ASSOCIATION OF ZOOS & AQUARIUMS

AZA White Paper

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Personal Possession of Non-Human Primates

AZA Position

The Association of Zoos and Aquariums (AZA) recognizes that personal possession of non-human primates has significant negative implications for animal welfare and health as well as public health and safety; therefore, in accordance with AZA's Board-approved Policy on the Presentation of Animals, AZA does not support personal possession of non-human primates and encourages AZA member organizations not to participate in animal acquisition and transfer activities that may facilitate the personal possession of non-human primates[5].

Rationale

There are an estimated 15,000 privately owned, either as pets or service animals, non-human primates in the United States[35,85]. Pets are typically viewed as domesticated animals kept by humans for pleasure and companionship. Non-human primate species most commonly kept in personal possession include marmosets, tamarins, lemurs, capuchins, squirrel monkeys, macaques, baboons, and chimpanzees[17,18,32,35,64,85]. The general public can easily obtain non-human primate pets through online and newspaper advertisements, pet stores, and roadside attractions. In early 2014, the International Fund for Animal Welfare conducted an investigation and found a total of 33,006 endangered wildlife parts and products, from CITES I and II listed species, for sale via 280 online market places across 16 countries with more than half of the advertisements (including 397 for non-human primates) for live animals[37]. Non-human primates are also sometimes kept in personal possession as service animals. In 2010, the Department of Justice modified the 1991 title III regulation, 28 CFR 36.104, under the Americans with Disabilities Act, stating that non-human primates will not be recognized as service animals[89]. The Department's final rule defines ''service animal'' as ''any dog that is individually trained to do work or perform tasks for the benefit of an individual with a disability, including a physical, sensory, psychiatric, intellectual, or other mental disability. Other species of animals, whether wild or domestic, trained or untrained, are not service animals for the purposes of this definition."[89] Legislation and regulation related to private ownership of non-human primates varies by state and depends on the species[34]. Some states ban individuals from possessing any non-human primates, while other states prohibit keeping larger non-human primates in personal possession. Likewise, some states require individuals to obtain a permit, and others have no requirements for non-human primates in personal possession[85].

Recent scientific research has demonstrated that misrepresentation in imagery and media of both slow lorises and chimpanzees leads to skewed public perceptions of their endangered status in the wild while making these species, as well as ring-tailed lemurs, capuchin monkeys, and squirrel monkeys appear as suitable pets[43,57,70,80]. AZA's Board-approved Policy on the Presentation of Animals (2008), included in AZA's Accreditation Standards and Related Policies[4], clearly articulates that:

> "Animals should always be presented in adherence to the following core principles: 1. Animal and human health, safety, and welfare are never compromised; 2. Education and a meaningful conservation message are integral components of the presentation; 3. The individual animals involved are consistently maintained in a manner that meets their social, physical, behavioral, and nutritional needs."

In addition, AZA's guidelines for Animal Contact with the General Public (2007), included in AZA's Accreditation Standards and Related Policies[4], states that:

> "Unless extensive testing has been performed for a variety of viral, parasitic, and bacterial diseases, all direct public contact with primates should be avoided. Public contact also places the primates at considerable risk of contracting diseases from humans."

Conservation Implications

More than 54% of the world's non-human primate species and subspecies with known conservation status are classified as threatened with extinction on the IUCN Red List of Threatened Species[38]. The main threats are habitat destruction, being hunted for food, and the illegal wildlife trade[38]. A recent IUCN bulletin noted that, "the illegal trade in wild animals to supply the exotic pet industry is having serious consequences for highly desirable species like parrots and primates[39]." For a number of these species, this illegal and unsustainable trade is a significant and urgent threat to their conservation[68,83] and it is estimated that the global trade in live non-human primates involves tens, if not hundreds of thousands, of individuals a year[60,68].

Invasive species harm native species through direct predation, competition for resources, spread of disease, and disruption of natural ecosystems. Non-human primates that are released into habitats where they are not native can pose serious threats to indigenous wildlife. Released or escaped non-human primate species that have established populations in the U.S., but are not yet considered invasive, include rhesus macaques, vervets, and squirrel monkeys[22]. Established non-native non-human primate populations that grow and spread to become invasive can cause irreversible loss of native wildlife, as has been the experience in other countries[63,65,85].

Unless the demand for non-human primates in personal possession is eliminated, the trade will continue to exist as one of many threats to non-human primate species survival. Since 1975, the U.S. has prohibited the import of non-human primates to supply the pet trade (pursuant to 42 C.F.R. 71.53), yet illegal trafficking of wild animals remains a multibillion-dollar industry[88]. The illegal wildlife trade, including non-human primates, has reached significant global proportions with implications that go well beyond environmental impacts - undermining economies and livelihoods, good governance and the rule of law, and constituting a barrier to the achievement of sustainable development and environmental sustainability[58]. The US National Strategy for Combatting Wildlife Trafficking indicates that the scale and scope of wildlife trafficking continue to grow at an alarming rate, reversing decades of conservation gains and threatening not only national and global wildlife resources but also national and global security[56]. Although the true global scale of this escalating trade is largely unknown[84], it clearly has far-reaching implications for the environment and for human and animal health[69] and poses a major threat to global biodiversity[78]. There are numerous and significant animal welfare issues related to the practices and activities around acquiring, processing, transporting and holding captured wild non-human primates for sale in the illegal wildlife trade[7]. Many scientists working on conservation initiatives in non-human primate range countries strive to educate local people that taking animals from the wild as pets threatens species' survival and individual animal welfare.

Animal Health and Welfare Risks

The importance of early rearing and social experience on the behavioral competence, psychological welfare, and health of non-human primates has been well documented. Most non-human primates naturally live in complex social groups and need conspecific contact for optimal psychological health[15,28,31,45,46,52,53,54,61,76,87]. Offspring propagated and sold for personal possession are typically separated from mothers prematurely for hand-rearing, often only hours or days after birth[85]. Such separation from a mother is known to cause stress-induced physiological and behavioral problems that can persist into adulthood[13,27,29,30,40,41,45,53,66,71,73,74,76,77,79,81,82]. Social isolation, which typically accompanies hand-rearing in personal possession, has been found to cause profound and often permanent behavioral consequences in macaques, baboons, marmosets, and chimpanzees, including deficits in affiliation, social responsiveness, communication, exploratory behavior, feeding and drinking, sexual and maternal behavior, and learning ability[3,8,13,21,24,25,51,62,75,91]. In the context of this white paper, hand-rearing is used in conjunction with social isolation such that there is no attempt to hand-rear non-human primates in a natural manner[13,48,49,85]. High rates of stereotypic, self-directed, and self-injurious behavior have been documented in chimpanzees and macaques that were socially isolated in the first year of life[10,20,25,26,47].

Non-human primates that are hand-reared and/or maintained in isolation by individuals owning these animals for personal possession often demonstrate abnormal levels of aggression [13,48,49,85]. Many breeders and owners hand-rear infants with the intent to "tame" them, theoretically making better pets or service animals, when in actuality, hand-reared animals are typically more dangerous than mother reared animals[13,48,49,85].

Hand-rearing and social isolation can negatively affect reproductive and parental success[3,13,21,81]. Infants taken from their mothers often do not develop the skills necessary to raise their own young,

creating a multi-generational cycle of rejected infants that must be raised by humans to physically survive. Lower reproductive and parental success of hand-reared individuals has been documented in a variety of non-human primate species, including lemurs, tamarins, baboons, gorillas, and chimpanzees [9,13,21,42,50,59,67,72].

There are non-human primate health risks associated with hand-rearing and social isolation. Female non-human primates whose infants are removed for hand-rearing will resume cycling and produce more offspring at shorter intervals, thus increasing the total output of infants in a female's reproductive phase of life. Artificially-shortened inter-birth intervals that occur repeatedly over a lifetime place significant and unnatural metabolic demands on breeding females. For most non-human primates, particularly those that are not seasonal breeders, this can ultimately contribute to significant health issues[90]. In addition, early social deprivation of macaque infants has been found to result in increased mortality and lifelong compromised immune system function[44].

Many human diseases can be transferred to, and cause serious or even fatal illness, in non-human primates[1]. Disease transmission risk is high with the level of casual contact that occurs in personal possession, such as food-sharing, kissing, hugging, bed-sharing, and often blood contact that occurs when non-human primates bite or scratch[2,11,36,64,85]. Measles, influenza, and parainfluenza, are among the most common pathogens transmitted between humans and non-human primates[2,11,19]. New World primate species kept in personal possession are particularly susceptible to Human Herpes Virus 1, which does not typically cause active disease in humans but can be fatal to monkeys[36].

In addition, common practices and household hazards in personal home environments can be harmful and even fatal to non-human primates. Duarte-Quiroga & Estrada surveyed 179 personal owners of non-human primates and found that lack of dietary control was prevalent. In 88% of the reported cases, the non-human primates drink coffee and in 14% of the reported cases, the non-human primate consumed alcohol. In some cases, the non-human primate regularly ate paper, tobacco, and even marijuana. Pet owners in 44% of cases reported that their pets had burns caused by stoves, irons, light bulbs, and candles, experienced falls from 2-story or higher buildings, and/or suffered poisoning by ingestion of cleaning products or ornamental plants. The most common cause of death for pet non-human primates was asphyxiation by strangulation caused by a leash tied around the animal's neck becoming entangled on furniture or trees. Momentary escapes have led to electrocution on power lines, being hit by a car, or attacks by dogs, resulting in death. Owners also reported killing their non-human primates because they become unmanageable due to size or behavior, most often following an aggressive attack by the non-human primate on a family member[17].

Public Health and Safety Risks

The Humane Society of the United States (HSUS) maintains a list of non-human primate incidents and attacks, which includes documentation of 275 human injuries from captive non-human primates in 43 states between 1990 and 2013[35]. The majority of injuries were inflicted by a wide variety of species in personal possession, which pose significant risks to public health and safety through serious to life-threatening injuries and communicable diseases. Typically non-human primates acquired as infants become aggressive toward humans upon sexual maturity. Most people have little to no knowledge of non-human primate behavior and sudden attacks on humans can result when a person is perceived as a threat, rival for attention, or opponent.

Non-human primates in personal possession also present significant disease risks to humans. Transmission of disease can occur via casual contact, air-borne pathogens, or exposure to body fluids such as urine, saliva, feces, or blood. Pathogens that can be transferred to humans from non-human primates include influenza, Herpes B (*Cercopithecine herpesvirus* 1) and other viruses, and bacteria such as *Salmonella*, *Campylobacter*, *Shigella*, and *Yersinia*. Parasitic infections include Giardia, Cryptosporidium, hookworms, and strongyles. Retroviruses like Simian T-Lymphotrophic Virus (STLV), Simian Foamy Virus (SFV), and Simian Immunodeficiency Virus (SIV) may represent potential zoonotic disease concerns[1].Testing for various diseases is possible, but often not reliable for determining the health risk of keeping a pet non-human primate. There remain significant gaps in knowledge of emerging and re-emerging diseases and their species-jumping potential.

Tuberculosis (TB) is easily transferred between people and non-human primates. The Center for Disease Control and Prevention (CDC) calls TB one of the world's deadliest diseases, with one third of the world's human population infected. A total of 9,945 cases were reported in the U.S. in 2012[12]. If not treated properly, TB can be fatal in both human and non-human primates. Non-human primates in personal

possession are at greater risk due to being exposed to large numbers of people who may have TB. In AZA member organizations, both personnel and non-human primates are routinely screened for TB.

Herpes B virus may pose an emerging infectious disease threat for the U.S. human population given the prevalence of macaques in personal possession. Known to cause potentially fatal meningoencephalitis in humans, the Herpes B virus causes no overt signs of disease in macaques and is a naturally occurring infectious agent, endemic among macaque species, including rhesus macaques, pig-tailed macaques, cynomolgus monkeys, and all other macaques[14]. Confirming Herpes B negative status via laboratory tests is extremely difficult because, as with most viruses, the animal must be shedding the virus at the time of the test in order to get a positive result. Even animals that have previously tested negative may potentially shed the virus[1]. Macaque bites or scratches are usually the cause of Herpes B virus disease in humans, with most documented infections resulting from occupational exposure in biomedical research settings. Although symptomatic infection in humans is rare with fewer than 40 cases reported between 1933 and 1994, the consequences are severe. A review by the CDC in 1992 revealed that of 24 known symptomatic cases from non-occupational exposure, 19 people (79%) died[64]. Occupational exposure risk in AZA member organizations is controlled through the use of personal protection equipment and if exposure does occur, it is typically handled with immediate and appropriate diagnosis and therapy which is critical to preventing death or permanent disability[14,64]. Herpes B prevention and treatment measures are rarely taken and often even impossible with macaques in personal possession, where unprotected casual contact routinely occurs and a growing number of exposure cases are being reported to the CDC, involving at least 52 persons since 1990[64]. Private owners of pet macaques are often reluctant to report injuries, more likely to delay seeking medical care, and less likely to be treated by a care giver that is familiar with the potentially serious consequences of B-virus exposure[64].

The Challenges for Zoos Being Asked to Care for Abandoned or Confiscated Non-human Primates

AZA member organizations are increasingly being asked to shelter and care for non-human primates that have been abandoned or confiscated from personal possession sources, often leading to ethical and SSP sustainability dilemmas[16]. Typically, AZA member organizations prioritize their space availability for housing animals with known pedigrees to make certain that the population maintains genetic and demographic health and serves as an assurance population for threatened or endangered wild populations, while also taking into account appropriate social structure and the species' natural history. Unknown origins and/or pedigrees of non-human primates surrendered from personal possession can jeopardize the genetic health of the SSP population. The lack of appropriate socialization for many of these individuals makes it difficult for them to integrate into stable social groups, and these animals utilize space that would otherwise be dedicated to animals of known pedigrees thereby causing the long-term sustainability of the SSPs to be diminished.

In addition, non-human primates acquired from personal possession often present many behavioral challenges. At least 22 AZA member organizations that have acquired non-human primates from personal possession reported hyper-aggression to or from conspecifics or similar species[18]. Non-human primates that are unable to successfully integrate into natural groups and thus require individual housing have an even greater negative impact on SSP space availability. Many AZA member organizations that have acquired non-human primates from personal possession also reported hyper-aggression from these animals toward humans, such as ongoing following or persistent pursuit, attempts to grab or bite, and/or visual or auditory threats[18]. Non-human primate species typically cared for in free-contact environments by AZA member organizations, such as lemurs and callitrichids, often require protected contact for human caregiver safety when acquired from personal possession environments[18]. Psychological and behavioral rehabilitation of non-human primates from personal possession is often possible, but requires special individualized, professional care and significant resources[33].

AZA Action

To reduce threats to non-human primate health and welfare, public health and safety, and SSP sustainability, the following actions are recommended for AZA member organizations:

1. work with non-human primate AZA SSP Programs to manage populations in ways that reduce the sale, trade, or other transfer of non-human primates to individuals not associated with a professional animal organization.
2. when placement in an AZA-accredited institution or certified related facility is not an appropriate option, develop partnerships with and/or provide support for Global Federation of Animal Sanctuaries (GFAS) and/or North American Primate Sanctuary Alliance (NAPSA) accredited or

verified sanctuaries that provide life-long care to confiscated and surrendered non-human primates; and

3. engage in messaging that focuses on natural history, behavior, and conservation of non-human primates and avoid imagery, messaging, and media known to skew public perceptions, thus promoting personal possession of non-human primates[4,6].

Glossary

The following terms are defined for the context of this white paper as follows:

Conspecific – a member of the same species

Free contact – a professional animal management strategy that permits human caretakers to share physical space with animal(s) without any protective barrier between them

Hyper-aggression – abnormally high frequency or intensity of aggression as compared to the natural level for the species

Invasive species – non-native species whose introduction does or is likely to cause economic or environmental harm or harm to human, animal, or plant health[54]

Non-human primate – mammals of the taxonomic order Primates other than humans, including anthropoids (monkeys and apes) and prosimians (i.e., lemurs, lorises, bush babies, and tarsiers)

Personal possession – a person or group, not associated with any professional animal organization, which has or maintains non-human primate(s) as pets or service animals, or as breeders to supply the pet or service animal industry[13,47,48,84]

Protected contact – a professional animal management strategy that requires human caretakers to maintain a protective barrier between themselves and animal(s), avoiding the sharing of physical space

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