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**The communication of animals in the
Italian magazine for children and
teenagers "Focus Wild"**

Analysis of the contents, evolution, and
communication methods of the human-nature
relationship in the publication period 2012-2021

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ABSTRACT

There are many studies researching the relationship between animals and children, and the way animals are portrayed in children's media. Despite this, the Italian context has not yet been investigated much. In this study, it has been tried to observe, through the creation of a database, the contents and representation of animals in the children's magazine *Focus Wild* in the period 2012-2021. No trends have been observed over the years and the coverage of the most endangered species has remained unchanged overall. A large variety of species depicted was observed, but a prevalence of exotic species compared to local ones, therefore showing an assonance with previous studies on the most popular animal species in children's content.

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INTRODUCTION

The relationship between children and animals has been explored in many studies (Capaldi et al. 2017; Cole & Stewart, 2017; Neldner & Wilks, 2022; Nisbet et al., 2009; Otto et al., 2019). These studies have researched the various ways in which animals can impact children's lives and development. It has been shown that having a pet can improve a child's social skills and emotional well-being (Daly & Morton, 2006; Lumber et al., 2017; Prokop et al. 2008). Animals have also been used in educational settings to help children learn about the natural world. For example, animal-assisted education programs have been shown to help children learn about conservation and the importance of preserving the natural environment (Liefländer et al. 2013; Muldoon et al., 2016). Not only the impacts on emotional and social development, but there is also a growing body of research suggesting that interaction with animals can have a positive impact on children's physical health. Children who have pets have lower levels of stress, as well as improved immune function. Spending time with animals can also encourage children to be more physically active, as they engage in play and exercise with their pet (Louv, 2008; Windhorst & Williams, 2015). Participating in activities with animals can help children develop a connection to nature, it can help foster a love for animals and a sense of responsibility for the environment (Bruni et al., 2017; Eagles & Demare, 1999).

How animals and plants are represented can shape children's understanding of the natural world and their attitudes towards nature (Baker, 1993; Kalof, 2022; Melson, 2001). However, little research has been done on how animals are portrayed in children's media such as non-fiction books and magazines, and on the potential impacts of these representations on children's environmental literacy and ethical beliefs (Celis-Diez et al.; 2016; Hooykaas et al., 2022; Feber et al. 2017; Ganea et al, 2014; Muthukrishnan & Kelley, 2015; Vrla et al., 2020).

Children's magazines are an important source of information and entertainment for young readers, and they often feature stories and illustrations about animals and plants (Pomerantz, 1986). In Italy there are not many studies investigating the relationship between animals, plants, the natural environment, and children in paper-published media such as magazines. The main studies available concern the attitudes of young Italians towards animals (Pagani et al., 2007) and research on linguistic contents with

respect to environmental issues in a comparison between the Italian magazine Focus Junior and National Geographic Kids (Bruti & Manca, 2010). Research on the representation of animals in Italian children's magazines could be relevant for the understanding of how children in Italy learn about the animal kingdom, the cultural implication of different communication practices, and how the media is shaping children's perceptions and attitudes towards animals and the natural environment.

In this master's thesis, it will be explored the representation of animals in the content of a sample of 120 issues of *Focus Wild*, an Italian children's magazine dedicated to children aged 8 to 14 and published by Mondadori since 2011, for the time period from 2012 to 2021. To understand which animals and plants are depicted, how they are represented and the overall messages that this magazine conveys about the natural world and human-animal relationships is used the method of the content analysis of the species images. The covers of the 120 issues from 2012 to 2021 are also analysed to observe the communication methods of the magazine.

CHAPTER 1: LITERATURE REVIEW

CHILDREN'S CONNECTION WITH NATURE

The relationship between children and nature is a complex and multifaceted one, shaped by a variety of factors including personal experiences, cultural influences, and exposure to media. Previous studies on the relationship between children and nature have highlighted the importance of early experiences and exposure to animals in shaping children's attitudes and behaviours towards them (Melson, 2001. 7-21). Research has shown that children who have positive experiences with animals, such as interacting with them or learning about them through media, are more likely to develop empathy, compassion, and a sense of stewardship towards animals and the natural world. In chapter 5 of the book *Children and Nature*; Kellert (2002) proposes a conceptual framework in which children's interactions with animals can be categorised into three types: direct, indirect, and vicarious. Direct interaction refers to experiences which happen unplanned and non-mediated with wild animals. Indirect interaction refers to planned, controlled experiences with wild or domestic animals. Vicarious interaction refers to the experience of animals through media such as books, magazines, tv shows. Here animals can be represented both realistically and unrealistically (Kellert, 2002. 117-119). Considering the scenarios that many Western communities are facing, children will have less and less ways to enjoy direct experiences with animals in their natural habitat; for this reason, Kellert (2002) underlines how it is becoming essential to maintain at least the possibility of indirect or vicarious experience in children, as these interactions with animals play an important role in children's cognitive, emotional, and moral growth (Kellert, 2002. 138-147). It is therefore essential to research and apply the best and most effective methods in the communication practices with children, so that a correct representation of nature and animals is transmitted through both education and media such as non-fiction books, magazines, video games, cartoons, or TV shows. In this way it will be possible to positively influence children's imagination and attitudes towards these topics, without compromising their accurate understanding of them.

As argued by Cole and Stewart (2014), Western society has manipulated and distorted the experience of animals for children. In the mass media, in the school environment (e.g., textbooks, educational programs), in local community structures, in advertising

or simply in the food system, children are presented with a hierarchical ladder in which animals are selected by worth. In fact, there are vulnerable animals (often wild and exotic or represented in a cuddly or cute way) which are linked to safeguard discourses of protection and conservation and therefore are presented to children as more important than the animals, more familiar and closer to them, but which can "legitimately" be killed and processed into food. As a result, children learn to treat some animals as individuals with their own needs and feelings, while others are seen as mere objects (Cole and Stewart, 2014. 122-129).

These studies contribute to a clearer understanding of the importance of direct and indirect engagement with nature and animals to children's development. By "child development" it is meant the combination of social-emotional development, measured for example by self-esteem and social skills, and cognitive development, assessed by the capabilities of the children to read, write, and elaborate thoughts on specific topics (Endenburg & van Lith, 2011.209).

The pattern of findings points in the same direction and persists across different sub-populations of children and different settings, namely, that connection with nature is pivotal for their personal development, well-being, and general physical and mental health (Harvey et al., 2020. 1). Unfortunately, more and more research show also how children, particularly in Western societies, are increasingly disconnected from nature. This disconnection can have significant negative impacts on their belief systems, attitudes, and behaviours towards animals and the natural environment. This is one of the main reasons why environmental education (EE) is considered to be fundamental in their educational path. Studies are showing how children have misconceptions and wrong ideas about the natural world around them, and they are increasingly demonstrating a lack of understanding and appreciation for the natural world (Dove, 2011-211). The term "nature-deficit disorder" was coined to describe the negative consequences that a lack of exposure to nature can have on children, including physical and mental health problems, as well as developmental and behavioural issues. It has been described as "the human costs of alienation from nature, among them: diminished use of the senses, attention difficulties, and higher rates of physical and emotional illnesses" (Louv, 2008. 36). Some of the specific impacts that have been linked to nature-deficit disorder include obesity, attention deficit disorder, and depression. However, it is not an official psychiatric diagnosis, and more research is needed to

understand the complex relationship between nature exposure and human well-being (Dickinson, 2013.7-8).

Nonetheless, research has shown that children who spend more time in nature have better physical and mental health, are more physically active, have better concentration and attention, and have improved self-esteem and self-discipline (Capaldi et al., 2017. 2-3). Environmental education and mindful consumption of educational and accurate media entertainment content can help children develop the skills and knowledge needed to understand the environment and its issues, and to make informed decisions about environmental issues. It can also foster their awareness, understanding and appreciation of the natural world and encourage them to take responsibility for the environment (Nisbet et al. 2008. 719-720). When it comes to animals, Melson (2014) has studied the context in which they can be found throughout children's lives and highlighted the importance of including animals within family systems and given animal-assisted therapy (AAT), within the therapeutic system as well. Considering the family as the most important complex social system for children, the presence of animals becomes implicative as part of this dynamic system. Through pet ownership, interest in wild animals, experiences in nature, imaginary animals, animal media characters, children build awareness and stewardship towards the lives of animals (Melson, 2014. 180-184).

To sum up, children's disconnection from nature is a serious issue that can have long-term negative impacts on their health, well-being, and attitudes towards the environment. Environmental education is a key apparatus in addressing this issue and fostering a lifelong love and appreciation for nature in children. Evidently, EE does not represent the sole way in which nature connectedness can be facilitated. As researched by Lumber et al. (2017), engaging with nature through emotion, contact, beauty, compassion and meaning has a significant effect in connecting with nature for children and suggests that it is possible to increase the sensation of nature connectedness even within an urban environment through nature related activities and dedicated pathways (Lumber et al. 2017.19).

Finally, when it comes to the relationship between Italian children and young adults' relationship with nature there is a lack of research. As one of the few, in their study, Pagani et al. (2017) investigated on diversified aspects of child-animal relationships in

Italy: pet ownership, pet attachment, pet loss, worries about pet, animal abuse, fears of animals, animals as a source of comfort, feelings toward roadkill, and attitudes toward hunting, the use of furs and leather clothes, zoos, and the use of animals in circuses (Pagani et al., 2017.278). They then pointed out that attitudes and behaviours toward animals should be investigated within a theoretical framework that also takes cultural context into consideration. What has been found in fact, would be diverse for other countries and cultures. For example, in their findings emerged the role of the mother in the transmission of beliefs and teachings, permission to adopt a pet and the general care for pets. Mothers seemed to be generally more frequently involved in the discourse around animals and pets with children. What could be assumed is that mothers still play a more active educational role in the family, being that in Italy the management of the household is still an occupation mostly for mothers (Pagani et al., 2017.290).

CHILDREN'S MEDIA AND NATURE REPRESENTATION

For many years, traditional printed newspapers, magazines, and textbooks were the main way of transferring knowledge. However, with the introduction of technology, digital materials have become increasingly popular in education, leading many educational institutions to consider transitioning to e-books and other digital forms of information. Both printed and digital materials have their own pros and cons, as outlined in multiple studies (Al-Imamy, 2020; Ivić, 2019). Printed media, such as books and magazines, have the advantage of being tangible and can be accessed anytime, anywhere, without the need for an internet connection or electronic device. They can also be shared with others and passed down to future generations. Print materials may be more effective at engaging children who prefer more traditional forms of media, or who are more comfortable with reading (Al-Imamy, 2020. 2570). Digital media, on the other hand, offer a range of interactive and multimedia elements that can make learning more engaging and immersive for some children. Digital media can also be updated more easily and can be accessed on a variety of devices, making it more convenient for some children. However, access to digital media may be limited for some children due to the cost or availability of electronic devices or internet access. Ultimately, the effectiveness of a particular medium for teaching children about the natural environment will depend on the specific needs and preferences of the child and the specific content being presented. What has been found is that it may be most effective to use a combination of both printed and digital media to provide a well-rounded and

engaging learning experience (Ivić, 2019.45-46). In any case, children's experience with content featuring animals, whether digital or not, is mediated by parents, teachers, and other adults who should select and control the media children consume.

The representation of animals in children's media is a crucial factor in shaping their perceptions and beliefs about the natural world. Children have vivid imaginations and often form strong emotional connections with the characters they see in books and movies. This means that the portrayal of animals in children's media can play a significant role in how they view and understand the animal kingdom. For example, if animals are portrayed as aggressive, dangerous, or in a negative light, this can lead to fear and misunderstandings. On the other hand, positive representation can foster empathy, respect, and a deeper connection with the natural world.

Previous research has explored the use of children's media (e.g., non-fiction books, magazines, video games, cartoons) as a tool for environmental education, highlighting its potential to promote conservation and stewardship of the natural world (Pomerantz, 1986). These media often feature animals as the main characters, which can be appealing to children and encourage them to learn more about different species. However, it is important to note that many of these depictions may not accurately reflect the real-life behaviours and habitats of animals. For example, animals may be portrayed as talking, walking on two legs, or engaging in human-like activities. Human consciousness, knowledge, abilities, purpose, and intentions are also often attributed to animal characters, which can create a false impression of the animal kingdom. This distorted representation of animals in the media can have several negative consequences for children. Such depictions can also contribute to the creation of stereotypes about different species, which can influence children's attitudes and beliefs about animals and the natural world (Ganea et al., 2014.4). Certain animals are more frequent in children's media, such as dogs, cats, bears, rabbits, and farm animals like cows, pigs, and chickens. These animals are often chosen because they are familiar and relatable to children and can also easily be anthropomorphized. The fact that children may apply an anthropocentric perspective to some animals based on how they are represented in media can have several effects. They could develop a bias towards certain species and view them as more intelligent or capable than other species which could lead to an overvaluation of certain species and an undervaluation of the importance and ecological role of other species. They may develop inaccurate

perceptions of wildlife and they may expect to see animals in the wild acting like their anthropomorphized counterparts in media, which could lead to disappointment or confusion when encountering real wildlife (Ganea et al., 2014.6). Finally, children may have difficulty empathizing with other species if they only see animals in an anthropocentric light. This can lead to a lack of concern for animal welfare and a disregard for the natural world, as children may not see animals as individuals with their own needs and experiences (Feber et al., 2017. 63).

Nonetheless, more research is needed to fully understand the effects of anthropomorphism on children's understanding and beliefs about animals. In fact, a study on children's storybooks proposed by Geerdts et al. (2015) showed that children were able to recall just as many factual properties of animals (e.g., physical characteristics, behaviours) in the anthropomorphic and realistic conditions they were observed, meaning that the use of anthropomorphic language did not hinder their recall of factual information. The study found no evidence that the use of anthropomorphic language led to an increase in children's attribution of psychological properties (e.g., emotions, intentions) to animals. Additionally, the study found partial evidence that the use of anthropomorphic storybooks, especially those with anthropomorphic pictures, increased children's learning of factual, biological information about animals (Geerdts et al. 2015.19-20). This suggests that the use of anthropomorphism, particularly when accompanied by visual aids, could potentially be an effective tool for teaching children about wildlife and helping them understand the natural world.

One factor that conditions the representation of animals in children's media is certainly the cultural context. For example, in Western cultures, there is a long-standing tradition of depicting dogs as man's best friend, while in some Asian cultures, cats are often depicted as symbols of good luck and fortune. These cultural beliefs and traditions can influence the types of animals that are depicted in children's media. In addition to their familiarity and relatability, these animals also appeal to children due to their cute and cuddly appearance. This can make them more appealing as characters in children's media and can also help to generate an emotional connection with children. As argued by Baker (1993), the representations of animals in media and culture can both reflect and shape a culture's attitudes towards animals. In other words, a culture's attitudes towards animals can be accurately determined by analysing their representations of animals in media, and at the same time, these representations can influence people's

attitudes towards animals (Baker, 1993). For example, if a culture consistently depicts a certain species of animal in a positive light in media and popular culture, people within that culture may develop more positive attitudes towards that species. Conversely, if a species is consistently depicted in a negative light, people within that culture may develop more negative attitudes towards that species.

Another element related to the cultural representation of animals is also the frequency with which they occur. The frequency of representation of animals in media can also contribute to the development of speciesism, or the belief that certain species are inherently superior or inferior to others therefore should be granted greater moral consideration. Children who are exposed to a narrow range of animal species in media may develop a limited understanding of the diversity of the animal kingdom and the importance of all species, regardless of their frequency of representation (Cole and Stewart, 2014. 129-139).

In conclusion, the representation of animals in children's media plays a crucial role in shaping children's attitudes and beliefs about the natural world. Visual media can either facilitate or hinder pro environmental behaviour. The truthful portrayal of animals and environments as well as creative use of digital or printed media may promote pro-environmental behaviour. By paying attention to animal representation in children's media, we can foster a deeper appreciation and understanding of the natural world in future generations (Kalof et al. 2016).

CHAPTER 2: METHODS

FOCUS WILD

Focus Wild is an Italian magazine for children between the ages of 8 to 14, published by Mondadori since 2011. It is a monthly magazine, so it publishes 12 issues per year. The sample selected consist of 120 issues of the 10-year period 2012-2021. Each issue is around 65-75 pages long and it is mainly based on photographs. The contents are divided into two main categories: wild animals and pets.

To contextualise the research and deepen the analysis, an interview was conducted with the editor-in-chief of the magazine Chiara Borelli. The semi-structured interview took place via Google Meet on January 25, 2023, and lasted approximately one hour.

DATABASE BUILDING

To build and compile the database firstly the sections (columns) of the magazine have been selected, considering those most relevant for this research: *Animale del mese* (entitled *Da Vicino* from 2012 to January 2017); *Curiosità* (entitled *Life* from 2012 to January 2017); *Dossier* and *Foto* (2012-2017) and *Animali da Salvare* (from 2017). The sections that have not been taken into consideration are those referring to pets, which tell the story of the same few species of pets (dog, cat, rabbit, hamster, ecc) in each issue, the section dedicated to adoptions, the various sections that have been interrupted or were not present in a consistent number of issues, and advertisement pages.

Then every issue from January 2012 to December 2021 has been read and noted. For the data collection it has been created a table on a Google Spreadsheet worksheet. Every time a picture, photo, or the written name of a species was encountered in the magazine, it has been added to the database, collecting also other relevant information about the species in order to observe how it was narrated and represented.

The categories observed for each species mentioned in the texts of the selected columns are found in **Table 1**. Both the species shown through photography and those without photos are present in the database.

Table 1. Database Categories

| Category | Description |
|-------------------------------------|---|
| Name Focus Wild | The name, in Italian, with which the species are mentioned in the written text. |
| Scientific name (Focus Wild) | The scientific name, in Latin, with which the species are mentioned in the written text. If the species is mentioned without its scientific name, I inserted "no scientific name" in this database column. |
| Scientific name (databases) | The scientific name of the species present on the online databases: Global Biodiversity Information Facility and Catalogue of Life. |
| Kingdom | If the species mentioned is an animal "animalia" or plant "plantae". |
| Class | The taxonomic rank of the species (35 classes in total). |
| Exotic/Local | If the species are mentioned outside Italy or their region of origin does not include Italy, then they have been marked as "exotic" while if the species are mentioned in Italy they can be found in Italy or their region of origin includes Italy then they were marked as "local". From the online database Global Biodiversity Information Facility. |
| Wild/Domestic | If the species are domesticated or dependent on humans, then they have been entered as "domestic" otherwise they have been entered as "wild". |
| Conservation Status | For each species I entered in the database its conservation status label according to the IUCN Red List, which indicates how close a species is to becoming extinct. The labels are: Unknown; Least Concern; Conservation dependent; Near threatened; Vulnerable; Endangered; Critically Endangered; Extinct in the wild; Extinct. |
| Region of Origin | The geographic range of the species: Africa; Antarctica; Asia; Europe (Italy); North America; South America; Oceania; South America; Oceans/seas. |
| Region mentioned | The geographic areas in which the species are mentioned in the column's text. |
| Column | The title of the columns where the species are found. |
| Description | The written text referred to the animals in the photographs. There are 8 types of captions or text: educational insight, extinction risk, mentioned, little info, fun fact, concerning fact, rescue story and title). |
| Representation | The way in which the animal is represented: "photo" if there is a picture of the species, "illustration" or "no photo" if it is only mentioned. |
| How it is represented | How the animal is represented, if it is in its habitat or in a natural context, "wild" was entered whether in the presence of humans or in urban contexts/belonging to humans then was entered "with humans". Furthermore, if the image represents the animal in a funny situation/expression, "fun" was inserted; if, on the other hand, the image is particularly emotional both in a positive and negative sense, "emotional" was entered. |
| Emotions | Based on which emotions the photo could arouse in the reader, "happy", "sad" or "neutral" was entered. |
| Number | The number of the issue. |
| Month | The month of publication of the issue. |
| Year | The year of publication of the issue. |

For the category “emotions” whenever the animal is represented engaging in a funny activity, has a funny expression or shows a positive behaviour it is labelled as “happy”, if the animal is shown in a cage, in a context of hunting or animal abuse activities, the photo shows the effects of environmental change on the animal or depicts a violent scene between predator-prey it is labelled as “sad” and for all the other photos where the animal is not behaving in a particular way or showing emotional expression it is labelled as “neutral”. (Figure 1)



Figure 1. Examples of "emotions" in photos.

Through the analysis of these data, it is possible to observe which animal species are most frequently mentioned during the 10-year sample period (2012-2021). If there is a specific interest for local or exotic animals and to then investigate what could be the reasons for this choice. If the most represented animals have changed over the years or if this content has remained unchanged. Whether the topics addressed have changed over the years and therefore particular attention has been given to animals at risk of extinction or most affected by the effects of climate change in line with the media trends of recent years or not.

COVERS DATABASE

To carry out an in-depth analysis referring to the covers of Focus Wild and in order to make a comparison with the similar study carried out by Vrla et al. (2020) on the covers of National Geographic Kids magazine, two further parameters have been added for the animals on the covers. The following categories have been added:

- **Aesthetic:** following Verla et al. (2020), it has been determined whether the represented animal was “cuddly,” “feral,” or neither. Animals were categorised as “cuddly” if they were young or had neotenized features, including large ears, large eyes, and small noses. Animals were categorised as feral if they were mature and glaring at or approaching the viewer. If animals were mature and ignoring or avoiding the viewer, they have been labelled neither (Vrla et al., 2020. 502). (Figure 2)
- **Number:** how many animals are present in the same cover image.

Example of “cuddly” cover image



© Focus Wild 98

Example of “feral” cover image



© Focus Wild 111

Example of “neither” cover image



© Focus Wild 26

Figure 2. Examples of covers aesthetics.

By observing these data, it is possible to identify whether the types of representation of the cover animals follow particular sales strategies for the magazine, if there are biases or more frequent species. It is possible to question why these species are selected with respect to others. Furthermore, it is possible to make a comparison with the study carried out on the covers of National Geographic Kids and observe whether or not there are correspondences with non-Italian magazines.

PLANTS DATABASE

In the 120 issues, when plant species appeared in the columns selected for analysis, these were entered into the database following the same subdivision into categories for animal species. Except for the parameters "wild/domestic", "exotic/local", and "how's emotional" which were not considered for the plant species.

DATA ANALYSIS

For the data analysis, the data reading functions of Google Spreadsheet and Pivot Tables were mainly used, which made it possible to count the data, cross-reference the data and observe them visually in graphs.

CHAPTER 3: RESULTS

FOCUS WILD CONTENTS

The magazine presented almost the same layout in the period analysed from 2012 to 2021. The different sections can be divided into three main macro themes: pets, wild animals, and games/entertainment. The columns changed names throughout the years, but the contents stayed almost the same.

The magazine is primarily structured around animal photographs, they can fill the entire page with a single subject or feature multiple animal photographs. Each image is accompanied by a written text, these can vary between anecdotes, brief captioned information, detailed explanations of the characteristics of the animal depicted, educational insights, curiosities, fun facts or concerning facts.

Animale del mese (entitled *Da Vicino* from 2012 to January 2017) explores the animal depicted in the cover photo. In these 6-8 pages children find a detailed analysis of the animal. The educational insight presents general and particular characteristics of the animal, describes its habitat, its behaviour, its nutrition system, similar species of the same class, and their similarities or differences, its conservation status and relationship with humans.

Curiosità (entitled *Life* from 2012 to January 2017) is a column of about 6-8 pages, which focuses on a theme and tells the differences or similarities for a sequence of animals. It consists of a series of photographs (several per page or only one full page) with captions with brief information specific to the animal depicted. The themes are the most varied: the soul of animals, how animals clean themselves, what they eat, how they behave with each other, how they move, and so on. Animals can also be selected for common characteristics: animals of the abyss, animals of the arctic, animals of a specific colour, animals of a specific class, and so on.

The *Dossier* column, a title that has remained unchanged over the years, consists of a collection of facts and insights on a theme. In this case, the scope is extended to the relationship between humans and animals, so we often find stories of past events, historical events such as scientific discoveries or exploration missions, but also news stories are addressed, such as cases of saving animals from exploitation as in zoos or theme parks, the history of praiseworthy or reprehensible kennels or structures for

animals, animals at work such as pet therapy, police checks or rescues. This section can also focus on specific habitats, natural ecosystems, or regions of the world.

Pixel (from January 2017), *La sequenza* (entitled *Zoom* from 2012 to January 2017) and *Foto* are the titles of the sections dedicated exclusively to photos. In most cases the animals represented are wild and exotic animals, often focused on climatic zones, particular ecosystems, or habitats. *Foto* is usually a longer section where photos are selected images from national or themed photo contests, annual photo contests, top rated or critically acclaimed photos.

Incontri: this section is not always present in the issues of the period analysed, it consists of 2-4 pages dedicated to an interview with a person notoriously linked to the world of animals (scientists, explorers, scholars, veterinarians) or famous people with a particular interest in animals (singers, people from the show business, actors, ecc) in which they talk about their work with animals, their relationship with the natural environment, the reason for their choice of life or research, or their relationship with their pets or with animal associations which they founded or support one.

Notizie dal mondo (entitled *Mondo* from 2012 to January 2017), *Crazy* and *Info* (these two were present only from 2012 to January 2017) are short sections dedicated exclusively to curiosities from the world, news and info pills or strange and amusing facts about animals, humans and animals or habitats/region of the world.

Amici di casa (*Pet Club* from 2012 to January 2017), is a column, usually 10-15 pages, devoted entirely to pets. It presents insights into the behaviour of these animals (dogs, cats, rabbits, hamsters, turtles, canaries, goldfish, and sometimes more unusual animals such as pigs, chickens, and reptiles) and how to take care of them. It contains sub-columns such as *Lab* where kids can find workshops with DIY activities to decorate kennels or create toys for their pets; *D&R* a section dedicated to Q&A where readers' questions are answered by specialists or veterinarians; and *Storia Vera* where the story of a particular animal is told, it could be a rescue story, a successful adoption after previous abuse, a humorous story about an animal's action, a story highlighting the importance of an animal for a community or family.

Lipo (from 2012 to January 2017), *Giochi*, *Relax*, *Test*, *Poster*: these are all sections of entertainment and interaction. Kids can find a page of comic strips of the pink hippopotamus Lipo, crosswords and puzzles on animals, fun tests on pets, attitudes and

knowledge about nature. In each issue there is also a double-sided poster which can be detached from the centre, in most cases it shows photographs of individual animals with a short caption and sometimes thematic collages.

Posta dei Lettori and *Adozioni* are sections present in each issue of the period analysed. *Posta dei Lettori* includes a selection of photos sent by young readers to the editorial staff showing children with their animals or exploring nature. *Adozioni* usually consists of 2 pages in which photos of animals (usually dogs and cats) ready for adoption from various animal facilities around Italy are inserted, accompanied by brief descriptions of the animal, and contact details.

Since February 2017 it has been added a column entitled *Animali da Salvare* in which two pages are dedicated to an animal with a conservation status at risk (endangered or critically endangered on the IUCN Red List), usually the photo of the animal occupies both pages and the description contains a brief educational insight with its main characteristics and the reasons that led it to risk of extinction.

In 120 issues of the analysed time period there were occasionally columns dedicated to different themes. In some of the first few issues taken into consideration (2012) there were 2-4 pages dedicated to a film about animals or nature in general, entitled *Film*. Since the *D&R* section was removed, the *Domanda del mese* section was occasionally inserted with a detailed 1-page answer to a specific question about an animal, a behaviour, a natural event, or a curiosity.

The column *Corso di Fotografia* was present for a while, in which there were instructions and advice on how to photograph animals and natural landscapes.

Occasionally there was also the column *Esploratori della Natura* with advice and activities to carry out during excursions in the mountains, days at the beach, walks in nature or in the city, such as observable animals, which tracks to follow, how to identify the passage of a species to another, or how to recognize animals.

At the end of some issues there has been a page entitled *Autori* in which was written an extract from a story, a poem, a prose text dedicated to nature and animals and accompanied by an illustration.

The columns taken into consideration in this analysis were: *Animale del mese* (entitled *Da Vicino* from 2012 to January 2017), *Curiosità* (entitled *Life* from 2012 to January 2017); *Dossier*; *Foto*; *Animali da Salvare* as they were constant for all the numbers of the 2012-2021 period and the main ones in terms of content. (see Figure 3) Among the columns not included is *Amici di casa*, even though it covers a relevant number of pages in the magazine, because the animal species described are domestic animals and therefore constant (dog, cat, rabbit, hamster, canary, goldfish, turtle).

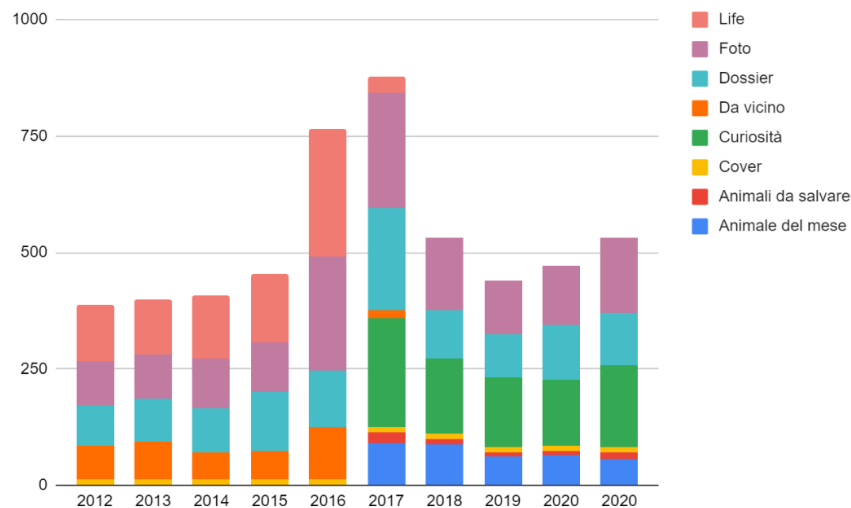


Figure 3. Columns over the Years

The magazine presents about 35 different species in each issue, for the sections considered, and an average of about 350 species for each year. There are no particular trends of summer or winter months or years with more or fewer species, but the average is distributed over the 120 issues considered in the analysis. (Figure 4)

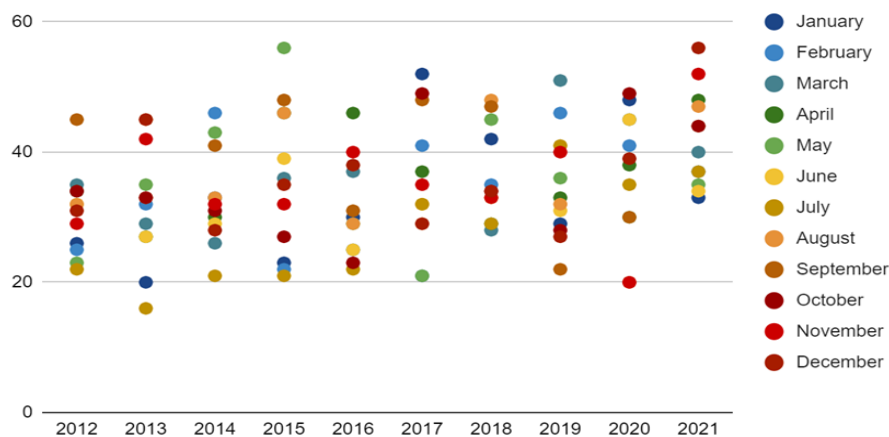


Figure 4. Monthly number of species per year

Finally, from the interview with the magazine’s editor it emerged that among the readers there are fewer children aged 8-10, mostly children aged 11 to 14, therefore more experienced, but also adults: parents who buy the magazine for their children to read it together or animal enthusiasts who are fascinated to delve into the subject. Therefore, among the various sections of the magazine we find content that can satisfy all the categories of readers, sections that are faster and more fun and sections that are a little more demanding and elaborate.

DATABASE ANALYSIS

Species Demographics

The final database has been analysed using Google Spreadsheet. From the database emerged 5262 entries of animal species and 80 entries of plant species.

Of the total entries in the database there are 1628 animal species in total. Of the represented animals, 1604 (98,53%) are wild animals and 24 (1,47%) are domestic animals (both domesticated animals and companion species like dogs and cats). (Figure 5)

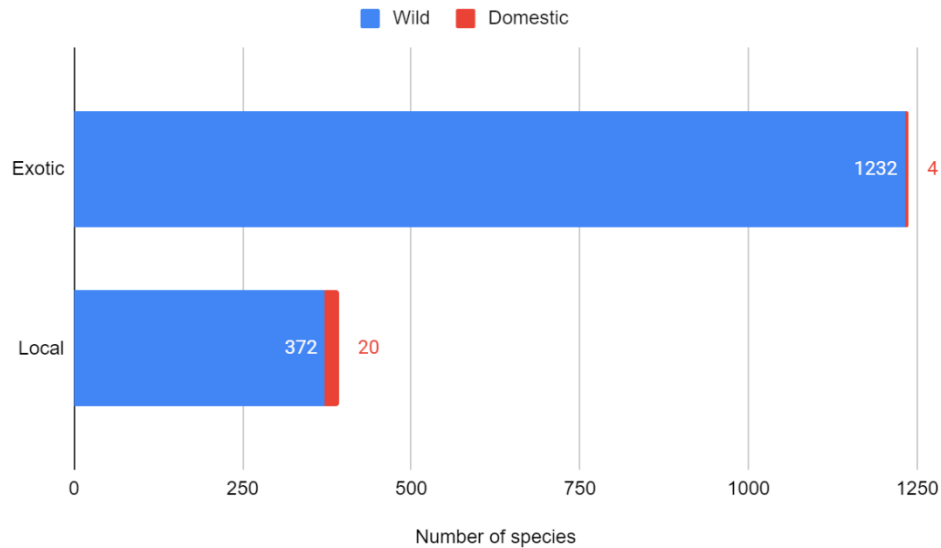


Figure 5. Wild and Domestic species based on Local/Exotic Category

The represented animals included 35 different classes: the most frequent were 470 mammals (28,87%), 434 birds (26,66%), 157 reptiles (9,64%); 156 insects (9.58%), 150 fish (9.21%), 47 amphibians (2,89%), and 29 more classes had under 40 species mentioned. (Figure 6)

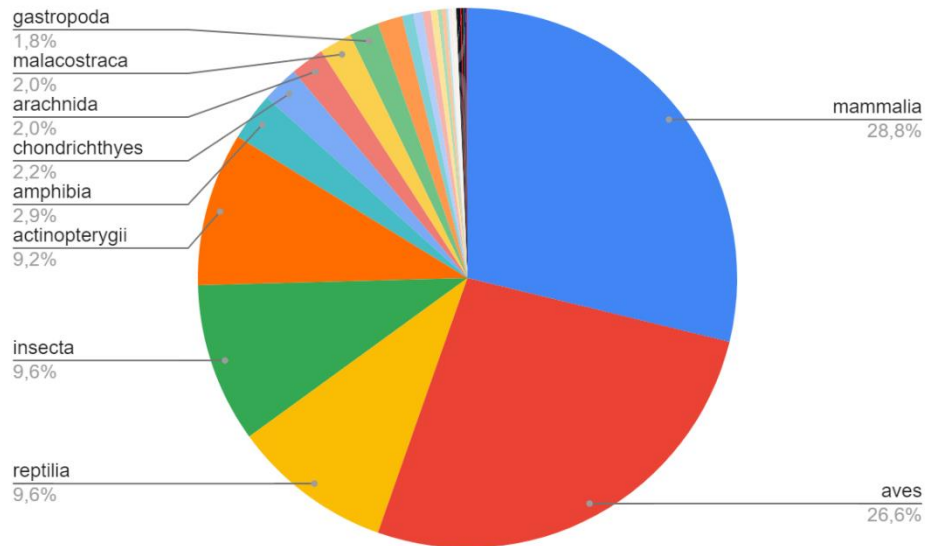


Figure 6. Animal classes distribution

Of the 1628 species presented, 1236 (75,92%) are exotic species mainly from: Africa (21,12%), Asia (19,82%), North America (18,45%), South America (17,56%). While 392 (24,08%) are local species, mainly from Europe (75,77%). (Figure 7)

Exotic species

Local Species

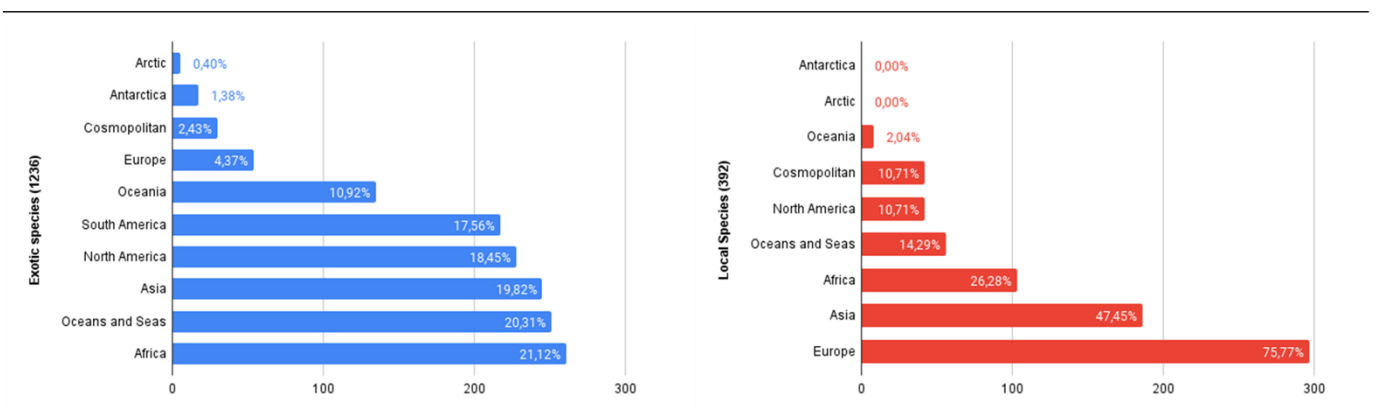


Figure 7. Geographic Ranges

The most represented wild animals are: Lion (*Panthera leo* 79), Fox (*Vulpes vulpes* 62); Polar Bear (*Ursus maritimus* 48); Grizzly Bear (*Ursus arctos horribilis* 45); African Elephant (*Loxodonta africana* 40); Wolf (*Canis lupus* 39); Cheetah (*Acinonyx jubatus* 39); Brown Bear (*Ursus arctos* 35); Leopard (*Panthera pardus* 34); Humpback whale (*Megaptera novaeangliae* 34).

While the most represented domestic animals, considering that the columns dedicated to these animals have been excluded from the database, are: Dog (*Canis lupus familiaris* 55); Cat (*Felis catus* 33); Horse (*Equus caballus* 22); Sheep (*Ovis aries* 18); European Rabbit (*Oryctolagus cuniculus* 16); Pig (*Sus scrofa domesticus* 14); Chicken (*Gallus Gallus domesticus* 11); House mouse (*Mus musculus* 9); Donkey (*Equus africanus asinus* 5); European pond turtle (*Emys orbicularis* 5); Tortoise (*Testudo hermanni* 3). (Figure 8)

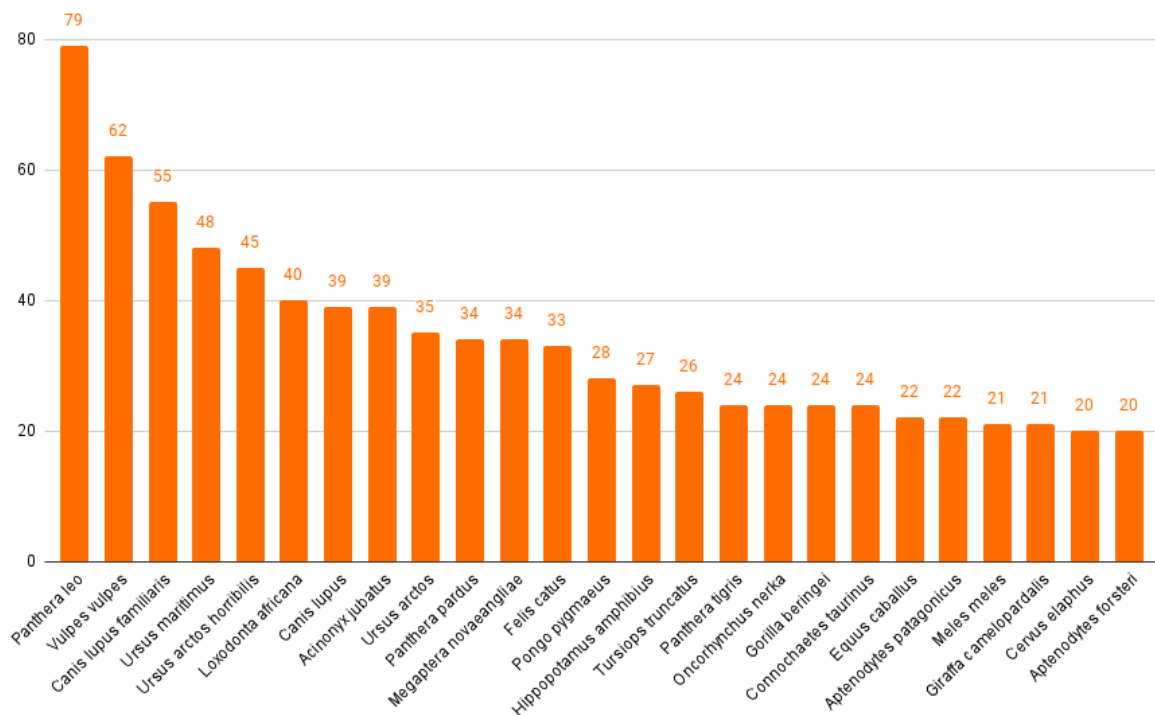


Figure 8. Most Frequent Species

Conservation status

The conservation statuses of the represented 1628 species ranges from extinct to least concern following the IUCN Red List: 106 (6.51%) are critically endangered, 130 (7.99%) are endangered, 132 (8,11%) are vulnerable, 87 (5,34%) are near threatened, 837 (51.41%) are least concern, 339 (20,82%) are unknown and finally 4 (0,24%) are either conservation dependent, extinct or extinct in the wild. (Figure 9)

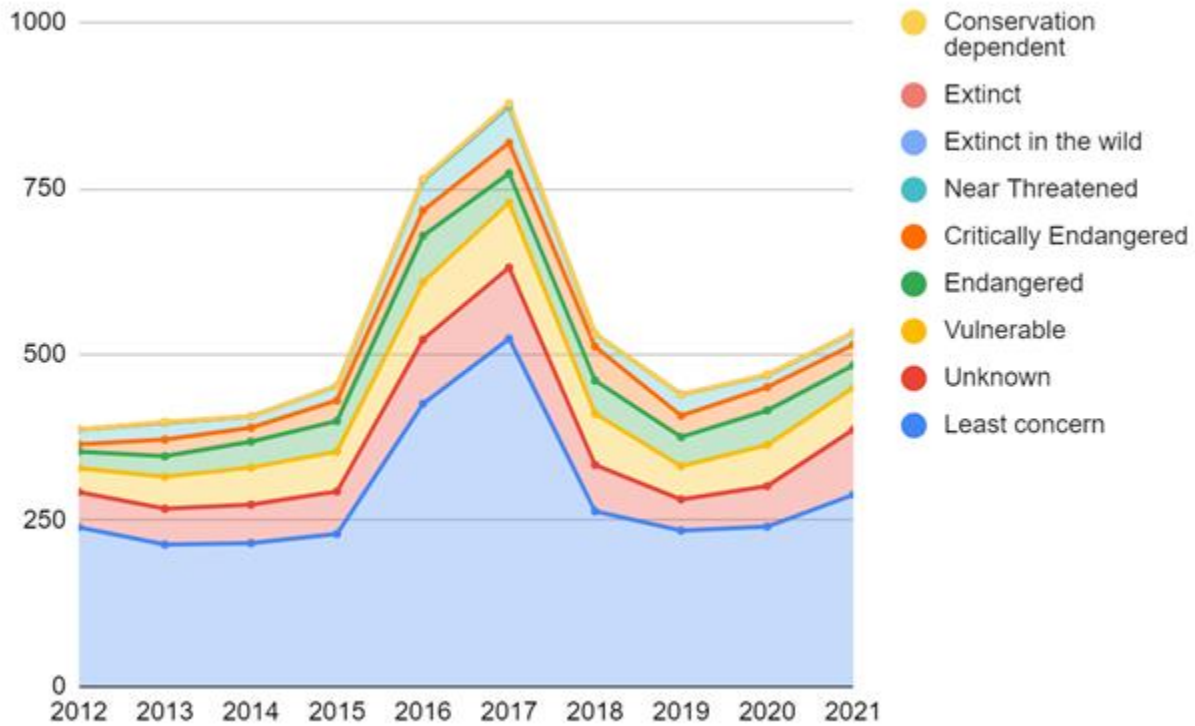


Figure 9. Species conservation status over the years

The most frequent species mentioned with the conservation status “critically endangered” and “endangered” are: African Elephant (*Loxodonta africana* 40), Bornean orangutan (*Pongo pygmaeus* 28), Tiger (*Panthera tigris* 24), Gorilla (*Gorilla beringei* 24), and Green Sea Turtle (*Chelonia mydas* 19).

Animal Representation

Almost every species found in *Focus Wild* is represented by photographs. They could depict one animal alone or a group of animals, animals in the wild, in their natural habitat, with humans or out of their original context. Only in some sections dedicated to pets it is possible to find illustrations of these anthropomorphized animals accompanying the text and didactic sections. In the columns selected we find: 4818 photos (*photo* 91,56%), 34 illustrations (*illustration* 0,65%) and 410 species just mentioned without visually appearing (*no photo* 7,79%). 1255 (77,08%) animal species are mentioned in the written text with their common name and scientific name, while 373 (22.91%) are mentioned using only their common name.

Of the 4818 photographs of animals, 4460 (84,76%) depicts the animal in its natural habitat (*wild*) while 358 (6.80%) show the animal out of its context, in contact with humans or human structures (*with humans*). If the image represented the animal in a funny situation/expression, the label "fun" was added; if, on the other hand, the image was particularly emotional both in a positive and negative sense, the label "emotional" was entered. Of the 5262 representations of animals, 224 (4,26%) are *fun*, as they show the animal in a funny situation/expression, while 235 (4,47%) are *emotional* as the image is particularly emotional both in a positive and negative sense. (Table 2)

Table 2. How species are represented

| | Illustration | | No photo | | Photo | | Total | |
|------------------------|--------------|--------------|------------|--------------|-------------|---------------|-------------|----------------|
| With humans; fun | | | | | 39 | 0,74% | 39 | 0,74% |
| With humans; emotional | | | | | 153 | 2,91% | 153 | 2,91% |
| With humans | 4 | 0,08% | | | 166 | 3,15% | 170 | 3,23% |
| Wild; fun | 17 | 0,32% | | | 168 | 3,19% | 185 | 3,52% |
| Wild; emotional | | | | | 82 | 1,56% | 82 | 1,56% |
| Wild | 13 | 0,25% | | | 4210 | 80,01% | 4223 | 80,25% |
| No photo | | | 410 | 7,79% | | | 410 | 7,79% |
| Total | 34 | 0,65% | 410 | 7,79% | 4818 | 91,56% | 5262 | 100,00% |

303 (73,90%) of the animal species that are not represented, are just mentioned in the written part of the column; 65 (15,85%) are described with a short (1-2 lines) information while 28 (6,83%) are mentioned with a fun fact about the animal. 15 (3,66%) species are depicted for a concerning fact about them, either a story of animal abuse/exploitation or an endangering situation/event. 10 (2,44%) species are mentioned

for their extinction risk. Finally, just 1 (0,24%) the White Rhinoceros (*Ceratotherium simum*) is mentioned with a long (1 or more paragraphs) of educational insight without being shown in a photo.

For convenience the 34 species which appear in an illustration have been added to the 4818 species presented through photographs, considering that they are all given a visual representation and the number of illustrations is too low to be relevant. Of the 4842 images considered then, 2319 (47,79%) are described by 1-2 lines of little information about the animal depicted and 1618 (33,35%) by a fun anecdote about the animal. 395 (8,14%) animals are presented in an educational insight (1 or more paragraphs), 252 (5,19%) are described by a concerning fact about their existence and 212 (4,37%) for their extinction risk. Through the sample period there are also 41 (0,85%) species mentioned in a rescue story, a happy ending story about an event or their entire life. Finally, 157 (3,24%) of the species present in the issues in photographs are only mentioned in the written text.

Table 3. How species are described in the written text

| Text description | Illustration | No photo | Photo | Total |
|--------------------------------------|--------------|------------|-------------|-------------|
| Title | | | 90 | 90 |
| Mention; extinction risk | | 5 | 1 | 6 |
| Mention; concerning fact | | 2 | 7 | 9 |
| Mention | | 187 | 103 | 260 |
| Little info; rescue story | | | 11 | 11 |
| Little info; extinction risk | | 2 | 41 | 43 |
| Little info; concerning fact | | | 4 | 4 |
| Little info | 20 | 45 | 1081 | 1102 |
| Fun fact; extinction risk | | | 2 | 2 |
| Fun fact | 11 | 28 | 649 | 661 |
| Extinction risk; rescue story | | | 2 | 2 |
| Educational insight; rescue story | | | 12 | 12 |
| Educational insight; extinction risk | | | 68 | 68 |
| Educational insight; concerning fact | | | 11 | 11 |
| Educational insight | 2 | 1 | 206 | 207 |
| Concerning fact; rescue story | | | 5 | 5 |
| Concerning fact; extinction risk | | 2 | 49 | 51 |
| Concerning fact | | 9 | 115 | 122 |
| Total | 31 | 248 | 1557 | 1628 |

To understand the general representation of animals in the 120 issues sample it has also been observed which emotions the reader would feel by watching the photographs, between *sad emotions*, *happy emotions*, and *neutral emotions*. If the picture is showing an animal in a cage, in a context of animal abuse or exploitation (e.g. circus), a predator violently devouring its prey, effects of climate change or human behaviours on animal habitats or animal themselves it has been selected *sad emotions*; if the image is showing the animal “smiling”, in a happy ending story, is represented in a cuddly way, it’s a picture of a family or is capturing a behaviour that is considered “affectionate” for humans, doing funny actions or expressions the picture has been labelled under *happy emotions*. If it is a basic photograph of wildlife in its natural context, there are no details arousing particular emotions then the picture is labelled *neutral emotions*.

Of the 4842 photos 303 (6,24%) show *happy emotions*, 4317 (88,97%) show *neutral emotions*; and 232 (4,78%) show *sad emotions*.

The animals that are represented the most by happy photographs are: 17 Dog (*Canis lupus familiaris* 5,61%), 11 Fox (*Vulpes vulpes* 3,63%), 10 Cat (*Felis catus* 3,30%), 9 Grizzly Bear (*Ursus arctos horribilis* 2,97%), 8 Lion (*Panthera leo* 2,64%).

The animals that are represented the most by sad photographs are: 6 Tiger (*Panthera tigris* 2,59%), 6 Black Rhinoceros (*Diceros bicornis* 2,59%), 6 Dog (*Canis lupus familiaris* 2,59%), 5 chicken (*Gallus gallus domesticus* 2,16%), 5 Orango del Borneo (*Pongo pygmaeus* 2,16%)

The animals that are represented the most by neutral photographs are: 57 Lion (*Panthera leo* 1,32%), 46 Fox (*Vulpes vulpes* 1,07%), 34 Polar Bear (*Ursus maritimus* 0,79%), 34 Humpback whale (*Megaptera novaeangliae* 0,79%), 32 African elephant (*Loxodonta africana* 0,74%).

Considering that 88.97% of the photographs featured in the magazine were associated with the label *neutral emotions* as they do not present particularly emotional details or situations, a similar result was also obtained in the analysis of the relationship between written text and images, so for example, although the theme of the written text was "sad", it is mostly linked to "neutral" images. However, it is possible to observe correspondences between the written text and the content of the image.

"Concerning facts" (281), are 60.14% linked to images that convey *sad emotions*. "Fun facts" correspond only for 13,61% of *happy emotions* images and at 83,41% to *neutral emotions* images, as well as "little info" which corresponds to 0,92% of sad emotions, 2,56% of happy emotions and 93,79% of neutral emotions. "Rescue stories" are described by 41.46% by sad images (at the beginning of the event) and 29.27% from happy images (happy ending of the story). (Table 4)

Table 4. Relationship between emotions and written text

| | Happy emotions | Neutral emotions | Sad emotions | Total |
|--------------------------------------|----------------|------------------|--------------|-------------|
| Title | 10 | 110 | | 120 |
| Mention; extinction risk | | | 1 | 1 |
| Mention; concerning fact | | 2 | 5 | 7 |
| Mention | | 136 | 13 | 149 |
| Little info; rescue story | 7 | 6 | 5 | 18 |
| Little info; extinction risk | | 53 | 1 | 54 |
| Little info; concerning fact | | | 4 | 4 |
| Little info | 54 | 2177 | 12 | 2243 |
| Fun fact; extinction risk | 2 | | | 2 |
| Fun fact | 222 | 1373 | 21 | 1616 |
| Extinction risk; rescue story | | 1 | 1 | 2 |
| Educational insight; rescue story | 5 | 3 | 8 | 16 |
| Educational insight; extinction risk | | 92 | 1 | 93 |
| Educational insight; concerning fact | | 10 | 4 | 14 |
| Educational insight | 3 | 269 | | 272 |
| Concerning fact; rescue story | | 2 | 3 | 5 |
| Concerning fact; extinction risk | | 58 | 6 | 64 |
| Concerning fact | | 25 | 147 | 172 |
| Total | 303 | 4317 | 232 | 4852 |

No particular trend is observed in the relationship between the "conservation status" and the emotional content of the images. One might expect that the most endangered species would be represented more through "sad" images but for example we can see how "critically endangered" or "endangered" species are linked 8,46% to negative content and 5.8% to positive content. It is necessary to consider again that 88.97% of all the images present are associated with *neutral emotions*. (Table 5)

Table 5. Relationship between conservation status and emotions

| | Happy emotions | Neutral emotions | No photo | Sad emotions | Total |
|------------------------|----------------|------------------|------------|--------------|-------------|
| Least concern | 178 | 2364 | 246 | 91 | 2879 |
| Unknown | 19 | 630 | 37 | 23 | 709 |
| Vulnerable | 52 | 493 | 51 | 40 | 636 |
| Endangered | 30 | 330 | 33 | 42 | 435 |
| Critically Endangered | 14 | 265 | 20 | 22 | 321 |
| Near Threatened | 10 | 231 | 19 | 14 | 274 |
| Extinct in the wild | | 4 | | | 4 |
| Extinct | | 1 | 2 | | 3 |
| Conservation Dependent | | 1 | | | 1 |
| Total | 303 | 4319 | 408 | 232 | 5262 |

COVER ANALYSIS

Species demographics

The sample of 120 covers of the sample period 2012-2021 has been analysed. From the database emerged 90 species of animals. Of the represented animals, 107 (89,17%) are wild animals and 13 (10,83 %) are domestic animals (both domesticated animals and companion species like dogs and cats). (Figure 10)

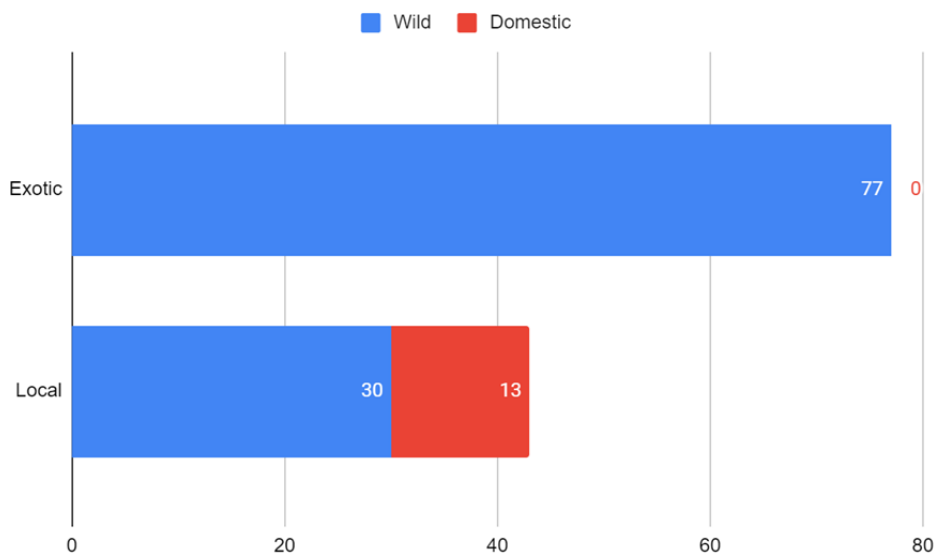


Figure 10. Wild and Domestic Species in Covers based on Exotic/Local category.

The represented animals included 6 different classes: the most frequent were 91 mammals (28,87%), 15 birds (26,66%), 8 reptiles (9,64%); 3 chondrichthyes (9.58%), 2 fish (9.21%), and 1 amphibian (2,89%). (Figure 11)

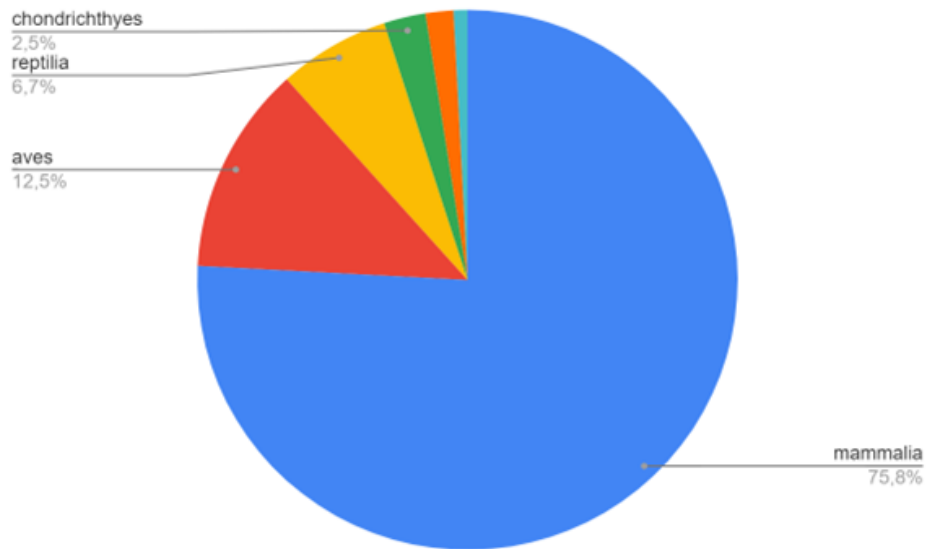


Figure 11. Animal Classes distribution in Covers

Of the 91 species presented, 77 (76,29%) are exotic species mainly from: 30 Africa (25%), 17 Asia (14,1%); 10 South America (8.33%), 9 Oceania (7,5%); 6 North America (5%). While 43 are local species (Figure 12)

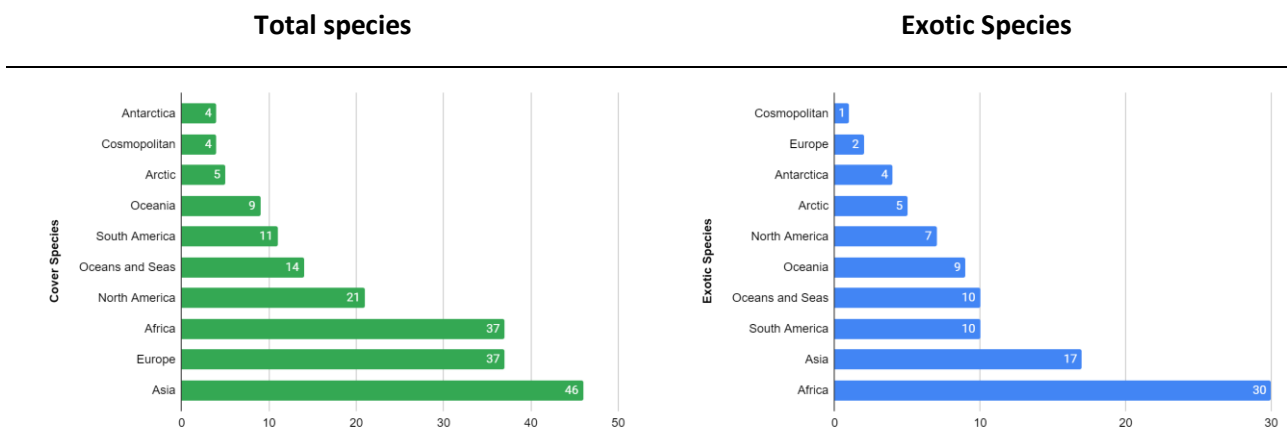


Figure 12. Geographic Ranges in Covers

The most represented wild animals in the covers are: 4 Wolf (*Canis lupus*), 3 Polar Bear (*Ursus maritimus*); 3 Lion (*Panthera leo*). While the most represented domestic animals in the covers are: 5 Dog (*Canis lupus familiaris*); 3 Cat (*Felis catus*); 2 Horse (*Equus caballus*). (Figure 13)

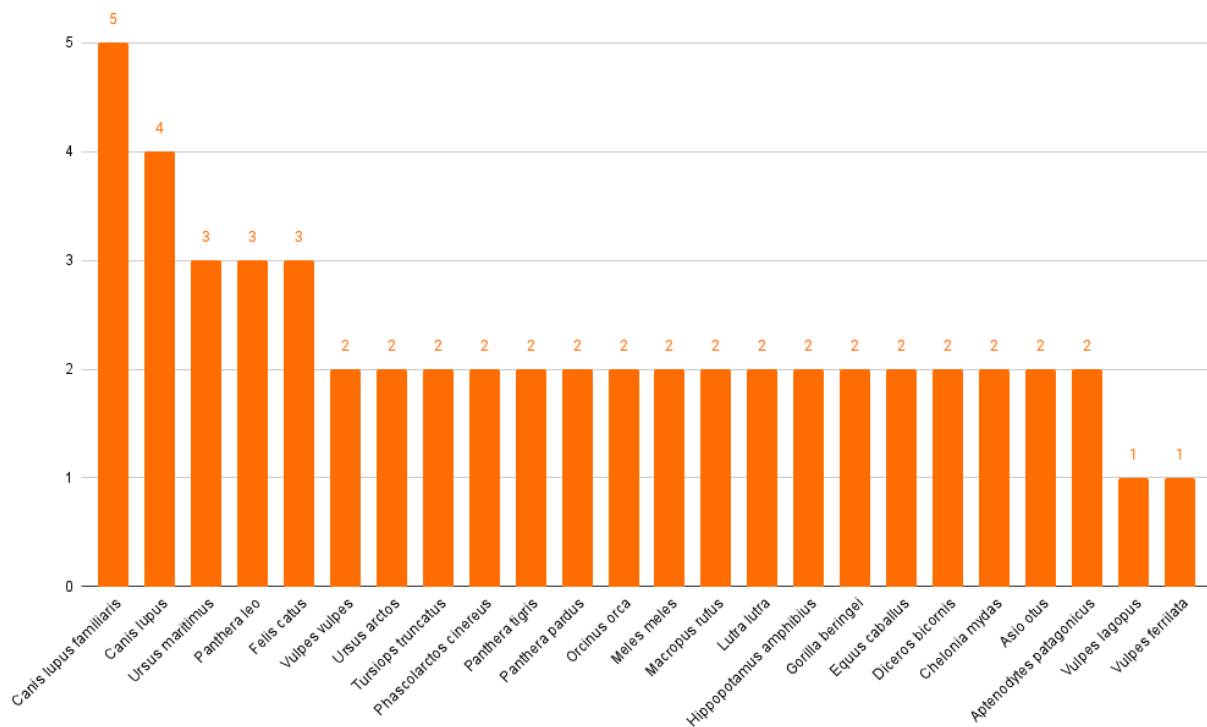


Figure 13. Animals' distribution in Covers

Conservation status

The conservation statuses of the represented species ranges from critically endangered to least concern following the IUCN Red List: 7 (7,78%) are critically endangered, 9 (10%) are endangered, 19 (21,11%) are vulnerable, 7 (7,78%) are near threatened, and 43 (47,78%) are least concern, and 5 (5,56%) are unknown. (Figure 14)

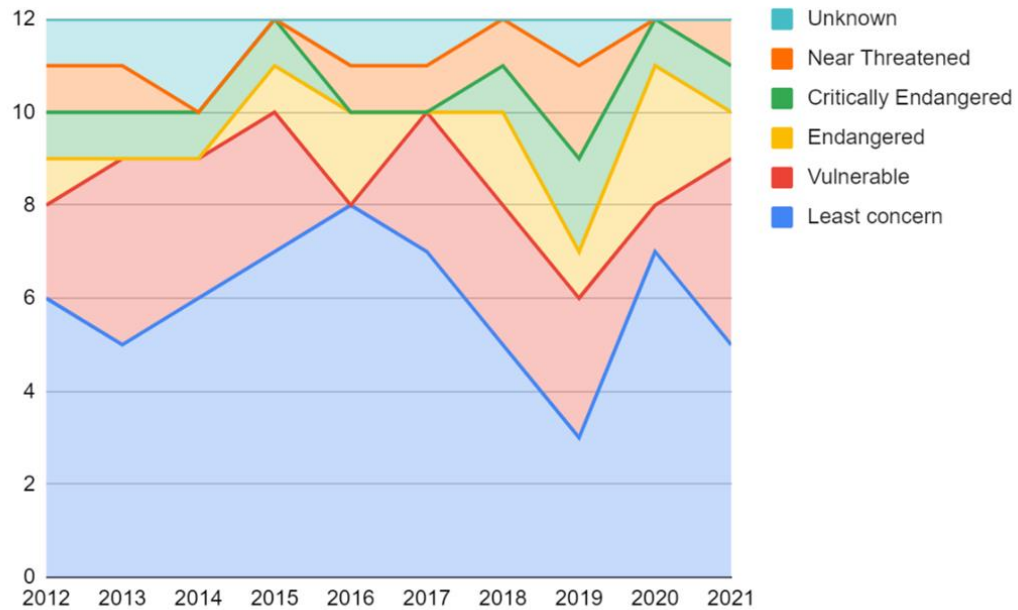


Figure 14. Species conservation status in Covers over the years

Animal representation

As regards the contents of the covers, the 120 images always represent animals in their natural habitat or in any case not in contact with humans. Mostly they depict close-ups in which the depicted animal looks directly at the reader. Of the 120 cover pictures, 10 (8,33%) are labelled *happy emotions* while 110 (91,67%) are *neutral emotions*. There are no cover images linked to the *sad emotions* label.

As mentioned in the chapter on methods, two parameters were added for the cover analysis: "aesthetics" and "number of animals": 68 (56,67%) animals have been represented as *feral*, thus looking mature and glaring at or approaching the viewer, 28 (23,33%) as *cuddly*, thus with neotenized features, baby animals with their mother and 24 (20%) as *neither*, meaning that they are not represented in particular detail and avoiding the reader.

100 (83,33%) covers showed just 1 animal, 14 (11,67%) presented 2 animals and 6 (5%) depicted 3 animals. (Table 6)

Table 6. Animal aesthetic and number in Covers

| Number of species | Cuddly | | | Total cuddly | Feral | | | Total feral | Neither | | Total Neither |
|-------------------|-----------|----------|----------|--------------------|-----------|----------|----------|--------------------|-----------|----------|-----------------|
| | 1 | 2 | 3 | | 1 | 2 | 3 | | 1 | 2 | |
| Happy emotions | 4 | 3 | | 7 (5,83%) | 2 | | 1 | 3 (2,5%) | | | |
| Neutral emotions | 17 | 2 | 2 | 21 (17,50%) | 56 | 6 | 3 | 65 (54,17%) | 21 | 3 | 24 (20%) |
| Total | 21 | 5 | 2 | 28 (23,33%) | 58 | 6 | 4 | 68 (56,67%) | 21 | 3 | 24 (20%) |

It has then been researched the relationship between the state of conservation of the animal and its representation on the cover. Of the 9 species classified as "critically endangered" 4 appear as *cuddly*, 4 as *feral* and 1 as *neither*. Of the 11 species classified as "endangered" 1 appears as *cuddly*, 8 as *feral* and 2 as *neither*. Of the 59 species classified as "least concern" 16 appear as *cuddly*, 30 as *feral* and 13 as *neither*. The 8 species classified as "near threatened" are 3 as *cuddly*, 2 as *feral* and 3 as *neither*. Of the 7 species classified as "unknown" 5 appear as *feral* and 2 as *neither*. Finally, the 26 species classified as "vulnerable" are 4 as *cuddly*, 19 as *feral* and 3 as *neither*. (Figure 15)

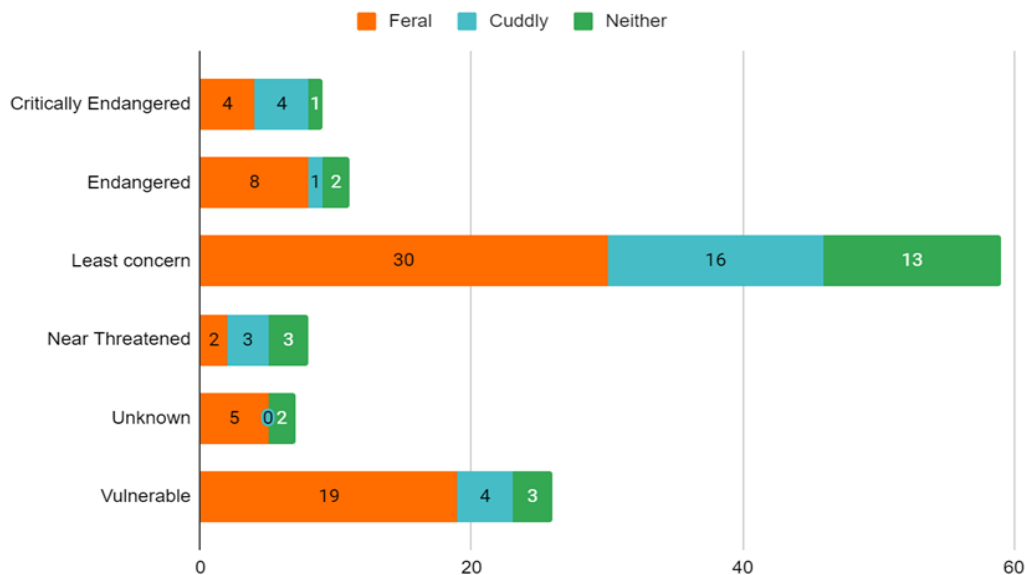


Figure 15. Animal aesthetics based on conservation status.

PLANTS ANALYSIS

Species demographics

Finally, for the sample of 120 issues, the plant species mentioned and/or represented in the magazine have been analysed.

From the database column “kingdom” emerged 80 entries for plants (*plantae*), of these there are 70 species mentioned.

Of the 70 plant species there are 5 different classes: 46 (65,71%) Magnoliopsida, 17 (24,29%) Liliopsida, 5 (7,14%) Pinopsida, 1(1,43%) Phaeophyceae and 1 (1,43%) Polypodiopsida. (Figure 16)

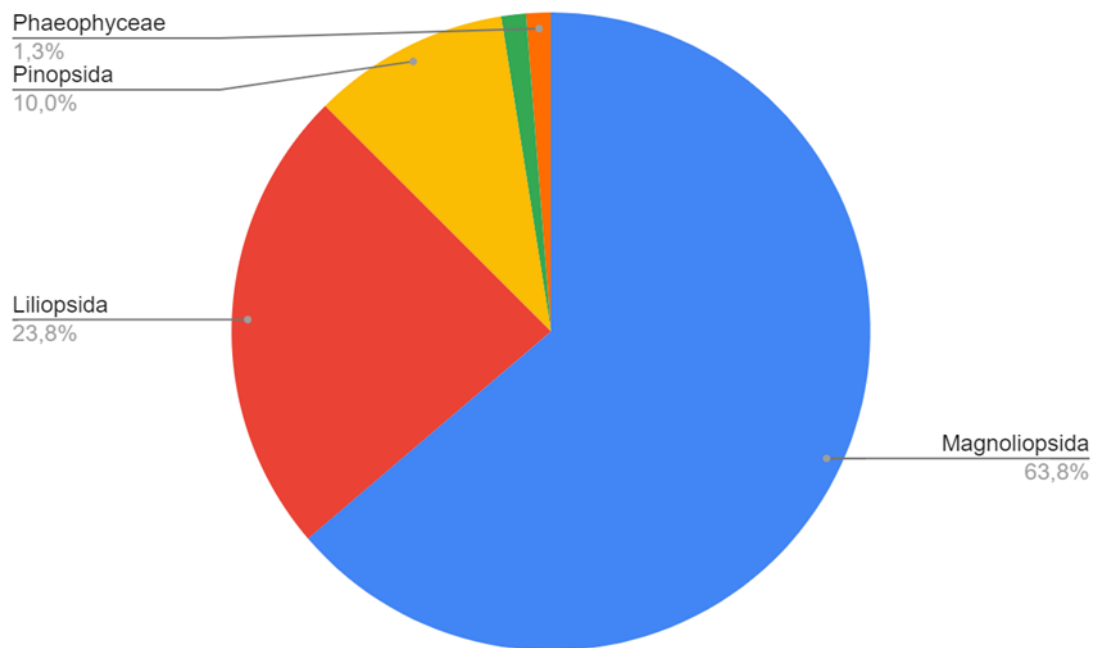


Figure 16. Plant Classes

The most frequent geographic ranges are: Europe (13, 18,57%), Africa (13, 18,57%), Asia (11, 15,71%), Asia and Europe (7, 10%) and North America (6, 8,57%). Of the 70 species, 24 (34,28%) are mentioned in Italy. (Figure 17)

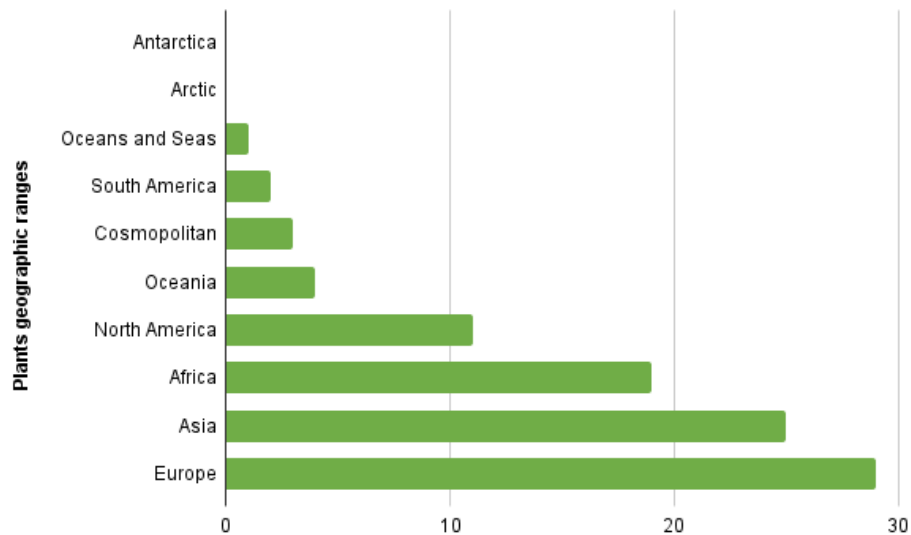


Figure 17. Plant Geographic Ranges

Of the 70 mentioned plants, 31 (44,28%) are mentioned or referred to without their scientific name. 37 (48,57%) plant species are present in the written text just by being mentioned, 22 (31,43%) have a little description (little info), 12 (17,14%) have an educational insight, 6 (8,57%) are presented with a fun fact and 3 (4,29%) with a concerning fact.

Of the 80 entries, 61 (76,25%) species are depicted in a photo, while 19 (23,75%) are just mentioned in the text without a photo. All the species depicted in the photo appear in the wild or in their natural habitat, there are no pictures of plants with the presence of humans. (Table 7)

Table 7. Plant descriptions based on representation

| | No photo | | Wild | | Total | |
|---------------------|-----------|---------------|-----------|---------------|-----------|----------------|
| Concerning fact | 1 | 1,43% | 2 | 2,86% | 3 | 4,29% |
| Educational insight | | | 12 | 17,14% | 12 | 17,14% |
| Fun fact | | | 6 | 8,57% | 6 | 8,57% |
| Little info | 3 | 4,29% | 19 | 27,14% | 22 | 31,43% |
| Mention | 15 | 21,43% | 22 | 31,43% | 34 | 48,57% |
| Total | 19 | 27,14% | 54 | 77,14% | 70 | 100,00% |

Conservation status

The conservation statuses of the represented plant species ranges from critically endangered to least concern following the IUCN Red List: 2 (2,5%) are critically endangered, 4 (5%) are endangered, 8 (10%) are vulnerable, 1 (1,25%) are near threatened, and 50 (62,50%) are least concern, and 15 (18,75%) are unknown. (Table 7)

Table 8. Plants conservation status based on representation

| | No photo | | Photo | | Total | |
|-----------------------|-----------------|---------------|--------------|---------------|--------------|----------------|
| Least concern | 13 | 16,25% | 37 | 46,25% | 50 | 62,50% |
| Unknown | 4 | 5,00% | 11 | 13,75% | 15 | 18,75% |
| Vulnerable | 2 | 2,50% | 6 | 7,50% | 8 | 10,00% |
| Endangered | | | 4 | 5,00% | 4 | 5,00% |
| Critically endangered | | | 2 | 2,50% | 2 | 2,50% |
| Near threatened | | | 1 | 1,25% | 1 | 1,25% |
| Total | 19 | 23,75% | 61 | 76,25% | 80 | 100,00% |

CHAPTER 4: DISCUSSION

As previously stated, representation of animals in children's magazines plays a crucial role in shaping the perceptions and attitudes of young readers towards the natural world. This chapter aims to analyse and interpret the findings from the study on animal representation in the content of 120 issues of *Focus Wild*. The results of the study could provide insight into the current state of animal representation in Italian children's magazines and suggest areas for improvement to promote a more nuanced and accurate understanding of animals among young readers.

ANIMAL REPRESENTATION

Species Information

As observed in the results, the magazine presents a remarkable variety of animal species that young readers can discover, 1628 different species for the 10 years sample selected, and about 35 different animals in the columns selected for each issue. The animals vary not only by species but also by class, in fact among the total species there are 35 different classes. Despite this, mammals, birds, reptiles, insects and fish appear to be the most numerous classes, i.e. with a diversity of more than 150 species, while the remaining 30 classes are present with fewer than 50 species in total. This is predictable data since these classes are widely recognized, studied, and distributed in the world, making them accessible and familiar to children.

As already reported, the sections of *Focus Wild* dedicated exclusively to pets and companion animals were excluded from the analysis, therefore it is not surprising that 98.53% of the animals in the database are "wild" while only 1.47% are "domestic". As emerged from the interview with the magazine's editor, since domestic animals have an important place in children's lives and offer them a range of educational and emotional benefits, each issue balances the presence of domestic animals and wild animals. The sections dedicated to pets can teach children about the responsibilities that come with caring for animals, the importance of empathy and compassion, and the deep bond that can exist between humans and animals. Children can learn about the different breeds of domestic animals, their individual temperaments, and the care they need to thrive. As demonstrated in a study by Prokop et al. (2008), having pets could lead children to develop greater knowledge related to the animal world. Thus, not only greater empathy and general interest in animals, but having pets could also help with

better recognition skills and knowledge of the different species characteristics (Prokop et al. 2008). While wild animals are often seen as more thrilling and diverse, with the inclusion of domestic animals in the magazine children can gain a more comprehensive understanding of the natural world and the role that all species, both wild and domestic, play in it.

However, this data about wild/domestic species is not relevant to the difference in presence in the sample between exotic and local animals, as local animals are not exclusively and automatically also "domestic". Of the 1628 species presented, 75,92% are exotic species and only 24,08% are local species. The geographical range of exotic species covers all continents and oceans and seas, therefore there are no particular differences in frequency between the regions of origin of these animals.

The frequency of representation of certain animals in children's media can have a significant impact on their understanding and perception of different species, as well as their emotional connections with animals. The higher presence of exotic animals could then have positive and negative sides. To Italian children, exotic animals often have unique and interesting physical features, behaviours, and habitats that can capture their imaginations and hold their attention. By highlighting these species and their habitats, children can learn about the different cultures, climates, and ecosystems that exist beyond their immediate surroundings. The unusual and attention-grabbing characteristics of these animals, such as bright colours, unique adaptations, or unusual behaviours could also be more visually appealing to children. During the conversation with the editor of the magazine came up how it is easier to create interesting stories and visuals about exotic animals rather than local ones. Covering a much wider geographical range, exotic animals offer also more possibilities for educational insights, not only to delve into biodiversity and the interconnection between multiple species but also issues such as adaptation to climate change, biodiversity loss and the risk extinction of several species.

However, there are also disadvantages to consider when portraying exotic animals more prominently. There are several studies that demonstrate how the representation in children's media of only some more popular animals, usually exotic ones precisely because of their most extravagant physical or behavioural features, has created biases and imbalances in the ways children understand the natural world. By focusing

primarily on exotic species, children may not gain a full appreciation for the diversity and importance of their own local environment and the species that inhabit it. They may not understand the role that they play in preserving and protecting their local environment and may not appreciate the importance of local conservation efforts (Ballouard et al., 2011; Celis-Diez et al., 2016; Genovart et al., 2013). Ironically, the lack of representation of local species in the media content that children interact more with, has resulted in children being more able to recognize and identify Pokemon "species" (human-made fantasy creatures) rather than local fauna (Blamford et al., 2002).

Another disadvantage is that an over-representation of exotic animals in children's media can lead to an inaccurate perception of the animal kingdom. Children may view exotic species as more important or more interesting than other species, and may not understand the importance of preserving all species, both exotic and local (Hooykaas et al., 2022), they may develop stereotypical views of those animal groups (Huxham et al., 2006), and these biases could lead to misconceptions about species richness and abundance, as young readers might interpret the constant and frequent representation of some exotic species more than others as a real-life abundance and not just a virtual abundance (Courchamp et al., 2018).

Conservation Status

About half (51.41%) of the species present in the database are species indicated in the IUCN Red List as "Least Concern", therefore with a conservation status of no concern. The remaining half includes species with increasingly high levels of threat or risk of extinction. It is possible to notice a correspondence between the written parts linked to the photos present and the species represented in these images. The photos representing animals with higher degrees of risk are in fact described by texts that tell of "concerning facts", "rescue stories", and "extinction risk". Furthermore, from the results it emerged that the most endangered species represent only 50.86% of the species represented with images connected to "sad emotions", therefore there is no correspondence between the emotional impact of the photo and the state of conservation of the animal represented. It has not been observed an increase in the presence of threatened species, but the distribution remains constant in the 10-year sample.

There are few studies on the relationship between representation in media such as magazines and endangered species. Anna Gunnthorsdottir (2001) observed how the physical attractiveness of certain animals can affect their conservation. In her results she found that the perceived attractiveness of an animal matters in a person's decision to support its conservation (Gunnthorsdottir, 2001). However, attractiveness features were not observed in this study, only the emotions that the photos can arouse on the readers were observed thus not considering if more "aesthetically pleasing" species were selected more than others. Yet, there is a correspondence between the most frequent species in the 120 issues considered and the list of the most charismatic animals proposed by Albert et al. (2008) (Albert et al. 2018).

During the interview with the magazine's editor, it was underlined how discursive practices related to topics such as climate change, biodiversity loss and the risk of extinction of animal species tend to be positive in the magazine contents. In fact, rescue stories of wild or domestic animals are often found, and in the description of worrying and alarming facts and events, are proposed feasible actions that young readers can take to face these changes in an active and hopeful way. Although the urgency of the global environmental crisis, and the need for protection of biodiversity are tragic topics, the intention of the editor is to maintain a tone of hope that can keep children involved and passionate about the animal world and thus not risk scaring them too much and, in this way, cause them anxiety or feelings of rejection. It is possible to observe a period, between 2015 and 2017, in which these themes were more present and told in a more urgent way. In the following years, alternative ways were found to convey environmental issues, often by telling the story of a particular animal and trying to make young readers empathize with it. A fundamental element that was underlined by Chiara Borelli, editor of the magazine, is precisely the writing of these stories in an ethological key. Information is presented in a positive and solution-focused manner, narrating positive stories about conservation efforts, such as the implementation of protective measures that are helping to conserve threatened species. In most of the sections about environmental issues and biodiversity loss, young readers are presented with solutions to conservation problems, such as the importance of protecting habitats, reducing pollution, and promoting sustainable use of natural resources.

Animal Representation

Focus Wild is a magazine based primarily on animal photography. The images can represent the animal alone, with other animals of its species or not. They can be photos taken in the animal's natural environment or in the presence of humans or human structures. 91,56% of the species present in the database are represented through a photograph. 7,79% of the species are just mentioned in the text, and only in some sections dedicated to pets it is possible to find illustrations (0,65%) of these anthropomorphized animals accompanying the text and didactic sections. 77,08% animal species are mentioned in the written text with their common name plus their scientific name, while 22,91% are mentioned using only their common name.

Considering that animals are presented almost exclusively through realistic images, to analyse the way in which they are represented the following have been observed: the presence or absence of the image to accompany a text referring to an animal, if the photo depicts the animal in the presence of human or not and what emotions this image can arouse in the reader. The results show that 84,74% of the images depict the animal in its natural habitat or in any case not in the presence of humans. The images used are in fact mainly shots of professional wildlife photographers, for this reason the majority of these photos (88,9%) are labelled with “neutral emotions” in the database, with the exception of some “funny” shots labelled “happy emotions” or more brutal, concerning one's labelled “sad emotions”.

The inaccurate depiction of wildlife can contribute to misconceptions and negative attitudes of children towards animals. By perpetuating speciesism attitudes in children's media, children may develop a view of the natural world that is dominated by human interests and disregards the welfare and interests of other species. This can contribute to a disregard for the natural world and a lack of concern for animal welfare (Kalof et al., 2016; Moreno-Talín et al., 2021). The use of wildlife professional images accompanied by texts written by researchers, veterinarians, professionals related to the world of animals, professors and not just journalists allow young readers to consume accurate information on the animal behaviours and habitats. The use of photography also avoids anthropomorphic depictions of animals. There are several studies on the positive or negative effects of the use of anthropogenic features to narrate animals. This kind of representation can make animals more relatable and appealing to children and this could foster a feeling of empathy in them. In the context of the magazine as a

media, anthropomorphized animals could simplify complex concepts and make it easier for younger children to understand and remember some information. On the negative side, the anthropomorphising of certain species can reinforce the idea that these species are superior to others and should be granted greater moral consideration (Ganea et al. 2011; Cole & Stewart, 2014).

Despite the presence of educational insights about the animals on the cover and a few others in the more in-depth columns, the images are mostly accompanied by short texts which can be either fun facts or brief information on some characteristics of the animal, especially based on the theme of the column in which it is present. This data can be explained by the information received by the editor during the interview. The target audience of *Focus Wild* are children aged 8 to 12, therefore among these there are younger readers with less ability or interest in in-depth research and more expert and curious readers, willing to read more written text to learn more facts about an animal, habitat, event and so on. More in-depth sections, with stories told in more detail and animals punctually described for each of their main features, are then alternated with collections of images accompanied only by fun facts, anecdotes, or curiosities.

During the interview with the magazine's editor, it was also concluded that it is difficult to find both photographic material and entertainment material on the local Italian fauna. Local species are often little photographed or do not offer fun anecdotes, extravagant features, or curiosities on which to build substantial sections of the magazine. The most frequent species in our findings are: lion, fox, dog, polar bear, grizzly bear, elephant, wolf, cheetah, brown bear, humpback whale, cat. Therefore, it is not surprising to observe how the results obtained in this study in part correspond with the studies carried out on the most frequent and charismatic species. (Albert et al., 2018, Courchamp et al., 2018). These animals have become iconic and widely recognized due to a combination of their physical and behavioural characteristics, as well as their cultural significance and representation in popular media. Their charisma can play a significant role in conservation efforts, as they can generate public interest and concern for their protection and preservation. Being children more frequently exposed to certain animals in media, they may become more familiar and attached to those species, compared to others that are not as frequently depicted. This can result in a preference for certain animals over others and a deeper emotional connection with those species. On the other hand, the underrepresentation of certain species in media can lead to a lack of

familiarity and understanding of those animals and can also contribute to negative attitudes and beliefs about those species (Hooykaas et al., 2022).

In the sample considered, we can observe that although the most represented species correspond to the most charismatic species, they are not so frequent as to affect the perception or understanding of *Focus Wild* young readers. The lion for example, despite being the most frequent animal, represents only 1.50% of all the entries in the species database for the 120 issues. The variety of species proposed therefore allows children to obtain complete and accurate information, which does not limit their perception of biodiversity and multiplicity of species. However, one problem could lie in the disproportion of representation between exotic and local species. While young readers have the opportunity to observe a wide variety of species, these do not include local species that they could experience by coming into contact with them in neighbour environments, thereby encouraging them to explore and learn about the more tangible local flora and fauna rather than having mostly a virtual experience of exotic species with which they will hardly be able to come into real contact.

Additionally, a significant fact that emerged from the analysis of the results is that only 6.80% of the animals featured in the magazine are depicted in the presence of humans. As in the difference in presence between exotic and local animals, the lack of representation of animals with humans can also have effects on children's learning. These two differences in distribution result in the misrepresentation of the cultural relationship between animals and humans for children. Exotic animals very often assume relevance within the cultures to which they belong. It would then be important to show the elements of contact between these species and humans, teaching the value of animals in other cultures could allow *Focus Wild* readers to learn different relationships and inclusiveness between animals and cultures of the world.

By showing more exotic animals, local animals with which children are more likely to interact and which may be more culturally significant are excluded. There is no unique study on the value of animals in Italian culture, however, different areas of encounter between animals and culture can be found. First, animals play a central role in the country's rich culinary traditions. Compared to other cultures, Italians usually adopt only some animal species as pets, mainly dogs and cats. Consequently, given the inclusion of these animals within the family nucleus, they are not considered as possible

"food". Some animals have spiritual value and are included in rituals related to religion. Others may have relevance within the Italian historical and artistic tradition. The fact that there is a lack of representation of local animals and that they are not depicted in meaningful relationships with humans, could reduce children's capacity for empathy and their understanding of the interconnectedness of all living beings.

ANIMAL REPRESENTATION ON THE COVERS OF FOCUS WILD

Comparison with National Geographic Kids

For the discussion of the results obtained from the analysis of the data relating to the covers it could be relevant to make a comparison with the study carried out by Vrla et al. (2020) on a sample of 131 National Geographic Kids (NGK) magazine cover images from 2004 to 2014 (Vrla et al.,2020).

Like *Focus Wild's* content, also the 120 covers feature a vast number of species, with 90 total species. Of these, however, we can observe a clear majority of wild animals (89.17%) compared to domestic ones (10.17%). The data about wild and domestic animals related to the NGK covers are on the same line. Also, with regard to the animal classes we find similar results: 91 mammals out of 120 covers for *Focus Wild* and 78 mammals out of 131 covers for NGK.

As with the NGK covers, a conspicuous absence of certain classes can also be observed in this sample. Only 15 birds, 8 reptiles, 3 sharks, 2 fish and 1 amphibian, and even though, in terms of world's total species diversity, insects are the most numerous animal class, accounting for over a million described species, no insects are present in the covers' images.

The use of so-called flagship species, "popular, charismatic species that serve as symbols and rallying points to stimulate conservation awareness and action" (Clucas et al., 2008), could be done to capture the reader's attention and then deepen and deal with biodiversity topics in the contents of the magazine. As we have discussed previously, the contents of *Focus Wild* present a variety of animal species and although the most frequent species favour possible trends of "speciesism" they do not have significant numbers that they can be considered as such. The presence of these flagship species on the covers could therefore be a device to induce the reader to buy the magazine.

Another result that follows those of the contents is the geographic range of these animals, which are mostly exotic animals. As far as National Geographic Kids is concerned, this finding can be justified by the global coverage of the magazine, while *Focus Wild* is aimed directly at Italian readers, who therefore, as previously discussed, have the opportunity to explore and learn about many more exotic and distant species than local ones.

Unlike NGK where the animals represented are mostly not threatened and charismatic, *Focus Wild's* covers present about half "least concern" species and half at a higher level of risk but mostly charismatic as well. An increase in endangered species has not been observed in recent years.

In NGK covers, most charismatic animals are "cuddly," not "feral", while in our findings 56,67% animals are "feral" and 23,33% are "cuddly". As argued in their study, Vrla et al. (2020) reflect on the fact that focusing on cuddly animals might interfere with children's understanding of animal welfare, making them believe that the combination of aesthetic appeal and apparent helplessness (given by their "cute" depiction) make some animals more worthy of conservation than unrepresented others (Vrla et al., 2020). The covers of *Focus Wild*, on the other hand, tend to show still charismatic animals but more "feral" ones, therefore not depicted in an affectionate way but wild, these animals look directly at the reader, who, by crossing the animal's gaze directly, is engaged and intrigued by its history already from cover, thereby increasing the likelihood that the magazine will be purchased. A further aspect to be explored could be the sales strategies of the two magazines, given that NGK tends to make young readers empathize with cute images of wild animals, while *Focus Wild* with more natural but direct images. For both magazines, it subsists the problem, also found in the content analysis, that by representing more charismatic and attractive animals, children could be led to underestimate non-charismatic species and automatically consider them less important, interesting, or worthy of conservation.

PLANT (UN)REPRESENTATION

Finally, it is possible to briefly discuss the representation, or non-representation of plant species in the sample of 120 issues of *Focus Wild* considered.

The subtitle of the magazine is "100% animal", thus indicating its content totally dedicated to animal species. In fact, out of the total number of species present in the

database, plants are 1,71%. Most of these are present in the written text through a brief mention, which however also includes the scientific name in most cases and are accompanied by a photo.

A trend can be observed in the way humans relate to and perceive plants. Yorek et al. (2009) argued how some people tend to view animals as being "more alive" than plants. This perspective is based on an animistic-anthropocentric construction of life concept, where human-like qualities, such as movement and emotions, are considered to be signs of a higher degree of life. In this view, plants are often seen as being less alive because they lack these characteristics (Yorek et al., 2009). However, this perspective is limited and fails to recognize the unique ways in which plants live, grow, and respond to their environment. Many plants have complex systems of growth and reproduction, and they are capable of responding to stimuli in remarkable ways.

There are several studies on why plants may be less interesting for children in learning about the natural world (Tunnicliffe & Reiss, 2000; Lindemann-Matthies, 2005; Schusser & Olzak, 2008). As a matter of fact, animals are seen as more active and have more noticeable behaviours, while plants are seen as passive and less noticeable. Wandersee & Schusser (1999) researched a phenomenon called "plant blindness", namely when people overlook or undervalue the importance of plants in their environment. This could be the reason why plants are often not given the same attention or consideration as animals in various aspects of society, including education, media, and conservation efforts (Wandersee & Schlusser, 1999). Children who are exposed to this type of media may develop a skewed view of the natural world, where animals are seen as the main focus of attention and plants are relegated to the background.

FUTURE PERSPECTIVES

From the perspective of the Environmental Humanities, it is challenging to talk about animals without talking also about their natural environment, plants and ecosystems that allows them to exist. This observation was shared during the interview with the editor of the magazine. As stated by the editor, it is more difficult to make plants appealing to children compared to animals, and it could be too dispersive to introduce children with many different topics. Animals move and behave in ways that are more visually interesting to children than plants. For example, animals may chase each other, hunt for food, or interact with their environment in ways that are more engaging for

children to watch, even if just in static photographs. In contrast, plants are generally stationary and do not move or behave in ways that are as visually interesting to children. Children may be more likely to have personal connections with animals, such as pets, than with plants. This personal connection can make animals more interesting to children, as they are able to form emotional bonds with animals and have experiences that are specific to their relationships with animals. It is unlikely that plants will occupy a large space within the magazine, but it has been proposed as a future improvement, to accompany the educational insights on the main animals of each issue with insights on the species of plants that belong to their habitat, on which they feed or with which they interact and cohabit in order to exist.

Looking at the results with an Environmental Humanities perspective, it emerges that another factor of improvement for the magazine's contents could be the greater representation of animals with humans. Although more exotic species are depicted, it remains relevant to show children the value of these animals in their cultures. Thus, allowing children to form richer and more inclusive perspectives on the animal world, which could eventually encourage attitudes towards animals based on an awareness of the interconnectedness and coexistence of animals and humans.

From the discussion of the results, it emerged that a possible element of improvement for the contents of *Focus Wild* could be the integration of a greater number of local species within the monthly issues. As previously discussed, it is important to strive for a diverse representation of animals in children's media, in order to promote a deeper understanding and appreciation for the diversity of the animal kingdom, as well as to avoid perpetuating negative attitudes and beliefs about certain species and ignorance about local fauna. By doing so, children can develop a more nuanced and accurate understanding of the animal kingdom and form strong emotional connections with a diverse range of animal species.

The proposed analysis could certainly be improved, first of all by integrating a parameter of observation of the photos and representations of the animals which indicates their level of charisma. Secondly, observe how many and which pets, present in the sections that have not been considered in this analysis, are depicted in an anthropomorphic way and if it is possible to observe trends or recurrences in these representations. It could also be interesting to carry out an analysis of the linguistic

contents that accompany these images, to observe any thematic trends or particular inclinations such as, for example, the use of discursive practices linked to ethology and their possible effects on engagement and learning levels of children.

It would certainly be relevant to analyse statistics and sales data of the magazine over the years in order to observe if they have increased or decreased and what this could result in the relationship between children and digital or paper media and their learning possibilities, and the influence that the magazine had on Italian children. Finally, this study could be the starting point for a further analysis that actively involves children and *Focus Wild* readers through, for example, a workshop activity through which collect feedbacks and data on the quality of children's engagement with the magazine product, the reception and perception of educational messages and their effectiveness in teaching children the importance of biodiversity and the interconnectedness of all life.

CONCLUSION

The purpose of this research has been to analyse the contents of *Focus Wild* magazine to observe the ways in which the animal world is told and taught to children.

Through the construction of a database in which names and information of the animal species present in the magazine have been collected, it has been possible to receive a general idea of the contents. It has been observed that the magazine offers young readers a wide selection of species to read and learn about. From the analysis of the covers, it results that the tendency to dwell on a few charismatic and popular species is mostly found in the cover images, this could lead us to deduce that flagship species are used as a strategy to intrigue the public and entice them to buy the magazine.

As with other media dedicated to children, but in general concerning animals, a higher frequency is observed in exotic species than in local ones. These often correspond to more charismatic species, and are usually more present because, being less familiar, they could be more interesting and captivating for young readers. Furthermore, it is easier to produce content on these species because they are the most photographed and researched, and therefore have the possibility of being narrated in several ways, from insights to simple curiosities or fun facts. The implications and effects on children's learning due to this imbalance of presence between local and exotic species have been then discussed.

From the perspective of the Environmental Humanities, examining the ways in which animals and plants are depicted in the magazine, could shed light on the cultural meanings and values attached to different species, as well as the ways in which these values shape children's perceptions of the environment. Although it is clear that children interact more and more with digital content, children's paper magazines remain an important source of information and inspiration for the young public. This study could provide insights into the role of media in environmental education and conservation, the ways in which media can be used to promote environmental literacy and foster a sense of environmental responsibility among young people.

A more in-depth analysis of this theme could be a comparison with other magazines with the same target readership and themes in order to have a broader vision of the publishing scenario dedicated to nature in Italy. This could contribute to the broader field of environmental humanities by adopting interdisciplinary approaches, bringing

together elements of biology and social sciences, analysing not only the contents but also the linguistic practices and communication strategies through which animal representations in media could influence children's perceptions of the environment and their relationship with the natural world.

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