# Keeping primates as pets in the Czech Republic

Martina Volfová, Eva Voslářová, Vladimír Večerek

University of Veterinary Sciences Brno, Faculty of Veterinary Hygiene and Ecology, Department of Animal Protection and Welfare and Veterinary Public Health, Brno, Czech Republic

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## Abstract

Primates belong to the most endangered groups of animals on Earth and their keeping in captivity is usually associated with the need to protect endangered species and create a viable reserve population. However, primates are also kept as pets. The aim of the study was to assess the species and numbers of primates kept in the Czech Republic as pets; for comparison, the species and numbers of primates kept in Czech zoos were also monitored. According to the ĈITES register, a total of 7,708 primates of 79 species from nine families were kept in both types of facilities (data valid as of 31 December 2020). Of these, 3,821 individuals were kept as pets and 3,877 in zoos. The most commonly kept species were the western pygmy marmoset, common marmoset, golden-handed tamarin, Guianan squirrel monkey from the Cebidae family, ring-tailed lemurs and black-and-white ruffed lemur from the Lemuridae family, mandrill, guereza, Japanese macaque, and bonnet macaque from the Cercopithecidae family. No primates of the Hominidae and Atelidae families were recorded in the case of pet keeping. The results show that in the Czech Republic, the number of primates kept as pets is comparable to their numbers in zoos. However, the question is whether this is a positive finding, given the difficulty of creating conditions for pet primates that meet their requirements, and also given that the contribution of pet keeping to the preservation of their population on Earth is questionable.

Endangered species, captive keeping, animal welfare, protection

Primates are one of the most diverse groups of mammals and they also belong to the most endangered ones. It has been reported that more than 70% of Asian primate species are threatened with extinction. Some species such as the Yunnan white-handed gibbon (*Hylobates lar yunnanensis*) are already considered extinct. Across the entire order of primates, 48% of species are endangered (Primate Specialist Group 2021).

There are various rescue programs across the world aimed at protecting wild animals and increasing their population, both *in situ*, i.e. in their natural habitat, and *ex situ*, i.e. in facilities or nature parks outside their natural habitat, e.g. zoos (Volfová et al. 2019; Šípek et al. 2021) or breeding and rearing facilities (Volfová et al. 2022; Voslářová et al. 2022). However, wild animals are not only kept with the aim of protecting their population *in situ* or *ex situ* via rescue programs. Due to their attractiveness and uniqueness, primates are also sought after as pets.

In the Czech Republic, primates are considered a species requiring special care and their keeping as pet animals is possible only with the permission of the relevant state authority. According to Act No. 246/1992 Coll., on the protection of animals against cruelty, as amended, a person over the age of 18 may obtain a permit to keep pet primates on the basis of an application and assessment of the proposed conditions. The decision on the permit is issued by the State Veterinary Administration of the Czech Republic, which also inspects the approved keeping facilities at least once a year. Since 2021, the obligation to provide a certificate of competence for the care of apes has been in force (on the basis of education or completion of a course and passing an examination) when applying for permission

Paculty of Veterinary Hygiene and Ecology University of Veterinary Sciences Brno Palackého tř. 1946/1, 612 42 Brno, Czech Republic to keep apes as pets. Supervision over the protection and welfare of primates in the Czech Republic is performed by the State Veterinary Administration, and from the point of view of protection resulting from the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), the Czech Environmental Inspectorate, as these are animals with which trade is regulated and their registration at the locally competent regional authority is obligatory.

The aim of this study was to evaluate the species and numbers of primates kept as pets in the Czech Republic according to the CITES register maintained by the Czech Environmental Inspectorate and compare the obtained data with the numbers of primates kept in Czech zoos.

#### Materials and Methods

The subjects of the study were all primates kept in the Czech Republic with the distinction of species and numbers of individuals kept as pets and species and numbers of primates kept in licensed zoos.

The data on primate keeping in the Czech Republic were obtained from the CITES Register of the Czech Environmental Inspectorate valid as of 31 December 2020. For each individual of the primate listed in the register, the type of keeping (private or zoo keeping) was recorded.

The numbers of individual animals kept in the Czech Republic as pets and in zoos were compared. Absolute and relative numbers of registered individuals were calculated for each species in the following families: *Hominidae*, *Hylobatidae*, *Cercopithecidae*, *Cebidae*, *Aotidae*, *Atelidae*, *Galagonidae*, *Lorisidae* and *Lemuridae*.

The results were analysed using the statistical program UNISTAT 6.5 for Excel (Unistat Ltd., London, UK). Chi-square test was used to compare the frequencies between the monitored categories. A P value < 0.05 was considered significant.

#### Results

As of 31 December 2020, a total of 7,708 primates of 79 species from nine families were registered in the Czech Republic. A similar number of primates were kept as pets as in zoos (3,821 and 3,877, respectively), however, the species representation and the number of kept animals within the individual species differed (Table 1)

Table 1. Numbers of primates kept as pets and in zoos in the Czech Republic (data from: CITES Register of the Czech Environmental Inspectorate valid as of 31 December 2020)

Family Hominidae			Chi-squared test			
		kept as pets (A)		kept in zoos (B)		$(A \times B)$
Common name	Scientific name	n	%	n	%	P
Western gorilla	Gorilla gorilla	0	0	10	0.26	0.002
Chimpanzee	Pan troglodytes	0	0	27	0.7	0
Bornean orangutan	Pongo pygmaeus	0	0	12	0.31	0.001
Sumatran orangutan	Pongo abelii	0	0	4	0.1	0.047
Family Hylobatidae		Primates			Chi-squared test	
		kept as pets (A)		kept in zoos (B)		$(A \times B)$
Common name	Scientific name	n	%	n	%	P
Lar gibbon	Hylobates lar	9	0.23	29	0.75	0.001
Black crested gibbon	Nomascus concolor	1	0.03	14	0.36	0.001
Silvery gibbon	Hylobates moloch	0	0	7	0.18	0.009
Red-cheeked gibbon	Nomascus gabriellae	0	0	3	0.08	0.085
Northern white-cheeked gibbon	Nomascus leucogenys	0	0	20	0.52	0
Siamang	Symphalangus syndactylus	3	0.08	10	0.26	0.055

			nates		Chi-squared test
	kept as pets (A)		kept in zoos (B)		(A x B)
Scientific name	n	%	n	%	P
Chlorocebus aethiops	5	0.13	5	0.13	0.985
Cercopithecus campbelli	0	0	9	0.23	0.003
Cercopithecus diana	0	0	46	1.19	0
Cercopithecus neglectus	18	0.47	23	0.59	0.456
Cercopithecus nictitans	0	0	5	0.13	0.026
Chlorocebus sabaeus	1	0.03	13	0.34	0.001
Miopithecus talapoin	8	0.21	37	0.95	0
Erythrocebus patas	0	0	39	1.01	0
Lophocebus aterrimus	0	0	3	0.08	0.085
Cercocebus chrysogaster	0	0	3	0.08	0.085
Macaca fascicularis	16	0.42	12	0.31	0.43
Macaca fuscata	2	0.05	60	1.55	0
Macaca mulatta	18	0.47	0	0	0
Macaca nemestrina	0	0	21	0.54	0
Macaca radiata	22	0.57	27	0.7	0.5
Macaca silenus	2	0.05	55	1.42	0
Macaca sylvanus	1	0.03	41	1.06	0
Mandrillus leucophaeus	0	0	15	0.39	0
_	19	0.5	69	1.78	0
Papio hamadryas	0	0	41	1.06	0
	0	0	27	0.7	0
	1	0.03	13	0.34	0.001
	2	0.05	28	0.72	0
_	19	0.5	53	1.37	0
· ·	0	0	61	1.57	0
Trachypithecus auratus	0	0	20	0.52	0
		Primates		Chi-squared tes	
	kept as	s pets (A)	kept in zoos (B)		$(A \times B)$
Scientific name	n	%	n	%	P
Sapajus robustus	64	1.67	58	1.5	0.539
Cebus olivaceus	9	0.23	18	0.46	0.088
Saimiri sciureus	99	2.58	362	9.34	0
Leontopithecus rosalia	0	0	59	1.52	0
Leontopithecus chrysomelas	158	4.12	33	0.85	0
Callithrix jacchus	609	15.9	92	2.37	0
	154	4.02	65	1.68	0
Callithrix penicillata	46	1.2	40	1.03	0.48
Mico argentatus	52	1.36	55	1.42	0.818
			305	7.87	0
1,0	31	0.81	7		0
_					0
					0
		2.58	31	0.8	0
Leontocebus fuscicollis	99	۷۱۵	.71	U.O	· ·
Leontocebus fuscicollis Saguinus imperator	99 47	1.23	108	2.79	0
	Chlorocebus aethiops Cercopithecus campbelli Cercopithecus diana Cercopithecus neglectus Cercopithecus neglectus Cercopithecus nictitans Chlorocebus sabaeus Miopithecus talapoin Erythrocebus patas Lophocebus aterrimus Cercocebus chrysogaster Macaca fascicularis Macaca fuscata Macaca mulatta Macaca nemestrina Macaca silenus Mandrillus leucophaeus Mandrillus sphynx Papio hamadryas Theropithecus baboon Colobus angolensis Colobus angolensis Colobus guereza Semnopithecus entellus Trachypithecus auratus  Scientific name Sapajus robustus Cebus olivaceus Saimiri sciureus Leontopithecus chrysomelas Callithrix jacchus Callithrix penicillata Mico argentatus	Scientific namenChlorocebus aethiops5Cercopithecus campbelli0Cercopithecus diana18Cercopithecus neglectus18Cercopithecus nictitans0Chlorocebus sabaeus1Miopithecus talapoin8Erythrocebus patas0Lophocebus aterrimus0Cercocebus chrysogaster16Macaca fuscata2Macaca fuscata18Macaca fuscata22Macaca nemestrina0Macaca silenus2Macaca silenus1Mandrillus leucophaeus0Mandrillus sphynx19Papio hamadryas0Theropithecus baboon0Colobus polykomos1Colobus angolensis2Colobus guereza19Semnopithecus entellus0Trachypithecus auratus0Scientific namenSapajus robustus64Cebus olivaceus9Saimiri sciureus99Leontopithecus chrysomelas158Callithrix jacchus609Callithrix geoffroyi154Callithrix penicillata46Mico argentatus52Cebuella pygmaea1092Callimico goeldii31Saguinus labiatus130	Scientific name         kept as pets (A)           Chlorocebus aethiops         5         0.13           Cercopithecus campbelli         0         0           Cercopithecus diana         0         0           Cercopithecus neglectus         18         0.47           Cercopithecus nicitians         0         0           Chlorocebus sabaeus         1         0.03           Miopithecus talapoin         8         0.21           Erythrocebus patas         0         0           Lophocebus aterrimus         0         0           Cercocebus chrysogaster         0         0           Macaca fascicularis         16         0.42           Macaca fuscata         2         0.05           Macaca fuscata         2         0.05           Macaca mulatta         18         0.47           Macaca radiata         22         0.57           Macaca silenus         2         0.05           Mandrillus leucophaeus         0         0           Mandrillus sphynx         19         0.5           Papio hamadryas         0         0           Colobus angolensis         2         0.05           Colobus guereza	Scientific name         n         %         n           Chlorocebus aethiops         5         0.13         5           Cercopithecus campbelli         0         0         9           Cercopithecus diana         0         0         46           Cercopithecus neglectus         18         0.47         23           Cercopithecus nicitians         0         0         5           Chlorocebus sabaeus         1         0.03         13           Miopithecus talapoin         8         0.21         37           Erythrocebus patas         0         0         39           Lophocebus aterrimus         0         0         3           Cercocebus chrysogaster         0         0         3           Macaca fascicularis         16         0.42         12           Macaca fuscata         2         0.05         60           Macaca meestrina         0         0         21           Macaca radiata         22         0.57         27           Macaca silenus         2         0.05         55           Macaca sylvanus         1         0.03         41           Mandrillus leucophaeus         0         0	Scientific name         kept as pets (A)         Rept in body           Chlorocebus aethiops         5         0.13         5         0.13           Cercopithecus campbelli         0         0         9         0.23           Cercopithecus diana         0         0         46         1.19           Cercopithecus neglectus         18         0.47         23         0.59           Cercopithecus nictitans         0         0         5         0.13           Chlorocebus sabaeus         1         0.03         13         0.34           Miopithecus talapoin         8         0.21         37         0.95           Erythrocebus patas         0         0         39         1.01           Lophocebus aterrimus         0         0         3         0.08           Macaca fascicularis         16         0.42         12         0.31           Macaca fascicularis         16         0.42         12         0.31           Macaca fuscata         2         0.05         60         1.55           Macaca mulatta         18         0.47         0         0           Macaca silenus         2         0.05         55         1.42

Family Aotidae			Primates			Chi-squared test
		kept as	pets (A)	kept in	zoos (B)	$(A \times B)$
Common name	Scientific name	n	%	n	%	P
Northern night monkey	Aotus trivirgatus	7	0.18	22	0.57	0.006
Family Atelidae		Prima		nates		Chi-squared test
		kept as pets (A)		kept in zoos (B)		$(A \times B)$
Common name	Scientific name	n	%	n	%	P
Black howler monkey	Alouatta nigerrima	0	0	2	0.05	0.16
Geoffroy's spider monkey	Ateles geoffroyi	0	0	13	0.34	0
White-faced saki	Pithecia pithecia	0	0	32	0.83	0
Family Galagonidae		Primates			Chi-squared test	
		kept as pets (A)		kept in zoos (B)		$(A \times B)$
Common name	Scientific name	n	%	n	%	P
Thick-tailed greater galago	Otolemur crassicaudatus	0	0	8	0.21	0.005
Garnett's greater galago	Otolemur garnettii	0	0	18	0.46	0
Southern lesser galago	Galago moholi	2	0.05	42	1.08	0
Northern lesser galago	Galago senegalensis	40	1.04	143	3.69	0
Family Lorisidae		Primates			Chi-squared test	
•		kept as pets (A)		kept in zoos (B)		$(A \times B)$
Common name	Scientific name	n	%	n	%	P
Red slender loris	Loris tardigradus	0	0	3	0.08	0.085
Pygmy slow loris	Nycticebus pygmaeus	40	1.04	23	0.59	0.028
Javan slow loris	Nycticebus javanicus	0	0	4	0.1	0.047
Greater slow loris	Nycticebus coucang	6	0.16	6	0.15	0.983
Family Lemuridae		Primates				Chi-squared test
•		kept as pets (A)		kept in zoos (B)		$(A \times B)$
Common name	Scientific name	n	%	n	%	P
Black lemur	Eulemur macaco	1	0.03	71	1.83	0
White-fronted lemur	Eulemur albifrons	13	0.34	52	1.34	0
Red-fronted brown lemur	Eulemur rufifrons	0	0	29	0.75	0
Brown lemur	Eulemur fulvus	11	0.29	35	0.9	0
Collared brown lemur	Eulemur collaris	8	0.21	24	0.62	0.005
Red-bellied lemur	Eulemur rubriventer	0	0	17	0.44	0
Crowned lemur	Eulemur coronatus	0	0	10	0.26	0.002
Mongoose lemur	Eulemur mongoz	0	0	9	0.23	0.003
Blue-eyed black lemur	Eulemur flavifrons	0	0	3	0.08	0.085
Alaotra reed lemur	Hapalemur alaotrensis	0	0	6	0.15	0.015
Sambirano lesser bamboo lemui		0	0	3	0.08	0.085
Eastern lesser bamboo lemur	Hapalemur griseus	0	0	4	0.1	0.047
Ring-tailed lemur	Lemur catta	199	5.19	645	16.64	0
Black-and-white ruffed lemur	Varecia variegata	45	1.17	124	3.2	0
Red ruffed lemur	Varecia rubra	6	0.16	14	0.36	0.078
Total n of animals		3831	49.7	3877	50.3	0.459

n - number

Primates of seven families (*Hylobatidae*, *Cercopithecidae*, *Cebidae*, *Aotidae*, *Galagonidae*, *Lorisidae*, *Lemuridae*) were kept as pets; there were no primates of the *Hominidae* and *Atelidae* families kept as pets. Keepers of pet primates focused mainly on the *Cebidae* (86.3% of all primates kept as pets), then *Lemuridae* (7.4%), and *Cercopithecidae* (3.5%). These 3 families accounted for 97.2% of all pet primates.

In contrast, zoos in the Czech Republic kept primates from nine families. In comparison with pet keepers, zoos kept statistically significantly higher numbers of primates of the families *Hominidae*, *Hylobatidae*, *Cercopithecidae*, *Aotidae*, *Atelidae*, *Galagonidae* and *Lemuridae*. In the zoos, primates of the family *Cebidae* (42.6% of all primates in Czech zoos), followed by *Lemuridae* (27.0%) and *Cercopithecidae* (18.7%) were the most numerous and in total accounted for 88.3% of all primates kept in Czech zoos. Primates of other families were kept in smaller numbers, the least being the *Aotidae*, *Lorisidae*, *Hominidae* and *Atelidae*.

The results show that in both types of keeping in captivity the most frequently kept species were of the family *Cebidae*, followed by the families *Lemuridae* and *Cercopithecidae*. The difference between the numbers of primates kept as pets and in zoos for each species is shown in Table 1.

### Discussion

The results show high numbers of primates kept as pets, almost identical to the number of primates kept in Czech zoos. The Czech Republic is listed as one of the leading pet-keeping countries (Bedford 2021). Data on the number of domestic animals kept in the EU in 2020 most often mention dogs and cats but keeping other exotic species of animals is no exception (Bedford 2021). Around 10.7 million people lived in the Czech Republic in 2020 (Czech Statistical Office 2021) and according to our results there were 3,821 primates registered as pet animals. In contrast, according to the Office for National Statistics UK (2021) 66.5 million people lived in the UK and between 2,485 and 7,454 primates were being privately kept throughout England, Scotland, and Wales in 2009 (Parliament UK 2014). It is therefore obvious that the number of pet primates per capita in the Czech Republic is very high.

Primates of the *Cebidae*, *Lemuridae*, and *Cercopithecidae* families were most often kept in the Czech Republic both as pets and in zoos. However, the variability of families and species kept in zoos was higher; for example, primates of the families *Hominidae* and *Atelidae* were only kept in zoos. Due to the complexity of hominid keeping, it is a positive finding that people interested in primates prefer to choose other species as pets. In general, hominids are not recommended as pets (The Jane Goodall Institute UK 2021). The *Atelidae* naturally form large groups in the wild and move in the tree layers using brachiation and a prehensile tail (Dewey 2007); it is also very difficult to build a suitable enclosure for them under the conditions of hobby keeping. This family includes, for example, the genus *Alouatta* (howler monkey), whose nature is communication with very loud sounds audible at a distance of up to 5 km, which may also discourage any potential pet keepers (Dewey 2007).

The most represented group of pet primates in the Czech Republic was the family *Cebidae*, mainly dominated by members of the subfamily *Callitrichidae*. As of 31 December 2020, 3,134 individuals were registered as pets in the Czech Republic (while 1,215 individuals were kept in zoos). These New World primates are popular mainly for their very small stature and cute appearance (Abee et al. 2012). Many species of this subfamily are endangered, some of them even critically, such as the cotton-headed tamarin (*Saguinus oedipus*) (Rodríguez et al. 2021). They can be obtained very easily from advertising servers (Mott 2003). Previously, it was possible to buy them in pet shops, but

based on the latest amendment to the Act on the Protection of Animals against Cruelty, this option was banned in the Czech Republic and with the effect from February 2021, the sale of primates in animal shops is prohibited. In the Czech Republic, the most frequently kept species of *Callitrichids* was the western pygmy marmoset (1,397). According to the IUCN Red List, this small monkey is a vulnerable species (De La Torre et al. 2021); its population in the wild is still declining. It is also a species protected by the CITES (Annex II/B). The young of these monkeys look very cute; however, once they grow up and reach sexual maturity, they often become aggressive and unpredictable even towards their keeper. For these reasons, keeping *Callitrichids* as pets is discouraged (Wissman 2014). They are very intelligent animals that need to be kept occupied and given numerous opportunities to use their skills, alternating different forms of enrichment to meet their natural needs. It is also necessary to realize that they mark their territory with urine not only inside the cage, but also in its surroundings. In case of danger, they reveal their perianal area and genitals. Their typical behaviour includes rubbing the perianal area against the furnishings, which causes a very unpleasant odour of urine and faeces. Another problem occurs when hand-fed young animals, after reaching sexual maturity, begin to defend not only their territory, but also start to protect their keeper from other family members and other people or animals. In order to prevent biting, procedures have been performed to pull out the canine teeth of these Callitrichids. This is considered illegal and it is banned in the USA by the Animal Welfare Act (USDA 2021). A similar provision applies in the Czech Republic: cruelty to animals is prohibited by the Act on the Protection of Animals against Cruelty. Actions considered as cruelty also include interventions performed in order to change the appearance or other characteristics of the animal (even if the interventions were carried out using the means for general or local anaesthesia, painkillers or other methods), e.g. destroying vocal cords or using other means to reduce the loudness of the sounds produced by the animal, or to amputate claws, teeth, venom or scent glands for nonmedical reasons (Act No. 246/1992 Coll.). Territorial marking is a natural behaviour of these Callitrichidae representatives, and it is not recommended to give the pets diapers in order to avoid marking, as is sometimes done (Wissman 2014). In addition to the above, there may be a problem with the zoonotic potential of some diseases. Salmonellosis, campylobacteriosis, rubella or influenza can be a problem. The *Callitrichids* should also be vaccinated against tetanus. Herpesvirus infections can be fatal for them, leading to severe encephalitis (Montali and Bush 1999). Neither squirrel monkeys nor capuchin monkeys are recommended as pet animals, however, they are kept as pets more and more often (RSPCA 2021). According to our results, a total of 172 of them were registered in the Czech Republic.

Based on foreign studies, keeping pet macaques which belong to the *Cercopithecidae* family, the third most frequent primate family kept in the Czech Republic, is not recommended either, for example, due to the zoonotic potential of some diseases, especially herpesvirus. It does not usually cause clinical problems in monkeys, however, it can bring about severe encephalitis in humans (Huff and Barry 2003). Another problem is the risk of getting bitten, which can be very serious, or the difficulty in providing welfare for pet macaques. On average, their life expectancy is about 25 years. Problems arise when the owner dies or can no longer take care of the animal (Aldrich and Neale 2021).

Similar to other families of primates, the *Cercopithecidae* are also not recommended to be kept as pet animals (Piel and Stewart 2019). However, according to our results, the *Cercopithecidae* are also kept as pets in the Czech Republic; specifically 32 individuals were registered.

Another group of primates often kept as pets in the Czech Republic were lemurs. The most frequently registered were the ring-tailed lemurs. This lemur species is one of the best known members of the *Lemuridae* family and it is very popular for its appearance. In 2009,

about 2,500 individuals were kept in zoos around the world (LaFleur and Gould 2020). Its reproduction in zoos is very successful. In the wild, however, it is an endangered species (LaFleur and Gould 2020) and is also included in the Annex I to the CITES, therefore, with some exceptions, any trade with this species should be prohibited. Although many lemurs that are kept as pets come from captive breeding, they are not clearly recommended as pet animals (Duke Lemur Center 2021). In captivity, they are very often weaned too early and isolated from other individuals of their species. Unsocialized animals suffer from pathological forms of behaviour in adulthood; they can become aggressive towards the keeper and other people or pets (Duke Lemur Center 2021). In short, lemurs are social animals and need the presence of other lemurs to be mentally well (AZA 2015). Due to the fact that lemurs have an established hierarchy within their group, attacks on their owners may occur. Keeping them as pets is relatively demanding financially, but also in terms of providing a sufficient level of veterinary care. According to the Duke Lemur Center (2021), the cost of annual keeping of one animal while ensuring the highest possible level of welfare and care is 8,400 USD. Based on scientific studies to date (Harman 2019), the University of San Diego does not recommend keeping lemurs as pet animals. Nevertheless, according to the AZA (2015), about 15,000 ring-tailed lemurs are kept in the USA as pets. According to an estimate based on surveys in 2013 and 2016, 33,428 lemurs were kept in Madagascar households (Reuter et al. 2019). As of 31 December 2021, 199 individuals were registered as pets in the Czech Republic.

From the perspective of a negative impact, it is also important to mention the keeping of slow loris primates. The greater slow loris is considered an endangered species according to the IUCN (Nekaris et al. 2020), as well as its relative pygmy slow loris (Blair et al. 2021). In both species, there is a decrease in the number of populations in the wild, while the main threatening factor is their capture for the purpose of pet keeping (Fuller et al. 2018; Nekaris et al. 2020). The *Lorisidae* are, despite their cuteness, relatively dangerous primates, which can seriously injure with their long and sharp canine teeth; moreover, they are the only venomous primates in the world. On the inside of the elbows, they have glands that produce a yellowish, strong-smelling secretion that contains a toxin. This toxin is activated when mixed with saliva, and small lorises use it to defend themselves or their young. Cases ending in human death after a bite were also reported (The Kukang Rescue Program 2021). For this reason, after the illegal capture of small lorises, their teeth are pulled out on black markets (Shepherd 2010) where the animals are then resold. However, many small lorises become infected or die. It is estimated that 30-90% of individuals do not survive their transport to the final destination. The conditions of their captive keeping as pet animals are usually insufficient, they are not fed suitable food and are forced to be active during the day (despite being nocturnal animals) when the noise and daylight cause them excessive stress; very often they are also kept in small cages (International Animal Rescue 2021; The Kukang Rescue Program 2021). Slow lorises are definitely not suitable as pets, not only for the reasons already mentioned, but also because they mark their territory with urine. In addition, in nature they travel very long distances during the night to look for a variety of food, including various fruits, invertebrates, plant resin, plant nectar, tree bark, leaves, etc. The keeper is therefore unable to provide a proper diet to them (The Kukang Rescue Program 2021). All species of slow lorises are protected by local laws in South Asia and also by the CITES, where it is included in the Annex I, i.e. animals whose trade is prohibited with a few exceptions; however, this is not fully respected. Other threatening factors are also the loss of natural habitats due to deforestation for oil palm cultivation as well as due to hunting for traditional Asian medicine. However, it is emphasized that pet trade is perhaps one of the most devastating factors seriously affecting populations of all exotic species (Hall 2017). Nevertheless, in the Czech Republic, pygmy lorises and greater slow lorises were kept not only in zoos, but also as pets.

Another problem for pet primates can be the decision of the keeper to get rid of the animal, for example, due to its unmanageability. There are only five rescue centres in the Czech Republic (Ministry of the Environment 2021), where these exotic animals can be placed; however, in case there is no space and no other private keeper of pet primates is interested in obtaining it, a difficult situation may arise. Due to its legal nature, such animal does not belong to rescue stations which are operated for the purpose of caring for injured or orphaned wild animals within the Czech Republic (Act No. 246/1992 Coll.). As a rule, they cannot be placed in pet shelters, as those are usually equipped only for the care of dogs and cats. The Association of Zoos and Aquariums (AZA) has also commented on the keeping of primates as pet animals, stating its official opinion that when someone wants to keep an animal as a pet, they should choose a domesticated species of animal, not a wild primate.

Primates are an endangered group of animals and their captive keeping should therefore be aimed primarily at their protection, the creation of a strong and reproducible reserve population, and the effort to return suitable individuals to their natural habitats. This is the goal of modern zoos. However, our results and foreign studies show that primates are also often kept as pets; in the Czech Republic, almost 50% of the total number of registered primates is kept in that way. Although permits and keeping conditions are required for their keeping as pets in the Czech Republic and the animals are regularly inspected, thus there should be no direct abuse related to the practices reported in primates kept in some other countries, which are prohibited in the Czech Republic (removal of teeth, olfactory glands, etc.), the exact rearing conditions of the individual species are not laid down by legislation and therefore cannot be enforced. People keeping primates as pets are not involved in international rescue programs, they are not obliged to consider primate reproduction in terms of genetic variability within the species or to avoid cross-breeding, and they do not have to follow species-specific recommendations and manuals for the keeping and care of these animals. The social conditions (creation of a social bond with the owner, taming) and the size and structure of groups may not respect and contribute to the preservation of natural social, reproductive, and maternal behaviour. Thus, the contribution of animals kept as pets to the protection of the species is negligible. From this point of view, it seems desirable to amend the existing legislation, in particular to determine the conditions for keeping individual species of primates in captivity. The qualification requirement should be extended to all primate species. Due to the fact that apes are not kept as pets in the Czech Republic, the introduction of the obligation to prove professional competence only in ape-keeping does not have a practical impact. Given the large number of primates kept as pets, it is desirable to consider stricter conditions for their keeping, and in the case of some endangered primate species, to issue a ban on their keeping as pets.

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