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Histories of Puerto Rican Parrot Nests In the Caribbean National Forest/Luquillo Experimental Forest, 1973–2000

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Cover artwork of a nesting pair of Puerto Rican parrots based on a photograph by Jerry Bauer.

Abstract

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This publication summarizes the histories of all known Puerto Rican parrot nests in the Caribbean National Forest/Luquillo Experimental Forest from 1973 through 2000. Included for each nest, when known, are the identities of the pair, clutch size, known fertile and infertile eggs, number of eggs that hatched, number of chicks that survived, sources of mortality, fostering (source, destination, or both), number of young fledged from the pair and from the nest, and percentage of days the nest was guarded. This information is useful for detecting and assessing potential changes in reproductive output and nest threats and is fundamental for understanding some of the demographic and genetic factors influencing the wild parrot population.

Keywords: *Amazona vittata*, endangered species, Luquillo Experimental Forest, Puerto Rican parrot, productivity losses, reproductive success.

Introduction

The Puerto Rican parrot (*Amazona vittata*) population was widely distributed throughout Puerto Rico and several small associated islands at the time of the arrival of Columbus. By the 1940s, however, the parrot was confined to the Sierra de Luquillo (Caribbean National Forest or Luquillo Experimental Forest, henceforth CNF/LEF) of eastern Puerto Rico. The parrot's population decline is largely attributable to human disturbance, particularly the extensive deforestation of the island from the mid- to late-1800s. The declining parrot population was further stressed by hunting and the pet trade, as well as several destructive hurricanes. As the population was reduced, parrot nesting productivity and survival became even more vulnerable to the negative effects of various competitors, predators, and parasites (e.g., pearly-eyed thrasher, *Margarops fuscatus*; red-tailed hawk, *Buteo jamaicensis*; Puerto Rican boa, *Epicrates inornatus*; black rat, *Rattus rattus*; bot fly, *Philornis* sp.; European honeybee, *Apis mellifera*). Given these and other potential population stresses, it is not surprising that the parrot population declined so precipitously, reaching a low of only 13 wild parrots in 1976 (Snyder et al. 1987).

The parrot's decline served as the impetus for basic field studies and initiation of some management activities in the mid-1950s (Rodríguez-Vidal 1959). More intensive recovery efforts and field studies were initiated in 1968 and indicated that certain management activities could increase nesting success and augment the population (Snyder et al. 1987). These activities included modification of nest cavities, nest guarding, rat control, and placement of alternative nest boxes for nest-site competitors. In 1973, the initiation of an aviary and captive breeding in Luquillo provided a source of nestlings for fostering into wild nests, a temporary refuge for wild nestlings during periods of endangerment, and a site for treatment and recovery of ailing wild nestlings, all of which further increased parrot nesting productivity. A second aviary in Rio Abajo was established in 1989. These management activities have helped to increase the wild Puerto Rican parrot population in the CNF/LEF.

The Puerto Rican parrot recovery effort has been a cooperative endeavor involving the USDI Fish and Wildlife Service, USDA Forest Service, Puerto Rico Department of Natural and Environmental Resources, and more recently the Biological Resources Division of the U.S. Geological Survey. The responsibilities of these cooperating agencies and their various divisions have changed considerably during the course of the recovery effort contributing to turnover of parrot recovery staff. Associated with these changes have been changes in recordkeeping and storage of parrot field data required for the recovery effort. Some of these data have been published previously, although much of the recent parrot data has not been published and thus is not readily available to researchers and managers. Especially important are the data relating to reproductive success of wild parrot pairs. This information is useful for detecting and assessing potential changes in reproductive output and nest threats and is fundamental for understanding some of the demographic and genetic factors influencing the wild parrot population. Information on nest success and factors contributing to egg and chick mortality also is critical for evaluating the effectiveness of nest management. Finally, an historical summary of parrot reproductive history can serve as a valuable baseline for future comparisons.

We have summarized the histories of all known Puerto Rican parrot nests in the CNF/LEF from 1973 through 2000 (see app.). The nest histories are derived from various sources. Information from the period 1973–85 was derived from appendixes 31 and 32 in Snyder et al. (1987). The information for 1986–89, comes from various sources

including Lindsey et al. (1994) and a thesis by Wilson (1993). Nest histories for 1990–98 were taken from the Puerto Rican Parrot Recovery Plan (U.S. Fish and Wildlife Service 1999), with minor modifications based on original field notes of the U.S. Fish and Wildlife Service. Nest guarding information comes from unpublished notes summarized by Noel Snyder¹ for 1973–76 and Gerald Lindsey² and James Wiley³ for 1981 and 1985–88. Nest guarding information for 1990–99 is derived from the original field notes from the Puerto Rican Parrot Field Office of the U.S. Fish and Wildlife Service.

Included for each nest, when known, are the identities of the pair, clutch size, known fertile and infertile eggs, number of eggs that hatched, number of chicks that survived, sources of mortality, fostering (source, destination, or both), number of young edged from the pair and from the nest, and percentage of days the nest was guarded. Below are definitions and explanations of the terms used in the summary table.

Nest site—Abbreviations are given for the nest sites as per Snyder et al. (1987) and the recovery plan (U.S. Fish and Wildlife Service 1999). Some confusion arises in the 1986–89 period when nest sites were given names different than the pairs occupying the nests.

Breeding male and female—Breeding individuals are designated where first encountered with nest symbols that use the terminology provided by the researchers or managers. However, note that individual parrot designation codes changed in the late 1980s. The U.S. Fish and Wildlife Service Rio Grande Field Office standardized individual parrot identification codes starting in 1986 based on nest site where the breeding adult was first encountered, followed by sequential odd-numbered codes for males and even-numbered codes for females. Identification of nesting pairs is not foolproof; there was a mistake in identification of one of the parrots (that was later found to be a different bird).

Clutch number—First clutches in a breeding season are unlabeled, but replacement clutches following the initial clutch are designated in a separate, adjacent column in the table.

Clutch size—Total number of eggs per laying cycle of a pair.

Number of known fertile eggs—Eggs in which an embryo was detected.

Number of known infertile eggs—Eggs in which an embryo was not found during inspection. It is possible that some early embryonic mortality is included in this category, given the difficulty of detecting some embryos that die in the initial stages of development.

¹Snyder, N. 2001. Unpublished notes. On file with:
N. Snyder, P.O. Box 16426, Portal, AZ 85632.

²Lindsey, G. 2001. Unpublished notes. On file with:
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³Wiley, J. 2001. Unpublished notes. On file with:
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Number of unknown eggs—Eggs in which fertility was not determined because of predation or loss before egg inspection, or it was not possible to distinguish between infertility (no embryo) and early embryonic death (dead in shell) in young eggs.

Percentage of fertile eggs—This percentage is based on the number of eggs for which fertility was determined and does not include eggs of unknown fertility (unknown eggs).

Number of eggs hatch—The total number of eggs that hatch from the pair from the designated wild nest, regardless of the site of hatching; it includes hatching at any location: original nest, aviary, or foster nest.

Number of chicks survive—The total number of nestlings that survive to fledging from the pair from the designated wild nest, regardless of site of fledging; includes fledging at any location: original nest, aviary, or foster nest.

Number fostered in—The number of eggs or nestlings that were produced elsewhere but were placed in the designated nests. The source of fostered eggs or chicks is provided in parentheses and can include another wild nest or aviary. A listing of aviary without specification refers to the Luquillo aviary.

Number fostered out—The number of eggs or nestlings that were produced by the designated pair in the designated nest but were moved to another location. The destination of the fostered egg or chick is provided in parentheses and can include another wild nest or aviary. A listing of aviary without specification refers to the Luquillo aviary.

Total fledged from pair—Progeny of a pair may fledge from different sites (including aviary or foster nest), but all are included as total number fledged from the parental pair. Fledging refers to a chick that leaves a nest cavity or nest box on its own, regardless of its fate after leaving the nest site. Site of fledging is designated in parentheses in instances of eggs or chicks fostered elsewhere (another wild nest or aviary). Whenever it is known, we designated cases of successful fledging followed shortly by death. Listing of aviary without specification refers to the Luquillo aviary.

Total fledged from nest—Fledging refers to a chick that leaves the nest cavity on its own, regardless of its fate after leaving the nest site. May include offspring originating from the designated nest as well as those fostered into the nest, with source of fostered young shown in parentheses (aviary or other nest).

Number of eggs died—The number of fertile eggs that have died in the designated nest (or aviary), regardless of origin (original or fostered). The cause of mortality, when known, is provided in parentheses. Dead in shell (DIS) indicates an embryo that died. Note that categories “No. eggs hatch” and “No. eggs died” may not correspond because of fostering into the designated nest.

Number of chicks died—The number of nestlings that died before fledging from the designated nest (or aviary) regardless of origin (original or fostered). The cause of mortality is provided in parentheses.

Percentage of nest days guarded—The percentage of days in which a nest was watched or guarded based on the total number of days during which the nest was active (date of first egg until last edging or any shorter period if nest contents were lost before edging). Includes the years when these data were compiled: 1981, 1985–88, and 1990–2000.

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Appendix

Abbreviations used in tables:

DIS—Dead in shell, or embryonic mortality
 HP—Hispaniolan parrot (*Amazona ventralis*)
 NA—Not available
 PET—Pearly-eyed thrasher (*Margarops fuscatus*)

Wild nest histories, 1973

Year	1973	1973
Nest site	NF	SF
Male	NF1	SF1
Female	NF1	SF1
Clutch number (first, replacement)		
Clutch size	3	3
No. known fertile eggs	2	3
No. known infertile eggs	0	0
No. unknown	1	0
% fertile eggs	100	100
No. eggs hatch	2 (aviary)	3 (1 wild; 2 aviary)
No. chicks survive	2 (aviary)	3 (aviary)
No. fostered in (source)	0	0
No. fostered out (where)	2 (aviary)	3 (aviary, 2 eggs, 1 nestling)
Total fledged from pair		
In wild	0	0
In aviary	2	3
Total fledged from nest		
In wild	0	0
In aviary	2	3
No. eggs died	1 (unknown—nocturnal predation)	0
No. chicks died	0	0
% nest days guarded	100	95

Wild nest histories, 1974

Year	1974	1974
Nest site	SF	EF
Male	SF1	EF1
Female	SF1	EF1
Clutch number (first, replacement)		
Clutch size	2	4
No. known fertile eggs	2	4
No. known infertile eggs	0	0
No. unknown	0	0
% fertile eggs	100	100
No. eggs hatch	1 (aviary)	4 (2 wild, 2 aviary)
No. chicks survive	1 (wild)	4 (2 wild, 2 aviary)
No. fostered in (source)	0	0
No. fostered out (where)	2 (aviary—2 eggs, but nestling returned to wild)	2 (eggs to aviary)
Total edged from pair		
In wild	1	2
In aviary	0	2
Total edged from nest		
In wild	1	2
In aviary	0	2
No. eggs died	1 (aviary—incubator humidity)	0
No. chicks died	0	0
% nest days guarded	36	31

Wild nest histories, 1975a

Year	1975	1975	1975
Nest site	SF	EF	WF
Male	SF1	EF1	WF1
Female	SF1	EF1	WF1
Clutch number (first, replacement)			
Clutch size	4	3	1
No. known fertile eggs	3	3	1
No. known infertile eggs	0	0	0
No. unknown	1	0	0
% fertile eggs	100	100	100
No. eggs hatch	2 (aviary)	3	1 (aviary)
No. chicks survive	2 (back to wild)	3	1 (aviary)
No. fostered in (source)	0	0	0
No. fostered out (where)	2 (eggs to aviary, chicks back)	1 (egg to aviary then NF)	1 (egg to aviary)
Total edged from pair			
In wild	2	3 (2 in EF; 1 NF)	0
In aviary	0	0	1
Total edged from nest			
In wild	2	2 (from EF)	0
In aviary	0	0	0
No. eggs died	2 (1 handling, 1 PET)	0	0
No. chicks died	0	0	0
% nest days guarded	36	12	100

Wild nest histories, 1975b

Year	1975	1975
Nest site	NF	EF
Male	NF2 ^a	EF2 ^b
Female	NF1	EF2 ^b
Clutch number (first, replacement)		
Clutch size	2	3
No. known fertile eggs	2	3
No. known infertile eggs	0	0
No. unknown	0	0
% fertile eggs	100	100
No. eggs hatch	2 (aviary)	3 (aviary)
No. chicks survive	1 (back to wild)	2 (aviary)
No. fostered in (source)	1 (from EF1)	0
No. fostered out (where)	2 (2 to aviary; 1 back to wild)	3 (2 back to wild; 1 back to aviary)
Total edged from pair		
In wild	1	0
In aviary	0	2
Total edged from nest		
In wild	2 (1 from NF; 1 EF1)	0
In aviary	0	2
No. eggs died	0	0
No. chicks died	1 (deformed)	1 (bot y)
% nest days guarded	26	17

^aSame as new male, NF3.

^bNew pair.

Wild nest histories, 1976

Year	1976	1976	1976	1976
Nest site	WF	SF	EF	NF
Male	WF1	SF1	EF1	NF2
Female	WF1	SF1	EF1	NF1
Clutch number (first, replacement)				
Clutch size	3	3	3	3
No. known fertile eggs	3	3	3	0
No. known infertile eggs	0	0	0	0
No. unknown	0	0	0	3
% fertile eggs	100	100	100	unknown
No. eggs hatch	3	2 (aviary)	3	0
No. chicks survive	3	2 (wild)	3	0
No. fostered in (source)	2 (from SF1)	2 (from WF)	0	0
No. fostered out (where)	2 (aviary-SF1)	2 (aviary-WF)	0	0
Total edged from pair				
In wild	3 (1 in WF, 2 SF1)	2 (in WF)	3	0
In aviary	0	0	0	0
Total edged from nest				
In wild	3 (2 in SF1, 1 WF)	2 (from WF)	3	0
In aviary	0	0	0	0
No. eggs died	0	1 (DIS)	0	3 (female abandoned nest?)
No. chicks died	0	0	0	0
% nest days guarded	59	54	54	46

Wild nest histories, 1977

Year	1977	1977	1977
Nest site	WF	EF	SF
Male	WF1	EF1	NF2
Female	WF1	EF1	SF1
			new pair, old SF female, & old NF2 male
Clutch number (first, replacement)			
Clutch size	4	3	3
No. known fertile eggs	4	3	3
No. known infertile eggs	0	0	0
No. unknown	0	0	0
% fertile eggs	100	100	100
No. eggs hatch	4	3	3
No. chicks survive	3	2	1
No. fostered in (source)	1 (From EF)	0	0
No. fostered out (where)	4 (to aviary—1 back to wild)	1 (to WF)	0 (chick to aviary when female broke wing)
Total edged from pair			
In wild	1	1 (in WF)	1
In aviary	2	1	0
Total edged from nest			
In wild	2 (from WF, 1 EF)	0	1
In aviary	0	1	0
No. eggs died	0	0	0
No. chicks died	1 (weak chick)	1 (handling)	2 (exposure)
% nest days guarded	NA	NA	NA

Wild nest histories, 1978a

Year	1978	1978	1978	1978
Nest site	WF	WF	SF	EF
Male	WF1	WF1	NF2	EF1
Female	WF1	WF1	SF1	EF1
Clutch number (first, replacement)		replacement		
Clutch size	3	2	3	3
No. known fertile eggs	3	2	3	3
No. known infertile eggs	0	0	0	0
No. unknown	0	0	0	0
% fertile eggs	100	100	100	100
No. eggs hatch	2	0	3	3
No. chicks survive	1	0	3	3
No. fostered in (source)	0	0	1 (from WF)	0
No. fostered out (where)	3 (to aviary, then 1 to SF)	0	0	0
Total edged from pair				
In wild	1 (in SF, after transfer)	0	3	3
In aviary	0	0	0	0
Total edged from nest				
In wild	0	0	4 (3 from SF, 1 from WF)	3
In aviary	0	0	0	0
No. eggs died	1 (bacterial dimpled)	2 (DIS, dimpled?)	0	0
No. chicks died	1 (weak, moribund)	0	0	0
% nest days guarded	NA	NA	NA	NA

Wild nest histories, 1978b

Year	1978
Nest site	EF
Male	EF3
Female	EF3
Clutch number (first, replacement)	
Clutch size	3
No. known fertile eggs	3
No. known infertile eggs	0
No. unknown	0
% fertile eggs	100
No. eggs hatch	3
No. chicks survive	3
No. fostered in (source)	0
No. fostered out (where)	1 (to aviary, not fed by parent)
Total edged from pair	
In wild	2
In aviary	1
Total edged from nest	
In wild	2
In aviary	0
No. eggs died	0
No. chicks died	0
% nest days guarded	NA

Wild nest histories, 1979

Year	1979	1979	1979	1979
Nest site	WF	SF	EF	EF
Male	WF1	NF2	EF1	EF3
Female	WF1	SF1	EF1	EF3
Clutch number (first, replacement)				
Clutch size	3	3	4	2 (3)
No. known fertile eggs	3	3	4	1
No. known infertile eggs	0	0	0	1
No. unknown	0	0	0	0
% fertile eggs	100	100	100	50
No. eggs hatch	0	1	4	1
No. chicks survive	0	1	4	1
No. fostered in (source)	2 (1 from aviary; 1 from EF1)	0	0	0
No. fostered out (where)	3 (to aviary, but died)	3 (to aviary, 1 hatched)	1 (to WF)	0
Total edged from pair				
In wild	0	0	4 (1 in WF, 3 in EF1)	1
In aviary	0	1	0	0
Total edged from nest				
In wild	2 (1 from aviary, 1 from EF1)	0	3	1
In aviary	0	1	0	0
No. eggs died	3 (dimpled)	2 (punctured, 1 wet)	0	1 (2)—(rats)
No. chicks died	0	0	0	0
% nest days guarded	NA	NA	NA	NA

Wild nest histories, 1980

Year	1980	1980	1980	1980
Nest site	WF	WF	EF	SF
Male	WF1	WF1	EF3	NF2
Female	WF1	WF1	EF3	SF1
Clutch number (first, replacement)		replacement		
Clutch size	4	2	4	3
No. known fertile eggs	4	2	4	3
No. known infertile eggs	0	0	0	0
No. unknown	0	0	0	0
% fertile eggs	100	100	100	100
No. eggs hatch	0	0	4	3
No. chicks survive	0	0	3	3
No. fostered in (source)	0	2 (aviary produced)	0	0
No. fostered out (where)	4 (to aviary)	2 (to aviary)	0	0
Total edged from pair				
In wild	0	0	3	3
In aviary	0	0	0	0
Total edged from nest				
In wild	0	2 (aviary produced)	3	3
In aviary	0	0	0	0
No. eggs died	4 (dimpled)	2 (dimpled?)	0	0
No. chicks died	0	0	1 (died after hatching)	0
% nest days guarded	NA	NA	NA	NA

Wild nest histories, 1981

Year	1981	1981	1981	1981
Nest site	WF	EF (Magnolia)	EF	SF (= SF1T)
Male	WF1	EF1	EF3	SF3
Female	WF1	EF1	EF3	SF3
Clutch number (first, replacement)				
Clutch size	3	3	3	3
No. known fertile eggs	2	3	3	3
No. known infertile eggs	0	0	0	0
No. unknown	1	0	0	0
% fertile eggs	100	100	100	100
No. eggs hatch	0	3	3	3
No. chicks survive	0	3	3	3
No. fostered in (source)	0	0	0	1 (from aviary)
No. fostered out (where)	1 (to aviary)	0	0	0
Total edged from pair				
In wild	0	3	3	3
In aviary	0	0	0	0
Total edged from nest				
In wild	0	3	3	4 (1 aviary; 3 from SF)
In aviary	0	0	0	0
No. eggs died	3 (dimpled)	0	0	0
No. chicks died	0	0	0	0
% nest days guarded	NA	NA	NA	NA

Wild nest histories, 1982

Year	1982	1982	1982	1982
Nest site	WF	EF	EF	SF (SF1T)
Male	WF1	EF1	EF3	SF3
Female	WF1	EF1	EF3	SF3
Clutch number (first, replacement)				
Clutch size	4	3	2	2
No. known fertile eggs	4	3	0	2
No. known infertile eggs	0	0	0	0
No. unknown	0	0	2	0
% fertile eggs	100	100	0	100
No. eggs hatch	0	3	0	2
No. chicks survive	0	3	0	2
No. fostered in (source)	2 (from aviary)	0	1 (aviary)	0
No. fostered out (where)	0	0	0	0
Total edged from pair				
In wild	0	3	0	2
In aviary	0	0	0	0
Total edged from nest				
In wild	2 (from aviary)	3	0	2
In aviary	0	0	0	0
No. eggs died	4 (dimpled)	0	2? (no embryo development; infertile/DIS?)	0
No. chicks died	0	0	1 (died in edging on ground)	0
% nest days guarded	NA	NA	NA	NA

Wild nest histories, 1983a

Year	1983	1983	1983
Nest site	SF (SF1T)	WF	WF
Male	SF3	WF1	WF1
Female	SF3	WF1	WF1
Clutch number (first, replacement)			replacement
Clutch size	3	3	3
No. known fertile eggs	1	3	3
No. known infertile eggs	2	0	0
No. unknown	0	0	0
% fertile eggs	33	100	100
No. eggs hatch	1	1	0
No. chicks survive	1	1	0
No. fostered in (source)	1 (aviary)	0	4 (2 from EF, 2 aviary)
No. fostered out (where)	0	3 (to aviary)	3 (to aviary)
Total edged from pair			
In wild	1	0	0
In aviary	0	1	0
Total edged from nest			
In wild	1	0	4 (2 from EF, 2 aviary)
In aviary	0	1	0
No. eggs died	2? (no embryo development; infertile/DIS?)	2 (dimpled)	3 (dimpled)
No. chicks died	1 (aviary reared)	0	0
% nest days guarded	NA	NA	NA

Wild nest histories, 1983b

Year	1983	1983	1983
Nest site	EF	EF	EF
Male	EF-5 ^a	EF3	EF3
Female	EF1	EF3	EF3
Clutch number (first, replacement)			replacement
Clutch size	3	2	2
No. known fertile eggs	3	0	0
No. known infertile eggs	0	2	0
No. unknown	0	0	2
% fertile eggs	100	0	
No. eggs hatch	3	0	0
No. chicks survive	3	0	0
No. fostered in (source)	0	1 HP (killed)	1 (from aviary)
No. fostered out (where)	3 (2 to WF, 1 to aviary)	0	0
Total edged from pair			
In wild	2 (in WF)	0	0
In aviary	1	0	0
Total edged from nest			
In wild	0	0	1 (from aviary)
In aviary	1	0	0
No. eggs died	0	2? (infertile/DIS?)	2? (infertile/DIS?)
No. chicks died	0	1 (HP killed)	0
% nest days guarded	NA	NA	NA

^a New male.

Wild nest histories, 1984a

Year	1984	1984	1984	1984	1984	1984
Nest site	WF	WF	EF	EF (EF2A)	EF (EF2A)	EF Magnolia
Male	WF1	WF1	EF-5	EF3	EF3	EF4-1 ^b
Female	WF1	WF1/WF3 ^a	EF-1	EF3	EF3	EF4-2 ^b
Clutch number (first, replacement)		replacement			replacement	
Clutch size	4	4	4	3	2	2
No. known fertile eggs	2	3	0	1	0	1
No. known infertile eggs	0	0	4	2	0	1
No. unknown	2	1	0	0	2	0
% fertile eggs	100	100	0	33		50
No. eggs hatch	0	0	0	1	0	1
No. chicks survive	0	0	0	1	0	0
No. fostered in (source)	0	1 (from aviary)	0	0	2 (from aviary)	0
No. fostered out (where)	4 (to aviary)	4 (to aviary)	0	3 (1 to SF)	0	0
Total edged from pair						
In wild	0	0	0	1 (in SF)	0	0
In aviary	0	0	0	0	0	0
Total edged from nest						
In wild	0	1 (from aviary)	0	0	2 (from aviary)	0
In aviary	0	0	0	0	0	0
No. eggs died	4 (thin shelled)	4 (did not hatch)	0	0	2 (did not hatch)	0
No. chicks died	0	0	0	0	0	1 (rat predation)
% nest days guarded	NA	NA	NA	NA	NA	NA

^a WF1 died after breeding, W3 then appeared.

^b New pair.

Wild nest histories, 1984b

Year	1984
Nest site	SF
Male	SF3
Female	SF3
Clutch number (first, replacement)	
Clutch size	3
No. known fertile eggs	3
No. known infertile eggs	0
No. unknown	0
% fertile eggs	100
No. eggs hatch	2
No. chicks survive	0
No. fostered in (source)	1 (from EF3)
No. fostered out (where)	0
Total edged from pair	
In wild	0
In aviary	0
Total edged from nest	
In wild	1 (from EF3)
In aviary	0
No. eggs died	1 (DIS)
No. chicks died	2 (1 unknown, 1 soldier y)
% nest days guarded	NA

Wild nest histories, 1985a

Year	1985	1985	1985
Nest site	WF	EF (EF2A = Dancing squirrel)	EF (EF Lookout?)
Male	WF1	EF3	EF4-1
Female	WF3	EF3	EF4-2
Clutch number (first, replacement)			
Clutch size	4	3	3
No. known fertile eggs	4	3	3
No. known infertile eggs	0	0	0
No. unknown	0	0	0
% fertile eggs	100	100	100
No. eggs hatch	3	3	3
No. chicks survive	3	3	2
No. fostered in (source)	3 (from aviary)	0	2 (2 from WF)
No. fostered out (where)	4 (4 to aviary, 2 to EF4, 1 to aviary)	0	1 (to aviary)
Total edged from pair			
In wild	2	3	1
In aviary	1	0	1
Total edged from nest			
In wild	3 (from aviary)	3	3 (1 from EF4, 2 from WF2)
In aviary	0	0	1
No. eggs died	1 (DIS)	0	0
No. chicks died	0	0	1 (chick disappeared)
% nest days guarded	49	35	27

Wild nest histories, 1985b

Year	1985
Nest site	SF
Male	SF3
Female	SF3
Clutch number (first, replacement)	
Clutch size	3
No. known fertile eggs	3
No. known infertile eggs	0
No. unknown	0
% fertile eggs	100
No. eggs hatch	2
No. chicks survive	1
No. fostered in (source)	2 (from aviary)
No. fostered out (where)	1 (to aviary, died)
Total edged from pair	
In wild	1
In aviary	0
Total edged from nest	
In wild	3 (1 from SF, 2 from aviary)
In aviary	0
No. eggs died	1 (DIS)
No. chicks died	1 (weak, died in aviary)
% nest days guarded	56

Wild nest histories, 1986

Year	1986	1986	1986	1986	1986
Nest site	WF	WF	EF2	EF3 (= `EF Lookout)	SF1 Traditional
Male	WF1	WF1/WF2 ^a	EF?	EF4-1	SF1T1 (=SF3?)
Female	WF3	WF3	EF?	EF4-2	SF1T2 (=SF3?)
Clutch number (first, replacement)		replacement			
Clutch size	4	3	4	3	2
No. known fertile eggs	4	3	4	1	2
No. known infertile eggs	0	0	0	2	1
No. unknown	0	0	0	0	0
% fertile eggs	100	100	100	33.3	100
No. eggs hatch	4	3	4	1	2
No. chicks survive	4 (aviary)	3	4 (aviary)	1	2 (aviary)
No. fostered in (source)	0	0	0	2 (from WF)	0
No. fostered out (where)	4 eggs (to aviary)	2 (to EF3)	4 (to aviary)	0	2 (to aviary due to bot ies)
Total edged from pair					
In wild	0	3	0	3	0
In aviary	4	0	4	0	2
Total edged from nest					
In wild	0	1	0	3	0
In aviary	4	0	4	0	0
No. eggs died	0	0	0	0	0
No. chicks died	0	0	0	0	0
% nest days guarded	80	61	0	63	57

^aNew male after breeding season.

Wild nest histories, 1987a

Year	1987 ^a	1987	1987 ^a
Nest site	SF2 Traditional	SF1 Traditional	SF1 Traditional
Male	SF2T1 ^b	SF1T1	SF1T1
Female	SF2T2 ^b	SF1T2	SF1T2
Clutch number (first, replacement)			replacement
Clutch size	3	3	3
No. known fertile eggs	3	3	3
No. known infertile eggs	0	0	0
No. unknown	0	0	0
% fertile eggs	100	100	100
No. eggs hatch	3	3	3
No. chicks survive	3	2	3
No. fostered in (source)	0	0	0
No. fostered out (where)	0	3 (to aviary)	0
Total edged from pair			
In wild	3	0	3
In aviary	0	2	0
Total edged from nest			
In wild	3 (with transmitters)	0	3 (with transmitters)
In aviary	0	2	0
No. eggs died	0	0	0
No. chicks died	0	1 (unknown, aviary)	0
% nest days guarded	66	100	96

^aData from Lindsey et al. (1994).

^bNew pair.

Wild nest histories, 1987b

Year	1987 ^a	1987	1987 ^b	1987
Nest site	EF3 (= EF Lookout)	EF3	WF	Cacique
Male	EF4-1	EF4-1	WF2	CA1
Female	EF4-2	EF4-2	WF3	CA2
Clutch number (first, replacement)		replacement		
Clutch size	3	3	4	?
No. known fertile eggs	3	3	4	
No. known infertile eggs	0	0	0	
No. unknown	0	0	0	
% fertile eggs	100	100	100	
No. eggs hatch	0	0	2	
No. chicks survive	0	0	2	
No. fostered in (source)	0	0	0	
No. fostered out (where)	3 eggs (aviary)	3 eggs (aviary)	0	
Total edged from pair				
In wild	0	0	2	
In aviary	0	0	0	
Total edged from nest				
In wild	0	0	2 (with transmitters)	
In aviary	0	0	0	
No. eggs died	3 (unknown, aviary)	3 (1 at hatching, 2 DIS)	2 (DIS)	
No. chicks died	0	0	0	
% nest days guarded	100	97	98	NA

^aBoa at nest entrance so eggs taken.

^bData from Lindsey et al. (1994).

Wild nest histories, 1988a

Year	1988	1988 ^a
Nest site	SF2 Traditional	WF
Male	SF2T1	WF2
Female	SF2T2	WF3
Clutch number (first, replacement)		
Clutch size	3	3
No. known fertile eggs	0	2
No. known infertile eggs	0	1
No. unknown	3	0
% fertile eggs	?	66.6
No. eggs hatch	0	2
No. chicks survive	0	2
No. fostered in (source)	2 chicks (from aviary)	2 chicks (from aviary)
No. fostered out (where)	3 eggs to aviary	2 chicks (to aviary)
Total edged from pair		
In wild	0	0
In aviary	0	2
Total edged from nest		
In wild	2 (from aviary)	2 (from aviary with transmitters)
In aviary	0	2 (WF pair)
No. eggs died	3 (fertility unknown, eggs died in aviary)	0
No. chicks died	0	0
% nest days guarded	88	100

^aData from Lindsey et al. (1994).

Wild nest histories, 1988b

Year	1988	1988
Nest site	SF1 Traditional	Cacique
Male	SF1T1	CA1
Female	SF1T2	CA2
Clutch number (first, replacement)		
Clutch size	3	2
No. known fertile eggs	3	0
No. known infertile eggs	0	0
No. unknown	0	2
% fertile eggs	100	
No. eggs hatch	2	0
No. chicks survive	0	0
No. fostered in (source)	0	
No. fostered out (where)	1 (to aviary but returned to nest)	
Total edged from pair		
In wild	0	0
In aviary	0	0
Total edged from nest		
In wild	0	0
In aviary	0	0
No. eggs died	1 (DIS)	2 (unknown—rat predation?)
No. chicks died	2 (unknown)	0
% nest days guarded	96	91

Wild nest histories, 1989a

Year	1989	1989
Nest site	EF1A	SF1 Traditional
Male	EF1A1 ^a	SF1T1
Female	EF1A2 ^a	SF1T2
Clutch number (first, replacement)		
Clutch size	2	4
No. known fertile eggs	1	2
No. known infertile eggs	0	0
No. unknown	1	2
% fertile eggs	100	100
No. eggs hatch	1	2
No. chicks survive	0	0
No. fostered in (source)	0	2 (aviary; initially 3, but small chick returned to aviary)
No. fostered out (where)	1 (aviary)	4 (2 eggs; 2 chicks all to aviary)
Total edged from pair		
In wild	0	2?
In aviary	0	0
Total edged from nest		
In wild	0	2
In aviary	0	0
No. eggs died	1 (damaged)	2 (unknown)
No. chicks died	1 (bacterial infection, died in aviary)	1 (died in aviary, unknown)
% nest days guarded	NA	NA

^aNew pair.

Wild nest histories, 1989b

Year	1989	1989	1989	1989	1989
Nest site	SF2 Traditional	SF2 Traditional	WF	WF	Cacique
Male	SF2T1	SF2T1	WF2	WF2	CA1
Female	SF2T2	SF2T2	WF3	WF3	CA2
Clutch number (first, replacement)		replacement		replacement	
Clutch size	4	3	3	3	4
No. known fertile eggs	3	3	0	1	2
No. known infertile eggs	0	0	0	2	2
No. unknown	1	0	3	0	0
% fertile eggs	100	100		33.3	50
No. eggs hatch	3	3	0?	1	2
No. chicks survive	1	3	0?	1	2
No. fostered in (source)	0	0	0	1 (from SF2T)	2 chicks (from aviary)
No. fostered out (where)	4 eggs (to aviary)	1 (to WF)	3 eggs (to aviary)	0	1 chick (to aviary)
Total edged from pair					
In wild	0	2	0	1	1
In aviary	1	0	?	0	1
Total edged from nest					
In wild	0	2	0	2 (includes 1 SF2T chick)	3 (2 from aviary)
In aviary	1	0	?	0	1
No. eggs died	1 (unknown)	0	?	0	0
No. chicks died	2 (unknown)	0	?	0	0
% nest days guarded	NA	NA	NA	NA	NA

Wild nest histories, 1990

Year	1990	1990	1990
Nest site	EF3 (= EF Lookout?)	SF1 Traditional	SF2 Traditional
Male	EF4-1	SF1T1	SF2T1
Female	EF4-2	SF1T2	SF2T2 ^a
Clutch number (first, replacement)			
Clutch size	3	2	3
No. known fertile eggs	2	2	3
No. known infertile eggs	1	0	0
No. unknown	0	0	0
% fertile eggs	66.6	100	100
No. eggs hatch	2	2	1
No. chicks survive	2	0	0
No. fostered in (source)	0	0	0
No. fostered out (where)	0	0	0
Total edged from pair			
In wild	2	0	0
In aviary	0	0	0
Total edged from nest			
In wild	2	0	0
In aviary	0	0	0
No. eggs died	0	0	2 (wet nest)
No. chicks died	0	2 (1 unknown, 1 poor development)	1 (wet nest)
% nest days guarded	92	68	78

^a Female lost at end of breeding season.

Wild nest histories, 1991a

Year	1991	1991	1991	1991
Nest site	EF3	EM1 Tabonuco	QG	SF1 Traditional
Male	EF4-1	EF1A1 ^a	Q1	SF1T1
Female	EF4-2	EM2	Q2	SF1T2
Clutch number (first, replacement)				
Clutch size	3	4	3	4
No. known fertile eggs	1	2	1	3
No. known infertile eggs	2	0	2	1
No. unknown	0	2	0	0
% fertile eggs	33.3	100	33.3	75
No. eggs hatch	1	2	1	2
No. chicks survive	1	1	1	1
No. fostered in (source)	0	0	0	0
No. fostered out (where)	0	0	0	2 (aviary)
Total edged from pair				
In wild	1	1	1	0
In aviary	0	0	0	1
Total edged from nest				
In wild	1	1	1	0
In aviary	0	0	0	1
No. eggs died	0	2 eggs depredated (boa?) before fertility determined	0	1 (DIS)
No. chicks died	0	1 (unknown)	0	1 (bot y)
% nest days guarded	35	37	34	25

^a Male was pair member in EF1A.

Wild nest histories, 1991b

Year	1991	1991
Nest site	SF2A	SF2B
Male	CA1?	SF2T1
Female	CA2?	SF2B2 ^a
Clutch number (first, replacement)		
Clutch size	3	3
No. known fertile eggs	3	3
No. known infertile eggs	0	0
No. unknown	0	0
% fertile eggs	100	100
No. eggs hatch	2	2
No. chicks survive	2	2
No. fostered in (source)	0	0
No. fostered out (where)	0	0
Total edged from pair		
In wild	2	2
In aviary	0	0
Total edged from nest		
In wild	2	2
In aviary	0	0
No. eggs died	1 (DIS—no development)	1 (DIS—no development)
No. chicks died	0	0
% nest days guarded	24	20

^a New female.

Wild nest histories, 1992a

Year	1992	1992	1992	1992
Nest site	EF3	EM1 Tabonuco	QG	SF1A
Male	EF4-1	EF1A1	Q1	SF1T1
Female	EF4-2	EM2	Q2	SF1T2
Clutch number (first, replacement)				
Clutch size	3	4	3	3
No. known fertile eggs	2	4	3	3
No. known infertile eggs	1	0	0	0
No. unknown	0	0	0	0
% fertile eggs	66.6	100	100	100
No. eggs hatch	1	4	3	3
No. chicks survive	1	0	3	1
No. fostered in (source)	1 (from QG)	2 (aviary)	0	0
No. fostered out (where)	0	3 (to aviary, bot y)	1 (to EF3)	0
Total edged from pair				
In wild	2	0	3 (2 here 1 EF3)	1
In aviary	0	0	0	0
Total edged from nest				
In wild	2	2 (aviary fostered)	2	1
In aviary	0	0	0	0
No. eggs died	1 (DIS)	0	0	0
No. chicks died	0	4 (1 unknown, 3 bot y)	0	2 (unknown, died in nest)
% nest days guarded	41	49	46	50

Wild nest histories, 1992b

Year	1992	1992
Nest site	SF2A	SF2B
Male	CA1?	SF2T1
Female	CA2?	SF2B2
Clutch number (first, replacement)		
Clutch size	3	3
No. known fertile eggs	3	2
No. known infertile eggs	0	1
No. unknown	0	0
% fertile eggs	100	67
No. eggs hatch	3	2
No. chicks survive	2	2
No. fostered in (source)	0	0
No. fostered out (where)	0	0
Total edged from pair		
In wild	2	2
In aviary	0	0
Total edged from nest		
In wild	2	2
In aviary	0	0
No. eggs died	0	0
No. chicks died	1 (unknown, died in nest)	0
% nest days guarded	44	38

Wild nest histories, 1993a

Year	1993	1993	1993
Nest site	EF3	EM1 Tabonuco	QG
Male	EF4-1	EM1-1 ^a	Q1
Female	EF4-2	EM2	Q2
Clutch number (first, replacement)			
Clutch size	3	4	3
No. known fertile eggs	3	4	3
No. known infertile eggs	0	0	0
No. unknown	0	0	0
% fertile eggs	100	100	100
No. eggs hatch	2	3	3
No. chicks survive	1	2	2
No. fostered in (source)	1 (from SF2B)	2 (from aviary)	0
No. fostered out (where)	0	1 (to aviary)	1 (to aviary & died)
Total edged from pair			
In wild	1	1	2
In aviary	0	1	0
Total edged from nest			
In wild	2	3	2
In aviary	0	1	0
No. eggs died	1 (DIS—no development)	1 (DIS—no development)	0
No. chicks died	1 (unknown, died in nest)	1 (unknown, died in nest)	1 (unknown, died in aviary)
% nest days guarded	28	35	28

^a New male.

Wild nest histories, 1993b

Year	1993	1993	1993	1993	1993
Nest site	SF1A	SF1A	SF2A	SF2A	SF2B
Male	SF1T1/SF1A1 ^a	SF1T1/SF1A1	CA1?	CA1?	SF2T1
Female	SF1T2	SF1T2	CA2?	CA2?	SF2B2
Clutch number (first, replacement)		replacement		replacement	
Clutch size	3	4	3	3	3
No. known fertile eggs	3	4	3	3	3
No. known infertile eggs	0	0	0	0	0
No. unknown	0	0	0	0	0
% fertile eggs	100	100	100	100	100
No. eggs hatch	1	3	1	3	3
No. chicks survive	0	2	0	3	3
No. fostered in (source)	0	1 (from aviary)	0	0	0
No. fostered out (where)	0	0	0	0	1 (to EF3)
Total edged from pair					
In wild	0	2	0	3	3 (1 in EF3)
In aviary	0	0	0	0	0
Total edged from nest					
In wild	0	3	0	3	2
In aviary	0	0	0	0	0
No. eggs died	2 (PET predation)	1 (PET predation)	2 (microbial infection)	0	0
No. chicks died	1 (PET predation)	1 (PET predation)	1 (unknown, died in nest)	0	0
% nest days guarded	46	51	43	27	32

^a Male changed during breeding.

Wild nest histories, 1994a

Year	1994	1994	1994	1994
Nest site	EF3	EM2 Tabanuco	QG	SF1A
Male	EF4-1	EF1A1	Q1	SF1A1/SF1A3 ^a
Female	EF4-2	EM2	Q2	SF1T2
Clutch number (first, replacement)				
Clutch size	3	3	3	3
No. known fertile eggs	3	3	3	3
No. known infertile eggs	0	0	0	0
No. unknown	0	0	0	0
% fertile eggs	100	100	100	100
No. eggs hatch	3	3	3	2
No. chicks survive	1	2	3	2
No. fostered in (source)	2 (from aviary)	0	0	0
No. fostered out (where)	1 (1 to SF2A)	1 (to aviary, poor development)	0	0
Total edged from pair				
In wild	1 (in SF2A)	2	3	2
In aviary	0	0	0	0
Total edged from nest				
In wild	2 (from aviary)	2	3	2
In aviary	0	0	0	0
No. eggs died	0	0	0	1 (DIS—no development)
No. chicks died	2 (bot y)	1 (poor development)	0	0
% nest days guarded	23	23	21	25

^a Male changed during breeding.

Wild nest histories, 1994b

Year	1994	1994
Nest site	SF2A	SF2B
Male	CA1?	SF2T1
Female	CA2?	SF2B2
Clutch number (first, replacement)		
Clutch size	3	3
No. known fertile eggs	3	3
No. known infertile eggs	0	0
No. unknown	0	0
% fertile eggs	100	100
No. eggs hatch	3	2
No. chicks survive	2	2
No. fostered in (source)	1 (from EF3)	0
No. fostered out (where)	0	0
Total edged from pair		
In wild	2	2
In aviary	0	0
Total edged from nest		
In wild	3	2
In aviary	0	0
No. eggs died	0	1 (DIS—no development)
No. chicks died	1 (unknown, disappeared)	0
% nest days guarded	25	28

Wild nest histories, 1995a

Year	1995	1995
Nest site	QG	SF1 Traditional
Male	Q1	SF1T3 ^a
Female	Q2	SF1T4 ^a
Clutch number (first, replacement)		
Clutch size	3	3
No. known fertile eggs	3	3
No. known infertile eggs	0	0
No. unknown	0	0
% fertile eggs	100	100
No. eggs hatch	3	3
No. chicks survive	3	2
No. fostered in (source)	1 (from aviary)	1 (from aviary)
No. fostered out (where)	1 (to SF2A)	0
Total edged from pair		
In wild	3 (1 in SF2A)	2
In aviary	0	0
Total edged from nest		
In wild	3 (includes 1 aviary fostered)	3 (includes 1 aviary fostered)
In aviary	0	0
No. eggs died	0	0
No. chicks died	0	1 (unknown, died in nest)
% nest days guarded	44	41

^aNew pair in traditional nest, vacated for 3 years.

Wild nest histories, 1995b

Year	1995	1995	1995
Nest site	SF1A	SF2A	SF2B
Male	SF1A5 ^a	CA1?	SF2T1
Female	SF1T2	SF2A2 ^b	SF2B2
Clutch number (first, replacement)			
Clutch size	3	3	3
No. known fertile eggs	3	3	3
No. known infertile eggs	0	0	0
No. unknown	0	0	0
% fertile eggs	100	100	100
No. eggs hatch	3	3	3
No. chicks survive	3	2	3
No. fostered in (source)	1 (from aviary)	1 (from QG)	0
No. fostered out (where)	1 (to aviary)	0	0
Total edged from pair			
In wild	2	2	3
In aviary	0	0	0
Total edged from nest			
In wild	3 (1 fostered from aviary)	3 (1 from QG)	3
In aviary	1	0	0
No. eggs died	0	0	0
No. chicks died	1 (unknown, died in aviary?)	1 (unknown, died in nest)	0
% nest days guarded	48	40	36

^aNew male.

^bNew female.

Wild nest histories, 1996

Year	1996	1996	1996	1996	1996
Nest site	SF1 Traditional	SF2A	SF2B	Acostao ^b	QG
Male	SF1T3	CA1/SF2A1 ^a	SF2T1	AC1 ^b	Q1
Female	SF1T4	SF2A2	SF2B2	AC2 ^b	Q2
Clutch number (first, replacement)					
Clutch size	3	3	3	3	3
No. known fertile eggs	1	3	3	3	2
No. known infertile eggs	2	0	0	0	1
No. unknown	0	0	0	0	0
% fertile eggs	33.3	100	100	100	66.7
No. eggs hatch	1	3	3	1	2
No. chicks survive	0	2	3	0	2
No. fostered in (source)	0	1 (aviary—Rio Abajo)	0	0	0
No. fostered out (where)	0	0	0	0	0
Total edged from pair					
In wild	0	2	3	0	2
In aviary	0	0	0	0	0
Total edged from nest					
In wild	0	3 (1 aviary)	3	0	2
In aviary	0	0	0	0	0
No. eggs died	0	0	0	2 (rats)	0
No. chicks died	1 (development problems)	1 (development problems)	0	1 (rats)	0
% nest days guarded	27	46	41	None	34

^aCA1 died at end of breeding season.

^bNew pair and new nest site.

Wild nest histories, 1997

Year	1997	1997	1997	1997	1997	1997
Nest site	SF1 Traditional	SF2A	SF2B	Acostao	QG	QG
Male	SF1T3	SF2A1	SF2T1	AC1	Q1	Q1
Female	SF1T4	SF2A2	SF2B2	AC2	Q2	Q2
Clutch number (first, replacement)						replacement
Clutch size	4	1	2	3	2	3
No. known fertile eggs	3	0	2	0	1	3
No. known infertile eggs	1	1	0	3	1	0
No. unknown	0	0	0	0	0	0
% fertile eggs	75	0	100	0	50	100
No. eggs hatch	3	0	2	0	0	3
No. chicks survive	2	0	2	0	0	3
No. fostered in (source)	0	0	0	0	0	0
No. fostered out (where)	0	1 egg (to aviary)	0	0	2 eggs (to aviary)	0
Total edged from pair						
In wild	2	0	2	0	0	3
In aviary	0	0	0	0	0	0
Total edged from nest						
In wild	2	0	2	0	0	3
In aviary	0	0	0	0	0	0
No. eggs died	0	0	0	0	1 (wet nest)	0
No. chicks died	1 (development problems)	0	0	0	0	0
% nest days guarded	37	NA	37	none	NA	41

Wild nest histories, 1998a

Year	1998	1998	1998	1998	1998
Nest site	SF1 Traditional	SF2B	Acostao	QG	Cacique
Male	SF1T3	SF2T1	AC1	Q1	CA3 ^a
Female	SF1T4	SF2B2	AC2	Q2	CA4 ^a
Clutch number (first, replacement)					
Clutch size	4	3	3	3	2 (3?)
No. known fertile eggs	4	3	0	3	2 (3?)
No. known infertile eggs	0	0	3	0	0
No. unknown	0	0	0	0	(1?)
% fertile eggs	100	100	0	100	100
No. eggs hatch	4	3	0	3	2 (3?)
No. chicks survive	3	3	0	3	0
No. fostered in (source)	0	0	0	0	0
No. fostered out (where)	1 (to aviary, poor development)	0	0	0	0
Total edged from pair					
In wild	3	3	0	3	0
In aviary	0	0	0	0	0
Total edged from nest					
In wild	3	3	0	3	0
In aviary	0	0	0	0	0
No. eggs died	0	0	0	0	0
No. chicks died	1 (poor development)	0	0	0	2–3? (unknown predation)
% nest days guarded	47	41	NA	42	NA

^aNew pair after no breeding here.

Wild nest histories, 1998b

Year	1998
Nest site	EI Tubo ^a
Male	ET1 ^a
Female	ET2 ^a
Clutch number (first, replacement)	
Clutch size	2
No. known fertile eggs	1
No. known infertile eggs	1
No. unknown	0
% fertile eggs	50
No. eggs hatch	1
No. chicks survive	1 (in aviary)
No. fostered in (source)	1 (from aviary but died)
No. fostered out (where)	1 (to aviary due to bot ies)
Total edged from pair	
In wild	0
In aviary	1
Total edged from nest	
In wild	0
In aviary	1
No. eggs died	0
No. chicks died	0
% nest days guarded	40

^a New pair and new nest site.

Wild nest histories, 1999a

Year	1999	1999	1999
Nest site	QG	SF1 Traditional	SF2 Traditional
Male	Q1	SF1T3	SF2T1 (moved from SF2B nest site)
Female	Q2	SF1T4	SF2T2 (moved from SF2B nest site)
Clutch number (first, replacement)			
Clutch size	2	3	2 (3?)
No. known fertile eggs	0	3	2
No. known infertile eggs	0	0	0
No. unknown	2	0	(1?)
% fertile eggs		100	100
No. eggs hatch	0	3	2
No. chicks survive	0	2	1
No. fostered in (source)	0	0	0
No. fostered out (where)	0	0	0
Total edged from pair			
In wild	0	2	1
In aviary	0	0	0
Total edged from nest			
In wild	0	2	1
In aviary	0	0	0
No. eggs died	2 (PET?)	0	0
No. chicks died	0	1 (unknown, disappeared)	1 (chick died in cavity—unknown)
% nest days guarded	NA	51	52

Wild nest histories, 1999b

Year	1999	1999
Nest site	SF1A	SF2A
Male	SF1A7 (new)	SF2A1
Female	SF1A2 (new)	SF2A4 (new)
Clutch number (first, replacement)		
Clutch size	3	2
No. known fertile eggs	3	0
No. known infertile eggs	0	2
No. unknown	0	0
% fertile eggs	100	0
No. eggs hatch	3	0
No. chicks survive	0	0
No. fostered in (source)	0	2 eggs (from SF1A)
No. fostered out (where)	3 eggs (2 to SF2A; 1 aviary)	0
Total edged from pair		
In wild	0	0
In aviary	0	0
Total edged from nest		
In wild	0	0
In aviary	0	0
No. eggs died	0	0
No. chicks died	3 (2 in SF2A; 1 aviary)	2 fostered (unknown, in nest)
% nest days guarded	NA	59

Wild nest histories, 2000a

Year	2000	2000	2000
Nest site	SF2A	SF2 Traditional	SF2B ^a
Male	SF2A1	SF2T1	SF2T1
Female	SF2A4	SF2B2	SF2B2
Clutch number (first, replacement)			replacement
Clutch size	3	3	3
No. known fertile eggs	3	3	3
No. known infertile eggs	0	0	0
No. unknown	0	0	0
% fertile eggs	100	100	100
No. eggs hatch	2	3 (in aviary)	3
No. chicks survive	2	2 (in aviary)	2
No. fostered in (source)	1 (from aviary)	0	0
No. fostered out (where)	0	3 eggs (to aviary)	1 (to aviary & died)
Total edged from pair			
In wild	2	0	2
In aviary	0	2	0
Total edged from nest			
In wild	3 (1 from aviary)	0	2 (transmitters, died shortly after edging)
In aviary	0	3	0
No. eggs died	1 (malposition; during hatching)	0	0
No. chicks died	0	0	1 (died in aviary; high hepatic enzymes)
% nest days guarded	39	21	38

^a Pairs first clutch in SF2T site and second clutch in SF2B site.

Wild nest histories, 2000b

Year	2000
Nest site	SF1 Traditional
Male	SF1T3
Female	SF1T4
Clutch number (first, replacement)	
Clutch size	4
No. known fertile eggs	3
No. known infertile eggs	1
No. unknown	0
% fertile eggs	75
No. eggs hatch	3
No. chicks survive	2
No. fostered in (source)	0
No. fostered out (where)	4 eggs (2 fertile to SF1A, later 1 of these to aviary?; 1 fertile and 1 infertile to aviary)
Total edged from pair	
In wild	0
In aviary	2 (1 SF1T; and 1 egg to SF1A may have gone to aviary, but confused with SF1A egg)
Total edged from nest	
In wild	0
In aviary	2?
No. eggs died	0
No. chicks died	0
% nest days guarded	26

Wild nest histories, 2000c

Year	2000
Nest site	SF1 Traditional
Male	SF1T3
Female	SF1T4
Clutch number (first, replacement)	replacement
Clutch size	4
No. known fertile eggs	4
No. known infertile eggs	0
No. unknown	0
% fertile eggs	100
No. eggs hatch	4
No. chicks survive	3
No. fostered in (source)	0
No. fostered out (where)	1 pipping egg (first to Luquillo aviary then nestling taken to Rio Abajo aviary where killed by female HP)
Total edged from pair	
In wild	3
In aviary	0
Total edged from nest	
In wild	3 (all with transmitters; 2 died, each 1 day after edging; 1 died 3 weeks after edging)
In aviary	0
No. eggs died	0
No. chicks died	1 (HP hen killed chick in Rio Abajo aviary; 3 edged from nest died shortly after edging)
% nest days guarded	43

Note: 3 edglings with transmitters died shortly after edging.

Wild nest histories, 2000d

Year	2000
Nest site	SF1A
Male	SF1A7
Female	SF1A2
Clutch number (first, replacement)	
Clutch size	2
No. known fertile eggs	1
No. known infertile eggs	1
No. unknown	0
% fertile eggs	50
No. eggs hatch	1
No. chicks survive	0
No. fostered in (source)	2 eggs (from SF1T)
No. fostered out (where)	1 egg? (uncertain if pipping egg sent to aviary was original SF1A egg or fostered SF1T egg)
Total edged from pair	
In wild	0
In aviary	0–1? (egg that survived in aviary. Was it original SF1A egg or SF1T fostered egg?)
Total edged from nest	
In wild	0
In aviary	0–1? (uncertain if fostered SF1T egg or original SF1A egg)
No. eggs died	0
No. chicks died	2 (unknown cause; source of eggs uncertain, SF1A or SF1T?)
% nest days guarded	45

Wild nest histories, 2000e

Year	2000	2000
Nest site	QG	QG
Male	Q1	Q1
Female	Q4 ^a	Q4
Clutch number (first, replacement)		replacement
Clutch size	3	2
No. known fertile eggs	1	1
No. known infertile eggs	1	1
No. unknown	1 (broken before inspection)	0
% fertile eggs	50	50
No. eggs hatch	1	1
No. chicks survive	1 (in aviary)	0
No. fostered in (source)	2 HP eggs	1 HP chick
No. fostered out (where)	1 egg (to aviary)	2 eggs
Total edged from pair		
In wild	0	0
In aviary	1	0 (hatchling died)
Total edged from nest		
In wild	0	0
In aviary	0	0
No. eggs died	1? (broken before inspection; fertility unknown)	0
No. chicks died	1 HP chick (PET predation?)	1 (hatchling died in aviary, unknown cause)
% nest days guarded	30	42

^aNew female.

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