SPECIES CONSERVATION ASSESSMENT & ACTION PLAN 2001-2006[1]

SEYCHELLES MAGPIE-ROBIN
PI SANTEZ
Copsychus sechellarum

SUMMARY CONSERVATION ASSESSMENT & ACTION PLAN GOAL AND OBECTIVE	
IUCN Threat Status	*Critical D1*
Range	*4km²*
Population estimate	*105*
Population trend	*Increasing*
Altitude	*Lowland*
Habitats	*Forest, Artificial*
Threats	*Habitat loss and degradation, invasive species, land/water pollution, other*
GOAL	***Down listing from 'Critical' to 'Endangered' by 2006***
OBJECTIVE	***200 mature individuals on 6 islands within Granitic Seychelles by 2006***

Authorship
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1. INTRODUCTION

Copsychus sechellarum was probably a ubiquitous resident throughout the Granitic Seychelles Endemic Bird Area[1] prior to the establishment of the first permanent human settlement in the 1770s. Its history of decline is unknown until the 1860s. The species was first described in 1865[2] and over the next decade, reasonably comprehensive records of presence and absence were obtained[3,4]. At this time, it was only known from eight islands with possible records from a further five. The population decline continued through to the next century, such that in the 1960s it was solely confined to Fregate. Here, a small and highly vulnerable population of between 10 and 50 birds persisted until the launch of a species recovery programme in 1990. This major investment, principally of a full time conservation biologist, started to reverse the trends by a programme of detailed research followed by management including a successful programme of translocation[5,6]. Currently the population is stable at around 100 birds with supported but self-sustaining populations on Cousin, Cousine and Fregate and a non-breeding pair on Aride. Recent, successful eradications of introduced alien mammals in 2000 have created the potential for establishment of populations on Denis and Curieuse[7].

Status and level of biological knowledge (Not known, 1-poor, 2-adequate, 3-good)		
Population	Size	2 good knowledge since 1970s
	Trend, numbers	2 good knowledge since 1970s
	Trend, range	2 good knowledge since 1870s
Knowledge of	Status	3 excellent since 1990
	Trends	2 good since 1970s
	Conservation Requirements	2 good knowledge since 1990

2. FAMILY & GENUS

Copsychus is a predominantly Asian genus comprising eight species within the large Flycatcher (Muscicapidae) family (451 species in Sibley & Monroe 1993[8]). The genus comprises three common and widespread species found in Asia (*C. saularis*, *C. malabaricus*) and Madagascar (*C. albospecularis*) as well as other restricted-range, island endemics in the Philippines (*C cebuensis*, *C. niger*). *C. malabaricus* has been introduced to Hawaii and is regarded as a pest species[9]. *C. sechellarum* is the largest member of the genus and morphologically distinct.

Latin name	English name	Range
Copsychus sechellarum	Seychelles magpie-robin	Seychelles
Copsychus albospecularis	Madagascar magpie-robin	Madagascar
Copsychus saularis	Oriental magpie-robin	South Asia
Copsychus malabaricus	White-rumped shama	South-east Asia
Copsychus stricklandii	White-crowned shama	Indonesia, Malaysia, Borneo
Copsychus luzoniensis	White-browed shama	Luzon, Philippines
Copsychus niger	White-vented shama	Palawan, Philippines
Copsychus cebuensis	Black shama	Cebu, Philippines

3. IDENTIFICATION

Copsychus sechellarum is an unmistakable large, black and white chat with a hopping gait and upright posture. Its distinctive, undulating flight, tame habits and opportunistic character, makes it one of the most readily observed and unmistakable of the Seychelles endemic birds. The adult plumage has a purple sheen when observed in sunlight and a bright, white wing patch. The juvenile plumage is duller and the white patch is heavily barred. Females are significantly less heavy and shorter winged than males.

Mean measurements of adult *Copsychus sechellarum*, 1988-1995
*** indicates *t-test P*<0.001**

Parameter	Male (se)	Female (se)
Weight (g)	74.25 (0.50)	67.98 (0.50)*
Wing (mm)	122.18 (0.31)	115.39 (0.30*)
Tarsus (mm)	39.00 (0.28)	38.68 (0.44)
Bill (mm)	23.41 (0.58)	22.35 (0.59)

Voice: A highly vocal species with a liquid song heard throughout the day but especially before dawn and in the late afternoon. In addition, a series of harsh, scolding 'chacks' and high pitched whistles used in aggressive encounters with rivals and potential predators. Older nestling and dependent young birds have a distinctive high pitched, begging call.

4. RANGE AND POPULATION

Copsychus sechellarum is currently restricted to four islands comprising Fregate (219ha), Cousin (29ha), Cousine (28ha) and Aride (64ha). The total occupied range is thus less than 350ha. The population size is summarized below, as is the number of territorial pairs. Given that the population on all islands, except Aride is saturated and territory size is approximately 4ha, this provides an indicator of the relatively small amount of usable, forest habitat especially on Fregate. The world population is thus limited to around 25 territorial pairs.

SIZE AND LOCATION OF POPULATIONS		
Location	Estimated population size (territorial pairs)	Year of most recent estimate
Fregate	61 (14-15)	2000
Cousin	27 (6-7)	2000
Cousine	15 (3-4)	2000
Aride	2 (1)	2000

5. ECOLOGY

Copsychus sechellarum is highly territorial and largely monogamous (polygamy has been recorded), long-lived species with estimated adult survival of over 15 years. It lays a single egg in a well-built nest located in a tree hole or coconut crown and readily adapts to nest-boxes. The female typically does most incubation with 4+ bouts per hour. Incubation lasts for around 18 days and a similar period for the nestling period. Both sexes feed the dependent young in the nest and for around 2-3 months after leaving the nest. Young birds are poor fliers immediately after leaving the nest and are then most vulnerable to predation. They spend most time low to the ground well concealed vegetation. Most young stay within the parental territory until adult moult, which occurs after about a year.

Preferred habitat is coastal forest although low hill forest is occupied on Fregate and the total niche breadth is difficult to determine. Habitat structure is a tall, closed canopy with sparse understorey and ground vegetation but abundant leaf litter in which to forage.

The species is territorial with a dominant pair defending a well defined, core area around favoured nest sites and feeding areas. Immature birds from previous breeding attempts and sometimes other adults comprise territory groups of up to eight birds. Recent research on Cousin indicates that territory establishment and size reflects the quality of the ground dwelling prey[10]. Foraging rate has also been correlated with territory quality[11]. Preferred food is predominantly cockroaches and other soil invertebrates but also small skinks. However, *C. sechellarum* like other *Copsychus* species is highly opportunistic, foraging close to human habitation for scraps and in gardens, and scavenging discarded or dropped fish prey within seabird colonies.

C. seychellarum has also recently undertaken a few Inter-island movements from islands with saturated populations.

6. SOCIO-ECONOMIC CONTEXT

Permanent human settlement has led to various impacts up until the early 1970s and all have been negative through human persecution, introduction of alien species, habitat loss and degradation. The pioneering conservation efforts initiated in the 1960s led to a turnaround in fortunes for the species (and biodiversity generally) and a reversal of many of these trends through legislation, nature reserve acquisition/declaration, more enlightened and responsible management by island owners, and enlightened public attitudes.

The species has been a ready flagship for national and international conservation efforts even though most local people have never visited the small offshore islands and seen the species. It occurs on many of the nation's stamps, a Praslin volleyball team has adopted the name, as have various locally registered boats. Press coverage and related outputs especially after the initiation of the Recovery Program in 1990 have always ensured a high public profile in the media. Localisation of the Recovery Programme, through the creation of BirdLife Seychelles in 1998 has increased local participation and understanding. The species has also formed a key story for the Wildlife Clubs of Seychelles, which were established in 1994, and in associated environmental education out puts[6].

The value of biodiversity has recently been calculated for Cousin and brings important national revenues and local employment. *C sechellarum* is one of the principal attractions and hence the costs of conservation have brought local economic returns[6]. Continued restoration of island ecosystems is predicted to continue through inputs, especially form the private sector, since tourism is such an important source of revenue. High quality island resorts are more attractive without the presence of rats and other alien species and the investment in removal is repaid by the improved visitor experience. However, restoration of the large, populated islands will be difficult if not impossible. Hence, populations will probably always be restricted to the smaller, less intensively utilized, islands. These islands are also enjoyed by tourists visiting for less than a day and principally based at the main resorts on Praslin and La Digue. More isolated islands, such as Fregate, Denis and North, hold or will hold high-class exclusive resorts and because of their large size and potentially good habitats are actual or potential refuges.

7. THREATS

The impact of limiting factors is generally well understood being the loss of habitat coupled with depredation of young by rats and of all age classes by cats. However, there is a lack of evidence of which of this complex of factors is principally responsible for the decline in range and population size. This does not prevent the ability to address these issues together through programmes of eradication of predators together with habitat management and restoration. The viability of the population in the long term requires assessment.

In addition, introduced bird species especially Indian mynah and barn owl have both been potentially serious threats. The Indian mynah is a known nest predator especially of nests in more exposed coconut crowns (nest-box provision has lessened this) on Fregate and the barn owl on Aride and Cousin has possibly predated adults.

Other threats are related to management of islands, notably pesticide use on plantations for which prescriptions have been developed and advocated on Fregate. Also artefacts that lead to accidental death including traps, netting, waste, and water management, have all created problems through accidents due to the naive and inquisitive nature of the species.

Disease was suggested to play a part in the inability to successfully restore the Aride population especially in 1996, although evidence that this is the ultimate cause is lacking. With improved captive management experience gained during 1999 and particularly 2000

during the Fregate rat eradication programme, it is most likely that inappropriate translocation techniques contributed most to this failure due to high mortality.

THREAT TYPE	DESCRIPTION	IMPORTANCE (Critical, High, Medium Low/Immediate or Potential)
Direct threats	Rats and cat depredation Pesticides Human persecution Disease (parasites and pathogens) Plantation and resort management (water, waste, nets etc)	Critical/potential High/Potential High/Potential Low/Potential High/Potential
Indirect threats	Forest loss & degradation Takamaka wilt disease Sea-level rise Tourist development Pisonia	Critical/Immediate High/Immediate Critical/Potential High/Immediate Low/Immediate

8. CONSERVATION ACTION TO DATE

Policy & Legislative
Generally, legislative action for species and sites has been good. It is protected under the Birds Protection act, 1966. Revised 1991. Cousin and Aride are protected as special reserves (see below).

Site Safeguard
Special Reserves protect the species on Cousin and Aride but there is no designation apart from Environmentally Sensitive Area (ESA) status for Frégate and Cousine. Curieuse is a Marine Park but other islands are privately owned and have no specific protection except from developments through the EIA and planning process.

Species Management & Protection
The SMR Recovery Programme has been operational since 1990 and is ongoing. Since 1998 is has been managed by BirdLife Seychelles. It has been the cornerstone of the recovery of the population size and range. It has clear time-bound objectives for removing *Copsychus sechellarum* from the 'Critically Endangered' to 'Endangered' category by restoring a population to seven islands and a minimum of 200 birds by 2006.

Key management actions developed on Fregate include:

- Supplementary food
- Pesticide control
- Habitat management
- Nest box provision
- Predator control
  Predators include introduced common mynah *Acridotheres tristis* and barn owl *Tyto alba*. The former was controlled on Fregate to improve nesting success and the latter on Aride to improve adult survival.
- Translocations

Island contingency plans for alien mammalian predators have been produced. Captive management guidelines subsequent to the successful holding of the Fregate population during the 2000 eradication programme have been drafted. Health and disease management has also benefited from a field visit by an Australian vet in2000 during the

Fregate eradication with a series of recommendations for captive management and translocation protocols being drafted.

Advocacy
No changes to national legislation have been achieved, although introduced predator-free status has been proposed by MoET at various times in the last few years. Significant impacts on island management operations have been won through research, close dialogue, local ownership and a participatory approach.

Research & Monitoring
A brief summary of main research and conservation events:

1978	2-year research project by BirdLife/WWF[12]
1981	Cats eradicated from Frégate
1986	Cats eradicated from Cousine
1988	2-year research project by BirdLife
1990	Initiation of Recovery Programme by BirdLife
1994	Population established on Cousin
1996	Population established on Cousine
1996	Norway rats accidentally introduced to Frégate
1998	3-year study of feeding ecology on Cousin, Aride and Curieuse
2000	Eradication of rats and cats on Curieuse and Denis, and rats on Fregate

Reporting has been via quarterly reports from 1990 until 1999. SMR database and island monitoring schemes since 1998 allows for briefer reports and annual reviews.

Education & Awareness
Cousin tours for tourists since 1996 and school trips since 1998
Fregate tours for tourists since 1997
SMR Annual Review since 1999
Local coverage in newspapers since 1970s
World Birdwatch

Co-operation & Participation
Prior to 1990, UK-based researchers worked closely with Government and island owners in developing island management plans and this led to eradication of cats on Fregate and Cousine. In 1990, a UK SMR committee was established to manage the Recovery Programme. When management was handed over to BirdLife Seychelles in 1998 a Seychelles magpie-robin Recovery Team (SMART) was established. This provided a local forum for discussion and agreement on future policies and actions. The UK committee became an advisory technical committee at this time.

Resources
BirdLife Seychelles has managed the Recovery Programme and chaired SMART since 1998. RSPB, the UK Partner of BirdLife International, has been the principal donor for the Recovery Programme work on Fregate. However, Fregate Island Ltd has itself contributed substantial inputs in the form of transport, food and accommodation and in many other ways. Cousin a special reserve managed by BirdLife Seychelles and Cousine managed by Cousine Island Co. Ltd both fund their own conservation activities. Aride do the same, although have relied on BirdLife Seychelles to fund some elements such as attendance at SMART meetings. A partnership of Government and island owners funded and implemented predator eradication work, on Curieuse and Denis; and in partnership with BirdLife Seychelles on Frégate, in 2000.

9. ACTION PLAN REVIEW

This Action Plan should be reviewed every 3 years with a short annual check-up against monitoring data and other results.

10. REFERENCES

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11. ACKNOWLEDGEMENTS

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SEYCHELLES MAGPIE-ROBIN ACTION PLAN

OVERALL GOAL

TO REDUCE THE THREAT OF EXTINCTION BY RECLASSIFYING THE SPECIES FROM CRITICAL TO ENDANGERED

OBJECTIVE

THE GOAL WILL BE ACHIEVED BY INCREASING THE BREEDING RANGE FROM THREE TO SIX ISLANDS WITHIN THE INNER SEYCHELLES AND INCREASING THE POPULATION FROM 100 TO 200 INDIVIDUALS BY 2006

ACTIVITY	TIMETABLE	INDICATORS	LEAD RESP.	PRIORITY *(CHML)*
POLICY & LEGISLATIVE				
Rat contingency protocol agreed	2002	Approved by Cabinet	BirdLife	High
Rat-free and high biodiversity island status legally recognised	2003	Gazetted	MoET	High
SITE SAFEGUARD				
Creation of three new protected status Island	2006	Gazetted	MoET	Medium
SPECIES MANAGEMENT & PROTECTION				
Stop use of vertebrate unfriendly pesticides on all SMR islands	2001 –2006	Adult mortality reduced	Island owner/BirdLife	Critical
Predator removal project for one further island	2006	Reintroduction approved by MOET	MOET, BirdLife	Critical
Establishment of new breeding populations on four islands	2006	reports	MOET, BirdLife	Critical
ADVOCACY				
Maintain flagship status as medium for island/ecosystem restoration.	2001-2006	Media coverage	BirdLife	High
Encourage island owners to restore islands to predator-free status	2006	Restoration projects	BirdLife, MoET	Critical
Encourage island owners to stop use of vertebrate-unfriendly pesticides	2001-2006	No unfriendly pesticides	BirdLife/ MoET	Critical
EIA input to key island developments	2001-2006	EIA report	MoET	Critical
RESOURCES				
BirdLife Seychelles continues input	2001-2006	Reports	BirdLife	Critical
Island managers provide resources for their own populations on all islands	2001-2006	Reports	Island reports/ SMART	Critical
RSPB input continues	2001-2003	Reports/Papers	BirdLife	Critical
Translocation and habitat restoration by integration in ongoing restoration projects	2001 - 2006	Populations established reported	BirdLife	high
New restoration project funded	2001 - 2006	islands suitable to support populations	BirdLife	High

RESEARCH & MONITORING				
Continued monitoring and data capture on all islands via database	Quarterly and Annual	Report	Island owners	Critical
Further assessment of potential recipient islands	2001-2006	Quarterly reports	BirdLife	High
Continued molecular sexing	2001-2006	Reports/scientific papers	RSPB	High
Study foraging ecology of newly established populations	2001-2006	Reports/papers	BirdLife	Medium
EDUCATION & AWARENESS				
News of Activities for General Public	Annual	Newsletters Media coverage	BirdLife, MoET Island owners	Medium
SMR story told in local book form	2005	Book	BirdLife	Low
island brochures highlighting SMR	2003	Brochures	BirdLife/island owners	Medium
Facilitate public access to magpie robin islands	2001-2006	Continue / improve access to islands	BirdLife/ RSNC	Medium
COOPERATION & PARTICIPATION				
Boat and island owners cooperating in maintaining rat-free status	2004	SMART outputs	BirdLife	Critical
SMART continues and expands	2006	SMART outputs	BirdLife	High