Abstract

1. The exotic pet trade, both legal and illegal, plays a crucial role in wildlife overharvesting and biodiversity loss world-wide, but drivers of demand for exotic pets are still poorly understood and under-studied. Some geographical areas, including the post-Soviet states, have little or no relevant research.

2. We conducted open-ended in-depth interviews with 27 exotic pet owners in Russia. The research involved participants who collectively owned over 90 pet animals, including endangered and critically endangered species.

3. The interviewees were classified into four main categories according to their motivations and reasons for keeping exotic pets. ‘Life-Savers’ were motivated by pity; ‘Accidental Owners’ acquired animals by chance; ‘New Experience Seekers’ were looking for something different and unusual; and ‘Collectors’ acquired animals based on their specific characteristics. Species and provenance preferences, level of husbandry knowledge, understanding of the legislation and rights varied among exotic pet owners often reflecting their different motivations. Despite their differences, together they formed a distinctive sub-community of pet owners.

4. Our findings provide essential information for various stakeholders, including policymakers and law enforcement agencies, aiming to address exotic pet trade in Russia and its negative impact on biodiversity both in Russia and overseas. Understanding the motivations for exotic pet ownership will facilitate a more evidence-based policy to emerge to regulate pet ownership.

5. This paper can also serve as a basis for further investigation into the exotic pet trade of Russia and our typology of motivations could be a basis for future studies in other geographical areas.

KEYWORDS
exotic pet trade, motivations, pet ownership, Russia, wildlife trade

1 | INTRODUCTION

Although wildlife trade benefits both global and local economies, as well as provides livelihoods for many communities (Oldfield, 2003), poorly regulated trade is among the top drivers of wildlife overharvesting and global biodiversity loss (Fernandes-Ferreira, Mendonça, Albano, Ferreira, & Alves, 2012; Sodhi, Koh, Brook, & Ng, 2004; Wood, Stedman-Edwards, & Mang, 2013). A recent study
estimated that 22% of world wildlife trade is driven by exploitation for the entertainment industry and pet trade (Baker et al., 2013), with live animals traded both legally and illegally to satisfy the demand for exotic pets. Trade and use of such species as pets cause negative impacts to people, such as spread of zoonosis and injuries caused by animal attacks, and to biodiversity such as introduction of invasive species, population declines and species extinction (Baker et al., 2013; Chomel, Belotto, & Meslin, 2007; Lockwood et al., 2019; Lucca, 2013).

Various definitions exist of what is actually considered to be an exotic pet (e.g. Brown & Nye, 2006; Bush, Baker, & Macdonald, 2014; Hergovich, Mauerer, & Riemer, 2011). To avoid any misconception, we chose Mitchell and Tully’s (2009) definition of exotic pets, recently applied by Alves and Rocha (2018). According to this definition, exotic pets are ‘strikingly, excitingly, or mysteriously different or unusual’. Since this definition can be interpreted in different ways, we preferred a more simplified broad definition that incorporates all non-farm and non-domesticated animals, including both native and non-native species.

The need to change human behaviour is increasingly recognized if conservation goals are to be achieved (Balmford & Cowling, 2006; Olmedo, Sharif, & Milner-Gulland, 2018; St John, Edwards-Jones, & Jones, 2010; Wright et al., 2015). Understanding motivation for behaviour is central to any policy or programme focused on behaviour change but research has been slow to emerge. This is especially the case with the exotic pet trade. Previous research has tended to focus on actual behaviour and insights on the pet owners’ characteristics (Alves & Rocha, 2018; Hergovich et al., 2011; Kidd, Kelley, & Kidd, 1983; Vonk, Patton, & Galvan, 2016) and the correlation between pet owner’s personalities and preferred pet taxa (Hergovich et al., 2011; Kidd et al., 1983; Vonk et al., 2016). Others have addressed the evolution and patterns of the exotic pet trade by estimating trade volumes by taxa or species and main trade routes (Bush et al., 2014; Robinson, Griffiths, St. John, & Roberts, 2015). Although these findings are highly important in understanding the exotic pet trade, motivations and practices linked to exotic pet keeping are still understudied, particularly outwith the US, Australia and EU, and require much more research attention (Lockwood et al., 2019).

In this research, we explore and create a typology for motivations behind ownership of exotic pets in Russia. We chose Russia due to the lack of the relevant social science research in this country, but also because it is known that the illegal exotic pet trade to, from and within Russia includes species listed under CITES Appendices II and I, and hence poses a threat to global biodiversity (IFAW, 2018; Nekaris, Campbell, Coggins, Rode, & Nijman, 2013; TRAFFIC, 2019; Wyatt, 2009). In addition, in December 2018, Russia introduced a Federal Law on Responsible Treatment of Animals (2018). Targeting exotic pet ownership among other animal-related concerns, the government also compiled a List of Animals Prohibited from Keeping (2019) that came into force in January 2020. Understanding how pet owners react to this new law is also an important aspect of our study, as we know that strict legislation or bans with no or poor law enforcement can provoke an increase in the illegal trade (Conrad, 2012; MacMillan & Han, 2011). We speculate that there is a potential risk that species previously legally available in Russia will be illegally traded in the future. Since it appears to be more challenging to recruit participants for illegal behaviour related research, we decided to use the period between first legislation introduction and its coming into full force to engage the exotic pet owners in Russia for this study. Data collected and analysed during this study provide example responses from a range of exotic pet owners in Russia, explain their main reasons for acquiring exotic pets and describe pet-keeping practices and pet-owner relations. This paper also covers the role the pet owners’ community play in the live wildlife trade and pet owners’ attitude towards legislation focusing on regulating the exotic pet trade in Russia.

2 | METHODS

2.1 | Study location

The research was conducted in three different locations in order to include a range of pet owners that might have different views on exotic pet ownership due to their place of residence. Selected cities were Moscow, located in Central federal district, Saint Petersburg, located in Northern federal district and Krasnodar, located in Southern federal district of Russia.

All interviewed participants reside in one of these cities or in close proximity (e.g. suburban areas or satellite towns). The only exception is one participant from Samara located in Volga federal district of Russia, who agreed to participate in the research during her temporary stay in Krasnodar. Since this participant made an important contribution to our research by sharing her experience of exotic pet ownership, we decided to include her responses in data analysis. Time and financial restrictions prevented us from including other districts of Russia in our study design.

2.2 | Participants

In total we interviewed 27 participants between 13th May and 4th July 2019 as follows: 14 in Moscow, 8 in Saint Petersburg and 5 in Krasnodar. Unequal number of participants in each city was unintentional and caused by the voluntary participation requirement. We tried to engage exotic pet owners of both sexes and all ages—16/27 were females and ages ranged from 18 to 60, with the majority in their 30s and 40s.

We used a snowball sampling technique to recruit research participants with the first interviewees found through social media—Instagram and VK (a Russian online social media platform with over 589 millions registered users; VK, 2020), using relevant hashtags in Russian language (e.g. #unusualpet, #pettiger, #monkeyathome) and searching through open access groups for the members with profile photos featuring exotic pets. All prospective participants received a recruitment message inviting anonymous participation in an MSc student’s research on motivation for the keeping of exotic pets. The
communication emphasized the necessity of interviewing pet owners for data veracity. In addition, one of the participants invited the researcher to use a private chat group on VK to invite interested participants to get in touch via private message (to ensure anonymity). This group chat included over 200 exotic pet owners and therefore served as a valuable recruitment tool. All participants were informed about voluntary participation in the study and the anonymity of the collected data, and gave their consent to use their responses for the study and further publication. The consents were given in written or oral form (based on interviewees’ preferences) and were collected prior to the start of the data collection to comply with the research ethics. An ethical approval for anonymous data collection, including use of audio recording, was obtained from the School of Anthropology and Conservation Ethics Committee at the University of Kent.

2.3 | Data collection and analysis

While considering the most appropriate methods for this study, we assumed that pet owners would have a certain degree of loyalty and attachment to their pets, and that also some of the animals may have been acquired illegally. Therefore, we chose to consider exotic pet ownership as a sensitive research topic that required us to build trust through a more qualitative approach for the interview with recruitment undertaken via 'snowballing' which is also trust enhancing (Duarte-Quiroga & Estrada, 2003). Furthermore, given that motivations are often complex and multi-layered, we used a more open-ended conversational interview style which allowed themes to emerge from open questions and does not constrain the flow, length and angle of respondent’s answers (MacMillan & Han, 2011).

All data were collected in Russian language, the native language of both the researcher and all the participants. All interviews with the exception of one were conducted in person in a location chosen by participants to provide a comfortable environment, establish trust and to enable more relevant data collection (one interview was conducted online as a participant was temporarily outside the study location). Some of the research participants chose a public space and brought their pets, which sparked a certain degree of public attention. Interview length varied from 25 min to 2 hr 20 min with the majority of short interviews being conducted in Moscow and the longest being conducted in Krasnodar.

The interviews all commenced with some general questions to engage and relax each participant, with additional questions asked depending on interviewees’ responses and conversational flow (Appendix S1). Each interview was analysed after completion, so that new emerged topics could be covered with the participants that followed. The initial study design and pre-prepared questions focused purely on the motivations for exotic pet ownership. Hence, the themes covered during the first few interviews were mainly addressing history and acquisition of the pet, and pet-owner relationships. However, after a few interviews we noticed the importance of interconnection between motivations for the acquisition of pets and several other topics including, but not limited to, the exotic pet owners community and its influence on owners’ behaviours.

Each interviewee was assigned a code with a letter based on the participant’s gender, following by a letter representing main taxa of their pets (bird, mammal or reptile), followed by a number reflecting the order in which the person was interviewed. For instance, a female owner of two tiger cubs Panthera tigris interviewed after eight other participants has FM9 code. All interviews with one exception were audio recorded with the participants’ permission. However, the primary analysis was conducted based on the notes taken during the interview and memos written by the interviewer after completion of the interview. We found that this approach was more efficient in identifying main emerging themes and pattern, including pet owners’ motivations, while audio recordings were used to support findings with the participants’ quotes. To create our motivation typology we used answers to two primary questions: ‘What is the story of your pet(s)?’ and ‘What influenced your decision to acquire your pet(s)?’.

3 | RESULTS AND DISCUSSION

With few exceptions, all the interviewees previously had a dog or cat as a companion animal and the majority of participants were seeking similar relationships with their exotic pets. However, we decided to not group them together into companion seekers type, but instead focus on other factors and motivations that led to the acquiring of exotic pets. We therefore grouped all interviewees into four categories as follows: life-savers (5), accidental owners (3), new experience seekers (9) and collectors (10). Three participants were initially classified under more than one different ownership types (e.g. life-saver and new experience seeker) and for these participants, responses to additional questions were used to better understand their motivations and to assign an appropriate category (Table 1). Although groups were not equal in terms of number of research participants, they were equally important, often interconnected with each other and their representatives had potential to morph into another ownership category. Together all four groups formed the exotic pet owners community, informing and influencing each other’s acquiring and keeping practices.

3.1 | Life-savers

Pet owners who acquired their pets due to strong feeling of pity towards a particular individual animal can be categorized as life-savers. The majority of the participants classified under this ownership type felt a strong emotional connection with their animals and were convinced that their animals have a better life because they are kept as pets. Among interviewees, the stories of the ‘saved’ animals varied greatly. Some animals such as red foxes Vulpes vulpes and western polecats Mustela putorius were rescued or purchased from fur farms, others such as a grey wolf Canis lupus cub were saved from euthanasia or had been abandoned. [Correction added on 20 July 2020 after...
first publication online: Table 2 citation deleted and Table 2 moved to section 3.3).

In addition, life-savers were also individuals who rescued and kept injured native species because they could not be released to the wild or the owners had become too attached to them. The majority of the interviewed life-savers considered themselves as more experienced in looking after pets than other owners and often provided advice to others. For example, the owner of several unwanted meerkats Suricata suricata created a dedicated group on social media to help others.

Some life savers used their rescue experience to become advocates against keeping wildlife or at least particular species or taxa as pets. For example, some of the research participants who brought their pets to a public place for interview intentionally discouraged anyone who approached about the problems of exotic pets citing high upkeep costs and their troublesome nature: ‘Can you see my arms? Yes, these marks are from it’ (participant FM14, owner of a northern raccoon). Several life-savers were keen to emphasize the altruistic nature of their motivation and contrasted this with other more selfish motives, admitting that many kept animals ‘purely for self-esteem and not for the benefit of the animals’ or as ‘a toy for professionals’ (MM15, owner of a northern raccoon).

### 3.2 Accidental owners

Accidental owners received an animal as an unsolicited gift or had to adopt following a change in circumstances of the previous owner (death, divorce, moved house, allergies etc). For example, one of the research participants described how she was given a Russian tortoise Testudo horsfieldii by refugees from the Russian-Ukrainian border conflict: ‘I was so touched by their story ... and because they asked me for an oath. [...] I am sending them photo reports, because [...] the tortoises lived with them for sixteen years’ (Participant FR4, owner of a Russian tortoise).

Accidental owners often become very attached to their pet: ‘During the two weeks it lived at my place I became very attached to it, to him’ (Participant FR4, owner of a Russian tortoise) and can consequently develop an interest in getting more exotic pets. In some cases they might morph into another ownership type such as new experience seeker or even collector. On the other hand, some were actually strong advocates against exotic pet ownership. The owner of a chinchilla Chinchilla stated that her next pet would be a dog due to concerns about tactile contact, hygiene and level of responsibility with the chinchilla. The owner of a green iguana Iguana iguana mentioned that he believes that iguanas should not be kept in a flat and he would never buy it as pet, but since he received it as a gift, he had to take care of it.

The practice of offering exotic pets as gifts was viewed by participants in both a negative and positive light. Some were convinced that such gifts could develop an interest in the natural world, especially if given to children, while others mentioned that surprise gifts were probably unwise as the new owner may not have sufficient knowledge or time to be a responsible owner. The gift of an exotic pet was most common amongst family members, friends, colleagues and somehow defined by the personal sympathy to the gift recipient as opposed to a work-related (career advancing) gift.

| Ownership type | History of pet’s acquisition | Potential change of ownership type | Owners’ main characteristics |
|----------------|------------------------------|-----------------------------------|------------------------------|
| Life-savers    | • Animals rescued from industry or entertainment • Unwanted or abandoned pets • Injured animals | • To new experience seekers–collectors OR • To advocates against exotic pet ownership | • Different life-savers may have opposite views on pet ownership |
| Accidental owners | • Offered as a gift • Someone else’s pet | • To new experience seekers–collectors OR • To advocates against exotic pet ownership | • Inexperienced |
| New experience seekers | • Following accidental ownership • Inspired by external factors (e.g. previously interacting with the same species) • Since childhood | • To collectors OR • To advocates against exotic pet ownership | • Less experienced compared to collectors • Choice of exotic pet is easy to influence |
| Collectors | • Following new experience seekers’ ownership type • Following life-savers’ ownership type | • No major change expected | • Most knowledgeable • Dominating the whole exotic pet owners community |

### Table 1 Four different types of pet owners: Life-savers, accidental owners, new experience seekers, and collectors; and their main characteristics
3.3 | New experience seekers

The majority of interviewees had a companion animal such as dog or cat before acquiring an exotic pet. New experience seekers were looking for ‘something different’—a new or less common experience. As is the case with accidental owners who got their exotic pets by chance, new experience seekers are relatively new to exotic pet ownership and the community. Choice of pet species was influenced by the common knowledge of the species, features in friends’ or celebrities’ social media, movies and documentaries and the species’ availability. Purchase of a particular species can also be stimulated by seeing and interacting with the pet of a friend, colleague or relative, or in a petting zoo (Table 2). Over half of the new experience seekers interviewed purchased their animals without prior research for example on the animal’s history and provenance: ‘It was brought in some tattered box [...] from Ufa or somewhere else. I do not remember. [...] It had a bottle of dog milk for some reason’ (Participant FM9, owner of two tigers).

New experience seekers often referred to their childhood, especially amongst respondents who had grown up in the countryside and later moved to the city. They recalled catching animals, bringing them home and caring for them as children: ‘I had animals for a long time. Even when I was studying in school I had grass snakes that I had purchased without prior research for example on the animal’s history and provenance: ‘It was brought in some tattered box [...] from Ufa or somewhere else. I do not remember. [...] It had a bottle of dog milk for some reason’ (Participant FM9, owner of two tigers).

3.4 | Collectors

Collectors are people who acquire animals due to their specific characteristics. Such characteristics may include colour or any other particular visual features, temper, complexity of the husbandry and its provenance.

All other categories of exotic pet owner have the potential to become a collector through acquiring more and more pets: ‘It’s a drug addiction of some sort. You get used to it’ (Participant MR19, reptile and amphibian collector). Among research participants, the majority of collectors were reptile keepers, but there were also collectors of primates, arachnids and axolotls, as well collections consisting of mixed taxa. Some collectors gave names to each animal but some did not. Generally, collectors sought less tactile contact with their pets compared to other owners’ types and interacted with the

### TABLE 2 Examples of species acquired by new experience seekers and the main factors which affected owners’ choice

| Pet species                        | Appealing features which had an influence on the species choice | Events that motivated purchase                                                                 | Quote                                                                 |
|------------------------------------|---------------------------------------------------------------|-----------------------------------------------------------------------------------------------|----------------------------------------------------------------------|
| Bengal slow loris Nycticebus bengalensis | • Cute-looking  
• Have big eyes | • Watching videos and documentaries | Eventually I bought it because of their appearance’  
(Participant MM27 on what attracted him in slow loris)                  |
| Grey parrot Psittacus erithacus     | • Intelligent  
• Able to interact with human | • Interaction with friend’s parrot | 'I was surprised by his relationships with the parrot and by what this parrot can do’  
(Participant MB1 on his first encounter with his friend’s parrot which motivated his purchase) |
| Black capuchin Sapajus nigritus     | • Pretty-looking  
• Smart  
• Able to interact with human  
• Smaller than macaques (easier to handle)  
• Long life span  
• Not nocturnal | • Wished to have a monkey since childhood  
• Watching movies featuring capuchin monkeys | 'We were thinking for about a year. Perhaps, a macaque or something else... Capuchin monkeys are generally more docile’  
(Participant FM22 on comparing capuchin monkeys and macaques while choosing her future pet) |
| Tiger Panthera tigris              | • Demonstrate owner’s status | • It was taking too long to acquire another species | 'He said that he wants an animal. But it’s just a wish to show off, to attract attention to yourself’  
(Participant FM9 on her partner who purchased a tiger pet)                  |
| Green iguana Iguana iguana         | • Smart  
• Interesting-looking | • Interaction with friend’s iguana | 'I took it in my arms, looked at it... such an animal! I returned home [...] I wanted it.’  
(Participant FR5 on the first encounter with an iguana that motivated her for purchase) |
| Egyptian fruit bat Rousettus aegyptiacus | • Illusive  
• Unlike animals that other people like  
• Easy husbandry, diet  
• Previous encounter with bats  
• Search for the information available online on the different bat species | | 'Fruit bats are way cooler. I read about them, realised that they can actually live at home and they can simply be fed with fruits’  
(Participant FM13 on information available prior pet’s purchase) |
animals mostly through observation of the animals’ behaviours and husbandry. Some participants mentioned that the work involved in large collections, such as the cleaning of terrariums and feeding required large amounts of time and could lead to spending more time at home and less social interaction with humans. On the other hand size of collection was in part determined by the animals’ welfare—an interviewed collector of primates mentioned that it was easier or better for the animal if they were kept in groups to facilitate social interaction.

Snake owners in particular, had strong preferences for specific colour mutations but more generally appearance did not seem to play a major role in the choice of species to collect, with most attention paid to temperament and husbandry requirements. The goal of many collectors is to be able to raise and breed good specimens of the species they keep. By choosing species with more challenging husbandry, collectors are able to set new challenges for their hobby each time they acquire a new pet. Consequently, with their experience of keeping and breeding species, collectors use this knowledge as an income opportunity by occasionally selling captive bred individuals.

All the interviewed collectors, with few exceptions, said that they would always prefer captive-bred animals over wild-caught due to their docile temperament and the risk of disease in wild-caught animals. Only one of the collectors mentioned that she would not acquire animals from the wild due to ethical reasons. The majority knew the provenance of their pets and preferred buying animals from known private breeders as they could provide more details about the animal’s history and genetics compared to online sellers and pet stores. Only a few participants were indifferent to the animal’s provenance.

Collectors also linked exotic pet ownership with conservation. For example, some interviewees mentioned that with current rates of habitat destruction and degradation and illegal poaching, the keeping of animals as pets would help to preserve biodiversity. However, it is unclear if collectors were engaged in conservation-related practices such as animal exchange to avoid inbreeding and support genetic diversity. Moreover, none of the participants mentioned participating in any reintroduction efforts.

Some collectors saw their goal in promoting exotic pet ownership practice, inspiring more people to acquire exotic pets, educating potential and current owners about the correct husbandry. Compared to other pet owners, collectors had the most established view on the way animals should be kept and cared for and were more vocal and active on social media platforms to share their knowledge and comment on others’ practice. Observed online communities were open to the exotic pet owners with different level of experience and collectors actively used these platforms to engage and to interact with others who shared their passions for exotic pets.

3.5 Exotic pet owners community

The relationship between owner and pet can be multifaceted. New experience seekers were the most active in expressing how much they are emotionally attached to their animals, often considering them to be family members, and mentioning their importance in terms of tactile contact. Life-savers tended to pay more attention to the animal’s needs rather than to the interaction with the animal, nevertheless, they also show a high level of attachment to the pet and protectiveness of their animal. Collectors were least emotional when talking about their pets, but many still referred to each of their animals by a name.

It was also the case, certainly among some participants, that owners could have multiple motivations and morph into a different type of owner through an evolutionary, experiential process. One owner morphed into a ‘collector’ because of her previous experiences as both a ‘new experience seeker’ and then a ‘life-saver’. This participant nurtured her interest in animals since childhood and started to acquire other species out of interest, slowly building a collection of reptiles. She also adopted an unwanted western polecat Mustela putorius and took care of injured birds prior to their release or handing over to another owner. Several interviewees morphed from ‘life-saver’ to ‘new experience seeker’—one had purchased a fox from a fur farm, but subsequently acquired several snakes. Another had rescued a grey wolf cub from being euthanized in a zoo, but was considered buying a lion cub. New experience seekers, collectors and accidental owners might also be life-savers. One reptilian collector (green iguana Iguana iguana, kingsnake Lampropeltis, crested gecko Correlophus ciliatus, giant Madagascar day gecko Phelsuma grandis, knob-headed giant gecko Rhacodactylus auriculatus) also had adopted other green iguanas from a vet clinic (that had been mistakenly diagnosed with cancer) and had purchased one from a pet store where it was being kept in poor conditions.

Some of the participants were active on social media and demonstrated an active interest in spreading awareness about husbandry and the species in general. Socializing and making friends was a key motive, including with foreigners where they could practice English: ‘It’s interesting that there are these monkey lovers all across the world and that you can socialize with them, help them’ (Participant FM8, primate collector). Moreover, social media were also viewed as a money-making opportunity by advertising their animals for photo sessions and breeding for sale. Although some owners claimed that social media could be quite an aggressive environment, these platforms were a main source of information especially for accidental owners and new experience seekers.

Some of the issues affecting the community as a whole included insufficient or misleading information, with owners having to learn and improve husbandry based on their own experience and mistakes: ‘And when we started to search for some information in Russian, [...] except that these are the monkeys from South America, nothing else is out there. That’s it.’ (Participant FM22, owner of a black capuchin). Some interviewees also mentioned that they did not anticipate the large amount of funds required for daily care when acquiring an animal and that veterinary help is very expensive or even sometimes unavailable, especially in smaller cities. In the past, zoos often provided ‘unofficial’ veterinary help for exotic

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pets. Due to the risks linked to this activity and the introduction or enforcement of relevant policies, for example on bio-security, zoos were now starting to restrict or close down access to these services: ‘During the last two-three years they shut it down... you cannot enter or bring it along, they installed cameras everywhere' (Participant FR5, reptile owner).

### 3.6 | Exotic pet ownership and legislation

The majority of participants agreed about the need to introduce new legislation to regulate the exotic pet sector in Russia. However, the interviewees believed that the legislation proposed by the Russian government would have no effect, or perhaps even a negative effect, on the current situation and could exacerbate illegal trafficking. Understanding and awareness varied across owners and this could lead to different behaviours (Table 3). Some accidental owners and new experience seekers were unaware of the new legislation or were not concerned enough to find out more about their rights and obligations. In addition, the List of Animals Prohibited from Keeping (2019) sparked multiple conversations about how this piece of legislation would actually work. Under this legislation, exotic pets on the prohibited list, but acquired before 2020, could be kept until their natural death. However, some participants had decided not to register their pets and keep them illegally because they were concerned about possible taxation associated with registering. Life-savers were highly concerned about the new legislation as they believed that it would not allow them to continue to save and keep animals. They questioned how, and by whom, this legislation would be enforced, whether the authorities would engage veterinarians and related professionals for investigations and animal confiscations, and whether confiscated animals would be euthanized. Collectors were the least concerned about the legislation introduction believing it would not be enforced. Overall, they were convinced that the new legislation would not affect their activities. Participants from the Krasnodar subsample, Southern federal district of Russia where corruption levels are high, highlighted that the current level of bribery creates an opportunity for using exotic animals as an income source (e.g. photo props) and it is unlikely to change with the new legislation introduction.

### 3.7 | Demand reduction and future policy interventions

Our research establishes there are a variety of factors why people acquire exotic pets in Russia. The history behind each pet acquisition usually defines the relationship between the owner and the animal, as well as the person’s overall view on exotic pet ownership. The classification of pet owners in four different types could have meaningful implications for future policies and programmes aimed at reducing negative impacts on conservation and animal welfare by facilitating the development of more customized approaches. For instance, awareness raising programmes targeting new experience seekers could focus on the welfare impacts of the animal trade and the challenges of responsible care. Collectors on the other hand, the majority of whom know the provenance of their pets, could be challenged on the negative conservation impact of keeping a collection of exotic pets. Life-savers who perceive themselves as those having an altruistic moral motivation could be warned about the potential negative effects of sharing photos of their pets on social media or even walking with such pets in public spaces as they could inadvertently be sending misleading messages to the public and stimulate demand. Perhaps

| Ownership type       | Attitude towards the legislation                                                                                                                                                                                                 | Potential outcomes caused by the introduction of the legislation                                                                                                                                 |
|----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Life-savers          | • Concern that the legislation will restrict the ability to save animals  
• Concern that rescued animals will not be allowed to be kept as pets                                                                                                                                       | • Advocating against the legislation  
• OR  
• Adhering to new legislation and stop acquiring more pet animals                                                                                                                                       |
| Accidental owners    | • Lack of knowledge about the legislation, rights and obligations  
• Misunderstanding and misinterpretation of the legislation                                                                                                                                                       | • Hiding of the pets from the authorities  
• Abandoning pets                                                                                                                                                                                         |
| New experience seekers | • Lack of knowledge about the legislation, rights and obligations  
• Misunderstanding and misinterpretation of the legislation                                                                                                                                                     | • Hiding of the pets from the authorities  
• Abandoning pets                                                                                                                                                                                         |
| Collectors           | • Low level of concern about the legislation introduction  
• Believe that legislation will not be enforced  
• OR  
• it will increase illegal trade                                                                                                                                                                         | • Continuing all activities regardless the legislation                                                                                                                                               |

**TABLE 3** Four types of pet owners, their attitudes towards new legislation and possible outcomes from its introduction
the best solution would be to encourage life-savers to volunteer with existing rescue centres where they can express their compassion and caring nature (Yeung, White, & Chilvers, 2017), demonstrate their prosocial behaviour (Booth & Curtis, 2014; Thoits & Hewitt, 2001), while also providing higher levels of care for the animals in need. Accidental owners could be recruited as advocates against exotic pet ownership, telling stories that portray their pets as victims and explaining how challenging it is to look after them.

With no extensive prior experience of keeping exotic pets, new experience seekers often choose their animals based on appealing features, which they identified from other pet owners, social media, entertainment or observed in real life. Providing more information about the endangered conservation status of popular exotic pet species, together with promoting other less threatened or easier to breed species, it could be possible to shift the demand from one species to another. This strategy might be more appropriate in countries where a flourishing market exists due to loopholes in legislation or poor law enforcement. However, such approach should be planned and implemented cautiously, as providing information on species’ conservation status and risk of extinction can also spark a demand for the endangered species due to their rarity (Courchamp et al., 2006; Hall, Milner-Gulland, & Courchamp, 2008; Lyons & Natusch, 2013).

The lack and limitations of available information was constantly repeated across all four groups of owners. Some of the owners claimed that with more awareness about the illegality of purchasing particular species, husbandry challenges, lack of veterinary support and the further expenses, they would not purchase exotic pet or at least choose another species. This supports the findings of the research by Moorhouse, Balaskas, D’Cruze, and Macdonald (2017) showing that the demand for exotic pets can be considerably reduced by providing additional information to consumers. Sharing the information on the provenance of animals can help potential owners to make an informed decision when choosing a potential pet. Our research found that many owners have no or limited knowledge of their pet provenance, and greater transparency of the supply chain would benefit both conservationists and consumers if captive-breeding facilities with high welfare standards are available. Consequently, it will help to avoid unsustainable harvesting from the wild, high mortality rate during transportation and minimize illegal trade of exotic pets.

Collectors are probably the hardest group to reach. As determined collectors with a thirst for acquiring new specimens and associated husbandry skills and knowledge sets they are sometimes, possibly inevitably drawn to species that are more rare and challenging in terms of husbandry and with lower survival chances. Seen in this way, collectors may seem like a direct threat to certain species on the edge of extinction. Although collectors often declare that they source their pets from legitimate breeders, it is possible that those breeders acquire animals from the wild and sell them as captive-bred individuals or to use for breeding. It will therefore be important to engage collectors in further research to explore potential ways to mitigate risks and enhance opportunities for conservation through greater regulation or transparency of sourcing information through for example, certification.

We divided all interviewees into four types, but it is important to underline once again that there is a very strong interconnection between these groups: they influence each other and are influenced by other stakeholders. Some participants mentioned that they nurtured their love for the animals by visiting zoos. Overall, interviewees had a positive attitude towards zoos, but were against petting zoos or at least mentioned that such establishments should be assessed case by case. All groups mentioned interactions with zoos with regard to their pets. Occasionally, Russian zoos played a role as a supplier of the animals (e.g. illegally selling or giving out newborn animals otherwise destined for euthanasia) with some zoos also providing veterinary care and advice for the pet owners. Hence, the role of zoos in the exotic pet trade and its influence on the demand should be recognized and managed to support a more responsible approach to exotic pet ownership, and not as an inspiration for pet acquisition (Bulbeck, 2004; Kieswetter, 2019; Whitehouse-Tedd, Spooner, & Whitehouse-Tedd, 2020). Similarly, the role of petting and travelling zoos in Russia, as well as circuses requires additional research attention.

3.8 | Further research

Our research highlights several issues that merit further investigation. First, we need to establish the importance of exotic pets as sources of additional income for example as photo props. Furthermore, there were indications that the exotic pet trade has links to corruption, particularly bribery, and especially in southern Russia. In addition, it is unclear where the tradition in gifting pets originates and if there is any correlation between socio-economic status, gender, ethnicity or any other factors. It is also unclear what are the species, or if any particular characteristics that animal possess increase their chances to be offered as a gift.

None of our participants admitted to abandon pets, but the release of exotic pets poses a series threat to native wildlife world-wide if they are invasive, carry diseases or have maladaptive genes or behaviours as result of breeding, transportation and keeping practices (Hellebuyck et al., 2017; Karesh, Cook, Gilbert, & Newcomb, 2007; Lockwood et al., 2019; Magalhaes & Jacobi, 2013; Pasmans et al., 2017). Further study of the rate and the reasons behind the abandonment of the exotic pets in Russia is recommended. Given the illegal nature of some activities related to the supply and management of exotic pets, often linked to financial gain, such research will be challenging as it may require longer and more focused anthropological research of key individuals in the supply chain.

More quantification would be welcome in certain key areas. First, it would be useful to know the total number in each ownership type in order to understand the scale of the issue. Second,
it would be interesting to conduct a survey to know which species and their preponderance in the pet community, are of conservation value. Our relatively small sample of 27 interviewees owned over 40 different species including the vulnerable Bengal slow loris Nycticebus bengalensis and alligator snapping turtle Macrochelys temminckii, and the endangered tiger Panthera tigris, and critically endangered axolotl Ambystoma mexicanum etc. (IUCN, 2019; Appendix S2).

3.9 | Concluding remarks

Although participants have various views on the new legislation, many of them agreed that some sort of legislation is necessary in order to avoid cruelty and poor animal welfare conditions. Our findings show that misconceptions around the new legislation may provoke pet owners to not register, but instead hide their animals. Consequently, these owners may have more difficulties in receiving veterinary help in future and the legislation, though well intentioned may serve only to drive the trade underground and be captured by organized crime (Challender & MacMillan, 2014). In the short term, owners may simply abandon their pet animals. A detailed explanation on how the new legislation will work should therefore be provided by the government to guide the exotic pet owner community, with particular focus on the accidental pet owners and new experience seekers. Furthermore, we suggest government and other independent organizations closely monitor the efficiency of the new legislation, especially in the early stages of its introduction. Continuous consulting with different stakeholders, including exotic pet owners and suppliers, can help detecting if the new legislation works as initially planned or provokes smuggling, hence to take proactive actions if needed.

We used a snowballing sampling technique to recruit participants voluntarily and it is possible that our results are biased towards participants with higher animal welfare standards. We assume that the less caring owners as well as those more closely linked to the illegal acquisition of pets would be less likely agree to participate in the research. Most notably, we were not able to engage the largest collectors, as they did not reply to our invitation. However, many individual owners mentioned the same collectors’ names during their interview and it would be highly desirable to find a way to reach out to this group as they are key influencers.

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CONFLICT OF INTEREST

The authors declare that they have no conflict of interest.

AUTHORS’ CONTRIBUTIONS

S.S. and D.C.M. conceived the ideas and designed methodology; S.S. collected and analysed the data. Both authors contributed to the drafting and writing of the manuscript and gave final approval for publication.

DATA AVAILABILITY STATEMENT

Due to the sensitivity of research topic and the type of data collected it is not possible to make the audio recording of the conducted interviews publicly available. We guaranteed anonymity and confidentiality to our interviewees in compliance with the ethics approval granted by the School of Anthropology and Conservation Ethics Committee at the University of Kent.

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Additional supporting information may be found online in the Supporting Information section.