SPECIES CONSERVATION ASSESSMENT & ACTION PLAN 2001 -2006

SEYCHELLES FODY
TOK TOK (TOQ TOQ)
Foudia sechellarum [1]

SUMMARY CONSERVATION ASSESSMENT & ACTION PLAN GOAL AND OBECTIVE	
IUCN Threat Status	Vulnerable D2
Range	425 ha
Population estimate	2360
Population trend	Stable or increasing
Altitude	Lowland
Habitats	Forest and Artificial
Threats	Invasive species
GOAL	Down listing from vulnerable to near threatened by 2006
OBJECTIVE	2000 mature individuals on 7 islands by 2006

Authorship
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1. INTRODUCTION

The Seychelles Fody *Foudia sechellarum* is one of three members of the genus *Foudia* present in the Seychelles, it is a drab weaver that can prevail in modified environments, there is good evidence that the species' optimal habitat is lowland forest containing seabird colonies.

It was described in 1867[1] from Marianne, but is currently found on four islands, Cousin Cousine, Frégate (relict populations) and D'Arros, which is a naturalised population[3,4]. It is classed as vulnerable on the basis of this restricted range[5]. The species was certainly more widespread in the past with records from at least four other islands[1,3]. The range contraction has not been as well documented as in some other Seychelles species, reasons attributed to the decline have been deforestation for plantation agriculture, alien predators and deliberate persecution[2,6].

Population estimates have been attempted on a number of occasions[3], these indicate that the three native populations have shown steady growth, broadly associated with changes of land use. Whilst current sympathetic management practices prevail on these islands the populations are likely to remain stable. The D'Arros population is data deficient.

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

2. FAMILY & GENUS

The genus *Foudia* is a group within the family Ploceidae, or weavers predominantly occurring in the Africa region, most species are classified in the genus *Ploceus*.

The genus *Foudia* is restricted to the islands of the western Indian Ocean. Five distinct *Foudia* species are recognised, six subspecies[2], although some authors have promoted subspecies to species level[7]. Two endemic and one introduced weaver (*Ploceus*) also occur in the region.

Summary of Species and Subspecies Belonging to the Genus Foudia[2, 5, 7].

English name	Species	Subspecies	Range	Status
Madagascar fody	*F. madagascariensis*		Madagascar; endemic, introduced; Reunion, Mauritius, Rodriguez, and Seychelles.	LC
Forest fody	*F. (eminentissima)*	*Ommissa*	Madagascar	LC
Aldabran fody	*F. (eminentissima)*	*Aldabrana*	Aldabra	LC
Comoro fody	*F. eminentissima*	*Algondae*		LC
		Anjourensis		LC
		Consobrina		LC
		Eminentissima		LC
Mauritius fody	*F. rubra*		Mauritius	C2b
Rodriguez Fody	*F. flavicans*		Rodriguez	D1; D2
Seychelles fody	*F. sechellarum*		Seychelles	D2

LC: least concern D: vulnerable C: Critical

Three species are of conservation concern: *F. Rubra, F. flavicans and F. Sechellarum.* One species *F. madagascariensis* is a potential problem in areas where it has been introduced. *F.*

Eminentissima appears not to be at risk from anthropogenic factors, within its range it can withstand introduced aliens and in the Comoros and Madagascar shows some plasticity in use of secondary habitats[2,5].

F. rubra is the most endangered member of the genus, having shown a marked population and range contraction since 1975. The population is now severely restricted and totals 105 – 125 pairs. Deforestation, alien species depredation and possible competition from *F madagascariensis* have been attributed to the decline: predator control and captive breeding programmes have been initiated[5].

F. flavicans is also of conservation concern, however it has shown a dramatic recovery from a low 5 – 6 pairs in 1968. As a forest species it suffered from severe deforestation, and was further impacted by depredation by alien mammals. Reforestation primarily with alien species has benefited the bird and initiatives in habitat restoration are under way[5].

3. IDENTIFICATION

Measurements: 12 – 13 cm in length; maximum wing chord is 64 – 76mm; tarsal length 18 - 21mm. The bill is elongate 17 – 19 mm long and powerful. Males are on average larger than females[8]. The male in breeding condition has a lemon yellow wash to the throat, lores and fore crown. The rest of the plumage is olive green, and appears streaked on the back[7,9]. Primaries, secondaries, coverts and tail are dark centered with olive fringes[8]. The female is similar but yellow on the face is replaced by green and over all the green on the body, and particularly the flight feathers, is drabber. Juveniles are distinguished by browner plumage. Bare part colouration varies with age and sex, juveniles have pink or horn coloured bills and paler legs, these are darker on adult females and most males have black bills. The eye is deep brown[7,8].

Distinguished from female and Juvenile *F. madagascariensis* by deeper greener colour larger size and more elongate bill.

The voice is distinctive; the call is an explosive “tuk”, a similar syllable becomes incorporated in a trill that rises in speed and intensity lasting 2 – 4 seconds. This call is used in alarm, and aggression[9].

4. RANGE AND POPULATION

The current range is restricted to four islands totaling 425 ha. Cousine 28 ha, Cousin 29 ha, Frégate 219 ha and D’Arros 150 ha[9,10]. Formerly the species was more widespread. It was first described from Marianne[1], and records exist from La Digue, Praslin and Aride[1,11].

In 1965 a small number of birds was taken to D’Arros and released by an expedition from Bristol University. In 1997 this was estimated to be approximately 100 pairs[3,9,10].

SIZE AND LOCATION OF POPULATIONS

Location	Estimated population size	Year of most recent estimate
Cousine[3]	560	1995 - 1997
Cousin[3]	1050	1995 - 1997
Frégate[8]	c600	2000
D’Arros[10]	c200 – 300	1997

Cousine and Cousin estimates were derived from mark and recapture, an appropriate method for the species[3] the estimate for Frégate was made during the captive management operation when 330 individuals were held, representing approximately half of the population[8]. The D’ Arros estimate was approximate and did not use quantifiable methods[10]. Some attempts have been made to apply DISTANCE methods, however assumptions of DISTANCE sampling are breached and over-estimates are likely[3,12].

5. ECOLOGY

Evidence suggests that the Seychelles Fody was a species of lowland forest[2]. Where it probably exploited a range of food sources, primarily invertebrates, seeds, fruit, nectar, bird and reptile eggs and fish discarded by seabirds[2,13,14]. The species appears adaptive and capable of exploiting novel or artificial food sources. They widely associate with human habitation and exploit food sources such as garbage and discarded food. They also forage in alien vegetation[14].

Invertebrates are the main component in the diet, forming 73% of feeding observations on Frégate and 51% on Cousin with fruit and seeds making up 28% and 38% of feeding observations on Frégate and Cousin respectively; nectar may also be a significant dietary component[2,14]. The exploitation of tree nesting tern eggs has been frequently observed on Cousine and Cousin[13]. This behaviour has not been quantified, the species targeted have not been documented fully and it is unclear if bird eggs are an important component of the diet.

The untidy nest is typically supported by several twigs at a height between 3 – 10m. The modal clutch size is two eggs, one is not uncommon, incubation lasts for 13 – 14 days. The fledging period is approximately 15 days[2].

Social systems are not well described, whilst breeding a territory of 30 – 50m in radius is defended around the nest. A territory is probably maintained throughout the year, perhaps with a high site and partner fidelity maintained over several years[2], signs of breeding are noted at all times of year and individual birds may be site faithful[8]. However, other authors suggest that territoriality breaks down when not breeding, and the birds adopt a more nomadic lifestyle[14]. It is unclear how the gregarious feeding flocks that gather at food sources fit in to the social structure of a territorial species. Previous claims that they were gregarious nesters have been disproved[2].

There are some claims that birds from the Praslin group differ from the Frégate population in colouration, the predominance of white primary coverts and biometrics, but these are subjective and not supported by robust analysis[2,15].

6. SOCIO-ECONOMIC CONTEXT

The species has been affected by human colonisation of the islands. Deforestation for plantation agriculture and the associated presence of alien predators (three native populations prevail on rat free islands). It is also reputed that they were persecuted by plantation workers due to their frugivorous nature resulting in crop damage[10].

At the present time the character of the bird does not improve its conservation status, it is small and drab and does not have appeal to island managers wanting to promote ecotourism. More over its close association and tendency to scavenge means that it is often considered to be a potential nuisance to tourist operations. Similarly its known predation of eggs has resulted in caution regarding introductions to other islands.

7. THREATS

The primary threat for *F. Sechellarum* is from alien introduction. Although not demonstrated unequivocally; depredation from Black rats *Rattus rattus* is almost certainly a key threat. The nest is built in a thicket and supported by multiple branches and is hence vulnerable to arboreal predators, compared to *F. madagascariensis* which constructs a pendulous nest at the end of a branch[2]. The range of *F. sechellarum* does not overlap with *R. rattus* whilst *F. madagascariensis* does so extensively[16].

Fledglings are poor flyers and are probably vulnerable to depredation by Brown rats *R. norvegicus*, the two species co existed on Frégate between 1995 and 2000[8]. Adults and juveniles are also likely to be impacted by cats although the Cousine and Frégate populations

survived cat introduction (eradicated in 1986 and 1982 respectively). The D'Arros population apparently co-exist with cats and an unspecified rat[16].

Novel aliens could cause problems: the effect of alien birds is unknown and probably low, however the further introduction of predatory species such as Red-whiskered bulbul *Pycnonotus jocosus* could cause problems[17]. Native snakes will depredate adults[8], however the introduction of species such as the Brown tree snake *Boiga irregularis* would be a very serious threat[18]. A heavy Crazy ant *Anololepis longipes* infestation could cause problems[19].

Currently direct human persecution is not known to be practiced and is only likely to be a problem in the context of major land-use changes. Secondary poisoning from insecticides and rodenticides is a potential threat.

Disease is a potential risk, especially given the scavenging nature of the species. Individuals have been found to have high parasite burdens, including an Atoxoplasma like organism, intestinal cestodes and thorasic nematodes. However the risk to populations is difficult to quantify[20, 21].

Hybridization with *F. madagascariensis* has been cited as a threat, but the reports of hybrids from two solitary birds on Aride are isolated and not supported by observations in other areas where the two species over lap, or by the collection of specimens[22].

Sea level rise would pose a serious risk as the bird primarily occurs in low level forest.

THREAT TYPE	DESCRIPTION	IMPORTANCE (Critical, High, Medium Low/Immediate or Potential)
Direct threats	Depredation by cats and black rats	H/I
	Killing by people	M/P
	Disease	L/P
	Hybridization /competitive exclusion by Madagascar fody	L/P
	Novel alien introduction Red-whiskered bulbul, brown tree snake etc	L/P
	Pesticide (secondary poisoning)	L/P
Indirect threats	Sea level rise	H/P
	Deforestation/ land use change	L/P
	Tourist development	M/P

8. CONSERVATION ACTION TO DATE

Policy & Legislative
Generally, legislative action for species and sites has been good. Within the Seychelles it is protected under the wild animals and bird protection act, Section 2 1966, revised 1991. It also receives protection from indirect threats, by controls on the use of pesticides and controls on the import of alien species.

Site Safeguard
Special Reserve status protects the species on Cousin but there is no designation apart from Environmentally Sensitive Areas (ESA) status for Frégate and Cousine. Frégate is under some government controls to prevent (re) invasion of alien mammals. Cousine and D'Arros are unprotected[10].

Species Management & Protection
The species has received very little direct conservation management, although it has benefited from conservation action for other species such as the Seychelles warbler *Acrocephalus seychellensis* and Seychelles magpie-robin *Copsychus seychellarum*[14,23]. In 1982 cats were eradicated from Frégate in an effort to safe guard the Magpie-robin, in

1994 they were removed from Cousine. Regeneration of native forest on Cousin and limited tree planting of native species has been carried out on Frégate[10,21].

Only two direct conservation actions have been conducted, the translocation of 20 birds to D'Arros in 1968[3] has succeeded in establishing a fourth population, although considerably out side the natural range.

In 2000 a Government initiated, in partnership with the island owner and BirdLife Seychelles, rat eradication proceeded on Frégate. BirdLife Seychelles undertook the captive management of 330 fodies for three months to avoid the ingestion of rodenticide. The operation was successful with minimal losses[21].

Advocacy
No legal changes regarding the species have been achieved, although appropriate management of Frégate and Cousine have occurred through participation.

Research & Monitoring
Minimal: three authors have contributed the majority of the referenced ecological data. Crook[2] devoted seven weeks to the study of the comparative ecology of two Fody species mainly on Frégate in November and December 1959; Lloyd[13] provides anecdotal data; and Bathe and Bathe[14] conducted limited studies on Cousin in the early 1980's.

Periodic population estimates have been made in 1959, 1965, 1975, 1997, and 2000. These have not utilised uniform methods[3].

Education & Awareness
Specifically none; but the species is included in educational activities centered on island forest communities.
Tours of Cousin for tourists and residents since 1970's and school trips since 1998.
Frégate tours for tourists since 1997.
Cousine ecotourist lodge opened in 2000.

Co-operation & Participation
Minimal participatory processes have been employed prior to 2000, although the species has directly benefited from participatory magpie-robin actions.

In 2000, a participatory process specifically considering the fody was initiated between BirdLife Seychelles, Seychelles Government and Frégate Island private to ensure minimal impact on the species from rodent eradication[21].

Resources
No resources have been allocated exclusively to fody conservation, prior to 2000. Additional expenses were incurred during the captive management operation during 2000 from additional housing, food and staff time. The total cost was probably about $5000 – $7000[21].

A current project to look at morphological and genetic differences between populations has been initiated in 2001 costing UK Pounds 5000[15,24].

9. ACTION PLAN REVIEW

This Action Plan should be reviewed every 5 years, with the recommendation that the review is brought forwards in the light of any significant research finding on the species.

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11. ACKNOWLEDGEMENTS

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SEYCHELLES FODY ACTION PLAN

OVERALL GOAL

TO REDUCE THE THREAT OF EXTINCTION OF BY RECLASSIFYING THE SPECIES *FROM VULNERABLE TO NEAR THREATENED*

OBJECTIVE

INCREASETHE RANGE FROM FOUR TO SIX ISLANDS IN THE SEYCHELLES (FIVE IN THE GRANITIC SEYCHELLES) BY THE YEAR 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 one new protected status Island	2005	Gazetted	MoET	Medium
SPECIES MANAGEMENT & PROTECTION				
Predator removal project for one further island	2006	Reintroduction approved by MOET and island management	MOET, BirdLife	High
Establishment of populations on two more islands	2001-2006	Reintroduction approved by MOET and island management	MOET, BLS	Critical
ADVOCACY				
EIA input to key island developments	Reactive	EIA report	MoET	Critical
Improve status and public image as an endemic component of lowland forest communities	2001 – 2006	Education	BirdLife	High
Encourage island owners to restore islands to predator-free status	2006	Restoration projects	BirdLife, MoET	Critical
Encourage D'Arros island management to assist in conservation and estimating population	2003	Report	MoET	Medium
RESOURCES				
Seek research projects funding	2002-4	Reports/Papers	MoET BirdLife	Critical
Translocation and habitat restoration by integration in restoration projects	2001 – 2006	Reports	BirdLife/ Island owners	Critical

RESEARCH & MONITORING				
Assessment of world population	2003 – 5	Report	Birdlife	Medium
Research in population differentiation Research into basic ecology and nest predator Research into species interactions Assess the genetic variability of the island populations and consider enhancing the viability of populations	2002 2002-4	Reports/Papers	UnivSheffield/ BirdLife/ MoET	Medium High Medium
EDUCATION & AWARENESS				
Incorporate in to education and awareness materials on ecosystems	Annual	Newsletters Bird curriculum pack	BirdLife, MoET	Medium
Increase specific media coverage	2001 -2005	TV/Radio spots. Articles	BirdLife	Low
COOPERATION & PARTICIPATION				
Boat owners and island managers assisting in maintaining rat-free status Continued cooperation between technical agencies and island owners	2004	Forum outputs	BirdLife	Critical