IRACAMBI ATLANTIC RAINFOREST RESEARCH AND CONSERVATION CENTER

Status of Birds, 2004

Bryan Wainwright

Rosário da Limeira, MG
2004

The Status of Birds found at Fazenda Iracambi

Bryan P. Wainwright 2004

Introduction

Fazenda Iracambi lies in the state of Minas Gerais south-west Brazil, in a region once covered by the unbroken forest of the Mata Atlantica, which used to stretch all along the east coast of Brazil and in parts for hundreds of miles inland.

Since the first settlement by the Portuguese the Mata Atlantica has been systematically destroyed to make way for various forms of agriculture, principally cattle ranching. Today only around 7.5% of the Mata Atlantica remains in a pristine state, though much more primary forest exists in a degraded state and in many areas where grazing pressure is not too heavy, or where the soils are unproductive much secondary growth forest is emerging.

The native Mata Atlantica was largely tropical broadleaf pre-montane rainforest (below 800-1000m) and broadleaf montane rainforest (above 1000-1200m; the exact altitudinal bands vary from region to region, but are recognizable by the floral composition). At Iracambi elevation varies from between 750m and 1250m.

Over 3200 species of birds are found in South America and in Minas Gerais state, even with such massive devastation there are still a staggering 780 species (IBAMA), many of these birds are forest species, the rest are from Cerrado (open woodland with grass) or Caatinga (dry, semi-desert, mainly xerophilous) habitats. Secondary growth forest is generally known as Capoeira in Brazil. Of these species, 102 are endemic to Brazil and 52 specifically endemic to Mata Atlantica area. These consist of 20 specialist species of pasture, 10 of caatinga, 9 of montane regions and the remaining 13 of lowland forest areas. In Minas Gerais 64 species are threatened in the Americas (Collar *et al*. 1994) with 83 threatened in the state (Fundacao Biodiversitas 1998).

Unfortunately some species of the original forest are unable to adapt or survive the disturbance and degradation of their habitat, and so have become rare or even extinct. Yet more pressure has been placed on many species through hunting for food or profit and these added pressures have finished off more than a few species. One notably example in the bird world is Spix's Macaw *Cyanopsitta spixii*, now extinct in the wild and there are no active captive breeding programs for release to the wild. Some species thought extinct have been rediscovered in the wild and this includes Cherry-throated Tanager *Nemosia rourei* and Kinglet Calyptura *Calyptura cristata* both rediscovered only in the last decade, the former in Espírito Santo, Collar *et al.* 1992) the second in Rio de Janeiro (BirdLife International 2003). Other species that could soon join the extinct list are several species of parrots (Psittacidae), gauns (Cracidae) and tinamous (Tinamidae) and some species of tanager (Thraupinae) such as Seven-coloured Tanager *Tangara fastuosa* which is on the brink. Species that could be expected to be lost from Iracambi in the future would include larger parrots such as Blue-winged Macaw *Propyrrhura maracana* and Scaly-headed Parrot *Pionus maximiliani*, White-necked Hawk *Leucopternis lacernulata*, Bare-throated Bellbird *Procnias nudicollis* and Robust Woodpecker

Campephilus robustus plus other less threatened birds that require good undisturbed secondary or primary forest.

Given that the montane boundary is often considered to be at around 800m in the tropics (Birdlife International 2003, Ridgely 1989) then the fazenda falls within Birdlife International's designated Atlantic Forest Mountains IBA 076, which is in turn encompassed by the Atlantic Forest Lowlands IBA 075. The habitat at the 500ha Fazenda Iracambi is varied, the predominant land use is pasture, of which there are 227ha. There are both lowland and hill pastures, with the lowland pastures being seasonally flooded wet meadows due the natural stream running through them. Around 20ha are used for fodder crops, mainly macadamia. The fazenda´s forests consist approximately 200ha of native forest patches of Capoeira, predominantly between 15 and 25 years old, with one or two areas older than this and there are 53ha of commercial Eucalyptus. There are only small patches of primary forest, these being present only on the highest rocky hilltops and on parts of the High Trail where it was presumably spared to protect the water supply.

The main threats to the forest at Iracambi are external in origin. Global warming may have an effect in the long term, possibly affecting rainfall patterns. Other threats come from mining companies (bauxite in particular), some of whom own rights to extract minerals that pre-date current stricter legislation, and they seem able to carry out operations today on the basis of these regardless of current protection measures in place to protect the surficial biodiversity. Another and more insidious threat is that of species loss due to fragmentation and degradation. Any forest that is fragmented will loose species diversity over time (not just bird species), and it is by nature that the most sensitive and vulnerable species disappear first. For a list of publications and studies done on the effects of habitat fragmentation the following site lists 195 publications and many theses;
www.mnh.si.edu/biodiversity/publcat.htm. To be an outstanding reserve requires Iracambi to protect its most threatened species, and there are many measures that can be implemented to achieve this.

Other than the above threats, the forests at Iracambi seem to be in a favourable position. Although the forest is mainly secondary and fragmented, efforts are being made to improve the situation by joining up fragments by natural regeneration or by the planting of forest corridors. This will not prevent the insipient loss of species that require unbroken and/or largely primary forest, but it should help to slow down further losses and declines of forest species and hopefully even reverse some of them. The reason for the possibility of species re-colonization at Iracambi is feasible because of the large amount of protected land in the area, some of which contains substantial areas of primary forest. Some primary forest adjoins Iracambi from Apa Serra das Aranhas in the High Trail area. This important link should serve as a vital corridor for species to enter Iracambi's regenerating forests.

Birds of Conservation Importance found at Fazenda Iracambi

International designations follow the International Union for Conservation of Nature and Natural Resources (IUCN) Red List Program, which for birds is monitored by Birdlife

International; Red List designation are: E?=probably extinct; EN=endangered; VU=vulnerable; Th=Threatened; NT=near threatened; LC=least concern on. An asterix * indicates an endemic species. In this list the practice of secondary designations (where they exist) is employed. The same letters in second place from the right implies the same designations but at national level. The same letters in third place third place from right implies the same designations but at state level, (Minas Gerais). National and State status follow Fundacao Biodiversitas (1998). IBA=Important Bird Area and refers to restricted range species as defined by Birdlife International.

The 18 threatened Birds of Rosario de Limeira area

White-necked Hawk* VU Th EN	*Leucopternis lacernulata* (gavião-pomba)
Dusky-legged Guan LC Th VU	*Penelope obscura* (jacuguaçu)
Blue-winged Macaw VU -- --	*Ara maracana* (maracanã)
Yellow-browed Woodpecker NT -- --	*Piculus aurulentus* (pica-pau-dourado)
Robust Woodpecker LC LC Th	*Campephilus robustus* (pica-pau-rei)
Ochre-rumped Antbird* NT -- --	*Drymophila ochropyga* (choquinha-de-dorso-vermelho)
Southern Bristle-Tyrant NT -- --	*Phylloscartes eximius*
Bare-throated Bellbird VU -- VU	*Procnias nudicollis* (Arapongo)
Gilt-edged Tanager* LC -- -- IBA 075	*Tangara cyanoventris* (saíra, douradinha)
Brown Tanager* NT -- --	*Orchesticus abeillei*
Blackish-blue Seedeater NT Th VU	*Amaurospiza moesta*
Cinereous Warbling-Finch* VU Th VU	*Poospiza cinerea* (capacetinho-do-oco-do-pau)

The 25 Endemic Birds of Rosario de Limeira area

White-necked Hawk* VU Th EN	*Leucopternis lacernulata* (gavião-pomba)
Plain Parakeet*	*Brotogeris tirica*
Dusky-throated Hermit*	*Phaethornis squalidus* (rabo-branco-miúdo)
Yellow-eared Woodpecker*	*Veniliornis maculifrons* (pica-pauzinho-de-testa-pintada)
Band-tailed Hornero*	*Furnarius figulus* (joão-de-barro-do-brejo)
Pallid Spinetail*	*Cranioleuca pallida* (arredio-pálido)
White-collared Foliage-Gleaner*	*Anabazenops fuscus* (trepador-coleira)
Ferruginous Antbird*	*Drymophila ferruginea* (trovoada)
Ochre-rumped Antbird* NT -- --	*Drymophila ochropyga* (choquinha-de-dorso-vermelho)
Yellow-lored Tody-Flycatcher*	*Todirostrum poliocephalum* (ferreirinho, caga-sebo)
Grey-hooded Attila*	*Attila rufus* (capitão-de-saíra)
Pin-tailed Manakin*	*Ilicura militaris* (tangarazinho)
Rufous-headed Tanager*	*Hemithraupis ruficapilla* (saíra-da-mata)
Brassy-breasted Tanager*	*Tangara desmaresti* (saíra lagarta)
Gilt-edged Tanager* LC -- -- IBA 075	*Tangara cyanoventris* (saíra, douradinha)
Golden-chevroned Tanager*	*Thraupis ornata* (sanhaço-de-encontro-amarelo)
Brazilian Tanager*	*Ramphocelus bresilius* (tié-sangue)
Brown Tanager* NT -- --	*Orchesticus abeillei*
Cinereous Warbling-Finch* VU Th VU	*Poospiza cinerea* (capacetinho-do-oco-do-pau)

There are 25 species of endemic birds found in the Rosario de Limeira area and there are 18 species of birds at various threat levels found at Iracambi. Of these threatened species 9 are listed on the IUCN´s Red List of high international concern (see table). These most threatened species (listed as vulnerable) are the endemic White-necked Hawk, Blue-winged Macaw, Bare-throated Bellbird and Cinereous Warbling-Finch. These species during this study were recorded as follows, White-necked Hawk was occasionally seen in the High Trail area, Blue-winged Macaw seems relatively common both at Iracambi and in other forested parts of the area. Only immature Bare-throated Bellbirds were seen at Iracambi, in December and Cinereous Warbling Finch, with only 1 previous record, was not recorded by this author. The last known sighting of Cinereous Warbling-Finch was during the during the Lam and Wilkening 2001 study, on the High Trail. This Cinereous Warbling-Finch sighting is more than regionally significant, as is a similar earlier sighting (in the 1990's) at Serra do Brigadeiro State Park, since it was in the words of R. Ridgely (1989) "virtually unrecorded in recent years".

A further 5 species are of global concern but are considered at the lower threat level of near threatened, these species are Yellow-browed Woodpecker, Ochre-rumped Antbird, Southern Bristle-Tyrant, Brown Tanager and Blackish-blue Seedeater. Again putting these species into the context of this study, Yellow-browed Woodpecker was seen at the nature reserve area (particularly Graminha area), Ochre-rumped Antbird and Southern Bristle-Tyrant were both additions to the Iracambi list, the former commonly encountered on the High Trail and the latter uncommonly encountered around the Nature Trail-Medicinial-Plants Trail area. Brown Tanager was uncommonly met with on the High Trail and Blackish-blue Seedeater was not seen.

At national level (Brazil) these same species are considered threatened, and at regional level all are considered vulnerable (therefore in other countries there position must be more favourable for them not to be considered globally threatened). Though some, such as Bare-throated Bellbird seems not yet to have been assessed at national level.

Another Red List bird, Dusky-legged Guan *Penelope obscura* is considered of least concern at international level, but vulnerable in Brazil. It may be under many threats and in sharp decline, but as yet is not too rare overall. In Minas Gerais however it has already reached vulnerable status. This species was seen in this and the 2001 studies. Robust Woodpecker *Campephilus robustus* is considered to be only regionally threatened, despite the sensitive nature of the largest woodpeckers to habitat destruction, degradation and especially fragmentation. The two largest woodpeckers in the world have both gone extinct within the last 50 years, namely Imperial *Campephilus imperialis* and Ivory-billed Woodpeckers *Campephilus principalis*. Hopefully the lessons of the past have been learned and the alarm bells will sound soon enough for effective conservation action to be implemented for the remaining large woodpeckers.

Many restricted range species often have small total populations, but can be in a stable condition and this includes Gilt-edged Tanager *Tangara cyanoventris* of the Atlantic Forest Lowlands (IBA 075). It does appear to be fairly numerous at Iracambi, and from

personal observations can tolerate at least partial disturbance or destruction of habitat, as it was observed in both secondary and even Eucalyptus forest on several occasions.

Species of bird on the Minas Gerais threatened List

From the list of threatened birds in Minas Gerais State below, 7 species have been recorded at Iracambi, the six mentioned above on the IUCN Red List and Saffron Finch *Sicalis flaveola* (Fundacao Biodiversitas 1998). This species is actually common around Iracambi and Limeria. There are some (perhaps more, and perhaps by now amended) apparent anomalies with the list. Quite why Black-headed Berryeater *Carpornis melanocephalus* is not on the list is not known.

Greater Rhea	*Rhea amearicana*
Solitary Tinamou	*Tinamus solitarius*
Dwarf Tinamou	*Taoniscus nanus*
Lesser Northura	*Nothura minor*
Variegated Tinamou	*Crypturellus variegatus*
Yellow-legged Tinamou	*Crypturellus noctivagus noctivagus*
Fasciated Tiger-Heron	*Tigrisoma fasciatum*
Jabiru	*Jabiru mycteria*
American Wood-Stork	*Mycteria americana*
Roseate Spoonbill	*Ajaia ajaja*
Brazilian Merganser	*Mergus octosetaceus*
Black Hawk-Eagle	*Spizaetus tyrannus*
Ornate Hawk-Eagle	*Spizaetus ornatus*
Black-and-white Hawk-Eagle	*Spizaetus melanoleucos*
Mantled Hawk	*Leucopternis polionota*
White-necked Hawk	*Leucopternis lacernulata*
Crowned Eagle	*Harpyhaliaetus coronatus*
Harpy Eagle	*Harpia harpyja*
Grey-bellied Hawk	*Accipiter poliogaster*
Orange-breasted Falcon	*Falco deiroleucus*
Black-fronted Piping-Guan	*Pipile jacutinga*
Dusky-legged Guan	*Penelope obscura*
Bare-faced Curassow	*Crax fasciolata*
Red-billed Curassow	*Crax blumenbachii*
Spot-winged Wood-Quail	*Odontophorus capueira*
Violaceous Quail-Dove	*Geotrygon violacea*
Purple-winged Ground-Dove	*Claravis godefrida*
Blue-bellied Parrot	*Triclaria malachitacea*
Black-eared Parrotlet	*Touit melanonota*
Maroon-faced Parakeet	*Pyrrhura leucotis*
Ochre-marked Parakeet	*Pyrrhura cruentata*
Red-capped Parrot	*Pionopsitta pileata*
Red-and-green Macaw	*Ara chloroptera*
Blue-and-yellow Macaw	*Ara ararauna*
Hyacinthine Macaw	*Anodorhynchus hyacinthinus*
Yellow-faced Parrot	*Amazona xanthops*
Vinaceous-breasted Parrot	*Amazona vinacea*
Red-crowned Amazon	*Amazona rhodochoryta*
Rufous-vented Ground-Cuckoo	*Neomorphus geoffroyi*
Long-trained Nightjar	*Macropsalis creagra*
Three-toed Jacamar	*Jacamaralcyon tridactyla*
Saffron Toucanet	*Baillonius bailloni*
Robust Woodpecker	*Campephilus robustus*

Striated Softtail	*Thripophagus macroura*
Great Xenops	*Megaxenops parnaguae*
Campo Miner	*Geobates poecilopterus*
Cipo Canastero	*Asthenes luziae*
Moustached (Snethlage's) Woodcreeper	*Xiphocolaptes falcirostris franciscanus*
Band-tailed Antwren	*Myrmotherula urosticta*
Salvadori's Antwren	*Myrmotherula minor*
Scalloped Antbird	*Myrmeciza ruficauda*
Narrow-billed Antwren	*Formicivora iheringi*
Plumbeous Antvireo	*Dysithamnus plumbeus*
Rufous-tailed Antbird	*Drymophila genei*
White-bearded Antshrike	*Biatas nigropectus*
Variegated Antpitta	*Grallaria varia*
Brasilia Tapaculo	*Scytalopus novacapitalis*
Minas Gerais Tyrannulet	*Phylloscartes roquettei*
Royal Flycatcher	*Onycorhynchus coronatus*
Sharp-tailed Grass-Tyrant	*Culicivora caudacuta*
Cock-tailed Tyrant	*Alectrurus tricolor*
Black-capped Piprites	*Piprites pileatus*
Red-ruffed Fruitcrow	*Pyroderus scutatus*
Bare-throated Bellbird	*Procnias nudicollis*
Swallow-tailed Cotinga	*Phibalura flavirostris*
Cinnamon-vented Piha	*Lipaugus lanioides*
Elegant Mourner	*laniisoma elegans*
Banded Cotinga	*Cotinga maculata*
Hooded Berryeater	*Carpornis cucullatus*
Ochre-breasted Pipit	*Anthus nattereri*
Cherry-throated Tanager	*Nemosia rourei*
Forbe's Blackbird	*Curaeus forbesi*
Dark-throated Seedeater	*Sporophila ruficollis*
Marsh Seedeater	*Sporophila palustris*
Black-bellied Seedeater	*Sporophila melanogaster*
Buffy-fronted Seedeater	*Sporophila frontalis*
Temminck's Seedeater	*Sporophila falcirostris*
Saffron Finch	*Sicalis flaveola*
Great-billed Seed-Finch	*Oryzoborus maximiliani*
Lesser Seed-Finch	*Oryzoborus angolensis*
Cinereous Warbling-Finch	*Poospiza cinerea*
Blackish-blue Seedeater	*Amaurospiza moesta*

Comparison of birds compositions of Iracambi and Serra do Brigadeiro State Park and other parts in the area

The Iracambi bird list stood at 238 species as of November 2004, Brigadeiro's list stands at 237 although this is after a number of considerably lengthy studies. At Iracambi 22 species were added in my study, strongly suggesting many more are yet to be added. The reason for more species being found at Iracambi than Brigadeiro is for the simple reason that there is greater habitat diversity at Iracambi. However number of species, although interesting is not the main measure of worth of a protected area, this is show in the content of the species list, and species densities and in this crucial respect Brigadeiro with its high proportion of native forest should ultimately prove superior.

An overview of Serra do Brigadeiro State Park

Iracambi adjoins Apa Itajuru which then joins the 13,200ha Serra do Brigadeiro State Park at its narrowest and most southerly point, Brigadeiro extends and broadens northwards encompassing a chain of peaks along high ridges. Its habitat is predominantly deciduous pre-montane and montane rainforest. There is little or no pasture and no lowland marsh.

Comparison

Species that could be expected to be found at Iracambi in the future

70 species have been recorded at Serra do Brigadeiro but not at Iracambi (note some species on the Brigadeiro list are only identified to family level particularly flycatchers). 58 species have been recorded at Iracambi but not at Serra do Brigadeiro. A further 6 species have been recorded at Apa Serra das Aranhas but not at Iracambi, four of which have not been recorded at Serra do Brigadeiro either. One of these species surprisingly wasn't already on any area list but is known to occur here as field-guides show, was White-crested Tyrannulet *Serpophaga subcristata*.

Species Range Extensions

The following species, all recorded by more than one fieldworker, all have slight range extension over published material, particularly with reference to Ridgely (1989 and 1994), though with a couple of species these ranges have been altered to fit recent sightings, as in Souza (2002).

Band-tailed Hornero *Furnarius figulus*
Pale-breasted Spinetail *Synallaxis albescens*
Common Thornbird *Phacellodomus rufifrons*
Firewood Gatherer *Anumbius anumbi*
Buff-browed Foliage-Gleaner *Syndactyla rufosuperciliata*
Narrow-billed Woodcreeper *Lepidocolaptes angustirostris*
White-throated Kingbird *Tyrannus albogularis*
Curl-crested Jay *Cyanocorax cristatellus*
Hepatic Tanager *Piranga flava*
Cinereous Warbling-Finch *Poospiza cinerea*

The species above are from several types of habitats, but all are predominately more open area specialists rather than species of areas of continuous forest, only one is a Red List species; Cinereous Warbling-Finch.

One species in this study has been noted at greater altitude than published sources suggest, this is Bare-throated Bellbird, which has an altitude limit known to about 1000m (Ridgely 1989) but was seen consistently at APA Itajuru at and above 1200m.

Screaming Piha *Lipaugus vociferans* was also observed at APA Itajuru, which is probably a slight range extension on published sources (Ridgely 1989) and has not been previously recorded at Iracambi, however within the state park the normal species found is Cinnamon-vented Piha *L. lanioides*. They are not found sympatericly.

Discussion

It is of importance to note that of the 9 Red List species found at Iracambi, some do not have recent records; that is, since the 2001 study. The two without recent records are Cinereous Warbling-Finch and Blackish-Blue Seedeater. The remaining species, with the possible exception of Dusky-legged Guan must be considered rare residents or occasional short-distance visitors; the latter seems more likely given that all the records for all three species are from the extreme west end of Iracambi along the High Trail, which is the only part of the fazenda with primary forest and the only area that adjoins primary forest of Apa Serradas Aranhas.

The fact that only species of more open habitats are expanding their ranges, while species of high forest are almost without exception experiencing range retractions (or at most a stable range and population) is a good indication of the severe plight of the forested areas.

Conservation Action Priorities

The importance of the forest along the High Trail, which contains the only decent sizable patch of primary forest on fazenda Iracambi, cannot be overstated especially since it has the overwhelming advantage of abutting with primary forest of Apa Serradas Aranhas. Species (here referring not only to birds) requiring primary forest if lost from an area are often difficult or impossible to re-establish back in an area at some later time when (and indeed if) secondary forest has grown back. Even fully mature diverse tree species secondary forest is a pale counterpart of even degraded primary forest. It would take many hundreds perhaps thousands of years for diversity in secondary forest to compare with that of primary forest, and in fact it is by no means certain it ever could.

Once primary forest specialists have been lost from an area they may never return, and even assuming they could, there may in fact be no ‘elsewhere’ for them to re-colonize from. Fortunately all but the most specialist of birds can re-colonize good secondary forest, though often they do so at much lower densities than in original primary forest. It is reasonable to assume that with better quality secondary forest (in tree species diversity etc) more species, and more specialist species of bird will be able to colonize. The other important factor is of course the proximity of the source population, and in this respect the High Trail could not be better placed. This one important factor alone; of forest corridors between primary forest and other forest patches, can determine which species will colonize or not. Many forest species will not cross any sizable open area (indeed some species will not cross even a road or river) to reach other forest, regardless of how tempting that forest may be.

Conclusions

From the discussion the overwhelming importance of the High Trail can be seen. More species and more species of conservation concern have been seen here than anywhere else at Iracambi. Clearly to retain and increase these species at Iracambi requires conservation management. This should focus on the work being done with forest corridors, with the main objective being of linking the largest areas of primary forest on the High Trail to other (degraded) primary and secondary forest patches on the fazenda. It makes little conservation sense to concentrate on linking isolated secondary forest

patches at Iracambi with each other, even if these are easier for work access. There would be no net gain from doing so, and all that would be achieved is an increase in the commonest and most adaptable species. The forest corridors should therefore radiate out from the forest of the High Trail forming a continuous link from there over time to the rest of the forest on the fazenda.

Future Bird Research

Continuous input and monitoring to keep the species list and perceived status as accurate and up to date as possible. This is important as this will often give the first signs of a species in decline. Important areas to address include species studies of all threatened and/or endemic birds to determine if viable populations exist at fazenda Iracambi and in surrounding areas. Work with forest corridors could be important for connecting small populations. Studies of habitat use, movements of species through the year (particularly altitudinal migrants from the high peaks of Brigadeiro State Park), night bird studies and many other areas of study (even with common species since many common grassland species are extending their ranges while some once common forest species' ranges contract) would be valuable.

References

BirdLife International (2003) *BirdLife´s online World Bird Database:the site for bird conservation.* Version 2.0. Cambridge, UK: Birdlife International. Available: http://www.birdlife.org (accessed 2004)

Collar *et al*. (1992, 1994) Threatened Birds of the World

Fundacao Biodiversitas (1998) Livro Vermelho das Especies Ameacadas de Extincao da Fauna de Minas Gerais. Belo Horizonte.

Ibama, biodiversitas.org.br

Lam, F.Y. and Wilkening, J. (2001 unpublished) *Birds of Fazenda Iracambi*.

Ridgley, R.S. (1989 and 1994) *The Birds of South America* vol I & II.

www.mnh.si.edu/biodiversity/publcat.htm