BP Conservation Programme

Negros Threatened Avifauna: Final Report

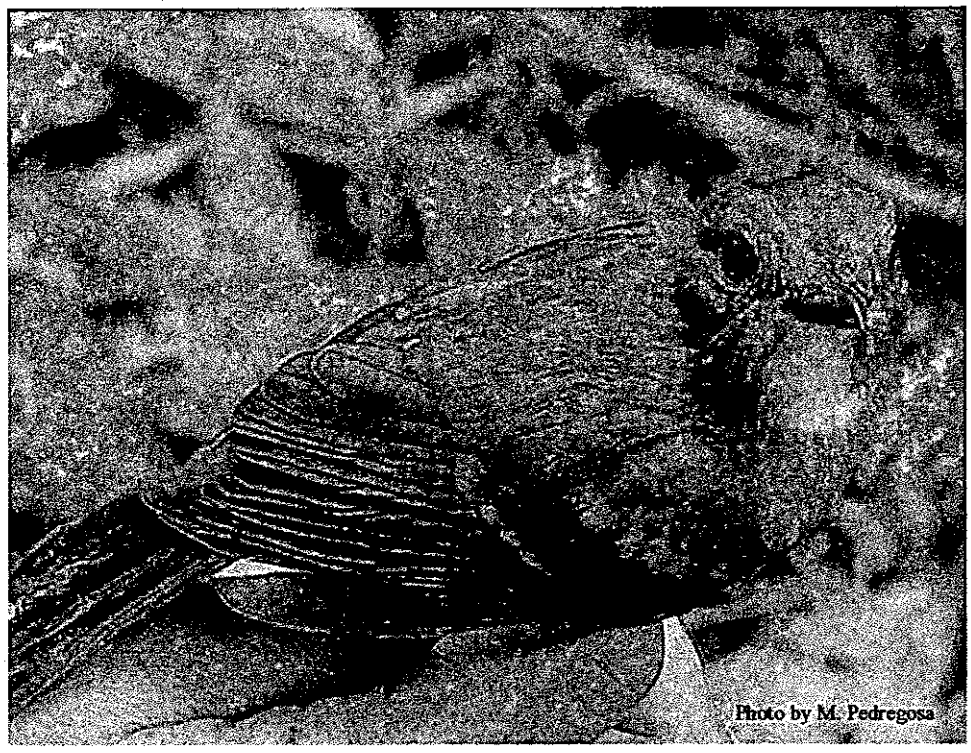

Photo by M. Pedregosa

Elusive and difficult to observe, the Critically Endangered White – throated Jungle Flycatcher (*Rhinomyias albigularis*) is restricted in the lowland forest of Negros and Panay Islands, Philippines. In 1992, it is reported to survive only in Ban-ban, Negros Oriental. This survey had identified 2 more localities where this population and 9 other threatened birds subsist.

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Zoological Society
Chester Zoo

Cebu Biodiversity
Conservation
Foundation, Inc. (CBCF)

BP Conservation Programme

Negros Three-toned Avifauna: Final Report

Negros Threatened Avifauna: Final Report

Lisa Marie J. Paguntalan*, Marisol dG Pedregosa**
and Mery Jean C. Gadiana*.

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BirdLife International
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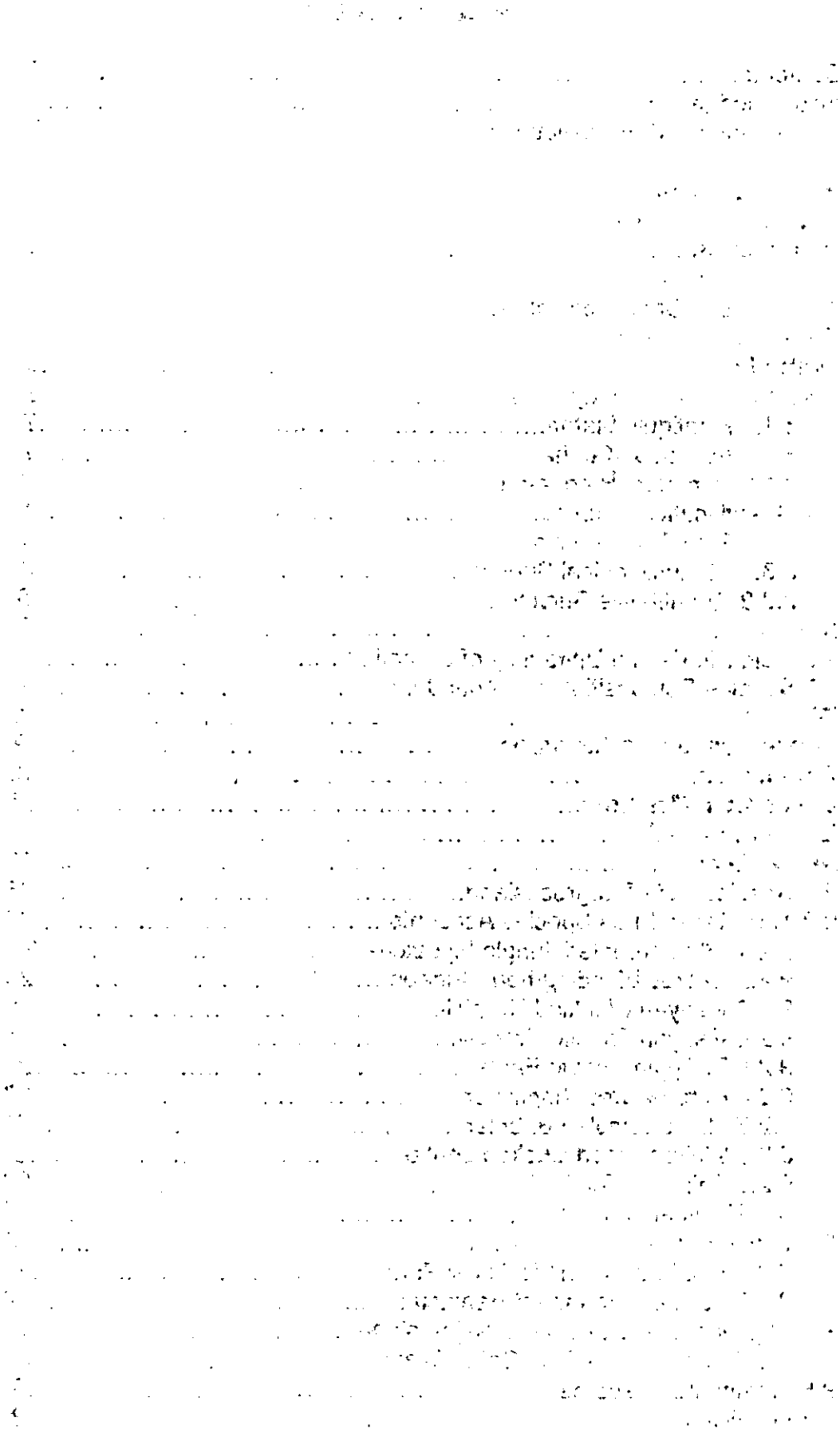

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Conventions and Abbreviations

ARCBC	ASEAN Regional Center for Biodiversity Conservation
CBCF	Cebu Biodiversity Conservation Foundation Inc.
CCC	Coral Cay Conservation Inc.
CENRO	Community Environment and Natural Resources Office
CenTrop	Center for tropical Conservation Studies
CHTAI	Cabatuanan Hill Tribe Association Inc.
DENR	Department of Environment and Natural Resources
EBA	Endemic Bird Areas
ICBP	International Council for Bird preservation
KMYLB	Kapunungan sa mga Mag-uuma sa Yutang Lasangnon sa Bulalakao
LGU	Local Government Unit
MTPAI	Maglinao Tree Protectors Association Inc.
NFEFI	Negros Forest Ecological Foundation Incorporated
NGO	Non-government Organisation
NNRCP	North Negros Rainforest Conservation Project
PAMB	Protected Area Management Board
PAWD	Protected Areas and Wildlife Division
PESCP	Philippine Endemic Species Conservation Project
PO	People's Organization
SEKKAI	Sta. Catalina Environment Kabanikanhan, Kalambu-an Association Incorporated

Endemic Species refers to species confined in a small geographical unit

Kaingin a Filipino term referring to the practice of shifting cultivation in the Forests

Secondary Forest would refer to forest patch that has undergone selective logging practices

Bird Nomenclature used generally follows Dickinson *et al.* (1991). A number of changes suggested by Sibley and Monroe (1992) were also adopted.

Negros Threatened Avifauna

By

Lisa Marie J. Paguntalan*, Marisol dG. Pedregosa**
and Mery Jean C. Gadiana*.

Summary

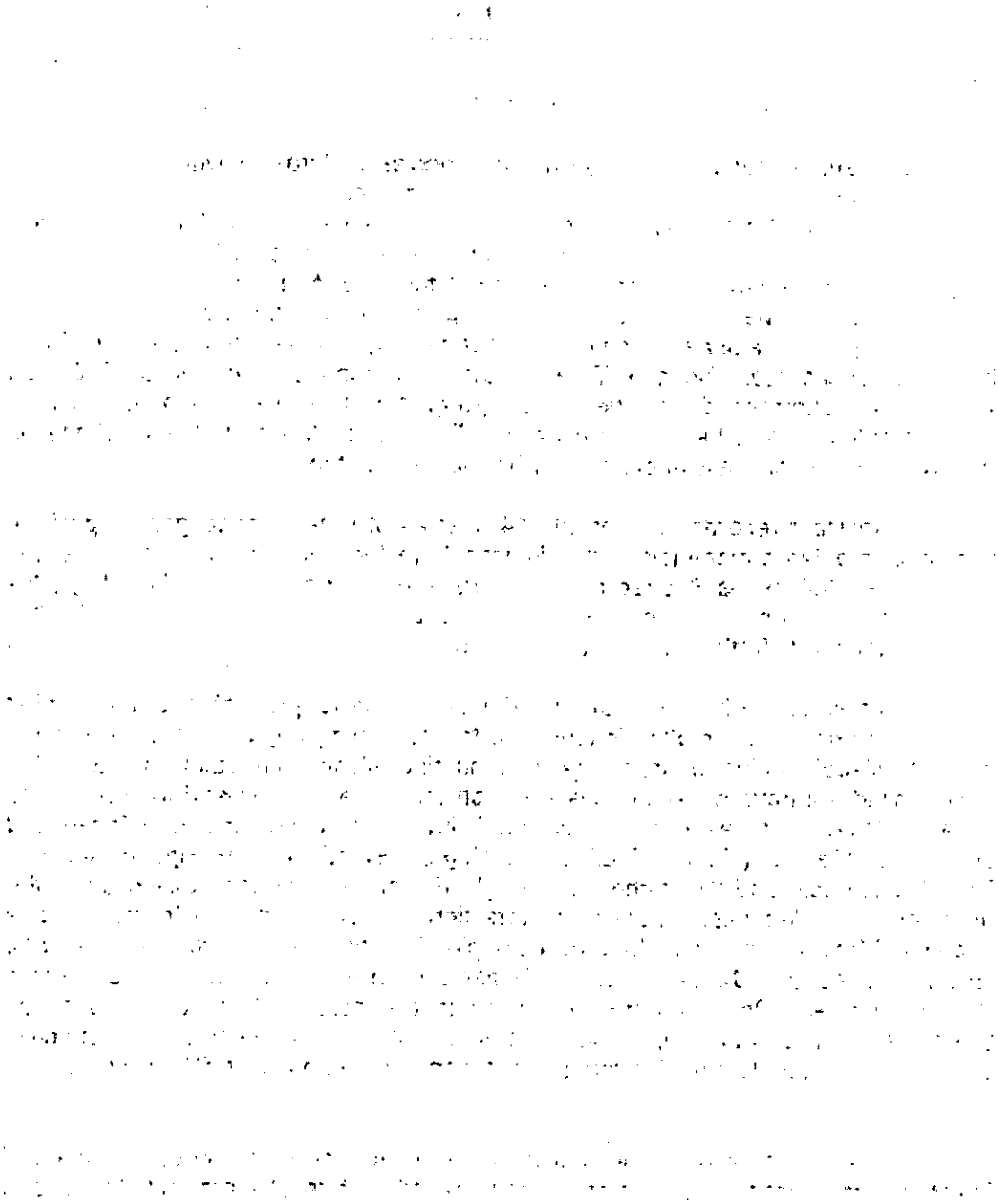
Bird surveys in remnant lowland forest patches in southern Negros Island, Philippines were conducted last July to September 2000. Methods used include the use of mist-nets, point counts, line transects as well as ethnobiological survey. The initial results were provided in a preliminary report distributed to key stakeholders.

The survey recorded a total of 125 species of birds of which nine of the eighteen globally threatened birds of Negros were confirmed. The forest in Sta. Catalina showed the highest record of Philippine endemic and threatened birds followed by Siaton and then Hinoba-an. Rufous-lored Kingfisher believed extinct in Negros was observed in all areas studied. Other significant records include the Tabon Scrubfowl (*Megapodius cumingii*), Hanging Parakeet (*Loriculus philippensis*), Nicobar pigeon (*Caloenas nicobarica*: reported by locals) and Spotted Wood Kingfisher (*Actinoides lindsayi*). Three of the threatened endemic birds of Negros were not encountered during the survey (Negros Fruit Dove: *Ptilinopus arcanus,* Ashy-breasted Flycatcher: *Muscicapa randi,* Negros-striped Babbler: *Stachyris nigrorum*) nor the critically endangered Philippine Cockatoo.

Significant records also include 14 species of bats (3 endangered species), five species of large mammals, most significant of which was the sighting of critically endangered Philippines Spotted deer (*Cervus alfredi*) and Visayan Warty Pig (*Sus cebifrons*). Local reports claim the occurrence of a brown deer in Basay and Hinoba-an area that needs further verification and study.

With so little left of the natural habitats in Negros, prevention of any habitat destruction and transformation is crucial to the remaining populations of threatened species. Illegal cutting of trees, kaingin, hunting along with other threats if left uncontrolled will have a tremendous effect on the remaining lowland forests and its endemic taxa. As a result, it is anticipated that, four of the most threatened bird species of Negros (Negros Fruit Dove, Negros Bleeding-heart Pigeon, Visayan Wrinkled Hornbill and White-throated Jungle Flycatcher) will face extinction in the next couple of decades. Virtually no protection has been afforded to these areas except for their remoteness. The practice of planting exotic trees (*Gmelina, Mangium, Eucalyptus, Acacia, Sweitenia,* etc.) in buffer zone areas and forest edges poses a different problem. One thing still remains clear, the increasing number of identified threatened birds and the accelerated loss of habitat calls for immediate and effective conservation action to save the remaining lowland forest and its wildlife in Negros.

Observations and ethnobiological survey were also made on other islands of West Visayas (Panay, Siquijor and Cebu). Significant results are included in this report.



Recommendations

1. Conservation and Research Priorities

   More research and ecological studies are needed to determine detrimental factors affecting important species (i.e. White-throated Jungle Flycatcher, Hornbills and Bleeding Heart Pigeon). The use of sound recording (songs and calls) would be more effective in determining abundance of cryptic threatened birds e.g. *Muscicapa randi, Erythrura viridifacies.* The presence of Philippine Spotted Deer and Visayan Warty Pig in all three sites further necessitates the need for increased conservation action.

   Other areas are in need of further surveys. More research is needed to determine detrimental factors affecting important species, especially to other groups of species (invertebrates, plants, herps and ecological interactions). Priorities are set on Payao-payaoan in Sta. Catalina, Hinoba-an (especially Damotan and Candoni), Calinawan, Ban-ban and Mandalagan range.

2. Habitat Restoration

   The emerging practice of planting endemic trees in forest edges and buffer zone areas as forest reforestation activities should be encouraged and implemented. This will be achieved through concerted efforts by intervening institutions and stakeholders within ecologically important areas. NGO's should encourage the practice of planting indigenous trees and should initiate the production of endemic species nurseries. Research on propagating endemic trees should be encouraged both by the academe and research institutions.

3. Information, Education and Communication

   Communications strategy should target multiplier audiences (educators, corporate sectors, journalists and scientific community). Academic institutions should include the concept of biodiversity and importance of species on the "curricula". This information should be extended to local government units for enhanced conservation awareness. Information should incorporate legal aspects, responsibilities as well as biodiversity conservation. One should bear in mind that information disseminated to direct stakeholders should be in the form that is applicable and "usable" as well as informative to them. Local people have their own version of explaining the importance of biodiversity. Translation of the concept of biodiversity in the dialect is a much-needed activity for people to further understand the concept.

4. Linkages

   Philippine National Oil Corporation (PNOC) as mandated by law plays a major role in protecting and preserving ecologically important areas. Two of the sites studied (Sta. Catalina and Siaton) belongs to PNOC as a geothermal reserve. It is imperative to work in close collaboration with Philippine National Oil Corporation (PNOC) as two of the sites e.g. Sta. Catalina and Siaton are geothermal reserves.

5. Forest Protection Measures

Local people have voiced the problem in interpreting laws differently. This leads to a lot of confusion and misinterpretation. Conveying messages to the right authorities becomes another problem, as most do not know where to report illegalities and seek guidance. Most concerned offices are not easily reached and take a long time to process reports. Distance and availability of manpower becomes a problem.

There is a need then to utilize the local community to participate in patrolling the forests. The locals who live right in the target sites can best protect their natural resources. The barangay tanods and members of People's organisation should be tapped and responsibilities delineated. This could work with existing NGO's working in the sites through collaborative efforts with Protected Areas Management Board, Department of Environment and Natural Resources, Protected Areas and Wildlife Division. Training will be provided by DENR and working NGO's to strengthen the capabilities of local communities in protecting their habitats.

6. Training and Capacity Building

Bird conservation expertise is insufficient in West Visayas, particularly in Negros. Local biologists, conservationists and concerned personnel from DENR should be provided with assistance in securing needed skills, basic equipment and financial support. Training should put emphasis on field-based inventory, monitoring and research. Linkages can be forged with institutions that offer training programs. Students should also be encouraged and motivated to do ecological studies and be trained in field techniques and identification. Silliman University through its terrestrial research component should extend and continue its conservation work.

I. Introduction

The Philippines is listed as one of the most significant biodiversity hotspots and priority areas for conservation and research (Collar *et al.*, 1998). Exceptionally many of the unique birds are restricted to low altitude forests where they are threatened by habitat destruction which is being drastically reduced everywhere. Among those islands that have suffered serious habitat destruction is the Western Visayas faunal region. This is composed of six major islands namely; Panay, Negros, Cebu, Masbate, Guimaras and Ticao. Another island, Siquijor, although oceanic and well separated from the others, was included in this study.

The West Visayas Faunal region is host to a total of twenty-four threatened species of birds, eighteen of which are found in Negros Island (Table I and II). Three of these species are critically endangered (*Aceros waldeni, Gallicolumba keayi* and *Ptilinopus arcanus*) while four species are considered endangered (*Stachyris nigrorum, Dasycrotapha speciosa, Penelopides panini* and *Rhinomyias albigularis).* A total of nine species were considered vulnerable and under serious threat of population decline *(Padda oryzivora, Erythrura viridifacies, Dicaeum haematostictum, Hypothymis coelestis, Acrocephalus sorghophilus, Coracina ostenta, Todiramphus winchelli, Spizaetus philippensis, Anas luzonica* and *Gorsachius goisagi).* Siquijor was also included because of the presence of one threatened bird species (*Ixos siquijorensis*) (Collar *et* al., 1998) and six other subspecies endemic to the island (Evans *et* al., 1993) which also appear threatened.

Information on the extent of distribution and status of threatened birds is lacking. Current priorities are set on gathering information regarding the distribution and ecological requirements of threatened endemic birds of Western Visayas. The preliminary survey conducted on the four islands of West Visayas pointed out a number of priority areas in dire need of study. The large number of threatened endemic species of birds in south Negros thus created a considerable need to survey the remaining significant patches of forest as this represents the last stronghold of many globally threatened species.

Table I. Comparative number of bird species of different categories.

Categories	West Visayas	Negros
Philippine Endemic Species	**62**	**58**
West Visayas Endemic	**14**	**11**
Negros-Panay Endemic	**12**	**10**
Philippine Subspecies Endemic	**149**	**146**
West Visayas Subspecies Endemic	**28**	**19**
Threatened Species	**24**	**18**

Note: Threatened birds include two species from Cebu Island (Collar *et al.*, 1998).

Previous Ornithological Studies

Dickinson *et al.*, (1991) summarized the extensive collections made in the late 19th and 20th centuries. In the 1940's to late 60's Dr. D.S. Rabor and A.L. Rand and S.D. Ripley conducted ornithological fieldwork. The Negros Striped Babbler (*Stachyris nigrorum*) was among those collected from Mantiquil, Siaton now deposited in Silliman University Natural History Museum. Two ecological studies had

Table 1 Comparative number of bird species of different categories

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[illegible] Endemic	149	146
West Visayas Subspecies Endemic	28	19
Threatened Species	24	18

Note: [illegible]

Previous Ornithological Studies

so far been conducted in the area (Alcala and Carumbana, 1975 and 1980; Paalan, 1993). Erickson and Heideman also made incidental mist-netting work in Lake Balinsayao in 1983. Bird watchers also visited the island –B.F. King (1983), M Turton, G Speight and R. Rowland (1986), J. Hornskov and S. Jensen (1987), D. Allen, and T. Fisher.

Table II. List of threatened species of birds on Negros Island, Philippines with corresponding IUCN status. (Adapted from Collar, *et al.* 1998).

Scientific Name	Common name	IUCN Threat Category	Status
Ardeidae *Gorsachius goisagi*	Japanese Night Heron	Vulnerable	No records since 1992
Anatidae *Anas luzonica*	Philippine Mallard	Vulnerable	Observed, kept as pet in Basay
Accipitridae *Spizaetus philippensis*	Philippine Hawk-Eagle	Vulnerable	Observed
Columbidae *Ducula poliocephala*	Pink-bellied Imperial Pigeon	Near-threatened	Observed
Ducula carola	Spotted Imperial Pigeon	Vulnerable	Possibly Extinct? No record since 1970
Ptilinopus arcanus	Negros Fruit Dove	Critically Endangered	Possibly Extinct? No record since 1950's
Gallicolumba keayi	Negros Bleeding-Heart Pigeon	Critically Endangered	Observed
Psittacidae *Cacatua haematuropygia*	Philippine Cockatoo	Critically Endangered	Possibly Extinct?
Tanygnathus lucionensis	Blue-naped Parrot	Threatened	Observed
Bucerotidae *Aceros waldeni*	Visayan Wrinkled Hornbill	Critically Endangered	Observed
Penelopides panini	Visayan Tarictic Hornbill	Endangered	Observed
Alcedinidae *Todiramphus winchelli*	Rufous-lored Kingfisher	Vulnerable	Observed
Timaliidae *Stachyris nigrorum*	Negros Striped-Babbler	Endangered	Museum record
Dasycrotapha speciosa	Flame-Templed Babbler	Vulnerable	Observed
Sylviidae *Acrocephalus sorgophilus*	Streaked Reed Warbler	Vulnerable	Observed
Apodidae *Mearnsia picina*	Philippine Needletail	Near-threatened	Observed
Campephagidae *Coracina ostenta*	White-winged Cuckoo-shrike	Vulnerable	Observed
Muscicapidae *Rhinomyias albigularis*	White-throated Jungle Flycatcher	Critically Endangered	Observed and netted in this survey
Muscicapa randi	Ashy-breasted Flycatcher	Vulnerable	No record since 1970
Hypothymis coelestis	Celestial Monarch	Vulnerable	Possibly Extinct? No record since 1970
Diciaedae *Dicaeum haematostictum*	Visayan Flowerpecker	Vulnerable	To be confirmed
Dicaeum retrocinctum	Scarlet-collared Flowerpecker	Vulnerable	To be confirmed
Estrildidae *Padda oryzivora*	Java Sparrow	Vulnerable	Introduced in the Phil. From Java
Erythrura viridifacies	Green Parrotfinch	Vulnerable	Recorded in Hinoba-an in 1996

The Cambridge-Philippines group made an extensive survey of the lowland forests of Negros in 1991. A year after the Cambridge study, Paalan (1993) made an ecological study on Mt. Talinis. Diesmos and Pedregosa (1996 unpublished) also

so far been conducted in the area (Alcala and Carumbana 1978 and 1980; Paalan 1993). Erickson and Heideman also made incidental mammalogical work in Lake Balinsasayao in 1982. Bird watchers also visited the island - B.F. King (1985), M. Turton, G. Speight and R. Rowlund (1986), J. Hornskov and S. Jensen (1987), D. Allen and T. Fisher.

Table 1. List of threatened species of birds on Negros Island, Philippines with corresponding IUCN status (Adapted from Collar *et al.* 1994)

Scientific Name	Common name	IUCN Threat Category	Status
Ardeidae [illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	Vulnerable	[illegible]
Accipitridae *Spizaetus philippensis*	Philippine Hawk-Eagle	Vulnerable	Observed
Columbidae [illegible]	[illegible] Pigeon	[illegible]	Observed
[illegible]	[illegible] Imperial Pigeon	Vulnerable	Possibly Extinct [illegible]
Ptilinopus arcanus	Negros Fruit Dove	Critically Endangered	[illegible]
[illegible]	[illegible] Bleeding-heart Pigeon	Critically Endangered	Observed
Psittacidae [illegible]	[illegible] Cockatoo	Critically Endangered	Possibly Extinct?
[illegible]	Blue-naped Parrot	Near-threatened	Observed
Bucerotidae [illegible]	[illegible] Hornbill	[illegible]	Observed
[illegible]	[illegible] Hornbill	Endangered	Observed
Alcedinidae [illegible]	[illegible] Kingfisher	[illegible]	Observed
Timaliidae [illegible]	[illegible] Babbler	Endangered	[illegible]
[illegible]	[illegible] Babbler	Vulnerable	Observed
[illegible]	[illegible]	Vulnerable	[illegible]
[illegible]	[illegible]	Near-threatened	[illegible]
[illegible]	[illegible]	Vulnerable	Observed
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible] Flowerpecker	Vulnerable	Not recorded since 1970
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]

The Cambridge-Philippines group made an extensive survey of the lowland forests of Negros in 1991. A year after the Cambridge study, Paalan (1993) made an ecological study on Mt. Talinis. Dissmore and Pedregosa (1994, unpublished) also

visited the area with a particular focus on Hornbills and Bleeding-heart Pigeons. Paalan (1996, unpublished) also conducted a faunal survey in the International Pursuit of the Philippines Inc. (IPPI) mining site in Hinoba-an. Significant results included finding the Green Parrot-finch (*Erythrura viridifacies)*. Curio et al. (1998) visited the geothermal site in Mt. Talinis and made significant records of species of Flowerpeckers. Sta. Catalina and Hinoba-an had not been visited since the collections of Dr. D.S. Rabor.

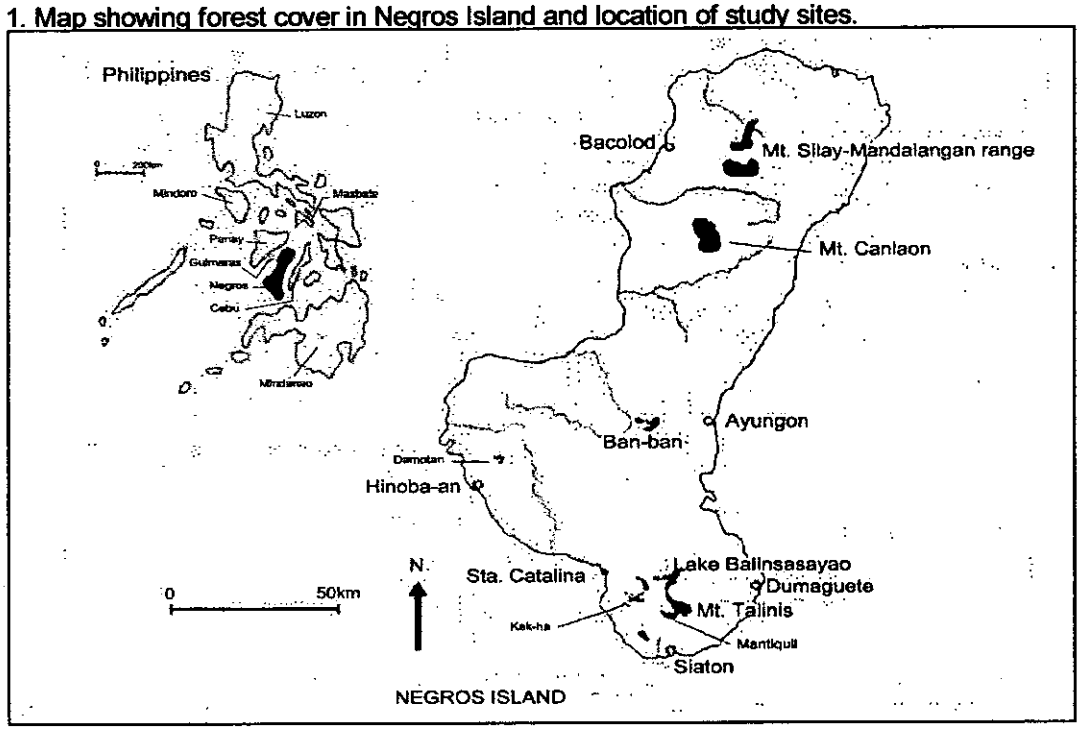
II. Project Objectives

The study focuses on identifying lowland forested sites supporting remaining populations of West Visayas endemics (Negros Bleeding-heart Pigeon:*Gallicolumba keayi,* Visayan Tarictic Hornbill: *Penelopides panini,* Visayan Wrinkled Hornbill: *Aceros waldeni,* White-throated Jungle Flycatcher: *Rhinomyias albigularis,* Negros-Striped Babbler: *Stachyris nigrorum,* Flame-templed Babbler: *Dasycrotapha speciosa,* Visayan Flowerpecker: *Dicaeum haematostictum,* White-winged Cuckoo-shrike: *Coracina striata* and Blue-crowned Parrot: *Tanygnathus lucionensis*). Four islands were initially selected for the study (Negros, Panay, Siquijor and Cebu). Preliminary surveys were conducted to indicate lowland forest of high biodiversity. Specific sites were then selected for detailed survey.

Specific objectives of the project were divided into three components, namely: field research, field identification training techniques and public awareness. It recognized the importance of detailed field survey for each identified study site as well as targeting the involvement of local community participants. Representatives from community groups were involved in skills training that would enhance their forest and wildlife protection activities. Local support for the conservation of lowland habitats and its associated threatened birds was solicited through a public awareness campaign.

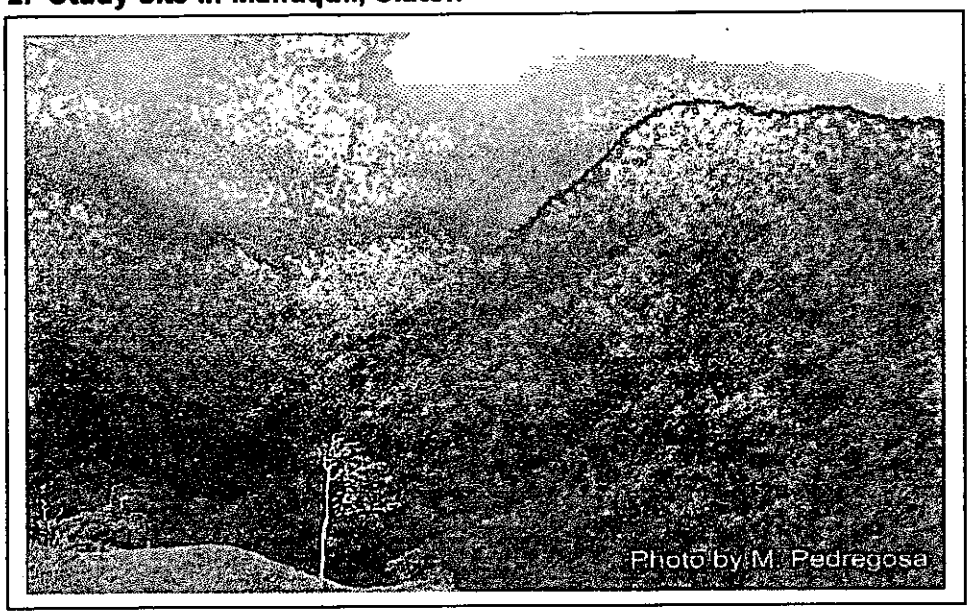
III. Description of the Study Sites

Figure 1. Map showing forest cover in Negros Island and location of study sites.



III. Description of the Study Sites

Figure 2. Study site in Mantiquil, Siaton



Canaway, Mantiquil, Siaton

Canaway, Mantiquil, Siaton is located at 9^0 13' N and 123^0 4' E. Forest cover in the area starts at 865-m ASL with the highest elevation at 1300 meters. Patches of mature secondary forest interspersed with clearings and agricultural plots on very steep slopes characterize the study site. Emergents were dominated by *Shorea* and *Agathis damarra* species. Dominant canopy trees with an average diameter at breast height (dbh) of 212 cm (n=20; range = 65-360 cm) were mainly composed of dipterocarp trees and *Agathis*. *Ficus* appeared to be abundant while rattans, pandans and ferns appeared to be fairly common. Epiphytes were composed of several species of orchids, ferns, climbing vines, lianas and bromeliads. Moss cover was minimal. *Medinilla* and *Aeschynanthus* (lipstick vines) appear to be uncommon.

Clearings were slowly creeping into higher elevations, reaching as high as 1,065 m elevation. A total of fifteen households were observed within the forest vicinity. Cleared areas were planted with agricultural crops for subsistence (corn, *Manihot esculenta,* coffee, fruit trees and coconuts). Trails showed continued use and lead to the forest interior. Traps for birds and large mammals were observed set along trails and about nest holes.

Avocado-Kak-ha, Sta. Catalina

Patches of forest (estimated to be 700-1000 ha of mature secondary forest) are separated by approximately 10-15 km from the Twin Lakes-Mt. Talinis range. They are located 9^0 28' North and 122^0 58' East. No studies had been conducted in the area though Dr. D.S. Rabor made collections in the early 1960's and 70's. The highest elevation is 865 meters asl with forest cover starting at 500 m asl. Dominant canopy trees were composed of dipterocarp trees and *Ficus* spp. on moderately sloping mountains. Emergents were mainly composed of *Shorea* spp. with an average dbh of 172.5 cm (n =20; range: 35-310 cm). Exotic trees (*Gmelina arborea, Acacia falcatta, Acacia mangium, Sweitenia macrophylla*) of about 15-20 years old were planted at forest edges and within clearings inside the forest. Moss cover was

Figure 2. Survey site at Edmonton, Alberta

almost absent, with only the topmost part of emergents and canopy trees covered with *Tilandsia*. Tree ferns, palms and pandan were abundant while rattan was rare. Epiphytes were composed of several species of orchids including *Phalaenopsis, Dendrobium* and slipper orchids.

Trails exist within the forest leading to forest interior and offered several avenues for exit. Locals were observed to pass through the main trail going from one municipality to the other. These trails were also used by hunters in setting traps for wild pigs, Spotted deer, parrots, hornbills and species of doves. Trees with an average diameter of 40 cm have been cut/logged.

Damotan, Hinoba-an

Lowland forest in Damotan, Hinoba-an area was estimated to be 80-100 ha of mature secondary forest located at 9^0 35' N and 122^0 24' E. Especially mentioned in literatures however no studies had been conducted on the area. The forest is broken into two smaller patches and one major block of forest in relatively gently rolling hills. An open grassland community dominated by parang grass (*Imperata cylindrica*), surrounds the forest. Highest elevation amounts to 280 m asl. Dominant canopy trees consists of *Shorea* spp. with average dbh of 235 cm (n=20; range: 80-390 cm). *Ficus* spp. were abundant inside the forest. Three major rivers traverse the forest: Pagatban River, Banga River and Arom River. The nearest community is 6 km away (horizontal distance) from the forest.

IV. Methodology

ETHNOBIOLOGICAL SURVEY

Four islands of West Visayas was initially visited last May and June 2000 (Cebu, Negros, Panay and Siquijor). Local community interviews were carried out and information on the extent of their knowledge on wildlife, conservation, habitat and species importance, land use and attitudes towards conservation and resource use were obtained. Extent of disturbances affecting the species and its habitats were also assessed along with probable reasons of population declines.

FIELD RESEARCH

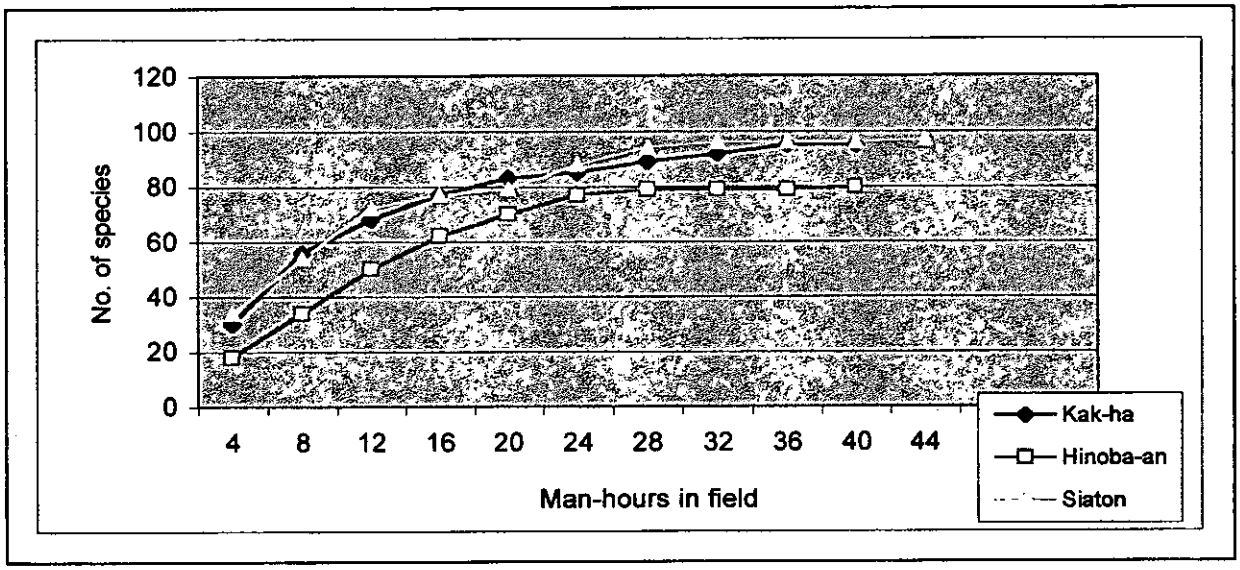
Two-kilometer transects were established for each study site. A total of 40 man-hrs was allocated for each study site. Point counts were used in areas with very steep slopes and rough terrain. Strategic points were selected for observations. All bird species seen and heard were recorded and ecological notes for each threatened species identified were taken. Information gathered includes noting feeding habits, food items taken, habitat type, associations with other species and individuals, participation in mixed-species flocks and nesting behavior. Observation records do not include the use of playback and sound recording equipment.

Mist nets measuring 6 meters long by 4 meters wide were used to catch cryptic and elusive species. Nets were distributed along ridge tops, near fruiting trees and in the canopy. Nets were checked regularly to minimize the impact of the survey. Biometrical data were obtained for each species caught before release.

V. Results

Field Efforts and Uniformity of Sampling

Figure 3. Field sampling efforts in all three sites in southern Negros, Philippines (July-September 2000).



A total of 205.5 net days were allocated for all sampling sites. Net days were calculated by multiplying the number of nets established in one bird day by the number of days nets were operated. A net measuring 6 x 4 meters operated for one day was measured as one half net-day. A 12 x 8m net operated for one full day was calculated as one net-day. Fig. 3 summarizes field sampling efforts in all three sites where a total of 131 man-hours were allocated in the field.

Species Composition and Richness

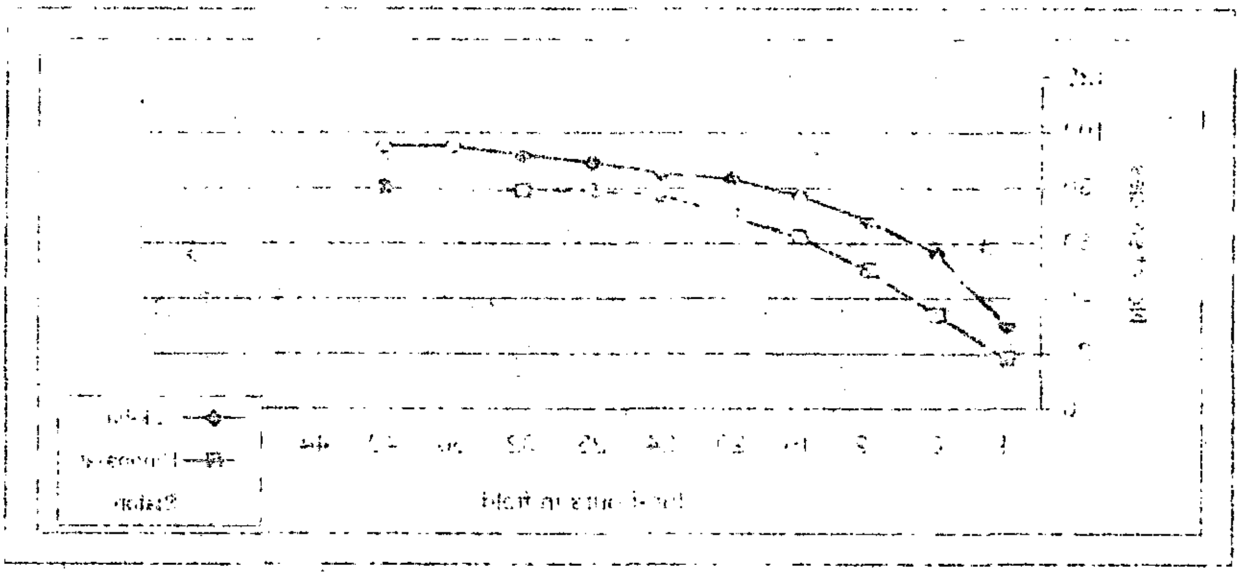
A total of 123 species of birds were identified in all study sites of which 70% were forest residents. Fifty percent of the forest residents were Philippine endemic. Six species endemic to Negros and Panay Islands were identified (*Penelopides panini, Aceros waldeni, Dasycrotapha speciosa, Rhinomyias albigularis, Coracina ostenta* and *Gallicolumba keayi*). Thirteen of the eighteen threatened birds listed in Negros were confirmed (Table II). Endemic subspecies of West Visayas comprised fifty percent of the forest resident birds identified.

Locals in Siaton reported the presence of Tabon Scrubfowl. One individual was observed in a degraded forest near a stream in Canaway, Siaton. There were also unconfirmed reports of the Nicobar Pigeon in Canaway and Hapon-haponon, Siaton.

V. Results

Field Efforts and Uniformity of Sampling

Figure 5. Field sampling efforts in all three sites in southern Negros, Philippines (July–September 2000).



A total of 205.5 net-days were allocated for all sampling sites. Net days were calculated by multiplying the number of nets established in one full day by the number of days nets were opened. A net measuring 6 x 4 meters operated for one day was measured as one half net-day. A 12 x 6m net operated for one full day was calculated as one net-day. Fig. 5 summarizes field sampling efforts in all three sites where a total of 121 man hours were allocated in the field.

Species Composition and Richness

A total of 125 species of birds were identified in all study sites of which 70% were forest residents. Fifty percent of the forest residents were Philippine endemic. Six species endemic to Negros and Panay Islands were identified (Penelopides panini, [illegible], Dasycrotapha speciosa, Rhinomyias albigularis, [illegible] and [illegible]). Thirteen of the eighteen threatened birds listed in Negros were confirmed (Table II). Endemic subspecies of these taxa comprised fifty percent of the forest resident birds identified.

Locals in Siaton reported the presence of Talaud Scrubfowl. One individual was observed in a degraded forest near a stream in Caneway Station. There were also unconfirmed reports of the Negros Bleeding-heart Pigeon in Caneway and Hapon-hapon Siaton.

Table III. List of endemic and threatened species of birds observed in Southern Negros Island, Philippines (July-September 2000).

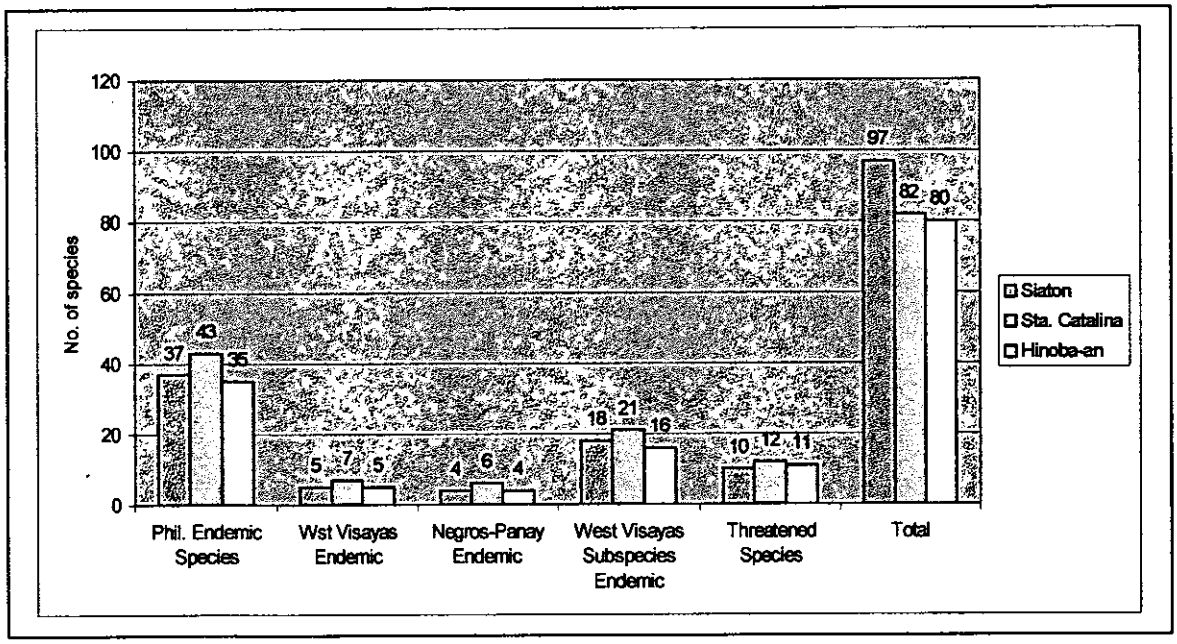
Scientific Name	Common name	IUCN Threat Category	Siaton	Hinoba-an	Sta. Catalina
Anatidae					
Anas luzonica	Philippine Mallard	Vulnerable		2*	
Accipitridae					
Spizaetus philippensis	PhilippineHawk-Eagle	Vulnerable	X	(4)	
Columbidae					
Ducula poliocephala	Pink-bellied Imperial Pigeon	Near-Threatened	(22)	(3)	(6)
Gallicolumba keayi	Negros Bleeding-Heart Pigeon	Critically Endangered			(3)
Psittacidae					
Tanygnathus lucionensis	Blue-crowned Parrot	Near-Threatened	(4)	(12)	(6)
Bucerotidae					
Aceros waldeni	Visayan Wrinkled Hornbill	Critically Endangered	(2)		(1)*
Penelopides panini	Visayan Tarictic Hornbill	Endangered	(12)	(13)	(18)
Alcedinidae					
Todiramphus winchelli	Rufous-lored Kingfisher	Vulnerable	(5)	(2)	(3)
Sylviidae					
Acrocephalus sorghophilus	Streaked-Reed Warbler	Vulnerable		2?	
Timaliidae					
Dasycrotapha speciosa	Flame-Templed Babbler	Vulnerable	(10)	(6)	(28)
Apodidae					
Mearnsia picina	Philippine Needletail	Near-Threatened	1(12)	(2)	(15)
Campephagidae					
Coracina ostenta	White-winged Cuckoo-shrike	Vulnerable	(24)	(26)	(32)
Muscicapidae					
Rhinomyias albigularis	White-throated Jungle Flycatcher	Endangered		1 (3)	1 (2)
Estrildidae					
*Padda oryzivora***	Java Sparrow	Vulnerable	(6)	(12)	(8)
Total species			10	12	12

** - threatened but not native to the Phil. Number with * = pet animal
Number = number of species caught ? = identification is questionable
Number in parenthesis = observed (seen and heard) number of species
X - unconfirmed reports

Mantiquil, Siaton showed a high species richness with a total of 97 species of birds were listed followed by 95 species for Sta. Catalina while Damotan, Hinoba-an listed a total of 80 species. Twelve of the 18 threatened endemic birds of Negros were recorded (Table III). Significant records include Visayan Wrinkled Hornbill (*Aceros waldeni*), Visayan Tarictic Hornbill (*Penelopides panini*), White-throated Jungle Flycatcher (*Rhinomyias albigularis*), Negros Bleeding-heart Pigeon (*Gallicolumba keayi*), White-winged Cuckooshrike (*Coracina ostenta*), Philippine Hawk Eagle (*Spizaetus philippensis*), Philippine Needletail (*Mearnsia picina*), Blue-nape Parrot (*Tanygnathus lucionensis*), Philippine Hanging Parakeet (*Loriculus philippensis*), Flame-templed Babbler (*Dasycrotapha speciosa*), Pink-necked Imperial Pigeon (*Ducula poliocephala*) and Philippine Mallard (*Anas luzonica*) (Appendix Table 1).

Siaton recorded a total of 10 threatened birds, Hinoba-an has 11 while Sta. Catalina recorded 12 threatened species. The White-throated Jungle Flycatcher was both netted in Sta. Catalina and Hinoba-an but not in Siaton. While the Negros Bleeding-heart Pigeon was only recorded in Sta. Catalina (Table III). Some threatened species were recorded in all three sites (Flame-templed Babbler, White-winged Cuckooshrike, Rufous-lored Kingfisher and near threatened species).

Figure 4. Comparative number of bird species of various categories observed in three sites in Southern Negros during field survey conducted on July-September 2000..



VII. Discussions

Siaton showed the highest number of species recorded as compared to the two sites. Both Sta. Catalina and Hinoba-an on the other hand recorded a higher number of threatened species as compared to Siaton. A number of rare and threatened species were distributed in one or two sites while most species were observed in all three sites (Table III). White-throated Jungle Flycatcher was recorded only in Sta. Catalina and Hinoba-an. In contrast, the Visayan Wrinkled Hornbill was recorded only in Sta. Catalina and Siaton. Further the Negros Bleeding-heart Pigeon was only encountered in Sta. Catalina. Table III further shows that Sta. Catalina has the highest number of threatened species including three of the most critically endangered species. In terms of endemic subspecies, Sta. Catalina ranks high (21 subspecies endemic) as compared to Siaton and Hinoba-an (Fig. 4).

Three of the threatened species (Negros Fruit Dove, Ashy-breasted Flycatcher and Celestial Monarch) were not encountered during the survey. Celestial Monarch (*Hypothymis coelestis rabori*) is distributed only in Negros and possibly Sibuyan (Brooks *et al.*, 1992) while the Ashy-breasted Flycatcher (*Muscicapa randi*) was known only from Luzon and Negros. The extensive studies conducted until 1991 did not obtained records of these species in Negros, as well as this survey. It is suggested that the use of sound recording equipment would be of advantage in looking for these species. Some species of Flycatchers may appear rare, as they do not readily fly into nets e.g. Furtive Flycatcher and Ashy-breasted Flycatcher or may be seasonally dependent like the Celestial Monarch (*pers. comm.* D. Allen). Playback of calls and songs would be a better method in determining the true status of the species.

VII Discussions

Differences in species composition and distribution may in part be resultant to the type and quality of habitat, forest size, distance from other forest fragments and amount of disturbance introduced in the site (Lovejoy, 1986, Newmark, 1985, Marsden, 1998). The high species richness in Sta. Catalina may in part be attributed to its being a lowland forest that lies in close proximity to another tract of forest in Moratorium, Calinawan. Furthermore the presence of secondary forest patches that serves as corridors connects the forests to Mt. Guinsayawan and Mt. Talinis. Siaton lies in close proximity to Mt. Talinis forming relatively continuous forests. Hinoba-an on the other hand is isolated from the rest of the forest blocks. The surrounding vegetation is dominated by grasslands that effectively prevents the species to move to other forest habitats. In turn the species are restricted in this forest patch with no possible colonizers to invade the areas. This observation was also noted in related studies in Brazil (Lovejoy, 1986) and Indonesia (Marsden, 1998 and O'Brien and Kinnaird 1996).

Table IV. Categories of threat identified in the three study sites.

Threat category	Siaton	Sta. Catalina	Hinoba-an
Habitat loss	High	High	High
Timber Harvest	Moderate	High	High
Hunting	High	High	High
Fire	Moderate	Moderate	High
Development (mining, roads, geothermal)	High	High	High
Human encroachment	High	High	Moderate

*Note: **High** is designated no interventions and protection afforded in the area (e.g. there is rampant practice). **Moderate** if the practice is indiscriminate and to some extent controllable. **Low** if the practice is under control but there is a potential risk in the future.*

Looking at the threats, all three sites showed a high degree of vulnerability to habitat destruction, fire and hunting (Table IV). Threatened species that normally rare e.g. Hornbills were most affected by hunting activities and timber poaching which occurs in all areas visited. Such species require good quality habitats and would most likely be the first one to go if destruction and disturbances will continue. Already there are three species of birds that are now possibly extinct in Negros. Further disturbance and habitat loss will exacerbate extinction and loss of global biodiversity.

VIII. Public Awareness

Public consultation within each local community had been conducted. Introduction and clarification of the project's objectives were also presented to local government units (municipal level and barangay level) and non-government organizations.

Preliminary lectures on biodiversity, endemism and, importance of species conservation were presented to the local communities in Kak-ha, Sta. Catalina, Basay and Siaton. A similar lecture was also given to Silliman students and Cuernos de Negros Mountaineering members last August. Informal discussions were also conducted with the purpose of extending information on species and habitat's

VIII. Public Awareness

aesthetic and ecological values. This in turn generated people's conservation attitudes and knowledge towards and about wildlife. It is anticipated that additional lectures and awareness campaigns targeting key people will be conducted before the yearend. Posters of "only in the Philippines" were disseminated to public schools and barangay halls. Copies of the preliminary surveys were distributed to concerned municipalities, non-government organizations and government organizations (local and regional). Municipal High Schools were also visited and lectures on endemism, biodiversity and conservation and importance of species were presented. A similar approach was also presented to High School Biology teachers.

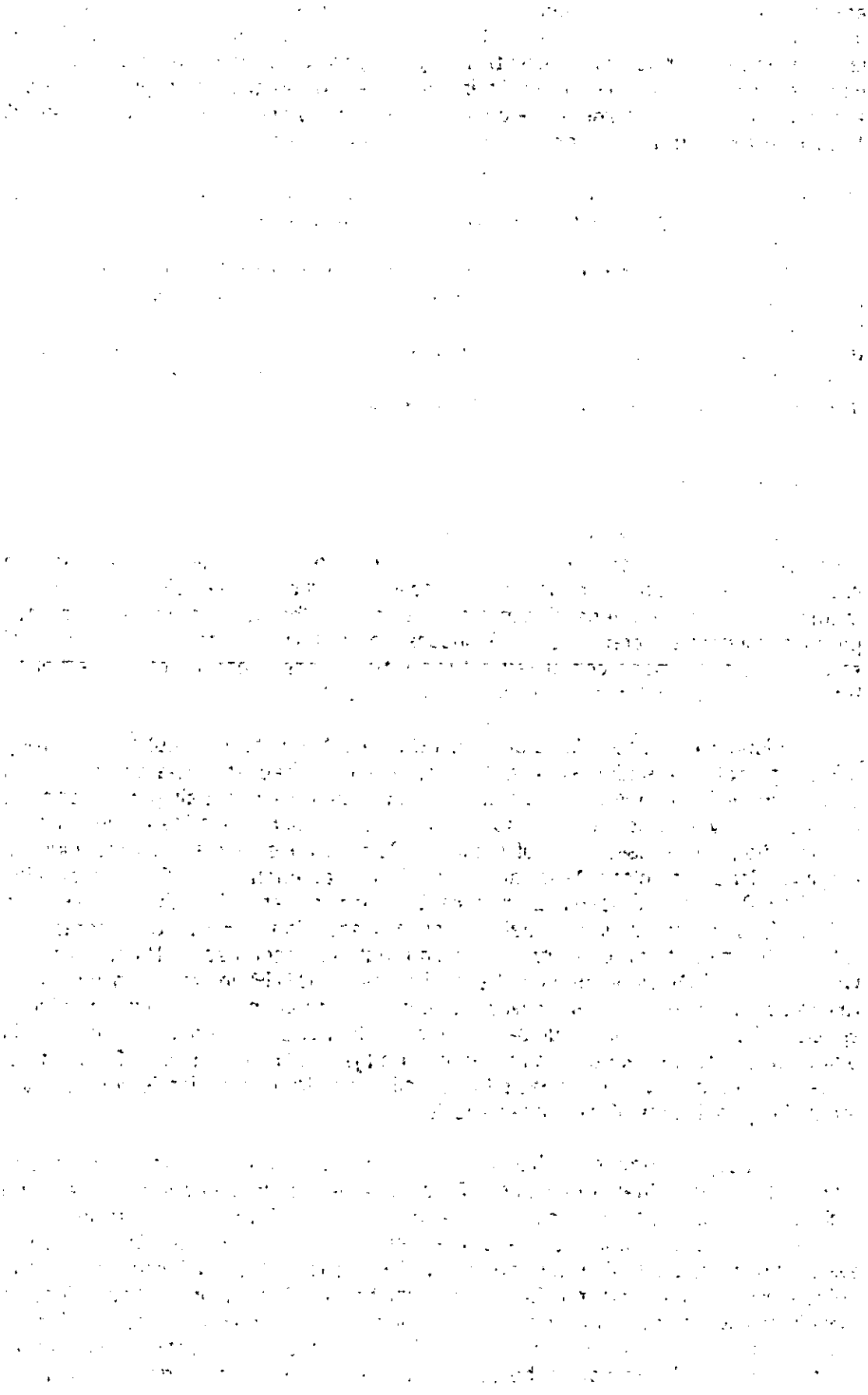
Seven local community volunteers (four were local community leaders) were trained on field sampling techniques and identification of species. Training included field sampling, transects and point counts as well as species identification. It was realized that one should bear in mind that when selecting a local guide one is potentially pointing out the best places for hunting. This is crucial to nesting threatened birds and species with economic value.

IX. Conclusions

Southern Negros still contains significant lowland forest cover aside from the identified Lake Balinsasayao and Ban-ban area. Previous biodiversity surveys had shown southern Negros to be among those with the highest diversity in birds, mammals and herpetofauna. Ornithological studies in the past were focused on two proposed protected areas (Lake Balinsasayao and Mt. Talinis). No ecological studies had so far been conducted in Siaton, Sta. Catalina and Hinoba-an although birds had been collected in the early 1960's and 1970's.

Along with previous literatures, this study continues to demonstrate the strong correlation between endemism and diversity with forest habitats. The number of bird species identified in this study is sufficient evidence in demonstrating importance of habitat preservation as basic tool for species preservation. This then requires strict conservation and preservation of habitats. The initiative of the local members of Maglinao Tree Protector's Association (MATPAI), Cabatuanan Hill Tribe Association Inc. (CHTAI), Sta. Catalina Environment Kabanikanhan, Kalambu-an Ass. Inc. (SEKKAI), Mantiquil Environmental Protection Association (MEPA) demonstrates the will of the people to conserve remaining natural resources. These People's Organization (PO) work through the assistance of DENR in tree planting/habitat restoration activities. This activity however is encouraging planting introduced species of trees where in a number of sites, exotic trees where observed planted in buffer zone areas, forest clearings and forest edges. With what is left of the natural forest in Negros, any form of habitat destruction and transformation is crucial to the remaining populations of threatened species.

Virtually no protection has been afforded to Hinoba-an, Sta. Catalina and Mantiquil except for their remoteness. Forest guards are almost non-existent and the lack of technical, material support and manpower always came up as a limiting factor in controlling illegalities in the use of the resource. In addition to this, the plan of setting up a National Highway connecting Pamplona to Sta. Catalina adds to the vulnerability of the lowland forest to extinction. The compounding effect of diminishing forest habitats unregulated local hunting, commercial trade and even minor disturbances imperil those species that are dependent on these ecologically important areas. Protection of the ecologically important areas needs to be as large



as possible, in order to accommodate viable populations of large species that normally occur in low densities (Collar *et al.*, 1999, Utzurrum, 1992). To ensure protection, conservation of biological diversity should encompass all existing forest habitats.

X. Expedition Members

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Appendix: Members

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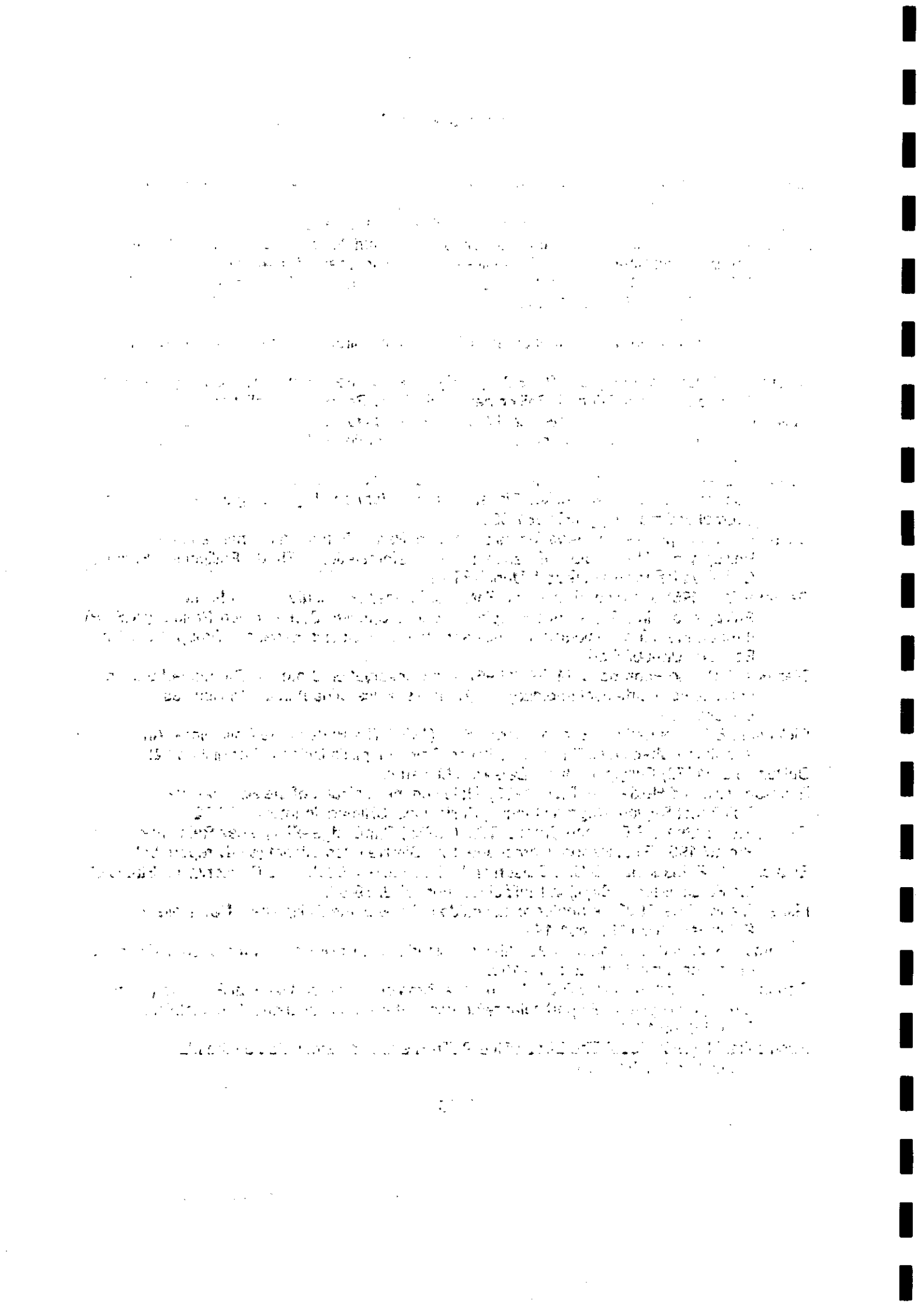

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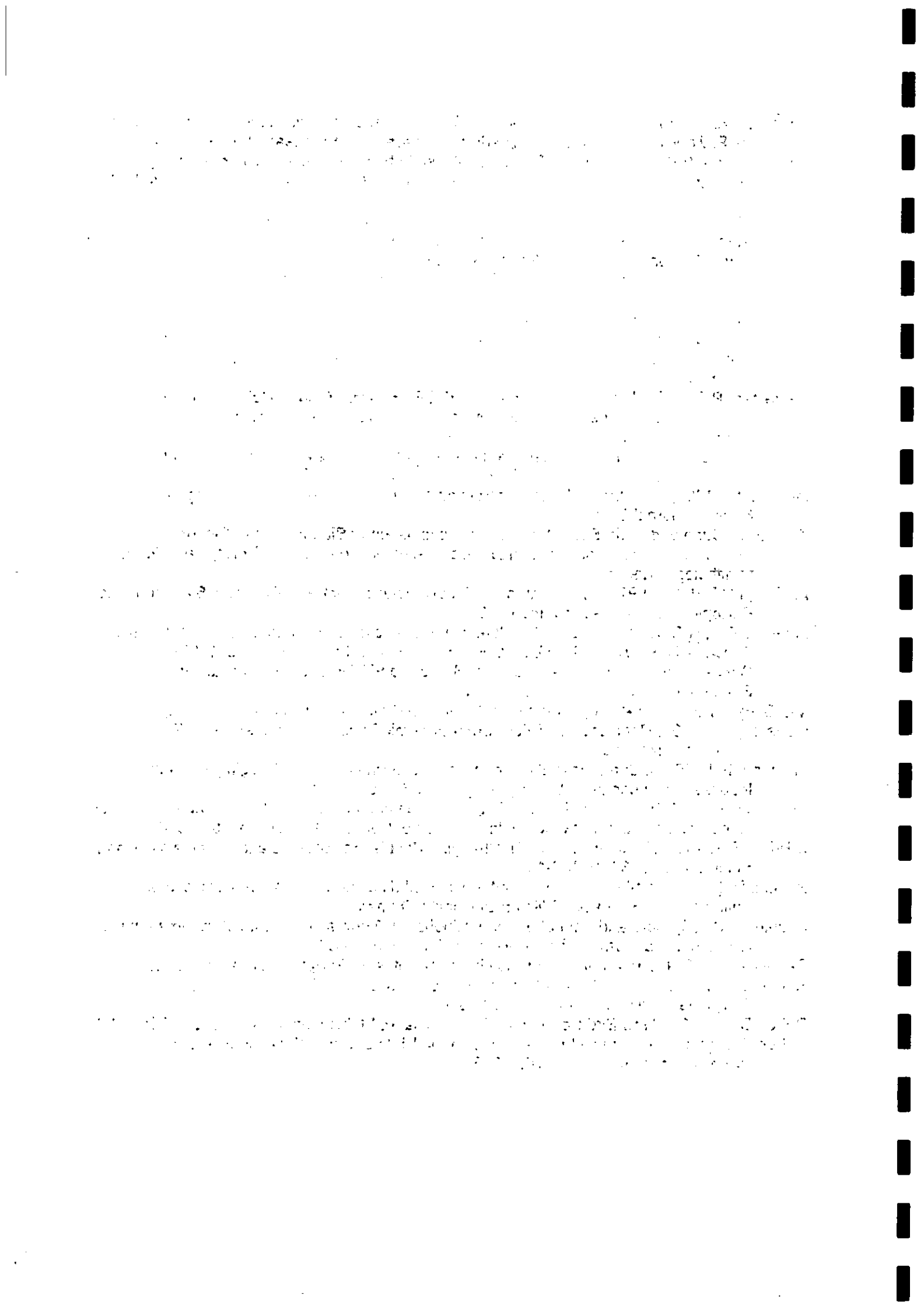

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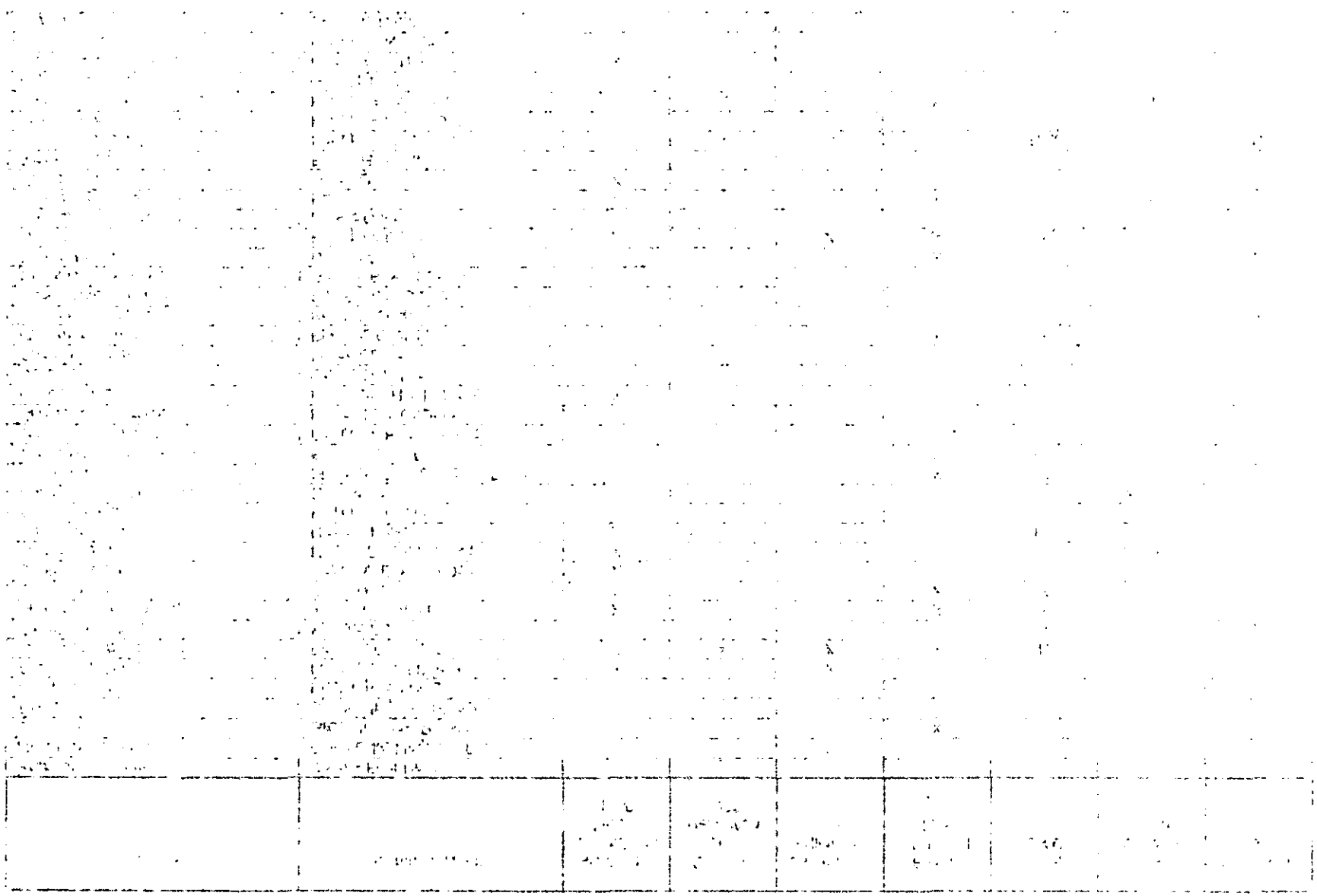
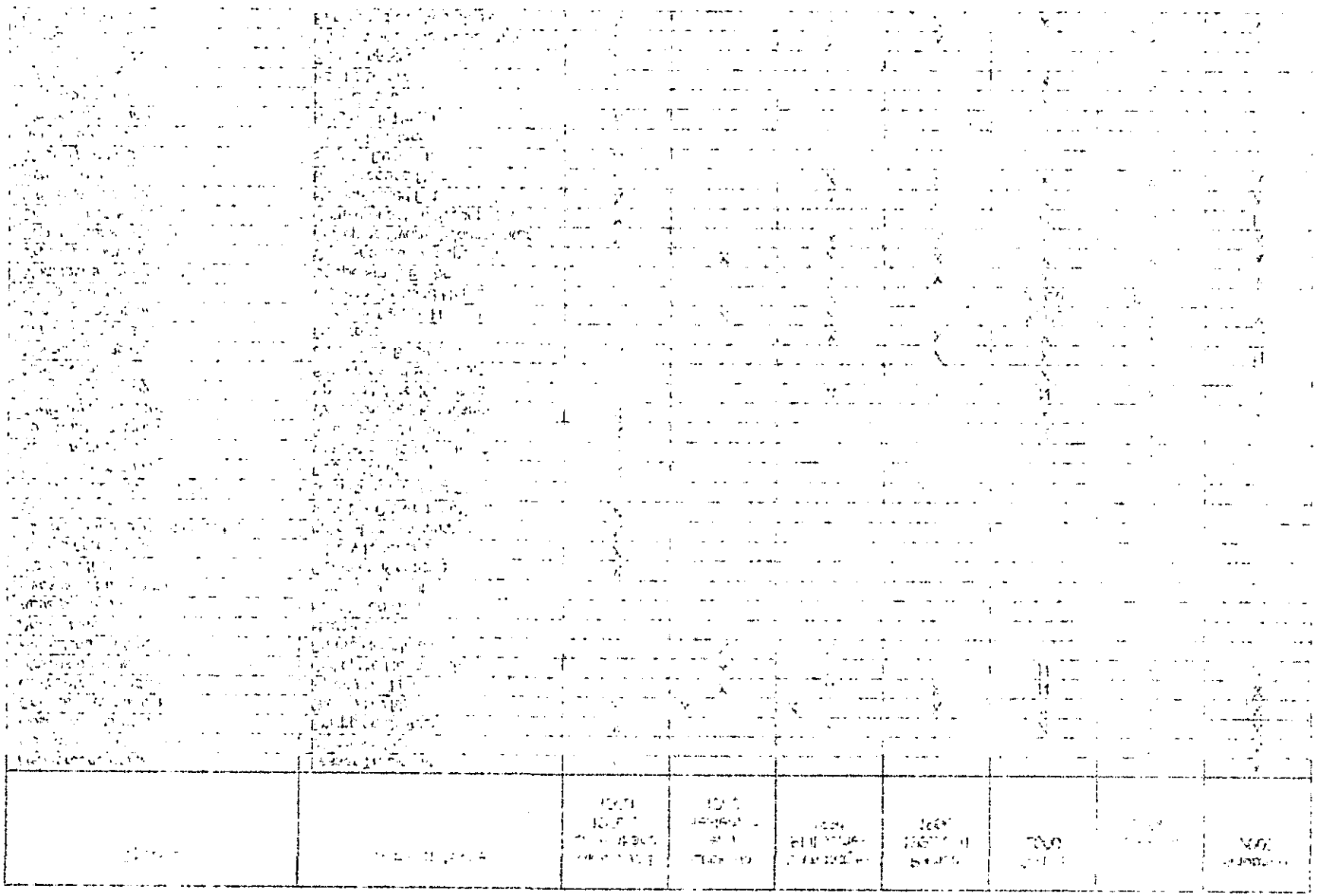
Appendix I. Comparative listing of bird species recently recorded in Negros and from the three sampling sites in Southern Negros (July-September 2000).

Species	Common Name	Alcala and Carumbana 1970 & 1980	Erickson and Heideman 1986	Cambridge-Philippines 1991	Paalan 1992 and 1996	Siaton 2000	Sta. Catalina 2000	Hinoba-an 2000
Gorsachius goisagi	Japanese Night Heron	X						
Nycticorax caledonicus	Rufous Night Heron							
Nycticorax nycticorax	Black-crowned Night Heron							
Ixobrychus sinensis	Yellow Bittern							
Ixobrychus cinnamomeus	Cinnamon Bittern	X						
Dupetor flavicolis	Black Bittern							
Dendrocygna arcuata	Whistling Duck					R		R
Anas luzonica	Philippine Mallard	X				R		R
Pernis ptilorynchus	Oriental Honeybuzzard	X	X					X?
Pernis celebensis	Barred Honeybuzzard	X						
Haliastur indus	Brahminy Kite	X	X		X	X	X	X
Haliaeetus leucogaster	White-bellied Sea Eagle			X				
Ichthyophaga ichthyaetus	Grey-headed Fish Eagle							
Spilornis holospilus	Philippine Serpent Eagle	X		X	X	X	X	
Elanus caeruleus	Black-shouldered Kite	X						
Accipiter gularis	Japanese Sparrow-hawk				X	X		
Accipiter trivirgatus	Crested Goshawk	X	X		X	N	X	
Accipiter virgatus	Besra	X		X		N	X	X
Butastur indus	Grey-faced Buzzard	X			X			
Hieraaetus kienerii	Rufous-bellied Eagle	X						
Spizaetus philippensis	Philippine Hawk Eagle			X	X			X
Microhierax erythrogenys	Philippine Falconet				X	X	X	
Megapodius cumingii	Tabon Scrubfowl			X		X		X
Coturnix chinensis	Blue-breasted quail						X	
Gallus gallus	Red Junglefowl	X	X	X	X	X	X	X
Turnix sylvatica nigrorum	Small Buttonquail							
Turnix suscitator nigrensis	Barred Buttonquail	X						
Treron pompadora	Pompador Green Pigeon	X						
Treron vernans	Pink-necked Green Pigeon	X						
Phapitreron leucotis nigrorum	White-eared Brown Dove	X	X	X	X	X	X	N
Pha pitreron amethystina	Amethyst Brown Dove	X		X	X	X	X	
Ptilinopus occipitalis	Yellow-breasted Fruit Dove	X	X	X	X	X	X	
Ptilinopus leclancheri	Black-chinned Fruit Dove	X			X	X		

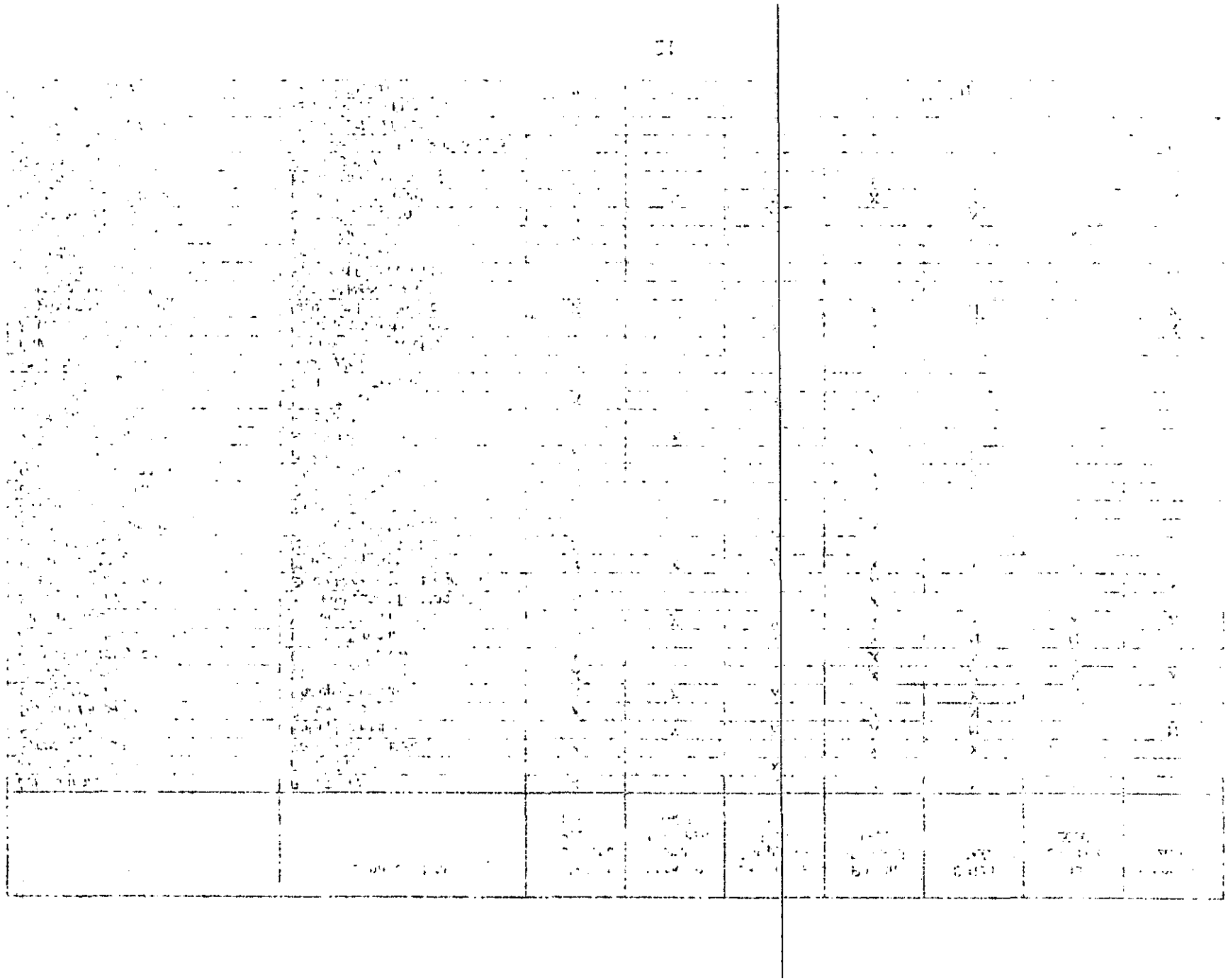
Species	Common Name	Alcala and Carumbana 1970 & 1980	Erickson and Heideman 1986	Cambridge-Philippines 1991	Paalan 1992 and 1996	Slaton 2000	Sta. Catalina 2000	Hinoba-an 2000
Ptilinopus arcanus	Negros Fruit Dove							
Ducula poliocephala	Pink-necked Imperial Pigeon	X		X		X	X	X
Ducula aenea	Green Imperial Pigeon				X	X	X	X
Ducula carola	Spotted Imperial Pigeon							
Ducula bicolor	Pied Imperial Pigeon							
Columba vitiensis	Metallic Wood Pigeon	X		X				
Macropygia phasianella	Reddish Cuckoo Dove	X	X	X	X	N	X	
Streptopelia chinensis	Spotted Dove	X			X	X	X	X
Streptopelia bitorquata	Island Collared Dove	X			X	X	X	X
Geopelia striata	Zebra Dove	X			X	X	X	X
Chalcophaps indica	Common Emerald Dove	X	X		X	X	X	X
Gallicolumba keayi	Negros Bleeding Heart	X					X, R	
Caleonas nicobarica	Nicobar Pigeon	X				R?		
Cacatua haematuropygia	Philippine Cockatoo							
Bolbopsittacus lanulatus	Guaiabero						X, R, M	
Prioniturus discurus	Mountain Racquet-tailed Parrot				X	X	X	X
Tanygnathus lucionensis	Blue-crowned Parrot	X			X	Cd	X	X
Loriculus philippensis	Philippine Hanging Parakeet	X			X, Cd	X	X	X
Cuculus sparverioides	Large Hawk Cuckoo							
Cuculus fugax	Hodgson's Hawk Cuckoo	X				X		
Cuculus saturatus	Oriental Cuckoo							
Cuculus micropterus	Indian Cuckoo							
Cacomantis merulinus	Plaintive Cuckoo	X			X	X	X	
Cacomantis variolosus	Brush Cuckoo						X	X
Cacomantis sonneratii	Bay Banded Cuckoo				X		X	
Chrysococcyx russatus	Gould's Bronze Cuckoo							
Surniculus lugubris	Drongo Cuckoo				X	X		X
Centropus viridis	Philippine Coucal	X		X	X	X	X	X
Centropus bengalensis	Lesser Coucal	X				X	X	X
Eudynamys scolopacea	Koel	X			X	X	X	
Tyto capensis	Grass Owl	X						
Ninox scutulata randi	Brown Hawk-owl	X						
Ninox philippensis	Philippine Hawk-owl		X	X	X	N, x	X	N
Otus megalotis nigrorum	Philippine Scops Owl	X	X					
Batrachostomus septimus	Philippine Frogmouth		X		X		N	
Caprimulgus indicus	Grey Nightjar	X						
Caprimulgus macrurus#	Large-tailed Nightjar	X						
Caprimulgus manillensis	Philippine Nightjar				X	X	X	X
Caprimulgus affinis	Savanna Nightjar	X						



Species	Common Name	Alcala and Carumbana 1970 & 1980	Erickson and Heideman 1986	Cambridge-Philippines 1991	Paalan 1992 and 1996	Slaton 2000	Sta. Catalina 2000	Hinoba-an 2000
Hemiprocne comata	Lesser Tree-swift	X					X	X
Collocalia vanikorensis	Island Swiftlet					X	X	X
Collocalia mearnsi	Philippine Swiftlet	X		X		X	X	X
Collocalia esculenta	Glossy Swiftlet	X	X	X	X	X	X	X
Collocalia troglodytes	Pygmy Swiftlet		X	X	X	N	X	X
Mearnsia picina	Philippine Needletail		X	X		N	X	X
Hirundapus celebensis	Purple Needletail		X	X				
Apus affinis	House Swift							
Apus pacificus	Fork-tailed Swift							
Cypsiurus balasiensis	Asian Palm-swift							
Alcedo atthis	Common Kingfisher	X						
Alcedo argentatus	Silvery Kingfisher	X						
Alcedo cyanopectus nigrirostris	Indigo-banded Kingfisher	X						
Ceyx lepidus	Variable Dwarf Kingfisher	X						
Halcyon capensis gigantea	Stork-billed Kingfisher							
Halcyon coromanda	Ruddy Kingfisher	X						
Halcyon smyrnensis	White-throated Kingfisher	X					X	
Todirhampus winchelli	Rufous-lored Kingfisher	X				X	X	X
Todirhampus chloris	White-collared Kingfisher	X				X	X	X
Actinoides lindsayi	Spotted Wood Kingfisher	X	X	X	X	N	X	X
Merops viridis	Blue-throated Bee-eater	X				X		
Merops philippinus	Blue-tailed Bee-eater	X			X	X		N
Eurystomus orientalis	Dollarbird	X		X	X	X	X	X
Penelopides panini	Visayan Tarictic Hornbill		X	X	X	X, Cd	X, Cd	X
Aceros waldeni	Visayan Wrinkled Hornbill	X		X		X, Cd	X, Cd	
Megalaima haemacephala	Coppersmith Barbet			X	X	X	X	X
Dryocopus javensis	White-bellied Woodpecker		X	X	X	X	X	X
Dendrocopus maculatus	Philippine Pygmy Woodpecker	X		X	X	X	X	X
Chrysocolaptes lucidus	Crimson-backed Woodpecker	X				R	X	R
Pitta erythrogaster	Red-breasted Pitta	X		X	X	X	X	X
Pitta sordida	Black-hooded Pitta	X		X	X	X	X	X
Mirafra javanica	Singing Bushlark	X						
Alauda gulgula	Oriental skylark							
Monticola solitaria	Blue Rock Thrush	X						
Hirundo rustica	Barn Swallow					X	X	
Hirundo tahitica	Pacific Swallow	X				X	X	
Hirundo daurica striolata	Red-rumped Swallow	X						
Coracina ostenta	White-winged Cuckoo-shrike	X		X	X	X	X	X
Coracina striata	Bar-bellied Cuckoo-shrike	X		X	X	X	X	X



Species	Common Name	Alcala and Carumbana 1970 & 1980	Erickson and Heideman 1986	Cambridge-Philippines 1991	Paalan 1992 and 1996	Slaton 2000	Sta. Catalina 2000	Hinoba-an 2000
Lalage nigra	Pied Triller	X		X	X	X	X	
Pericrocotus flammeus	Flame Minivet			X			X	
Pycnonotus goiavier	Yellow-vented Bulbul	X			X	X	X	X
Ixos philippinus	Philippine Bulbul	X	X	X	X	N	N	N
Dicrurus balicassius	Balicassiao	X			X	N	X	X
Oriolus steeri	Philippine Oriole	X	X	X		X	X	X
Oriolus chinensis	Black-napped Oriole	X			X	X	X	X
Corvus macrorhynchus	Large-billed Crow	X			X	X	X	X
Parus elegans albescens	Elegant Titmouse	X	X	X	X	N	N	X
Sitta frontalis	Velvet-fronted Nuthatch	X	X	X	X	X	X	X
Rhabdornis mystacalis	Striped-headed Rhabdornis	X		X	X	X	X	X
Rhabdornis inornatus	Striped-breasted Rhabdornis				X	X	X	X
Dasycrotapha speciosa	Flame-templed Babbler	X	X	X	X	X	X	X
Stachyris nigrorum	Negros striped Babbler	X		X	X			
Brachypteryx montana	White-browed Shortwing	X		X	X	N		
Luscinia calliope	Siberian Rubythroat							
Copsychus saularis	Oriental Magpie Robin	X			X	X		
Copsychus lucionensis	White-browed Shama	X			X	X	X	
Saxicola caprata	Pied Bushchat	X			X	X	X	X
Zoothera andromedae	Sunda Ground Thrush		X					
Monticola solitarius	Blue Rock-thrush							X
Turdus poliocephalus	Island Thrush	X		X	X			
Turdus obscurus	Eyebrowed Thrush							
Phylloscopus borealis	Arctic Warbler	X						
Phylloscopus olivaceus	Philippine Leaf Warbler		X		X	X	X	
Phylloscopus cebuensis	Lemon-throated Warbler			X	X	N	X	X
Phylloscopus trivirgatus	Mountain Leaf Warbler	X		X	X	N	N	X
Acrocephalus orientalis	Oriental Reed Warbler							
Acrocephalus sorgophilus	Streaked Reed Warbler							X?
Locustella fasciolata	Gray's Warbler		X					
Megalurus timoriensis	Tawny Grassbird	X		X		X	X	X
Megalurus palustris	Striated Grassbird	X		X		X	N	
Orthotomus castaneiceps	Philippine Tailorbird	X	X	X	X	X	X	X
Cisticola exilis	Bright-capped Cisticola	X			X			X
Cisticola juncidis	Zitting Cisticola							
Rhinomyias albigularis	White-throated Jungle Flycatcher						N	N
Muscicapa griseisticta	Grey-streaked Flycatcher	X						
Muscicapa randi	Ashy-breasted Flycatcher							
Eumyias panayensis	Verditer Flycatcher	X	X	X	X	N, x		X



Species	Common Name	Alcala and Carumbana 1970 & 1980	Erickson and Heideman 1986	Cambridge-Philippines 1991	Paalan 1992 and 1996	Siaton 2000	Sta. Catalina 2000	Hinoba-an 2000
Ficedula westermanni	Little Pied Flycatcher			X	X?			
Ficedula narcissina	Narcissus Flycatcher	X						
Ficedula mugimaki	Mugimaki Flycatcher							
Ficedula hyperythra	Snowy-browed Flycatcher		X	X	X	X		X
Cyornis rufigastra	Mangrove Blue flycatcher	X			X			
Culicicapa helianthea	Citrine Canary Flycatcher		X	X	X	N, x	X	X
Rhipidura cyaniceps	Blue-headed Fantail	X	X	X	X	N, x	N	X
Hypothymis azurea	Black-naped Monarch	X		X	X	X	X	X
Hypothymis coelestis	Celestial Monarch	X						
Terpsiphone cinnamomea	Rufous Paradise Flycatcher							
Pachycephala homeyeri	White-bellied Whistler		X	X	X	N, x	N	N
Motacilla alba	White Wagtail				X			
Motacilla flava	Yellow Wagtail		X					
Anthus hodgsoni	Olive Tree Pipit	X						
Anthus novaeseelandiae	Richard's Pipit	X			X	X	X	X
Anthus gustevi	Pechora Pipit	X						
Artamus leucorhynchus	White-bellied Wood Swallow	X			X	X	X	X
Lanius schach	Long-tailed Shrike				X	X	X	X
Aplonis panayensis	Philippine Glossy Starling				X			
Sarcops calvus	Coleto	X		X	X	N, x	N	N
Anthreptes malaccensis	Plain-throated Sunbird							
Nectarinia sperata	Purple-throated Sunbird	X		X	X	X		
Nectarinia jugularis	Olive-backed Sunbird	X			X	X	N	X
Aethopyga flagrans	Crimson Sunbird	X		X	X		X	
Aethopyga shelleyi	Lovely sunbird				X			
Aethopyga siparaja	Magnificent Sunbird	X			X	N, x	N	N
Dicaeum australe	Red-keeled Flowerpecker	X		X	X	X	X	X
Dicaeum haematostictum	Visayan Flowerpecker			X		X?	X?	
Dicaeum retrocinctum	Scarlet-collared Flowerpecker					X?	X?	
Dicaeum aeruginosum	Striped Flowerpecker							
Dicaeum trigonostigma	Orange-backed Flowerpecker	X		X	X	X	X	X
Dicaeum pygmaeum	Pygmy Flowerpecker	X		X	X		X	
Dicaeum bicolor	Bicolored Flowerpecker			X	X	N, x	X	X
Zosterops everetti	Everret's white-eye			X	X	N, x	N	
Zosterops nigrorum	Golden-yellow White-eye	X		X	X	N, x	X	X
Zosterops montanus	Mountain White-eye	X		X	X	N, x	N	X
Erythrura viridifacies	Green-faced Parrotfinch				N•			
Padda oryzivora	Javan Sparrow				X	X	X	X
Lonchura leucogastra	White-bellied Munia	X			X	N, x	X	X

Species	Common Name	Alcala and Carumbana 1970 & 1980	Erickson and Heideman 1986	Cambridge-Philippines 1991	Paalan 1992 and 1996	Siaton 2000	Sta. Catalina 2000	Hinoba-an 2000
Lonchura malacca	Chestnut Munia	X			X	N	X	
Total number of Species						97	95	80

Legend:

N	-	Netted
X	-	Observed
X?	-	Needs to be confirmed
Cd	-	Pet animal; measurements taken
M	-	museum specimen
R	-	reported by locals (ethnobiology)
N•	-	Netted 1996
#	-	as listed in Alcala and Carumbana (1970, 1980)

Appendix I I. Threatened Species Accounts

A. White-throated Jungle Flycatcher *Rhinomyias albigularis*

A lowland species that inhabits the dark understory of tall, mature forest (Dickinson *et al,* 1991) while recent information on White-throated Jungle Flycatcher suggests a range of habitats from primary forest, secondary forest to a tree nursery (Collar *et al.,* 1998). Known only from two islands in the Philippines, Negros and Panay. The 1991 survey (Brooks *et al.* 1992) recorded the species only in Banban, Ayungon. Current status of the species is Endangered (Collar *et al.,* 1998).

In this study, sightings of the Jungle Flycatcher include open canopy forests near existing trails and dark understory of tall, mature forest in both Sta. Catalina (658m elevation) and Hinoba-an (260m elevation). Most observations were in forest below 1000 m asl. The bird was unobtrusive and gives very limited call (observed to sing in March, D. Allen, pers. comm.). Two individuals were netted, one in Sta. Catalina and the other was in Hinoba-an. Both were obtained in nets set (lowest net panel was placed a meter above ground) in dark understories of mature secondary forests. Biometrical data were obtained before the birds were released.

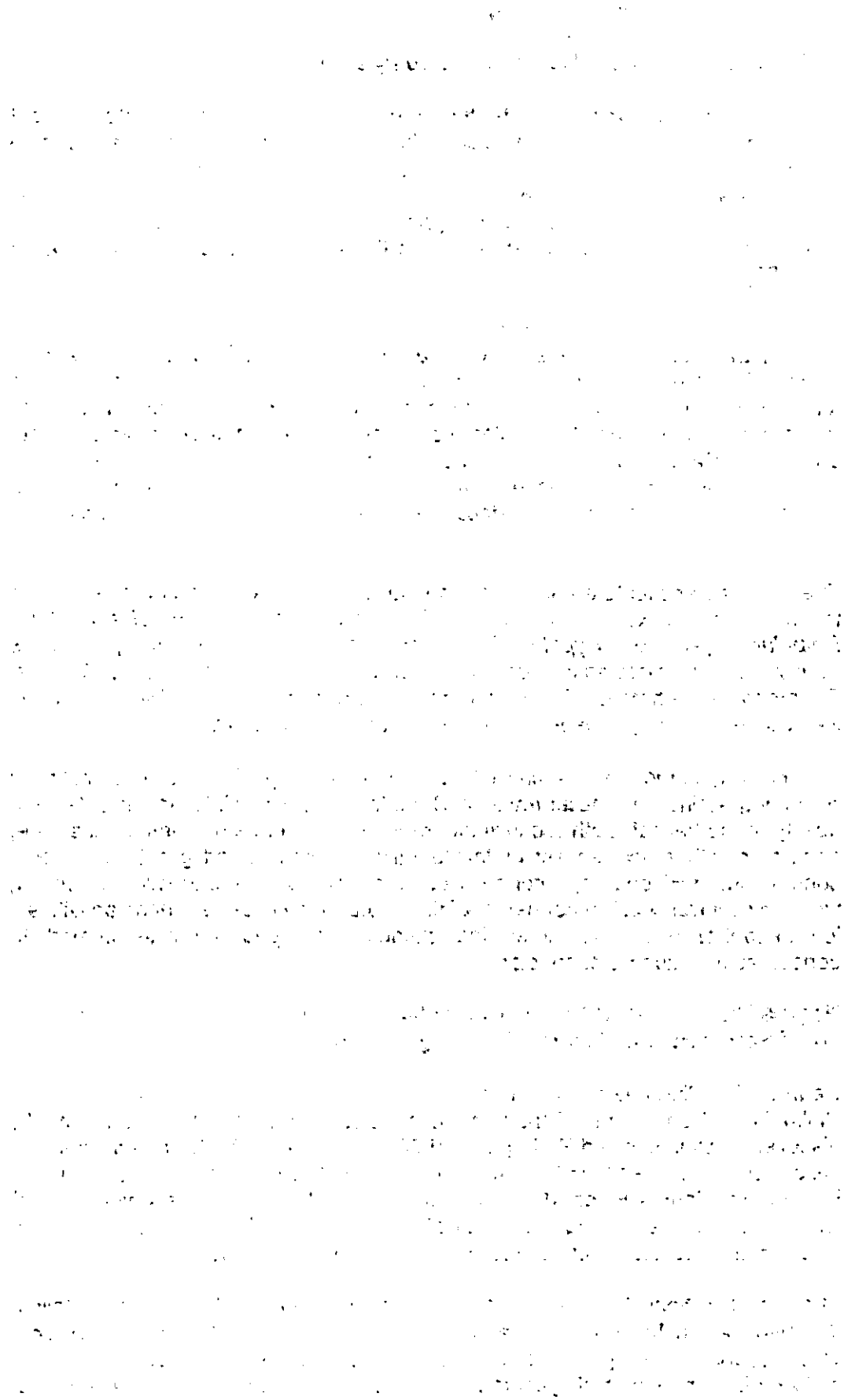
The bird was encountered singly, often following mixed-species flocks feeding in the understory. Mixed-species feeding flocks were composed of *Sitta frontalis, Rhipidura cyaniceps, Hypothymis azurea, Pachycephala homeyeri, Eumyias panayensis, Dasycrotapha speciosa, Parus elegans, Culicicapa helianthea, Pericrocotus flammeus, Zosterops* spp., *Phylloscopus* spp., *Dicaeum* spp., *Aethopyga siparajja, A. flagrans* and *Dendrocopus maculatus.*

The requirement for such habitat places the species more at risks of becoming extinct. It's occurrence in Damotan and Sta. Catalina indicates the quality of the habitat. Both are lowland forest with high rate of disturbances. Fire, generated either accidentally or incidentally has contributed greatly to habitat contraction. In Hinoba-an, reports reveal correlation of deer and wild pig hunting with fire occurrences. Timber harvest follow safter fire incidents. These activities if left uncontrolled will guarantee the extinction of species unless immediate conservation actions is conducted.

B. Negros Bleeding-heart Pigeon *Gallicolumba keayi*
Local Name: Banatad/manatad pula ug dughan

Negros Bleeding-heart Pigeon is known to occur on two islands in the Philippines: Negros and Panay. Its occurrence on Panay was just recently discovered (Diesmos and Pedregosa, 1996, Curio *et al.,* 1997). The species was lasts recorded in Mambucal in 1991 (Brooks *et al,*1992). Ethnobiological surveys in southern Negros reported two localities (Mt. Talinis and Lake Balinsasayao) where the species was said to occur (Diesmos and Pedregosa, 1996). Current status of the species is Critically Endangered (Collar *et al.,*1998).

The Bleeding-heart Pigeon was observed only in one locality in Sta. Catalina. The bird was flushed once near a trail in open canopy forest (685 m asl). Twice it was observed feeding in the ground and flew to nearby small trees when disturbed. From ethnobiological reports obtained, local hunting of the species for



food and trade was rampant. Larger species of birds are favorite targets, and the bleeding-heart pigeon was no exception. Reports also revealed that the bird was seldom encountered.

The forest fragment in Sta. Catalina is rapidly contracting in size. The existing trails and hunting activities further increased the risks of losing both the habitat and the species. Sta. Catalina Environment Kabanikanhan, Kalambu-an Association Inc. (SEKKAI) in cooperation with DENR works on habitat restoration activities, introducing exotic species (*Gmelina, Sweitenia, Acaccia*) in forest edges, clearings and buffer zone areas. The existing National Highway connecting Pamplona to Sta. Catalina possess risks to the habitat and its wildlife allowing transport and uncontrolled entry to the forest. The plan to develop a dam in one of the rivers emanating from the area will have to be carefully studied so as not to sacrifice biological diversity. One should bear in mind that with very limited forest cover left, any form of disturbance will have a detrimental effect on the fauna and flora.

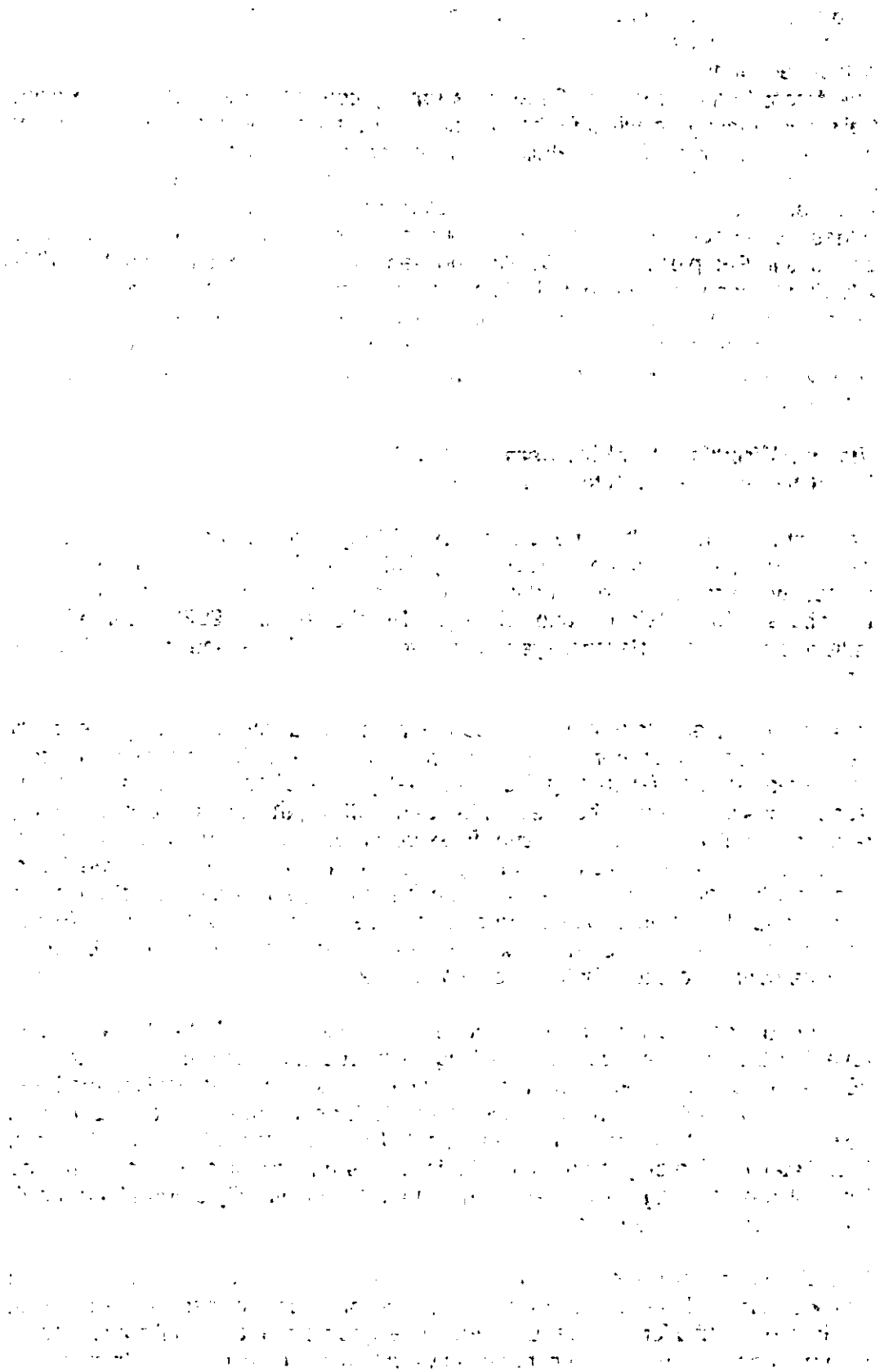
C. Visayan Wrinkled Hornbill *Aceros waldeni*
Local Name: Talalak, dulungan, kalaw

Taxonomic listing for this species followed Sibley and Monroe (1992) (following Kemp, 1988) and treatment provided by Collar *et al.*,(1998). Visayan Wrinkled hornbill was previously collected in all three sites in the early 1960' s and 1970's (Hinoba-an, Sta. Catalina and Siaton). Brooks *et al.* (1992) recorded four individuals in Lake Balinsasayao. Current status of the species is Critically Endangered.

Visayan Wrinkled Hornbill was uncommon in Canaway, Siaton in the early 1980's. Forest cover then extends down to 500-600 meters elevation. At that time, small groups (averaging 3-5 individuals) were observed feeding in *Ficus* trees or passing through the area. In the early 1990's, the species was reportedly rare with sightings limited to deeper forested areas above 800 meters elevation. At present individuals were extremely rare and located farther into the forest interior. Most locals do not even remember seeing the species, except for a few who frequently venture inside the forest. The species was recorded only in Siaton and Sta. Catalina. A lone female was observed twice, perched in the subcanopy of close canopy forest in Siaton. Elevation was at 1100 m asl.

Hunting of the species was reported even in the early 1970's. Local reports revealed that a female and two nestling were poached from the nest last April 2000 about three kilometers northwest of Hapon-haponon. One nestling died and the other was sold to a nearby town. Reports further states that the species is now very rare in both areas. Visayan Wrinkled Hornbill was not seen nor heard in Sta. Catalina. The only information obtained was on one male Visayan Wrinkled Hornbill kept in a cage. This was caught in the forests vicinity of Moratorium with an elevation of 568-700 m asl.

The bird is one of the most critically endangered species of the world. Visayan Wrinkled Hornbills require good quality habitat of extensive mature forests. With its limited distribution and requirement of a good habitat, a slight increase in hunting pressure and habitat contraction would push the species to extinction.



D. Visayan Tarictic Hornbill *Penelopides panini*
Local Name: Tarictic, Terek, Talusi

Locally known as "Talusi" or "terek", Visayan Tarictic Hornbill is known to occur in several islands in the West Visayas. Current distribution shows that it is now limited to the lowland forests of Negros and Panay islands. Current status of the species is Endangered.

The species was encountered in all three sites. Most observations were in degraded forest, forest edge and secondary forest. The bird was observed usually in pairs or singly, forming flocks or congregates in feeding areas. Individuals in Hinoba-an were observed to roost in degraded secondary forest patches in cliffs. Number of individuals participating in a party range from 3 to 5 individuals. In one occasion in Hinoba-an, a total of five individuals (3 male and 2 females) were observed in one flock. Two nest sites, unoccupied and reportedly used by the Taricitic Hornbills as revealed by the locals.

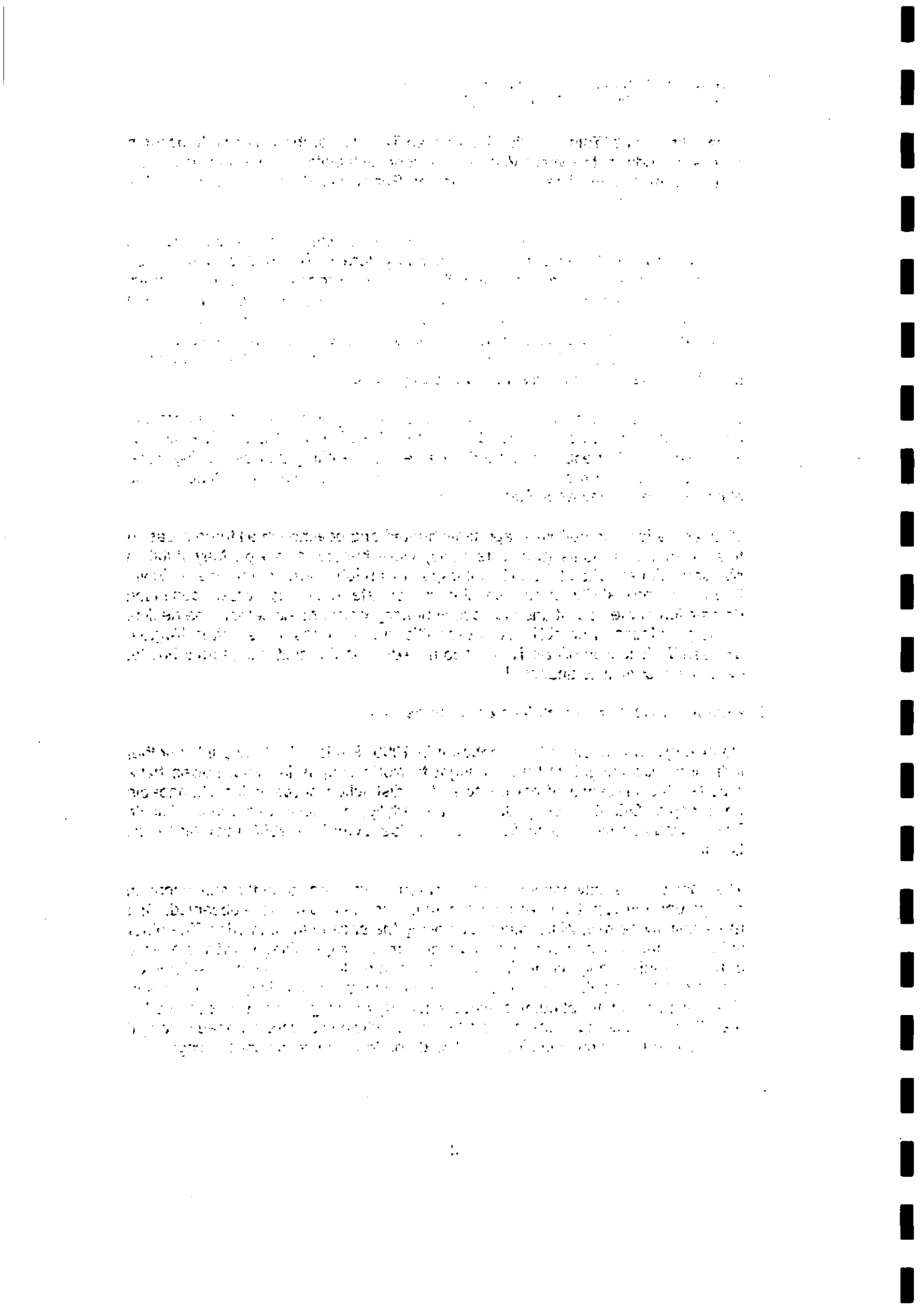
Calls were made intermittently early in the morning and late in the afternoon. Roosting in pairs were observed both in Sta. Catalina and Siaton. The species was also seen to frequently utilized tall trees for perching and as nesting sites. Highest elevational record was at 1200 m asl in Hapon-haponon, Siaton. Food plants include a number of *Ficus* species.

Visayan Tarictic Hornbill was reportedly hunted and poached in all three areas. A total of four individuals (two were male) were hunted lasts April-May 2000 in Mantiquil. A pair taken by traditional traps in Dobdob, were sold to nearby town. Even with the ability of the species to tolerate degraded forest, continued destruction of the habitat and increase in hunting pressure exacerbate the decline in the population of hornbills. With very little lowland forest cover left in Negros, Visayan Tarictic Hornbill will likely become extinct in the next few years if habitat destruction continues unabated.

E. Philippine Hawk-Eagle *Spizaetus philippensis*

Hawk eagle was observed in Hinoba-an in 1996 (Paalan, 1996, unpub). Another individual was caught and was brought to North Negros in 1998. Locals have reported the presence of hawk eagles but distinction between the changeable hawk-eagle, Oriental Honey Buzzard and Philippine Hawk eagle was difficult. Two individuals were taken from the nest last April-May 2000 near Mantiquil, Siaton.

The species was only observed in Hinoba-an. It was soaring in the subcanopy in a degraded forest patch in Arom, Damotan. Two individuals were observed. One has a distinct narrow, white, mark seen along the base of the primaries. The other individual had blotches of brown and white on its wings. Wing primaries have a dark brown-black edge color. Tail feathers have dark bands on the dorsal portion with a distinctive subterminal black band underneath contrasting the gray color. The activity lasted for about five minutes in early morning. A pair was observed in the afternoon soaring in the same area. Two individuals were reportedly caught near Mantiquil, Siaton. One individual died and the other was kept in a caged.



F. Rufous-lored Kingfisher *Todiramphus winchelli*

Rufous-lored Kingfisher is distributed in the southern half of the Philippines. The species was not observed in previous studies in Negros including the 1991 survey. *Todiramphus winchelli* was believed locally extinct in Negros (Brooks *et al., 1992* and Collar *et al.,* 1998).

The species appears to be uncommon in all three sites. Individuals were encountered near creeks and streams in mature secondary forests. All observations were in forest interior with elevation ranging from 235 to 1200 m asl. Calls were heard early morning and late afternoon. Usually perched in the midstory and understory, either silently perching or giving out alarming call when flushed. Only one individual was observed in Hinoba-an perching silently in the understory near a creek.

G. Flame-templed Babbler *Dasycrotapha speciosa*

Formerly called *Stachyris speciosa,* this species is distributed only in Negros and Panay, inhabiting low altitude forest (below 1000 m elevation). Reported localities in Negros include Mt. Talinis, Lake Balinsasayao, Ban-ban, Mambucal and Guintubdan. Current status of the species is Endangered.

Flame-templed Babbler was observed in all three sites. The bird was frequently observed to join in mixed species feeding flocks, gleaning in the understory with a short, rapid, flight. Participants included Elegant Tit (*Parus elegans*), White-eyes (*Zosterops* spp.), Leaf Warblers (*Phylloscopus* spp.), Blue-headed Fantail (*Rhipidura cyaniceps*), Yellow-billed Nuthatch (*Sitta frontalis*), Philippine Pygmy Woodpecker (*Dendrocopus maculatus*), *Pachycephala homeyeri,* Island Verditer Flycatcher (*Eumyias panayensis*), Citrine Canary Flycatcher (*Culicicapa helianthea*) and Philippine Bulbul (*Ixos philippinus*). Observations were usually made in forest edge and degraded secondary forests as well as close-canopy forests. On one occasion, the bird was observed to form a single species group composed of four to six individuals. The species was also observed to join Philippine Tailorbird while feeding in the understory (*Orthotomus castaneiceps*). Flame-templed Babbler was recorded in all three sites. The occurrence of the species in forest edges demonstrates its tolerance of degraded habitats. Observations were parallel with the results of the 1991 survey.

H. White-winged Cuckoo-shrike *Coracina ostenta*
Local Name: Iyak-iyak, kuliyak, kuliyakyak

White-winged Cuckooshrike is a lowland species that occurs together with Bar-bellied Cuckooshrike. Known to occur in low altitude forest of Negros and Panay, the bird is classified as Vulnerable.

The species was observed fairly commonly in all three sites with elevation ranging from 235m to 1200m. The bird was usually observed to follow mixed species flocks composed of Balicassiao, Bar-bellied Cuckooshrike, Coleto, Philippine Bulbul, Bee eater and Philippine Oriole. Encounters were usually in forest edge and secondary forests with the species utilizing the subcanopy of tall, large dipterocarp trees. Records in Hinoba-an indicate that White-winged Cuckooshrike tolerates degraded forests to some extent. Results parallel the observations in Banban where the bird appeared to be able to adapt to some extent to poor quality forests. Ethnobiological survey revealed that *C. ostenta*

along with other birds was locally hunted in Mantiquil, Siaton as well as in other areas.

I. Philippine Mallard *Anas luzonica*
Local name: Patong ihalas

The Philippine Mallard has a wide distribution. Hunting pressures have put the species under the Vulnerable category. Reports obtained were in the Hinoba-an area. The species was reportedly hunted in Wild Duck Lake in Kabigti-an near Maglinao, Basay along with the Whistling Duck. Two caged individuals of Philippine Mallard were observed in one family in Basay. The species was hunted through the use of nets. Nests were observed near water-logged areas and eggs were collected for food.

J. Other species

Pink-necked Imperial Pigeon (*Ducula poliocephala*), listed as Near threatened by Collar *et al.,* (1998) was observed in all three sites. The bird was frequently encountered perched and calling in the canopy of tall, dipterocarp trees. Twice observed in secondary forests and forest edge feeding on fruiting trees. Locals reportedly hunt the species for subsistence and at times kept it as a pet.

The near-threatened Blue-naped Parrot *T. lucionensis,* was observed in all three sites. The bird was uncommon and reportedly hunted for the pet trade in all three sites. Ethnobiological survey showed Siaton and Sta. Catalina the highest incident for hunting birds, especially parrots for trade. All species of parrots were poached in the nest holes however a high preference was given to Blue-naped Parrots and Hanging Parakeets. Six individuals of parakeets (four females and two males) were seen in cages in Mantiquil while an additional three more females were observed in Sta. Catalina. Reports in Basay reveal five more Parakeets in cages. Four individuals of *T. lucionensis* (two pairs) were observed in Sta. Catalina caught by a local hunter. A Traditional hunting method was used. A male parrot was tied to branch with bait and "kapulot". Calls made by male parrots attract other parrots, usually females, to stick to the "kapulot".

Philippine Needletail was observed in all three sites but appears to be uncommon in the area. One individual was netted and biometrical data was obtained before release.

Appendix III. Significant Records from Panay

A. Bulabog-Puti-an National Park

Ornithological survey in Bulabog-Puti-an National Park includes notes taken by Evans *et al* (1992) and visits conducted by birdwatchers. Significant species of birds recorded includes the Blue-crowned Parrot (*Tanygnathus lucionensis*), Negros Bleeding-heart Pigeon (*Gallicolumba keayi*), Philippine Hanging Parakeets (*Loriculus philippensis*), Visayan Tarictic Hornbill (*Penelopides panini*) and Visayan Flowerpecker (*Dicaeum haematostictum*).

Bulabog-Puti-an National Park was visited for 4 days last July 2000. The 854.33 ha of protected area are surrounded by 9 barangays. Local community representatives from five barangays (Lip-ac, Moro-Boro, San Enrique, Lincud and Dingle) were interviewed. Respondents were forest wardens, barangay council members, farmers and locals who had lived in the area for more than 50 years.

Significant Records of Species

Reports of several species of special conservation interest include the Visayan Tarictic Hornbill (*Penelopides panini*), Blue-crowned Parrot (*Tanygnathus lucionensis*), Negros Bleeding-heart Pigeon (*Gallicolumba keayi*), and Pink-necked Imperial Pigeon (*Ducula poliocephala*). Sightings of the Visayan Tarictic Hornbill and Negros Bleeding-heart Pigeon were limited to the surrounding degraded secondary forest near Maasin Watershed area. Both species were hunted and appeared rare in the forested sites. A lone Visayan Tarictic Hornbill was seen last December 1999. Four individuals of Negros Bleeding-heart Pigeon were observed last April 2000 within the park.

The committed efforts of the staff and the growing awareness of the people had contributed to the decline of timber poaching and wildlife hunting inside the park. However illegal removal of timber still occurs in clandestine operations. The reported presence of significant species marks the need to conduct detailed survey as very little forest is left on the national park.

B. Pandan, Northwest Panay

Panay Island has a total of 45,000 ha of closed canopy forest in the early 1990's where an estimated 7, 000 ha occur on the northwest peninsula. This patch of forest is separated from the central Panay mountain range by approximately 20 km of agricultural plain. The highest peak has an elevation of 915m, located in Mt. Tinayunga. The forest consist of three major portions: an eastern portion in the Malumpati watershed, a central portion around Mt. Tinayunga and a western portion which holds stands of tall, dipterocarp trees (de Soye *et al,* 1997). Locals have reported lack of surface ground water in almost the entire range, with substrate predominantly composed of limestone. Both the lack of water and the ruggedness of the terrain contributed to the protection of the forest from logging and human settlements.

Ornithological Survey

Diemos and Pedregosa (1996) reported the presence of Bleeding-heart Pigeon and Visayan Hornbills in several localities in Panay central mountain ranges as well as the northwest peninsula. The studies of de Soye (1997)), Curio *et al*, (1997) had confirmed the presence of Negros Bleeding-heart Pigeon, Visayan Hornbills as well as new records of threatened birds (White-throated Jungle Flycatcher, Green Parrot-finch, Philippine Hawk Eagle) and several others (*Phylloscopus swarzi*). Birdwatchers had also visited the area including B. King, E. Klop, D. Allen, Meyers and J. Hornbuckle.

Significant records of Species

A total of 6 sites in Pandan, Antique were visited lasts June 8-14, 2000. Sites visited include sitios and barangays surrounding the western portion of the forest (Brgy. Guia, Sto. Rosario, Duyong, Luhod-bayang, Cubay, sitio Bulanao and Malumpati). Respondents were mainly hunters, farmers living near the forest edge and local community members.

Significant reports included the Visayan Wrinkled Hornbill, Visayan Tarictic Hornbill, Negros Bleeding-Heart Pigeon, Pink-necked Imperial Pigeon, Blue-crowned Parrot and Philippine Hanging Parakeets. Mammalian records mentioned the presence of Visayan Warty Pig, Philippine Spotted Deer and a Brown deer. Localities mentioned included Hamtang in Central Panay mountain range. The forest block is still of considerable size, probably the largest lowland forest block on Western Visayas faunal region. Only a small portion contains surface water and may in part have contributed to its preservation. Two localities were mentioned to harbor at least 2 critically endangered species. These were in Sibaliw and Nawili in Hamtang area.

Respondents were aware of the presence of the endangered as well as endemic species of birds of Panay. This was largely due to the efforts conducted by the Philippine Endemic Species and Conservation Project (PESCP), West Visayas State University (WVSU) and working local non-government organizations as well as government organizations. Hunting was still reported to occur in clandestine operations. The traditional use of "lagpit", a kind of snare trap, catches fruit-eating birds particularly pigeons and hornbills. A selection of fruit is placed on a platform where a trap was set. Once a bird reaches for the fruits, the snare snaps the neck of the bird, often resulting to death or severe neck injuries. Individuals that survived the incident were sold while those that were found dead were for subsistence. Egg and nestling were also poached from the nest. Smoking tree holes, a traditional method of harvest, sometimes includes a live female individual. Cutting of trees with active nest holes was no exception.

Other species of birds were also priced as caged animal or for the trade. The Philippine Hanging Parakeet, Blue-crowned parrot as well as the Mountain Racquet-tail Parrot were among those observed kept in cages.

Appendix IV. Significant Records from Siquijor (June 19-21, 2000)

Siquijor Island is located at 9^0 11' N and 123^0 35' E. It is considered as an oceanic island with very distinct species. There are eight known threatened species of birds recorded in Siquijor (Streak-breasted Bulbul, Philippine Cockatoo, Spotted Imperial Pigeon, Rufous-lored Kingfisher, Visayan Flowerpecker, White-winged Cuckoo-shrike, Philippine Hawk Eagle), including one non-breeding resident (Japanese night Heron: *Gorsachius goisagi*). Four of the five subspecies endemic to Siquijor still occur in Bandila-an (*Pachycephala philippensis siquijorenses, Dicaeum trigonostigma besti, Ixos siquiorensis siquijorensis, Zosterops everetti siquijorensis*). No recent record of the endemic subspecies of Philippine Hanging Parakeet (*Loriculus philippensis siquijorensis*) was obtained. Locals claimed seeing a green parakeet in Bandila-an, although in very rare occasions. To date, three ornithological studies had been conducted in the area, one in late 1950's (Rand and Rabor, 1960) and two in the 1990's (Evans, *et al.*, 1993, Pa-alan, 1993). Several birdwatchers had also visited the area including T. Fisher and D. Allen.

A 248 ha of forest reserve covers the center of the island. Elevation ranges from 400 to 630 m elevation with Mt. Bandila-an (638 m elevation) as the highest peak. Secondary forest in Bandila-an occurs in patches interspersed with mature plantations of Mahogany (*Sweitenia*), and other exotic trees (*Gmelina, Acaccia* and *Lucaena*). Communities surround the forest utilizing roads that traversed the reserve.

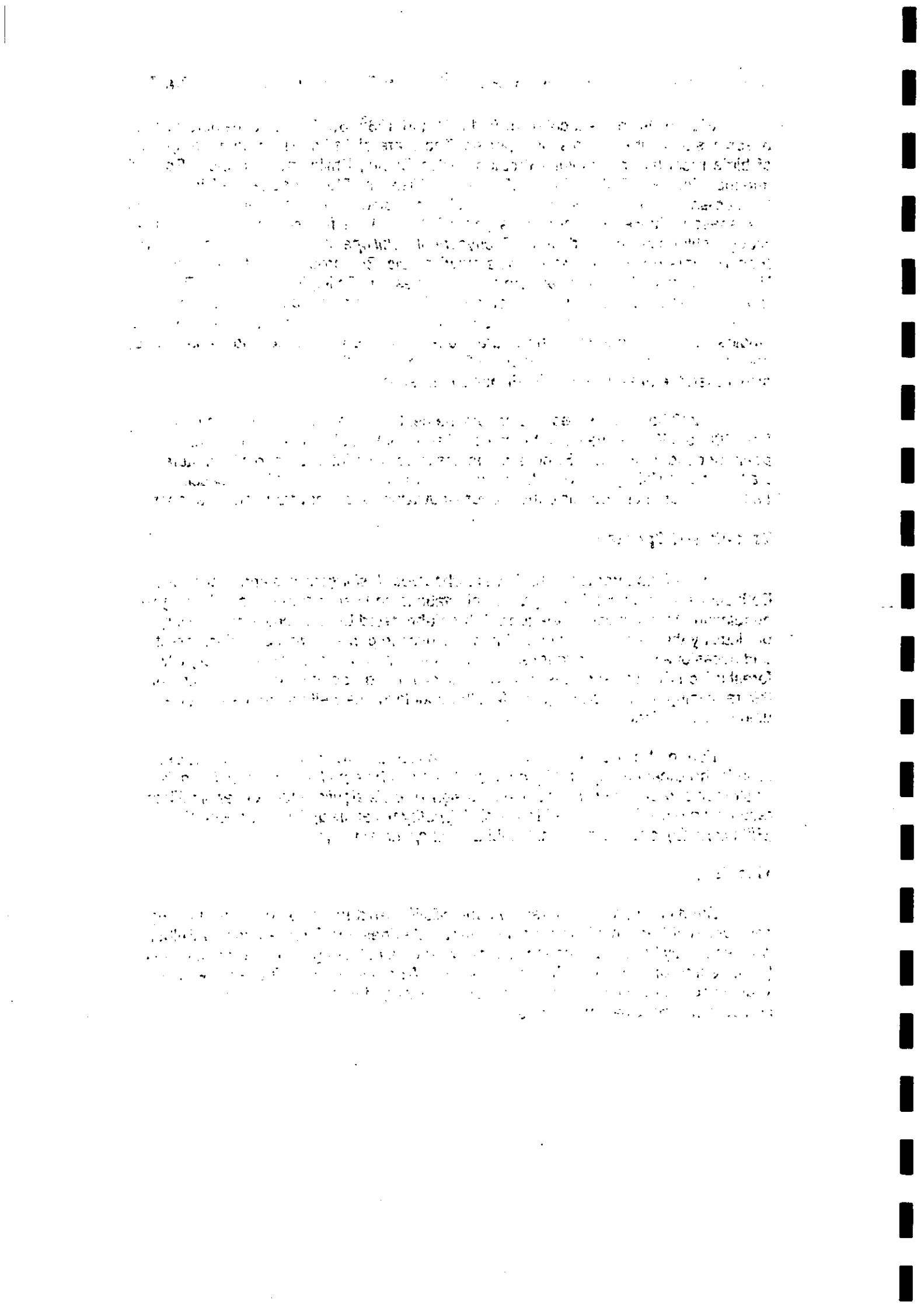
Threatened Species

Two of the threatened birds were observed: *I. siquijorensis* and *T. winchelli.* Both species were seen in 2^{nd} growth, plantations and secondary forest. The largest population of the critically endangered Streak-breasted Bulbul occurs on Siquijor, particularly the Bandila-an range. The bird thrives in primary and secondary forest and occasionally ventures to forest edge and second growth areas. With very little forest left on Siquijor and other islands (e.g. Cebu and Tablas), any modification of this remaining habitat will largely affect the population as well as other subspecies unique to the island.

Four of the subspecies endemic to the island were seen and heard. These include the *Dicaeum trigonostigma besti, Pachycephala philippensis siquijorensis, Zosterops everetti siquijorensis* and *Ixos siquijorensis siquijorensis.* Other significant records were the Black-naped Monarch (*Hypothymis azurea*), Black-hooded Pitta (*Pitta sordida*), and Magnificent Sunbird (*Aethopyga siparaja*).

Threats

Bandila-an as a forest reserve and wildlife sanctuary does not allow hunting and cutting of trees inside the reserve. In forest edges, the Streak-breasted Bulbul was reportedly hunted by the locals for food and as pet along with species of doves (White-eared Brown Dove, Emerald Dove and *Treron vernans*). These were either kept in cages or sold to neighboring islands. Cutting of trees was also reported however in very covert operations.



The island attracts tourist to visit its beaches, caves and hike to Bandila-an peak. Roads and trails traverse the reserve leading to several popular caves. Uncontrolled visits create disturbance to the birds and bats in the area. Opening new trails would further disturb the now critically threatened forest of Siquijor. Plans to minimize disturbance and limit the visits outside ecologically sensitive area is of immediate concern.

Table a. Records of significant species of birds in Siquijor Island (July 19-21, 2000). Information were taken from interviews conducted and sightings in the island.

Species	Common Name	IUCN Status	Evans *et al.*, 1991	Pa-alan 1992	2000
Gorsachius goisagi	Japanese Night-Heron	Vulnerable	-	-	-
Spizaetus philippensis	Philippine Hawk Eagle	Vulnerable	-	-	Possibly Extinct
Gallus gallus	Red Junglefowl		-	-	Ur
Treron pompadora	Pompadour Pigeon		-	-	Possibly Extinct
Phapitreron leucotis	White-eared Brown Dove		X	-	X, r, c
Ptilinopus leclancheri	Black-chinned Fruit Dove		-	X	Ur
Ducula carola	Spotted Imperial Pigeon	Vulnerable	-	-	Possibly Extinct
Ducula aenea	Green Imperial Pigeon		-	-	Ur
Ducula bicolor	Pied Imperial Pigeon		-	-	Ur
Columba vitiensis	Metallic Wood Pigeon		-	-	Possibly Extinct
Caloenas nicobarica	Nicobar Pigeon		-	-	Possibly Extinct
Cacatua haematuropygia	Philipppine Cockatoo	Critically endangered	-	-	Ur
Tanygnathus lucionensis	Blue-crowned Parrot	Near-threatened	-	-	Possibly Extinct
Loriculus philippensis siquijorensis	Philippine Hanging Parakeet		-	-	Ur
Niinox philippensis	Philippine Hawk Owl		X	X	Ur
Collocalia vanikorensis	Island Swiftlet		X?	-	-
Halcyon winchelli	Rufous-lored Kingfisher	Vulnerable	-	-	X
Ixos siquijorensis siquijorensis	Streak-breasted Bulbul	Critically Endangered	X	X	X
Hypothymis azurea	Blue-crowned Monarch		X	X	X
Pachycephala philippensis siquijorensis	Philippine Whistler		X	X	X
Dicaeum trigonostigma besti	Orange-bellied Flowerpecker		X	X	X
Zosterops everetti siquijorensis	Everett's White-eye		X	X	X

Ur = unconfirmed report X = observed in the area C = caged animal - = not observed

Appendix V. Significant Records from Alcoy, Cebu (May 2000)

The island of Cebu forms part of the West Visayas Faunal Region. Majority of it's avifauna are shared with the other islands of West Visayas except for two species of birds unique to the island (Cebu Black Shama, *Copsychus cebuensis* and Cebu Flowerpecker, *Dicaeum quadricolor*). Because of the presence of these two endemic species of birds that thrives in it's severely degraded forest, Cebu becomes an important "biological hotspot" (Collar *et al.*, 1998). These critically threatened species were previously known to survive on a patch of forest on Tabunan, located inside Central Cebu National Park.

Ornithological Survey in Cebu

Bird collections and studies in Cebu on the late 19th and 20th centuries was summarized by Dickinson *et al* (1991). In 1920 and 1937, B. Lawrence made collections on the swiftlets. Dr. D.S. Rabor made his collections and studies in the early 1940's to 1960's. The Cambridge-Philippines Rainforest Survey visited the island in early 1992 and made notes on the presence of Cebu Flowerpecker in Tabunan Forest. The study conducted in 1992 confirmed the presence of these two species and 3 subspecies of endemic birds previously believed to be extinct. These were found in Tabunan forest and in Buhisan area (Magsalay, 1993). Recent surveys conducted by Cebu Biodiversity Conservation Foundation resulted to the discovery of several significant patches of forest other than Tabunan that harbors the three endangered species as well as ten subspecies endemic to Cebu (CBCF, 1999). One of the identified patches of lowland limestone forest was in Nug-as, Alcoy which was visited for four days last May 2000.

Threatened Species

Five individuals of Cebu Flowerpecker were observed feeding in *Aurie* sp. Three individuals were also seen in second growth mixed with plantation. Locals claimed that the two endemic bird species of Cebu were quite common in the area. The Cebu Black Shama was more readily heard singing inside the limestone forest. Other significant records also include Rufous-lored Kingfisher (*Todiramphus winchelli*). The bird was observed twice near the forest edge.

Another critically endangered species, the Streak-breasted Bulbul (*Ixos siquijorensis*) also occur on Alcoy. Previous ornithological surveys had declared the subspecies as possibly extinct on Cebu (Magsalay, 1994, Collar *et al*, 1998). Recent surveys conducted by CBCF had identified populations on Alcoy, Cebu. Cebu specimens differ from *siquijorensis* in several aspects. This study was not able to determine whether the observed species were that of the *siquijorensis* or *monticola* race.

Disturbances in the area where limited to clandestine hunting activities. Local community members themselves protect the forests either from fire and illegal cutting of trees. Encroachment in the forest is progressing at a minimal pace because of the absence of water. It should be noted that very little forest is left in Cebu and any form of disturbance will have a detrimental effect on the remaining endemic flora and fauna.

The practice of collecting nest of Swiftlets (*Collocalia*) in caves poses a threat to the forests and caves in the area. Collection uses traditional methods (torches and kerosene lamp) when entering the cave. Nests were sold either to Cebu City or to Manila at 150 to 300 US dollars a kilo of first class quality nest.

Appendix VI. Mammalian Records in South Negros

As an adjunct to the study of Negros threatened birds, bats were also studied in relatively the same study sites: Siaton, Sta. Catalina and Hinoba-an. Mist nets used were left open at night to capture both nocturnal birds and bats. Canopy and high nets were not employed. However some nets were placed on ridge tops and observed flyways. Tracking for large mammals were opportunistically conducted. Ethnobiological survey on the occurrence of large mammals was presented alongside the survey conducted for birds.

A total of 205 net-nights were allocated for all three sites. Netting efforts allocated for Siaton totaled 106 net nights while in Sta. Catalina and Hinoba-an, 66 and 33 net nights were accrued respectively. It should be taken into account that results in Siaton were obtained from two sites: Canaway (860-900m elevation) and Hapon-haponon (above 1000m).

Results

A total of 17 species of mammals were recorded in all three sites. Nine species of fruit bats were netted of which 3 species were threatened (Tube-Nosed Fruit Bat, *Nyctimene rabori,* Little Golden-crowned Flying Fox, *Pteropus pumilus* and Philippine Pygmy Fruit Bat, *Haplonycteris fischeri*), 4 species of insect bats (Table 2a and 3a). Two of the large mammals recorded were endangered (Philippine Spotted Deer *Cervus alfredi* and Visayan Warty Pig *Sus cebifrons*).

Table 2a. Records of threatened mammals of Negros Island. Status was based on Heaney *et al*, 1998.

Scientific Name	Common Name	Status
Chiroptera		
Pteropus pumilus	Little Golden-crowned Flying Fox	Vulnerable
Nyctimene rabori	Philippine Tube-nosed Fruit Bat	Critically Endangered
Haplonycteris fischeri	Philippine Pygmy Fruit Bat	Vulnerable
Saccolaimus saccolaimus	Pouched Bat	Data deficient
Large Mammals		
Cervus alfredi	Philippine Spotted Deer	Endangered
Sus cebifrons	Visayan Warty Pig	Critically endangered

Siaton

Compared to Sta. Catalina and Hinoba-an, Siaton has the highest number of mammals (15) recorded (Table 3a). Three species of insect bats were netted in Siaton including one data deficient species in Negros (*Saccolaimus*). The Pouched Bat *Saccolaimus saccolaimus* was originally split into two forms, the brown colored were *Saccolaimus saccolaimus* while black-colored species belongs to *Saccolaimus pluto.* The individual caught in Canaway falls within the description provided by Ingle and Heaney (1992) except for the color, which is generally black. Morphological and standard biometrical data was obtained for the *Myotis* species taken in Canaway. Due to the very close disparity between species of *Myotis* identification proved to be difficult.

Two vulnerable species, *Pteropus pumilus* and *Haplonycteris fischeri* were netted. The increased number of species recorded in Siaton could in part due to the higher netting efforts. Between Sta. Catalina and Siaton, Siaton has more endemic species e.g Pygmy Fruit Bat, netted compared to Sta. Catalina.

Locals reported the rare Philippine Spotted Deer indicated by tracks and pellets left on trails on Hapon-haponon. Reports also include areas in Tamlang that lies adjacent to Sta. Catalina municipal boundary. The Visayan Warty Pig was also observed twice in the forest edge near Canaway River. The Visayan Warty pig was frequently hunted by locals, with one hunter collecting 10 lower jaws in the last 3 years.

Hinoba-an

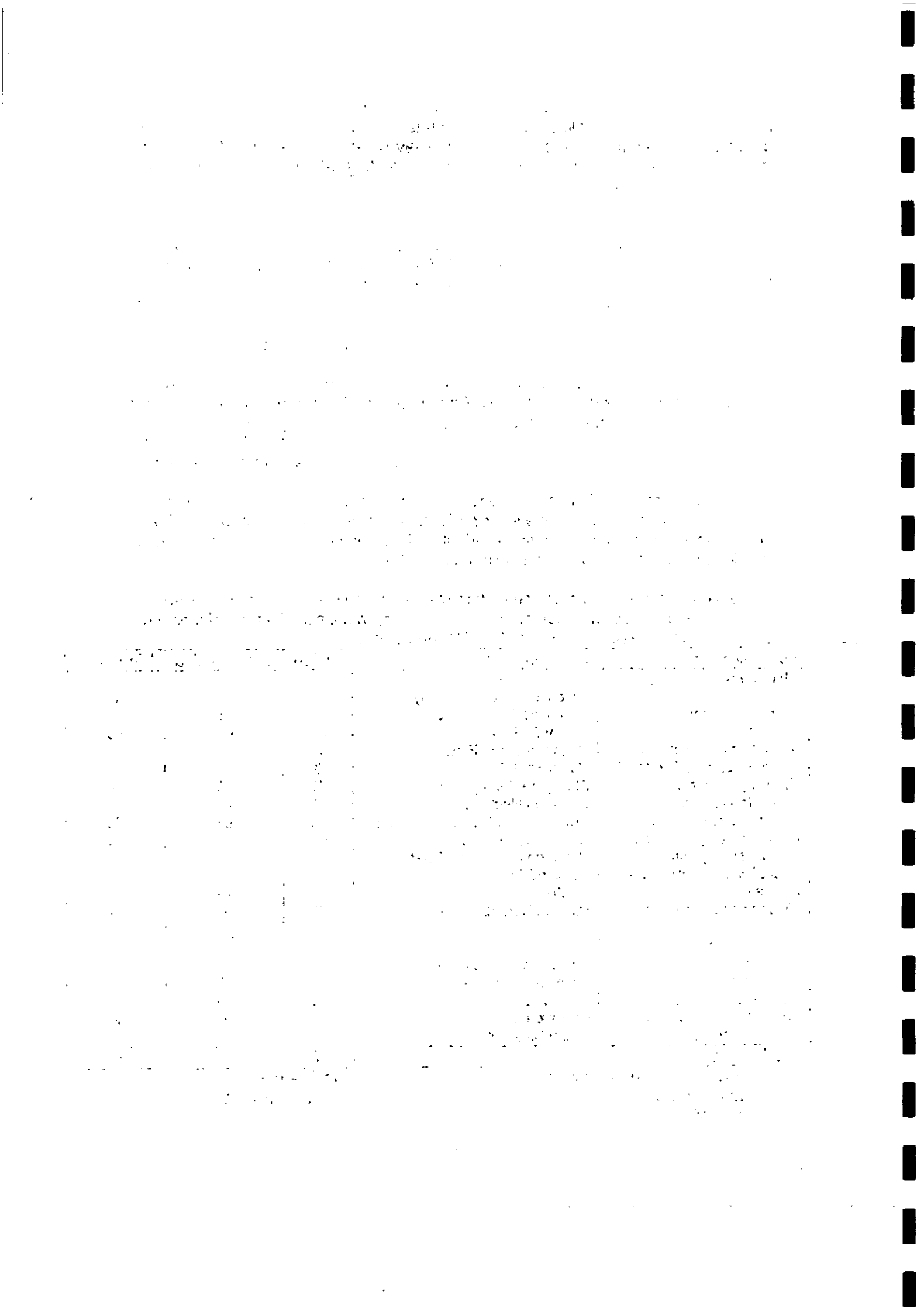
A total of ten mammals were recorded with only 5 species of fruit bats netted. This includes the critically endangered *Nyctimene rabori* and the vulnerable Philippine endemic species *Pteropus pumilus*. A higher number of Little Golden-crowned Flying Fox was recorded in Hinoba-an than Sta. Catalina and Siaton. The Tube-nosed Fruit bat was caught near a stream inside the forest. It is interesting to note that the Philippine Pygmy Fruit Bat was not recorded in Hinoba-an.

Philippine Spotted Deer was encountered once in September 2000. A lone doe was observed eating cogon grass (*Imperata cylindrica*) at about 8:00 o'clock in the evening just 500 meters away from the forest edge. Hunting of the species was rampant, averaging 4 individuals in one week for a group of hunters. Several Spotted deer were reported by locals on Mt. Pamari, were 8 individuals were reported hunted last April 2000. Local hunting includes the use of traditional trap (batong), with nets and clearing some portions of the cogon grass before trapping the animal. A dog is usually used in this activity. Live individuals were sold at 2,000 pesos for small ones and up to 8,000 pesos for adult individuals. Most hunting activity resulted to dead individuals unless a young fawn is taken accidentally.

Table 3a. Mammalian records and netting results recently recorded in south Negros, Philippines (July-September 2000). Netting results for Siaton includes the results taken in Canaway and Hapon-haponon.

Scientific Name	Common Name	Siaton	Sta. Catalina	Hinoba-an
Chiroptera				
*Pteropus pumilus**	Little Golden-crowned Flying Fox	1	—	5
*Nyctimene rabori**	Philippine Tube-nosed Fruit Bat	—	2	2
*Ptenochirus jagor*I*	Musky Fruit Bat	194	163	46
Macroglossus minimus	Dagger-toothed Flower Bat	27	38	3
*Harpionycteris whiteheadi**	Harpy Fruit Bat	3	1	—
*Haplonycteris fischeri**	Philippine Pygmy Fruit Bat	15	19	—
Eonycteris spelea	Common Nectar Bat	3	—	—
Cynopterus brachyotis	Common short-nosed Fruit Bat	46	81	39
Rousettus amplexicaudatus	Common Rousette	—	2	19
Magaderma spasma	Common Asian Ghost Bat	—	—	—
Saccolaimus saccolaimus	Pouched Bat	1	—	—
Myotis sp.	Myotis	1	—	—
Hipposiderus diadema	Diadem Roundleaf Bat	2	—	—
Large Mammals				
Cervus alfredi	Philippine Spotted Deer	R	R	1(5)
Sus cebifrons	Visayan Warty Pig	2	X	R
Macaca fascicularis	Philippine Macaque	R	R(1)	—
Prionailurus bengalensis	Leopard cat	R	R	R
Viviera tangalunga	Malay Civet Cat	R	R	R
Total species		15	12	10

* = endemic to the Philippines no. in parenthesis = pet animal
– = not recorded x = observed
R = recorded



Sta. Catalina

A total of 12 species of mammals were recorded. Included in the list were the threatened Philippine endemic species Philippine Pygmy Fruit Bat, Philippine Tube-nosed Fruit Bat, Philippine Spotted deer and Visayan Warty Pig. Reports on the presence of large fruit bats roosting in colonies near Avocado, Sta. Catalina was noted. Descriptions comes close to *Pteropus* and *Acerodon* species.

The large number of agricultural and clearing associated fruit bats manifested the kind of habitat present in Sta. Catalina. The forest patch was highly fragmented offering more clearings and edges as feeding grounds for more common species of bats.

Threats

Habitat contraction and fragmentation poses high risks on the bats and larger species of mammals in south Negros. The forest in Hinoba-an and Sta. Catalina were more susceptible to degradation and loss being lowland and highly fragmented. The forest in Siaton is now limited to elevation above 850 meters and encroachment had climbed up to 1,300m elevation. Continuing disturbance if left unabated will completely clear what is left of the lowland forest southwest of Mt. Talinis. Hinoba-an with grasslands surrounding the forest patch is more prone to fire. This is largely exacerbated by the rampant practice of burning portions of grassland area to trap and hunt for deer. With these practices, it is anticipated that in the next five years, the patches of lowland forest in south Negros will be lost forever unless conservation actions are immediately implemented.

The practice of hunting fruit bats, particularly in caves, were reported in all three sites. Larger species of fruit bats roosting on trees were also targeted. Already Negros had lost one species to extinction, the Negros Naked-backed Fruit Bat, *Dobsonia chapmani*.

The Visayan Spotted Deer and Visayan Warty Pig had suffered much over the last decade. From its original distribution range, only Negros and Panay harbor significant viable populations. Compared to Panay, Negros had very little forest to offer yet significant populations of these endemic threatened mammals are still found in these areas. It is not too late to implement strict protective measures and habitat restoration activities to conserve the genetic viability of these remaining populations.

Appendix VII. List of localities and corresponding government and non-government organizations working in the area.

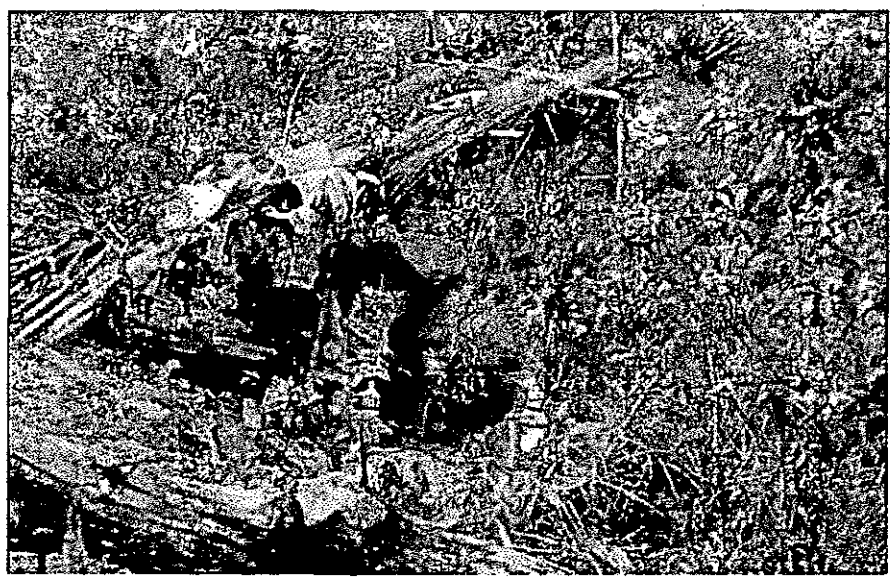
List of Localities	Conservation agencies/Organizations in the area
Negros	
Hapon-haponon, Mantiquil, Siaton	
Balastro, Siaton	
Canaway, Mantiquil, Siaton	Negros Relief and Rehabilitation Center (NNRC), PO, DENR
Damotan, Hinoba-an	
Arom, Hinoba-an and Basay	DENR, People's Organisation
Mt. Pamari, Basay	DENR
Kapudlusan, Avocado, Sta. Catalina	SEKKAI, DENR
Payao-payawan, Sta. Catalina	SEKKAI, DENR
Moratorium, Calinawan, Sibulan	Silliman Univ., DENR, NGO, CUFAI
Dobdob, Valencia	
Mag-ilabi, Sta. Catalina	
Cebu	
Cambudlot, Nug-as, Alcoy	Cebu biodiversity Conservation Foundation Inc. (CBCF), KMYLB people's Organisation, Counterpart International (CI), DENR
Panay	
Pandan, Antique	PESCP, DENR, Endemic Species Rescue Center
Malumpati, Guia	PESCP, DENR
Sto. Rosario	PESCP, DENR
Duyong	PESCP, DENR
Hamtang	PESCP, DENR
Culasi, Antique	PESCP, DENR
Cubai, Libertad, Antique	PESCP, DENR
Danao, Caningas, Mt. Madja-as	Negros Forum, WVSU, DENR
Aglonuk and Kalinog, Mt. Baloy	Negros Forum, WVSU, DENR
Bulabog-Puti-an, Ilo-ilo	DENR
Siquijor	
Bandila-an, Siquijor	DENR

Common Name:	White-throated Jungle Flycatcher
Scientific Name:	*Rhinomyias albigularis*
Status:	Endangered
Distribution:	Negros and Panay Islands, Philippines
Habitat:	Dark understories of mature lowland forest

... Not more than a hundred hectare in size and severely fragmented, the Last Rainforest of Hinoba-an supports a total of 11 threatened species including the White-throated Jungle Flycatcher.

The BP Conservation Programme
Negros Threatened Avifauna Project Team

Negros Team



Life in the field