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Figure 1.

which also have a larger paler area toward the tip. Unfortunately no other observations were noted, as we were busy processing other birds and training of student helpers at the time. I have seen a few fault bars in my 40 plus years of banding, but never one this extensive in size.

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Longevity Estimates for Mangrove Warbler and Hooded Oriole from Isla Contoy National Park, Quintana Roo, México

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ABSTRACT

*Analysis of recapture of banded birds helps us to evaluate parameters such as longevity and survival, which show us the percentage of birds marked in the previous period that are still alive. Despite the great importance of these data, there is little published information on the non-breeding seasonal survival or longevity of many tropical species. Here we report the longevity of two resident species: Mangrove Warbler (*Setophaga petechia erithachorides*) and the Hooded Oriole (*Icterus cuculatus*) at Isla Contoy National Park, Mexico. In 2014, these two species were banded in the park and recaptured as part of the Monitoring Overwinter Survival (MoSI) program, administered by The Institute for Bird Populations. The longevity for Mangrove Warbler was 5yr02mo, and for Hooded Oriole it was 4yr11mo. Our longevity records are relevant because they can be used for a better management of habitat and species conservation, as well as being the first longevity records for Isla Contoy National Park.*

Contoy National Park, an island that is located in the State of Quintana Roo, Mexico and is located on the border of the Gulf of Mexico and the Caribbean Sea. Isla Contoy constitutes the most northern element of the Caribbean Island System in Mexico and is the terminal point of the reef system that borders the eastern coast of the Yucatan Peninsula, forming part of the Mesoamerican Reef System (SAM).

Isla Contoy is located southeast of Mexico, 12.5 km from the eastern coast of the Yucatan Peninsula, 30 km north of Isla Mujeres, and 32.3 km from Cabo Catoche, with a total area of 238.2 ha. The weather is warm subhumid with rains in summer (INE, 1997).

The Isla Contoy National Park has a length of 8.75 km, and width from 20 m at its north end to 700 m in its central zone, lacks freshwater bodies and surface currents (Vega-Cendejas and Hernández, 2002). The insular vegetation is represented by red mangrove (*Rhizophora mangle*), black mangrove (*Avicennia germinans*), white mangrove (*Laguncularia racemosa*) and buttonwood mangrove (*Conocarpus erectus*). These species are associated with scrubland vegetation (*Suriana maritima*, *Tournefortia gnaphalodes*, *Cordia sebestana*) and introduced coconut palm (Souza and Cabrera, 1983).

The first was to analyze during the fall 2014 season the composition and relative abundance of Passeriform migratory birds, and the second was to establish a MoSI (Monitoring Overwinter Survival) station during the winter season 2018-2019. In both projects we used a standardized protocol that consisted of the placement of mist nets 12 m long x 2.5 m high, with a 36 mm mesh size (Ralph et al. 1996) and banded for 4 continuous hours starting at local sunrise. On each captured bird, we placed a unique numbered aluminum band, as described by Pyle (1997) and Guallar et al. (2009). The longevity or minimum age of the individual is quantified based on the date of his initial capture and his last recapture.

RESULTS

During 2014, we banded two resident birds: one Mangrove Warbler which was identified as an adult after hatch year (AHY) male, which was captured on 17 September, and a Hooded Oriole (*Icterus cuculatus*) that we identified as a hatch year (HY) of unknown sex, was captured on 5 October. Later, during the MoSI winter monitoring season of 2018-2019, we recaptured the same individuals: the Mangrove Warbler was captured on 24 February 2019, and the Hooded Oriole was captured on 14 January 2019, and identified as an adult female. Because AHY birds are assumed to have hatched June the previous year, we estimated the Mangrove Warbler age was 5yr08mo in age June 2013 to February 2019); and the Hooded Oriole was estimated to be 4yr07mo (June 2014 to January 2019).

Longevity records are important as they allow us to estimate the life expectancy of many species, which is little known to most tropical birds (Scholer et al. 2018). Our records obtained during the 2018-19 MoSI season are of interest since longevity estimates of these two species are largely unknown from this region. In fact, there has been relatively little published about the *S. petechia* species in the Neotropics, despite its broad distribution (Salgado-Ortiz et al. 2008). Snow (1966) studied subspecies of the Galapagos subspecies of Yellow Warbler (*D. p. aureola*). Prather and Cruz (1995) studied a population of Yellow Warbler (*D. p. gundlachi*) in Florida and Cozumel Island.

We found a Hooded Oriole longevity record of 6yr00mo (it was identified as a second-year (SY) male on 9 Sep 1967, assumed to have hatched in June 1966, and was found dead on 28 June 1972; Lutmerding and Love 2017). Our longevity record to date for Hooded Oriole (*Icterus cuculatus*) is similar in relation to the estimated longevity of 4yr06mo for *Icterus Icterus* and greater for the estimated longevity of 2yr06mo for *Icterus dominicensis* (Faaborg and Arent 1989); however, the life expectancy for six species of the genus *Icterus* is 6 to 12 years.

Our results are the first longevity records for birds within Isla Contoy National Park in part due to the few banding studies that have been carried out there. From the point of view of conservation, these records are relevant since they can be used for better management of habitat and species conservation. If better quality habitats are modified, over time, birds will have low quality areas available and with them the stability and survival of populations could be at risk (Bispo and Neto 2012).

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