

MARIANA AVIFAUNA CONSERVATION (MAC) PROJECT

A Second and First Translocation of Golden White-eyes (*Cleptornis marchei*) and Mariana Fruit Doves (*Ptilinopus roseicapilla*), Respectively, from Saipan to Sarigan, and an Assessment of Bridled White-eyes (*Zosterops conspicillatus*) on Sarigan, 1-8 May 2012



Project Report Number 4

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Commonwealth of the Northern Mariana Islands
Division of Fish and Wildlife

August 2012

Radley, P.M. 2012. Marianas Avifauna Conservation (MAC) project. A Second and First Translocation of Golden White-eyes (*Cleptornis marchei*) and Mariana Fruit Doves (*Ptilinopus roseicapilla*), Respectively, from Saipan to Sarigan, and an Assessment of Bridled White-eyes (*Zosterops conspicillatus*) on Sarigan, 1-8 May 2012. Division of Fish and Wildlife, Saipan, CNMI. 10 pp.

2012 MAC WORKING GROUP PARTICIPANTS AND ASSOCIATES

This fourth MAC Project conservation introduction was a joint effort of the Commonwealth of the Northern Mariana Islands' Division of Fish and Wildlife (CNMI DFW), the U.S. Fish and Wildlife Service (USFWS), and the Association of Zoos and Aquariums (AZA). The team of researchers that were actively involved as part of the MAC Working Group in 2012 includes:

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The 2012 MAC/AZA crew on-site and working diligently.

TRANSLOCATION OF GOLDEN WHITE-EYES AND MARIANA FRUIT DOVES TO SARIGAN

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TRANSLOCATION OF GOLDEN WHITE-EYES AND MARIANA FRUIT DOVES TO SARIGAN

INTRODUCTION

In late April 2011 the MAC Project introduced 24 of its second species to Sarigan; the Golden White-eye (*Cleptornis marchei*), a genus that is endemic to the Mariana Archipelago (Radley 2011). Although the mid-morning undertaking went off without a hitch, contractual issues between *Americopters* and the CNMI prevented the planned execution of post-translocation monitoring in 2011 and no other flight could be made to the island that year.

On 1 May 2012 the MAC Project enhanced the founder population of Golden White-eyes on Sarigan by translocating 50 additional individuals. To add genetic diversity of the small, self-established population of Mariana Fruit Doves (*Ptilinopus roseicapilla*) on the island the MAC Project likewise introduced 10 individuals of the species to Sarigan. This undertaking was followed by 7.5 days of post-translocation monitoring (afternoon of 1 May thru 7 May), which focused primarily on the Golden White-eye but also included point-transect distant surveys (i.e., Variable Circular Plot or VCP surveys) of the now established Bridled White-eyes that were introduced to the island in 2008 and 2009 (MAC Working Group 2008, Radley 2008 and 2009).

METHODS AND RESULTS

Study Site

The uninhabited island of Sarigan is an extinct (or dormant) strato-volcano with no recorded history of activity that lies 95 nautical miles north of Saipan (Fig. 1). At approximately 500 ha (5 km²) in area and 549 meters at its highest elevation, most of the island's shoreline is irregular with steep, rugged, and eroded cliffs created by old lava flows and landslides (Berger et al. 2005). At an elevation of between 100-106 meters lies a plateau to the north and east of the peak that constitutes the island's highest point; on this plateau are situated Sarigan's "upper camp" and the release site (both at 16° 42' N, 145° 47' E; Fig. 2; Radley 2008, 2009, and 2011).

As much as 45% (223 ha) of Sarigan is covered by forest, the remainder consisting of either grass or areas of barren rock. A DFW survey of the island in 2006 indicated that forest cover consisted of approximately 75-90 ha of native forest (34%-40% of total forest cover; Fig. 2) and 133 ha of old coconut plantation or agricultural forest (60% of total forest cover; Martin et al. 2008). Both the upper camp and the release site are located at an interface between grass and barren rock and primarily native forest.

Pre-Translocation 2012

Golden White-eye Capture

Between 21 and 23 April 2012, 57 Golden White-eyes were captured on public land in the Marpi area of Saipan (in a radius of approximately half mile of 15° 15' N, 145° 48' E) in the same general area used for capturing the species in 2011 (Radley 2011). All white-eyes were weighed at capture (mean = 17.7 grams; range = 13.1 – 23.4 grams), marked on the right leg with a numbered aluminum leg band, and assessed for health issues. The same capture and handling protocol were followed as those used for capturing Golden White-eyes in 2011 (Radley 2011) and Bridled White-eyes in 2008 (MAC Working Group 2008). Given the lack of flocking,



Figure 1. The Northern Mariana Islands (taken from <http://www.infoplease.com>).

family group retention, and territoriality of Golden White-eyes, mist nets had to be moved regularly after catching two to four birds in a given area; an approach that was also taken in 2011.

Mariana Fruit Dove Capture

Between 26 and 27 April 2012, 10 Mariana Fruit Doves were captured on private land in Marpi, Saipan, the same area the species had been captured in 2007 and in close proximity to where the Golden White-eyes were captured a few days earlier. Like the Golden White-eyes, all fruit doves were weighed (mean = 82.8 grams; range = 77.7 – 101.4 grams), banded, and assessed for health issues, and the same handling protocol were followed as those for Golden White-eyes.

Holding and Processing

Both Golden White-eyes and Mariana Fruit Doves were held in the field, transported from the field to designated holding facilities, and translocated to Sarigan in the same boxes used for Golden White-eyes in 2012; a slightly modified version of the bird shipping container (hereafter referred to as “transport boxes”) used by the MAC project since 2007. A room rented at the Summer Holiday Hotel in the main village of Garapan, Saipan, served as on-island holding

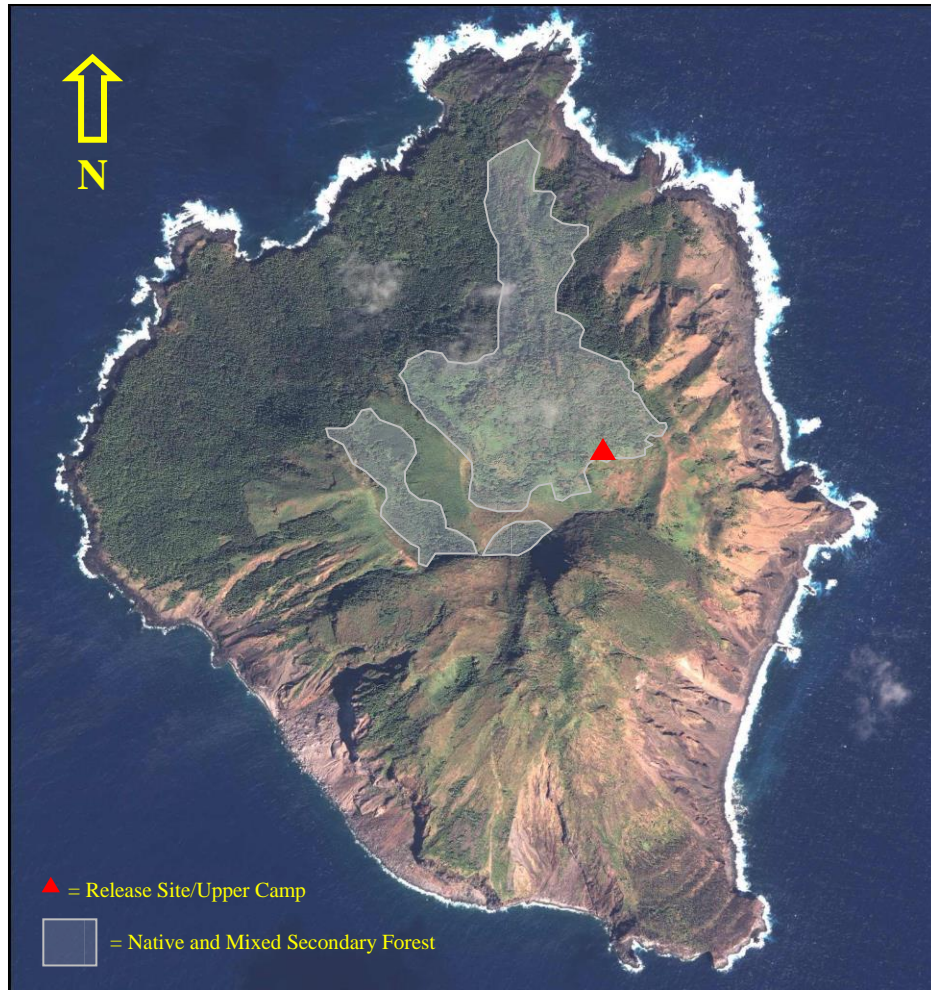


Figure 2. The location of native and mixed secondary forest, the 2011 release site and upper camp on Sarigan, CNMI.

facilities and avian lab (Fig. 3). While at the facilities/avian lab, all Golden White-eyes were held in the boxes used in 2011, which were originally designed and built to hold Bridled White-eyes on Tinian in 2009 (Radley 2009 and 2011). Fruit doves were held in boxes specifically designed to hold individual doves. Golden White-eyes were maintained on a mix of fresh local papaya and imported meal worms, *Zupreem* fruit-blend pellets, *Mazuri* insectivore pellets, and *Nekton Plus* nectar supplement if the birds weren't eating well their first couple of days in captivity. Fruit doves were routinely hand-fed a weaning formula to insure their weights were maintained for release on Sarigan. Most captives of both species were weighed daily to track health and the status of acclimation to captivity. To detect and treat potential health issues amongst the captives and to prevent transmission of disease to Sarigan fecal scans were run and all birds wormed as necessary.

Preparation for Translocation

To facilitate and enhance post-translocation monitoring, all Golden White-eyes were individually color banded and VHF radio-transmitters were attached to 24 of them on Saipan on the afternoon of 30 April prior to introduction to Sarigan. By the next morning, the day of translocation, a number of transmitters had been shed by the birds they had been deployed on. These units were sent with the birds to Sarigan for reattachment on-island prior to release. No Mariana Fruit doves were color banded or radio-tagged.

A crew of three DFW staff (T. Willsey, J. Camacho, and P. Radley) arrived on Sarigan mid-morning on 30 April to prepare both camp and the release site and erect the antenna for a VHF radio, the crew's sole source of communication with Saipan. The release site chosen was the same one used in all previous releases on the island since 2008 (Radley 2008, 2009, and 2011).

Translocation

Transport to and Release on Sarigan

At approximately 07:30 on 1 May, weather clear and sunny, H. Roberts, P. Luscomb, A. Tieber, E. Gorrell, H. Bailey, L. Blinco, G. Fleming, D. Zombeck, S. Newland, . Falcome, and J. Mejeur arrived at the *Americopters* heliport on Saipan with the transport boxes containing 50 Golden White-eyes and 10 Mariana Fruit Doves for translocation to Sarigan. The boxes were loaded into the cargo bay of the flight prepped Messerschmitt BO 105 *Bölkow* helicopter and secured with bungee cords and cargo netting by the flight crew (Fig. 3). At approximately 09:00, the helicopter departed for Sarigan with the birds, A. Teiber, and E. Gorrell, and C. Todd, who arrived separately. The latter accompanied the translocation flight to join the DFW post-translocation monitoring crew and remained on island with the others until they departed on 1 May.



Figure 3. AZA personnel loading translocatees into the cargo bay of the Messerschmitt BO 105 *Bölkow*.

At approximately 09:50 on 1 May the helicopter landed at upper camp on Sarigan and was powered down. As the aircraft was being shut down DFW and AZA staff shuttled the transport boxes containing Golden White-eyes and Mariana Fruit Doves from the helicopter to the release site. After all boxes were in place they were left quietly for ~20 minutes to allow the birds some time to calm and acclimate after the flight. At approximately 10:30 the transport boxes were opened to release their occupants starting with the Golden White-eyes on which radio-transmitters had been deployed. For these birds specifically, each compartment was opened and the white-eye within extracted by hand for re-attachment of transmitters as needed.

By the time the Golden White-eyes had arrived on Sarigan a total of 12 transmitters had been shed. In many instances this occurred as a result of the antennas on the transmitters becoming caught in the joints and seams between the walls and roofs of the transport boxes. Essentially, the white-eyes violently pulled the transmitters from themselves when they discovered they were caught. This damaged the antennas on a number of the units, which subsequently could not be reused (only three of the shed transmitters were useable). In the end, a total of 15 Golden White-eyes were released with deployable transmitters.

By approximately 11:30 all birds were released on Sarigan and the transport boxes were re-secured in the helicopter prior to its departure for Saipan with the AZA release crew.

Post-Translocation Monitoring

Golden White-eye Telemetry and Re-sighting

Post-translocation monitoring of 24 Golden White-eyes on Sarigan was conducted between 1 and 7 May; the results of our radio-tracking efforts were inconclusive at best. On 2 May transmitters were recovered from two birds while only one other tagged bird (T24) was detected as active; its location was near the release site (Fig. X). On 3 May T24 was detected as active a little north of the release site and one other bird (T2) was detected in the vicinity north of the release site. This latter transmitter was recovered on 5 May a few hundred meters north of the release site after no detection of it on 4 May. The only other bird detected (T17) was to the north west of the release site on 5 May; signals were received for no other birds over the duration of the week and no other shed transmitters were recovered.

Inconclusive results such as these were typical of our efforts to radio-track Bridled White-eyes introduced to Sarigan in 2008 (Radley 2008). Difficult terrain and other unknown issues may cause telemetry to be an ineffective means tracking birds post-translocation. In the mid-afternoon of 7 May, DFW staff (C. Todd, T. Willsey, and J. Camacho) climbed to the peak, the highest point on the island, to scan for active transmitters; none were detected.

DFW staff searched for and re-sighted color banded Golden White-eyes (including those released on Sarigan in 2010) between the afternoons of 1 May and 7 May. At least five color banded birds were re-sighted, four of which were introduced to the island in 2010 and were obviously paired and observed building nests. Golden White-eyes were heard singing in various locations on the island including on the lower portion of the northern slope not far from the shore.

No translocated Mariana Fruit Doves were re-sighted with certainty. One fruit dove was, however, observed on the north slope of the island while DFW crews cut transects for Bridled White-eye distance surveys. Whether this bird had recently been released during the

translocation or was a member of the small population that had established itself on the island could not be determined (Mariana Fruit Doves were first detected on Sarigan by DFW staff in 2006). Another fruit dove was heard calling routinely in the evening hours from the vicinity of the release site.

Point-transect Distance Surveys for Bridled White-eyes

In 2008 DFW undertook its first translocation of 50 Bridled White-eyes from Saipan to Sarigan followed in 2009 by 50 more translocated from Tinian to Sarigan. U.S. Fish and Wildlife Service point-transect distance surveys (Buckland et al. 2004) on Sarigan in 2010 (as part of the Department of Defense funded Marianas Expedition Wildlife Surveys or MEWS [USFWS 2010]) yielded 32 detections from 41 stations (mean = 0.78 detections per station; range = 0 – 8) while DFW surveys on 4 and 5 May 2012 produced 108 detections from 24 stations (mean = 4.5; range = 0 – 9) in 179 ha of forest on the island. This represents an 82.7% increase in mean detections between the two years. Abundance and density estimates via Program DISTANCE 6.0 (Thomas et al. 2009) are forthcoming.

RECOMMENDATIONS FOR IMPROVEMENT

While executing the introduction of Golden White-eyes to Sarigan in 2012, the MAC Working Group identified issues that require revision and improvement. These improvements will be implemented in future such avian conservation efforts in the CNMI.

- As with Bridled White-eyes in 2008 and 2009, Golden White-eyes shed a large portion of the transmitters they had been deployed to Sarigan with. As in past years, all transmitters had been attached in 2012 in the lab on Saipan the evening prior to departure for translocation. Again, it appears the culprit in transmitter shedding is the transport boxes in which the birds travel to their destination. To remedy this all transmitters will be attached to translocatees at the site of release, just prior to their release on the target island.
- Alternative methods to radio-telemetry need to be investigated and discussed pertaining to tracking birds post-release in future translocation efforts. Results from this year and previous years provide little useful information about the activity, whereabouts, and survival of birds after they are released (Radley 2008 and 2009).

ACKNOWLEDGEMENTS

The AZA provided all funds to support the field collection of birds on Saipan for introduction to Sarigan and USFWS provided the funds (via Wildlife Restoration Grant) necessary for translocation activities. *Americopters Inc.* of Saipan was responsible for transporting personnel, equipment, and birds to Sarigan from Saipan. The MAC project would like to give special thanks Karen and Jeffry Lynn of Memphis, TN, for their generous donations to the project. Tyler Willsey, Jay Camacho, and Chris Todd assisted with post-translocation monitoring field work and Paul Lisua helped with logistics on Saipan, as needed.

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