

## 8. Knowledge of the law and legal status of the animals

“Are you aware of any law that regulates the keeping of wildlife at home?”

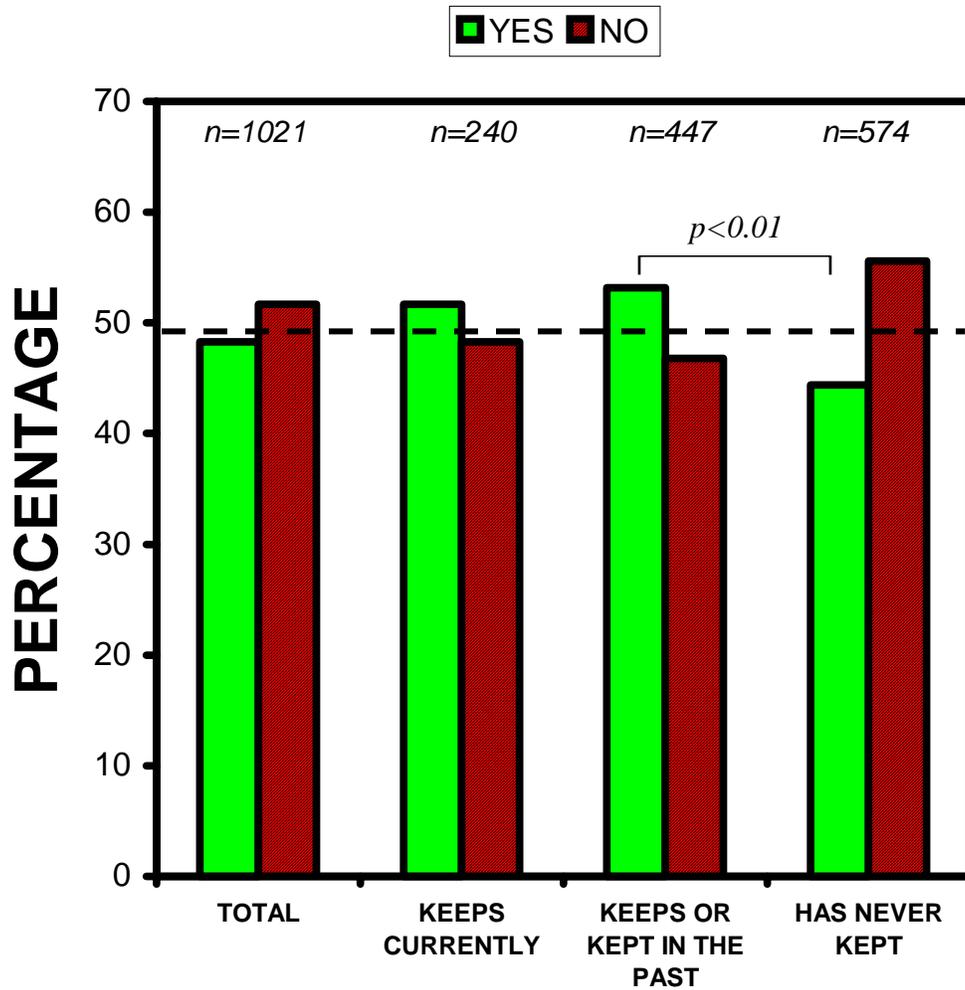


Fig. 38. Awareness about laws that regulate the keeping of wildlife at home. Nearly half of the adult respondents are not aware of such legislation. The proportion of adults who claim to be aware of a pertinent law is slightly higher among those who currently keep or have kept wildlife in the past than among persons who have never kept wild animals at home ( $Chi-square=7.8$ ,  $df=1$ ,  $p<0.01$ ).

“What do you think that is stated by such a law?” ... that regulates the keeping of wildlife at home

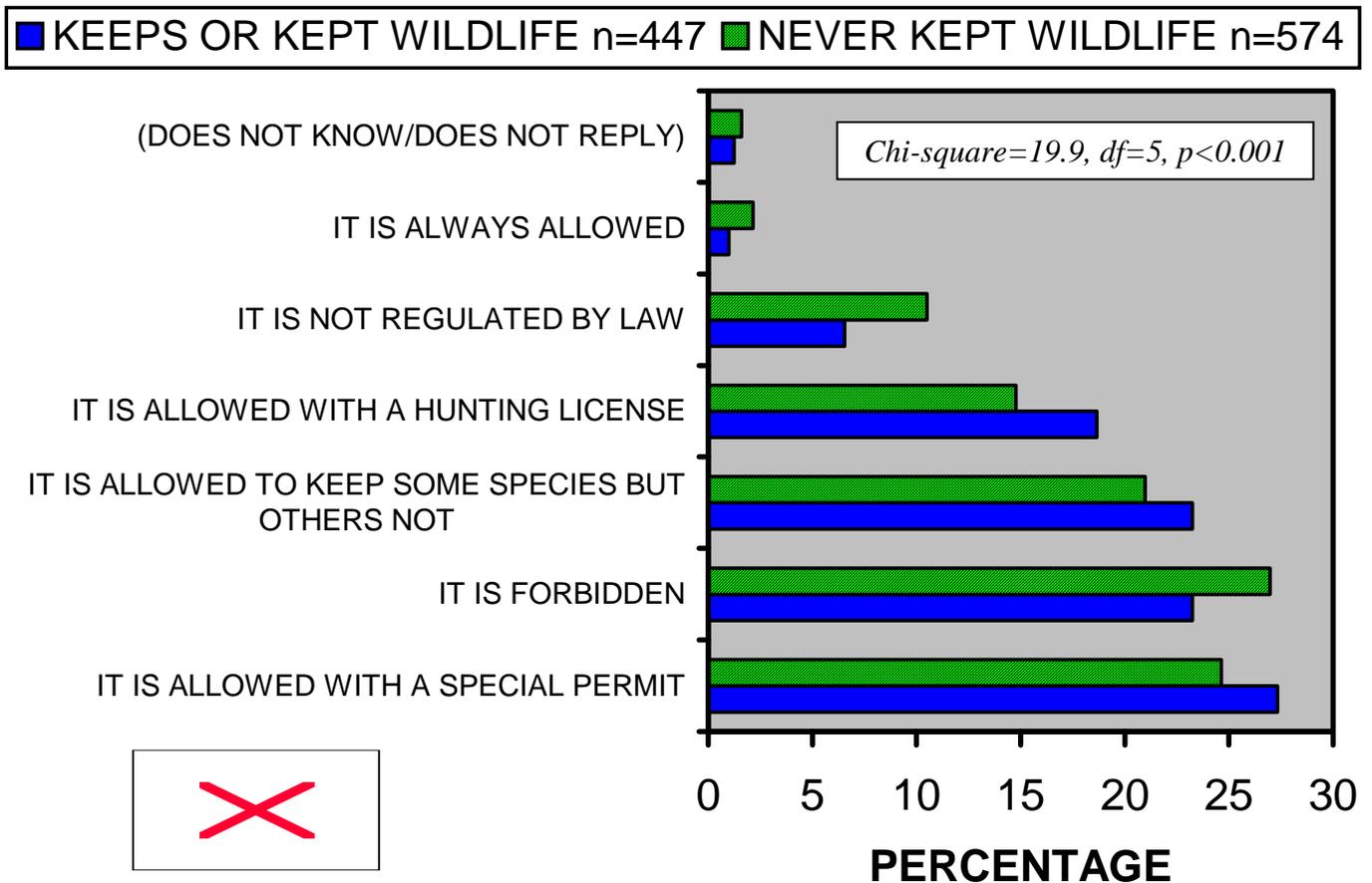


Fig. 39. Frequency of responses from a given list, with respect to the presumed contents of legislation that regulates the keeping of wildlife at home. The first three answers from top to bottom are incorrect, whereas the last four answers are in accord with the law. People who keep or kept wildlife differ significantly in their perception about the contents of the law from people who have never kept wild animals at home.

*“Did someone from your home ever apply for such a permit?” ... to keep wildlife at home*

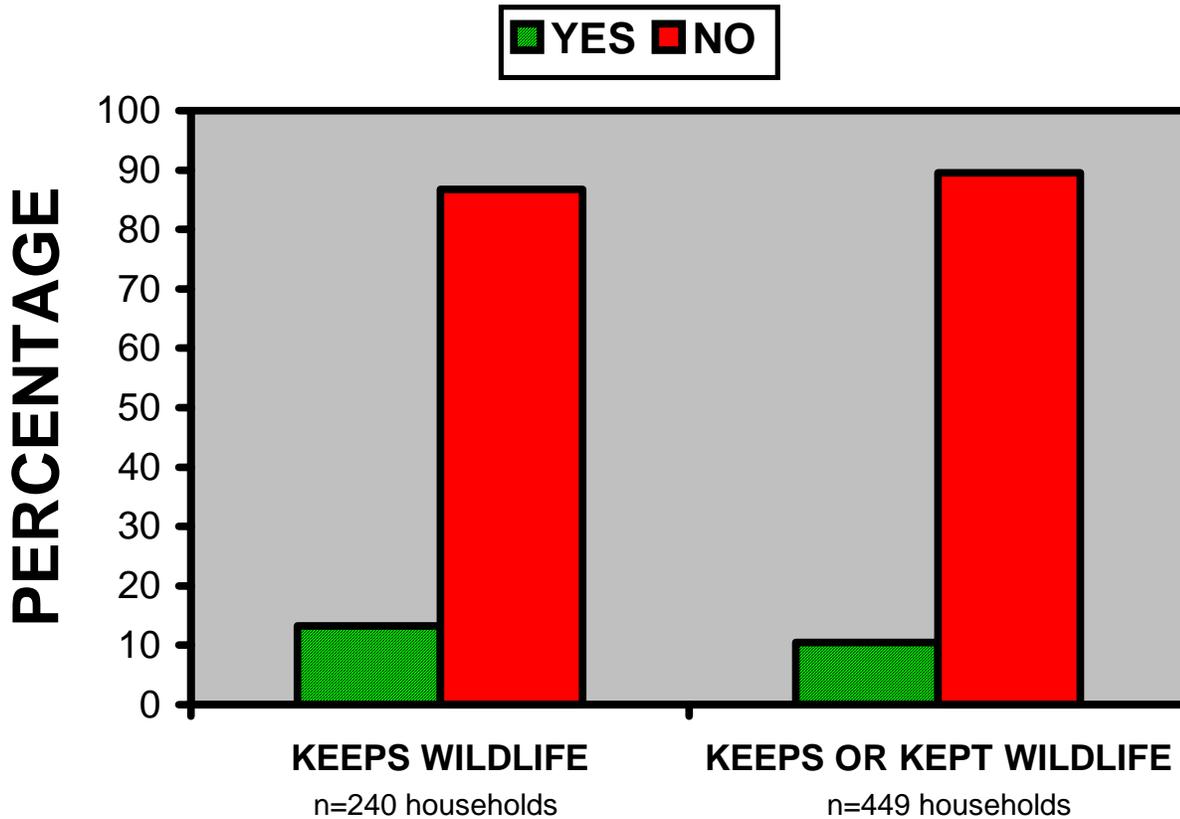


Fig. 40. Frequency of responses YES or NO to the question of whether anyone from home ever applied for a permit to keep wildlife, among households which either keep wildlife currently or which did so in the past. At least 86.7% of animals currently in Costa Rican households are kept illegally. This is a conservative estimate since it is likely that some affirmative responses are in fact false.

# 9. Assignment of care duties among family members

*“To whom does the animal belong to?” ... in households which currently keep wildlife*

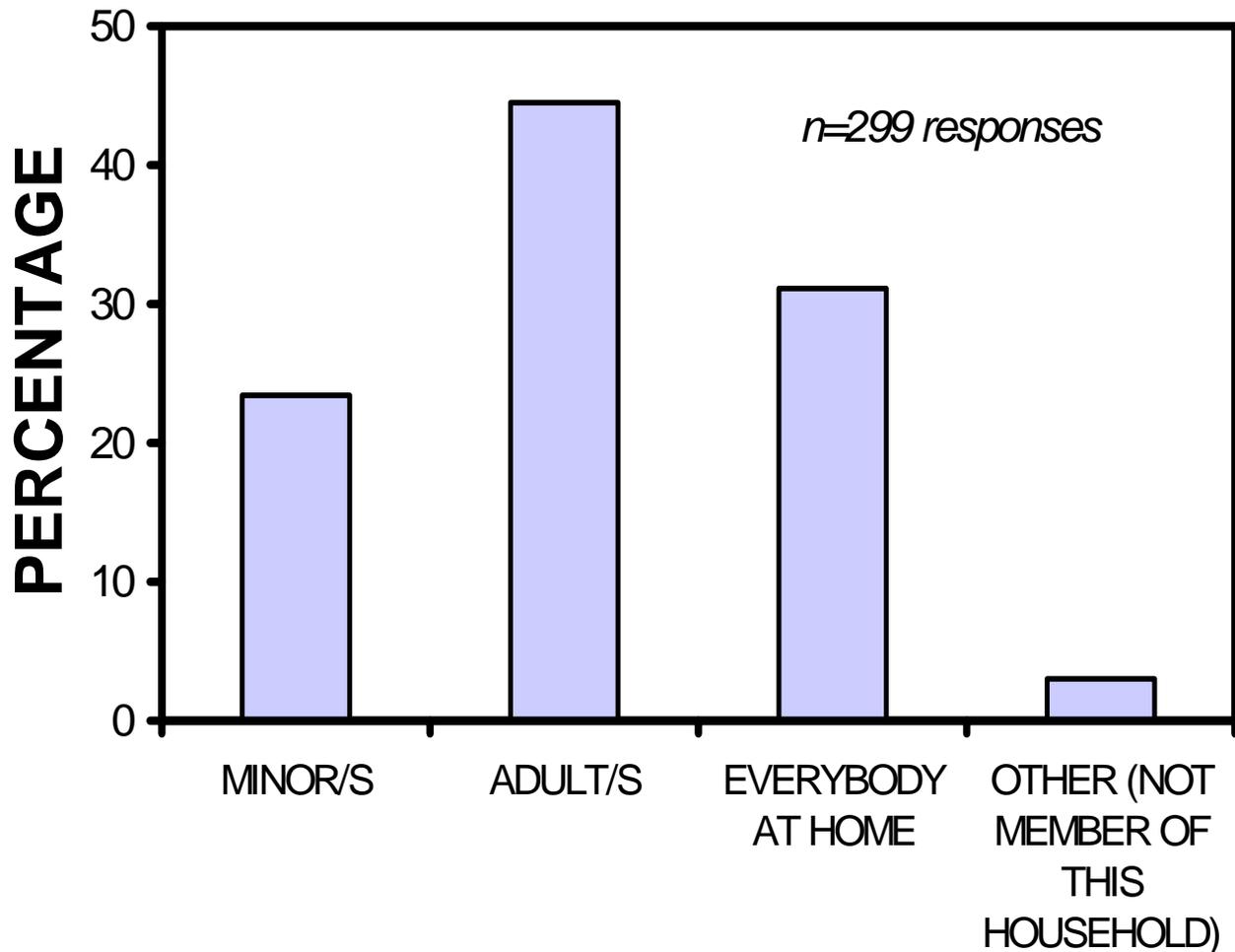


Fig. 41. Ownership of the wild animal kept at home. The majority is owned exclusively by adults. Shared ownership by all members of the household was the second most common response, followed by exclusive ownership by a minor.

## Person who most frequently cleans the enclosure of the favorite animal



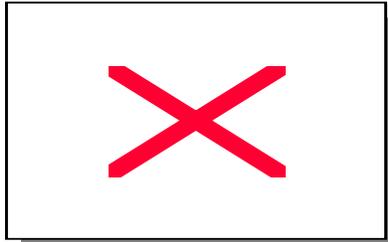
### SEX OF PERSON WHO CLEANS

	MALE	FEMALE	n
RESPONDENT	40.2%	59.8%	97
SPOUSE	42.3%	57.7%	26
PARENT	27.0%	73.0%	37
TOTAL	37.5%	62.5%*	160
% in overall adult sample	48.8%	51.2%	1021

Fig. 42. Person who cleans the enclosure. The enclosure is most frequently cleaned by the adult respondent or his/her spouse in 59.1%, a minor in 10.6%, a parent of the adult respondent ("*grandma* or *grandpa*") in 17.8%, and by somebody else in 12.5% of 208 cases. In nearly two thirds of the cases the cleaner was a woman, but this bias toward females was not statistically significant.

\* The deviation toward females from the sex proportions of the overall sample was not statistically significant when respondents and their spouses were used as the basis for comparison:  $Chi-square=2.9$ ,  $df=1$ ,  $p=0.09$ . Parents of respondents were excluded in this comparison, since their sex ratio in the overall sample is unknown.

## Person who most frequently feeds the favorite animal



### SEX OF PERSON WHO FEEDS

	MALE	FEMALE	n
RESPONDENT	37.9%	62.1%	103
SPOUSE	36.4%	63.6%	33
PARENT	20.0%	80.0%	45
TOTAL	33.1%	66.9% *	181
% in overall adult sample	48.8%	51.2%	1021

Fig. 43. Person who feeds the wild animal. The favorite animal is most frequently fed by the adult respondent or his/her spouse in 56.7%, a minor in 11.7%, a parent of the adult respondent ("*grandma or grandpa*") in 18.8%, and by somebody else in 12.9% of 240 cases. In two thirds of the cases the person who regularly fed the pet was a woman, a statistically significant sex bias in this role.

\* The deviation toward females from the sex proportions of the overall sample was statistically significant when respondents and their spouses were used as the basis for comparison: *Chi-square*=6.1, *df*=1, *p*<0.05. Parents of respondents were excluded in this comparison, since their sex ratio in the overall sample is unknown.

# 10. Acquisition process

*”How did you obtain your animal?”*  
 ... in households which currently keep wildlife

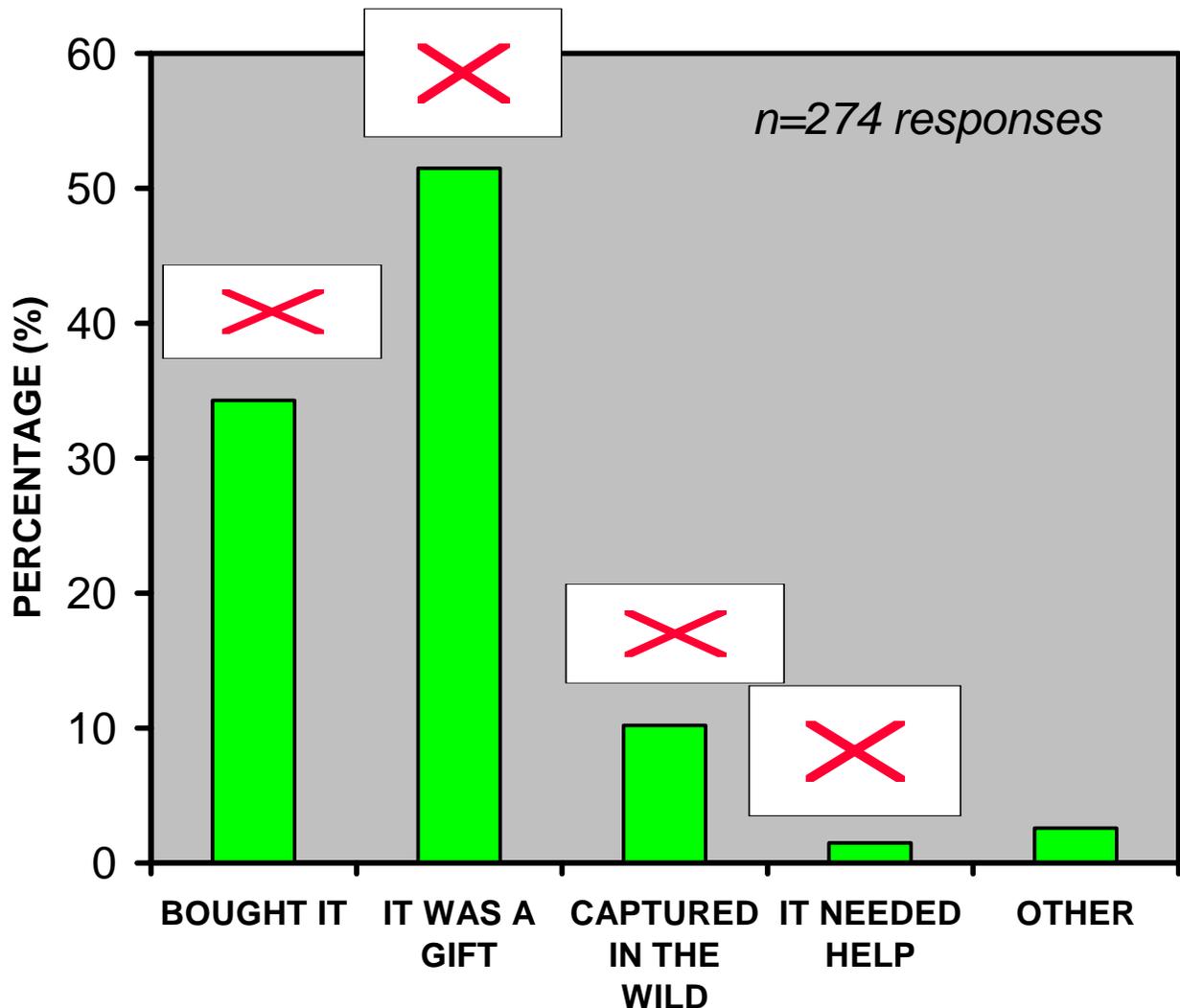


Fig. 44. Frequency of answers selected by respondents from a list, upon asking how the animal was obtained. The majority report that the animal was obtained as a gift or purchased. Commercial trade of wildlife is illegal in Costa Rica. 58.5% of the 94 reported purchases of wild animals were spontaneous, rather than planned. The majority (82% of 39) of purchases of psittacids were spontaneous, whereas nearly two thirds of purchases of turtles and of fishes were planned (61.1% of 18, and 63.2% of 19 purchases, respectively).

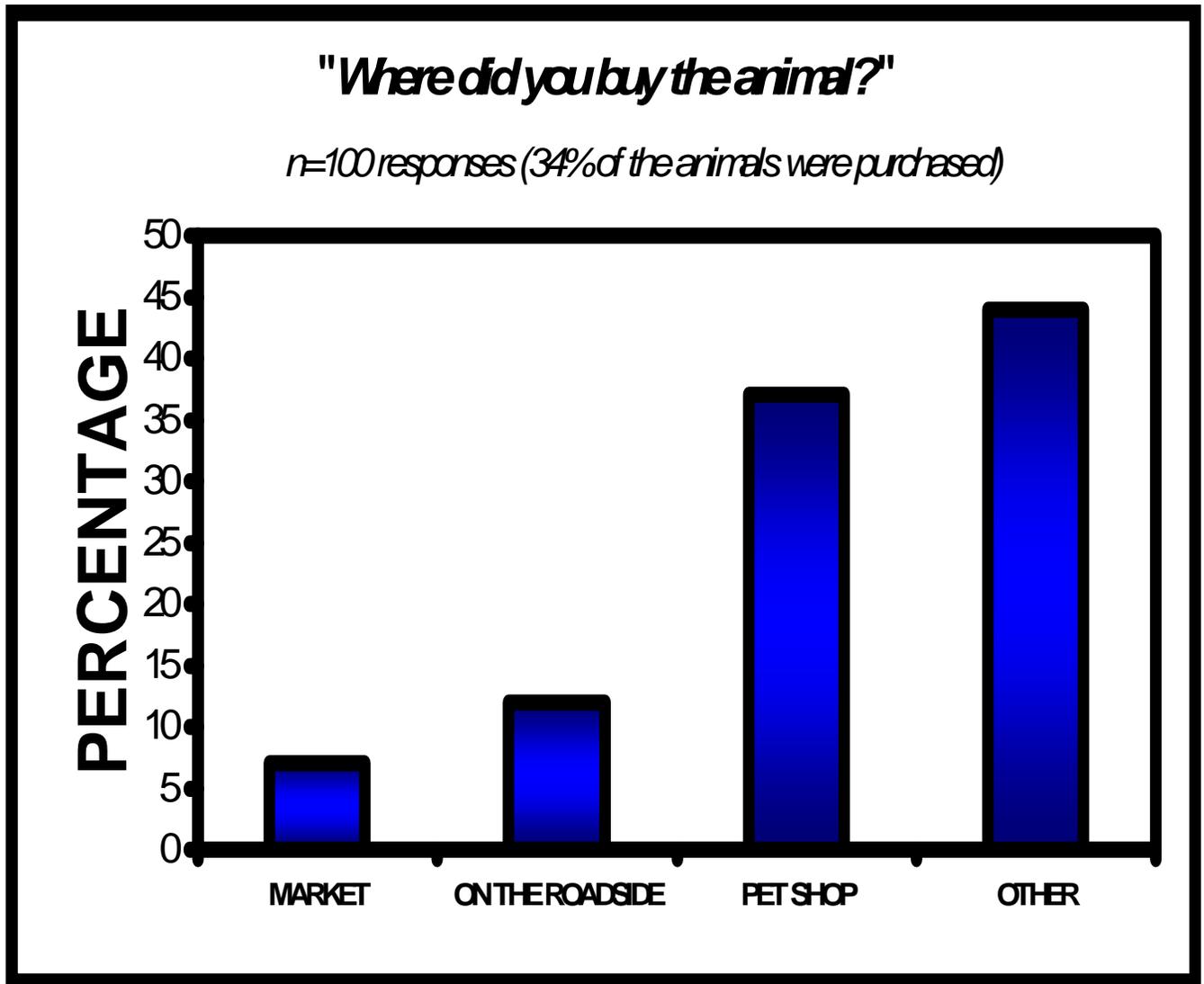
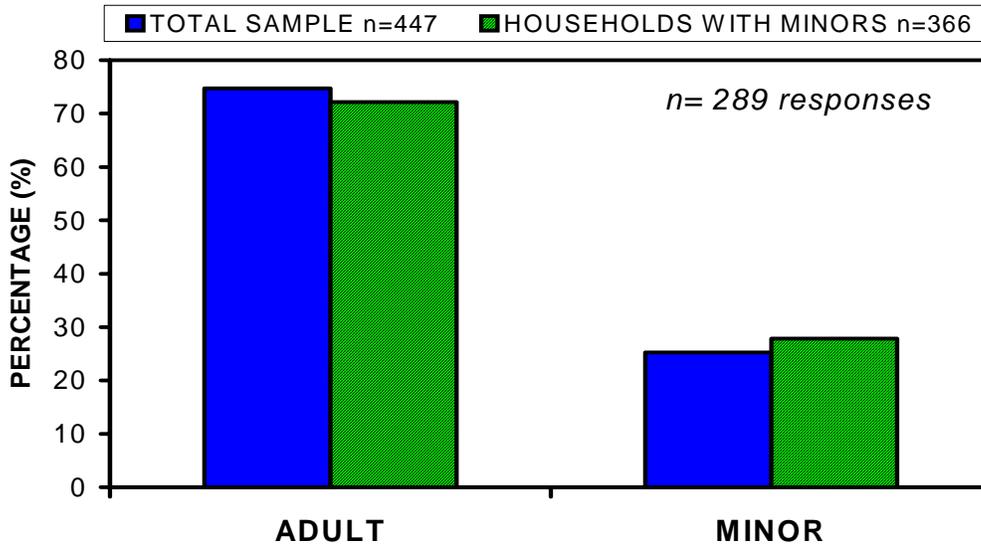


Fig. 45. Place of purchase of the animal. Frequency of answers selected by respondents from the list of predefined options. The data confirms that wildlife is still being sold illegally in local markets and on the roadsides. The answer "other" probably corresponds to purchases from individuals in the neighborhood. The high proportion of reported purchases in pet shops (37%) is unlikely to be true, given that only fishes and iguanas can be sold legally by these establishments. Fishes and iguanas make up less than 10% of the positive responses to wildlife species kept in Costa Rican households (n=299 responses).

# ADULTS VS. MINORS

1. *"Whose idea was it, to obtain the animal?"*



2. *"Who did actually obtain the animal?"*

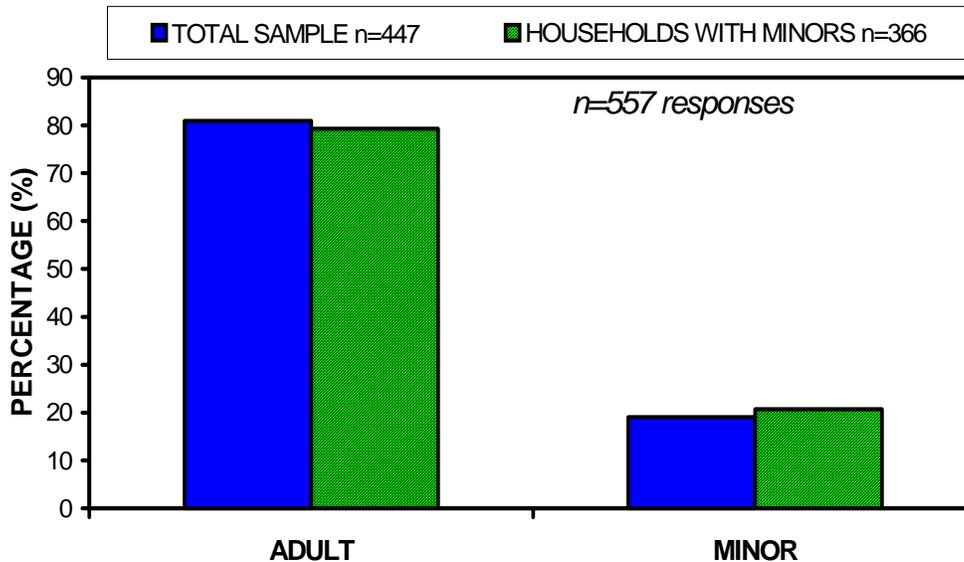
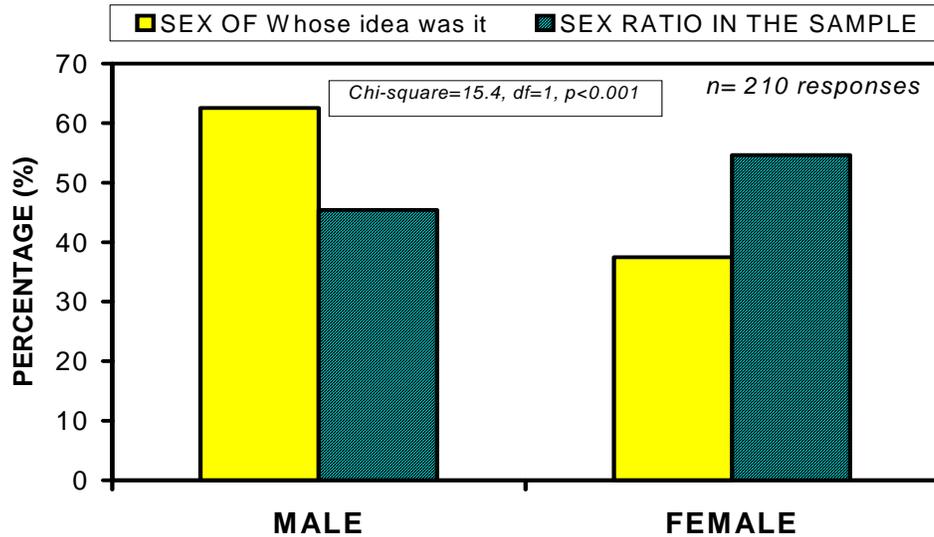


Fig. 46. Whose idea was it to obtain the animal and who did actually obtain it? In just over a quarter of cases the idea came from a minor. Minors made the acquisition in a fifth of cases. The initiative to obtain wildlife is taken and carried out by adults in the majority of cases.

# THE ROLE OF GENDER

1. "Whose idea was it, to obtain the animal?"



2. "Who did actually obtain the animal?"

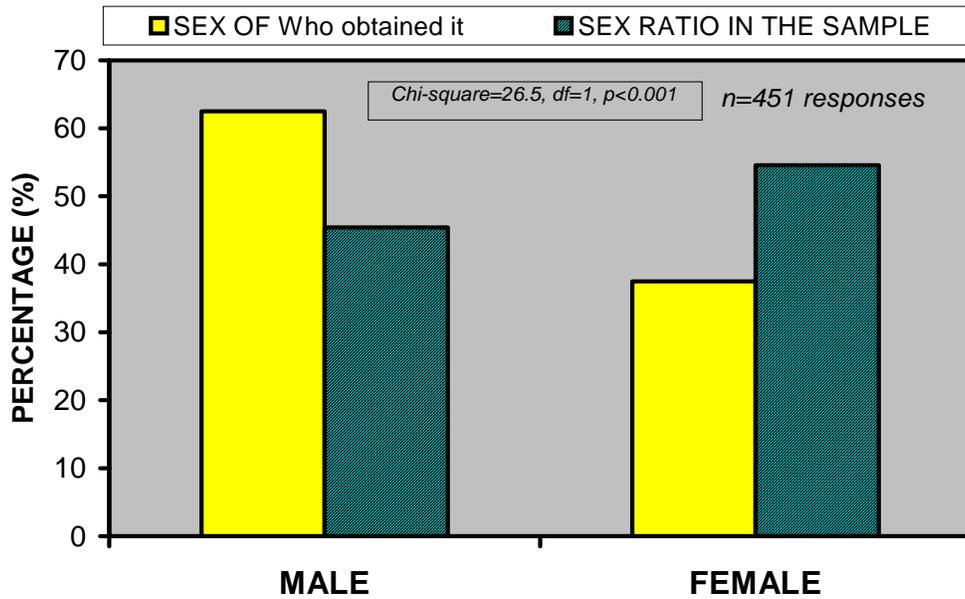


Fig. 47. The role of gender in "Whose idea was it to obtain the animal and who did actually obtain it"? The idea to obtain a wild animal was more likely to come from a male than from a female adult. Also, males were more likely to actually acquire the animal than females. These male-biases differed significantly from the overall sex ratio in the sample of adults who kept wildlife at some point (n=447).

*"If the idea to obtain the animal was yours, what motivated you to obtain it?"*

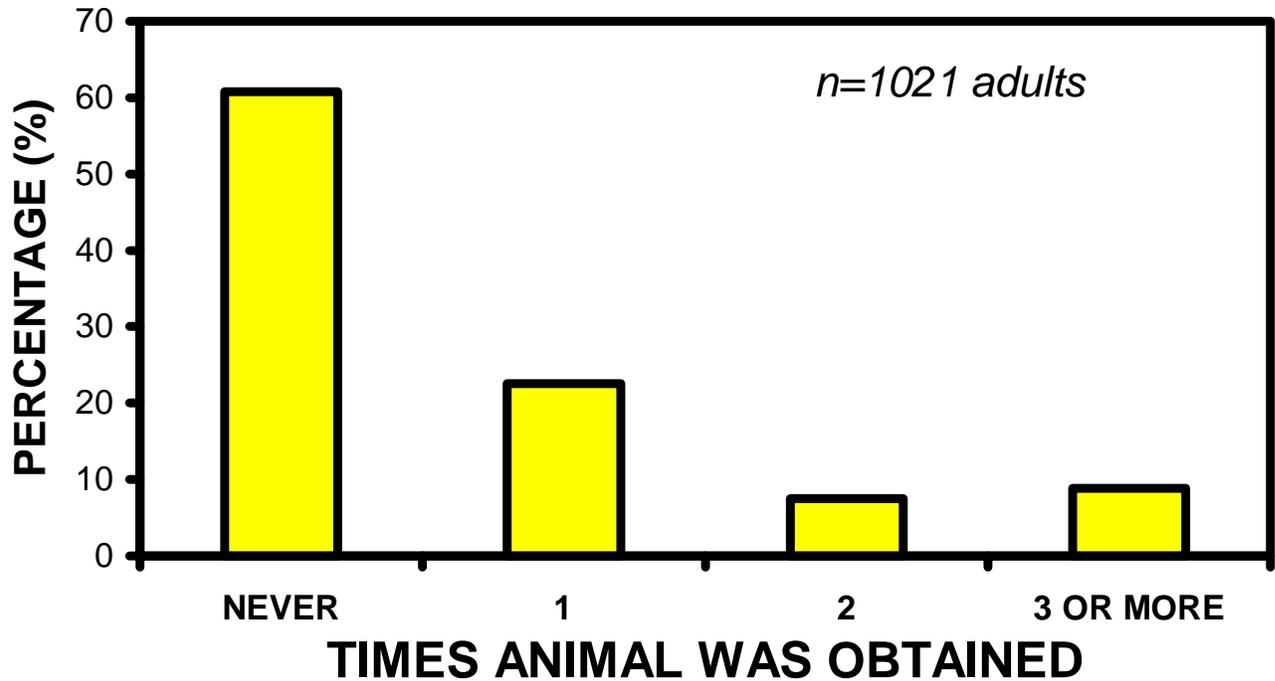
- choices of 147 adult respondents among a given set of options (multiple choices possible) -

Choice	% respondents
"I liked the animal"	69.4%
"I felt sorry when I saw it."	11.6%
"Family tradition."	7.5%
"It is good for the children."	7.5%
"It is a Costa Rican custom."	1.4%
Other	7.5%
<i>Does not know/Does not answer</i>	6.1%

Fig. 48. Motivation behind obtaining a wild animal. The majority of respondents selected "*I liked the animal*" among the choices given.

# 11. Demand for wild animals and their fate

*"How often in your lifetime have you obtained wild animals to keep them at home?"*

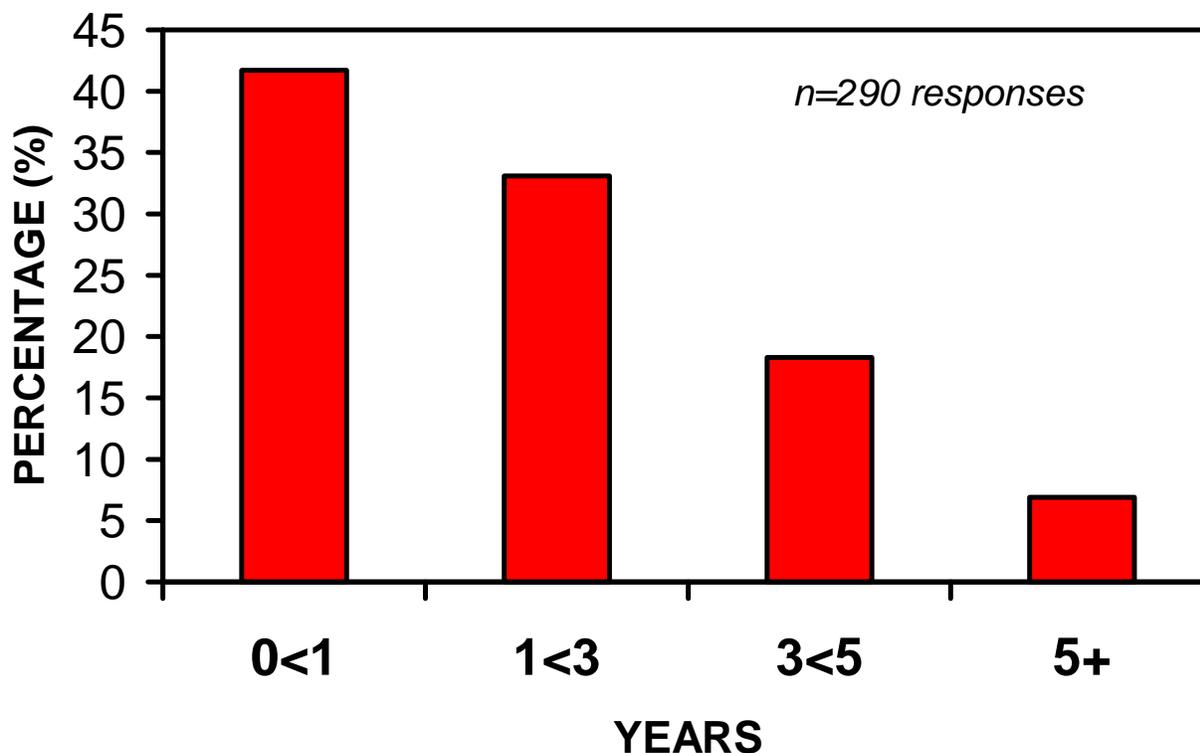


*"Did you obtain a wild animal last year?"*  
 YES = 19.5%  
*(n=447 respondents who keep or kept wildlife )*

Fig. 49. Proportion of adults who have ever obtained a wild animal to keep it at home. 39% of the adults have obtained a wild animal at least once in their lifetime. About one fifth of the respondents who keep or kept wildlife obtained an animal in the previous year.

*"How long have you had your animal for?"*

Sample: adults who currently keep a wild animal



*"If it died, would you replace it?"*

Yes = 50%, No = 50%

*n=289 responses*

Fig. 50. Time that the wild animal has been kept for at home. The majority (74.8%) has been in the household for less than three years. The average residence time of the animal at home is very short, considering that most wildlife pets are parrots, which can live for several decades. For all species combined, half of the respondents asserted that they would replace their pet if it died. However, people are more willing to replace fishes (74.1%), song- and ornamental birds (65.7%) and turtles in aquaria (57.9%), than parakeets (47.9%), parrots (33.9%) and tortoises (6.7%). There was no significant difference between male and female adults in the willingness to replace the pet.

"How long have you had your animal for? - common species

Sample: adults who currently keep a wild animal

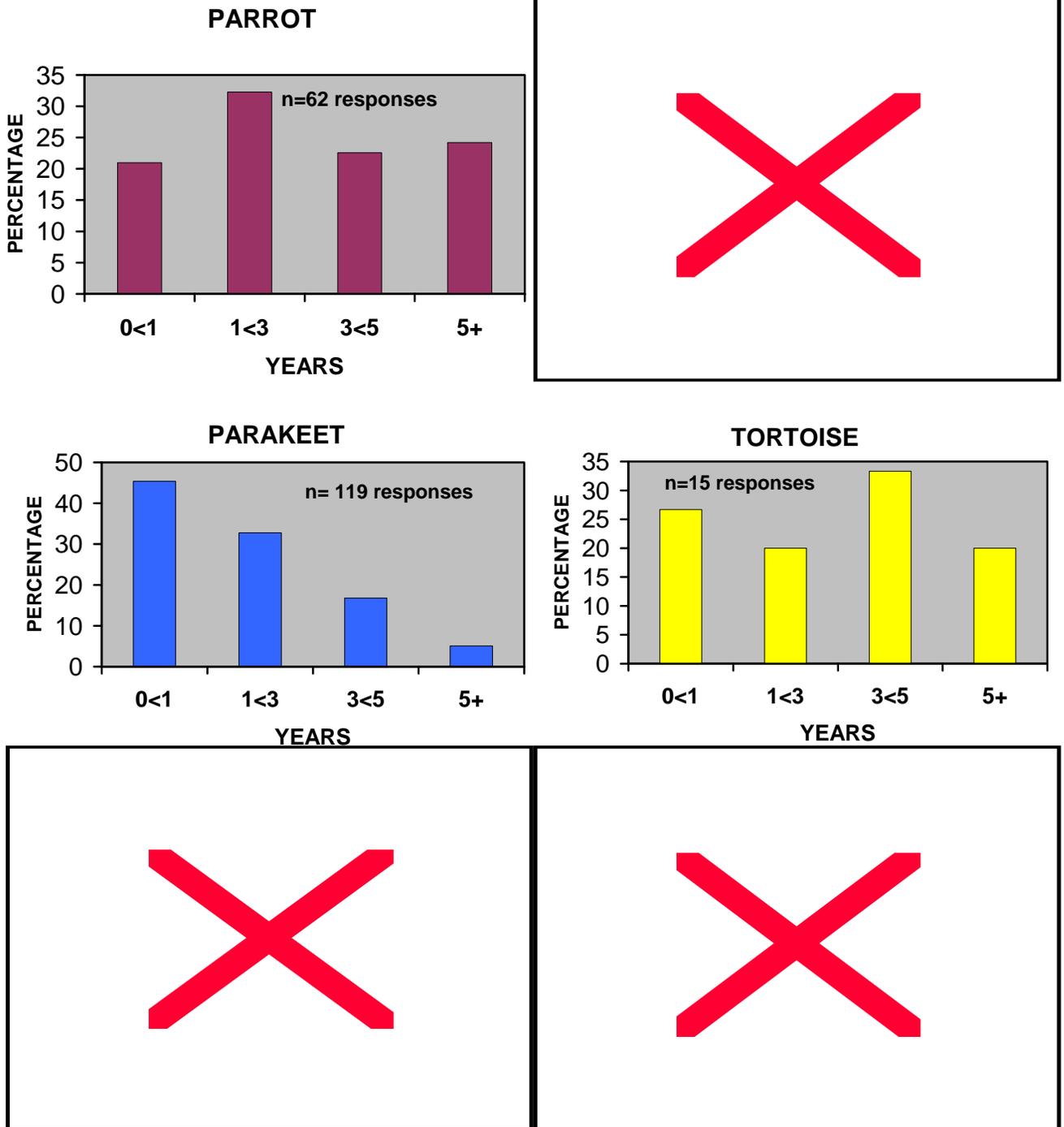
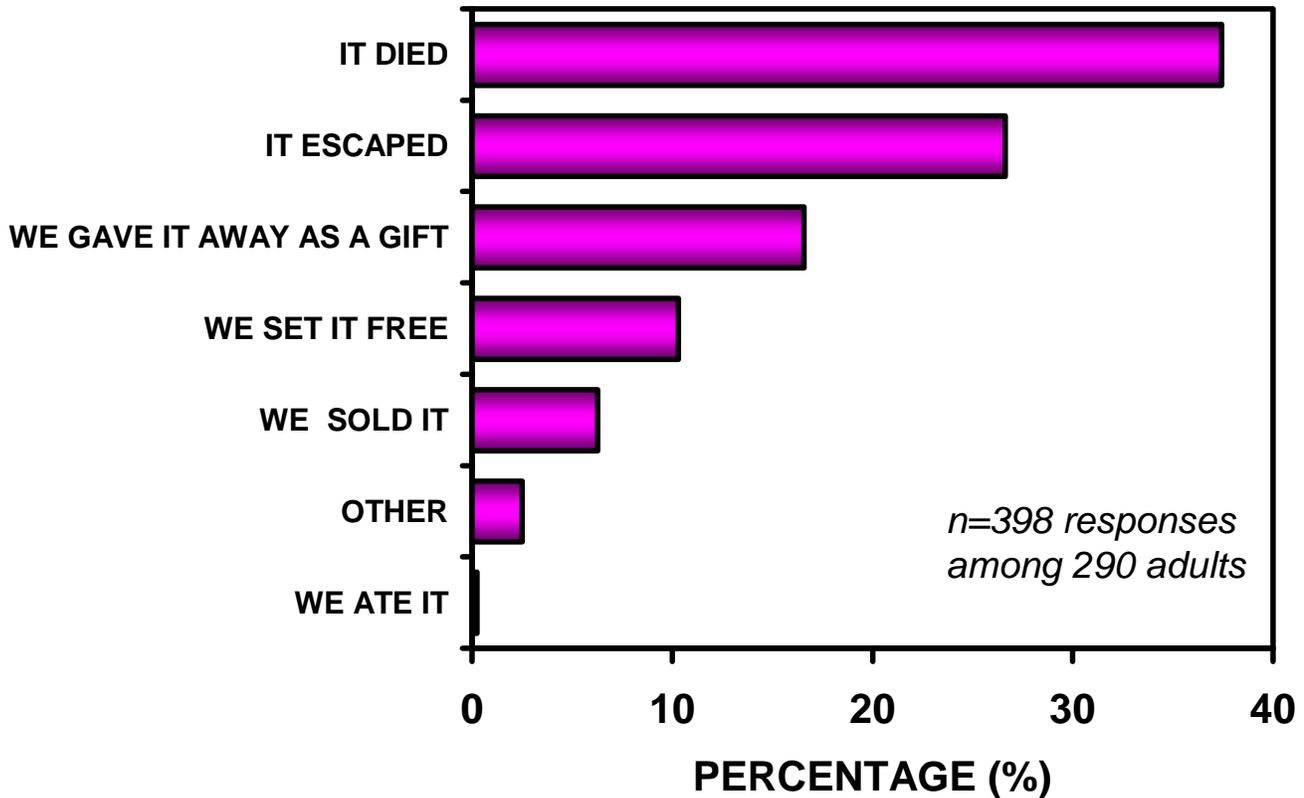


Fig. 51. Time kept at home since acquisition for various, commonly kept species. The data are indicative of the longevity of these wild animals in captivity. Parrots and tortoises tend to be long-lived, whereas turtles in aquaria (e.g. *Trachemys scripta*) and parakeets are usually short-lived in captivity. Other birds (songbirds and ornamental birds) and fishes occupy a middle position among these species.

*"What happened to the animal/s  
that you had?"*



*"Did you replace the animal?"*

Yes = 45.3%      No = 54.7%  
n=393 responses among 290 adults

Fig. 52. Fate of wild animals kept at home. About one in four animals escape (26.6%). In at least 6.3% of the cases the animal was sold (illegally). In nearly half of the cases the animal was replaced, which is in accord with the fact, that half of the respondents who currently keep wildlife intend to replace the pet if it dies (in a previous figure).

*"Are you willing to obtain another/a pet wild animal?"*

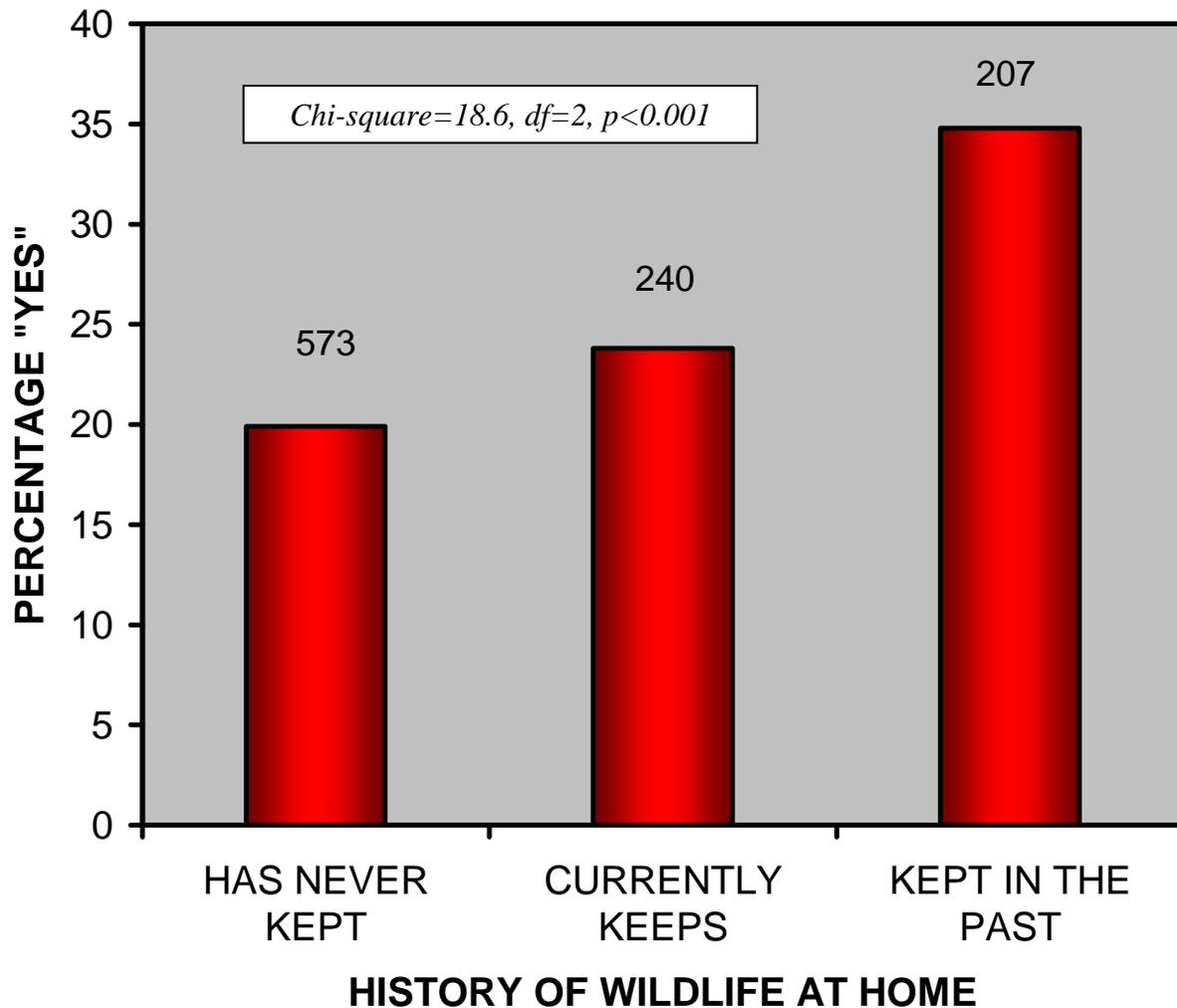
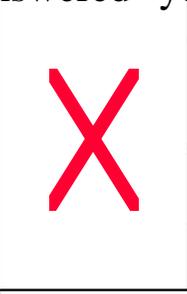


Fig. 53. Demand for pet wildlife as expressed by adults who have never kept a wild animal at home and those who did so in the past or currently keep wildlife (sample sizes shown on bars). Overall, 23.8% of adults expressed willingness to obtain a wild animal. One fifth of those who never kept wildlife at home would like to obtain a wild animal. Nearly a quarter of those who currently keep wildlife would like to add another animal to their pets. The highest proportion of adults intending to obtain a wild animal is found among those who kept wildlife in the past but don't so currently (34.8%).

*"What species would you like to obtain?"*

Sample: respondents who never had wildlife at home and answered "yes" to the question of whether they are willing to obtain a wild animal ( $n=114$  adults)



	Species	Frequency	(%)
1	Green parakeet	26	22.8
2	Macaw	22	19.3
3	Parrot	22	19.3
4	Toucan	13	11.4
5	Monkey	6	5.3
6	Agouti	4	3.5
7	Racoon	4	3.5
8	Turtle	4	3.5
9	Deer	3	2.6
10	Fish (not goldfish)	3	2.6
11	Wild cat	3	2.6
12	Snake	1	0.9
13	Iguana/Ctenosaur	1	0.9
14	Coati	1	0.9
15	Quetzal	1	0.9
	TOTAL	114	100

Fig. 54. Preference for various species among respondents who never had wildlife at home and would like to obtain a wild pet. The majority (61.4%) would like to have a parrot.

## Preference for birds

*Birds are the most commonly mentioned taxon for the wild animal of choice (72.6% of 241 respondents). The vast majority of birds preferred are psittacids (parakeets, parrots and macaws), which account for 84.6% of all birds mentioned (n=175). The highly endangered macaws represent 28.4% of the 148 psittacids mentioned.*

## Preference for mammals

*Mammals are second (17.4%), after birds, in the list of preferred wild animals as pets. The monkey ranks at the top of the mammals with 33.3% of the responses in this group. Other mammals commonly mentioned include agouti, raccoon, wild cat and deer.*

## Preference for primates

*Primates were the first choice of pet wildlife for 5.8% of the 243 respondents. The squirrel monkey (*Saimiri oerstedii*) corresponded to 73% of the 11 cases in which a specific species of primate was mentioned as the animal of choice. Other species mentioned were the howler (*Alouatta palliata*) and capuchin monkey (*Cebus capucinus*). There was no mention of the spider monkey (*Ateles geoffroyi*), the fourth Costa Rican monkey species. The squirrel monkey is probably the most endangered primate species in Costa Rica.*

## Preference for reptiles, fishes and amphibians

*Reptiles (6.6%, iguanas, turtles and snakes) rank third after birds and mammals in the list of species to potentially obtain. Fishes (3.3%) rank fourth, whereas neither amphibians nor invertebrates were mentioned in the sample.*

**Fig. 55. Preference for certain taxa by respondents who are willing to obtain a wild animal, when asked which species they would like to obtain as a pet.**

(n=243 adults with and without prior experience with wildlife at home)

Incidence of taxonomic groups among respondents who currently keep wildlife compared with preference by respondents who are willing to obtain a wild animal as a pet

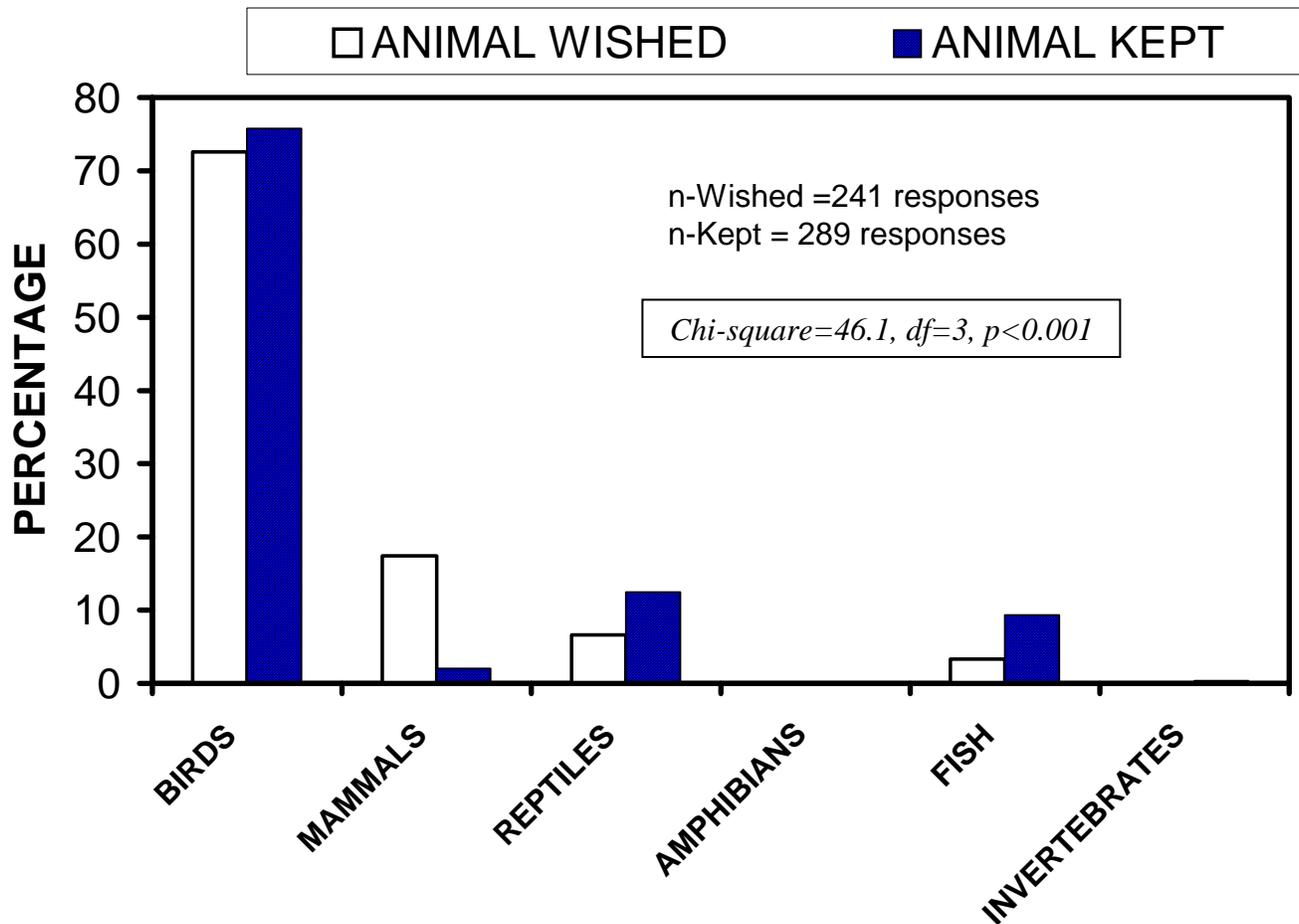


Fig. 56. Comparison of incidence of taxonomic groups kept in households and preference for an eventual acquisition. The proportions of birds, mammals, reptiles and fish differ significantly between both samples. Birds are the preferred pet wildlife - both, among animals currently kept and animals chosen for an eventual acquisition. Although mammals are the preferred animal for an eventual acquisition of 17.4% of respondents, the proportion of mammals actually kept in households is much lower (2.1%). The opposite is true for reptiles and fish.

*Statistics:* The distribution of percentages of taxonomic groups differs significantly between the categories "animal kept" and "animal wished" (chi-square=46.1, df=3, p<0.001). The frequencies associated to percentages of taxonomic groups differ significantly from even for the categories "animal kept" (chi-square=576, df=4, p<0.001) and "animal wished" (chi-square=302, df=3, p<0.001).

# Extraction levels for the pet market

## Steps toward a first estimate

### *First approach:*

- 19.5% of people who keep wildlife, obtained a wild animal last year.
- Given that at least 140.200 parrots are currently kept as pets in Costa Rica, and that 19.5% were obtained last year, then the yearly recruitment rate of parrots into households is of at least 27.339 individuals.

### *Second approach:*

- The median, current residence time of a wild animal in a household is 2 years (n=290).
- Assumption: current residence time is on average half of the total life expectancy at home (i.e. 4 years).
- There are no commercial, captive breeding programs of parrots in Costa Rica. All of these pets come from the wild.
- If the average life expectancy of a wild animal in a household is four years, then one quarter of the captive population would disappear each year. An annual recruitment rate of about 35.050 parrots would be required, in order to maintain constant the total of 140.200 parrots in households. About one half of this rate would correspond to replacements and the other half to first acquisitions.
- This estimate of the extraction rate from natural populations is conservative for at least two reasons: (1) There are households that keep more than one parrot, and therefore the national total is probably higher than the estimate shown above, and (2) the annual recruitment rate does not take into account the mortality associated with the extraction process and trade.

In conclusion, the annual recruitment rate of parrots into the pet market within Costa Rica is at least in the order of 27.000 to 35.000 individuals, all of which are taken from the wild.

Fig. 57. Extraction of animals from the wild for the pet market - an estimate.

# Conclusions

Wild animals are commonly kept in Costa Rican households as pets. This illegal practice is widespread, but tends to be more pronounced in urban environments, in households with garden and where the adults grew up in the company of wild pets. The vast majority of wild animals kept are parrots and parakeets. The animals are typically kept singly and in small cages. Aesthetic appeal is the main reason to keep wildlife. Just over half of the Costa Rican population disapproves of the keeping of wild animals at home, mainly because of ethical concerns.

At least three critical issues arise from the facts revealed by the study: (1) the wellbeing of the animals is compromised, (2) renewal rates resulting in high extraction levels from the wild may compromise the survival of natural populations, and (3) a profound misunderstanding about the cognitive abilities, as well as social and environmental requirements of the wildlife, leads people to assume that their wild pet is feeling well. The study provides the basis for the efficient design of awareness and information initiatives. This report may serve as a quantitative and conceptual framework of reference for future studies about this topic in other countries.

# Acknowledgements

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