



# Rehoming of pet rabbits in Sweden

*Omplacering av sällskapskaniner i Sverige*

**Linnea Ulfsdotter**

**Skara 2013**

**Etologi och djurskyddsprogrammet**



Photo by Linnea Ulfsdotter

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## **Rehoming of pet rabbits in Sweden**

*Omplacering av sällskapskaniner i Sverige*

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## **ABSTRACT**

Rabbits are the third most popular companion animal in Sweden, after cats and dogs, yet not much research has been done on rabbits kept as pets in Sweden. The risk of people purchasing rabbits on impulse rather than after careful consideration is high as rabbits are easily available in pet stores and through other channels such as advertisement sites on the internet. When people purchase rabbits without adequate knowledge about the rabbits' needs the risk of the rabbits being subjected to a compromised welfare increases. It has also been shown that many rabbits are rehomed through personal contacts rather than through animal shelters. The purpose of this study was to provide a picture of why rabbit owners choose to rehome their rabbits and to what extent rabbit owners in Sweden choose to do this. The study also aimed to give some insight into the characteristics of the rabbits that are put up for sale and what type of new home the owners request for their rabbits. Ads compiled from a large Swedish advertisement site on the internet were used to answer these questions. There were 505 rabbits for sale through 334 ads during the three months covered by this study. The three most commonly stated reasons for putting a rabbit up for sale were "Lack of time" (35.8 %), "Owners are moving" (16.6 %) and "Allergies" (13.2 %). The mean age of the rabbits being put up for sale was low, only 17.6 months and most rabbits were put up for sale for a price of between 101 SEK and 500 SEK. Comments were given about the new home in 46.8 % of the ads and a majority of the comments consisted of descriptions of the type of home or owner wanted for the rabbit. Many comments also concerned the needs of the rabbit or the amount of time that should be spent with the rabbit by the new owner. The reasons stated for relinquishing rabbits in this study are similar to those found in other studies. However, in relation to other studies the number of rabbits with behavioural problems was low in this study. This could be due to the owners being reluctant to mention problems related to their rabbits, since this may decrease the chances of the rabbits being sold. The results of this study underline the need to educate current and future rabbit owners in order for them to be able to make realistic estimates of the time and effort that is required for taking care of rabbits prior to getting them as pets and in order for them to form realistic expectations for the relationship with their pet rabbits. Hopefully this study will be used as a starting point for future research about pet rabbits in Sweden in order to get a wider understanding of the extent to which rabbits are rehomed and what can be done to ensure the welfare of rabbits kept as pets in Sweden.

## 1. INTRODUCTION

### 1.1. Rabbits as companion animals

Rabbits are the third most popular companion animal in Sweden, after cats and dogs, according to Statistics Sweden (SCB, 2012). There are 76 611 ( $\pm 28\,741$ ) households keeping rabbits and the number of rabbits kept as companion animals in Sweden amount to 124 611 ( $\pm 45\,081$ ) (SCB, 2012).

Mullan and Main (2006) state that rabbits kept as companion animals have traditionally been kept in cages and have often been considered a suitable animal for children. This in combination with the fact that rabbits are prey animals in the wild and communicate primarily by scent and body postures (Magnus, 2005) increases the risk of their needs being overlooked. The reason given for acquiring a rabbit can differ depending on which age group the owner belongs to (Edbom, 2011). In the report by Edbom (2011) the younger respondents most commonly stated that they had acquired the rabbit for competition, while the most commonly stated answer among older respondents were that the rabbit was acquired for the children in the family.

The incidences of unwanted pet rabbits in Sweden is poorly studied and as rabbits are easily available in pet stores and through other channels, such as advertisement sites on the internet, there is a risk of people purchasing rabbits on impulse rather than after careful consideration. According to Swedish animal welfare legislation people who trade animals professionally are required to have completed and passed one basic course and one to several species specific courses which has been approved by the Swedish Department of Agriculture (2 kap. 3 § Djurskyddsmyndighetens föreskrifter och allmänna råd (DFS 2004:16) om villkor för hållande, uppfödning och försäljning m.m. av djur avsedda för sällskap och hobby, omtryckt i DFS 2005:8, därefter senast ändrad genom SJVFS 2008:31, saknr L 80). This offers a way of controlling what information new rabbit owners are given when first acquiring their rabbits. It has however been shown in a British survey that 18 % of people purchasing a rabbit through a pet store did so after deciding on that same day (Edgar & Mullan, 2011), which leaves little time for the new owners to prepare for the long term commitment of caring for the rabbit. According to the same survey, new rabbit owners had a limited knowledge of what rabbits need, especially regarding dietary and social needs.

### 1.2. Behaviour and reasons for relinquishment

Rabbits are social animals and in the wild they form breeding groups that are highly stable throughout the breeding season (Cowan, 1987). Competition between female rabbits is often related to access to nesting sites, while competition between male rabbits often concern access to mates (Cowan, 1987). Other factors that can cause aggression between rabbits are competition over territory or social rank (Graf *et al.*, 2011). Intact male rabbits exhibit urine spraying as part of their courting behaviour towards females, but may also spray other males without exhibiting sexual behaviours (Lehmann, 1991). Female rabbits have been shown to exhibit increased aggression as a result of changes in hormone levels during different stages in the reproductive cycle (Hoffman *et al.*, 2009). Urine spraying as well as aggression can become a problem when rabbits are kept as companion animals in an indoor environment and it would therefore be interesting to investigate if male and female rabbits are rehomed to the same extent or not.

Reasons for relinquishment to animal shelters was studied in four American animal shelters and it was shown that 27.2 % of the rabbits were handed in to the shelters as a result of the owners' lack of interest in the rabbits (Cook & McCobb, 2012). Other

common reasons for relinquishment were housing issues for example that the owners were moving (22,1 %), that the owners had too many rabbits (21.6 %) or owner related problems such as allergies, pregnancy or illness (18.1 %) (Cook & McCobb, 2012). Only 3.4 % of the rabbits were handed in as a result of rabbit related problems such as destructive behaviour (Cook & McCobb, 2012).

A survey of 30 animal shelters in Canada showed that 47.8 % of the rabbits were handed in to the shelters by their owners (Ledger, 2010). Out of these 94.7 % were handed in because of owner related circumstances, while only 5.3 % were handed in as the result of behaviour problems (Ledger, 2010).

Many animal shelters in Sweden concentrate their efforts on either cats or dogs where as rabbits are taken in less frequently (Ulfsdotter, 2013). According to a survey carried out in Great Britain 22 % of the rabbits in the survey were taken in by their owners as 'rescues', but over half of these were acquired through friends (Mullan & Main, 2006). This may indicate that the number of unsuccessful relationships between rabbits kept as pets and their owners is higher than shelter statistics imply (Mullan & Main, 2006), especially in Sweden where many shelters do not accept rabbits (Ulfsdotter, 2013).

## **2. AIM AND QUESTIONS**

The purpose of this study was to provide a picture of why rabbit owners choose to rehome their rabbits and to what extent Swedish rabbit owners choose to do this. This study also aimed to give some insight into the age, price and gender of the rabbits that are put up for sale and what demands rabbit owners put on their rabbits' new home.

- To what extent are rabbits put up rehoming in Sweden?
- Why do rabbit owners choose to rehome their rabbits?
- What are the mean age and the price at which rabbits are put up for rehoming?
- Are male and female rabbits rehomed to the same extent?
- What demands do rabbit owners put on their rabbits' new home?

## **3. MATERIAL AND METHOD**

In this study the term "rehome" is used to describe every instance where a rabbit is moved to a new home after it has left the breeder or pet store to move to its first owner. The term "for sale" is also used in the text as most rabbits were actually sold and not given away when they were rehomed.

In order to answer the questions stated above data from ads with rabbits for sale published on the Swedish advertisement site Blocket ([www.blocket.se](http://www.blocket.se)), were compiled over a three months period; December 2012 as well as January and February 2013.

The initial search included ads with rabbits for sale in Sweden as a whole. All search words were used in Swedish, the English translation is indicated in the brackets below. The search word used was "kanin" (rabbit) and the search was then restricted to "djur" (animals), "gnagare och kaniner" (rodents and rabbits) and lastly "privat" (private advertisers). This restricted search resulted in 128 ads for December, 199 ads for January and 180 ads for February.

The ads selected for further analysis were ads that aimed to sell or rehome rabbits for reasons other than as the direct result of breeding. In other words; young rabbits that came directly from a breeder were excluded, as were access breeding animals. In cases where it could not be determined if the rabbit came directly from a breeder or not, rabbits older than twelve weeks were included. The minimum age at which rabbits are allowed to leave their mother is six weeks according to Swedish animal welfare legislation (8 kap. 5§, L 80) and according to the regulations of the advertisement site used rabbits has to be older than seven weeks to be allowed to be put up for sale (Blocket, 2013a). According to the experience of the author of this study common practice among breeders in Sweden is to put rabbits up for sale at the age of eight weeks and the assessment was made that if sold at eight weeks of age, four weeks would be sufficient to detect allergies or other factors preventing the new owner from keeping the rabbit. The selection of ads resulted in 71 ads in December, 147 ads in January and 126 ads in February, which gave a total of 344 ads and these were the ones finally used in this study.

Microsoft Office Excel 2007 was used to compile and process the data collected from the ads and convert it into more easily accessible diagrams and tables.

For the first four questions in this study the results were calculated per rabbit in order to shed some light on the welfare situation for each rabbit, while for the last question the results were calculated per ad in order to give a better view of owner awareness. This resulted in ten ads being excluded from analysis in the first four questions due to the number of rabbits in the ads not being specified.

## 4. RESULTS

### 4.1. Extent of and reasons for rehoming rabbits

There were 505 rabbits for sale through 334 ads during the three months covered by this study (Figure 1). There were more rabbits for sale during January than during February. December had the lowest number of rabbits for sale out of these three months.

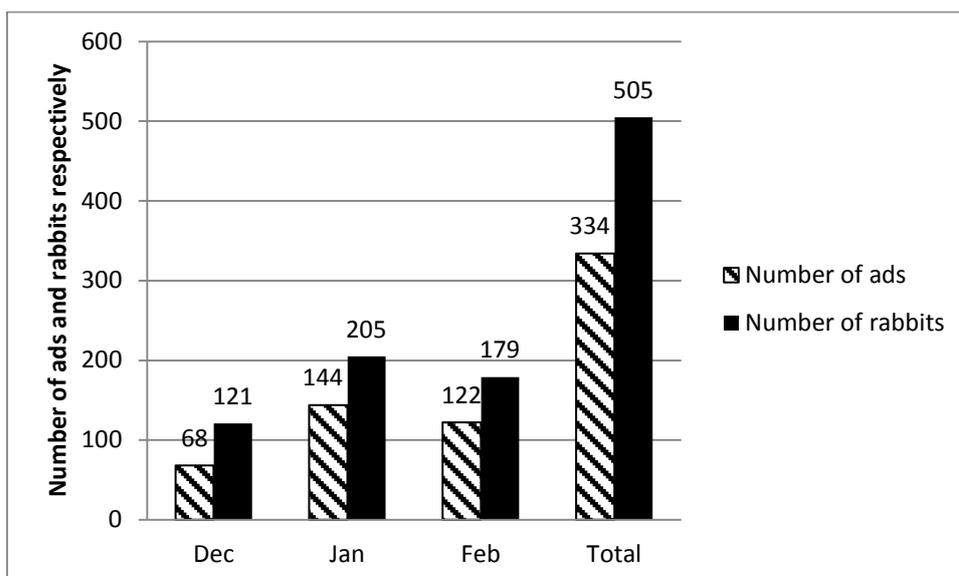


Figure 1. Number of ads in relation to number of rabbits put up for sale during each of the three months and in total over a three months period during the winter of 2012/2013, in Sweden.

The most commonly stated reason for putting rabbits up for sale was “Lack of time” (Table 1). Other common reasons were “Owners are moving”, “Allergies” and “Lost interest”. Only 0.9 % of the rabbits were put up for sale because of behavioural problems. Behavioural problems were mentioned for a total of three rabbits and the problems mentioned were aggression, unpredictability and inappropriate elimination (house soiling). Out of the 334 ads 189 (56.6 %) did not specify a reason for putting the rabbits up for rehoming.

Table 1. The twelve most commonly stated reasons for putting rabbits up for sale over the three months period during the winter of 2012/2013, in Sweden. The percentages are calculated from all rabbits where a reason was given for relinquishment, the number of rabbits for which each reason was stated is indicated in the brackets. Some rabbits were put up for sale for more than one reason.

<i>Reason for rehoming</i>	<i>Per cent of rabbits</i>	
Lack of time	35.8 %	(125)
Owners are moving	16.6 %	(58)
Allergies	13.2 %	(46)
Lost interest	12.6 %	(44)
- The children has lost interest	5.4 %	(19)
Rehomed through a shelter	7.4 %	(26)
Lack of space	4.6 %	(16)
The rabbit does not get along with another rabbit/The rabbit is of the wrong sex	2.6 %	(9)
Have to decrease the number of rabbits	2.3 %	(8)
The owners are going on a trip	2.0 %	(7)
Changed circumstances in the family	1.1 %	(4)
Behavioural problems	0.9 %	(3)
The rabbit is bothered by children or other pets	0.9 %	(3)

Eight rabbits were put up for sale due to “Other owner-related reasons” which are not included in Table 1, but which included “The owner being sick”, “The owner renovating the house”, “Personal reasons”, “The rabbit not answering expectations in jumping competitions”, “The owner has bought a cat” and “The owner only took the rabbit in on a temporary basis”.

#### 4.2. Age, price and gender

The mean age of the rabbits in the ads during this three months period was 17.6 months, with the youngest rabbit being two months old and the oldest rabbit being 90 months old (seven years and six months).

Half of the rabbits in the ads were put up for sale at a price of between 101 SEK (Swedish crowns) and 500 SEK (Figure 2). Rabbits were given away for free in 12.3 % of the cases and 1 % of the rabbits were put up for sale for more than 1501 SEK. It should be noted that 37 % of the rabbits were sold with a cage and/or other accessories included in the price.

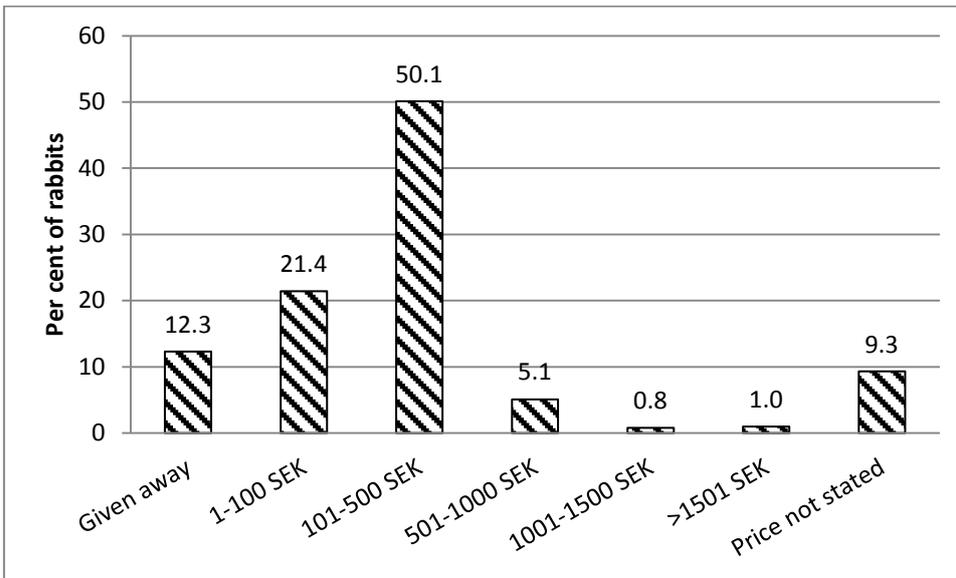


Figure 2. Per cent of rabbits that were put up for sale within each price class during a three months period in the winter of 2012/2013, in Sweden.

Slightly more males than females were put up for sale during the whole three months period and February was the only month in which more females than males were put up for sale (Figure 3).

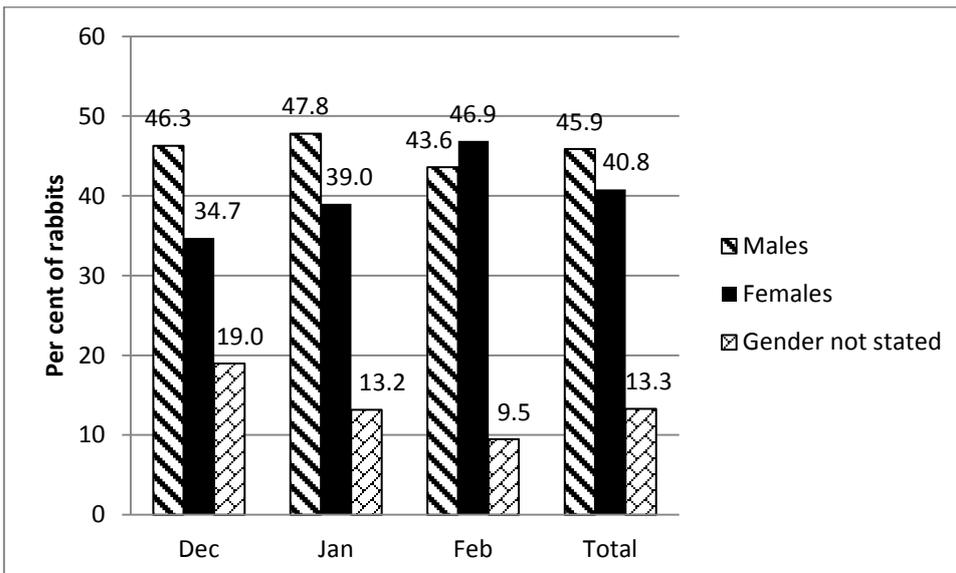


Figure 3. Per cent of rabbits of each gender that were put up for sale during each of the three months and in total during a three months period in the winter of 2012/2013, in Sweden.

#### 4.3. Demands on the new home or the new owner

Comments about the new home were given in 46.8 % of the ads (number of ads was 344). Most of the comments referred to the type of home or owner that the current owner wanted for their rabbit (Table 2). The second most commonly mentioned factor was the needs of the rabbit. The needs referred to most often was, in decreasing order, social needs, exercise and physical needs. Physical needs involved grooming, nail trimming and feeding. The amount of time spent with the rabbit each day also seemed to matter for many owners, since 17.2 percent of the comments fitted into this category.

Table 2. Comments about the new home were given by the current owners in 161 out of the 344 ads (46.8 %) over the three months period. The percentages are calculated from all the ads where comments about the new home were given. Some ads had comments that fitted into more than one category and was therefore assigned to several categories. The number of ads in which a comment was stated that fell into each category is indicated in the brackets.

<i>Comments concerning...</i>	<i>Per cent of comments</i>	
...description of the new home or the new owner	61.9 %	(133)
...the needs of the rabbit	20.0 %	(43)
...time dedicated to the rabbit	17.2 %	(37)
...having to be sold quickly	0.9 %	(2)

## 5. DISCUSSION

### 5.1. Extent of and reasons for rehoming rabbits

The aim of this study was to provide a picture of why rabbit owners choose to rehome their rabbits and to what extent Swedish rabbit owners choose to do this. During the three months period of this study 505 rabbits were put up for sale on Blocket, which resulted in a mean of 168,3 rabbits being put up for sale each month. Assuming that a similar amount of rabbits are put up for sale during the remaining months of the year it would mean that 2020 rabbits are put up for sale through Blocket each year (excluding rabbits that are sold directly from a breeder). When using the figures from SCB (2012) stating that there are 124 611 ( $\pm 45\ 081$ ) rabbits kept as companion animals in Sweden it can be estimated that between 1.2 % and 2.5 % of the rabbits in Sweden are put up for sale through Blocket each year (again excluding rabbits that are sold directly from a breeder). These figures are of course only an estimate of the problem with unwanted rabbits in Sweden and no definitive conclusions can be drawn, but it raises questions about the true size of this problem. The advertisement site used for data collection in this study is according to the site itself the largest advertisement site in Sweden (Blocket, 2013b), but it is just one of many that can be used to try and find a new home for ones pets. It has also been shown that pet owners often find it difficult to come to the decision to rehome their pet and that people often postpone the decision for as long as possible (DiGiacomo *et al.*, 1998). Because of this it is highly probable that there are an unknown number of rabbits that are in fact not wanted by their owners, but where the owners have not yet come to the decision of trying to find a new home for their rabbits. These rabbits may be at risk of welfare issues, since the owners of these rabbits are less likely to spend time with their rabbits or attend to the rabbits' needs.

Owners of companion animals that no longer feel capable of keeping their pet can sometimes help the animal to better circumstances by rehoming it. Moving to a new home may however also be a stressful process for the animal and it is therefore important that animals are not passed from home to home indefinitely. People in today's society are often living a more mobile lifestyle than before and New *et al.* (1999) found that people belonging to more mobile age groups were overrepresented among people who chose to rehome their pets through animal shelters, but they also stated that the case may be that people belonging to these age groups are more likely to have pets.

The reasons stated for relinquishing rabbits in this study are similar to those found in other studies (Ledger, 2010; Cook & McCobb, 2012) and some of them are selected and discussed further below. The most commonly stated reason for putting rabbits up for sale in this study was "Lack of time" and at the same time the mean age of the rabbits at the time when they were put up for sale was only 17.6 months. This indicates that many rabbit owners fail to estimate the time and effort that is required for taking care of rabbits prior to getting them as pets.

The second most commonly stated reason for putting rabbits up for sale in this study was that the owners were moving. This, again, in relation to the low age of rabbits in this study may indicate that the owners did not plan ahead when they first acquired their rabbit. It has however also been shown that the initial reason given for rehoming a pet is not always the primary reason (DiGiacomo *et al.*, 1998). It was found when DiGiacomo *et al.* (1998) interviewed owners that the owners often had several reasons for rehoming their pet. According to New *et al.* (1999) many of the cats and dogs that were given up to shelters because the owners were moving also had exhibited problem behaviours such as hyperactivity, fearfulness and the animal being noisy in the month before they were handed over to the shelter. These behaviours are likely to have affected the owners' decision to attempt to rehome their animals. Many of the respondents in the study also believed that their pets misbehaved in order to annoy their owners (New *et al.*, 1999), which may have resulted in the owners assuming an undeserved negative attitude towards their pets.

In cases where a reason for relinquishment was mentioned 5.4 % of the rabbits were put up for rehoming because the children in the family had lost interest in the rabbit. This is a high figure since the responsibility for an animal should never be placed on a child alone. It is my opinion that it should always be an adult who is responsible for the animal's care and who is able to supervise the child's interactions with the animal, in order to ensure the welfare and safety of both animal and child.

Only 0.9 % of the rabbits in this study were rehomed due to behavioural problems and the problems mentioned in the ads were aggression, unpredictability and house soiling. According to a study by Normando and Gelli (2011) the most common complaint from rabbit owners regarding their pet's behaviour was house soiling followed by destructiveness and not being social enough towards the owner. In the study by Normando and Gelli (2011), which involved 184 rabbits, 29.3 % were said to exhibit undesirable behaviours. As mentioned in the introduction the corresponding figures for animals handed into Canadian and American animal shelters by their owners were 5.3 % and 3.4 % respectively (Ledger, 2010; Cook & McCobb, 2012). The Canadian study by Ledger (2010) involved 30 animal shelters, while the American study by Cook and McCobb (2012) only involved four animal shelters. However, whereas the Canadian study may give a better view of a greater geographical area, the fact that the American study stretched over a longer period of time and involved a greater number of rabbits may indicate that the results from the American study is more reliable. Edbom (2011) found in her study that 8.6 % of rabbit owners experienced that their rabbits exhibited undesirable behaviours. The

study by Edbom (2011) is the only one found which shows the occurrence of undesirable behaviour of rabbits in Sweden, however the respondents participated in the study on a voluntary basis which may have resulted in owners being more committed to their rabbits than the average owner. The fact that the number of rabbits said to have behavioural problems was so low in the present study may be because the owners were more reluctant to mention problems related to their pets when their goal was to sell them, since this may decrease the chances of the rabbits being sold. The same may also be true for the studies by Ledger (2010) and Cook and McCobb (2012) since behavioural problems may also decrease the chances for the animals to get adopted from shelters.

The difference between the studies mentioned above may also have to do with the fact that just as in the study by Edbom (2011) the participants in the study by Normando and Gelli (2011) were recruited on a voluntary basis, which may indicate that the owners are more familiar with their rabbits' behaviour. Many behavioural problems may go unnoticed if they do not pose a problem for the owner and a more committed owner is more likely to pay close attention to their pet. A behavioural problem that does not bother the owner of the animal may still affect the animal's welfare negatively, which is why it is important that pet owners are knowledgeable about their pets' needs and attentive to changes in their behaviour. Inactivity resulting from lack of space may for instance not be seen as a problem by the owner, but can result in physical and psychological health problems for the rabbit since the size of the cage can influence the quality of bones (Buijs *et al.*, 2012) and the freedom to express natural behaviours (Gunn & Morton, 1995). Dixon *et al.* (2010) showed that rabbits that were kept in small pens (0.88 m<sup>2</sup>) were more inactive and less interactive with their environment than rabbits kept in larger pens (1.68 m<sup>2</sup> and 3.35 m<sup>2</sup>, respectively). The rabbits also increased their activity levels when they were moved from a smaller to a larger pen (Dixon *et al.*, 2010) which indicates that they were not able to move around as much as they needed to in the smaller pen. Individual housing in small cages with restricted movement as the result can also lead to a high occurrence of abnormal behaviours such as fur chewing and apathy in rabbits (Gunn & Morton, 1995).

The occurrence of abnormal behaviours has also been shown to decrease the diversity of behaviours in the rabbits' behavioural repertoire (Gunn & Morton, 1995). In the study by Gun and Morton (1995) the abnormal behaviours were most commonly performed during the night, which further increases the risk of the problem remaining unnoticed. Other examples of problem behaviours that may not bother the owner of the animal, but which may indicate a welfare problem for the animal is barbering in mice (Sarna *et al.*, 2000; Latham, 2010) and feather damaging behaviour in parrots (van Zeeland *et al.*, 2009). A change in the behaviour of a rabbit can also indicate pain (Leach *et al.*, 2011) and as rabbits are prey animals in the wild it has been beneficial for them through evolution to hide any signs of illness or pain (Crowell-Davis, 2007) which can make it hard to detect when a rabbit is unwell. It has been shown that even people that are experienced with rabbits find it difficult to correctly assess the level of pain that they are in (Leach *et al.*, 2011).

In this study 7.4 % of the rabbits were said to be rehomed through a shelter, which is not necessarily in agreement with the results of Ulfsdotter (2013) which were mentioned in the introduction. The study by Ulfsdotter (2013) had a high response rate (87.8 %), but concentrated on shelters that were connected to a national animal welfare organisation, Djurskyddet Sverige. This means that shelters that were not connected to Djurskyddet Sverige were not included in the results. This may explain the difference between the two studies, but may also indicate that the shelters that receive rabbits for rehoming is not

connected to a larger organisation and it is therefore hard to say anything about the management of these shelters.

Among the less frequently stated reasons for putting a rabbit up for sale was “The owner renovating the house”. A house renovation is a time limited project and it is often possible to plan ahead for one’s pets, which may indicate that the renovation was not the owners’ primary reason for putting their rabbits up for sale. Another reason for putting a rabbit up for rehoming which was stated in one of the ads was “The owner has bought a cat”. As a pet owner it is always important to think ahead when buying a new companion animal and a primary concern should always be the animals that are already under one’s responsibility. Comments like this one underline the importance of trying to increase the rabbit’s status as a companion animal species.

In 56.6 % of the ads the advertisers did not specify a reason for putting the rabbits up for sale at all, which may also be indicative of not wanting to decrease the chances of the rabbit being sold. It could also be a sign of the owner’s bad conscience or guilt for giving the rabbit up.

### 5.2. Age, price and gender

The present study also aimed to give some insight into the age, price and gender of the rabbits that are put up for sale in Sweden and what demands rabbit owners put on their rabbits’ new home.

In a study by Mullan and Main (2006) done on pet rabbits in the United Kingdom, the mean age of the rabbits were 2.2 years. The respondents in the study participated on a voluntary basis and according to the authors the low age of the rabbits may have been a result of new rabbit owners being more willing to take part in the study than people who had been rabbit owners for a longer period of time. The low age at which many of the rabbits in the present study was rehomed by their owners (mean age at time of the ads being put up being 17.6 months) is in agreement with another study by Mullan and Main (2007). That study showed that rabbits that were less than a year old or that had been acquired by their owners less than a year ago were more frequently handled by their owners. New *et al.* (1999) also found that most of the cats and dogs relinquished to shelters in their study had been acquired by their owner less than two years ago. This suggests that the owners interest in the animal decreases with time which may contribute to the rabbits in the present study being rehomed at an early age.

Half of the rabbits in this study were put up for sale for a price of between 101 SEK and 500 SEK, while 12.3 % of rabbits were given away for free. Putting a price on a rabbit may help to sift out unreliable buyers and at the same time put a value to the rabbit and thus help increase its status as a companion animal species in our society. According to the rules of the advertisement site used for information gathering in this study it is not permitted to give rabbits away for free (Blocket, 2013a). It is therefore remarkable that as many as 12.3 % of the rabbits in the ads were said to be given away by their owners. The advertisement site has not however set any minimum amount which has to be charged when selling a rabbit, in contrast to dogs and cats were a minimum amount of 1000 SEK and 500 SEK respectively has been set (Blocket, 2013a).

Many of the rabbits in this study were sold with a cage and/or other accessories included in the price, which leads to the question if the owner did actually take a charge for the rabbits or if it is only the cage and/or accessories that costs money. This is an important question since the answer would help to shed light on how rabbits are seen and valued as pets in Sweden today. New *et al.* (1999) found that the owners of most of the cats and dogs that,

in their study, had been relinquished by their owners to a shelter had paid no cost for the animal when first acquiring it. This may indicate that owners that obtain their pet for free are less motivated to putting time and effort into making the relationship with their pet work and may be at greater risk of relinquishing their pet after a short period of time.

In a study by New *et al.* (1999) more female than male cats (59.8 % and 40.2 %, respectively) were relinquished to shelters in the USA and the same was seen for dogs (54.7 % females and 45.3 % males). The opposite was found in this study, but there was only a slight difference between the number of male rabbits (45.9 %) and the number of female rabbits (40.8 %) that were put up for sale during the three months period in this study. The results indicate that owners did not seem less pleased with a specific gender in this study. Neutering can help to prevent gender specific behaviours such as urine spraying in male rabbits (Crowell-Davis, 2007), but since the present study did not include neutering as a measured parameter it is not possible to say how many of the rabbits that was included in this study were neutered. The gender of the rabbits was not specified in 13.3 % of the cases in this study, which may indicate a lack of commitment from the people who put up these ads. It is probable that any prospective buyers would like to know the gender of the rabbit that they are thinking of buying and by providing this information in the ad the people selling the rabbits might increase the chances of succeeding in finding a new home for their rabbits.

### *5.3. Demands on the new home or the new owner*

Demands on the new home was given in 46.8 % of the ads in the present study, which means that over half of the ads did not state any preferences regarding their rabbit's new home. Most of the comments that were given (61.9 %) contained descriptions of the new home or the new owner and 20 % of comments were about the needs of the rabbit. The most commonly stated needs were social needs, exercise and physical needs in decreasing order. This indicates that at least some of the owners had knowledge about the rabbit being a social animal and that they need exercise in order to keep in good health. It is not possible however, based on this study, to say anything in general about the knowledge of Swedish rabbit owners about the needs of rabbits.

Many rabbit owners have been shown to have a limited knowledge of the needs of rabbits and Edgar and Mullan (2011) showed that only 40 % of the respondents in their survey intended to feed their rabbits a diet that contained grass or hay. Edbom (2011) on the other hand found that 79.7 % (internet survey) and 80.4 % (paper survey) of rabbit owners fed their rabbits an unlimited amount of hay. Hay is an important part of a rabbit's diet since rabbits have a digestive system which is dependent upon a diet with a high content of fibre in order for their intestinal motility to function correctly (Lowe, 2010). Rabbits' teeth also grow continuously throughout their lives and they are therefore dependent upon a large part of their diet to be made up of grass or hay in order for their teeth to wear down naturally (Lowe, 2010; Clauss, 2012). The difference between the two studies mentioned above may be related to the fact that the respondents in the survey by Edgar and Mullan (2011) answered the survey in conjunction with buying their rabbits, while the respondents in the survey by Edbom (2011) had acquired their rabbits some time ago. In the survey by Edgar and Mullan (2011) it was also shown that 46 % of the respondents intended to keep their rabbit together with another rabbit. Out of the respondents in the study by Edbom (2011) 42.2 % stated that they kept two or more rabbits together in the same space. It seems like rabbit owners in the Swedish survey by Edbom (2011) are better informed about the dietary needs of rabbits than respondents in the British survey by Edgar and Mullan (2011). Swedish rabbit owners however appear to keep their rabbits together with a

rabbit companion to a slightly lesser degree than the owners in the British survey. Domestic rabbits in semi-natural enclosures exhibit a wide variety of social behaviours (Lehmann, 1991) and a study carried out on laboratory rabbits showed that they have a high motivation for reaching social contact with a conspecific (Seaman *et al.*, 2008). The rabbits' motivation to obtain social contact in the study by Seaman *et al.* (2008) was close to that of obtaining food. Housing rabbits solitarily, without contact with other rabbits can even reduce the expected lifespan of rabbits (Schepers *et al.*, 2009).

#### *5.4. Data collection and design of the study*

The collection of data for this study was made continuously but not daily. This may have resulted in some ads being lost due to deletion by the advertiser before it was recorded, for example if the rabbit was sold quickly. There were also ads that seemed to be put up again if the rabbit was not sold, but due to the recording method it was difficult to sort them out. These recording-related factors may both have affected the results, but will probably have done so in opposite ways. The method of collecting data may have underestimated the number of rabbits that were put up for sale during the three months period, while the fact that some ads were put up more than once may have overestimated the number of rabbits put up for sale. If a similar study is to be conducted in the future data collection should be made daily in order to get an even more accurate number of ads and the recording method should be adjusted in order to identify ads that are put up more than once. This could be done in an easy way by noting the name of the advertiser beside each ad on the data collection sheet. It was more advantageous in the case of this study to have an experimental approach than to do a literature study since there is not much research done on rabbits kept as pets in Sweden. As a result the research referred to in this study is mostly done in other countries and the results of this study may help to shed some light on the conditions for pet rabbits in Sweden.

#### *5.5. Further research*

It has proven to be a challenge to reach rabbit owners of different kinds and age groups (Edbom, 2011), such as house rabbit owners, families with young children, breeders and owners who compete with their rabbits in jumping competitions or shows, when conducting research on pet rabbits. To provide a complete picture of the situation for rabbits kept as companion animals in Sweden it is however important to reach owners who keep rabbits for different purposes such as those mentioned above.

The most commonly stated reasons for rehoming rabbits in Sweden are listed in this study, but in order to ascertain that the reasons stated in the ads are the primary reasons for relinquishing the rabbits, more in depth interviews would need to be carried out with the rabbit owners. This can be an idea for further research within the subject, which in the future could be used to improve the relationships between rabbits and their owners and thereby ensure a better welfare for the rabbits.

Another interesting idea for future research would be to investigate the level of owner attachment and risk of relinquishment for rabbits that are kept indoors versus outdoors, since it has been shown that owners often have a higher level of attachment to pets that are kept indoors as part of the family than to pets that are kept outside or separate from the family the majority of the time (Patronek *et al.*, 1996).

## 6. CONCLUSIONS

In reconnection to the aim of this study it can be said that the results from this study help to provide a picture of the situation regarding the rehoming of rabbits in Sweden. Reasons such as "Lack of time" and "Owners are moving" were common and in accordance with previously conducted research the mean age of the rabbits in this study at the time of relinquishment was low. This may indicate that rabbit owners have unreasonable expectations on their rabbits or may not have been planning for the long term care that a pet needs at the time when they acquired the rabbits.

Despite the fact that changes need to be made with regard to data collection if similar studies are to be carried out in the future, this study provides a first glimpse of the situation of unwanted rabbits in Sweden and can be seen as a valuable contribution to the field. The number of rabbits in this study in combination with the fact that it provides information over a three months period gives a good sense of the number of rabbits rehomed through the Swedish advertisement site Blocket over time.

The results of this study highlight the need to educate current and future rabbit owners in order for them to form realistic expectations for the relationship with their pet rabbits. In other words the results of this study can be used as a preliminary source of information to see where the emphasis should lie in the effort to educate rabbit owners. It is important that rabbit owners are able to make realistic estimates of the time and effort that is required for taking care of rabbits prior to getting them as pets, in order to avoid rabbits being given up for reasons such as "Lack of time" or "Lost interest".

Hopefully this study will also be used as a starting point for future research about rabbits kept as companion animals in Sweden in order to get a wider understanding of the extent to which rabbits are rehomed and the reasons why people choose to rehome their pet rabbits. Getting a better understanding of this makes it possible to take appropriate actions to decrease and hopefully prevent the problem of unwanted pet rabbits.

## SAMMANFATTNING

Kanin är det tredje vanligaste sällskapsdjuret i Sverige, efter katt och hund. Trots detta finns det inte mycket forskning gjord på sällskapskaniner i Sverige. Det är viktigt att kaninägare är medvetna om kaninens grundläggande behov för att kunna ge sina kaniner en god livskvalitet, men då kaniner finns lätt tillgängliga både i djuraffärer och till exempel på annonssidor på internet, ökar risken för att människor köper kaniner utan att först tänka igenom sitt beslut. Kaniner omplaceras inte bara genom djurhem utan många omplaceras också genom vänner eller personliga kontakter. Syftet med denna studie var därför att ge en bild av varför och i vilken utsträckning kaninägare i Sverige väljer att omplacera sina kaniner. Studien syftade också till att undersöka hur gamla kaninerna som omplaceras är, vilket kön de har, hur mycket de kostar, samt vilka krav ägaren ställer på det nya hemmet. För att besvara dessa frågeställningar samlades data in via annonser på annonssidan Blocket och under de tre månader som studien sträckte sig över var 505 kaniner till salu som omplaceringar genom 334 annonser. De tre vanligaste anledningarna till att omplacera kaninerna i annonserna var "Tidsbrist" (35.8 %), "Flytt" (16.6 %) och "Allergi" (13.2 %). Genomsnittsåldern på kaninerna i annonserna var låg, endast 17.6 månader och de flesta kaninerna var till salu för mellan 101 kronor och 500 kronor. I 46.8 % av annonserna hade annonsören angivit kommentarer kring det nya hemmet och majoriteten av kommentarerna innehöll beskrivningar av det önskade hemmet eller den nya ägaren. Många kommentarer handlade också om kaninens behov och hur mycket tid den nya ägaren skulle ägna

tillsammans med kaninen. De anledningar som angavs till varför kaninerna omplacerades i denna studie återfinns även i andra studier som behandlar omplacering av djur, dock var antalet kaniner med beteende problem lågt i den här studien jämfört med andra studier. Det skulle kunna bero på att ägarna i den här studien var motvilliga till att nämna problem hos kaninerna, eftersom det skulle kunna göra dem mer svårsålda. Resultaten i den här studien visar på att det är viktigt att utbilda nuvarande och blivande kaninägare om kaniners behov. På så sätt får de möjligheten att korrekt uppskatta hur mycket tid och engagemang som krävs för att ta hand om kaniner och är bättre utrustade att bilda rimliga förväntningar på relationen till sina sällskapskaniner. Förhoppningen är att denna studie ska kunna ligga till grund för ytterligare forskning kring sällskapskaniner i Sverige och att det kan leda till en större kunskap kring omplacering av sällskapskaniner och vad vi kan göra för att säkerställa en god välfärd för sällskapskaniner i Sverige.

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