STATUS OF THE ROSY-FACED LOVEBIRD IN PHOENIX, ARIZONA

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The Rosy-faced Lovebird (*Agapornis roseicollis*) is a small, colorful parrot which is a popular cage bird in the U.S. and elsewhere. Since at least the mid-1980s, feral flocks of this species have been reported breeding in residential neighborhoods of the greater Phoenix area. Most exotic species that escape do not survive long in the wild and fewer still establish breeding populations in non-native habitats. However during the past 25 years, populations of these lovebirds have increased and expanded and they have become regular city park and backyard visitors to many greater Phoenix neighborhoods.

Figure 1: Rosy-faced Lovebirds (20 September 2008) at Gilbert Water Ranch. Photo by Pierre Deviche

Formally known as Peach-faced, this lovebird is native to dry wooded country in southwestern Africa, up to an elevation of 1500 m (Collar 1997). Its natural range is poorly known, but the species is generally found in Angola, southward along the coast through Namibia to Northern Cape Province, South Africa (Juniper and Parr 1998). It is fond of arid regions but depends on areas near water, and exhibits nomadic tendencies where water is scarce or unavailable. In Africa this lovebird is found in scrubby hillsides and tree-lined watercourses including river canyons and in rocky terrain where area rainfall exceeds 100 mm (Collar 1997). It is a colonial breeder with natural breeding sites in inaccessible and often vertical cracks in sandstone koppies—small usually rocky hills rising up from the African grasslands—or steep rock faces on exfoliating granite (Simmons 1997). However, it is highly adaptable and also nests and roosts in Sociable Weaver (*Philetairus socius*) nests, as well as in artificial structures and junction boxes on power poles, and in other unnatural habitats (Simmons 1997).

The wild population status of the Rosy-faced Lovebird is not exactly known. However, Simmons (1997) indicated that it is unlikely that any range contraction has occurred during the 20th century, and that it is more likely that populations have increased with the provision of water points in previously dry areas, and of artificial structures in which it can nest. Simmons believes that the species is widespread and abundant in the wild. Captive birds have escaped in urban areas of South Africa but have not become established (Collar 1997).

The Rosy-faced Lovebird is widely bred in captivity both as a hobby and commercially for the pet trade. Only three of more than 500,000 individuals exported from 1992 through 2001 were of wild origin (CITES 2004). It breeds easily in captivity. A pair can potentially rear three broods (4-5 eggs per clutch) in a season (Vriends 1984). As a consequence of their popularity and ease of captive breeding, local escapees and illegal releases from breeders and owners are likely the initial source of a widespread and conspicuous feral lovebird population now found in the greater Phoenix area. The Rosy-faced Lovebird population in Phoenix is the only known feral population in the United States. Small groups have been observed outside of the greater Phoenix area in Arizona, such as in Tucson, but little has been documented about those sightings and there is little evidence suggesting that these areas have established colonies. Interestingly, the Arizona population of Rosy-faced Lovebird is one of the very few populations of introduced parrots that descend from domesticated stock (R. Jonker pers. comm.).

The Rosy-faced Lovebird was first reported as breeding in the greater Phoenix area in a residential neighborhood in the East Valley near the Apache Junction and Mesa city border in 1987 (Michael A. Moore pers. comm.). Further documentation of nesting of Rosy-faced Lovebirds was published in the Arizona Breeding Bird Atlas (Corman 2005). According to atlasers, nesting activity is generally initiated in April or May and eggs are likely laid from April-June, but nesting may occur irregularly throughout the year, a seasonal pattern similar to that observed in the species' native African habitat (Forshaw 1977). In Arizona adults have been observed carrying nesting material (strips of vegetation tucked among tail feathers) as early as late February. The most commonly reported nesting (and roosting) sites for lovebirds in the greater Phoenix metro area are under the dead fronds of untrimmed palm trees, especially Canary Island date palm (*Phoenix canariensis*), and shallow cavities in saguaros (*Carnegiea gigantea*), with fewer reports among house roof tiles (Corman 2005).

Breeding Bird Atlas surveyors found the majority of lovebirds in residential neighborhoods, with vegetation ranging from primarily exotic shrubs and trees to a mixture of some native species, including mesquite (*Prosopis sp*), palo verde (*Parkinsonia sp*), and saguaro (Corman 2005). These exotic birds are most abundant in older established neighborhoods where there are many tall shade trees and palms (Corman 2005). Lovebirds are regular visitors to many backyard water and feeding stations, but they also regularly feed on fruit and seeds of native and exotic plants, e.g., cactus fruit, apples, palm fruit, and various seed pods including those from common desert landscaping plants such as mesquite, palo verde, and mimosa (*Mimosa sp*). Rosy-faced Lovebirds are common and widespread in the greater Phoenix area, but little has been formally documented about population size and distribution. To establish a quantitative baseline understanding of the population, a coordinated census was conducted on 27 February 2010 by the Arizona Field Ornithologists (AZFO).

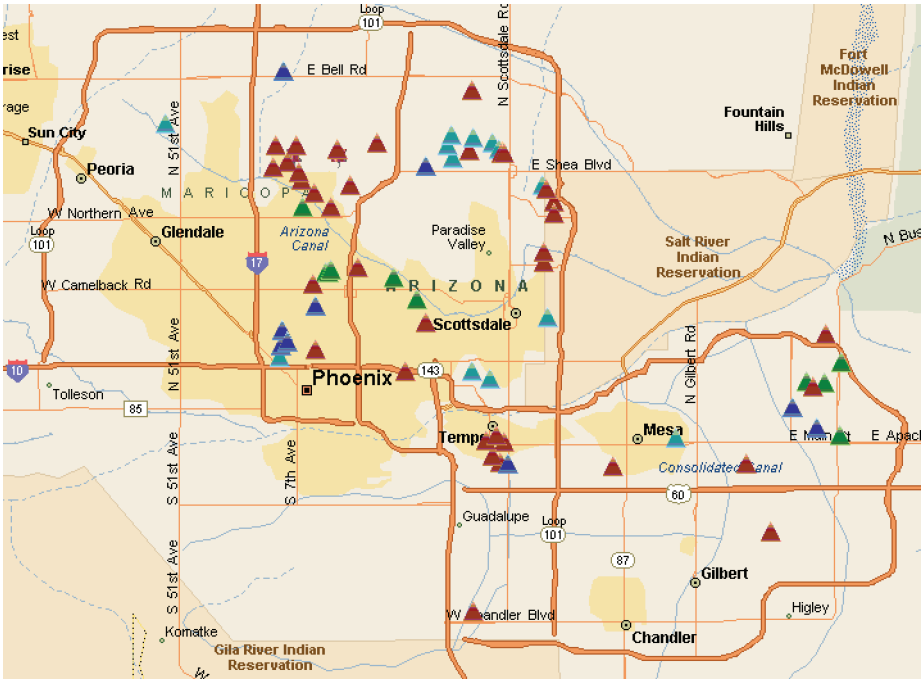

Figure 1: Census Data Points with Lovebird Detections (triangles): Light Blue = 1-5 birds, Red = 6-10 birds, Dark Blue = 11-20 birds, Green = 21-50 birds.

METHODS

The area censused (Figure 1) extended from west Phoenix, north to Scottsdale and Hwy. 101, west to southeast Apache Junction and south to Chandler, Gilbert, and Queen Creek, an area roughly 24 miles in diameter. Sixty-one census teams, with one to five censusers each, canvassed residential and urban areas for several hours from dawn until approximately 2:00 pm. Each team was assigned a specific area, but areas varied in size from a single backyard to a neighborhood. To minimize overlap or double counting each area was discrete with little to no common boundaries. However, some overlap may be inevitable with fast flying mobile lovebirds. Because of the massive greater Phoenix area size (450 square miles), censusers concentrated on areas of known occurrence. Even though participants often focused their surveys in known localities, many other areas where lovebirds are known to occur were not surveyed. Surveyors conducted the census on foot, bike, and/or while driving slowly through residential neighborhoods with vehicle windows down to listen for the distinctive high-pitched calls of the lovebirds. Survey totals were posted to the Arizona Field Ornithologists website at: http://azfo.org/PeachFacedData/ and the data exported to a spreadsheet (Table 1).

RESULTS

The results of this half-day census were enlightening. A total of 948 Rosy-faced Lovebirds detected. This number far exceeded our predictions. Nearly half of the birds were detected within Phoenix city limits, with a combined total >300 also counted in Mesa and Scottsdale. Parts of the lovebird's known range (e.g., NE. Apache Junction, Cave Creek, E. Gilbert, and NW Phoenix) were not

surveyed and we estimate that less than 50 percent of suitable habitat in the greater Phoenix area was surveyed. Furthermore, lovebirds can be difficult to detect, for example when perched quietly in vegetation. Approximately a third of the census teams detected no lovebirds, even though some were surveying areas where these birds were detected within a few days to a week prior (Table 1). Based on these factors, we estimate the population of Rosy-faced Lovebirds in the greater Phoenix area to consist of at least 2500 individuals.

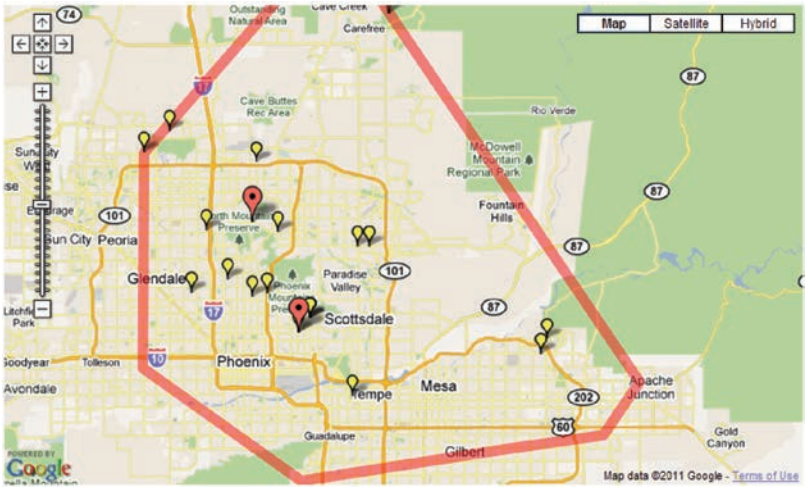

Figure 2: Greater Phoenix Area map (reproduced from Mirror-Pole website) of reported Rosy-faced Lovebird locations in 1999-2005. Yellow balloons indicate sightings of 1-10 individuals and red balloons = flocks of >10 individuals.

DISCUSSION

It is clear the Rosy-faced Lovebird population is growing, but it is difficult to know how fast it is increasing or expanding because little has been previously documented about population size or distribution in the greater Phoenix area. However, it is important to note that little evidence suggests that Rosy-faced Lovebirds have established any populations in surrounding natural desert or riparian habitats away from human developments. This may have to do with limited availability to water, appropriate food sources, and/or nest cavities (Ndithia 2007), but more research is needed.

Most of the range of the Rosy-faced Lovebird in the greater Phoenix area is outside boundaries of Christmas Bird Counts (CBCs) and little information is, therefore, available on the species' population growth and distribution. Furthermore, the lovebirds have been largely ignored on CBCs where they do occur. Few birders or ornithologists have interest in conducting studies of exotic birds in urban or suburban areas (Pranty and Garrett 2003). Among biologists and birders is a propensity to ignore exotic birds. Almost no one wants to gather data regarding them; indeed, one sometimes hears cries, often delusional, to eradicate many exotics (Smith and Smith 1993). These unfounded and irrational cries of eradication still echo today regarding the lovebirds. In fact, a few census participants were reluctant to take part at first, and some lovebird enthusiasts refused to participate out of concern that the census data would be used to initiate an eradication effort.

Rosy-faced Lovebird locality and population information has been compiled and mapped since 1999 by Greg Clark (http://mirror-pole.com/collpage/pf_loveb/pfl_1.htm). This web site uses Google maps technology, where observers map site location and include the date, numbers present, and other notes such as roost sites and nesting activity. The web site shows that populations have expanded during the past decade in all directions from original population centers (Figures 2 and 3), but it is difficult to determine the actual rate of growth and expansion entered on this website since 1999, as some of the increase in detections likely results from additional lovebird enthusiasts learning about the website and submitting information.

During the late 1980s, Moore regularly observed 6-9 lovebirds near the Apache Junction and Mesa city border (pers. comm.). In two separate years these birds were accompanied by young that had recently fledged from cavities in tall saguaros. Moore also noted that the time of fledging coincided with the fruiting of the saguaros and he observed adults feeding on saguaro fruit. Rosy-faced Lovebirds are probably opportunistic breeders like Budgerigars (*Melopsittacus undulatus*), starting a breeding cycle when conditions are optimal (R. Jonker pers. comm.).

The current lovebird population is apparently self-sustaining and not entirely dependent on humans for food and shelter. Furthermore, Rosy-faced Lovebirds in the

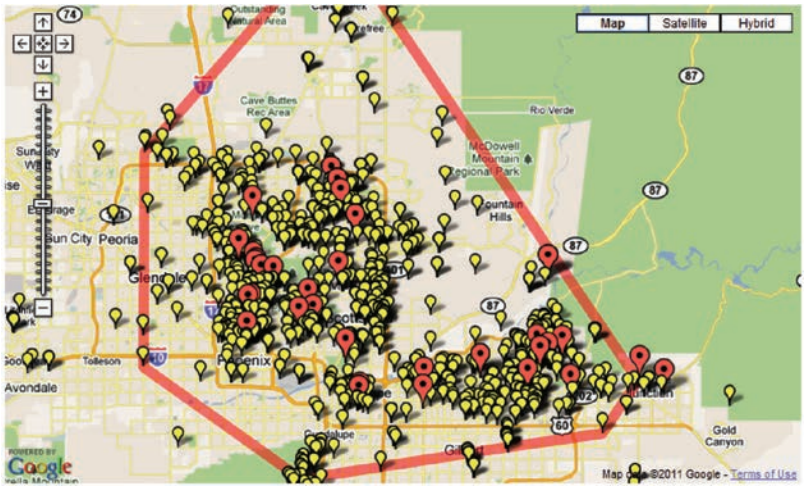

Figure 3: Greater Phoenix Area map (reproduced from Mirror-Pole website) of reported Rosy-faced Lovebird locations in 1999-2010. The red border shows the initial known boundary of the species.

Phoenix area are sufficiently numerous and widespread that any control or eradication program would presumably be unsuccessful, and surely misguided. Indeed, to our knowledge lovebirds have shown little to no negative impact on native bird populations or habitats. Their colonial nesting habits and propensity to nest in palms in urban areas reduce any widespread competition for nest sites. Even widespread trimming of palms has had no appreciable effect on numbers, as birds readily move to adjacent areas to roost following local trimming, only to return to these same palms several months later. Lovebirds have also shown resilience to environmental conditions: Phoenix area lovebirds have survived temperatures ranging from -4˚C (January 2007) to 50˚C (June 1990).

Rosy-faced Lovebird in saguaro cavity at Gilbert Water Ranch, 2008. Photo by Brendon Grice

Given the relatively mild climate in the greater Phoenix area, sufficient food and water sources throughout the year, and the fact that birds may produce two or three broods per year, the number of offspring produced is sufficient to maintain and likely increase the population. The typical lifespan in captivity of Rosy-faced Lovebird is 15 to 25 years. The typical lifespan in the wild is unknown but expected to be shorter than in captivity (De Grahl 1984), still giving each pair ample opportunity to replenish and expand populations. Furthermore, adult lovebirds appear to be fairly wary and swift on the wing, with few reports of their being caught by likely urban predators such as raptors or outdoor cats.

Environmental conditions appear to favor a sustainable lovebird population, but psittacine beak and feather disease is always a looming threat. This viral disease affects all Psittacinae parrots and has the potential to become a major threat to all species of wild parrots and to modern aviculture, due to the increasing international legal and illegal bird trade (Wikipedia 2011).

In view of the above and of the history of some exotic bird populations in the U.S. (e.g., Pranty 2001) the long-term status of the Rosy-faced Lovebird in Arizona is not predictable. However in the greater Phoenix area, they are widespread, their population is growing, and there is little doubt that this charismatic little psittacid will continue to be part of Arizona's avifauna for the foreseeable future.

ACKNOWLEDGMENTS

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Table 1: ROSY-FACED LOVEBIRD Census Data Collected 27 February 2010

SURVEY CITY	SURVEY AREA	COUNT
Scottsdale	McCormick Ranch area from Mountain View along Hayden Rd. south to Chaparral Rd.	26
Phoenix	32nd - 60th St. from Thunderbird Rd. to Phoenix Mountain Preserve	73
Tempe	ASU Main Campus, Maple & Ash Ave., neighborhood	28
Chandler/Scottsdale	Chandler Blvd & 54th St., Chandler; Paradise Dr. & 70th St., Scottsdale; Continental Dr. & 68th St., Scottsdale	58
Phoenix	Willo District	3
Phoenix	Desert Botanical Garden	3
Scottsdale	South of Cactus Rd. & west of Scottsdale Rd.	62
Phoenix	Dunlap & 7th Ave.; Rose Mofford Park; 41st Ave. & W. Muriel Dr.; 38th Ave. & behind Thunderbird Park	0
Phoenix	Paradise Valley Mall area, just off Cactus Rd. & Tatum Blvd.	0
Phoenix	Area between 40th & 48th St. from Camelback Rd. south to Indian School Rd.	35
Phoenix	Approximately between 56th & 66th St., between the canal along north side of Indian School Rd. & Exeter Blvd.	0
Paradise Valley	Paradise Valley, Indian Bend west of 60th St.	0
Scottsdale	Kierland area	3
Phoenix	Greenway Rd. & Coral Gables Dr.	0
Mesa	9th St. and Westwood Cir.	7
Phoenix	4333 E. Whitton Ave.	11
Phoenix	40th St. & Campbell Ave.	57
Phoenix	Heard Museum & Steele Indian School Park	21
Phoenix	W. Butler Dr. area between Northern & Dunlap Aves., Central & 7th Aves.	25
Mesa	Leisure World	0
Phoenix	2nd Place, Ahwatukee	0
Mesa	5218 E Casper Rd, Mesa AZ - Near Higley Rd. & University Ave.	18
Gilbert	Gilbert Water Ranch & surrounding neighborhood	20
Apache Junction	SE sector of Apache Junction: Baseline Rd./US60; Goldfield & Tomahawk Rds.	0
Mesa	Brown & Power Rds., Red Mountain Park area & nearby neighborhood	0
Scottsdale	8637 E. Solano Dr.	0
Scottsdale	85th St. & Fairmount Ave.	2
Mesa	West of Stapley Dr., between University Dr. & Main St.	1
Phoenix	58th Way & backyard/Le Marche Ave./E. Paradise Ln.	9
Tempe	Tempe High School at Mill & Broadway Rds.	9
Queen Creek	Hunt Hwy./Village Way; San Tan Heights	0
Mesa	2 blocks east of Country Club Rd., 2 blocks west of Center St., 4 blocks north of University Dr., 4 blocks south of Brown Rd.; at 805 N. Grand.	0
Paradise Valley	Clearwater Hills area	0
Phoenix	Deer Valley Park, 19th Ave & Utopia Rd.	0

SURVEY CITY	SURVEY AREA	COUNT
Phoenix	E. Montebello Ave., 8th St. to 11th Pl.	113
Phoenix/Tempe	Papago Park, outside of Phoenix Zoo, Galvin Pkwy. & Van Buren St. Also Pera Club and Evelyn Hallman Park (formerly Canal Park), McKellips Rd. & College Ave.	12
Mesa	Fry's parking lot – southwest corner McKellips & Recker Rds.; Jack In the Box property – southeast Power Rd. just south of McDowell Rd., Red Mt. maintenance garage – northside of Thomas Rd. between Power & Recker Rds.	32
Phoenix	5500 block of E. Crocus Dr.	0
Phoenix	Central Ave. & Camelback Rds.	6
Mesa	37th St. & Dewberry Ave. area	8
Scottsdale	8448 E Cambridge Ave.	0
Phoenix	Subdivision of Tatum Ranch bounded to west by 40th St, east by Cave Creek Rd, north by Lone Mountain & south by Tatum Blvd.	0
Scottsdale	Between Hayden & Pima Rds., north & south of McDonald Dr.	21
Paradise Valley	1/2 block west of Invergordon (64th St.) & one block N of Doubletree Ranch Rd.	1
Mesa	Dreamland Villa Golf Course & Tuscany Villas	89
Phoenix	Between Maryland Ave. & Bethany Home Rd. between 7th & 19th Aves.	0
Phoenix	Cactus Rd. & 19th Ave. neighborhoods	0
Phoenix	25th Ave. area north of Cactus Rd.	0
Phoenix	5th Ave. & Cinnabar Ave.	6
Tempe	Neighborhoods north & south of Broadway Rd. between Mill & College Aves.	7
Phoenix	Encanto Park & area: 7th Ave to 19th Ave, McDowell Rd to Thomas Rd.	17
Mesa	Brown & Higly Rds. area	16
Phoenix	Phoenix Zoo	0
Scottsdale	Scottsdale Ponds (Indian Bend Wash area)	5
Mesa	Albany St & Power Rd.	28
Phoenix	17423 N. 16th Ave	15
Phoenix	15th to 18th Ave. between Thomas & Osborn Rds.	19
Phoenix	28th St. & Cactus Rd. area	6
Phoenix	17th Ave., Wilshire & 15th Ave., Edgemont & 15th Ave.	12
Tempe	Broadmor Dr. & Granada Dr	16
Phoenix	Granada Park, adjacent Arizona Canal to 40th St. Also 20th St. & Bethany Home Rd. neighborhood	48
	FINAL TALLY	**948**

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