

NOTES

FIRST RECORD OF A MANGROVE YELLOW WARBLER IN ARIZONA

NATHAN K. BANFIELD, 8 Rainbow Circle, Montgomery City, Missouri 63361; nathankbanfield@yahoo.com

PATRICIA J. NEWELL 170 E Green St., Warnell School of Forestry and Natural Resources, University of Georgia, Athens, Georgia 30602-2152; pattjjean.newell@gmail.com

On 31 July 2004 at 1130 MST we captured a Mangrove Yellow Warbler (*Dendroica petechia erithachorides* subspecies group), the first to be recorded in Arizona and the northernmost ever. The bird was captured in a mist net along Tonto Creek (33.75415° N, 111.22273° W), which flows into the north end of Roosevelt Lake, in Gila County about 90 km northeast of Phoenix. The bird was netted in early successional riparian habitat consisting of Goodding's Willow (*Salix gooddingii*) and tamarisk (*Tamarix* spp.) that is established along the lake's inflows as a result of periodic fluctuations of the lake's level. To document this significant record, we took 15 digital photographs that clearly show diagnostic features such as a chestnut face, throat, and forehead, thin chestnut streaks on the breast, and yellow spots on the inner webs of the rectrices (Figures 1, 2). These diagnostic photos led the Arizona Bird Committee to accept this record as the first of a Mangrove Warbler in Arizona (Rosenberg et al. 2007). Although the subspecies of the Mangrove Warbler we captured could not be ascertained, the subspecies *rhizophorae* breeds the closest to Arizona. It is resident in coastal mangroves north to the vicinity of Bahía Kino, Sonora, Mexico (Russell and Monson 1998), about 550 km south of Roosevelt Lake.

Mangrove Warblers are currently recognized as a group of subspecies within the Yellow Warbler (Browning 1994, Dunn and Garrett 1997, AOU 1998, Lowther et al. 1999). The Yellow Warbler currently contains 43 subspecies divided among three groups, the Yellow Warbler in the narrow sense (*aestiva* group), the Golden Warbler (*petechia* group), and the Mangrove Warbler (*erithachorides* group), which differ in plumage, breeding strategy, distribution, and habitat (Lowther et al. 1999). Genetic studies of Yellow Warblers suggest these may constitute more than one species, especially a northern migratory species distinct from a southern species largely restricted to mangroves (Klein and Brown 1994).

While all male Yellow Warblers share the generally yellow plumage, chestnut streaking on the breast, and yellow tail spots, the color of the adult male's head distinguishes the three Yellow Warbler groups (Mennill 2000). In most populations of the Mangrove group, the male has a distinct chestnut hood (Dunn and Garrett 1997). The individual we captured had an overall yellow appearance with a distinct chestnut face and chestnut streaks on the upper breast (Figure 1). Chestnut on the face extended from the throat along the side of the face behind the eyes to the top of the head. The extent of chestnut on the head indicated it was a second-year male; after-second-year males have a complete chestnut hood. J. Salgado-Ortiz, who has studied Mangrove Yellow Warblers on the Yucatan Peninsula, Mexico, confirmed the bird's age and sex.

The bird was molting extensively, and its feathers were worn and in poor condition, giving it a ragged appearance. The bird was actively molting in the eye ring, face, head, throat, and breast (Figure 1) as well as the back, primaries, tertials, upper and underwing coverts, and rectrices (Figure 2). The six remaining unmolted rectrices were a brownish olive with distinct pale yellow spots on the inner webs. These spots

NOTES



Figure 1. Mangrove Yellow Warbler caught at Roosevelt Lake, Gila Co., Arizona on 31 July 2004, showing active molt and extensive chestnut on the head.

Photo by Nathan K. Banfield

were larger and more noticeable on the outer rectrices, but most of the inner rectrices were missing or in extremely poor condition. Bright new feathers were noticeable on the tertials, upper wing coverts, and inner primaries (Figure 2). Old wing feathers had slight pale yellow edges, whereas newer feathers had distinct brighter and wider yellow-olive edges. This contrast was especially noticeable on the new tertials, which had exceptionally wide and bright edges (Figure 2).

Mangrove Warblers are generally considered to be nonmigratory and are found along the coasts of Mexico and Central America south to the northern coasts of South America and in the Galapagos Archipelago (AOU 1998). In most of their range, Mangrove Warblers are restricted almost exclusively to coastal mangroves, especially the red mangrove (*Rhizophora mangle*) (Lowther et al. 1999). On the Yucatan peninsula, Salgado-Ortiz (pers. comm.) noted the use of habitats other than coastal mangroves only twice, both times within 5 km of mangroves. The riparian habitat in which we captured the Mangrove Warbler, consisting of dense willow and tamarisk groves, is structurally similar to the mangrove habitat this subspecies group occupies.

This warbler's appearance in Arizona corresponded to the schedule of the North American monsoon system, on the northern fringe of which Arizona is located. During the monsoon, from the end of June through September (Ropelewski et al. 2005), winds originate primarily from the Gulf of California and the Gulf of Mexico (Adams and Comrie 1997, Ellis et al. 2004). Patten and McCaskie (2004) reported a pattern of northward dispersal of subtropical waterbirds into southern California during the monsoonal period from May to October, but no such correlation with vagrancy of landbirds is known. During the monsoonal season post-breeding dispersal has brought into Arizona a number of subtropical landbirds such as the Eared Quetzal (*Euptilotis neoxenus*), Aztec Thrush (*Ridgwayia pinicola*), and Sinaloa Wren (*Thryothorus si-*

NOTES



Figure 2. The same individual, showing worn and missing rectrices and active molt on the wings.

Photo by Nathan K. Banfield

naloe) (G. H. Rosenberg pers. comm.), but monsoonal winds have probably played little or no role in such occurrences.

Prior records of Mangrove Warblers in the United States have all come from south-coastal Texas and are presumably of the Gulf of Mexico subspecies *oraria* (Lockwood and Freeman 2004). In the winters of 2003 to 2007, ten or more male and female Mangrove Warblers were documented in patches of the black mangrove (*Avicennia germinans*) on barrier islands off South Padre Island (S. Colley pers. comm.).

NOTES

Since our discovery, the Mangrove Warbler has occurred twice in southern California, once at the mouth of the Alamo River south end of the Salton Sea (18 December 2007, O. Johnson; McCaskie and Garrett 2008) and once at San Diego (13 January–27 March 2009, M. J. Billings; McCaskie and Garrett in press); both identifications are supported by photographs.

First authorship was determined by a coin toss. Funding for the work to which our observation was incidental was provided by the U.S. Bureau of Reclamation, U.S. Geological Survey, and the U.S. Forest Service. We thank Javier Salgado-Ortiz for verification of the bird's age and sex and Scarlet Colley for information on Mangrove Warblers she observed in Texas. Eben H. Paxton, Mark K. Sogge, Talima Pearson, and Gary H. Rosenberg reviewed early drafts of the manuscript.

LITERATURE CITED

- American Ornithologists' Union. 1998. Check-list of North American Birds, 7th ed. Am. Ornithol. Union, Washington, D.C.
- Adams, D. K., and Comrie, A. C. 1997. The North American monsoon. *Bull. Am. Meteorol. Soc.* 78:2197–2213.
- Browning, R. M. 1994. A taxonomic review of *Dendroica petechia* (Yellow Warbler) (Aves: Parulinae). *Proc. Biol. Soc. Washington* 107: 27–51.
- Dunn, J. L., and Garrett, K. L. 1997. *A Field Guide to Warblers of North America*. Houghton Mifflin, Boston.
- Ellis, A. W., Saffell, E. M., and Hawkins, T. W. 2004. A method for defining monsoon onset and demise in the southwestern United States. *Int. J. Climatol.* 24:247–265.
- Klein, N. K., and Brown, W. M. 1994. Intraspecific molecular phylogeny in the Yellow Warbler (*Dendroica petechia*) and implications for avian biogeography in the West Indies. *Evolution* 48:1914–1932.
- Lockwood, M. W., and Freeman, B. 2004. *Texas Ornithological Society Handbook of Texas Birds*. Texas A&M Univ. Press, College Station, TX.
- Lowther, P. E., Celada, C., Klein, N. K., Rimmer, C. C., and Spector, D. A. 1999. Yellow Warbler (*Dendroica petechia*), in *The Birds of North America* (A. Poole and F. Gill, eds.), no. 454. *Birds N. Am.*, Philadelphia.
- McCaskie, G., and Garrett, K. L. 2008. Southern California. *N. Am. Birds* 62:302–306.
- McCaskie, G., and Garrett, K. L. 2009. Southern California. *N. Am. Birds* 63: in press.
- Mennill, D. J. 2000. Song characteristics and singing behavior of the Mangrove Warbler (*Dendroica petechia bryanti*). *J. Field Ornithol.* 72:327–337.
- Patten, M. A., and McCaskie, G. 2004. Patterns and processes of the occurrence of pelagic and subtropical waterbirds at the Salton Sea. *Studies in Avian Biology* 27:33–41.
- Ropelewski, C. F. D., Gutzler, S., Higgins, R. W., and Mechoso, C. R. 2005. The North American monsoon system. *Proceedings of the Third International Workshop on Monsoons (IWM-III)*, Hangzhou, China, 2–6 Nov. 2004.
- Rosenberg, G. H., Radamaker, K., and Stevenson, M. M. 2007. Arizona Bird Committee report, 2000–2004 records. *W. Birds*: 38:74–101.
- Russell, S. M., and Monson, G. 1998. *The Birds of Sonora*. Univ. Ariz. Press, Tucson.

Accepted 10 June 2009