

ADDRESSING CULTURAL CHALLENGES THROUGH ENVIRONMENTAL EDUCATION: AN EDUCATIONAL APPROACH FOR THE PRESERVATION OF FAUNA AND THE SÃO FRANCISCO RIVER WATER BASIN

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Abstract: Despite sometimes vehemently disapproving crimes against wildlife, many people who raise wild animals such as PET do not realize how this action can be linked to these crimes. The maintenance, capture and consumption of wild fauna is something inherent to the culture of some communities. Therefore, it is common to find birds, reptiles and small mammals in homes. Due to cultural heritage, the population is accustomed to the domestication of these animals, not feeling uncomfortable when encountering wild animals in the homes of relatives and acquaintances. Therefore, aiming to raise awareness among communities surrounding the São Francisco River Basin in Sergipe, educational actions were carried out to discuss the importance of conserving wild fauna for maintaining the ecosystems linked to the basin. These actions, carried out in educational institutions from kindergarten to higher education, sought to discuss the role of fauna in dispersing seeds and maintaining population balance, as well as the impacts generated by extinction events. Furthermore, the relationship between the culture of extraction, hunting and domestication with crimes such as animal abuse and trafficking was discussed. These Environmental Education actions were part of the Integrated Preventive Inspection (FPI) promoted by the São Francisco River Basin Committee. It reached 1,119 students from five educational institutions. Many of the listeners were surprised to realize that they had wild animals at home or in their families, not being aware of their classification as such. Awakening participants' perception of responsibility for crimes against wildlife is an important result of this work. Children and adolescents who become aware of the ecological role can become important barriers to the continuity of the culture of irregular exploitation of wild animals. A gradual change in behavior over the next generations,

rethinking cultural practices and promoting a break in the continuity of reprehensible habits can, in fact, efficiently combat crimes against wildlife. In this context, in the long term, Environmental Education actions are as important as repressive actions.

Keywords: Wild fauna; mistreatment; illegal breeding; conservation.

INTRODUCTION

In addition to providing drinking water to the population from Serra da Canastra in Minas Gerais to the state of Sergipe, the São Francisco River Basin (BHSF) has an economic and cultural participation in the life of the riverside community. The river provides water, energy, transport and is the primary source of livelihood for the population, through activities such as fishing, transport and tourism. By 2019, it was estimated that approximately 18 million people lived around the BHSF (CASTRO; PEREIRA, 2019).

During the period of human occupation, the BHSF and the surrounding ecosystems underwent a series of modifications. Anthropogenic actions such as blocking water for energy production, transposition of water, deposition of waste and deforestation of riparian forests are some examples of impact factors (CASTRO; PEREIRA, 2019; MACHADO, 2016). It is estimated that around 300 municipalities dispose of their waste from the sewage system in the basin without adequate treatment (MACHADO, 2016). These actions contribute to the siltation and pollution of the waters of the São Francisco River, endangering coastal ecosystems, the conservation of native species and the quality of life of the community.

In this context, a strong movement began in favor of the revitalization of the BHSF (CASTRO; PEREIRA, 2019). In 2000, the São Francisco River Basin Hydrographic Revitalization Plan was created, which

presented its lines of action, among which is the creation of the São Francisco River Basin Committee (CBHSF) by decree of June 5, 2001 (BRAZIL, 2001). The objective of the committee is to manage water use, land use and the environment linked to the basin in a multidisciplinary and decentralized way (CBHSF, [s.d.]).

Given the importance of the BHSF, the CBHSF, together with federal, state and municipal bodies, seek to adopt measures to mitigate impacts and contribute to the preservation of the basin. Some of the measures adopted concern combating hunting, trafficking and breeding of wild animals. Animals act as agents of conservation and restoration of the basin, acting through nutrient cycling and maintaining the energy flow of different trophic levels and population balance (RICKLEFS; RELYEA, 2016). Furthermore, they are important seed dispersers, helping the reproduction of flora and reforesting degraded areas (FADINI; MARCO JÚNIOR, 2011; HOWE; SMALLWOOD, 1982).

It is estimated that at least 50% of tropical plant species are dependent on seed dispersers for reproduction (FLEMING; BREITWISCH; WHITESIDES, 1987; HOWE; SMALLWOOD, 1982). The dispersion of these seeds is mostly carried out by vertebrates, among which we can mention birds as an important dispersing group and promoter of the recovery of degraded areas (CAVALLERO; RAFFAELE; AIZEN, 2013). The endemic species of each phytogeographic domain have an evolutionary history linked to the ecology of the location (THOMPSON, 1989). Thus, many seed dispersers have coevolutionary relationships with plant species and are specialized in their dispersal (FADINI; MARCO JÚNIOR, 2011).

Dispersing animals maintain the gene flow and resilience of native plant species by transporting seeds between vegetation

remnants, among which are the Permanent Preservation Areas (APP) established by Federal Law number: 12,651/2012 (BRAZIL, 2012). This Law aims to protect native vegetation such as riparian forests in rivers, streams, lakes and springs, without which the silting process would occur at an accelerated rate. The riparian forest performs important services such as atmospheric carbon retention, nutrient cycling, stabilization and influence on soil composition, in addition to offering subsistence conditions for fauna such as food and shelter (PEQUENO et al., 2002). The importance of this vegetation intensifies in regions with a higher incidence of anthropogenic activities (FERREIRA; SILVA, 2020; PEQUENO et al., 2002).

This way, the endemic fauna of the BHSF, in addition to being dependent on the river's waters, acts as an important barrier to the degradation of the basin.

Aiming to ensure environmental quality from various aspects, Federal Law number: 9,605/1998 (BRAZIL, 1998) provides, among others, for criminal and administrative sanctions to be applied to activities harmful to wildlife, as set out in article 29:

“Article 29: Killing, persecuting, hunting, catching, using specimens of wild fauna, native or on the migratory route, without due permission, license or authorization from the competent authority, or in disagreement with that obtained. Penalty - imprisonment from six months to one year, and a fine.” (BRAZIL; Federal Law number: 9,605 of February 12, 1998).

However, the resident and dependent community of the basin removes some species of wild animals from their habitat mainly for consumption (meat, skin and other inputs), domestication and trade. It is a habit present in a large part of the Brazilian population regardless of social class, making it difficult to understand threats and their consequences for biodiversity, in addition to little knowledge

about current legislation (SICK, 2001).

This behavior is linked to the culture of communities that grew up accustomed to raising birds, tortoises and consuming meat from hunting reptiles and small mammals (RENCTAS, 2001). This custom partly comes from the original people who used wild fauna for subsistence and were the precursors of this culture since before the period of colonization. However, it is important to highlight some aspects about the culture of the original peoples as observed in the National Report on Wildlife Trafficking (RENCTAS):

“It is important to highlight that the use of wild fauna by the Indians was carried out with criteria, without threatening the survival of the species, such as, for example, they did not slaughter pregnant females or animals of reproductive age. However, these Indians changed after contact with European colonizers and explorers. They began to exploit natural resources more selectively and intensely, and in many cases were used as predatory agents of these resources. This is where the history of the commercial exploitation of Brazilian wildlife begins, which due to its diversity generated the idea of being abundant and inexhaustible” (RENCTAS, 2021. p. 11-12.).

Therefore, the repressive fight against wildlife crimes in these communities, with seizures and application of fines and other sanctions, in isolation, is not enough to prevent these crimes, with birds, reptiles and some small mammals being the most common species. affected by this practice (RENCTAS, 2001). Birds are appreciated for their singing, while reptiles such as the tortoise are kept, among other reasons, due to popular beliefs that they would ward off bad omens.

Animal trafficking is the third most profitable illegal activity, and supports a network of suppliers, intermediaries and end consumers (RENCTAS, 2001). Many of the suppliers are people who live and know where the animals live. Thus, the wild animal

exploitation network uses the local community as an ally in the extraction of species through payment in money. This network and local commerce gain strength in communities where the culture of raising and consuming these animals is strong. On the other hand, communities aware of their environmental role and the impacts generated by human actions are important allies in conserving the environment in which they operate.

The trafficking network begins with the removal of specimens from nature for sale, so when the individual goes to the natural environment, captures and imprisons animals to sell them, they are participating in this chain (LIMA et al., 2015). Thus, in addition to the repression and sanctions actions provided for in Federal Law number: 9,605/1998 (BRAZIL, 1998) and Federal Decree Number: 6,514/2008 (BRAZIL, 2008). It is important to develop Environmental Education actions with communities that criticize the culture of extracting wild fauna (GUIMARÃES, 2004; SILVA; RUFFINO, 2016), since schools and teachers are a fundamental part of the challenge of making students reflect on topics relating to Environmental Education (JACOBI, 2004; ISLAS; GREICI, 2016).

OBJECTIVE

The purpose of this work was to present an experience report, bringing the results of Environmental Education actions carried out in educational institutions in BHSF communities during the Integrated Preventive Inspection in the state of Sergipe (FPI/SE) in the year 2023, aiming to problematize the culture capture, breeding and consumption of wild animals by raising awareness among children, young people and adults about the importance of fauna conservation for maintaining ecosystems linked to the BHSF, making them multipliers of the information presented.

METHODOLOGY

Aiming to reach a broad audience of children, elementary, secondary, technical and higher education, environmental education actions were carried out during the months of July and August 2023. These actions were carried out by the Fauna Team during the activities of (FPI/SE) promoted by the São Francisco River Basin Committee (CBHSF, [n.d.]). In addition to the Fauna team, the FPI/SE is made up of 11 more thematic teams, with the participation of thirty institutions, 17 federal bodies, 10 state bodies and one organized civil society institution, in addition to collaborating professionals from different areas of knowledge. More information about FPI/SE on the website “www.mpse.mp.br/fpi/”.

CONTEXT OF THE WORK OF THE FAUNA TEAM AT FPI AND ENVIRONMENTAL EDUCATION ACTIONS

The Fauna Team aims to raise awareness among the population by encouraging the spontaneous delivery of wild animals kept in captivity irregularly, so during the actions the team seeks to dialogue with the community about the role of animals in conserving the environment, addressing the related ecological and legal context. , in addition to monitoring to combat crimes against wildlife, such as the crime of mistreatment provided for in Section I, Chapter V, of Federal Law number: 9,605/1998 (BRAZIL, 1998).

The FPI aims to act effectively in the various human activities for the preservation of the entire BHSF. It must be noted that this is an ongoing program, mainly of an educational nature and which aims to “improve the environmental quality of the natural resources of the São Francisco Basin, through conservation and revitalization, and the quality of life of the people of the region”

(FPI, [n.d.]). Therefore, during the activities, the teams seek to dialogue with the population about the harm caused by irregular activities to the BHSF and consequently to the quality of life of the community itself. The operation also carries out Environmental Education actions seeking to raise awareness among the community about behaviors that are harmful to the environment and the basin.

After carrying out field inspection activities, telephone contact was sought with public and private educational institutions in the cities in order to schedule visits to carry out environmental education activities. This order of actions was adopted so as not to compromise the confidentiality of the FPI/SE inspection activities, which took place simultaneously. Finally, visits to the institutions were carried out with the participation of three or more members of the Fauna Team with technical training in education, management and environmental policing in a multidisciplinary manner.

MATERIALS USED

Slides and taxidermied wild animals were used in the activities, in addition to the PRF mobile station, used to move around and carry out activities in its internal space, with the aim of attracting the attention of children and young people during the actions (Figure 1).



Figure 1. (A) Exhibition of taxidermied animals inside the mobile station (B) External view of the PRF mobile station (Source: own production).

PEDAGOGICAL APPROACH ADOPTED

The activities carried out during the visits were characterized by lectures focusing on the ecological role of fauna in maintaining the BHSF. The lectures were divided into four moments: 1) Contextualization of the role of fauna in the conservation of the basin; 2) Questioning about farmed animals; 3) Cultural awareness; 4) Police report on crimes against wildlife. The activities were adapted to the audience of each institution given the difference in age group and level of education.

CONTEXTUALIZATION OF THE ROLE OF FAUNA IN THE CONSERVATION OF THE BASIN

Firstly, we highlight the role of animals in population balance and the dispersal of plant species. Furthermore, the problems of the insertion of exotic species, extinction of native species and the effects caused by human interference in the environmental balance were addressed. For this, examples of world fauna and Brazilian fauna were used (Table 1). In addition to examples of Sergipe's fauna with the intention of bringing the public closer and emphasizing the role of local fauna in maintaining the riparian forest of the São Francisco River.

Rabbit	<i>Oryctolagus spp./ Sylvilagus spp.</i>	Domestic
agouti	<i>Dasyprocta azarae</i> (Lichtenstein, 1823)	Wild/Native
Cattle (ox and cow)	<i>Bos taurus</i> (Linnaeus, 1758)	Domestic
Hen	<i>Gallus gallus</i> (Linnaeus, 1758)	Domestic
Domestic cat	<i>Felis catus</i> (Linnaeus, 1758)	Domestic
Golinho/ Colerinha	<i>Sporophila albogularis</i> (Spix, 1825)	Wild/Native
Piranga tortoise	<i>Chelonoidis carbonária</i> (Spix, 1824)	Wild/native
Maracanã-nobre	<i>Diopsittaca nobilis</i> (Linnaeus, 1758)	Wild/Native
Paca	<i>Cuniculus paca</i> (Linnaeus, 1766)	Wild/Native
Papa capim	<i>Sporophila nigricollis</i> (Vieillot, 1823)	Wild/Native
True parrot	<i>Amazona aestiva</i> (Linnaeus, 1758)	Wild/Native
Domestic duck	<i>Anas platyrhynchos</i> (Linnaeus, 1758)	Domestic
Guinea pig	<i>Cavia porcellus</i> (Linnaeus, 1758)	Domestic
Rolinha fire-extinguished	<i>Columbina squammata</i> (Lesson, 1831)	Wild/Native
Tatu-peba	<i>Euphractus sexcinctus</i> (Linnaeus, 1758)	Wild/Native
Teiú	<i>Tupinambis merianae</i> (Duméril & Bibron, 1839)	Wild/Native

Table 1. List of some animals cited as examples during Environmental Education activities.

QUESTION ABOUT FARMED ANIMALS

In a second moment, the speakers questioned the culturally accepted creation of some animals (Table 1). This questioning began with a discussion about the public's understanding of domestic and wild animals through the presentation of images of some animals. Among these animals, exotic species whose breeding as PET is permitted were presented (cats, dogs, cockatiels, among others) and some native animals such as tortoises, parrots and other birds (Table 1). For each animal presented, its characterization as

Popular name	Scientific name	Classification
Hyacinth macaw	<i>Cyanopsitta spixi</i> (Wagler, 1832)	Wild/Native
Bluebird	<i>Cyanoloxia brissonii</i> (Lichtenstein, 1823)	Wild/Native
Dog	<i>Canis lupus familiaris</i> (Linnaeus, 1758)	Domestic
cockatiel	<i>Nymphicus hollandicus</i> (Kerr, 1792)	Domestic
land canary	<i>Sicalis flaveola</i> (Linnaeus, 1766)	Wild/Native
Cardinal/Head	<i>Paroaria dominicana</i> (Linnaeus, 1758)	Wild/Native
Horse	<i>Equus ferus</i> (Boddaert, 1785)	Domestic

species, domestic, wild, native or exotic was carried out with the public.

Subsequently, and in a relaxed manner, questions began about the public's experience, seeking to find out who owned or has contact with animals defined as wild in captivity. For this approach, we sought to make clear the educational role of FPI/SE and the encouragement of voluntary delivery so that listeners would not feel reluctant to participate for fear of legal sanctions.

RAISING AWARENESS AND PROBLEMATIZING THE CULTURE OF WILD BREEDING

After the first two moments, the lecture sought to raise awareness among listeners about their responsibility in conservation and in encouraging crimes against wildlife. We sought to emphasize how the apparently innocent purchase of wild animals encourages a network of commerce and exploitation that escapes the perception of the local buyer. Furthermore, the relationship between cultural practices and crimes of species trafficking, mistreatment and biopiracy was widespread, demonstrating how regional practice can encourage a network of more serious crimes that are apparently unrelated to the local consumer.

POLICE REPORT ON WILDLIFE CRIMES

Finally, police reports of operations to repress crimes against wildlife were presented. These reports discussed Federal Law number: 9,605/1998 (BRAZIL, 1998) and Federal Decree N 6,514/2008 (BRAZIL, 2008). Furthermore, the degrading conditions in which animals are most often found during seizures were explained, leading to the high mortality rate. Thus, presenting the objective of FPI/SE and its form of multidisciplinary action to participants.

With the early childhood education audience, a dynamic was carried out where a volunteer student was chosen and isolated from other students with IDs or other barriers. At this time, the other students could talk and participate in the activities, receiving sweets and interacting with PRF agents. After a brief moment, the volunteer was released and the students were asked how their isolated colleague would feel about not being able to be part of the fun, drawing a parallel between the dynamics and an animal in captivity. With this audience, we tried to classify animals as wild or domestic during recreational activities such as memory games (in the presentation), word searches and coloring pages.

At the end of the lecture, participants were invited to observe taxidermied animals inside the PRF mobile post. They also received gifts for painting and word searches with a fauna theme.

RESULT AND DISCUSSION

The team was able to observe that the majority of participants from all audiences, whether they were students, teachers or employees, did not perceive the raising of wild animals or purchasing them in open-air markets as actions potentially linked to the maintenance of trafficking. The "awareness" that the buyer of an illegal animal is also responsible for maintaining the trafficking of wild animals is also reported by Rodrigues and Leite (2014). Not being aware of this connection means that the individual does not feel responsible for socially reprehensible crimes such as animal trafficking and mistreatment, carried out through the purchase and breeding of these animals.

During the implementation of Environmental Education initiatives, 1119 students were reached from five educational institutions located in BHSF cities in Sergipe (Table 2). As the activities took place during

the transition period between school holidays and the return to classes in state and municipal education networks, there was difficulty in contacting public institutions. Thus, to overcome the challenges associated with the school vacation period, the activities were extended in two public institutions of secondary and higher education, the ``Universidade Federal de Sergipe`` (UFS - Campus Sertão) and the ``Instituto Federal de Sergipe`` (IFS - Campus Nossa Senhora da Glória), impacting a total of 365 students.

Institu-tion	Munici-pality	Number of Students	Age Range	Teaching Training
IFS	N.S Glória	105	12 to 27	Medium and Technical
UFS	N.S Glória	260	18 to 40	Higer
C.E Santa Lara de Lima	N.S Glória	446	5 to 12	Elementary and childrens
Instituto Educar	Muribeca	238	5 to 10	Elementary and childrens
Colégio Rezende	N.S Glória	70	9 to 15	Elementary and childrens
Total		1119	5 to 40	

Table 2. Information about institutions where Environmental Education actions were carried out.

The public in kindergarten, secondary and elementary schools were surprised to realize that they had illegal wild animals at home or in their families. Many of these students reported habitual interaction with tortoises and some bird species mentioned (Table 1), as well as consumption of tegus and armadillos, unaware of both the related environmental impact and the legislation and sanctions described at the last moment of the activities. Furthermore, members of this group have more difficulty recognizing animals as wild. This may happen because they did not have contact with the concept at school, or because they were introduced to it with examples of animals far from their reality, such as lions, zebras and giraffes. Isla, Behling and Schnorr (2019) show that the reflections brought

about by environmental education work involving these topics are extremely necessary, because there is a fine line in the participants' knowledge regarding the differentiation of the classification of animals between domestic and wild, therefore, regarding the irregularity of the maintenance of wild animals in captivity.

This public showed great interest in the participation of PRF agents and during the visit to the mobile station where they were able to observe and ask about the taxidermied animals that were displayed (Figure 02). Among the activities carried out, the team carried out a dynamic with the participants in which a volunteer student was isolated from the others, aiming to simulate and raise awareness about the maintenance of animals in environments such as cages, this practice sensitized students to the situation of animals raised in captivity. The students described that these animals are deprived of freedom, of interaction with other animals of the same species, in addition to having little space to move and the lack of elements to interact with, such as vegetation and other elements of the landscape.



Figure 2. (A) Exhibition of taxidermied animals inside the PRF mobile post; (B) Interaction between a student and PRF agents; (C-D) Volunteer student participating in the proposed dynamic.

It is of great importance that this group, which includes children, adolescents and young people, is able to differentiate wild fauna from PETs and exotic animals, as well as understand the relationship of these animals with the natural environment and the impact of their removal or insertion. By having contact with this information, they can act as knowledge multipliers, being able to critically reflect on the problem, thus expanding the benefits of the activity carried out to other spheres of society (RODRIGUES; LEITE, 2013). This way, they can contribute to breaking the continuity of the culture of exploitation of wild animals, rethinking the knowledge and cultural practices related to these animals and environmental responsibility.

The awareness process is more easily identified among children and adolescents who often make complaints or even voluntarily hand over animals after carrying out the actions. It is observed that changing behavior in adults is more difficult when it comes to keeping animals in captivity as this is a deep-rooted cultural practice. Thus, several authors point out the importance of the topics covered. Islas and Greici (2016) point out the extreme relevance of addressing issues such as trafficking and illegal captivity of wild animals for contemporary society, urgently aiming to carry out conservation actions to maintain wild species.

Secondary, technical and higher education students recognized the importance of the BHSF, mainly citing the scarcity of water supply for irrigation and animal and human consumption as a critical problem. For this group of students, the discussion was more comprehensive, addressing ramifications of basin degradation, such as climate change and possible impacts on water availability and agriculture during the lectures (Figure 3).



Figure 3. (A) Lecture held at UFS-Campus Sertão (B) Lecture held with primary and secondary school students.

The audience at UFS-Campus Sertão and IFS-Glória included high school, technical and higher education students. The IFS audience was made up of high school students and Food Technician and Dairy Technology courses. The audience at UFS-Glória was made up of four courses in the area of Agricultural Sciences: Veterinary Medicine, Agricultural Engineering, Zootechnics and Agroindustry.

With this audience, some ecology concepts such as ecological relationships, population balance and coevolution were treated in more depth, as well as the legal issues of crimes against wildlife. Furthermore, the possibilities for future professionals to work in their respective areas within the context of BHSF and Fauna preservation were debated. To do this, we address the effects generated by the extraction of wild animals, contextualizing the impacts on the BHSF and in areas such as livestock and agriculture.

CONTEXTUALIZATION OF THE ROLE OF FAUNA IN THE CONSERVATION OF THE BASIN

In the context of the BHSF, the importance of parrots, such as the Spix's macaw (*Cyanopsitta spixii* W.), (GOMIDES et al., 2021), was highlighted. These birds have a beak adapted to the consumption of hard fruits and seeds like that of the faveleira, a plant species that, like other Euphorbiaceae, has a distribution restricted to the sandy Caatinga area of the middle São Francisco River (SÁTIRO;

ROQUE, 2008) requiring specific dispersers. Furthermore, the Spix's Macaw, in addition to being a disperser of endemic plant species, is also an endemic species of the Caatinga linked to BHSE, targeted by animal trafficking and threatened with extinction, whose recovery efforts are widespread (BARNETT et al., 2014; GOMIDES et al., 2021).

The role of animals in seed dispersal was known to most of these participants, but the specificity of co-evolutionary relationships, especially regarding the chemical scarification of seeds, proved to be new. The example of animals from Mauritius with the tambalacoque tree (*Sideroxylon grandiflorum*) led to debate about the cascade effect of extinction events.

Animal extinction events, in addition to generating an impact on the food chain, can exert pressure for the extinction of plant species. A classic example is the report of the threat of extinction of the *Sideroxylon grandiflorum* known as the dodo tree or tambalacoque, resulting from the extinction of the bird *Raphus cucullatus* (Dodo) (TEMPLE, 1977). The dispersion of tambalacoque would be related to the dependence on the chemical scarification process of the seed as it passed through the gastrointestinal tract of the bird, which became extinct in 1681 (TEMPLE, 1977). However, the population decline of the tambalacoque can be attributed to the extinction of other dispersing vertebrates that were also extinct due to anthropogenic pressures that occurred in a given period in Mauritius (CATLING, 2001; RIJSDIJK et al., 2011).

This classic example can be cited as one of the milestones that awakened the need for knowledge about coevolution between species for conservation. Some plant species require the process of chemical scarification in the digestive tract of animals to break dormancy or to increase the rate and quality of germination (CAMPOS et al., 2020;

KLEYHEEG; CLAESSENS; SOONS, 2018). Therefore, these species have an even greater dependence on dispersing animals.

CULTURAL AWARENESS

Birds are important seed dispersers (CAVALLERO; RAFFAELE; AIZEN, 2013), at the same time as they are the animals most targeted by trafficking and the group most affected by the culture of extracting wild animals from the wild for breeding, mainly due to song (RENCTAS, 2001). This way, they are also the group most rescued during operations such as the FPI.

Due to this fact, there was emphasis during the activities to demonstrate the importance of maintaining these species and the impact of illegal activities involving these animals. This was also the animal group most mentioned by students when questioned by the team; Thus, students were encouraged to expose their knowledge about fauna, conservation and their perception of illegality in order to problematize the cultural issues involved.

To assist with exemplifications, in addition to the species presented, other species of birds that occur in the basin were used as examples. Birds of the genus *Sporophila*, known as Papa-capim, *Paroaria dominicana* L. (head or meadow rooster), *Turdus rufiventris* L. (Thrush), among others, are known by the population. These birds are widely commercialized and removed from the wild through the use of traps known as trapdoors.

The use of traps, inadequate transport mechanisms, unsanitary conditions, among others that are characterized as mistreatment, were presented through images of situations witnessed by the team during FPI/SE 2023 to illustrate situations frequently encountered by the team in the field during inspections, and seek to raise awareness about damage to fauna. Some birds are found in trapdoors, with inadequate food and in unsanitary

conditions, as exemplified in figure 2A, where we find a Thrush in a cage filled with feces. This situation leads to infections and amputation of the lower limbs.

The end consumer is sometimes unaware of the path that the acquired animal took until its possession or how many other animals did not survive the same process. It is estimated that 90% of trafficked animals die before reaching their final destinations due to inadequate conditions throughout the process (RIBEIRO; SILVA, 2007).

Another practice of mistreatment is the act of blinding birds so that they sing more frequently. This situation, linked to the culture of raising song birds, is mentioned in the song “Assum preto” by Luiz Gonzaga and is still found in communities today (Figure 2B). These examples were intended to raise awareness about cultural behaviors and interrupt their continuity.



Figure 4. (A) Animal kept in unsanitary conditions, with feces throughout the enclosure and high risk of infection. (B) Sabiá, *Turdus rufiventris* L. with bilateral blindness. The whitish coloration in the eye is due to the denaturation of proteins common after exposure to high-intensity light or proximity to flames.

Although some “guardians” report taking adequate care of the animals, it is known that this care is often not appropriate for the species being raised, especially in relation to food, in addition to the individuals who capture these animals, aimed at profit and overt extraction, not proper care. These examples reinforce the debate about the lack of awareness among

many involved about animal preservation.

For educational activities to be successful, it is important that students understand their importance and the need for their involvement in these actions and transformations, only then will Environmental Education practices be successful (Isla, Behling & Schnorr, 2019).

Finally, young students were invited to play activities, visiting taxidermied animals and receiving word searches with the names of some species presented and drawings to color and remember the theme of the activity.

FINAL CONSIDERATIONS

The popular culture of keeping wild animals in their homes is yet another fact that reinforces the importance of carrying out environmental education activities such as the one developed here. Despite sometimes vehemently disapproving crimes against wildlife, many people who raise wild animals such as PET do not realize the incentive for these crimes and the impacts generated by their own actions. Furthermore, they naturalize the domestication of these animals, not feeling uncomfortable when encountering wild animals, especially birds and tortoises in the backyards of relatives and acquaintances.

Awakening participants’ perception of responsibility regarding the issues involved in the domestic breeding of wild animals is an important result of this work. It is expected that this result will result in the voluntary delivery of these animals, however, even if this delivery does not occur, it is possible that upon becoming aware of the ecological impacts and the relationship of this practice with crimes of trafficking and mistreatment, participants will feel embarrassed about consider purchasing such animals or witnessing this and other actions that encourage the removal of these animals from the wild.

Another important result, which could be considered the main one, is the awareness of

the young public. Children and adolescents who became aware of the ecological importance and crimes involved, in addition to spreading knowledge, are important barriers to the continuity of the cultural aspect of the exploitation of wild animals. A gradual and collective change in behavior of the next generations, rethinking cultural practices and promoting the break in their continuity can, in fact, efficiently combat crimes against wildlife. In this context, in the long term, Environmental Education actions are as important as repressive actions.

It is crucial to work on topics related to ecology and species conservation, contextualizing classes with the local ecological scenario to bring students closer to these topics. This further reinforces the need for preventive actions that incorporate

overt Environmental Education activities in schools, as well as others that involve cultural aspects that need to be rethought. These results reinforce the importance of the educational nature of the FPI and other actions to combat crimes against the environment. The community that is closest and lives with the environment is the most important ally for the preservation of the BHSE.

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