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## The relationship between Bororo Indigenous and the birds in the Brazilian Savannah

**Fabio Rossano Dario**

Ethnobiological Researcher, Instituto de Pesquisas e Estudos da Vida Silvestre  
Rua Leonardo Mota, 66 - São Paulo-SP, ZIP 05586-090, Brazil

E-mail address: [fabiorossano@hotmail.com](mailto:fabiorossano@hotmail.com)

Phone: +5511981541925

### ABSTRACT

The objective of this study accomplished a knowledge survey of the Bororo indigenous on the birds of natural occurrence in their territory, Meruri village, who is located in the Mato Grosso State, Brazil, in the Savannah biome, and also the relationship of the indigenous with these birds. As the method for collect, the data were used open and semi-structured interviews. Twenty-two indigenous were interviewed, both genres and different ages. The interviewees mentioned 96 species of birds and they showed wide ecological knowledge regarding these birds. Such relationships are complex, being evidenced by a mythical interaction between the man and the elements of nature. These birds are important elements in the creation of stories, legends, in the Bororo ceremonies and arts. The oral transmission of knowledge occurs across generations.

**Keywords:** birds, ethnobiology, ecology, indigenous, Bororo, Brazilian Savannah

### 1. INTRODUCTION

Traditional ecological knowledge is a system of knowledge that reflects the adaptation of human populations to their environment. Ethnobiology is the scientific study of dynamic relationships among peoples, biota, and environments. As a multidisciplinary field, ethnobiology integrates archaeology, geography, systematics, population biology, ecology, cultural anthropology, ethnography, pharmacology, nutrition, conservation, and sustainable development [1]. The diversity of perspectives in ethnobiology allows us to examine complex, dynamic interactions between human and natural systems [2].

The main purpose of this study was to carry out a survey of the knowledge that Bororo indigenous have about the birds of natural occurrence in their territory, located in the Savannah of the Mato Grosso State, in Brazil. A broader conception of non-formal ornithological knowledge of different societies may help formal observers to value local or popular knowledge and relativize the utilitarian and nominal view [3].

It is estimated that the Bororo indigenous have been living in this Center-West Region of Brazil for at least 7,000 years. Available historical sources inform that the initial contact of the Bororo with non-indigenous goes back to the 17th Century. Although today the Bororo possesses a discontinuous, deteriorated territory, the vigor of their culture and their political autonomy have been weapons against the predatory effects of their contact with 'the white man', which has been ongoing for at least 300 years [4].

According to the ethnographies studies on the Bororo Indians in Mato Grosso, Brazil [5], realized by Salesian priests, mainly by Antonio Colbacchini and written between 1920 and 1930, in their social organization, the Bororo are divided into two large groups: the *Tugarege* and the *Ecerae*. In addition to this general division, other clan subdivisions constitute family groups in a matrilineal way. In the complex Bororo social organization, individuals are classified according to their clan, their lineage, and their residential group. Descent among the Bororo is matrilineal; thus the newborn receives a name that will identify him/her to his/her mother's clan. However, although that is the ideal norm of conduct, in practice this may be manipulated to satisfy other interests [6].

The Bororo economic system is characterized by a combination of the activities of gathering, hunting, fishing and agriculture [7]. The Bororo are still expert hunters and fishermen, despite the increasing scarcity of animals caused by the environmental imbalances brought about by agricultural and livestock activities in the regions where they live.

The Brazilian Savannah (Cerrado biome), where the Bororo live, is the second-largest biome in Brazil, represented ca. 22% of the Brazilian land surface, and includes most of central Brazil and parts of northeastern Paraguay and eastern Bolivia [8], and covers about 2 million km<sup>2</sup>, an area similar to the one occupied by Western Europe. The Cerrado is the most diverse tropical savannah [9], and its landscape presents also a great variation with several vegetation physiognomies, from open areas with large fields up to a close and dry forest with trees reaching 10 to 12m tall, the "Cerradão"; the Cerrado sensu stricto composed mainly by shrubs and small trees; and "Veredas" or the palm tree wetlands [10]. The rainfall variability strongly influences the composition of the Cerrado vegetation, whose herbaceous component is during the dry season dead or dormant until the next wet season [11].

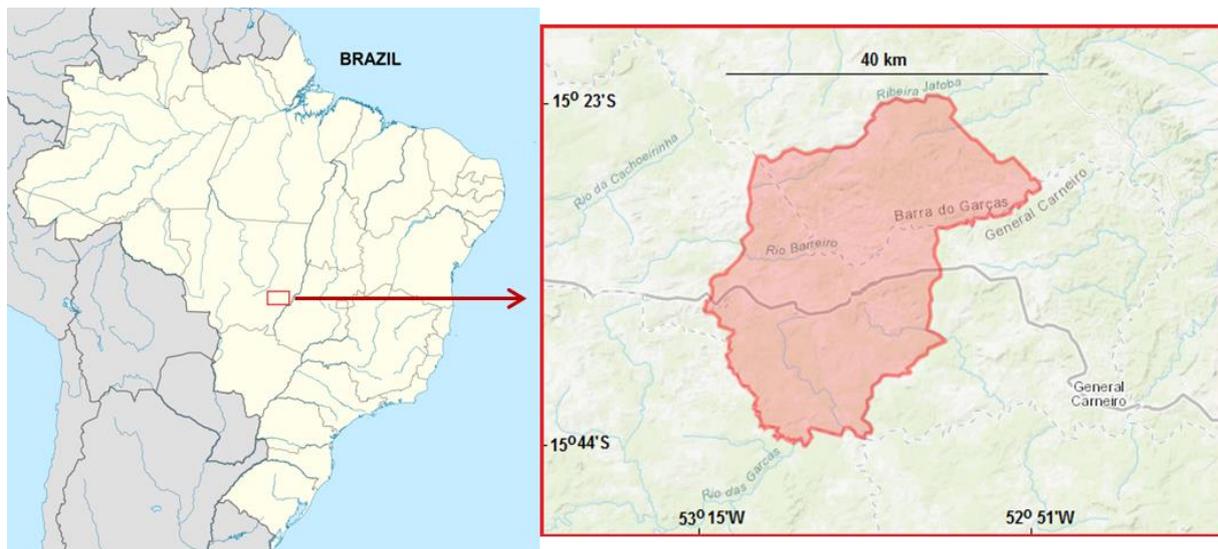
The Cerrado is a biome rich in bird species, accounting for about 50% of the total number of bird species in Brazil (856 species) [12], of which 30 species are endemic, and of these, 11.8% are threatened [13]. Among the many factors thought to contribute to the high bird species richness in the Neotropics is the high diversity of habitat and microhabitat types, some of which are unique to tropical [14, 15] regions.

The approach used in this study was qualitative because the data were obtained through semi-structured interviews, with open dialogues to obtain descriptive data from reports of the target audience [16]. Qualitative interviews have long been an essential research method. In the qualitative paradigm, interviews are often seen as one of the best ways to "enter into the other person's perspective" [17]. The basis for this work, with the qualitative methodology, covers a socio-affective construction of knowledge since this knowledge is an integral part of the history and reality of the interviewees.

The objective of the qualitative approach is the level of perceptions and feelings, in constant interaction with the ecological elements, of the meanings, reasons, aspirations, attitudes, beliefs, and values expressed in common language and everyday life, seeking to deepen in the complexity of the phenomena.

## 2. MATERIALS AND METHODS

The studies were carried out in the Meruri village, Bororo Indigenous Territory, from 18 to 30 August 2010. The studied territory is located in Mato Grosso State, Brazil (Figure 1). It is inserted in part of the municipalities of Barra do Garças and General Carneiro. It lies between 15°23'S to 15°44'S latitude and 52°51'W to 53°13'W longitude, covering an area of 823 km<sup>2</sup>.



**Figure 1.** Localization of the Bororo Indigenous Territory studied.

The Meruri village is located on the Garças River basin, in the Savannah biome. The Savannah biome is a complex of phytophysionomies, a complex of formations, which represents a gradient of ecologically related biomes, reason enough to consider this complex as a biological unit [18].

At the edge of the main waterways in Bororo territory, such as Garças River, there is a gallery forest. It is a mixture of vegetation of species adapted to temporary flooding, and other species characteristic of the semi-deciduous forest [19]. The understory vegetation is variable, being dense in some places and resembling large gaps with sparse and few shrubs [20].

As a method for collect, the data were used open and semi-structured interviews. Twenty-two indigenous were interviewed, with both genres and different ages, all residents of the Meruri village. According to the sense accomplished in this study, the Meruri village had 425 indigenous in August 2010. The Bororo of the Meruri village is named *Bóku Mógorége* (savannah dwellers). The interviewees were chosen through the own indigenous' indications, based on the knowledge of these people on birds. However, not only those who possess such

knowledge were interviewed, such as hunters and extractives who spend much of their time in a foray into the forest.

In addition to the interviews, there were informal testimonies, individual and group dialogues, with the description of the bird's species and their confirmation with the use of a booklet elaborated with colorful drawings of birds species of natural occurrence in the region. Through walks along with the Savannah and along the border of the Rio das Garças riparian forest, always accompanied by the Indigenous, several species of birds could be identified and confirmed or visually or by vestiges such as nests and bird feathers falling on the forest floor.

The basis of this approach, with the qualitative methodology, encompasses a socio-affective construction of knowledge since such knowledge is an integral part of the history and reality of the subjects

The names of the birds in the Bororo language were confirmed through consultations in the Bororo Encyclopedia kindly made available from the collection of Bororo culture in the Meruri village. In this Encyclopedia, there is a dense ethnographic description of paramount importance to researchers in all areas. The Bororo Encyclopedia was written by the Salesian missionaries Angelo Venturelli and Cesare Albisetti in 1962.

Bororo handicrafts, such as bracelets and headdresses made of bird feathers, present at the "Documentation Center and Permanent Exhibition of Adornments and Handicrafts" of the Meruri village were kindly made available for consultation and photographic documentation. The term used by the Bororo to designate their original language is *Boe Wadáru*. Linguists classified it as isolated and possibly linked to the *Otuké* branch. Later a new paradigm simplified the classification of Indian languages, grouping them according to certain similarities, and the Bororo language was placed in the Macro-Jê linguistic branch [21]. According to National Indian Foundation (FUNAI), which is the Brazilian governmental protection agency for indigenous interests and their culture, nowadays the Bororo language is spoken by almost the entire Bororo population that is estimated at around 1,400 people. Thus nowadays in all Bororo villages, the majority of the population speaks Portuguese and Bororo. In daily life, the language used is Bororo, with neologisms assimilated from regional Portuguese, which is used only in inter-ethnic contacts.

### **3. RESULTS AND DISCUSSION**

The indigenous interviewees mentioned 96 species of birds with natural occurrences in their territory (Table 1) and they showed wide ecological knowledge regarding these birds. The knowledge of the abundance of the avifauna among the Bororo is surprising not only for the great number of bird species identified for the indigenous but also in the high degree of these people's observation, to the point of they indicate taxonomic details that individualize species taxonomically similar.

In this case, we can mention the different species of tinamous, guans and curassows, macaws, parrots and parakeets, toucans, hummingbirds, tyrant flycatchers, doves and thrushes that were identified in the interviews, a lot of times through small taxonomic details.

Among the species identified by the Bororo the most important are the ones used in the indigenous feather art, as the macaws (*Ara macao* and *Ara ararauna*), parrots (*Pionus menstruus*, *Amazona amazonica*, and *Amazona aestiva*), toucans and aracarís (*Ramphastos toco* and *Pteroglossus castanotis*), curassows (*Penelope superciliaris* and *Crax fasciolata*), tinamous

(*Crypturellus parvirostris* and *Crypturellus undulatus*), herons (*Ardea alba* and *Egretta thula*) and hawks (*Herpetotheres cachinnans* and *Caracara plancus*). The Bororo use the feathers mainly in the confection of bracelets and headdresses. They also use toucans' beaks to make handicrafts.

The Bororo are very fond of using the yellow feathers of the aracari *Pteroglossus castanotis* for making bracelets, and the long feathers of the macaws' tail for making headdresses (blue feathers from *Ara ararauna* and red feathers from *Ara macao*). *Ara ararauna* is the most common macaw in the Bororo territory, and *Ara macao* is a species of macaw very rare in the indigenous territory, but it is the most appreciated bird by the Bororo.

Some of these birds are raised in the Meruri village. The raising of wild birds in Brazil is a habit that comes from the indigenous populations, who also incorporate avifaunistic elements in their legends, myths, superstitions, songs, rituals, and rock drawings. Therefore, the Bororo use birds for pets, keeping them as *xerimbabos*, a word of indigenous origin (Tupi-Guarani), which means "my dear thing".

The macaws hunted and used as *xerimbabo* (wild animal raised as a pet), are created by the indigenous people since these birds provide not only feathers that are used in ornaments but also comfort for the souls of the dead Bororo, through metempsychosis (passing of the soul at death into another body either human or animal) [22].

The Bororo believe in reincarnation after death. When a person dies, his/her soul, which the Bororo call *aroe*, moves into the body of certain animals. The Bororo art using feathers is a tribute to death; the most significant ornaments are mainly made for ornamenting funerals. It may sound like a paradox, but it is precisely through the funeral that Bororo society reaffirms the vitality of its cultural life [6].

The subsistence hunting for Bororo is directed to some of these birds, as the Undulated Tinamou (*Crypturellus undulatus*), Small-billed Tinamou (*Crypturellus parvirostris*), Rusty-margined Guan (*Penelope superciliaris*), Bare-faced Curassow (*Crax fasciolata*), Ruddy Ground-Dove (*Columbina talpacoti*), Scaled Dove (*Columbina squamata*), White-tipped Dove (*Leptotila verreauxi*), Greater Rhea (*Rhea americana*) and Red-legged Seriema (*Cariama cristata*). However, according to the Bororo, the meat of the Greater Rhea and the Red-legged Seriema has to be blessed. The populations of these birds' species seem not to be affected for the activities of subsistence hunting that it is sustainably realized by Bororo.

Formerly, most of Bororo believed that was necessary to bless the meat of certain animals by the *bári* (shaman). The last *bári* died in the 1990s and even without the "benzedor" (shaman healer), some people started to eat these meats. Even today, the daily life of the Bororo includes, in a lesser intensity, the interaction with the spiritual world, with the souls of the dead and other spiritual entities playing important roles in the social life of the indigenous community and their interaction with nature. According to studies realized by anthropologist Lévi-Strauss [23, 24], the *báris* occupied a central role in the community, and they belonged neither to the physical world nor to the social world, and whose role was to mediate the two kingdoms.

The *báris* knew the souls and bless the forbidden foods, as certain types of hunting, considered a food of the *Bópe*, who is the spiritual entity later associated with the devil due to the influence of the Christianity in the Bororo's territories. The *báris* blessed the meat of these hunted animals so the *Bópe* did not see that the Bororo were eating one of their hunts. The fact that there is no more *bári* has influenced the creation of new ways of relating to food. The Bororo are expert hunters. The hunting strategies used by the indigenous depend on the species of wildlife being chased, the climate, moon phases, and type of vegetation.

The Bororo recognize a wide range of "ecological zones and sub-zones" in the environment that surrounds them, and the most important among them are *Bokú* (Savannah of Central Brazil), *Boe Éna Jaka* (gallery forest - Savannah transition zones) and *Itúra* (gallery forest). Each ecological zone is associated with specific plants, soils, and animals, representing an integrated system of those elements and man. Each zone is also divided into smaller subdivisions, and each division has its importance in the Bororo way of life.

One of the hunting techniques used by the Bororo is known as "waiting". The hunters build a stand near a food source where their target animal species will search for food. This stand is built in the shape of a wooden perch tied with vines between two trees, at a height of two to five meters. The most suitable sites for the construction of the stands are the areas near the streams, where some tree is fruiting.

The Bororo has a lot of knowledge about the ecological importance of the fauna, mainly in the dispersion of seeds of plants that they use in the feeding, as medicines and in the construction of their houses. In this way, as much the hunting as the extractivism of fruits and plants it is rationally realized by Bororo, with little environmental disturbance.

The indigenous knowledge about the ecological interactions between birds and plants travels through generations from older to younger ones in oral transmission. The Myrtaceae is one of the main families of the Brazilian Savannah, both in several species and density of trees and shrubs. Among the main seed dispersers of native species of Myrtaceae in the Savannah (especially the genera *Campomanesia*, *Eugenia*, *Gomidesia*, *Myrcia*, *Myrcianthes*, *Myrciaria*, and *Psidium*), are several species of birds of the Cracidae and Thraupidae families [25].

Other very important plant families for frugivores abundant in the Brazilian Savannah and the Bororo indigenous territory are Annonaceae, Arecaceae, Burseraceae, Fabaceae, Flacourtiaceae, Lauraceae, Lecythidaceae, Malpighiaceae, Melastomataceae, Myristicaceae, Myrsinaceae, Sapindaceae, and Sapotaceae, with species that produce large quantities of seeds dispersed by birds [26-28].

The psittacines (macaws, parrots, and parakeets) are considered more destroyers than dispersers of seeds since they [29] triturate and digest them. However, in removing a large number of fruits from the mother plant, these birds, which live in large flocks, could be making the fruits available to secondary dispersers, like terrestrial birds of the Tinamidae family. Two trees widely cited by the Bororo as producing fruits for macaws were pequi or "souari nut" (*Caryocar brasiliense*) and pau-terra (*Qualea parviflora*), in addition to macaúba palm (*Acrocomia aculeata*) which produces coconuts that are highly appreciated by these parrots.

Fruit-eating animals, often related to seed dispersion, are fundamental for the maintenance of the high diversity of tropical plant species [30, 31], and many of these fruits are important in the Bororo diet. Of the plant species of the Brazilian Savannah, the majority of plant species very important as fruit producers, and are eaten by diverse fauna species.

The Bororo know the songs of many species of birds. Thus, some names of birds in the Bororo language are formed by onomatopoeic words, that is, by imitative sound symbolism, such as *Crypturellus undulatus* (*kuó*), *Momotus momota* (*múdu*), *Herpetotheres cachinnans* (*makáo*). According to some Bororo, the song of the *makáo* is of bad omen in a foreboding sense, ominous. There seems to be no difference in the names of some groups of birds, such as some species of doves, generically called by *metúgu*, just as *piodúdu* is the generic designation for hummingbirds. The use of a common name for certain groups of species seems to originate from aspects related to their morphological characteristics, song, behavior, habitat and the understanding of myths.

It was observed that few people know the names of birds in the Bororo language. The species Southern Caracara (*Caracara plancus*) is called *kága* or *kituiréu* in the Bororo language and there is a taxonomic confusion in the Bororo Encyclopedia (on page 701), where this species is presented as *Milvago chimachima*. The *Milvago chimachima* species, in turn, is called *pía*, according to the visual confirmation of the interviewees Bororo.

**Table 1.** Species of birds presented by Bororo as of natural occurrence in their territory. Nomenclature, taxonomy, Portuguese, Bororo and English names.

<b>ORDER</b> <b>Family</b> Taxon names	<b>Portuguese name</b>	<b>Bororo name</b> <b>(ethnospecies)</b>	<b>English name</b>
<b>RHEIFORMES</b>			
<b>Rheidae</b>			
<i>Rhea americana</i>	Ema	<i>Pári</i>	Greater Rhea
<b>TINAMIFORMES</b>			
<b>Tinamidae</b>			
<i>Crypturellus undulatus</i>	Jaó	<i>Kúo</i>	Undulated Tinamou
<i>Crypturellus parvirostris</i>	Inambu-chororó	<i>Riwódo</i>	Small-billed Tinamou
<b>ANSERIFORMES</b>			
<b>Anatidae</b>			
<i>Cairina moschata</i>	Pato-do-mato	<i>Turubári</i>	Muscovy Duck
<b>GALLIFORMES</b>			
<b>Cracidae</b>			
<i>Penelope superciliaris</i>	Pacupemba	<i>Parigógo</i>	Rusty-margined Guan
<i>Crax fasciolata</i>	Mutum-de-penacho	<i>Kúje</i>	Bare-faced Curassow
<b>SULIFORMES</b>			
<b>Phalacrocoracidae</b>			
<i>Nannopterum brasilianus</i>	Biguá	<i>Batacáje</i>	Neotropic Cormorant

<b>PELECANIFORMES</b>			
<b>Ardeidae</b>			
<i>Tigrisoma lineatum</i>	Socó-boi	<i>Ó kujaguréu</i>	Rufescent Tiger-Heron
<i>Bubulcus ibis</i>	Garça-vaqueira	-	Cattle Egret
<i>Ardea alba</i>	Garça-branca	<i>Báce</i>	Great Egret
<i>Egretta thula</i>	Garça-branca-pequena	-	Snowy Egret
<b>CATHARTIFORMES</b>			
<b>Cathartidae</b>			
<i>Cathartes aura</i>	Urubu-de-cabeça-vermelha	-	Turkey Vulture
<i>Coragyps atratus</i>	Urubu	<i>Bái</i>	Black Vulture
<i>Sarcoramphus papa</i>	Urubu-rei	<i>Bái tororéu</i>	King Vulture
<b>ACCIPITRIFORMES</b>			
<b>Accipitridae</b>			
<i>Elanoides forficatus</i>	Gavião-tesoura	<i>Uwarinogo</i>	Swallow-tailed Kite
<i>Gampsonyx swainsonii</i>	Gaviãozinho	-	Pearl Kite
<i>Rupornis magnirostris</i>	Gavião-carijó	-	Roadside Hawk
<i>Geranoaetus albicaudatus</i>	Gavião-de-rabo-branco	-	White-tailed Hawk
<b>GRUIFORMES</b>			
<b>Rallidae</b>			
<i>Aramides cajaneus</i>	Saracura-três-potes	-	Gray-necked Wood-Rail
<b>CHARADRIIFORMES</b>			
<b>Charadriidae</b>			
<i>Vanellus chilensis</i>	Quero-quero	<i>Tano</i>	Southern Lapwing
<b>Jacaniidae</b>			
<i>Jacana jacana</i>	Jaçanã	<i>Pegepége</i>	Wattled Jacana

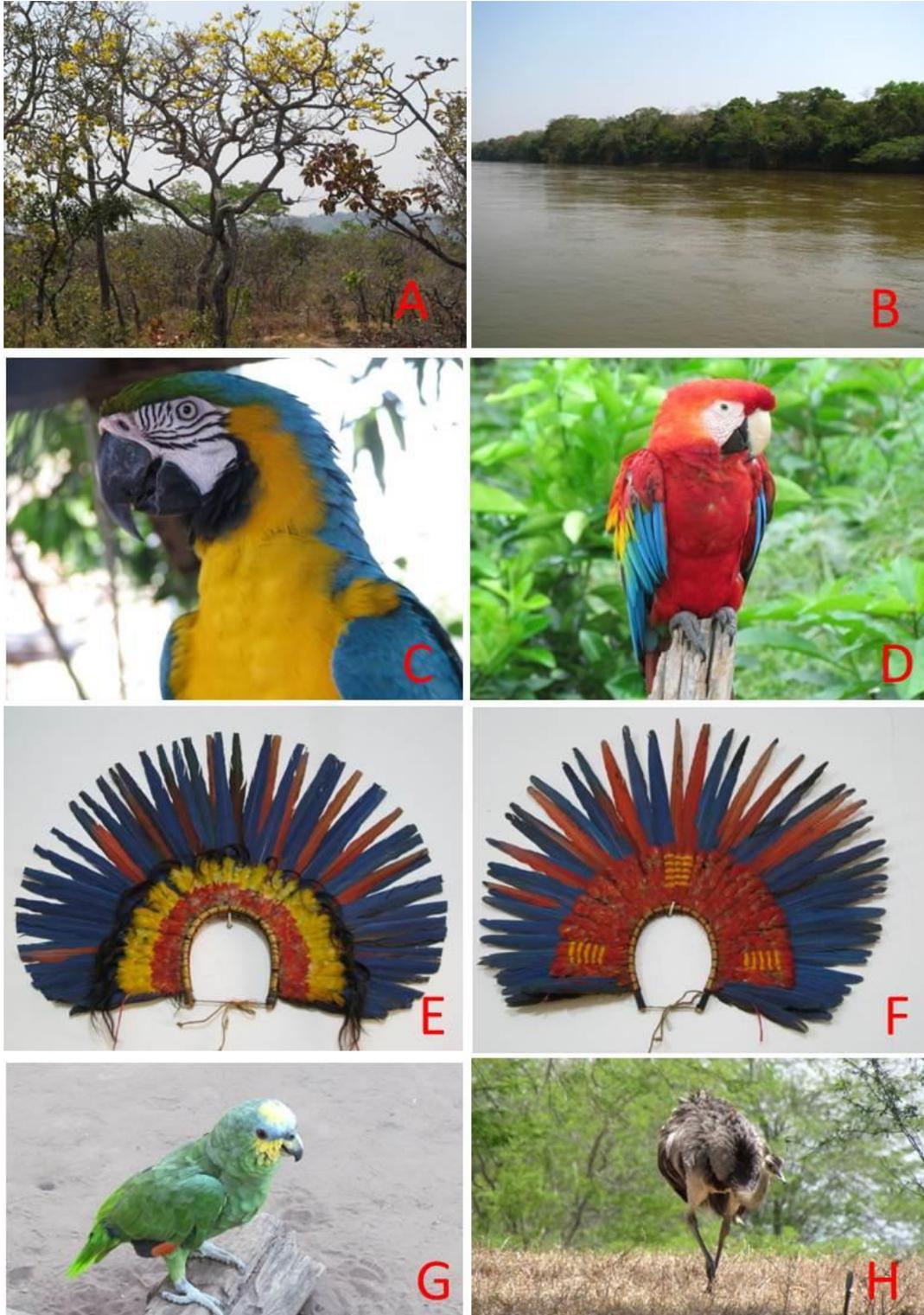
<b>COLUMBIFORMES</b>			
<b>Columbidae</b>			
<i>Columbina talpacoti</i>	Rolinha	<i>Metúgu girigiri</i>	Ruddy Ground-Dove
<i>Columbina squammata</i>	Fogo-apagou	<i>Metúgu</i>	Scaled Dove
<i>Zenaida auriculata</i>	Avoante	<i>Metúgu</i>	Eared Dove
<i>Leptotila verreauxi</i>	Juriti-pupu	<i>Metúgu oiága jéke kigádu</i>	White-tipped Dove
<b>CUCULIFORMES</b>			
<b>Cuculidae</b>			
<i>Piaya cayana</i>	Alma-de-gato	-	Squirrel Cuckoo
<i>Crotophaga ani</i>	Anu-preto	<i>Ori</i>	Smooth-billed Ani
<i>Guira guira</i>	Anu-branco	<i>Bika</i>	Guira Cuckoo
<b>STRIGIFORMES</b>			
<b>Tytonidae</b>			
<i>Tyto furcata</i>	Suindara	-	American Barn Owl
<b>Strigidae</b>			
<i>Athene cunicularia</i>	Coruja-buraqueira	-	Burrowing Owl
<b>NYCTIBIIFORMES</b>			
<b>Nyctibiidae</b>			
<i>Nyctibius grandis</i>	Urutau-grande	<i>Aere</i>	Great Potoo
<b>CAPRIMULGIFORMES</b>			
<b>Caprimulgidae</b>			
<i>Antrostomus rufus</i>	João-corta-pau	<i>Turúru</i>	Rufous Nightjar
<i>Nyctidromus albicollis</i>	Bacurau	<i>Mokureábo</i>	Common Pauraque
<b>APODIFORMES</b>			
<b>Trochilidae</b>			

<i>Eupetomena macroura</i>	Beija-flor-tesoura	<i>Piodúdu</i>	Swallow-tailed Hummingbird
<b>TROGONIFORMES</b>			
Trogonidae			
<i>Trogon curucui</i>	Surucuá-de-barriga-vermelha	<i>Apiábo</i>	Blue-crowned Trogon
<b>CORACIIFORMES</b>			
<b>Alcedinidae</b>			
<i>Megaceryle torquata</i>	Martim-pescador-grande	<i>Kadómo</i>	Ringed Kingfisher
<i>Chloroceryle americana</i>	Martim-pescador-pequeno	-	Green Kingfisher
<b>Momotidae</b>			
<i>Momotus momota</i>	Udu	<i>Múdu</i>	Amazonian Motmot
<b>GALBULIFORMES</b>			
<b>Galbulidae</b>			
<i>Galbula ruficauda</i>	Ariramba	-	Rufous-tailed Jacamar
<b>PICIFORMES</b>			
<b>Ramphastidae</b>			
<i>Ramphastos toco</i>	Tucanuçu	<i>Apódo</i>	Toco Toucan
<i>Pteroglossus castanotis</i>	Araçari-castanho	<i>Cugui</i>	Chestnut-eared Aracari
<b>Picidae</b>			
<i>Melanerpes candidus</i>	Pica-pau-branco	<i>Enári ao kigaduréu</i>	White Woodpecker
<i>Colaptes campestris</i>	Pica-pau-do-campo	-	Campo Flicker
<i>Dryocopus lineatus</i>	Pica-pau-de-banda-branca	-	Lineated Woodpecker
<b>CARIAMIFORMES</b>			
<b>Cariamidae</b>			
<i>Cariama cristata</i>	Seriema	<i>Béo</i>	Red-legged Seriema

<b>FALCONIFORMES</b>			
<b>Falconidae</b>			
<i>Caracara plancus</i>	Carcará	<i>Kága</i>	Southern Caracara
<i>Milvago chimachima</i>	Carrapateiro	<i>Pía</i>	Yellow-headed Caracara
<i>Herpetotheres cachinnans</i>	Acauã	<i>Makáo</i>	Laughing Falcon
<i>Falco sparverius</i>	Quiriquiri	-	American Kestrel
<b>PSITTACIFORMES</b>			
<b>Psittacidae</b>			
<i>Ara ararauna</i>	Arara-canindé	<i>Kuído</i>	Blue-and-yellow Macaw
<i>Ara macao</i>	Araracanga	<i>Nabúre</i>	Scarlet Macaw
<i>Diopsittaca nobilis</i>	Maracanã-pequena	-	Red-shouldered Macaw
<i>Eupsittula aurea</i>	Periquito-rei	-	Peach-fronted Parakeet
<i>Forpus xanthopterygius</i>	Tuim	<i>Kídoe</i>	Blue-winged Parrotlet
<i>Pionus menstruus</i>	Maitaca-de-cabeça-azul	-	Blue-headed Parrot
<i>Amazona amazonica</i>	Curica	<i>Kuritága</i>	Orange-winged Parrot
<i>Amazona aestiva</i>	Papagaio	<i>Réko</i>	Turquoise-fronted Parrot
<b>PASSERIFORMES</b>			
<b>Thamnophilidae</b>			
<i>Thamnophilus palliatus</i>	Choca-listrada	<i>Kaokáo</i>	Chestnut-backed Antshrike
<i>Thamnophilus punctatus</i>	Choca-bate-cabo	<i>Pecugúia</i>	Northern Slaty-Antshrike
<b>Dendrocolaptidae</b>			
<i>Sittasomus griseicapillus</i>	Arapaçu-verde	-	Olivaceous Woodcreeper
<b>Furnariidae</b>			
<i>Furnarius leucopus</i>	Casaca-de-couro-amarelo	-	Pale-legged Hornero

<i>Furnarius rufus</i>	João-de-barro	-	Rufous Hornero
<b>Tyrannidae</b>			
<i>Camptostoma obsoletum</i>	Risadinha	-	Southern Beardless-Tyrannulet
<i>Elaenia cristata</i>	Guaracava-de-topete-uniforme	-	Plain-crested Elaenia
<i>Myiarchus ferox</i>	Maria-cavaleira	-	Short-crested Flycatcher
<i>Pitangus sulphuratus</i>	Bem-te-vi	-	Great Kiskadee
<i>Megarhynchus pintangua</i>	Neinei	-	Boat-billed Flycatcher
<i>Tyrannus melancholicus</i>	Suiriri	-	Tropical Kingbird
<i>Tyrannus savana</i>	Tesourinha	-	Fork-tailed Flycatcher
<i>Colonia colonus</i>	Viuvinha	-	Long-tailed Tyrant
<i>Myiophobus fasciatus</i>	Filipe	-	Bran-colored Flycatcher
<i>Fluvicola nengeta</i>	Lavadeira-mascarada	-	Masked Water-Tyrant
<i>Xolmis velatus</i>	Noivinha-branca	-	White-rumped Monjita
<b>Vireonidae</b>			
<i>Cyclarhis gujanensis</i>	Pitiguari	-	Rufous-browed Peppershrike
<b>Corvidae</b>			
<i>Cyanocorax cristatellus</i>	Gralha-do-campo	-	Curl-crested Jay
<b>Hirundinidae</b>			
<i>Pygochelidon cyanoleuca</i>	Andorinha-pequena-de-casa	-	Blue-and-white Swallow
<i>Progne tapera</i>	Andorinha-do-campo	-	Brown-chested Martin
<i>Progne chalybea</i>	Andorinha-grande	<i>Piróje poguriwo</i>	Gray-breasted Martin
<b>Troglodytidae</b>			
<i>Troglodytes musculus</i>	Corruíra	-	Southern House Wren

<b>Turdidae</b>			
<i>Turdus rufiventris</i>	Sabiá-laranjeira	-	Rufous-bellied Thrush
<i>Turdus amaurochalinus</i>	Sabiá-poca	<i>Barukuruciri</i>	Creamy-bellied Thrush
<b>Mimidae</b>			
<i>Mimus saturninus</i>	Sabiá-do-campo	-	Chalk-browed Mockingbird
<b>Passerellidae</b>			
<i>Zonotrichia capensis</i>	Tico-tico	<i>Tuitúí</i>	Rufous-collared Sparrow
<i>Ammodramus humeralis</i>	Tico-tico-do-campo	-	Grassland Sparrow
<b>Icteridae</b>			
<i>Psarocolius decumanus</i>	Japu	-	Crested Oropendola
<i>Cacicus cela</i>	Xexéu	-	Yellow-rumped Cacique
<i>Gnorimopsar chopi</i>	Pássaro-preto	<i>Ciogoko</i>	Chopi Blackbird
<i>Molothrus bonariensis</i>	Chupim	<i>Maridógwa arége koréu</i>	Shiny Cowbird
<b>Thraupidae</b>			
<i>Tangara sayaca</i>	Sanhaço-cinzento	-	Sayaca Tanager
<i>Tangara palmarum</i>	Sanhaço-do-coqueiro	-	Palm Tanager
<i>Tangara cayana</i>	Sáira-amarela	-	Burnished-buff Tanager
<i>Volatinia jacarina</i>	Tiziu	-	Blue-black Grassquit
<i>Ramphocelus carbo</i>	Pipira-vermelha	-	Silver-beaked Tanager
<i>Coereba flaveola</i>	Cambacica	-	Bananaquit
<i>Sporophila lineola</i>	Bigodinho	-	Lined Seedeater
<b>Fringillidae</b>			
<i>Euphonia violacea</i>	Gaturamo	-	Violaceous Euphonia



**Figure 2.** (A) Brazilian Savannah, highlighting the yellow flowers of the Golden Trumpet Tree (*Handroanthus chrysotrichus*), (B) Ciliary Forest that follows the Garças River, (C) Blue-and-yellow Macaw (*Ara ararauna*), (D) Scarlet Macaw (*Ara macao*), (E) Headdress made with macaw and aracari feathers (yellow to red feathers), belonging to the subclan *Bokodori ecerae*,

(E) Headdress made with macaw feathers, belonging to the subclan *Iwagudu*, (G) *Amazona aestiva*, and one of the most common Brazilian parrots kept in captivity as a pet or companion parrot, (H) Greater Rhea, a species of a flightless bird which is common in the Brazilian Savannah

#### **4. CONCLUSIONS**

The Bororo community studied demonstrated great knowledge about the birds existing in its territory, the Meruri Indigenous Land, with details and morphological and ecosystemic perception of a great diversity of species. This set of information occupies an important space within the indigenous group. The knowledge of these species of birds can use a wide range of morphological, ecological, ethological and acoustic criteria. The relationships established between the Bororo with the environment in which they live are complex, showing a mythical interaction between man and the elements of nature.

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