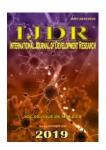


ISSN: 2230-9926

Available online at http://www.journalijdr.com



International Journal of Development Research Vol. 09, Issue, 05, pp. 27560-27565, May 2019



ORIGINAL RESEARCH ARTICLE

OPEN ACCESS

MEN-FAUNA RELATIONS: DROUGHT AND BAD OMEN IN THE NORTHEASTERN BACKLANDS

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ARTICLE INFO

Article History:

Received 10th February, 2019 Received in revised form 27th March, 2019 Accepted 02nd April, 2019 Published online 29th May, 2019

Key Words:

Ornitho-augurers; Cultural heritage; Ethno-ornithology; Ethno-zoology.

ABSTRACT

The man of the backlands in his daily experiences establishes a relationship with the wild fauna and flora, and in this relationship, he interprets the natural phenomena, as well as the behaviors of the animals, amongst them, the sounds emitted mainly the vocalization of birds. This paper records the influence of the beliefs associated with the birds amongst the dwellers at FazendaFervente, in the municipality of Ribeira do Amparo, state of Bahia, northeastern Brazil. Data have been collected from November 2014 to June 2015 through semi-structured interviews, as well as informal chats with fifty residents who indicated the Acauã (Laughing falcon) and the Rasga-Mortalha (American barn owl) as the most popular birds in the belief and imagination of the people dwelling in the semi-arid northeastern. The results show that the perception of the respondents concerning the birds mentioned above generates the distancing between dwellers and birds of these species, which in a certain way contributes to the conservation of them and protection of the environment.

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Citation: Adriana Anadirdos Santos and Carlos Alberto Batista Santos. 2019. "Men-fauna relations: drought and bad omen in the northeastern backlands", *International Journal of Development Research*, 09, (03), 27560-27565.

INTRODUCTION

"Acauã, Acauã vive cantando. Durante o tempo do verão. No silêncio das tardesagourando. Chamando a seca pro sertão. Chamando a seca pro sertão" 1

Brazil has a tremendous faunistic and cultural diversity (SANTOS, 2015), and in the semi-arid northeastern the traditional peoples and communities make use of this fauna for various purposes, including food, traditional medicine, local crafts, from the manufacture of decorative pieces to garments, besides beliefs and myths related to them. (ALVES, 2012; SANTOS *et al.*, 2016). According to the Annotated Checklist of the Birds of Brazil elaborated by the Brazilian Ornithological Records Committee (CBRO, 2014), Brazil has one of the most considerable diversities of birds on the plant, i.e., 1,901 species, of these 510 species of birds inhabiting the

Caatingabiome, and 23 species characterized as endemic (ICMBio, 2014). For the people of the semi-arid zones in Brazil, the birds present great social, economic and cultural importance (ALVES, et al., 2009), being in the last decades themes of ethnozoological studies (FARIAS; ALVES, 2007; ALBUQUERQUE et al., 2012; SCHUNCK et al., 2012; ALVES et al., 2013; BEZERRA et al., 2013; LIMA; FLORENCIO; SANTOS, 2014; SANTOS, 2015; SANTOS et al., 2016), who seek to understand the cognitive, behavioral and symbolic relationships existing between the human species and the birds. The man of the backlands in his daily experiences establishes relationships with wildlife, through the attribution of meanings to the sounds emitted by the animals, especially the chant of the birds (GALVAGNE-LOSS; COSTA NETO; FLORES, 2013). Marques (1998) shows that the birds through their singing are considered indicative of rainy seasons by the communities of the semi-arid northeast. Araújo, Lucena, and Mourão (2005) describe the harbinger of rains by birds in the municipality of Soledade, state of Paraiba, and Galvagne-Loss, Costa-Neto, and Flores (2013), recorded the vocalizations of birds considered to have the power to foretell natural or supernatural occurrences in the town of

¹ "Acauã, Acauã (Laughing Falcon) lives singing / During the summer time. / In the silence of the afternoons, it shakes. / Calling the drought for the outback. / Calling the drought for the outback."

Santa Terezinha, state of Bahia. In this sense, observing the singing of the birds in their daily life, the man of the backlands built several representations stored in the memory of the elders, shared through the orality throughout the generations. As Santos (1967) say, the anthropomorphic man interprets the voices of the animals, giving rise to several myths and legends documented in popular culture. Câmara Cascudo's work (2012) focused on popular culture, particularly in his narratives, records the legend of the Urutau or Coruja-Mãe-da-Lua narrating the sad story of an ugly woman abandoned by the man she loved who turns herself into a bird singing a melancholic chant, thus being regarded as a symbol of luck for some and bad omen for others. Previous studies developed in the Semiarid region of northeastern Brazil, address men-fauna relations, describing local knowledge about birds, especially those related to the beliefs and perceptions of traditional human societies (FARIAS; ALVES, 2007; ALVES et al., 2010; ALVES et al., 2012a; 2012b ARAÚJO; NISHIDA, 2007; ARAÚJO; LUCENA; MOURÃO, 2005; BEZERRA et al., 2012; BEZERRA et al., 2013; LIMA; FLORENCIO; SANTOS, 2014; SANTOS et al., 2015). The present paper aims to record the beliefs associated with birds by the residents of Fazenda Fervente, semi-arid of northeastern Brazil.

The farm has 56 families, totaling 206 inhabitants, being the subsistence agriculture the main economic activity, with particular focus to the cultivation of banana, beans, maize, and manioc, followed by the harvesting of cashew in natura. Fazenda Fervente stands out because of the significant extension of cashew trees existing in the locality. Animal breeding is also part of the local way of life. The villagers keep in their backyards or small pastures, animals such as chickens, goats, oxen, and cows. The backyards according to Amaral and Guarim-Neto (2008) are portions of land close to the residences and with easy access to cultivate or maintain several species that provide part of the nutrition need to the families, besides of the cultivation of healing plants (BRITO; COELHO, 2000). This cultural tract provoked the withdrawn of the native vegetation, being replaced by pasture and subsistence cropping.

Data collection

The species: The Hawk *Herpethoterescachinnans* (Linnaeus, 1758), (Figure 2) locally known as Acauã, Macauã or Cauã (Laughing falcon), has its occurrence recorded from Mexico to Argentina and way down throughout the Brazilian territory.

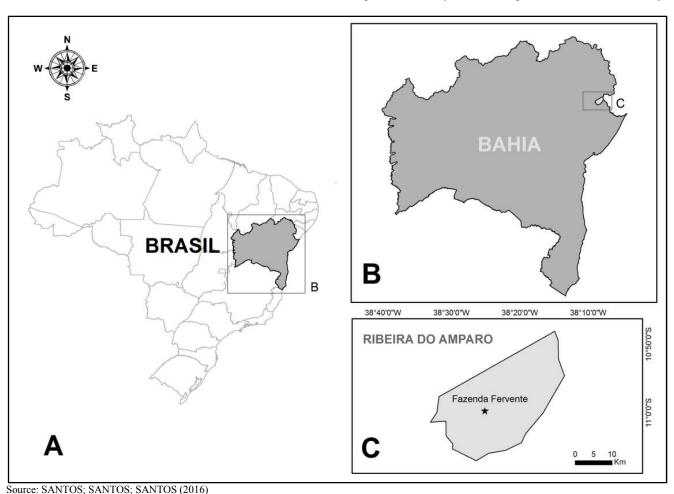


Figure 1. Geographical localization of the municipality of Ribeira do Amparo, Bahia, Brazil

MATERIAL AND METHODS

Study area: The study was carried out at the Fazenda Fervente, a farm in the municipality of Ribeira do Amparo located in the semi-arid region of Bahia (11°02'50"SE and 38°26'00" W) (Figure 01). The area of the municipality is 642,592 km², and its population is 14,276 (urban and rural area) (IBGE, 2013).

The bird is predominantly creamy-white with a brown spot in the dorsal region, and from the eyes to the back of the neck extends a black mask. It feeds on snakes, lizards and bats. They live on the edge of forests and fields with trees; build their nests in hollow trees. Concerning reproduction, it puts around two eggs with the incubation period between 45 to 50 days (SICK, 1997).



Source: http://passarinhando.com.br/index.php/component/k2/item/680-acaua-herpetotheres-cachinnans

Figure 2. Acauã (Herpetotherescachinnans, Linnaeus, 1758)



Source:http://passarinhando.com.br/index.php/component/k2/it em/680-acaua-herpetotheres-cachinnans

Figure 3. The Owl (Tytofurcate, Temminck, 1827)

Methodological procedures: The fieldwork was developed with farmers dwelling in Fazenda Fervente in the rural area of the city of Ribeira do Amparo BA from November 2014 to June 2015. Before starting the data collection, visits have been made to the residents of the farm to know some of the local reality and to create a good communication generating respect and trustiness. In respect to the ethical and legal aspects, before each interview it was explained the main objectives of the research, requiring from every participant the reading and signing of Consent for Participation. This research was authorized by the Ethics Committee on Research with Human

under the authorization number CAAE: Beings. 42039215.1.0000.0057. Regarding local knowledge, information was obtained through free interviews and informal conversations (MELLO, 1996; HUNTINGTON, 2000), using semi-structured questionnaires (SANTOS; ALVES, 2016; SANTOS; SANTOS, 2018). The questionnaires were applied in the interviewees' homes and the questions addressed dealt with the socioeconomic profile of the interviewees, and the ecological and cultural aspects related to wildlife, emphasizing the narratives and myths of the community place involving animals. Sampling was non-random intentional, in which the interviewees were pre-defined (ALBUQUERQUE et al., 2014; SANTOS; ALVES, 2016; SANTOS; SANTOS, 2016; SANTOS; SANTOS, 2018), used the technique called snowball described by Bailey (1994). It was selected 50 respondents, being 19 males and 31 females, to carry out the

RESULTS AND DISCUSSION

Narratives were recorded involving birds relating to the FalconidAcauã (*Herpetotherescachinnans*) and the Owl Rasga-Mortalha (*Tytofurcata*). According to the residents of the community, respectively, the Acauã and the Rasga-Mortalha are animals that when singing foresee drought and bad omen (Table 01).

Table 1. Meaning of the vocalization of Acauã e Rasga-mortalha by the dwellers in FazendaFervente – Ribeira do Amparo/BA

Family/Specie	Local denomination	Ornithoaugurer	Number of citations
Falconidae Herpetotherescachinnans (Linnaeus, 1758)	Acauã	Meteoric	50
		Funeral	14
Tytonidae Tyto furcate (Temminck, 1827)	Rasga- mortalha	Funeral	50

During interviews and informal conversations, when questioned about the feelings towards the Acauã, 14 informants (n = 28%) answered that they are afraid of the singing of the bird since for them the song represents a warning that someone in the family or close relative will die. Furthermore, it was reported that the chant of the Acauã is a harbinger of rain or drought time and that everything will depend on where the bird is, if it is on a green branch, rain, and good harvests. However, if the bird vocalize on a dry twig is a sign that the community is going to suffer a considerable period of drought. For them, the chant of the Acauã may mean foreshadowing of weather changes or bad omen, as highlighted below:

When it sings, after two or three days, the person began To know that someone has died in another place (Respondent 2)

The vocalization of the Acauã on the farm is considered a meteoric or funeral ornitho-augurer, a perception historically described in other studies (MAGALHÃES, 1952; ARAUJO; LUCENA; MOURÃO, 2005; ALMEIDA; FRACHIN; MARÇAL, 2006; GALVAGNE-LOSS; COSTA-NETO; FLORES, 2013), since the vocalizations of these birds have the power to foresee events related to weather and climate or death. The meteoric ornitho-augurer refers to the harbinger of

changes in weather and climate. When it foreshadows death, the ornitho-augureris calledfuneral (MARQUES, 1998). Many people interpret the vocalization of birds as the prelude of unfortunate events. In the specific case of the meteoric ornithoaugur, this relationship occurs because some species are influenced by climatic factors, mainly of humidity. In this way, the ethno-knowledge of the residents of the farm corresponds to the knowledge of the scientific literature (SICK, 1997). Sick (1997) and Marques (1998) report that it is common to find individuals in the Brazilian rural communities who hold a high degree of knowledge about ornithological expertise. In FazendaFerventeit was possible to follow Mr. V. (79 years old), identified as a native specialist, that person who is selfrecognized by the community residents as culturally competent (MARQUES, 1999), and during the period of the research it was possible to experience the ethno-knowledge that it has about the environment, whether in relation to fauna or the flora of the region,

Acauã is a bird that everyone knows as a cauã; it speaks like a parrot. It talks in the woods, and we see. So here's the thing: when it sings on a twig of a dry stick, it's dry, it calls the drought, signaling there's going to be a significant drought. But if it sings on a twig of a green wood branch, it calls the rain. We have this belief that is often true

(Respondent 1)

The record of these reports in the speech of the young people of the community proves that the beliefs about the two species recorded are passed from generation to generation through orality and evidences the importance of the cultural heritage of this knowledge to the community. Concerning the kinetic activities, none of the participants make use of the animal or any byproduct of it, since, for them, both the Acauã and the RASGA-shroud are not birds used in human food.

> They never killed Cauã. They do not even seem to see or kill them. What do they want? They won't eat, they can't eat them. It happens to the little herons, those little herons that live in a flock. They feed on ticks, and they're disgusting.

> > (Respondent 2)

In virtue of the superstitions involving the owls, such birds are rarely used as food by humans (COSTA-NETO, 1999; SANTOS et al., 2015). Galvagne-Loss, Costa-Neto, and Flores (2013), recorded in the town of PedraBranca, in the region of Santa Terezinha, state of Bahia, it does not occur the persecution and slaughter of species linked to the ornithoaugurer category, especially when it is related to funeral ornitho-augurer. Studies record narratives of bad omen related to Acauã, such as that of Cascudo (2012), describe a disease called Pegada de Acauã, a nervous disease in which the patient suffers a great sadness, headache, cold sweat and delusion. It arises from a semi-metallic state in which he lies and shouts out the name of the bird, imitating its onomatopoeic chant. The regional music of the Northeast also records the impressions of the people about the Acauã. The verses of ZéDantas (1952) describe the symbolism that the bird has for the man of the backlands because it represents the relationship of the bird with the drought,

Acauã, Acauã vive cantando Durante o tempo do verão

Nosilêncio das tardes agourando Chamando a seca pro sertão Chamando a seca pro sertão Acauã, Acauã Teu canto é penoso e faz medo Te cala Acauã Que é pra chuva voltarcedo Oue é pra chuva voltar cedo Toda noite no sertão Canta o João Corta-Pau A coruja, mãe da lua A peitica e o Bacurau Na alegria do inverno Canta sapo, gia e rã Mas natristeza da seca Só se ouve Acauã Só se ouve Acauã Acauã.....

Acauã... (Zé Dantas, 1952)

The singing of birds is quite respected among the inhabitants of the FazendaFervente, because it is, from the symbologythat each bird represents, that the man of the field prepares to cultivate his lands with the rain that will fall into the hinterland. The process of seeking meteorological indications in environmental signals is part of the adaptive processes of the men of backland to the adversities that the Caatinga imposes on them, so, especially the elderly, are attentive to these signs to initiate their Agricultural activities, such as maize and bean planting (LUCENA et al., 2005). Besides the Acaua another bird cited by the inhabitants of the FazendaFervente was the American barn owl, aka as Rasga-Mortaia. When questioned about the owl, 50 participants (n=100%) reported that the singing of the bird is a harbinger of death and whenever it passes through the community, shortly afterward a resident of the neighborhood or some family member residing in another district dies. Previous studies conducted in other Brazilian states (Nordi et al., 2001) Corroborate the perception of the inhabitants of the Fervente farm. The knowledge of ornitho-augurers follows the paths traversed by the cultural heritage, being demonstrated by the residents as recorded in the reports below,

Since I was a little boy, I listened to my mother and grandmother say that when the Rasga-Mortaia (American barn owl) sings a person will die. Near or far from here, but that's someone of our people died.

(Respondent 3)

There is a bird called Rasga-Mortaia, and when it follows singing, the people say: Rasga-Mortaia through here and from here to tomorrow dies people. So it is hard not to kill, wherever it is, this was the science of the older people. Moreover, the people who are younger also have this almost for a certainty.

(Respondent 4)

When Rasga-mortaia comes through here, believe in God Father, I'm scared to death because every life he's spent, people have died around here.

(Respondent 5)

Specie	Vulgar name	Beliefs	References
Nothura maculosa	Cordiniz (Spottednothura)	Bird that foreshadows rain.	Araujo, Lucena, Mourão (2005); Galvagne-Loss,
(Temminck, 1815) Gallusgallus	Galo (Redjunglefowl)	When sings out of season it	Costa-Neto and Flores (2013); Marques (2002) Galvagne-Loss, Costa-Neto and Flores (2013),
(Linnaeus, 1758)	Suro (reagangioro mi)	foreshadows death.	Marques (2002)
Nystalusmaculatus	Fura-barreiro (Caatinga puff-bird)	Bird that foreshadows rain.	Araújo, Lucena, Mourão (2005); Galvagne-Loss,
(Gmelin, 1788)			Costa-Neto and Flores (2013); Marques (2002)
Leptotilaverreauxi	Juriti (White-tippeddove)	Bird that foreshadows rain.	Araújo, Lucena, Mourão (2005); Galvagne-Loss,
(Bonaparte, 1855)			Costa-Neto and Flores (2013); Marques (2002)
Nyctibius griséus	Mãe-da-lua (Common poteo)	Bird that foreshadows rain.	Araújo, Lucena, Mourão (2005); Galvagne-Loss,
(Gmelin, 1789 (Costa-Neto and Flores (2013); Marques (2002)
Turdusrufiventris	Sabiá (Rufous-belliedthrush)	Bird that foreshadows rain.	Araújo, Lucena, Mourão (2005); Galvagne-Loss,
(Viellot, 1818)			Costa-Neto and Flores (2013); Margues (2002)

Table 2. Birds related to weather, climate and death events (meteoric and death ornitho-augurers)

Authors who investigate the widespread knowledge recorded the popular belief that the tear-shroud at Flying over a house or landing on its roof, announces the death of someone who lives there (Cascudo, 2001; MARQUES, 1998). In Brazil, specifically in the semiarid region, besides the Acauã and the Rasga-mortalha, other birds are cited in popular culture related to beliefs involving time or death, as shown in Table 02. According to the list of the endangered species released by ICMBio (2014), threatened with extinction in Brazil, elaborated by ICMBio (2014), both the Laughing Falcon (Herpetotherescachinnans) and the American barn owl (Tytofurcata) are out of threat of extinction, as it falls under the status of conservation in the category (LC) characterized as low risk, being considered abundant species and widely distributed in Brazil.

Final Considerations: The ethno-ornithological knowledge of the residents of Fazenda Fervente about the Laughing Falcon and the American barn Owl evidence that these birds are not eliminated by the residents, either because the Falcon foretells good weather or bad weather, or the Owl whose song presages death, fear of the meaning of the vocalization they emit. Thus, it was not obtained during this research, records of persecution and slaughter of these species, since the residents prefer to keep a distance of the birds, for believing them ominous. In addition to this perception, the birds under study are not suitable for human consumption or other purposes. In this sense, the perception of the informants regarding the Falcon and the Owl favors the conservation of the species and their presence in the natural environment, allowing and maintaining the ecological processes related to the niche and habitat of these birds.

REFERENCES

- ALBUQUERQUE, U. P., Cruz da Cunha, L. V. F., Lucena, R. F. P., Alves, R. R. N. (eds.). Methods and Techniques in Ethnobiology and Ethnoecology. Springer Protocols Handbooks, 2014.
- ALMEIDA, S. M.; FRACHIN A. G and MARÇAL, O. J. Estudoetnoornitológico no distrito rural de Florestina, município de Araguari, região do TriânguloMineiro, Minas Gerais. Sitientibus Série CiênciasBiológicas, 6:26-36, 2006.Available in: http://www2.uefs.br/revistabiologia/pg6_ne.html. Access in: 16 feb. 2019.
- ALVES R. R. N.; FARIAS-LIMA, J. R. and ARAÚJO, H. F. P. The live bird trade in Brazil and its conservation implications: an overview. Bird Conservation International,

- 23:53–65, 2013. Available in: https://www.cambridge.org/core/journals/bird-conservation-international/article/live-bird-trade-in-brazil-and-its-conservation-implications-anoverview/31F71BEEEF88DCD9C938B333C4200DC1. Doi:10.1017/S095927091200010X.Access in: 02 mar. 2019.
- ALVES R. R. N.; GONÇALVES, M. B. R. and VIEIRA W. L. S. Caça, uso e conservação de vertebrados no semiáridoBrasileiro. Tropical Conservation Science, 5:394-416, 2012b.Available in: https://tropicalconservationscience.mongabay.com/content/v5/TCS-2012_sep_394-416_Alves_et_al.pdf. Access in: 01 feb. 2019.
- ALVES, R. R. N. Relationships between fauna ndpeaple and the role of ethnozoology in animal conservation. Etnobiologyna Conservation, 1: 1-69, 2012a. Available in: http://ethnobioconservation.com/index.php/ebc/article/view/20. Access in: 01 march 2019.
- ALVES, R. R. N.; MENDONÇA, L. E. T.; CONFESSOR, M. V. A.; VIEIRA, W. L. S. and LOPEZ, L. C. S. Hunting strategies used in the semi-arid region of northeastern Brazil. *Journal of Ethnobiology and Ethnomedic*ine, 5:1-16. 2009. Available in: https://ethnobiomed.biomedcentral.com/articles/10.1186/1746-4269-5-12. Access in: 18 jan. 2019.
- ALVES, R. R. N.; NOGUEIRA, E. E. G.; ARAUJO, H. F. P. and BROOKS, S. E. Birdkeeping in the Caatinga, NE Brasil. Human Ecology, 38:147-156. 2010.Available in: https://link.springer.com/article/10.1007/s10745-009-9295-5. Access in: 01 feb.2019.
- AMARAL, C. N.; GUARIM-NETO, G. Osquintaiscomoespaços de conservação e cultivo de alimentos: um estudonacidade de Rosário Oeste (Mato Grosso, Brasil). Bol. Mus. Para. Emílio Goeldi. Ciências Humanas, 3 (3): 329-341, 2008.Available in: http://www.scielo.br/pdf/bgoeldi/v3n3/v3n3a04.pdf. Access in: 10 jan. 2019.
- ARAÚJO, H. F. P.; LUCENA, R. F. P.; MOURÃO, J. S. Pescadores de chuvaspelasavesnapercepção de moradores de comunidadesrurais no município de Soledade-PB, Brasil. Interciência, 30 (12): 764-769, 2005. Available in: http://www.scielo.org.ve/scielo.php?script=sci_arttext&pid =S0378-18442005001200008. Access in: 16 jan. 2019.
- ARAUJO, H. F. P.; NISHIDA, A. K. Conhecimentos de Pescadores artesanaissobre a avifauna emestuários paraibanos: umacontribuição para a conservação. Sitientibus, 7: 67-77, 2007. Available in: http://www2.uefs.br/revistabiologia/pg7 n1.html. Access in: 04 jan. 2019.
- BAILEY, K. Methods of social research. New York: The Free Press. 1994.

- BEZERRA, D. M. M. et al. Birds and people in semiarid northeastern Brazil: symbolic and medicinal relationships. *Journal of Ethnobiology and Ethnomedicine*, 9 (3): 1-14, 2013. Available in: https://ethnobiomed.biomedcentral. com/articles/10.1186/1746-4269-9-3. Access in: 20 feb. 2019.
- BEZERRA, D. M. M. S. Q.; ALVES, R. R. N. and ARAUJO, H. F. P. Captura de aves no semiáridobrasileiro: técnicascinegéticas e implicações para conservação. Tropical Conservation Science, 5(1): 50-66, 2012. Available in: https://tropicalconservationscience. mongabay.com/content/v5/TCS-2012_mar_50-66_Mariz. pdf. Access in: 04 feb.2019.
- BRITO, M. A.; COELHO, M. F. B. Osquintais agroflorestaisemregiõestropicaisunidades auto sustentáveis. *Revista Agricultura Tropical*, 1(4): 7-38, 2000. Available in: https://pt.scribd.com/document/6756981/01-Os-Quintais-Agroflorestais-Em-RegiOes-Tropicais-unidades-Auto-sustentAveis. Access in: 16 feb. 2019.
- LBUQUERQUE, U. P. *et al.* Natural Products from Ethnodirected Studies: Revisiting the Ethnobiology of the Zombie Poison. New York: Available in: Evidence-Based Complementary and Alternative Medicine, 2012: 1-19, 2012.https://www.hindawi.com/journals/ecam/2012/20250 8/.Access in: 20 jan. 2019.
- MARQUES, J. G. W. O sinal das aves. Uma tipologiasugestiva para uma tnoecologia com bases semióticas. In: ALBUQUERQUE, U. P., ALVES, A.G.C., SILVA, A.C.B.L. and SILVA, V.A. (org). Atualidadesemetnobiologia etnoecologia. Recife: e Nupeea/ Sociedade Brasileira de Etnobiologia Etnoecologia, p.87-96. 2002.
- MELLO, L. C. Antropologia Cultural. Iniciação, teoria e temas. Petrópolis: Vozes, 1996.
- NORDI, N.; CAVALLINI, M.; MADI, F.; MONTENEGRO, S. C. S.; MOURÃO, J. S., and THÉ, A. P. G. Etnoecologia, Educação Ambiental e Desenvolvimento Sustentável. In: SANTOS, J. E. and SATO, M. (Orgs.) A contribuição da EducaçãoAmbiental à Esperança de Pandora. São Carlos, Brasil. pp. 133-144, 2001.
- PASSARINHANDO. Acauã (Herpetotherescachinnans, Linnaeus, 1758). Available in: http://passarinhando.com.br/index.php/component/k2/item/680-acaua-herpetotherescachinnans. Access in: 16 march 2019.
- PASSARINHANDO. The Owl (*Tytofurcate*, Temminck, 1827). Available in: http://passarinhando.com.br/index.php/component/k2/item/680-acaua-herpetotherescachinnans. Access in: 16 march 2019.
- SANTOS, A. A.; SANTOS, C. A. B.; SANTOS, E. M. Crenças e percepçõessobreb Philodryasolferssi (Lichtenstein, 1823), em Ribeira do Amparo, sertão da

- Bahia. Revista Ibero-Americana de Ciências Ambientais RICA, 7(3): p.16-26, 2016. Available in: https://sustenere.co/journals/index.php/rica/article/view/SPC2179-6858.2016.003.0002. DOI: http://doi.org/10.6008/SPC2179-6858.2016.003.0002. Access in: 16. dec. 2018.
- SANTOS, C. A. B. and ALVES, R. R. N. Ethnoichthyology of the indigenous Truká people, Northeast Brazil. *Journal Ethnobiology and Ethnomedicine*, 2016. 12:1. 2016. Available in: https://ethnobiomed.biomedcentral.com/articles/10.1186/s13002-015-0076-5. Access in: 16. dec. 2018. Doi:10.1186/s13002-015-0076-5.
- SANTOS, C. A. B. Esboçohistórico do uso de animaispelospovosindígenas no nordestebrasileiro. In. SILVA, H. E.; SANTOS, C. A. B.; OLIVEIRA, E. G. S. and COSTA-NETO, E. M. Históriaambiental e históriaindígena no semiáridobrasileiro. Editora UEFS, Feira de Santana, 2015.
- SANTOS, C. A. B., FLORÊNCIO, R. R.; SILVA, F. S.; SANTOS, M. A. B. Do mauagouro à arte: a coruja no imaginário popular. Revista de Educação do IDEAU, 10(22): 1-14, 2015. Available in: https://www.ideau.com.br/getulio/restrito/upload/revistasartigos/281_1.pdf. Access in: 16 feb. 2019.
- SANTOS, C. A. B.; ALBUQUERQUE, U. P.; SOUTO, W. M. S. and ALVES, R. R. N. Assessing the Effects of Indigenous Migration on Zootherapeutic Practices in the Semiarid Region of Brazil. PLoSONE 11(1): e0146657. Doi:10.1371/journal.pone.014665, 2016. Available in: https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0146657. Access in: 08. dec. 2018.
- SANTOS, E. Histórias, Lendas e Folclore de NossosBichos. Rio de Janeiro: Editora: Tecnoprint LTDA, 1967.
- SANTOS, K. S. S. and SANTOS, C. A. B. Ethnoichthyology of artisanal fishers from nossasenhora Island in the lower middle part of the São Francisco river, *International Journal of Development Research*, 8, (10), 23456-2346, 2018. Available in: https://www.journalijdr.com/ethnoichthyology-artisanal-fishers-nossa-senhora-island-lower-middle-part-sao-francisco-river. Access in: 20dec. 2018.
- SCHUNCK, F. Birds of the Lower Middle São Francisco River. Revista Brasileira de Ornitologia, 20(3), 350-364, 2012. Available in: http://fabioschunck.com.br/site/wp-content/uploads/2016/06/11_Schunck-et-al.-2012.pdf. Access in: 05 jan. 2019.
- SICK, H. Ornitologiabrasileira. Nova Fronteira, Rio de Janeiro, 1997.