

EARTHWATCH INSTITUTE FIELD REPORT 2006

Project Title: Birds of the Pantanal

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Research Site: Fazenda Santa Emília, Pantanal, Rio Negro, Mato Grosso do Sul, Brazil

Key Research Objectives: Species richness, Species abundance, Habitat Diversity, Seasonality, Dynamics of Birds' community, Migratory species, Conservation

Data collection and Results:

In 2006 I made an expedition to the Fazenda Santa Emília in the county of Rio Negro, Mato Grosso do Sul. The expedition was designed to gather new data on avian species as part of a broader project to preserve wildlife in the southern portion of the Pantanal. The following tasks were performed in the Fazenda Santa Emília: 1) surveys of birds in a range of habitats; 2) estimation of indices (diversity, evenness, and similarity, among others); 3) reporting on the status of bird species in different areas and habitats, with special emphasis on migratory species and those endangered in any way (e.g. by direct or indirect anthropomorphic actions, e.g. habitat destruction, cattle impacts, etc.).

We (two volunteers and I) counted 120 species.

1. Introduction and Objectives:

The Pantanal is perhaps one of the least known regions of the globe. Scientific information is surprisingly scarce, according to Por (1995), who highlights vertebrates in a review of the literature on the Pantanal's wildlife. Probably nowhere in the world can such diverse bird life be so easily observed in such impressive populations as in the Pantanal (Por 1995).

Naumburg (1930) was one of the pioneers in describing birds of the Pantanal, followed by Mitchell (1957), and Silva & Oniky (1988). Cintra & Yamashita (1990) went a step further and described the habitats, distribution, and abundance of bird species in the northern Pantanal. Brown (1986) analyzed the distribution and biogeographical affinities of over 650 bird species in the Pantanal. More recently, Dubs (1992) presented a catalogue of birds

from southwestern Brazil and bordering regions. However, an analysis of the diversity and dynamics of bird species in the Pantanal region is still lacking.

The overall objective of this study is to provide information related to the community structure of birds and to identify environmental threats that directly or indirectly affect these communities. In addition, we hope to share results from this study with landowners and other community members to illustrate the importance of the Pantanal in terms of its unique pattern of wildlife diversity.

Some specific questions we are investigating include:

1. To what degree are bird assemblages distinct in specific habitats?
2. Are differences between wet and dry season assemblages greater in extreme environments like grasslands?
3. Are frugivorous species more diverse in the wet season when fruit availability is greater? and
4. Are migratory peaks species-specific, or are there general patterns related to seasonal fluctuations and habitat characteristics?

Objectives:

- document the abundance and distribution of bird species among habitats in the Fazenda Santa Emília ,
- investigate the effects of habitat change on bird communities at Fazenda Santa Emília and on neighbouring *fazendas*,
- identify threats to particular species (with special emphasis on migratory and endangered species) and habitats and propose effective conservation actions.

2. Methods:

Research Site: Fazenda Santa Emília, county of Rio Negro, 170 Km northeast from Campo Grande. It is part of Uniderp private university in the Mato Grosso do Sul State. Fazenda Santa Emília has a total area of about 2,000 ha and mainly three distinct habitats: cerrado, baías and river Correntoso, a small river that crosses the property.

Bird species movements and dispersal depend on the structure and size of landscape components. In order to identify and census the species of birds that occur in particular habitats, we used two current ornithological methods. I used the linear transect method (LTM). Described by Bibby *et al.* (1993), this method was applied in open habitats, including those that are and are not subjected to flooding. These habitats are easier to reach by boat, car, or by foot and do not present significant obstacles to field work. These open habitats allow us to keep moving, so it is possible to cover larger areas per time than with other

methods. Using this procedure, we were able to: a) calculate relative densities of bird species in the habitats censured, and make comparisons among habitats; b) provide wide-scale monitoring of birds in different habitats; c) make status assessments of birds in the different habitats; and d) describe the influence of habitat change on bird communities.

3. Results:

The results are shown in two distinct tables: (1) Table 1 shows the total number of species and individuals registered in the Baías and cerrado habitats; (2) Table 2 shows all species registered at Rio Correntoso.

TABLE 1 – Bird species registered during November 2006 expedition in the fazenda Santa Emília, Pantanal. Habitat: Baías and Cerrado. NI: number of individuals

Families in Taxonomic order	SPECIES	NI
TINAMIDAE - TINAMOUS	<i>Crypturellus undulatus</i>	12
PHALACROCORACIDAE	<i>Phalacrocorax brasilianus</i>	1
ARDEIDAE – HERONS, BITTERNs	<i>Syrigma sibilatrix</i>	2
ARDEIDAE – HERONS, BITTERNs	<i>Ardea cocoi</i>	1
ARDEIDAE – HERONS, BITTERNs	<i>Ardea alba</i>	5
ARDEIDAE – HERONS, BITTERNs	<i>Butorides striatus</i>	5
ARDEIDAE – HERONS, BITTERNs	<i>Tigrisoma lineatum</i>	5
CICCONIIDAE – STORKS	<i>Jabiru mycteria</i>	3
TRESKIORNITHIDAE – IBISES	<i>Theristicus caudatus</i>	1
TRESKIORNITHIDAE – IBISES	<i>Mesembrinibis cayennensis</i>	1
TRESKIORNITHIDAE – IBISES	<i>Platalea ajaja</i>	2
ANATIDAE – DUCKS	<i>Dendrocygna viduata</i>	2
ANATIDAE – DUCKS	<i>Dendrocygna autumnalis</i>	8
ANATIDAE – DUCKS	<i>Cairina moschata</i>	9
ANHIMIDAE – SCREAMERS	<i>Chauna torquata</i>	7
CATHARTIDAE – NW VULTURES	<i>Coragyps atratus</i>	3
CATHARTIDAE – NW VULTURES	<i>Cathartes aura</i>	2
ACCIPITRIDAE – HAWKS,EAGLES	<i>Heterospizias meridionalis</i>	2
ACCIPITRIDAE – HAWKS,EAGLES	<i>Busarellus nigricollis</i>	3
ACCIPITRIDAE – HAWKS,EAGLES	<i>Buteo magnirostris</i>	2
FALCONIDAE – FALCONS	<i>Polyborus plancus</i>	3
FALCONIDAE – FALCONS	<i>Herpetotheres cachinnans</i>	1
CRACIDAE – CURASSOWS,GUANS	<i>Ortalis canicollis</i>	2
ARAMIDAE – LIMPKIN	<i>Aramus guarauna</i>	3
RALLIDAE – RAILS,COOTS	<i>Aramides cajanea</i>	3
JACANIDAE – JACANAS	<i>Jacana jacana</i>	61
CHARADRIIDAE – PLOVERS	<i>Vanellus chilensis</i>	8
COLUMBIDAE – PIGEONS,DOVES	<i>Columba cayennensis</i>	1
COLUMBIDAE – PIGEONS,DOVES	<i>Scardafella squammata</i>	2
COLUMBIDAE – PIGEONS,DOVES	<i>Leptotila verreauxi</i>	4
COLUMBIDAE – PIGEONS,DOVES	<i>Leptotilla rufaxilla</i>	4
PSITTACIDAE – PARROTS	<i>Anodorhynchus hyacinthinus</i> *	4
PSITTACIDAE – PARROTS	<i>Ara chloroptera</i>	2
PSITTACIDAE – PARROTS	<i>Ara auricollis</i>	2
PSITTACIDAE – PARROTS	<i>Aratinga aurea</i>	3
PSITTACIDAE – PARROTS	<i>Amazona aestiva</i>	6
CUCULIDAE – CUCKOOS	<i>Crotophaga ani</i>	2
TROCHILIDAE – HUMMINGBIRDS	<i>Hylocharis chrysura</i>	1
TROGONIDAE – TROGONS	<i>Trogon curucui</i>	1

ALCEDINIDAE – KINGFISHERS	<i>Ceryle torquata</i>	2
RAMPHASTIDAE – TOUCANS	<i>Pteroglossus castanotis</i>	1
RAMPHASTIDAE – TOUCANS	<i>Ramphastos toco</i>	2
PICIDAE – WOODPECKERS	<i>Picumnus minutissimus</i>	1
PICIDAE – WOODPECKERS	<i>Veniliornis passerinus</i>	2
DENDROCOLAPTIDAE	<i>Campylorhamphus trochilirostris</i>	1
FURNARIIDAE – OVENBIRDS	<i>Furnarius rufus</i>	2
FURNARIIDAE – OVENBIRDS	<i>Pseudoseisura cristata</i>	2
FORMICARIIDAE – ANTBIRDS	<i>Taraba major</i>	1
TYRANNIDAE – FLYCATCHERS	<i>Hemitriccus margaritaceiventer</i>	2
TYRANNIDAE – FLYCATCHERS	<i>Arundinicola leucocephala</i>	1
TYRANNIDAE – FLYCATCHERS	<i>Myiarchus ferox</i>	2
TYRANNIDAE – FLYCATCHERS	<i>Pitangus sulphuratus</i>	8
TYRANNIDAE – FLYCATCHERS	<i>Tityra cayana</i>	2
CORVIDAE - JAYS	<i>Cyanocorax cyanomelas</i>	12
CORVIDAE - JAYS	<i>Cyanocorax chrysops</i>	2
TROGLODYTIDAE – WRENS	<i>Campylorhynchus turdinus</i>	4
TROGLODYTIDAE – WRENS	<i>Donacobius atricapillus</i>	1
TURDIDAE – THRUSHES	<i>Turdus rufiventris</i>	1
ICTERIDAE – NW BLACKBIRDS	<i>Agelaius cyanopus</i>	26
ICTERIDAE – NW BLACKBIRDS	<i>Gnorimopsar chopi</i>	9
ICTERIDAE – NW BLACKBIRDS	<i>Scaphidura oryzivora</i>	7
ICTERIDAE – NW BLACKBIRDS	<i>Psarocolius decumanus</i>	2
THRAUPIDAE – TANAGERS	<i>Conisrostrum speciosum</i>	2
FRINGILLIDAE – FINCHES	<i>Paroaria capitata</i>	6
FRINGILLIDAE – FINCHES	<i>Sporophila caerulescens</i>	1
FRINGILLIDAE – FINCHES	<i>Ammodramus humeralis</i>	1

TABLE 2 – Bird species registered during November 2006 expedition in the fazenda Santa Emília, Pantanal. Habitat: River . NI: number of individuals

Families in Taxonomic order	SPECIES	NI
TINAMIDAE - TINAMOUS	<i>Crypturellus undulatus</i>	14
PHALACROCORACIDAE	<i>Phalacrocorax brasilianus</i>	3
ANHINGIDAE - DARTERS	<i>Anhinga anhinga</i>	12
ARDEIDAE - HERONS, BITTERNs	<i>Ardea cocoi</i>	4
ARDEIDAE - HERONS, BITTERNs	<i>Ardea alba</i>	5
ARDEIDAE - HERONS, BITTERNs	<i>Bubulcus ibis</i>	19
ARDEIDAE - HERONS, BITTERNs	<i>Egretta thula</i>	1
ARDEIDAE - HERONS, BITTERNs	<i>Butorides striatus</i>	12
ARDEIDAE - HERONS, BITTERNs	<i>Tigrisoma lineatum</i>	2
CICCONIIDAE - STORKS	<i>Mycteria americana</i>	2
CICCONIIDAE - STORKS	<i>Jabiru mycteria</i>	6
TRESKIORNITHIDAE - IBISES	<i>Theristicus caerulescens</i>	1
TRESKIORNITHIDAE - IBISES	<i>Theristicus caudatus</i>	3
TRESKIORNITHIDAE - IBISES	<i>Platalea ajaja</i>	1
ANATIDAE - DUCKS	<i>Dendrocygna autumnalis</i>	14
ANHIMIDAE - SCREAMERS	<i>Chauna torquata</i>	2
ACCIPITRIDAE - HAWKS,EAGLES	<i>Busarellus nigricollis</i>	4
FALCONIDAE - FALCONS	<i>Polyborus plancus</i>	1
FALCONIDAE - FALCONS	<i>Milvago chimachima</i>	3
CRACIDAE - CURASSOWS,GUANS	<i>Crax fasciolata</i>	4
CRACIDAE - CURASSOWS,GUANS	<i>Ortalis canicollis</i>	32
CRACIDAE - CURASSOWS,GUANS	<i>Aburria pipile</i>	3
RALLIDAE - RAILS,COOTS	<i>Aramides cajanea</i>	2
JACANIDAE - JACANAS	<i>Jacana jacana</i>	13

CHARADRIIDAE - PLOVERS	<i>Vanellus chilensis</i>	2
COLUMBIDAE - PIGEONS,DOVES	<i>Columba picazuro</i>	5
COLUMBIDAE - PIGEONS,DOVES	<i>Columba cayennensis</i>	15
COLUMBIDAE - PIGEONS,DOVES	<i>Columbina talpacoti</i>	16
COLUMBIDAE - PIGEONS,DOVES	<i>Leptotila verreauxi</i>	15
COLUMBIDAE - PIGEONS,DOVES	<i>Leptotilla rufaxilla</i>	1
PSITTACIDAE - PARROTS	<i>Ara ararauna</i>	9
PSITTACIDAE - PARROTS	<i>Pionus maximiliani</i>	2
PSITTACIDAE - PARROTS	<i>Amazona aestiva</i>	6
CUCULIDAE - CUCKOOS	<i>Piaya cayana</i>	1
CUCULIDAE - CUCKOOS	<i>Crotophaga major</i>	46
CUCULIDAE - CUCKOOS	<i>Crotophaga ani</i>	6
CUCULIDAE - CUCKOOS	<i>Tapera naevia</i>	2
TROGONIDAE - TROGONS	<i>Trogon curucui</i>	5
ALCEDINIDAE - KINGFISHERS	<i>Ceryle torquata</i>	4
ALCEDINIDAE - KINGFISHERS	<i>Chloroceryle amazona</i>	7
ALCEDINIDAE - KINGFISHERS	<i>Chloroceryle indae</i>	2
MOMOTIDAE - MOTMOTS	<i>Momotus momota</i>	2
GALBULIDAE - JACAMARS	<i>Galbula ruficauda</i>	2
PICIDAE - WOODPECKERS	<i>Celeus lugubris</i>	8
DENDROCOLAPTIDAE	<i>Campylorhamphus trochilirostris</i>	7
FURNARIIDAE - OVENBIRDS	<i>Furnarius leucopus</i>	15
FURNARIIDAE - OVENBIRDS	<i>Furnarius rufus</i>	1
FURNARIIDAE - OVENBIRDS	<i>Synallaxis gujanensis</i>	1
FURNARIIDAE - OVENBIRDS	<i>Pseudoseisura cristata</i>	5
FORMICARIIDAE - ANTBIRDS	<i>Taraba major</i>	4
TYRANNIDAE - FLYCATCHERS	<i>Myiarchus ferox</i>	1
TYRANNIDAE - FLYCATCHERS	<i>Pitangus sulphuratus</i>	27
TYRANNIDAE - FLYCATCHERS	<i>Pitangus lictor</i>	5
CORVIDAE - JAYS	<i>Cyanocorax cyanomelas</i>	7
TROGLODYTIDAE - WRENS	<i>Campylorhynchus turdinus</i>	6
TROGLODYTIDAE - WRENS	<i>Donacobius atricapillus</i>	7
TROGLODYTIDAE - WRENS	<i>Thryothorus leucotis</i>	3
TURDIDAE - THRUSHES	<i>Turdus rufiventris</i>	3
TURDIDAE - THRUSHES	<i>Turdus leucomelas</i>	2
ICTERIDAE - NW BLACKBIRDS	<i>Icterus icterus</i>	10
ICTERIDAE - NW BLACKBIRDS	<i>Cacicus solitarius</i>	5
ICTERIDAE - NW BLACKBIRDS	<i>Psarocolius decumanus</i>	2
THRAUPIDAE - TANAGERS	<i>Ramphocelus carbo</i>	5
FRINGILLIDAE - FINCHES	<i>Saltator coerulescens</i>	17
FRINGILLIDAE - FINCHES	<i>Paroaria capitata</i>	9
TINAMIDAE - TINAMOUS	<i>Crypturellus undulatus</i>	2
PHALACROCORACIDAE	<i>Phalacrocorax brasilianus</i>	18
ANHINGIDAE - DARTERS	<i>Anhinga anhinga</i>	11
ARDEIDAE - HERONS, BITTERNs	<i>Agamia agami</i>	1
ARDEIDAE - HERONS, BITTERNs	<i>Ardea cocoi</i>	7
ARDEIDAE - HERONS, BITTERNs	<i>Ardea alba</i>	5
ARDEIDAE - HERONS, BITTERNs	<i>Bubulcus ibis</i>	4
ARDEIDAE - HERONS, BITTERNs	<i>Butorides striatus</i>	18
ARDEIDAE - HERONS, BITTERNs	<i>Tigrisoma lineatum</i>	11
TRESKIORNITHIDAE - IBISES	<i>Theristicus caerulescens</i>	9
TRESKIORNITHIDAE - IBISES	<i>Theristicus caudatus</i>	8
TRESKIORNITHIDAE - IBISES	<i>Mesembrinibis cayennensis</i>	3
ANHIMIDAE - SCREAMERS	<i>Chauna torquata</i>	34
CATHARTIDAE - NW VULTURES	<i>Coragyps atratus</i>	2
CATHARTIDAE - NW VULTURES	<i>Cathartes aura</i>	2
ACCIPITRIDAE - HAWKS,EAGLES	<i>Busarellus nigricollis</i>	5
ACCIPITRIDAE - HAWKS,EAGLES	<i>Buteo magnirostris</i>	1

FALCONIDAE - FALCONS	<i>Milvago chimachima</i>	1
CRACIDAE - CURASSOWS, GUANS	<i>Aburria pipile</i>	7
ARAMIDAE - LIMPKIN	<i>Aramus guarauna</i>	1
RALLIDAE - RAILS, COOTS	<i>Aramides cajanea</i>	4
RALLIDAE - RAILS, COOTS	<i>Porphyryla flavirostris</i>	1
JACANIDAE - JACANAS	<i>Jacana jacana</i>	58
CHARADRIIDAE - PLOVERS	<i>Vanellus chilensis</i>	4
COLUMBIDAE - PIGEONS, DOVES	<i>Columba cayennensis</i>	2
COLUMBIDAE - PIGEONS, DOVES	<i>Columbina talpacoti</i>	1
COLUMBIDAE - PIGEONS, DOVES	<i>Leptotila verreauxi</i>	4
PSITTACIDAE - PARROTS	<i>Anodorhynchus hyacinthinus *</i>	4
PSITTACIDAE - PARROTS	<i>Ara chloroptera</i>	1
PSITTACIDAE - PARROTS	<i>Ara auricollis</i>	2
PSITTACIDAE - PARROTS	<i>Aratinga aurea</i>	45
CUCULIDAE - CUCKOOS	<i>Crotophaga major</i>	55
CUCULIDAE - CUCKOOS	<i>Crotophaga ani</i>	4
CUCULIDAE - CUCKOOS	<i>Guira guira</i>	4
CUCULIDAE - CUCKOOS	<i>Tapera naevia</i>	3
APODIDAE - SWIFTS	<i>Chaetura andrei</i>	3
ALCEDINIDAE - KINGFISHERS	<i>Ceryle torquata</i>	5
ALCEDINIDAE - KINGFISHERS	<i>Chloroceryle amazona</i>	7
ALCEDINIDAE - KINGFISHERS	<i>Chloroceryle indae</i>	1
PICIDAE - WOODPECKERS	<i>Colaptes melanochloros</i>	1
FURNARIIDAE - OVENBIRDS	<i>Furnarius leucopus</i>	7
FURNARIIDAE - OVENBIRDS	<i>Pseudoseisura cristata</i>	10
TYRANNIDAE - FLYCATCHERS	<i>Pitangus sulphuratus</i>	17
TYRANNIDAE - FLYCATCHERS	<i>Pitangus lictor</i>	13
TROGLODYTIDAE - WRENS	<i>Donacobius atricapillus</i>	8
TURDIDAE - THRUSHES	<i>Turdus rufiventris</i>	7
TURDIDAE - THRUSHES	<i>Turdus leucomelas</i>	1
VIREONIDAE - VIREOS	<i>Cyclarhis gujanensis</i>	1
ICTERIDAE - NW BLACKBIRDS	<i>Agelaius cyanopus</i>	5
ICTERIDAE - NW BLACKBIRDS	<i>Icterus icterus</i>	7
ICTERIDAE - NW BLACKBIRDS	<i>Cacicus solitarius</i>	3
ICTERIDAE - NW BLACKBIRDS	<i>Psarocolius decumanus</i>	2
THRAUPIDAE - TANAGERS	<i>Eucometis penicilata</i>	1
FRINGILLIDAE - FINCHES	<i>Saltator coerulescens</i>	6
FRINGILLIDAE - FINCHES	<i>Paroaria capitata</i>	23
TINAMIDAE - TINAMOUS	<i>Crypturellus undulatus</i>	9
PHALACROCORACIDAE	<i>Phalacrocorax brasilianus</i>	1
ANHINGIDAE - DARTERS	<i>Anhinga anhinga</i>	16
ARDEIDAE - HERONS, BITTERNs	<i>Pilherodius pileatus</i>	1
ARDEIDAE - HERONS, BITTERNs	<i>Ardea cocoi</i>	12
ARDEIDAE - HERONS, BITTERNs	<i>Ardea alba</i>	11
ARDEIDAE - HERONS, BITTERNs	<i>Butorides striatus</i>	13
ARDEIDAE - HERONS, BITTERNs	<i>Nycticorax nycticorax</i>	2
ARDEIDAE - HERONS, BITTERNs	<i>Tigrisoma lineatum</i>	13
CICCONIIDAE - STORKS	<i>Mycteria americana</i>	2
CICCONIIDAE - STORKS	<i>Ciconia maguari</i>	1
CICCONIIDAE - STORKS	<i>Jabiru mycteria</i>	5
TRESKIORNITHIDAE - IBISES	<i>Theristicus caerulescens</i>	1
TRESKIORNITHIDAE - IBISES	<i>Theristicus caudatus</i>	1
TRESKIORNITHIDAE - IBISES	<i>Mesembrinibis cayennensis</i>	1
ANATIDAE - DUCKS	<i>Cairina moschata</i>	5
CATHARTIDAE - NW VULTURES	<i>Coragyps atratus</i>	7
CATHARTIDAE - NW VULTURES	<i>Cathartes aura</i>	2
ACCIPITRIDAE - HAWKS, EAGLES	<i>Busarellus nigricollis</i>	4
FALCONIDAE - FALCONS	<i>Polyborus plancus</i>	2

CRACIDAE - CURASSOWS, GUANS	<i>Crax fasciolata</i>	3
CRACIDAE - CURASSOWS, GUANS	<i>Ortalis canicollis</i>	2
ARAMIDAE - LIMPKIN	<i>Aramus guarauna</i>	3
JACANIDAE - JACANAS	<i>Jacana jacana</i>	15
CHARADRIIDAE - PLOVERS	<i>Vanellus chilensis</i>	10
COLUMBIDAE - PIGEONS, DOVES	<i>Columba picazuro</i>	3
COLUMBIDAE - PIGEONS, DOVES	<i>Columba cayennensis</i>	10
COLUMBIDAE - PIGEONS, DOVES	<i>Leptotila verreauxi</i>	9
PSITTACIDAE - PARROTS	<i>Anodorhynchus hyacinthinus</i> *	2
PSITTACIDAE - PARROTS	<i>Ara chloroptera</i>	8
PSITTACIDAE - PARROTS	<i>Aratinga acuticaudata</i>	7
PSITTACIDAE - PARROTS	<i>Amazona aestiva</i>	6
CUCULIDAE - CUCKOOS	<i>Crotophaga major</i>	34
CUCULIDAE - CUCKOOS	<i>Crotophaga ani</i>	13
CUCULIDAE - CUCKOOS	<i>Tapera naevia</i>	2
ALCEDINIDAE - KINGFISHERS	<i>Ceryle torquata</i>	9
ALCEDINIDAE - KINGFISHERS	<i>Chloroceryle amazona</i>	15
ALCEDINIDAE - KINGFISHERS	<i>Chloroceryle americana</i>	2
RAMPHASTIDAE - TOUCANS	<i>Ramphastos toco</i>	2
PICIDAE - WOODPECKERS	<i>Melanerpes candidus</i>	2
DENDROCOLAPTIDAE	<i>Xiphocolaptes major</i>	2
DENDROCOLAPTIDAE	<i>Campylorhamphus trochilirostris</i>	5
FURNARIIDAE - OVENBIRDS	<i>Furnarius leucopus</i>	15
FURNARIIDAE - OVENBIRDS	<i>Furnarius rufus</i>	1
FURNARIIDAE - OVENBIRDS	<i>Synallaxis gujanensis</i>	3
FURNARIIDAE - OVENBIRDS	<i>Cranioleuca vulpina</i>	2
FURNARIIDAE - OVENBIRDS	<i>Certhiaxis cinnamomea</i>	2
FURNARIIDAE - OVENBIRDS	<i>Pseudoseisura cristata</i>	6
FORMICARIIDAE - ANTBIRDS	<i>Taraba major</i>	8
FORMICARIIDAE - ANTBIRDS	<i>Cercomacra melanaria</i>	3
TYRANNIDAE - FLYCATCHERS	<i>Hemitriccus margaritaceiventer</i>	1
TYRANNIDAE - FLYCATCHERS	<i>Megarynchus pitangua</i>	1
TYRANNIDAE - FLYCATCHERS	<i>Pitangus sulphuratus</i>	6
TYRANNIDAE - FLYCATCHERS	<i>Pitangus lictor</i>	17
TYRANNIDAE - FLYCATCHERS	<i>Tyrannus melancholicus</i>	4
CORVIDAE - JAYS	<i>Cyanocorax cyanomelas</i>	3
TROGLODYTIDAE - WRENS	<i>Campylorhynchus turdinus</i>	4
TROGLODYTIDAE - WRENS	<i>Donacobius atricapillus</i>	18
TURDIDAE - THRUSHES	<i>Turdus rufiventris</i>	4
ICTERIDAE - NW BLACKBIRDS	<i>Agelaius cyanopus</i>	6
ICTERIDAE - NW BLACKBIRDS	<i>Scaphidura oryzivora</i>	1
ICTERIDAE - NW BLACKBIRDS	<i>Icterus cayanensis</i>	1
ICTERIDAE - NW BLACKBIRDS	<i>Icterus icterus</i>	5
ICTERIDAE - NW BLACKBIRDS	<i>Cacicus solitarius</i>	6
ICTERIDAE - NW BLACKBIRDS	<i>Psarocolius decumanus</i>	1
THRAUPIDAE - TANAGERS	<i>Ramphocelus carbo</i>	4
FRINGILLIDAE - FINCHES	<i>Saltator coerulescens</i>	17
FRINGILLIDAE - FINCHES	<i>Paroaria capitata</i>	12

The next steps are (1) to conduct similar surveys on ranches where cattle raising is more extensive; (2) to make more intensive use of banding, and (3) to observe daily variations in the presence of migratory waterfowl all over the *baías*. The key to understanding bird community dynamics in the region is profiling or establishing a reference framework for the environments in which these dynamics take place. The habitats of Fazenda Santa Emília are

not pristine, and those located on neighbouring ranches and in other parts of the Pantanal are subject to human pressures of various kinds. The extent to which human pressures affect wildlife as a whole depends on how we understand the dynamics of wildlife in pristine environments. By understanding these dynamics and specifically the interaction of bird communities (and wildlife in general) with various habitats, it will be possible to infer how human pressure in related environments affects those habitats. In addition, it will be possible to suggest ways of conserving the habitats and resident species through environmental management.

4. Discussion

Engagement:

In this expedition, volunteers performed the following tasks:

- clearing of sites previously selected for mist nets;
- biometric measurement of birds, note-taking, and banding (bands were placed on legs; birds were removed from nets by my assistants and myself);
- recording of bird songs and calls;
- observation of the behavior of the most common and conspicuous species;
- recording of bird observations on field spreadsheets;
- transfer of field data to computer spreadsheets;
- general observations of birds using qualitative methodology;
- locating new sites for bird observation and banding;
- observing and recording nocturnal birds;

Dissemination of results:

- CD voices of the birds of the Pantanal (due May 2007).
- CRI-Pantanal Annual Reports: 2001 to 2005.
- Talk at UNESP Instituto de Biociências in the Botucatu *campus* (audience: lecturers and professors).

5. Partnerships:

UNIDERP – Universidade para o desenvolvimento do Estado Do Mato Grosso do Sul e do Pantanal. www.uniderp.org.

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