessed, a 1997 UK survey of 200 rescue establishments found 2% of the rabbit pet population was given up to rescue societies, some 24,000 animals (Abbot, pers comm.).

A major reason for rabbits being euthanised, abandoned, given up to rescue societies, or merely left to eke out their days in solitary confinement in their hutch is because of behaviour problems – in particular aggression towards owners. This reality of both the rabbit’s behaviour and rather callous human response does not match the anthropomorphic cultural representation endemic in our society of the ‘cute, fluffy bunny’ who is the child’s best friend (Davies and Demello, 2003). As we know with other species, many problem behaviours are the result of mis-understanding between rabbit and owner and thus can be prevented or resolved. Sadly it is still the case that the rabbit that has turned aggressive is more likely to be deemed to have gone ‘mad and bad’ than to be seen to be fearful, territorial or even sexually aroused!

This paper will briefly, and I emphasise the word briefly, consider the natural behaviour of the rabbit and how it influences behaviour in the captive conditions in which we keep domestic rabbits. Many may consider the rabbit a simple beast and as such treating their problem behaviours is simple and not requiring a particular knowledge base. I trust that this talk will disabuse that notion and show that the rabbit is a complicated and unique creature in terms of its biology and behaviour as well as in its relationship with humans.

The rabbit has been domesticated from a single species, the European rabbit, *Oryctolagus cuniculus* – literally meaning ‘Hare like digger of underground passages’. An apt name for an animal that spends much of its time underground in a warren,

emerging on the surface in the evening and returning below ground soon after daybreak. The rabbit originated, and thus evolved in the dry landscape of the Iberian Peninsular, notably Southern Spain, an area of hot summers and little rainfall and thus poor quality herbage. The rabbit is a very important part of that ecosystem, acting as it does as a major food source, providing about a fifth of the diet of 20 predator species, both terrestrial and ariel. (It continues to play the role of prey in its domesticated form as an important ingredient in the diets of cats, dogs, ferrets and other predator species kept as companions!). In the safety of captivity a wild rabbit has a life expectancy of 10 years, as does a domestic rabbit. In the wild only around 12% of rabbits will live to be a year old. The cat has been described as the ultimate predator, the rabbit is the ultimate prey. Born to die, the rabbit's physiology and behaviour is designed to give the individual the best opportunity of reproductive success before it does: it lives fast, breeds fast and, in most cases, dies young.

Rabbits live in social groups of 2 (a mated pair) or more, with the ratio of a group membership favouring females. The size of the group is partly dependent the availability of suitable sites for burrowing and soil stability. Rabbits spend most of their time underground in a complex system of narrow twisting tunnels. Thus they are adapted for living in the dark or semi-dark either below ground or when they emerge between dusk and dawn. This means they are less visible to predators and this also has relevance when rabbit communication signals are considered. They do not rely on visual signals as a main channel of communication and those that they do employ are very subtle so as not to direct unwelcome attention to their whereabouts. One aspect of this is that rabbits do not show obvious signals of pain. The animal that shows weakness is likely to be the preferred target of a predator.

The rabbit's anatomy gives many clues to its behaviour. It is built for speed, with powerfully muscled, long hind limbs that propel the animal forward in a hopping motion, which is smoother than that of a kangaroo because of the use of the front limbs. Unique to the Lagomorphs, the feet are covered in an insulating coat of hair that provides extra grip on snow or rocks and acts as a shock absorber. Unlike hooves that become damaged or pads that can be cut or rubbed raw, the constant regrowth of fur ensures the rabbit can move swiftly and comfortably. The rabbit's eyes are placed high on the side of the head giving excellent distance vision both behind and above the animal, the ears are mobile, large and thus very sensitive and the split lip is moist and thus enhances olfaction. All enhance the individual's chances of early detection of and escape from a predator. Lack of provision of raised lookout sites, and suitable cover in the form of pipes and boxes in rabbit pens can result in stress related problems including agoraphobia and aggression

The rabbit's main form of defence is to first freeze and, then, flee. Fear aggression only occurs if the rabbit is caught or trapped. In domestic situations rabbits will also try to flee from danger signals such as sudden noises, foxes, cats, birds of prey. Many of them will be restricted to running around a small hutch or small hutch and run, where they can injure themselves either directly, or because their muscular and skeletal system has been compromised by the restricted space leading to weak and deformed muscles and bones (Drescher, 1996).

Relying on flight as a defensive system means that the rabbit needs to continually update its knowledge of its environment to ensure escape routes are maintained and

not blocked by natural disasters such as flooding or falling trees. Thus rabbits are active and have good spatial memories and a high curiosity drive. In the case of domestic animals provision is often not made for these needs and this can lead to problems associated with impoverished environments such as repetitive behaviours and self-mutilation.

The rabbit is a selective herbivore evolved to live on low quality herbage. Feeding takes up 70% of its activity budget and the feeding of concentrates leaves the pet open to developing problems related to boredom, and these can include frustration, aggression, self-mutilation, and destruction. The rabbit digestive system is very efficient but proper functioning of the gut relies on a high fibre diet. The teeth grow continuously throughout the rabbit's life. They are designed to slice and grind thin strips of vegetation, such as grass and hay. Unlike those of rodents, they are **not** designed to gnaw hard foodstuffs. Inappropriate feeding leads to the mis-alignment of the teeth, the formation of sharp spikes that tear the mouth and tongue, abscesses, and consequently early death. Feeding hay and fresh herbage as the bulk of the diet provides a natural form of behavioural enrichment as well as promoting dental and gut health. Commercial pellets should be provided **only** as a supplement.

The above indicates some of the aspects that show that the rabbit is a complex animal. It has a range of interlinked behavioural and physical needs that must be considered if good welfare is to be maintained and problems prevented. Space restrictions prevent consideration here of other issues such as the need for socialisation and appropriate handling (tonic immobility) though further reading is indicated below.

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