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TEXAS BIRD RECORDS COMMITTEE REPORT FOR 2006

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The Texas Bird Records Committee (hereafter “TBRC” or “committee”) of the Texas Ornithological Society requests and reviews documentation on any record of a TBRC Review List species (see TBRC web page at <http://texasbirds.org/tbrc/> or Lockwood 2003). Annual reports of the committee’s activities have appeared in the Bulletin of the Texas Ornithological Society since 1984. For more information about the Texas Ornithological Society or the TBRC, please visit www.texasbirds.org. The committee reached a final decision on 130 records during 2006: 111 records of 53 species were accepted and 19 records of 19 species were not accepted, an acceptance rate of 85.3% for this report. The committee reviewed documentation submitted (to the TBRC or other entities) by 156 observers during 2006.

In 2006, the TBRC accepted the first state record of Pacific Golden-Plover. Yellow-footed Gull was removed from the state list during 2006 as well. These actions brought the official Texas State List to 629 species in good standing. This total does not include the four species listed on the Presumptive Species List.

In addition to the review of previously undocumented species, any committee member may request that a record of any species be reviewed. The committee requests written descriptions as well as photographs, video, and audio recordings if available. Information concerning a Review List species may be submitted to the committee secretary, Mark Lockwood, 402 E. Harriet Ave., Alpine, Texas 79830 (email: mark.lockwood@tpwd.state.tx.us). Guidelines for preparing rare bird documentation can be found in Dittmann and Lasley (1992) or at <http://www.greglasley.net/document.html>.



The highlight of the year was this Pacific Golden-Plover in a field near Edna, Jackson Co., from 12–13 April 2006. This exceptional find is the first for Texas. Photo by Martin Reid.

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The records in this report are arranged taxonomically and follow the AOU Check-list of North American Birds (AOU 1998) through the 47th supplement (Banks et al. 2006). A number in parentheses after the species name indicates the total accepted records in Texas for that species at the end of 2006. All observers submitting written documentation or photographs of accepted records are acknowledged by initials. If known, initials of the discoverer of a particular bird are in boldface but only if the discoverer submitted supporting documentation. The TBRC file number of each accepted record follows the observers' initials. If photographs or video recordings are on file with the TBRC, the Texas Photo Record File (TPRF) (Texas A&M University) number is also given. If an audio recording of the bird is on file with the TBRC, the Texas Bird Sounds Library (TBSL) (Sam Houston State University) number is also given. Specimen records are denoted with an asterisk (*) followed by the institution where the specimen is housed and the catalog number. The information in each account is usually based on information provided in the original submitted documentation; however, in some cases this information has been supplemented with a full range of dates the bird was present if that information was made available to the TBRC later. All locations in italics are counties.

TBRC Membership—Members of the TBRC during 2006 participating in decisions listed in this report were: Randy Pinkston, Chair, Keith Arnold, Academician, Mark Lockwood, Secretary, Kelly Bryan, Eric Carpenter, Mel Cooksey, Brad McKinney, Jim Paton, Willie Sekula and Ron Weeks. During 2006, Bryan's second and McKinney's first terms ended and Weeks was elected as a voting member. The Chairman, Academician, and Secretary were re-elected.

Contributors—**AD** - Alec Dobson, **BB** - Brandon Best, **BDo** - Bob Doe, **Bdu** - Bill Duke, **BFr** - Brush Freeman, **BG** - Brian Gibbons, **BH** - Bill Hubick, **BMc** - Brad McKinney, **BP** - Barrett Pierce, **Bra** - Bob Rasa, **BRe** - Bill Reiner, **BS** - Billy Sandifer, **BZa** - Bob Zaremba, **BZi** - Barry Zimmer, **CB** - Colin Bludau, **CE** - Charles Easley, **CH** - Chris Hathcock, **ChS** - Charles Seniawski, **CSe** - Chuck Sexton, **CTL** - Cin-Ty Lee, **D&BF** - Dana & Bob Fox, **D&LE** - Dodge & Lorna Engleman, **DBe** - David Benn, **DBo** - Devin Bosler, **DDa** - David Dauphin, **DDC** - D.D. Currie, **DDe** - David Deifik, **DE** - Dodge Engleman, **DF** - Daniel Floyd, **DK** - Dave Kutilek, **DL** - Daniel Leavitt, **DNe** - David Newstead, **DNu** - Diane Nunley, **DT** - Dean Thomas, **DW** - Dan Wilkerson, **EB** - Erik Breden, **EC** - Eric Carpenter, **EHo** - Earl Horn, **EHu** - Erik Huebner, **EO** - Eric Ozolins, **GD** - Gerald Duhon, **GH** - Gary Hodne, **GL** - Greg Lasley, **GLa** - Greg Lavaty, **GLe** - Gregg Lee, **GS** - Georgina Schwartz, **H&SW** - Harley & Sarah Winfrey, **HH** - Helen Hoffman, **HT** - Heidi Trudell, **J&LW** - Jim & Lynne Weber, **JA** - John Arvin, **JaP** - Jay Packer, **JaS** - Jace Stansbury, **JBo** - Justin Bosler, **JBr** - Jason Brooks, **JDe** - Joel Deifik, **JG** - John Gee, **JHi** - Jim Hines, **JHo** - John Hoogerheide, **Ji** - John Ingram, **JJ** - Jimmy Jackson, **JL** - Jason Leifester, **JMc** - Jon McIntyre, **JoM** - John McClung, **JPa** - Jim Paton, **JSi** - Joel Simon, **JSp** - John Sproul, **JSt** - Jim Stevenson, **JV** - John Vanderpoel, **JW** - Jennifer Wilson, **JZ** - Jimmy Zabriskie, **KA** - Keith Anderson, **KBr** - Kelly Bryan, **KBT** - Khanh Ba Tran, **KE** - Kim Ekert, **KH** - Katharine Hampton, **KK** - Karen Kilfeather, **LBa** - Lynn Barber, **LS** - Libbey Scheible, **LZ** - Lee Ziegler, **M&ME** - Marc & Maryann Eastman, **MA** - Mike Austin, **MBr** - Mark Brown, **MC** - Mel Cooksey, **MFe** - Merriwood Ferguson, **MFl** - Mark Flippo, **MGr** - Michael Gray, **MGu** - Mary Gustafson, **MHa** - Matt Hafner, **MHe** - Mitch Heindel, **MiB** - Michelle Bradford, **MII** - Marshall Iliff, **MiR** - Michael Retter, **MiT** - Michael Trachow, **MK** - Mike Krzywowski, **ML** - Mark Lockwood, **MO** - Mike Overton, **MRe** - Martin Reid, **MSc** - Mark Scheuerman, **Msm** - Macklin Smith, **MTr** - Max Traweek, **MW** - Matt White, **NM** - Nick Meyer, **P&LS** - Pati & Larry Semander, **P&RA** - Pam & Reid Allen, **PD** - Pat DeWenter, **PHa** - Paul Hare, **PHo** - Petra Hockey, **PK** - Peter Keller, **PL** - Paul Lehman, **PM** - Patrick Murphy, **PR** - Philip Rostron, **PS** - Paul Sunby, **PWa** - Pat Wade, **PWe** - Paul Wetzel, **RA** - Ralph Alderson, **RB** - Ralph Boor, **RD** - Rich Damron, **RG** - Ron Gutberlet, **RHe** - Rhandy Helton, **RHo** - Ray Hodson, **RPI** - Randy Pinkston, **RRa** - Ross Rasmussen, **RRe** - Roy Reinartz, **RW** - Ron Weeks, **SA** - Shawn Ashbaugh, **SB** - Susan Beree, **ScC** - Scarlet Colley, **SCo** - Sheridan Coffey, **SG** - Steve Gross, **SK** - Selena King, **SMA** - Steve Mayes, **SMe** - Scott Meyer, **SP** - Sumita Prasad, **SS** - Steve Syles, **STa** - Simon Tan, **STu** - Sandra Turner, **SY** - Sherman Young, **T&CS** - Tim & Carla Stone, **TA** - Tony Amos, **TBa** - Terry Baldwin, **TBr** - Tim Brush, **TE** - Ted Eubanks, **TFe** - Tim Fennell, **TFu** - Terry Fuller, **TJ** - Tom Johnson, **TR** - Thomas Riecke, **TS** - Tom SoRelle, **WC** - Will Carter, **WS** - Willie Sekula, and **YA** - Yousif Attia.

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Mactavish, Rodrigo Migoya, Steve Mlodinow, Killian Mullarney, Brian J. Small, and Brian Wheeler for providing the TBRC with expert opinion concerning records reviewed during 2006. The author thanks Eric Carpenter, Randy Pinkston, and Martin Reid for reviewing previous drafts of this report.

Additional Abbreviations — AOU = American Ornithologists' Union; NP = National Park; NWR = National Wildlife Refuge; SHS = State Historic Site; SNA = State Natural Area; SP = State Park; TCWC = Texas Cooperative Wildlife Collection (Texas A&M University); WMA = Wildlife Management Area.

ACCEPTED RECORDS

Brant (*Branta bernicla*) (22). One at Plainview, *Hale*, on 14 January 2006 (**JBr**; 2006–17; TPRF 2370).

Trumpeter Swan (*Cygnus buccinator*) (7). Two adults and three immature birds 15 mi. NE of Stinnett, *Hutchinson*, from 27–31 December 2005 (**LBa**; 2006–21; TPRF 2373).

Eurasian Wigeon (*Anas penelope*) (41). A male at Chapeno, *Starr*, on 22 February 2005 (**D&BF**; 2005–44). A male at Muleshoe NWR, *Bailey*, from 22–25 November 2005 (**TS**, **LBa**; 2005–131; TPRF 2356). A male at El Paso, *El Paso*, from 10 November 2005–16 February 2006 (**JSp**; 2005–135).

Masked Duck (*Nomonyx dominicus*) (69). A female at Sabal Palm Sanctuary, *Cameron*, on 9 November 2005 (**DBe**; 2006–18). A female at San Bernard NWR, *Brazoria*, on 13–21 November 2005 (**JW**; 2006–11).

Yellow-billed Loon (*Gavia adamsii*) (6). One at Flour Bluff, *Nueces*, from 25–27 March 2006 (**MRe**, **SCo**, **MC**; 2006–33; TPRF 2402).

Greater Shearwater (*Puffinus gravis*) (13). One found dead on Mustang Island, *Nueces*, on 27 December 1971 (**DDe**, **JDe**; 2006–02; TPRF 2361).

Leach's Storm-Petrel (*Oceanodroma leucorhoa*) (26). One off South Padre Island, *Cameron*, on 17 June 2005 (**LBa**, **MO**; 2005–101). One off South Padre Island, *Cameron*, on 29 July 2005 (**LBa**, **GH**; 2005–106; TPRF 2347).

Red-billed Tropicbird (*Phaethon aethereus*) (10). One off South Padre Island, *Cameron*, on 17 September 2005 (**EC**, **BMc**; 2005–119; TPRF 2350). An adult off South Padre Island, *Cameron*, from “early” May–8 June 2006 (**PM**, **ScC**; 2006–70; TPRF 2432).

Brown Booby (*Sula leucogaster*) (26). An immature bird picked up on the beach at Port Aransas, *Nueces*, on 29 September 2005 (**TA**; 2006–12; TPRF 2366; *TCWC 14,321). One at Boca Chica, *Cameron*, from 13–15 November 2005 (**PL**, **JBo**, **ScC**; 2005–133; TPRF 2358). An adult at South Padre Island, *Cameron*, on 28 April 2006 (**MiR**; 2006–54). One in West Galveston Bay, *Galveston*, on 26 June 2006 (**DNe**; 2006–78).

Greater Flamingo (*Phoenicopterus ruber*) (7). A first-fall bird discovered at Shoalwater Bay, *Calhoun*, and subsequently moved to Aransas Bay, *Aransas*, and present from 14 October 2005–30 April 2006. This bird was later rediscovered near Bayside, *Aransas*, 25 July–15 August 2006 and again found at Aransas NWR from 20 November 2006–17 December 2006+ (**CB**, **LBa**, **RG**, **SS**, **PHo**, **BDu**, **DK**, **KE**, **JJ**, **EHo**, **BZa**, **P&LS**, **DNu**; 2005–128; TPRF 2354). This flamingo was banded and the banding scheme allowed the definite determination that the bird originated from the Ría Lagartos Biosphere Reserve, Yucatan, Mexico, where it had been banded in August 2005.

Short-tailed Hawk (*Buteo brachyurus*) (30). A light-morph adult 7 mi. S. of Vanderpool and at Lost Maples SNA, *Bandera*, from 26 March–26 April 2004 (**MHe**; 2006–03). A light-morph adult at Hazel Bazemore County Park, Corpus Christi, *Nueces*, on 2 September 2005 (**JSi**; 2005–117). A light-morph adult at the Davis Mountains Preserve, *Jeff Davis*, from 23 April–5 May 2006 (**ML**; 2006–38; TPRF 2406). A light-morph bird at the Santa Margarita Ranch, *Starr*, on 25 April 2006 (**BG**; 2006–68). Two at Bentsen-Rio Grande SP, *Hidalgo*, on 30 April 2006 (**MII**; 2006–80).

Pacific Golden-Plover (*Pluvialis fulva*) (1). One near Edna, *Jackson*, from 12–13 April 2006 (**MRe**, **MC**, **RW**; 2006–41; TPRF 2409). This represents the first record for Texas.

Northern Jacana (*Jacana spinosa*) (32). An adult at Bentsen-Rio Grande Valley SP, *Hidalgo*, from 10–18 August 2006 (**MGu**; 2006–89; TPRF 2442). An adult at Mission, *Hidalgo*, on 22 August 2006 (**DDa**; 2006–93).

Surfbird (*Aphriza virgata*) (9). One at Bolivar flats, *Galveston*, from 12–15 March 2005 (**TBa**, **MA**; 2006–27; TPRF 2377).

Purple Sandpiper (*Calidris maritima*) (18). One at Port O'Connor, *Calhoun*, on 7 February 2006 (**BFr**; 2006–23).



This Red Phalarope was present for a rather extended stay along the shore of Stillhouse Hollow Lake, Bell Co., 23 October–14 November 2006. Photo by Tony Frank.

Curlew Sandpiper (*Calidris ferruginea*) (10). One at Bolivar Flats, *Galveston*, on 3 June 2006 (CTL; 2006–66; TPRF 2429).

Red Phalarope (*Phalaropus fulicarius*) (30). One at Mitchell Lake, San Antonio, *Bexar*, from 10–12 October 2005 (BDo, DE, WS, MRe, LBa; 2005–123; TPRF 2352).

Little Gull (*Larus minutus*) (47). One adult at Lake Ray Hubbard, *Dallas*, on 11 November 2005 (BG; 2005–130; TPRF 2355). One adult at Lake Tawakoni, *Hunt*, on 12 December 2005 (MW; 2006–35; TPRF 2403). One first-year bird at Boca Chica, *Cameron*, on 3 January 2006 (HH; 2006–30; TPRF 2380). One adult at Wright Patman Lake, *Bowie/Cass*, from 15–26 January 2006 (BG, EHo; 2006–15). One adult at Lake Ray Hubbard and White Rock Lake, *Dallas*, from 23–27 February 2006 (BG, DDC, TR; 2006–26; TPRF 2376).

Mew Gull (*Larus canus*) (29). One adult at Lake Worth, Forth Worth, *Tarrant*, from 31 December 2005–7 January 2006 (LBA; 2006–20; TPRF 2372).

Slaty-backed Gull (*Larus schistisagus*) (4). A third-year bird at Houston, *Harris*, on 22 February 2006 (MRe; 2006–40; TPRF 2408).

Great Black-backed Gull (*Larus marinus*) (42). An adult at Lake Meredith, *Hutchinson/Moore*, from 26 December 2005–22 January 2006 (BP, BB; 2006–19; TPRF 2371). A first-winter bird at San Luis Pass, *Galveston*, from 30 January–4 March 2006 (TE; 2006–22; TPRF 2401). A first-winter bird at Houston, *Harris*, on 22 February 2006 (MRe; 2006–39; TPRF 2407). An adult at Bolivar Flats, *Galveston*, on 14 March 2006 (SG; 2006–28; TPRF 2378).

Black-legged Kittiwake (*Rissa tridactyla*) (77). An adult at Boca Chica, *Cameron*, from 21–23 December 2005 (BMc; 2005–138; TPRF 2359). A first-winter bird at Quintana, *Brazoria*, from 30 December 2005–16 January 2006 (RW, KA, MGr; 2006–14; TPRF 2368).

Brown Noddy (*Anous stolidus*) (11). One on Padre Island National Seashore, *Kenedy*, on 21 July 2005 (NM, EO; 2005–103; TPRF 2346). One at the Packery Channel jetties, *Nueces*, on 20 June 2006 (DT; 2006–77; TPRF 2436). One on Padre Island National Seashore, *Kleberg*, on 13 July 2006 (PHa, 2006–86; TPRF 2440).

Arctic Tern (*Sterna paradisaea*) (7). An adult at Balmorhea Lake, *Reeves*, from 1–11 June 2006 (MGU, KBr, ML, RPi, JaP, BRa; 2006–67; TPRF 2430). An adult at Fort Hancock and McNary Reservoirs, *Hudspeth*, on 9 June 2006 (JPa; 2006–73; TPRF 2433).

Long-tailed Jaeger (*Stercorarius longicaudus*) (19). One off South Padre Island, *Cameron*, on 5 November 2005 (BMc, EC; 2005–129).



Arctic Terns have been documented in Texas only seven times. This individual at Balmorhea Lake, Reeves Co., from 1–11 June 2006 was one of two present in the Trans-Pecos during early June. Photo by Mark W. Lockwood.

Ruddy Ground-Dove (*Columbina talpacoti*) (15). A female at Estero Llano Grande SP, *Hidalgo*, from 28 December 2005–22 February 2006 (TBr, RD, PHo; 2005–139).

Mangrove Cuckoo (*Coccyzus minor*) (10). One at Weslaco, *Hidalgo*, from 19–30 May 2006 (YA; 2006–62; TPRF 2426).

Mottled Owl (*Ciccaba virgata*) (2). One at Weslaco, *Hidalgo*, from 5–11 July 2006 (SK, SP; 2006–94).

Green Violet-ear (*Colibri thalassinus*) (51). One near Lakeway, *Travis*, from 6–23 May 2006 (LS, EC; 2006–56; TPRF 2421). One at the Davis Mountains Resort, *Jeff Davis*, from 16 May–3 July 2006 (M&ME; 2006–61; TPRF 2425). One at San Antonio, *Bexar*, from 10–11 June 2006 (RB; 2006–74; TPRF 2434). One 5 mi. S. of San Antonio, *Bexar*, from 15–17 June 2006 (T&CS, DE, GS; 2006–76; TPRF 2435). One at Liverpool, *Brazoria*, from 16–25 June 2006 (MiB, RW; 2006–91; TPRF 2444).

Green-breasted Mango (*Anthracothorax prevostii*) (16). An imm. bird at San Benito, *Cameron*, from 8–9 July 2006 (TFu; 2006–87; TPRF 2441).

White-eared Hummingbird (*Hylocharis leucotis*) (24). Up to five in the Davis Mountains Resort, *Jeff Davis*, from 24 June–12 October 2005 (ML; 2005–100; TPRF 2400). One male and one female in the Davis



This male Costa's Hummingbird brightened Rockport, Aransas Co., from 19 February–3 March 2006. The bird provided the second record for the coastal bend. Photo by Susan Beree.

Mountains Resort, *Jeff Davis*, from 12 April–17 September 2006 (ML, RPi; 2006–36; TPRF 2404). A female at the Davis Mountains Resort, *Jeff Davis*, from 28 May–22 July 2006 (M&ME; 2006–63; TPRF 2426).

Costa's Hummingbird (*Calypte costae*) (17). One female at Panther Junction, Big Bend NP, *Brewster*, from 1–2 October 2005 (MFI; 2005–122). One male at Rockport, *Aransas*, from 19 February–3 March 2006 (SB, MiT, MA, RPi; 2006–24; TPRF 2374).

Buff-breasted Flycatcher (*Empidonax fulvifrons*) (12). Two at Wolf Den Canyon, Davis Mountains Preserve, *Jeff Davis*, from 16 April–4 July 2006 (ML, RPi; 2006–37; TPRF 2403). Up to four (two adults and two fledglings) at Madera Canyon, Davis Mountains Preserve, *Jeff Davis*, from 20 April–21 July 2006 (ML, RPi; 2006–81; TPRF 2437). One at Elbow Canyon, Davis Mountains Preserve, *Jeff Davis*, from 12 June–3 July 2006 (ML, RPi; 2006–82; TPRF 2438). One at Pine Canyon, Davis Mountains Preserve, *Jeff Davis*, on 14 June 2006 (ML, RPi; 2006–83; TPRF 2439).

Dusky-capped Flycatcher (*Myiarchus tuberculifer*) (31). One near Rangerville, *Cameron*, 18 December 2005–5 March 2006 (TFu, JA, SMe; 2006–04; TPRF 2362). One near Rangerville, *Cameron*, 10 January–5 March 2006 (TFu; 2006–50; TPRF 2417). Up to six at the Davis Mountains Preserve, *Jeff Davis*, from 13 May–8 July 2006 (ML, RPi; 2006–59; TPRF 2424). The Rangerville records refer to two individuals with winter territories that were approximately 0.5 miles apart.

Sulphur-bellied Flycatcher (*Myiodynastes luteiventris*) (17). One on W. Galveston Island, *Galveston*, on 22 September 2005 (JSt; 2005–127; TPRF 2353; *TCWC 14,323). One at Sabine Woods, *Jefferson*, from 18–22 April 2006 (LBa, MA, MSc, RG, EB; 2006–42; TPRF 2410). One near Sarita, *Kenedy*, from 26–27 April 2006 (BFR; 2006–46). One at South Padre Island, *Cameron*, from 13–14 May 2006 (WC, ScC; 2006–64; TPRF 2428).

Piratic Flycatcher (*Legatus leucophaeus*) (3). One at Bentsen-Rio Grande Valley SP, *Hidalgo*, from 20–28 March 2006 (DDa, MA, PD, MSm, PHo, JoM, STu, MGU; 2006–32).

Gray Kingbird (*Tyrannus dominicensis*) (6). One at McFaddin NWR, *Jefferson*, 29 April 2006 (SMa, GD; 2006–49; TPRF 2416).

Fork-tailed Flycatcher (*Tyrannus savana*) (16). One at Austin, *Travis*, from 23 September–30 October 2005 (EC, GL, EHu, RRe, D&LE, TFe, RPi, DF, LBa, MRe, JI, EB; 2005–121; TPRF 2351).

Rose-throated Becard (*Pachyrhamphus aglaiae*) (38). One immature bird at Rio Hondo, *Cameron*, on 7 October 2005 (MC; 2006–05; TPRF 2363). An adult female at Santa Ana NWR, *Hidalgo*, from 20 May–22 June 2006 (GL; 2006–69; TPRF 2431).

Black-whiskered Vireo (*Vireo altiloquus*) (26). At least one at Sea Rim SP, *Jefferson*, from 26 April–28 May 2006 (RHe, DW, JaP, GLa, STa; 2006–47; TPRF 2414). One at High Island, *Galveston*, from 22–30 April 2006 (MRe, JaS; 2006–55; TPRF 2420). One at South Padre Island, *Cameron*, on 23 April 2006 (MFe, ScC, PWe; 2006–57; TPRF 2422). One at South Padre Island, *Cameron*, from 11–12 May 2006 (PWa; 2006–58; TPRF 2423).

Tamaulipas Crow (*Corvus imparatus*). At least seven at Brownsville, *Cameron*, from 15 March–3 July 2006 (HT, LBa, BH, JA, LZ, DBo, JMc; 2006–48; TPRF 2415).

White-throated Robin (*Turdus assimilis*) (11). Two at Laguna Vista, *Cameron*, from 5 February–4 March 2005 (MK; 2006–90; TPRF 2443).

Rufous-backed Robin (*Turdus rufopalliatus*) (12). One near Uteley, *Bastrop*, from 7 January–7 April 2006 (BFR, PR, RPi, LBa, EC, GL, SA; 2006–10; TPRF 2365).

Varied Thrush (*Ixoreus naevius*) (34). One near Sabine Woods, *Jefferson*, on 22 October 2005 (LBa; 2005–134). A road-killed male on west Galveston Island, *Galveston*, found on 29 October 2005 (JSt; 2006–43; TPRF 2411; *TCWC 14,381). A male near Andrews, *Andrews*, on 17 December 2005 (KH; 2006–7). A female at Kerrville, *Kerr*, from 8 January–1 March 2006 (MTr; 2006–08; TPRF 2364). Two at Boot Canyon, Big Bend NP, *Brewster*, from 17 January–17 February 2006 (DL, EC; 2006–25; TPRF 2375). One at Cottonwood Campground, Big Bend NP, *Brewster*, on 14 March 2006 (AD; 2006–29; TPRF 2379).

Connecticut Warbler (*Oporornis agilis*) (9). One at Utopia, *Uvalde*, on 19 May 2005 (MHe; 2005–96).

Gray-crowned Yellowthroat (*Geothlypis poliocephala*) (43). An adult male at Sabal Palm Sanctuary, *Cameron*, from 6 December 2005–3 June 2006 (MBr, EHo, KBT; 2006–13; TPRF 2367).

Red-faced Warbler (*Cardellina rubrifrons*) (37). One in Boot Canyon, Big Bend NP, *Brewster*, from 6–9 August 2005 (ML, LBa; 2005–107; TPRF 2348). One at Rio Grande Village, Big Bend NP, *Brewster*, from

13–14 August 2005 (**JHi**; 2005–113). One in Boot Canyon, Big Bend NP, *Brewster*, on 28 August 2005 (**GL**, **RSc**; 2005–116; TPRF 2349). One at Laguna Meadows, Big Bend NP, *Brewster*, on 30 April 2006 (**JV**; 2006–53). Red-faced Warbler was removed from the Review List at the TBRC annual meeting in July 2006.

Slate-throated Redstart (*Myioborus miniatus*) (8). One in Boot Canyon, Big Bend NP, *Brewster*, on 2 May 2006 (**J&LW**; 2006–51; TPRF 2418).

Baird's Sparrow (*Ammodramus bairdii*) (54). One at Colorado Canyon, Big Bend Ranch SP, *Presidio*, on 22 September 2005 (**ML**; 2005–120). At least four along RR 2810 near Marfa, *Presidio*, from 26 November–17 December 2005 (**RPI**, **ML**, **RD**; 2005–132; TPRF 2357). One near the intersection of RR 505 and US 90, *Jeff Davis*, on 23 December 2005 (**ML**; 2006–01). One in NW *Palo Pinto* from 4–5 April 2006 (**BFr**; 2006–34). One at Austin, *Travis*, on 21 April 2006 (**PS**, **EC**; 2006–44; TPRF 2412). One at Balcones Canyonlands NWR, *Burnet*, on 22 April 2006 (**BRe**, **CSe**, **KK**; 2006–45; TPRF 2413). One at Rio Grande Village, Big Bend NP, *Brewster*, on 4 May 2006 (**JL**; 2006–52; TPRF 2419).

Golden-crowned Sparrow (*Zonotrichia atricapilla*) (30). One 7 miles N of Fort Hancock, *Hudspeth*, on 17 December 2005 (**JZ**; 2006–16; TPRF 2369).

Snow Bunting (*Plectrophenax nivalis*) (6). A female at South Padre Island, *Cameron*, from 24 December 2005–2 January 2006 (**P&RA**, **PHo**, **BMc**, **PS**, **DE**, **LBa**, **MC**; 2005–140; TPRF 2360).

Crimson-collared Grosbeak (*Rhodothraupis celaeno*) (18). A female at Weslaco, *Hidalgo*, on 20 May 2006 (**MGU**; 2006–71).

Streak-backed Oriole (*Icterus pustulatus*) (2). An adult female at El Paso, *El Paso*, on 16 September 2005 (**BZi**; 2005–118).

NOT ACCEPTED

A number of factors may contribute to a record being denied acceptance. It is quite uncommon for a record to not be accepted because the bird was obviously misidentified. More commonly, a record is not accepted because the material submitted was incomplete, insufficient, superficial, or just too vague to properly document the reported occurrence while eliminating *all* other similar species. Also, written documentation or descriptions prepared *entirely from memory* weeks, months, or years after a sighting are seldom voted on favorably. It is important that the simple act of not accepting a particular record should by no means indicate that the TBRC or any of its members feel the record did not occur as reported. The non-acceptance of any record simply reflects the opinion of the TBRC that the documentation, as submitted, did not meet the rigorous standards appropriate for adding data to the formal historical record. The TBRC makes every effort to be as fair and objective as possible regarding each record. If the committee is unsure about any particular record, it prefers to err on the conservative side and not accept a good record rather than validate a bad one. All records, whether accepted or not, remain on file and can be re-submitted to the committee if additional substantive material is presented.

Yellow-nosed Albatross (*Thalassarche chlororhynchos*). North Padre Island, *Kenedy/Willacy* on 8 June 2006.

Manx Shearwater (*Puffinus puffinus*). South Padre Island, *Cameron*, on 26 November 2005 (2005–136).

Northern Goshawk (*Accipiter gentilis*). Near Pearsall, *Frio*, on 26 April 2005 (2005–125).

Northern Jacana (*Jacana spinosa*). Brownsville, *Cameron*, from 11–13 July 2005 (2005–102).

Mew Gull (*Larus canus*). White Rock Lake, *Dallas*, on 25 November 2005 (2205–137).

Yellow-footed Gull (*Larus livens*). Quintana, *Brazoria*, on 9 July 1998 (1998–141). This record had previously been accepted; however, the publication of analysis of plumage variation of Herring x Kelp Gulls on the Chandeleur Islands off the coast of Louisiana (Dittmann and Cardiff 2005) caused the record to be circulated again. Dittmann and Cardiff examined documentation of the record providing a detailed analysis that the bird's plumage fits within the variation they have seen in the "Chandeleur" Gulls.

Great Black-backed Gull (*Larus marinus*). Near High Island, *Galveston*, on 22 April 2005 (2005–79).

Arctic Tern (*Sterna paradisaea*). Off Port Aransas, *Aransas*, on 19 June 2005 (2005–105).

Brown Noddy (*Anous stolidus*). Off Port Aransas, *Aransas*, on 18 June 2005 (2005–104).

Ruddy Ground-Dove (*Columbina talpacoti*). Boquillas Canyon, Big Bend NP, *Brewster*, on 31 May 2006 (2006–79).

Vaux's Swift (*Chaetura vauxi*). San Antonio, *Bexar*, from 11–13 October 2005 (2005–124).

Amethyst-throated Hummingbird (*Lampornis amethystinus*). San Benito, *Cameron*, on 4 July 2006 (2006–85).

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Greater Pewee (*Contopus pertinax*). Laguna Meadows, Big Bend NP, *Brewster*, on 11 May 2005 (2005–89).

Social Flycatcher (*Myiozetetes similis*). Bentsen-Rio Grande S P, *Hidalgo*, on 3 January 2006 (2006–09).

Thick-billed Kingbird (*Tyrannus crassirostris*). Dugout Wells, Big Bend NP, *Brewster*, on 27 May 2006 (2006–65).

Black-billed Magpie (*Pica hudsonia*). Near Lake Kemp, *Baylor*, on 21 August 2005 (2005–114).

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Shiny Cowbird (*Molothrus bonariensis*). Walnut Springs, *Somervell*, on 12 October 2005 (2005–126).

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The Rose-throated Becard formerly nested in the Lower Rio Grande Valley, but is now a very rare visitor to the state. This female was at Santa Ana National Wildlife Refuge, Hidalgo Co., from 20 May–22 June 2006. Photo by Greg Lasley.

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LOUIS AGASSIZ FUERTES AND THE BIOLOGICAL SURVEY OF TRANS-PECOS TEXAS

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ABSTRACT.—Louis Agassiz Fuertes served as collector and official artist of the United States Bureau of the Biological Survey team that explored the Trans-Pecos Region of Texas during the spring and summer of 1901. Fuertes’ impressions of Texas, its people, and its birds are recorded in his letters to his family. These letters and Fuertes’ specimen catalogue, in conjunction with the diary kept by Vernon Bailey, provide a framework for reconstruction of the major events of the expedition. This paper presents a chronological narrative of these events with a focus on Fuertes, his adventures, and the birds he collected.

In early 1901, Louis Agassiz Fuertes (Fig. 1), a 26-year old aspiring wildlife artist from Ithaca, New York, received an appointment with the United States Bureau of the Biological Survey team that was to collect in the Trans-Pecos region of Texas. Vernon Bailey was the expedition leader, and Harry Church Oberholser the ornithologist. Fuertes was to collect and paint as many birds as possible. Bailey and Oberholser had previously worked in Texas but for Fuertes, although he had field experience in Florida (1898) and Alaska (1899), it would be his first adventure in the West. Fuertes’ impressions of Texas, its people, and its birds are recorded in the letters to his family. In addition, Fuertes kept a specimen catalogue providing details on when and where various birds were collected. These letters and the specimen catalogue deposited in the Cornell University Library, in conjunction with the diary kept by Vernon Bailey, allow for a reconstruction of the major events of the expedition. The purpose of this paper is to provide a chronological narrative of these events with a focus on Fuertes, his adventures, and the birds he collected.

ARRIVAL IN TEXAS

Fuertes arrived in San Antonio from his home in Ithaca, New York, on 13 April 1901. He immediately went to Fort Sam Houston where he presented his letter of introduction to Capt. Clermont Best and Lt. William Cruickshank. These officers presumably helped Fuertes obtain lodging for he was soon boarded in the home of Pvt. George Vetter on the edge of town where he could shoot birds “without causing a row.”

Once unpacked, Fuertes was in the field and by nightfall of his first day in Texas he had four birds to skin—Scissor-tailed Flycatcher, Black-throated Sparrow, Pyrrhuloxia, and a Curve-billed Thrasher (Fuertes 1898–1910, 1901A, B, C). Additional species taken during the following days included the Ash-throated Flycatcher, Cassin’s Sparrow, Cactus Wren, Golden-fronted Woodpecker, Bell’s Vireo, Bewick’s Wren, Inca Dove, Chuck-will’s-widow, Verdin, Yellow-breasted Chat, Tufted Titmouse, Mourning Dove, Painted Bunting, Black-chinned Hummingbird, and Loggerhead Shrike (Fuertes 1898–1910).

Fuertes quickly established a routine of collecting two or three hours in the early morning and then returning to the house to skin birds, prepare his “color studies” [portraits] and write his notes. During the five days spent in San Antonio, Fuertes prepared 25 skins and made color studies of the Pyrrhuloxia [“a queer snub-nosed cardinal”], and the head of a Greater Roadrunner. He was fascinated by the Scissor-tailed Flycatcher, a species

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Figure 1. Louis Agassiz Fuertes (1874–1927). Sketch by Rick Phillips of a photograph in the March 1897 issue of *The Osprey*. Although only 23 years old at the time this photograph was taken, Fuertes was already recognized as being “the most promising young artist of birds [then] living (Coues 1897).”

that he called “the most striking and beautiful bird in the area” (Fuertes 1901b). During their aerial displays the birds would “. . . dash up into the air and squabble together, opening & shutting their great racket tipped tails [and looking] . . . like Roman candles in the daytime when they fly by with the afternoon sun getting under & lighting them (Fuertes 1901b).” Accompanying this description in a letter to his mother was a sketch of perched and flying birds (Fig. 2). These scissor-tails were the inspiration and models for the beautiful plate of this bird that appears opposite the title page of Volume II of *The Bird Life of Texas*.

Fuertes was delighted with the birds at San Antonio. However, his experience at the Vetter home was less than ideal. At night he was tormented by unidentified “critters,” presumably bedbugs, whose bites produced intense itching and prevented sleep. A bite near his right eye caused the surrounding area to swell and droop producing a countenance “as sad as a New England Sunday.” However, in spite of the nightly attacks by the “fair denizens of the mattress [sic]”, the Vetter family “tried so hard to be nice and were so interested that [Fuertes] couldn’t help liking them [in spite of] the dirt, shiftlessness, sour milk, and greasy cooking . . .” (Fuertes 1901 b, c).

FROM SAN ANTONIO TO LANGTRY

Fuertes had been instructed to join Oberholser at either Comstock or Langtry on an unspecified date in late April. Thus on April 18th, in order to be closer to the meeting place, he left San Antonio for Uvalde. Upon arrival he took a room with a local family and immediately set out to hunt for birds. Twelve birds of nine species were collected in the woods near town. Two of the birds—Ladder-backed Woodpecker and Bullock’s Oriole were species that he had not seen before (Fuertes 1901c).

Fuertes left Uvalde on the morning of April 20th and arrived at Comstock that evening just in time to attend a Baptist church service, an experience that he described as “different” yet enjoyable. The next morning he
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arose at daylight and hiked to a hill about a half-mile from town to get a “general size-up” of the surrounding country. He was surprised to find the area around Comstock as “barren as an ash-pile, except for cactus, aloe, and such things as mesquite and chaparral [sic].” Although discouraged at the prospects for collecting, he soon found a waterhole in a canyon about a mile and a half from town where birds were plentiful and, over the next four days, collected the now-endangered Black-capped Vireo, as well as Rufous-crowned Sparrow, Varied Bunting, Canyon Wren, Orange-crowned Warbler, Spotted Towhee, Chihuahuan Raven, Northern Harrier, Swainson’s Hawk, Lark Bunting, Common Poorwill and Brewer’s Blackbird (Fuertes 1898–1919, 1901c).

Fuertes left Comstock for Langtry on April 25th where, later that day, Harry Oberholser who had been working around Del Rio joined him. The relationship between Fuertes and Oberholser did not start off well. Fuertes’ emotive personality was in direct contrast with Oberholser’s “know-all calmness over everything . . .” and rather than humor Oberholser’s eccentricities, Fuertes confessed that he would “almost prefer to work alone” (Fuertes 1901E). However, this conflict was soon overcome and the two men worked harmoniously during the remainder of the expedition.

Fuertes boarded at Langtry in the Cottage Hotel. Each morning, he would arise early and search the nearby canyons for signs of bird life. This effort was soon rewarded, and he later wrote to his family that the canyons “are the place to go into, since from their improved water conditions [they form] the finest kind of refuge for all the things [animals] that would like the climate of the country if it weren’t so dry.” He was also delighted to find that the canyon walls magnified the songs of birds so that they could be heard “a good quarter of a mile, if not more.” Rock Wren, Painted Bunting, Hooded Oriole, Say’s Phoebe, and Long-billed Curlew were collected in the countryside around Langtry, and hundreds of migrating Yellow-headed Blackbirds were seen in the yards around town (Fuertes 1901D, E). A Red-tailed Hawk taken on April 27th was later described as a new subspecies and named in his honor—Fuertes’ Red-tailed Hawk (Sutton and Van Tyne 1935).

PECOS HIGH BRIDGE AND PAINTED CAVES

Fuertes and Oberholser arrived at the Pecos High Bridge on the morning of May 1st, and after eating lunch descended into the canyon where Fuertes collected a much-prized “Lazuli Finch” [Lazuli Bunting]. That night the two collectors stayed in the home of “Hunter”, the railroad section master. Before retiring Fuertes carefully skinned the bunting and another bird and set them aside to dry. Upon arising the following morning, Fuertes found to his dismay that during the night the household cat had destroyed both specimens. Although Fuertes accurately described the Lazuli Bunting in correspondence with his family (Fuertes 1901E) thus leaving little doubt as to the validity of his identification, he does not list this specimen in his catalogue nor is it mentioned in the unedited typescript of *The Bird Life of Texas*. Even more confusing, Oberholser’s typescript (p. 9893) credits Fuertes with the collection of a Lazuli Bunting at the “northwestern base of the



Figure 2. Scissor-tailed Flycatchers sketched at San Antonio. Fuertes was fascinated by the aerial displays and coloration of scissor-tails and included a description of the birds in a letter to his mother (Fuertes 1901B). Courtesy of the Division of Rare and Manuscript Collections, Cornell University Library.

Chisos Mountains” on June 25th even though Fuertes’ catalogue clearly shows that he did not collect *any* birds on this date.

On the morning of May 2nd, Fuertes and Oberholser went by railroad handcar to Shumla to meet a guide, “Torres,” who would take them to the Painted Caves on the Rio Grande below the mouth of the Pecos River. When it was found that Torres was unavailable, they went instead into the Pecos Canyon above the bridge. About two miles up the river they entered a side canyon where a beaver dam had blocked the stream to make a small lake. Fuertes was astonished to see a large red tanager that he was unable to collect. He did, however, take specimens of Painted Bunting, Yellow-breasted Chat, Black Phoebe, Clay-colored Sparrow and Yellow-rumped Warbler (Fuertes 1901E).

On the following morning (May 3rd) Fuertes and Oberholser met Torres at the Pecos High Bridge and rode on horseback the eight miles to the Painted Caves. Fuertes was intrigued by the primitive artwork on the walls of the caves, and pondered what life must have been like for the original inhabitants of the area. After exploring for a time the group ate their lunch inside the largest cave, which faced south toward the Rio Grande—“The [mouth of the] cave cut out a splendid picture of the Mexican frontier, which we saw through a continually moving curtain of cliff swallows, thousands of which were building nests in the roof of the cave.” Before departing, a photograph was taken of Torres and one of the naturalists mounted on their horses near the entrance of the large cave (Fig. 3). With their tour completed, the two men returned to Langtry where, at 10:00 that night, Fuertes boarded the train for Alpine and Oberholser departed for Del Rio and Comstock where he would work for several days before rejoining the expedition (1901E).

BIRDS COLLECTED AT ALPINE

Fuertes rode the train all night and arrived in Alpine at 5:30 on the morning of May 4th feeling very much like a “broken bicycle crate.” But, after a short rest at the hotel, Fuertes set out on a 12-mile hunt in the surrounding country. Just before dark he discovered “a ravine . . . [that harbored] a whole new gamut of bird life . . .” However, given the lateness of the hour, he had time for just a “glimpse [and] a taste” before returning to town. Species collected on this day included Horned Lark, Burrowing Owl, Blue-gray Gnatcatcher, Hermit Thrush, and Wilson’s Warbler. On the following day (May 5th), Fuertes painted the portrait of a bobcat (Bailey 1905, Plate XV) that had been captured by a cowboy and tamed by the townspeople. During the next three days Fuertes painted a Cooper’s Hawk (Boynton 1956, plate p. 60), as well as collecting several other species including a Bushtit and Pine Siskin. He had now skinned 96 birds of about 60 species and made 10 paintings and a few drawings (Fuertes 1901E, F).

ARRIVAL OF VERNON BAILEY

Vernon Bailey left by train from Washington, D. C., on May 3rd and arrived at Langtry, Texas, on the afternoon of May 7th. At Langtry, Bailey found that “Kelly”, the man who was to be the camp cook and roustabout, had injured his foot three weeks earlier and had not improved sufficiently to assume his duties. Fortunately, an able replacement, McClure Surber, was available, and he was immediately hired. On the following day (May 8th), Surber left Langtry driving the wagon along the railroad tracks toward Marathon where the crew would meet before entering the Big Bend. Bailey then took the morning train to Comstock where he met Oberholser and spent the afternoon setting gopher traps. Leaving Oberholser at Comstock, Bailey boarded the evening train to Dryden where on the following afternoon (May 9th), he linked up with Surber as he passed through Dryden on his way west. On May 12th, after four days and three nights on the road, Bailey and Surber arrived at Marathon (Bailey 1901).

MARATHON TO TORNILLO CREEK

Fuertes left Alpine for Marathon on May 9th. Very few birds were found in the immediate vicinity of Marathon, and so on May 12th a trip was made to Iron Mountain seven miles north where several birds including Wilson’s Warbler, Blue-gray Gnatcatcher, Brewer’s Sparrow, Lesser Goldfinch, and Brewer’s Blackbird were collected (Fuertes 1898–1910). Upon his return to Marathon later in the day, he found that Bailey and Surber had arrived and were busy purchasing horses and supplies for the expedition. The horse selected for Fuertes was a mare named “Fannie.” With all preparations complete, the three men left on the following day for Peña Colorado, a spring four miles south of Marathon, where they set up camp and remained for the next

four days. Oberholser rejoined the expedition at Peña Colorado and, for the first time, all members of the survey crew were gathered in one location. Fuertes took an immediate liking to Vernon Bailey who he described as a “good manager & a nice fellow” (1901G). Surber, the “camp angel”, also quickly won the respect of Fuertes for his abilities as a “cook, blacksmith, hostler, [and] hustler” (Fuertes 1901H). A photograph of the expedition members taken on an unknown date and at an unidentified location is now found in the National Archives (Fig. 4).

The grove around the spring at Peña Colorado was a good place for birds, and on the second day (May 14th) Fuertes collected a Willow Flycatcher. Other species taken at Peña Colorado included House Finch, Western Wood-Pewee, Blue Grosbeak, MacGillivray’s Warbler, Northern Waterthrush, Gray Flycatcher, and Canyon Towhee (Fuertes 1898–1910). A pair of Golden Eagles had their nest near the camp and were routinely observed carrying food to their young. An accident was narrowly averted when one of the parent birds dropped a jackrabbit that almost struck Bailey as it fell to the ground (Fuertes 1901G).

The collectors left Peña Colorado on May 17th and over the next three days proceeded to Bone Spring about three miles south of Persimmon Gap. Expecting freshwater, the men were repulsed to find a “bovis defunctus” [dead cow] in the spring and were forced to thoroughly boil the water before using it. The only bright spot at Bone Spring was the collection of a Scott’s Oriole, a species that Fuertes described as “wild as an antelope” and with a “glorious song like a Western Meadowlark, only clearer [and] even more ringing . . .” Leaving Bone Spring early on the 21st, they passed McKinney Springs around noon where Fuertes unexpectedly collected a White-throated Swift. Camp was made that night along the road and by noon of the following day (May 22nd), they arrived at Max Ernst’s store at La Noria where they ate lunch and bought supplies before traveling the remaining eight miles to the mouth of Tornillo Creek. Camp was made under three cottonwood trees about 200 yards from the Rio Grande, and an abandoned adobe-brick house at the base of a nearby cliff was used as a work area for preparing specimens and writing letters (Fuertes 1901H).

THE “BIG BLACK HAWK”

Fuertes collected only nine birds during the eight days spent at Tornillo Creek. The collection of one of these specimens was, however, a rather memorable experience. Here, along the canyon of the Rio Grande, Fuertes diligently pursued a Zone-tailed Hawk and had a perilous adventure that would later be memorialized in *Birds of New Mexico* (1928) and *The Bird Life of Texas* (1974).

In a postcard written on the morning of May 27th, Fuertes informed his mother that he had “spent the greater



Figure 3. Excursion to Painted Caves, Val Verde County, 3 May 1901. The person on the white horse is believed to be the Mexican guide “Torres.” The person with the shotgun is either Fuertes or Oberholser. Courtesy National Archives, 22-WB-30–2790.



Figure 4. Biological Survey Team gathered around the chuck wagon. Tentative identifications, left to right: Harry Oberholser, Vernon Bailey, McClure Surber (back), and Louis Agassiz Fuertes. Courtesy National Archives, 22-WB-B5502.

part of 2 days after a big black hawk that lives in the big cañon 2 miles below here on the R.[io] G.[rande]. I am going to get him if it is in me . . . he sails around in the wind, screaming with his wings shut all but at the shoulders, so that he looks like a kite.” To illustrate this behavior, Fuertes included a small sketch of the hawk diving through the sky with its wings folded (Fuertes 1901i).

Fuertes and the elusive hawk had their final encounter within a few hours after he had sent his card to the post office in Boquillas. The hawk was shot as it soared above the canyon of the Rio Grande and, as it fell, the body lodged on the face of the cliff. Not wishing to abandon his splendid prize, Fuertes set about to retrieve the fallen bird but, after reaching the body, found that he was unable either to ascend to the top or to make his way back down to the canyon floor. He later wrote his mother that he didn’t think he “was in any danger . . . for when I found myself unable to go any further . . . I got O.[berholser] to go for a rope. Then I sat in my comfortable hole, sang to a superb echo for a while, watched lizards and ravens and got rested for an hour, & came out all right . . .”(Fuertes 1901j). Other than this brief description and the assurance to his mother that he was safe, Fuertes apparently never wrote anything further regarding his collection of the “big black hawk.”

Fuertes risked his life to recover the Zone-tailed Hawk and yet Vernon Bailey (1901) made no mention of the event in his field diary and it was not until years later that his recollection was published by his wife, Florence Merriam Bailey, in *Birds of New Mexico* (Bailey 1928:166–167). Oberholser’s recollection did not appear until publication of *The Bird Life of Texas* in 1974 (Oberholser 1974:225). In contrast to the brief description of the day’s events contained in Fuertes’ letter to his mother, the accounts of Bailey and Oberholser provide sufficient details to allow the following reconstruction of the shooting of the hawk, the entrapment of Fuertes on the cliff, and his dramatic rescue.

Vernon Bailey remained in camp on the morning of May 27th while Oberholser and Fuertes left for an early hunt along the Rio Grande. The two men separated with Fuertes hunting along the canyon hoping to see the Zone-tailed Hawk while Oberholser moved away from the river to hunt on the mesa. Fuertes soon found and shot the hawk, which lodged on the cliff face as it fell. Fuertes then descended by a side gulch onto the floor of the canyon and began to climb upward to retrieve his prize. At a point some 100 feet below the rim and several hundred feet from the bottom, he found that further ascent was impossible because of overhanging rocks and that it was equally impossible to descend because he could not see to secure footholds below. Realizing that he was trapped, Fuertes fired his gun and began to shout for help. Oberholser, who was already looking for Fuertes, heard his cries and soon arrived at the canyon where he peered over the edge to see his friend seated on a narrow ledge. Assuring Fuertes that he would return with help, Oberholser rushed back to camp greeting Bailey with the exclamation “Get all the ropes in camp. Fuertes is up on a cliff and can’t get down or up.” The two men gathered about 150 feet of picket ropes and hastened to the canyon, which was about a mile away. The ropes were quickly tied together and one end secured to a stout catsclaw bush while the other was thrown over the rim and swung back and forth until it could be reached by Fuertes and looped around his leg. Then, while Bailey and Oberholser pulled on the rope, Fuertes, with the prized hawk stuffed in his shirt, swung from ledge to ledge on the cliff face until he was finally hauled to the top. Following his rescue, Fuertes returned to camp where he prepared an initial sketch of the hawk that would eventually become the basis for the illustration found in *The Bird Life of Texas* (Oberholser 1974:224).

The successful retrieval of the Zone-tailed Hawk was a great adventure and a significant contribution to the knowledge of the species. Florence Merriam Bailey later noted “. . . the handsome Zone-tail [collected by Fuertes] afforded material for careful study, numerous sketches, and finally a beautifully prepared specimen.” His field sketches “. . . giving overhead characters as the bird circled above him before it was shot, and the numerous color sketches of eyes, bill, cere, feet, and claws have since served as a basis for accurate illustrations of the species (Bailey 1928).”

ASCENT INTO PINE CANYON

The group left Tornillo Creek on the morning of May 31st, stopping first at Ernst’s Big Tenaja Store for supplies before going on to Neville Springs where Fuertes collected a Summer Tanager (Fuertes 1901k). Around sunset the collectors arrived in the foothills of the Chisos Mountains where they “worked into a dwindling trail which finally became lost in an old arroyo, coming down from a great gulch [Pine Canyon] in the mountains.”

Camp was made “in the brush about fifty yards from the trail, and tired and hungry almost to oblivion, [they] ate [their] bacon, beans, and biscuit, and rolled up in [their] blankets in the beautiful glow of the full moon (Fuertes 1903).”

Fuertes awoke the following morning just before sunrise and, while still in his sleeping bag, saw a Montezuma Quail only a few feet away in the grass. The bird quickly escaped as Fuertes attempted to retrieve his gun from beneath his bedroll (Fuertes 1903). So excited was Fuertes at seeing this rare prize that he “burst out of his sleeping bag and fairly danced with joy as he ran for pencil and paper and worked for an hour on sketches of the quaint bird (Bailey in Boynton 1956:xvi).”

After breakfast on the morning of June 1st, the group ascended further into Pine Canyon and established a camp about a mile from the small waterfall at its head. This camp would be their base of operations for the next 15 days while side excursions were made to other areas of the Chisos (Fuertes 1903). A photograph, probably taken in Pine Canyon, shows Fuertes astride his horse beside a giant flowering agave (Fig. 5).

Fuertes was enchanted by Pine Canyon, a “wonderful rich place, half tropical & half boreal pines & agaves—The big Mexican Century plant with flower stalks—where the rare hummers come to feed (Fuertes 1901κ).” On his first day in the canyon, Fuertes collected Blue-throated Hummingbird, Indigo Bunting, Black-headed Grosbeak, Acorn Woodpecker, and Mexican Jay. However, an even more exciting find was yet to be made. On June 6th Oberholser killed an immature Lucifer Hummingbird and, on the following day, Fuertes bagged an adult male and female Lucifer, these specimens representing the 3rd, 4th, and 5th United States records for this species. Fuertes was so elated at taking the lucifers that he included a sketch of the male hummingbird (Fig. 6) in the next letter sent to his family (Fuertes 1901L).

On June 8th, Fuertes, in company with Vernon Bailey, made his first excursion into the high country of the Chisos. Their destination was Plateau Mountain, one and a quarter miles southeast of Emory Peak and six miles distant from the base camp. At 1:30 in the afternoon they picketed the horses, ate their biscuits and bacon and began their climb onto the mountain. So intent were the two men on exploring the mountain that the sun had set before they got back to their horses, and they were forced to spend the night in a small cave. Their food was gone, and the cave was later referred to as “starvation camp.” At daylight they arose and hunted for food but without success. Preoccupied by hunger they began their descent from the mountain and reached the horses just before noon. Arriving at the base camp in the early afternoon, Fuertes eagerly gorged himself on the food prepared by Surber (Bailey 1901, Fuertes 1901L).



Figure 5. Louis Agassiz Fuertes and his mare “Fannie” at a large flowering agave. This photograph was probably taken in the vicinity of Pine Canyon during June 1901. Courtesy National Archives, 22-WB-30-3658.



Figure 6. Lucifer Hummingbird collected near the head of Pine Canyon in the Chisos Mountains. Fuertes declared the Lucifer to be the most beautiful of all American hummingbirds (Fuertes 1901L). Courtesy of the Division of Rare and Manuscript Collections, Cornell University Library.

Bailey was so intrigued by Plateau Mountain that two days later he departed for a second trip to that location, instructing Fuertes and Oberholser to meet him at “starvation camp” on the following day (Bailey 1901, Fuertes 1901L). Packing two days rations, the two naturalists left on June 12th to meet Bailey. However, upon arriving at the cave they found that Bailey was not there, but had left a note directing them to meet him at a location just over the ridge. They crossed the ridge and found Bailey at a cool spring where he had killed a buck. On the following morning (13th), Bailey packed the deer meat [about 50 pounds] off the mountain to the horse camp. The meat was loaded on Bailey’s horse, and Bailey rode Fuertes’ mare back to Pine Canyon. Fuertes and Oberholser remained on the mountain where, later that day, Fuertes killed a White-throated Swift from the colony living high on the cliffs. The two men were surprised to find the buccal cavity and pharyngeal region of the swift crammed with insects causing the area to be greatly distended. Knowing that the swifts were nesting on a nearby cliff, the two naturalists surmised that this was the means by which the parents carried food to their young. This interpretation, now known to be correct, perhaps represents the first realization of how the White-throated Swift carries food to its young (Collins 2006). Sketches and a description of the bird were prepared for *The Bird Life of Texas* (Oberholser n.d.:5363) but were deleted before publication of the completed monograph. The sketches that Fuertes made of the White-throated Swift collected on June 13th (Fig. 7) are now located at the American Museum of Natural History in New York City.

Fuertes and Oberholser slept that night on Plateau Mountain and, on the following morning, arose early to begin their descent. Fuertes experienced considerable discomfort during this portion of the trip because of an agave thorn that had broken off in his leg. Upon their arrival at the base camp they found that Surber had killed a deer and cut it up for jerky thus ensuring fresh meat during the days to come (Fuertes 1901L). Fuertes spent the afternoon of the 14th and most of the following day skinning birds, preparing sketches, and writing notes. The White-throated Swift collected on Plateau Mountain was entered into his catalogue on June 14th, the day that the skin was prepared rather than the actual day of collection.

ORDEAL AT DUGOUT WELLS

The group left Pine canyon on the morning of June 16th and arrived at Dugout Wells at about 5:00 that afternoon. It was soon discovered that a bag containing 60 pounds of deer meat had fallen off the wagon somewhere along the trail, and Bailey set out on “Fiddlesticks” to recover the meat. The meat was eventually found, and Bailey returned to camp about 10:30 that night. However, during his absence, Fuertes’ mare “Fannie” and the mule, “Tobin,” had strayed away from camp and could not be found. Bailey arose early the following morning and rode to Ernst’s store to catch the outgoing mail while Fuertes and Surber set out on foot to search for Fannie and Tobin. The missing stock was not found and, since the camp was low on supplies, Fuertes set off on foot around 11:00 for Ernst’s store. Along the way, he met Bailey whose horse was exhausted, and they both returned to camp. Determined to find the missing animals, Bailey ordered Surber to saddle “Baylor,” the pack mule. Upon being mounted the mule began to buck, and Bailey was thrown from the saddle and knocked senseless. Although bleeding from the head and neck, Bailey assured the men that he was okay. Bailey was then carried to his bed where he slowly regained his senses with the aid of some of the “critter” [Old Crow? Wild Turkey?] provided by Fuertes. He was soon able to recall events up to the point where he was bucked off the mule but never remembered anything about what came later. It was nearly five days before the missing livestock was found. Although low on provisions, Fuertes wrote that there was never any fear of going hungry since there were abundant fruits of the strawberry cactus, a delicacy lauded as “one of the most delicious fruits in the world.” In addition, there was plenty of deer jerky, and “Old Man Franks” had recently brought additional supplies to their camp (Bailey 1901; Fuertes 1901M, N).

TERLINGUA CREEK AND SANTA ELENA CANYON

The group left Dugout Wells on June 23rd passing Neville Springs and going on some 30 miles before pitching camp at a tenaja [natural water hole] some four or five miles from the Terlingua mine. They stayed at this location until the 26th before moving downstream to the mouth of Terlingua Creek. On the following day (27th), Fuertes and Bailey spent the day exploring Santa Elena Canyon and having “the time of [their] young lives.” Bailey took the Mexican side and Fuertes the Texas side of the Rio Grande (Fig. 8). Bailey’s trail came to an end one-third of a mile up the canyon, and the two men left their equipment [camera and gun] and outside clothes and proceeded upstream for some three miles by wading and swimming. Fuertes removed his shoes and

bruised his foot on a stone, and waited on a sandbar while Bailey explored a little farther. Fuertes quickly fell asleep only to awake later “sweating like a fury [and] nearly baked to death.” He then decided to return to the mouth of the canyon and, after drawing an arrow in the sand to show Bailey that he had gone downriver, began slowly walking out of the canyon. Bailey caught up with him about half way out, and the two men recovered their equipment and clothes and walked the two or three miles to camp, arriving just as Surber was cooking supper. The entire trip had taken 10-1/2 hours. Exhausted by the long hike, Fuertes spent the next day in camp skinning birds and drawing a “beautiful little queer screech-owl!” [McCall’s Eastern Screech-Owl] collected the preceding night by Oberholser (Bailey 1901, Boynton 1956:63–64, Fuertes 1901Q, P).

INTO THE DAVIS MOUNTAINS

On June 29th the naturalists began moving north toward Alpine camping on Terlingua Creek for two nights before reaching a waterhole near Adobe Walls some 20 miles upstream on July 1st. The next day they continued toward Alpine eventually pitching camp seven miles north of the Butcher Knife Ranch. At this camp Fuertes collected a Western Common Nighthawk, *Chordeiles minor henryi*. During the next two days the group continued toward Alpine and on the night of July 4th pitched camp four miles south of the city. Oberholser, Bailey, and Surber remained in camp while Fuertes went into town and telegraphed the Marfa post office to forward his mail to Alpine. That night Fuertes lodged at the hotel in Alpine but found the mosquitoes so bad that he took his sleeping bag and spent the night outside. On July 5th the rest of the crew arrived in Alpine where they spent the day buying supplies, fixing the wagon, and preparing specimens for shipment (Bailey 1901, Fuertes 1901Q).

On July 6th the group watered their horses, left Alpine in mid-afternoon, and traveled about eight miles before making a dry camp. The next day they passed through Fort Davis and continued up Limpia Canyon about four miles before stopping for the night. On the following day they moved progressively higher into the canyon and by July 9th had reached a point 21 miles north of Fort Davis. At this point the singletree on the wagon broke, and the men were forced to push the wagon out of a gulch. While Surber repaired the wagon, Bailey explored a nearby ridge and returned with the news that there were good birds at the top. Thus encouraged, on the following morning Fuertes hiked three miles up the canyon before climbing to the top of the ridge where he collected several new birds including Steller’s Jay, Hepatic Tanager, Mountain Chickadee, Western Bluebird, Nothern Flicker, and White-breasted Nuthatch. This was Fuertes’ most productive day of collecting, and on the following days most of his time was spent drawing and painting in camp. On July 13th the group began their descent out of Limpia Canyon eventually reaching Fort Davis on the 15th. The “outfit” disbanded

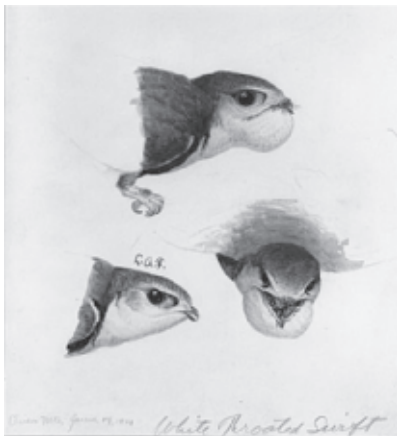


Figure 7. Sketch of the White-throated Swift collected by Fuertes on Plateau Mountain showing the method by which the adults carry food to their young. Image #2A5804, Louis Agassiz Fuertes, American Museum of Natural History Library.



Figure 8. View of Santa Elena Canyon from the mouth of Terlingua Creek showing the routes taken by Fuertes and Bailey during their exploration of the canyon on 27 June 1901 (Fuertes 1901P). Courtesy of the Division of Rare and Manuscript Collections, Cornell University Library.

at this time with Fuertes and Oberholser taking the stage to Marfa while Bailey and Surber remained in Alpine before going on to New Mexico (Bailey 1901, Fuertes 1901r).

NEW MEXICO AND BACK TO TEXAS

Oberholser and Fuertes parted at Marfa, with Oberholser going to Hereford and Mobeetie while Fuertes continued by train to Sierra Blanca, El Paso and on July 17th to Cloudcroft, New Mexico. For a few days, he collected in the high mountains before returning to El Paso on July 22nd to find it a “seething hell after the delicious coolness of the Sacramento forests.” Then, after a quick trip across the border to shop in Juarez, Fuertes boarded the train for Ysleta where he had been instructed to wait until receiving word from Bailey on when to return to New Mexico.

Fuertes arrived at Ysleta, south of El Paso, at 2:30 in the morning and slept in the station house until daylight. After arising, he inspected the “Lone Star Hotel” and found it unsuitable. But, finding nothing in the village, returned to the “Lone Star” to check in and leave his bags. Fuertes was the only boarder in the hotel, which was shared with four little dogs, two cats, and an undetermined number of young chickens and turkeys that roamed through the hall. The turkeys were particularly amusing as they chased and jumped to catch the abundant and ever-present flies.

Although greatly fatigued from inadequate sleep, Fuertes gathered his collecting gear and set out in search of birds. As the morning wore on and his spirits began to droop, he encountered a barefoot “ancient Mexican” working in front of his adobe house. To his surprise, the Mexican asked Fuertes in broken English if he would like a cup of coffee. The offer was accepted, and Fuertes was taken into the “cool, dark house” where he was served hot coffee and fresh tortillas. As Fuertes rose to leave, he offered to pay for the meal, but was rebuffed by the old man with a gesture suggesting that he was “almost insulted” by the offer. Fuertes was deeply touched by this act of kindness and generosity to a stranger (Fuertes 1901s). Refreshed in body and spirit, Fuertes continued to search for birds and by the end of his first day in Ysleta had bagged twelve species including the Crissal Thrasher and Gambel’s Quail (Fuertes 1898–1910).

Fuertes found that, because of the lateness of the season, many of the adult birds at Ysleta were in poor condition. This was, however, balanced by the collection of “some valuable & beautiful young plumages.” Writing to his former art teacher and mentor, Abbott Thayer, Fuertes confided that he had “done more painting and drawing on this trip than ever before, and have really gotten together quite a lot of useful studies.” Fuertes also expressed his loneliness to Thayer—“it seems as if I [have] been in this newsless-letterless place . . . for years, instead of months. Home sensations and surrounding have so long given place to those of railroad hotels and our outfit, that it is only when I get a longed for letter . . . that my senses are awakened to . . . the real greatness of that which they are doing without (Fuertes 1901r).”

The days at Ysleta seemed to drag on endlessly while waiting for word from Bailey. Fuertes wrote to his family that he had “done little but perspire and watch for mail, which hasn’t come.” His ammunition was nearly used up, and he was shooting conservatively. Sadly, he wasted two shells and committed useless murder on two birds believed to be Mexican doves only to find that he has killed two “squab turtle-doves” (Fuertes 1901s). Later he wrote to his mother that he “would be mighty glad when I can pull out [of Ysleta], wherever the destination” (Fuertes 1901u). Finally, on August 2nd, Bailey telegraphed Fuertes that he wanted him to come to Carlsbad as soon as possible (Fuertes 1901v). Fuertes’ specimen catalogue records 22 birds collected during the 11 days spent in Ysleta.

GUADALUPE MOUNTAINS OF TEXAS

Fuertes left for Carlsbad the day after receiving Bailey’s telegram. However, because of railroad problems he did not arrive in New Mexico until August 6th. Bailey, Surber, and Bailey’s wife, Florence Merriam Bailey, met him at Carlsbad. Fuertes and the others departed on the following day for Vineyard Ranch in the Guadalupe Mountains of New Mexico and Texas. During the first four days, they collected in New Mexico before moving into Upper Dog Canyon in the Texas portion of the mountains. In Dog Canyon Fuertes collected two Hepatic Tanagers, a Band-tailed Pigeon, and a Plumbeous Vireo. While leaving the canyon on August 13th, Fuertes bagged a pair of Montezuma Quail. He later related that a “visitor” to their camp, most likely his college friend Dick Doughaday, had actually killed one of the quail. The sketches Fuertes made of the Montezuma Quail collected in Dog Canyon (Fig. 9) were reproduced several years later in *The Outing Magazine* (Wells

1909). Seven days were spent at Vineyard before Fuertes finally boarded the train on August 21st for his return to Washington, D. C. (Fuertes 1901w, x, y, z, 1903).

THE MAN AND HIS ART

Louis Agassiz Fuertes was no stranger to the ornithological community. Three years prior to his appointment to the Trans-Pecos Survey, the eminent ornithologist Elliott Coues had declared Fuertes to be “the most promising young artist of birds [then] living (Coues 1897).” It is said that Fuertes was born with two gifts—extraordinary sight and hearing. Once seen, the details of a bird were indelibly imprinted in his memory and could be reproduced at a later date with amazing accuracy. Once heard, a bird’s song could be imitated by whistle or voice. These natural gifts, coupled with a love for birds and the training received from outstanding teachers, were the basis for his genius as an artist (Boynton 1956).

Fuertes was also a gregarious and engaging human being. Vernon Bailey recalled that his “. . . enthusiasm was so genuine and boundless that it was a pleasure to watch him . . . I [enjoyed] his keen interest and enthusiasm, as well as his kindly companionship and sparkling good humor.” An example of his good humor and spontaneity occurred one morning when Fuertes arose to find a fearsome-looking vinegaroon in his sleeping bag and “promptly organized the Vinegaroon Club, which no one could join who had not slept with a vinegaroon (Bailey in Boynton 1956:64).” The frightful visage of this harmless whip scorpion is splendidly captured in an illustration prepared by Fuertes while camped at Dugout Wells (Peck 1982:15).

Fuertes collected a total of 252 specimens of 112 species in Texas between 13 April and 13 August 1901. Excluding the five days in Cloudercroft and the four days at the Vineyard Ranch in New Mexico, Fuertes spent 114 days in the field while taking an average of about two birds per day. While this may seem a low number, it must be remembered that much of his time was occupied making sketches and paintings of birds, as well as the mammals and reptiles collected by Bailey. His artistic output during the expedition “included more than a hundred portraits of birds as well as a number of mammals and reptiles (Schmidly 2002:9).” Fuertes also carried a camera, and it is assumed that he took many photographs of the landscape so that he could accurately portray birds in their natural surroundings. Complicating his work was the inordinate amount of time spent on trains going from one location to another and in riding “Fannie” to and from collecting sites.

Fuertes was the first wildlife artist to spend an extended period of time in the Trans-Pecos of Texas. The sketches and paintings that he produced were purchased by the government for \$20–30 each (Schmidly 2002:29), and in the following years used in a number of different publications (Boynton 1956:313). In 1978 the United States Fish and Wildlife Service transferred 220 of its Fuertes holdings to the Academy of Natural Sciences of Philadelphia. Additional illustrations from the 1901 survey are found at the American Museum of Natural History and the Herbert F. Johnson Museum of Art at Cornell University (Peck 1982).



Figure 9. Sketches of Montezuma Quail collected by Fuertes in Dog Canyon, Guadalupe Mountains, Texas. Image #126151, Louis Agassiz Fuertes, American Museum of Natural History Library.

Several of Fuertes' illustrations of Texas birds have been reproduced in biographies of the man and his art (Boynton 1956, Marcham 1971, Peck 1982). However, the most extensive reproduction of his 1901 artwork is found in the two-volume monograph *The Bird Life of Texas* (Oberholser 1974). Fuertes' color plates of a vigilant Scissor-tailed Flycatcher perched in a honey mesquite and of a pair of Vermilion Flycatchers at a waterhole in the Trans-Pecos are truly memorable. Equally striking are his black-and-white images of a Zone-tailed Hawk soaring above a canyon in western Texas, a Black Phoebe silhouetted against the backdrop of Santa Elena Canyon, a pair of foraging Gambel's Quail, and a Greater Roadrunner streaking amidst the sotol and lechugilla. None of these images, now a treasured part of the ornithological heritage of Texas, would have been possible had it not been for the young artist from Ithaca, New York.

ACKNOWLEDGMENTS

We thank Nancy Dean, Cornell University Library, for providing copies of the letters that Fuertes wrote from Texas in 1901. We are also grateful to Eleanor Brown for granting permission of the Cornell University Library to reproduce images and quotes from the Correspondence and Chronological Field Catalogue No.1, Louis Agassiz Papers (#2662). David Schmidly and Lisa Bradley of Texas Tech University furnished the copy of Vernon Bailey's field diary that was used to cross reference dates and events. Clarification of the names of birds mentioned in the text and the editorial suggestions of Cliff Shackelford and Mark Lockwood greatly improved an early version of the manuscript. Charles Collins gave details on the method of food transport by parent White-throated Swifts. Mark Katzman, American Museum of Natural History, searched for and found the sketches of the White-throated Swift and Montezuma Quail. Publication of this paper was supported in part by a grant to the senior author from the University of Mary Hardin-Baylor.

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- _____. 1901C. Letter to "Dear mother" dated 20 April 1901 at Comstock, Texas. This letter was begun in Uvalde in the morning and completed after arriving at Comstock in the afternoon.
- _____. 1901D. Postcard to "Dear mother and father" dated 27 April 1901 at Langtry, Texas.
- _____. 1901E. Letter to "Dear family" dated 29 April 1901 at Langtry, Texas. Page three is dated May 5th, Alpine, Texas, from which location the letter was presumably mailed. A sketch of the mountains in Mexico as seen from the inside of the largest of the Painted Caves is included in this letter.
- _____. 1901F. Letter to "Dear father and mother" dated 8 May 1901 at Alpine, Texas. This letter includes a sketch of the pattern in a Navajo blanket purchased by Fuertes.
- _____. 1901G. Letter to "Dear father and mother" dated 16 May 1901 at the "Camp near Marathon, Texas."
- _____. 1901H. Letter to "My dear family" dated 23 May 1901 at "Tornillo Creek – where it flows into the Rio Grande." A sketch of the Rio Grande as seen from the campsite at the mouth of Tornillo Creek is included in this letter.
- _____. 1901I. Postcard to "Dear mother" dated 27 May 1901 at Tornillo Creek, Texas. A sketch of a Zone-tailed Hawk diving with wings folded is included in this letter.
- _____. 1901J. Letter to "My dear mother" dated 29 May 1901 at Tornillo Creek.
- _____. 1901K. Undated letter to "My dear home folks" from "6000 ft. up, in the Chisos Mtns, 100 miles from the R. R." Sketches of Pine Canyon and a large hailstone recovered following a severe hailstorm that spooked the horses are included in this letter.
- _____. 1901L. Letter to "My dear family" dated 9 June 1901 in the "Chisos Mountains – Texas." This letter includes two
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- sketches – a comical shoulder-up sketch of Fuertes with head tilted back and tongue extended while drinking from a trickle of water in a cave and a full view of a male Lucifer Hummingbird perched on a twig.
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- _____. 1901N. Postcard to “My dear family” dated 25 June 1901 at Terlingua, Texas.
- _____. 1901O. Letter dated 25 June 1901. This letter is incomplete with the first and last pages missing. Sketches of the boots worn by Fuertes and of a flowering sotol (?) are included in this letter.
- _____. 1901P. Letter to “My dear family” dated 26 June 1901 at the “Terlingua mercury mines.” This letter, begun on the 26th and completed on the 29th of June, includes sketches of “Balanced Rock” and Santa Elena Canyon as seen from the mouth of Terlingua Creek.
- _____. 1901Q. Letter to “My dear family” dated 6 July 1901 at Alpine, Texas. A sketch of a sign seen on the fence of the Butcher Knife Ranch that reads “We cannot and will not accommodate the traveling public – Don’t ask” is included in this letter.
- _____. 1901R. Letter to “My dear family” dated 14 July 1901 in the “Davis Mtns. (foothills).”
- _____. 1901S. Letter to “My dear home ones” dated 24 July 1901 at Ysleta, Texas. This letter, begun on the 24th and completed on June 26th, includes sketches of the sign at the Lone Star Hotel in Ysleta, the sombrero worn by the “ancient Mexican” who befriended Fuertes, and the musical notes of a song two young girls were heard singing.
- _____. 1901T. Letter to “My dear Uncle Abbott” dated 24 July 1901 at Ysleta, Texas. This letter includes sketches showing the locations of El Paso and Ysleta, Texas, and the head of a Violet-green Swallow collected near Cloudcroft, New Mexico.
- _____. 1901U. Letter to “My dear mother” dated 29 July 1901 at Ysleta, Texas. A sketch of the head of a Gambel’s Quail collected at Ysleta, Texas, is included in this letter.
- _____. 1901V. Letter to “My dear family” dated 2 August 1901 at Ysleta, Texas.
- _____. 1901W. Letter to “My dear family” dated 7 August 1901 from the “Top of the Guadalupe Mtns. (in New Mexico, 40 miles W. of Carlsbad).”
- _____. 1901X. Letter to “My dear family” dated 12 August 1901 in the “Guadalupe Mtns., Texas.” A sketch of the view looking north down Dog Canyon is included in this letter.
- _____. 1901Y. Letter to “My dear family” dated 14 August 1901 at the “Vineyard Ranche [sic], Carlsbad, N. M.”
- _____. 1901Z. Letter to “My dear family” dated 28 August 1901 at Washington, D. C.
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RECENT PHOTO- AND AUDIO-DOCUMENTATION OF MONTEZUMA QUAIL FROM THE CHISOS MOUNTAINS, BIG BEND NATIONAL PARK (BBNP), TEXAS

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ABSTRACT.—Feeding excavations and a roost site of Montezuma Quail (*Cyrtonyx montezumae mearnsi*) were documented along the north-facing backslope of the Southwest Rim, Chisos Mountains, Big Bend National Park (BBNP) Texas in April 2004. On 15 May 2005, “buzz” calling was elicited from two male Montezuma Quail on the Southwest Rim and one of the males was sighted at close range. Then on 26 May 2005, we called in and photographed two male Montezuma Quail along the Southwest Rim. Our observations of Montezuma Quail and their sign were made in either mature, open pinyon pine-juniper or mature, closed oak-pinyon pine-juniper woodlands supporting grassy understory vegetation. On 22 May 2005, a park visitor audio-taped the buzz calls of a male Montezuma Quail while recording calls of other birds along the Lost Mine Trail, independent of our efforts. These observations document the occurrence of a small, relict population of Montezuma Quail in the Chisos Mountains, BBNP, Texas.

We report on the detection of Montezuma Quail feeding sign and a roost (April 2004) and independent photo- and audio-documentation of Montezuma Quail (May 2005) in the Chisos Mountains, BBNP, Texas (Fig. 1).

HISTORY

Montezuma Quail were first documented in the Chisos Mountains by members of the U.S. Bureau of Biological Survey (Survey) in May-June 1901 when three specimens were collected (Smithsonian Institution, U.S. National Museum of Natural History specimen numbers: 168301, 168302 and 168303) (Fuertes 1903). Based on the Survey’s 1901 summer field season, Bailey (1905) listed Montezuma Quail as a “common” member of the Transition Zone avifauna in the Chisos, Davis and Guadalupe mountains of western Texas. Subsequently, Montezuma Quail were collected in the Chisos Mountains in 1904 (Montgomery 1905) and 1932 (Van Tyne and Sutton 1937), and the latter authors reported the species was declining regionally by the early 1930s. By the early 1970s, BBNP Chief Scientist, R.H. Wauer (Wauer 1974) considered the Montezuma Quail extirpated from the Chisos Mountains, while acknowledging the report of a single pair observed at Chisos Basin (May 1962) represented the only reliable sight record since the early 1940s (Wauer 1973a). Consequently, the National Park Service (NPS), with assistance from the Arizona Game and Fish Department, released 26 wild-captured Montezuma Quail from the Santa Rita Mountains, Arizona at Pine Canyon, Chisos Mountains in January 1973 (Wauer 1973b). In May 1973, R.H. Wauer and D. Riskind observed five individual Montezuma Quail near the Pine Canyon release site, and Wauer flushed two birds close to the South Rim in upper Boot Canyon (Wauer 1985). Between 1973–2004, seven unconfirmed reports of Montezuma Quail were made by park visitors at various locations in BBNP (BBNP files = “NPS Natural History Observation Forms”). Despite intense birding activity over the last quarter century, there have been no validated records of Montezuma Quail in the Chisos Mountains since 1973, putting the status of this elusive and rare bird in question (Lockwood and Freeman 2004; Harveson et al. 2007).

METHODS

In 2003, the Texas Parks and Wildlife Department (TPWD) initiated a study to review historic (pre-1950) and contemporary (1950-present) Montezuma Quail distributions in Texas (Holdermann 2002). Montezuma Quail records relating to contemporary distributions are being supplemented by ongoing detection surveys, including

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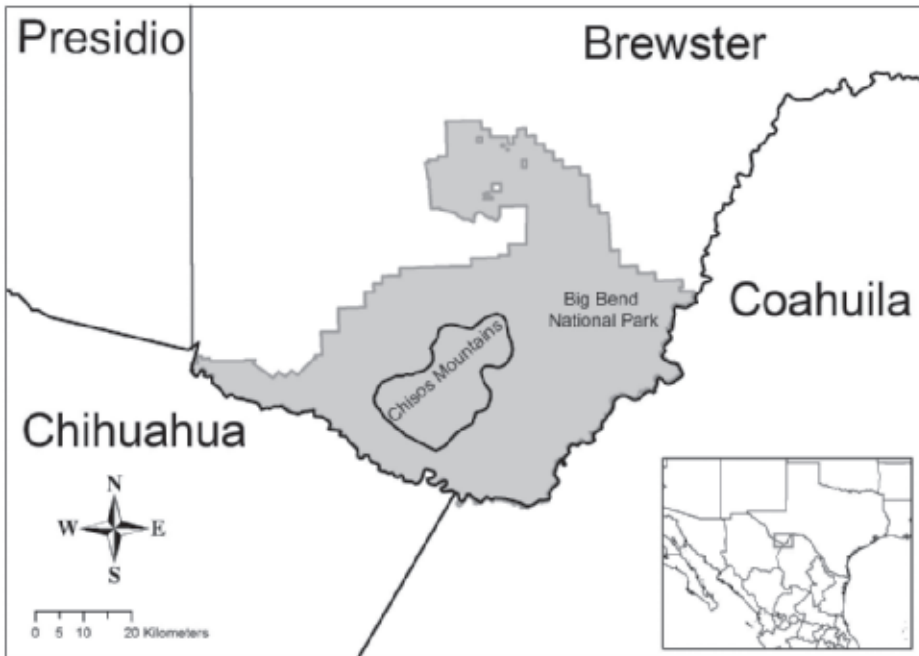


Figure 1. Location of the Chisos Mountains, Big Bend National Park, western Texas, USA.

in the Chisos Mountains. Between 5–8 April 2004, D. Holdermann made visual ground searches that involved moving by foot through potentially suitable Montezuma Quail habitats (i.e., grasslands, woodlands and chaparrals above 1524 m elevation) and looking for the distinctive feeding excavations (digs) made by this bird (Holdermann 1997). Fresh digs can often be attributed to Montezuma Quail by the presence of a food plant preferred by this quail (e.g., *Oxalis*, *Cyperus*, etc.), quail dropping, feather, or track. Intensive ground searching at such feeding areas often leads to the quail. The effectiveness of this search method is greatly enhanced by the use of trained pointing dogs, but none were available for our surveys.

On 14 May 2005, S. Sorola worked on the Southwest Rim and used a combination of voice-imitated male “buzz” and flock “assembly” calls to elicit calling from any extant wild Montezuma Quail that were within an approximate 200-m range of audibility (Levy et al. 1966; Sorola 1986). Then on 26 May 2005, D. Holdermann, S. Sorola and R. Skiles visited the Southwest Rim together and again used voice-imitated buzz and assembly calls to elicit calling from wild Montezuma Quail and photographed them with 35 mm and video cameras.

FINDINGS

2004. However, on 7 April, a series of fresh digs (Fig. 3) and a recent roost site (Fig. 4) were observed along the backslope of the Southwest Rim at about 2225 m elevation (Fig. 2). Between 5–8 April 2004, detection surveys for Montezuma Quail were conducted in the Chisos Mountains at the following locations: Green Gulch (search effort=125 min), Laguna Meadow (135 min), and Southwest Rim (280 min). No quail or their feeding sign were detected at either Green Gulch or Laguna Meadow. However, on 7 April, a series of fresh digs and a recent roost site were observed along the backslope of the Southwest Rim at about 2225 m elevation. The digs were relatively small (<7.0 cm on the longest side), shallow (<3.0 cm in depth), unevenly scattered in the bareground spaces between tufts of perennial grasses and at the edges of surface rock, and with the excavation headwall on the upslope side. All these traits are characteristic of digs made by Montezuma Quail. After close examination, these digs were determined to be those of Montezuma Quail based on the presence of shucked, mahogany-colored, husks of woodsorrel corms (Leopold and McCabe 1957; Bishop and Hungerford 1965; Albers and Gehlbach 1990; Holdermann 1997) and clearly discernible quail tracks and droppings at a number of the digs. The shape (short-segmented, tight helix coil) and diameter of the droppings



Figure 2. Montezuma Quail feeding area (centered around hanging handkerchief) in mature, open Mexican piñon-alligator juniper woodland located on the north-facing backslope of the Southwest Rim, Chisos Mountains, BBNP, TX, April 2004.

collected at the site on 7 April 2004 closely matched dropping collections made at Montezuma Quail flush sites in the Davis Mountains and other locations. We concluded that this sign could not have been made by Scaled Quail (*Callipepla squamata*). Although the Scaled Quail is common in piedmont habitats of the Chisos Mountain and adjacent lowlands, it is not known to excavate subterranean plant organs, such as woodsorrel corms, and it is highly unlikely that it would occur in a woodland setting at 2225 m elevation.

The feeding area described above covered several hectares of the backslope and was located in a mature, open Mexican pinon (*Pinus cembroides*)-alligator juniper (*Juniperus deppeana*) woodland supporting a mixed perennial grass understory of bull muhly (*Muhlenbergia emersleyi*), blue grama (*Bouteloua gracilis*) and



Figure 3. Montezuma Quail feeding excavation (dig) on woodsorrel (*Oxalis* sp.) corms along the backslope of the Southwest Rim, Chisos Mountains, BBNP, TX, April 2004.



Figure 4. Montezuma Quail roost site with quail droppings along the backslope of the Southwest Rim, Chisos Mountains, BBNP, TX, April 2004.

wolftail (*Lycurus* sp.). The quail, probably one or two pairs, were not detected on this occasion. The discovery of sign of Montezuma Quail with supporting photographs was reported to NPS officials at Panther Junction on 8 April.

2005. 15 May 2005, the Southwest Rim was searched for Montezuma Quail. At a location approximately 200 m northeast of where feeding sign was identified in April 2004, two male Montezuma Quail answered playback calls and one was viewed at close range. The male was not photographed; nonetheless, this observation represented the first reliable sight record of a Montezuma Quail in the Chisos Mountains in over 30 years.

Within days of this discovery, another field trip to the Southwest Rim was organized to attempt to relocate and photograph Montezuma Quail. On 25 May 2005, we hiked to the Southwest Rim via the Leguna Meadows Trail and bivouacked overnight. On the morning of 26 May, we proceeded to the Rim backslope (west of the Southwest Rim Trail) where Montezuma Quail were observed on 15 May. Between 0900–1015 h, playback calls were performed from five different locations along the Southwest Rim; and, although fresh Montezuma Quail digs were found, no birds answered our calls. At about 1040 h, we moved to a new location along the backslope between the Southwest Rim and Upper Boot Canyon trails. After a short calling period, our efforts were answered by faintly audible buzz calls of what appeared to be two different males below and slightly northeast of our position. Assuming the birds were well ahead of us, we cautiously moved down the slope an



Figure 5. Male Montezuma Quail photographed by one of us (DAH) after it approached the playback tape recording along the Southwest Rim, Chisos Mountains, BBNP, TX, May 2005.

additional 75–100 m in the direction of the quail. From this final position, playback calling was continued for the next 30 min. Our calls were answered frequently and with increasing volume, indicating the males were approaching, until about 1120 h. Then for the next 10 minutes our calls failed to elicit a response.

At approximately 1130 h, we caught our first glimpse of two forward-tilting, male Montezuma Quail scurrying through the grass directly in front of us (Lat. 29° 13' 48" N, 103° 17' 48" W). The birds skirted around the west side of our position and proceeded up the slope until they reached a grassy spot 20 m or so above us, where they paused briefly and called several times. Then one of the males moved down the slope to within 3–4 m of our calling position. This bird paused in an upright position and peered at us inquisitively for several minutes. During this time, we shot numerous 35-mm still photos (Fig. 5) and continued to record a videotape of the observation sequence. The vicinity of the observation supported a mature, closed canopy gray oak (*Quercus grisea*)-Mexican pinyon-alligator juniper woodland with a luxuriant grass understory consisting mostly of pinyon ricegrass (*Piptochaetium fimbriatum*) and bull muhly, lesser amounts of various other perennial grasses and sedge (*Carex* sp.), and scattered prickly pear (*Opuntia* sp.), agave (*Agave* sp.) and beargrass (*Nolina* sp.).

On 22 May 2005, Mr. Martyn Stewart (Naturesound, Redmond, WA) inadvertently audio-taped a sequence of three Montezuma Quail buzz calls while attempting to record vocalizations of the Colima Warbler (*Vermivora crissalis*) along the Lost Mine Trail at a location about 1.6 km from the trail head on the northern front of the Chisos Mountains, BBNP. Suspecting that he had recorded Montezuma Quail calls, he forwarded the audio-clip of these calls to the BBNP staff (June 2005). We have listened to the audio clip and conclude, without question, that three distinct male buzz calls of the Montezuma Quail were captured by the recording. This evidence independently documents a second, recent record of Montezuma Quail in the Chisos Mountains. In early March 2006, detection surveys were conducted along the Lost Mine Trail in response to Mr. Stewart's findings. Although this effort detected no evidence of Montezuma Quail, it was concluded that the habitat appeared suitable for them.

SUMMARY AND CONCLUSIONS

Our field observations and records review demonstrate that a relict population of Montezuma Quail still exists in the Chisos Mountains. We are uncertain whether the quail that we observed represented part of a long-standing, native population; recent emigration from nearby source populations (e.g., Sierra del Carmen, Coahuila, Mexico)(Miller 1955); descendants from the 1973 NPS reintroduction, or a combination of these sources.

Annually, an average of 351,473 visitors came to BBNP between 2002–2005 (http://www.nps.gov/bibe/parkbasics/visit_stats.h). Many of these visitors sought a wilderness experience and spent some portion of their visit in BBNP's backcountry, including skilled birders. The paucity of either confirmed or unconfirmed Montezuma Quail records in the Chisos Mountains over the last 30 years suggest that low density populations of this species are not easily detected by birding generalists or even highly skilled birders.

Finally, we encourage the NPS to continue to monitor the Montezuma Quail population in the Chisos Mountains. Additionally, work should be performed to assess the viability of this population and the overall condition of habitats available to them. All new information relating to Montezuma Quail should be integrated with recreational and land management decisions within BBNP in order to conserve this relict population.

ACKNOWLEDGMENTS

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BIRDS OF THE RIO GRANDE AND OTHER RIPARIAN HABITATS OF WESTERN WEBB COUNTY, TEXAS

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ABSTRACT.—We conducted 164 diurnal morning point counts in 1997 and 89 nocturnal point counts in 1998 along the Rio Grande and at other riparian habitats on remote ranchland in northwestern Webb County. We subsequently conducted 94 diurnal morning and 37 nocturnal point counts in 1999 on public lands along the Rio Grande and at other riparian habitats at Laredo, Webb County. From these systematic surveys (n = 384) and other irregular visits to sites during the length of the study, we detected a total of 209 bird species. Many species (97) are distributed widely over much of North America, but substantial numbers of species were also of primarily eastern (30), western (30), southwestern (26), and tropical (26) distributions. Fifty-five of the 209 species (26%) occur on ≥1 species priority lists in six bird conservation plans that we reviewed, but only four of these were tropical species. This suggests that tropical species, the driving force behind ecotourism-sustained economies in southern Texas, may not benefit directly from recent bird conservation plans, since their lists of priority species do not include many tropical birds. Thus, conservation projects designed to

benefit primarily tropical species will not be ranked highly for funding if evaluated on the basis of the bird conservation plans we reviewed.

Native Tamaulipan thorn scrub (Blair 1950, Jahrsdoerfer and Leslie 1988) occurs in remnant tracts along the Rio Grande between Brownsville and Falcon Lake International Reservoir. Many of these tracts have been preserved and are accessible to the public. Public access to these thorn scrub preserves, where tropical bird species are common near their northern distributional limits, has fueled an ecotourism boom in the lower Rio Grande Valley (Kerlinger 1994). In contrast, the upriver segment between Laredo and Del Rio is largely privately owned, and, because of this, few birders visit this segment of the river. Furthermore, the Rio Grande between Laredo and Del Rio historically has been investigated inadequately by ornithologists; most of the early scientific collecting expeditions to southern Texas focused on the coast or the river delta region (e.g., Merrill 1878, Sennett 1878, Pearson 1921), but note Butcher (1868).

This study documents birds found along the Rio Grande and other nearby riparian habitats on remote ranchland in northwestern Webb County and on public lands at Laredo, southwestern Webb County, Texas. The objectives of this report are to: 1) document bird species in a rural and an urban area near the Rio Grande in Webb County, 2) establish the mix of avifaunas that occurs along this segment of the Rio Grande, and 3) document the large number of species of conservation concern in Webb County.

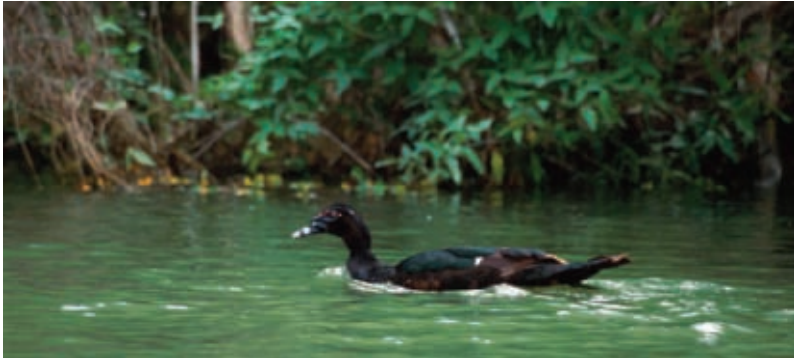
STUDY AREAS AND METHODS

We conducted bird surveys in riparian habitats at the Galvan Ranch in far northwestern Webb County and on public lands at Laredo. The privately owned Galvan Ranch, about 60 km upriver of Laredo, consisted of about 28,000 ha of unbroken Tamaulipan thorn scrub. Upland vegetation was characterized by honey mesquite (*Prosopis glandulosa*), blackbrush (*Acacia rigidula*), whitebrush (*Aloysia gratissima*), cenizo (*Leucophyllum frutescens*), creosotebush (*Larrea tridentata*), guajillo (*Acacia berlandieri*), lotebush (*Ziziphus obtusifolia*), and prickly pear cactus (*Opuntia engelmannii*). Approximately 5.7 km of the ranch adjoin the Rio Grande, where floodplain habitats are dominated by dense giant reed (*Arundo donax*), with small patches of phragmites (*Phragmites australis*) and open stands of mesquite, black willow (*Salix nigra*), and sugar hackberry (*Celtis laevigata*). Espada Creek flows into the Rio Grande through a deep, wooded canyon of Mexican ash (*Fraxinus berlandieriana*), sugar hackberry, honey mesquite, and granjeno (*Celtis pallida*). There were also 73 stock ponds on the Galvan Ranch; their riparian communities were dominated by honey mesquite, huisache (*Acacia smallii*), and retama (*Parkinsonia aculeata*), with black willow present at the edge of some stock ponds.

Small fragments of public land occur at Laredo. One floodplain fragment (about 80 ha) within the city extends along the Rio Grande for about 3.2 km between Laredo Community College and the International Railway Bridge. Riparian habitats found in this floodplain include mixed woods of sugar hackberry, Mexican ash, salt cedar (*Tamarix* spp.), and dense black willow; dense thickets of honey mesquite, granjeno, and



Green parakeet on building in downtown Laredo, Texas. Photo by Raul Longoria.



Wild Muscovy Duck photographed in the Rio Grande near Salineno, Texas. Photo by Michael Patrikeev.

anaqua (*Ehretia anacua*); and stands of giant cane. Within the floodplain, several basins formerly excavated for sand and gravel now function as palustrine wetlands. Riparian woods at the mouth of Zacate Creek and the Rio Grande (near International Bridge Number 2) include black willow, tepeguaje (*Leucaena pulverulenta*), Mexican ash, and sugar hackberry. The largest block of public land at Laredo is Lake Casa Blanca International State Park (CBISP) (about 800 ha), but most of the terrestrial habitats have been developed for public recreation, leaving only small fragments of Tamaulipan thorn scrub, wooded savanna, and riparian woods (black willow) around the periphery of Lake Casa Blanca. Lake Casa Blanca itself is about 670 ha, so most of the park (84%) is open aquatic habitat.

At regular intervals from March to July 1997, we conducted diurnal morning point counts in riparian habitats of the Galvan Ranch. Seventy-seven point counts were conducted at 12 Rio Grande floodplain and two Espada Creek sites, and 87 point counts were conducted at 31 stock ponds. From February to June 1998, we conducted 89 point counts at night in riparian habitats of the Galvan (six sites along the Rio Grande and 13 sites at stock ponds). From March to July 1999, we conducted a total of 94 diurnal morning point counts on public lands at Laredo; of this total, 50 were along the Rio Grande, 10 were at Zacate Creek, and 34 were at CBISP. From March to June 1999, we also conducted 37 point counts at night at Laredo (17 along the Rio Grande floodplain, four at Zacate Creek, and 16 at CBISP).

All diurnal point counts were initiated from just after sunrise to 1030 h, were 20 min duration, and had no distance limitations to maximize the probability of detecting species (Blondel et al. 1981, Karr 1981). Nocturnal point counts were conducted between sunset and moonset, when the moon was waxing between half and full phases. After the end of 10-min nocturnal point counts, we occasionally broadcast (95 dB at 1 m) a 3 min pre-recorded call of either the Elf Owl (*Micrathene whitneyi*) or the Ferruginous Pygmy-Owl (*Glaucidium brasilianum*), after which we listened for responses for 3 more minutes (Proudfoot and Beasom 1996).

In addition to point counts, we visited Galvan Ranch and Laredo study sites irregularly during the length of the study, during which times we supplemented the species lists generated during point counts. The Galvan Ranch and Laredo areas were visited at least once during each season. Further details on study site locations and descriptions, habitat conditions at the Galvan Ranch and at Laredo, and methodology can be found in Woodin et al. (1998, 2000a, and 2000b).

After consulting range maps (Rappole and Blacklock 1994; Howell and Webb 1995; National Geographic Society 1999; and Sibley 2000), we categorized all species detected according to five general distribution groups. Widespread species (WIDE) occur throughout most of the United States and often range widely into Canada. Eastern species (EAST) are distributed in the United States primarily east of the 100th meridian and may range into eastern Canada, as well. Western species (WEST) are distributed in the United States primarily west of the 100th meridian and, if present in Canada, their range there is also largely western. Southwestern species (SOWE) occur within the southwestern United States and range widely into Mexico, but they do not occur in most of the western United States or in Canada. Tropical species (TROP) are characterized by distributions restricted to extreme southern portions of the United States and extend deeply into Mexico and often Central America. Names of species were assigned on the basis of American Ornithologists' Union (2005).

We used six high-priority bird lists to identify important bird species in Webb County. We identified those species in Webb County that are Partners in Flight (PIF) Species of Continental Importance for the U.S. and Canada (combining Watch List Species and Stewardship Species) and PIF Species of Continental Importance in the Southwest Avifaunal Biome (Rich et al. 2004). We also identified species that have been placed on the 2002 Audubon Watch List for birds of the continental U.S. and Alaska (combining both the Red and Yellow Lists) (National Audubon Society, Inc., 2002). We further identified all species selected by the U.S. Fish and Wildlife Service as Birds of Conservation Concern for the National List, for the Southwestern Region, and for the Tamaulipan Brushlands Bird Conservation Region (U.S. Fish and Wildlife Service 2002).

RESULTS

All species detected during point counts and all other visits to the Galvan Ranch and to public lands at Laredo are shown in Appendix A. We detected a total of 209 bird species, of which 105 (50.2%) were Passeriformes. Other orders contributing relatively large numbers of species to the overall total were Anseriformes (19 species; 9.1% of total), Ciconiiformes (13 species; 6.2% of total), Falconiformes (12 species; 5.7% of total), and Charadriiformes (20; 9.6% of total). Several orders of birds, while contributing relatively few species to the total, were especially noteworthy in that they were represented by most (or all) of the full North American faunal component. Among these were Columbiformes (seven species of doves and pigeons), Caprimulgiformes (five species of nightjars), and Coraciiformes (three species of kingfishers) (Appendix A). Passeriformes groups that were especially well represented were Tyrannidae (12 species of flycatchers), Hirundinidae (seven species of swallows and martin), and Troglodytidae (seven species of wrens). We also recorded 16 sparrow species (Emberizidae) and five oriole species (Icteridae).

Figure 1 shows the composition of Webb County avifauna by distributional groups. WIDE species were the largest group (97 species), but they made up less than 50% of the total number of species that we recorded. The remaining distributional groups were represented in approximately equal proportions (Fig. 1). We detected 30 EAST, 30 WEST, 26 SOWE, and 26 TROP species. These four groups combined represented 53.6% of all bird species identified.

Thirty-four of 192 (18%) PIF Species of Continental Importance for the U.S. and Canada and 19 of 58 (33%) PIF Species of Continental Importance in the Southwest Avifaunal Biome were present in Webb County during our study (Appendix A). Sixteen of 201 bird species (8%) on the Audubon Watch List were present on our study sites in Webb County. Twenty-four species of 131 (18%) on the U.S. Fish and Wildlife Birds of Conservation Concern National List, and 21 of 87 species (24%) identified by the U.S. Fish and Wildlife Service as Birds of Conservation Concern for the Southwestern Region, were present in Webb County during our study. Of the 36 species listed by the U.S. Fish and Wildlife Service as Birds of Conservation Concern for the Tamaulipan Brushlands Bird Conservation Region, 22 species (61%) were present during our study (Appendix A).

A total of 55 species from Webb County are listed on at least one of the six lists of conservation concern presented collectively within Rich et al. (2004), National Audubon Society, Inc. (2002), and the U.S. Fish and Wildlife Service (2002) (Appendix A). This group of species of high-priority conservation interest was evenly represented by WIDE (12), EAST (14), WEST (13), and SOWE (12) birds, but only four of the 55 species (7%) were TROP birds. Six Webb County species are present on all three lists of species of national concern (in Appendix A, Conservation Status 1, 3, and 6): Swainson's Hawk (*Buteo swainsoni*), Bell's Vireo (*Vireo bellii*), Wood Thrush (*Hylocichla mustelina*), Painted Bunting (*Passerina ciris*), Dickcissel (*Spiza americana*), and Brewer's Sparrow (*Spizella breweri*). Of these six species of elevated conservation concern at the national level, none are TROP species. Of special note are those species that were present during our study in Webb County that are on ≥ 5 conservation lists (Appendix A): Swainson's Hawk, Elf Owl, Bell's Vireo, Painted Bunting, Cassin's Sparrow (*Aimophila cassinii*), and Audubon's Oriole (*Icterus graduacauda*). Of these, only the last is a TROP species.

DISCUSSION

Our results showed that the avifauna of western Webb County present an interesting diversity of species with divergent patterns of distribution. No single pattern of distribution was dominant. Widespread species

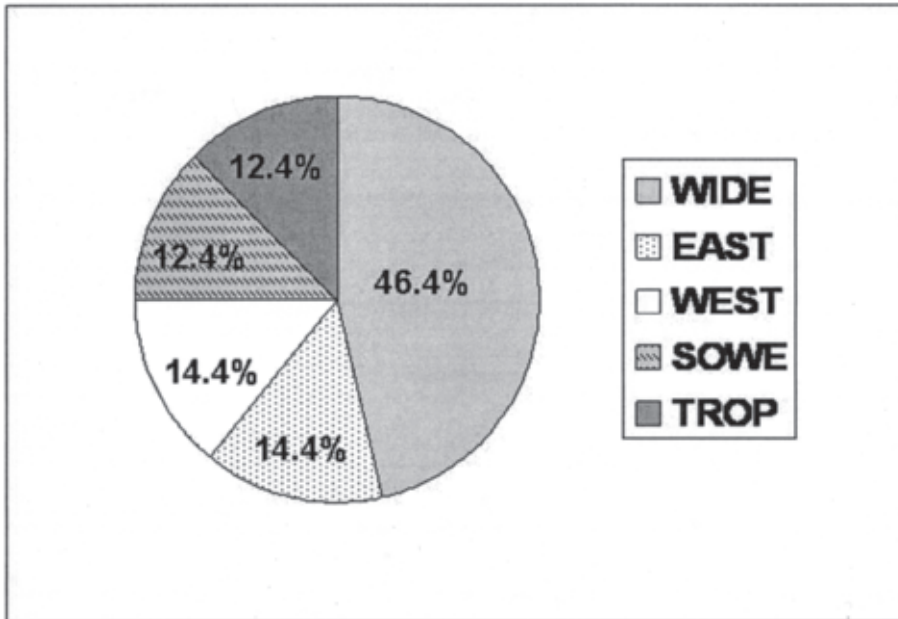


Figure 1. Percentages of species of widespread (WIDE), eastern (EAST), western (WEST), southwestern (SOWE), and tropical (TROP) distributions that comprised the avifauna along the Rio Grande and at riparian habitats at two study areas, Webb County, 1997–99. One study area was remote, private ranchland in northwestern Webb County; the second was public lands at Laredo, Webb County.

occurring throughout much of North America were the most numerous, but relatively large proportions of EAST, WEST, SOWE, and TROP species were also present.

Our results also showed that many high-priority species identified in conservation plans at the national, regional, and physiographic area levels are present in western Webb County (National Audubon Society, Inc. 2002, U.S. Fish and Wildlife Service 2002, Rich et al. 2004). As a result, western Webb County (and possibly much of the segment of the Rio Grande between Falcon International Reservoir and Del Rio) may assume increasing importance for future conservation of these birds in Texas. An impressive list of sightings of birds at the upper end of this segment of the Rio Grande at Del Rio was noted by Sorola and Larson (2001), while an equally impressive list was reported by Hailey (2006) at San Ygnacio, near the lower end-point of this stretch of the Rio Grande.

Our results showed that most of the tropical species known to occur in the lower Rio Grande Valley also occur along the Rio Grande in Webb County, and some species in Webb County are found now only intermittently in the lower Rio Grande Valley (Brush 2005). Most prominent among these species is the White-collared Seedeater (*Sporophila torqueola*), which occurred commonly during our study in stands of giant reed along the Rio Grande in both northwestern Webb County and at Laredo (Woodin et al. 1999; 2000a). White-collared Seedeaters in southern Texas occupied weedy fields and pastures, roadsides, canal banks, and other grassy areas near water before these habitats were almost eliminated from the lower Rio Grande Valley (Eitmeier 1997, Brush 2005). Also, the Red-billed Pigeon (*Patagioenas flavirostris*) during our study usually could be located at one or more locations for point counts along the Rio Grande in northwestern Webb County, although always in small numbers. In our study, Red-billed Pigeons were found to occur in open riparian woodlands within the floodplain of the Rio Grande, whereas, in the lower Rio Grande Valley, the few birds that are occasionally seen frequent dense riparian forest (Brush 2005). In addition, our initial report of Clay-colored Robins (*Turdus grayi*) at Laredo (Woodin et al. 2000a) has been confirmed by Brush (2005) and Eitmeier (2005), both of whom reported nesting birds. Clay-colored Robins are found sparingly at scattered locations in the lower Rio Grande Valley (Brush 2005). We also detected two Gray-crowned Yellowthroats (*Geothlypis poliocephala*) in the Rio Grande floodplain at the Galvan Ranch, one was observed carrying a fecal sac. Once a relatively common breeding species

in the lower Rio Grande Valley, the Gray-crowned Yellowthroat is now considered accidental there (Brush 2005). Other noteworthy sightings of avian rarities at Laredo have been made since the completion of our study. These include the Red-crowned Parrot (*Amazona viridigenalis*) and Yellow-headed Parrot (*Amazona oratrix*), both are seen irregularly in Laredo, the Blue Bunting (*Cyanocompsa parellina*), and the Crimson-collared Grosbeak (*Rhodothraupis celaeno*) (R. Laduque, pers. comm.). Consequently, Laredo and western Webb County are in position to be the benefactors of an increasing surge in birding ecotourism, especially since the Heart of Texas Birding Trail has its southern terminus in Laredo.

Many tropical species of great interest to birders and that benefit the local economies of southern Texas are not priority species within bird conservation plans, since the plans focus typically on a scale larger than a specific border region or bird conservation region. This represents a divergence in interests of birders, ecotourism concerns, and local economies (which focus on tropical species with southern Texas distributions) and bird conservation plans, which focus on species that have been identified as high priorities (mostly non-tropical species with more widespread U.S. distributions). As a result, tropical species may not garner substantial direct support for conservation, management, or research initiatives when evaluated on the basis of priority species identified in these plans. State wildlife action plans offer some potential for alleviating this concern. For example, the Texas Wildlife Action Plan (www.wildlifeactionplans.org/texas.html) includes in its priority species list three tropical species (Wood Stork, Long-Billed Thrasher, and White-Collared Seedeater) occurring in western Webb County, but which were not listed by any of the six conservation plans that we reviewed. However, most tropical species that we encountered during our study are not priority species of the Texas Wildlife Action Plan. Additional mechanisms of evaluating proposals for conservation of bird diversity in southern Texas may be necessary to ensure that tropical species receive adequate consideration.

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(L–R) Rick Hinojosa, Mary Kay Skoruppa, Teresa Carillo and Marc Woodin. Photo by Mary Kay Skoruppa.

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Rio Grande in study site. Photo by Mary Kay Skoruppa.

the City of Laredo, and the U.S. Fish and Wildlife Service. Lastly, we dedicate this work to the citizens of Laredo and Webb County, in the hope that they will be able to use it to continue to conserve the remarkable avian resources to which they can point with justifiable pride.

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Appendix A. Distributions and conservation status of bird species detected (x) at Galvan Ranch and Laredo, Webb County, Texas, 1997–1999. Species with primarily tropical or southwestern distributions are in bold print.

Species	Distribution ^a	Galvan Ranch	Laredo	Conservation Status ^b
ANSERIFORMES				
Black-Bellied Whistling-Duck				
<i>Dendrocygna autumnalis</i>	TROP	X	X	
Greater White-Fronted Goose				
<i>Anser albifrons</i>	WIDE	X		
Muscovy Duck				
<i>Cairina moschata</i>	TROP	X		
Gadwall				
<i>Anas strepera</i>	WIDE	X	X	
American Wigeon				
<i>Anas americana</i>	WIDE	X	X	
Mallard (Mexican Duck)				
<i>Anas platyrhynchos diazi</i>	SOWE	X	X	
Mottled Duck				
<i>Anas fulvigula</i>	EAST	X		3
Blue-Winged Teal				
<i>Anas discors</i>	WIDE	X	X	
Cinnamon Teal				
<i>Anas cyanoptera</i>	WEST	X		
Northern Shoveler				
<i>Anas clypeata</i>	WIDE	X	X	
Northern Pintail				
<i>Anas acuta</i>	WIDE	X		
Green-Winged Teal				
<i>Anas crecca</i>	WIDE	X	X	
Canvasback				
<i>Aythya valisineria</i>	WIDE	X		
Ring-Necked Duck				
<i>Aythya collaris</i>	WIDE	X		
Lesser Scaup				
<i>Aythya affinis</i>	WIDE	X		
Bufflehead				
<i>Bucephala albeola</i>	WIDE	X		
Hooded Merganser				
<i>Lophodytes cucullatus</i>	WIDE	X		
Masked Duck				
<i>Nomonyx dominicus</i>	TROP	X		
Ruddy Duck				
<i>Oxyura jamaicensis</i>	WIDE	X		
GALLIFORMES				
Wild Turkey				
<i>Meleagris gallopavo</i>	WIDE	X		
Scaled Quail				
<i>Callipepla squamata</i>	SOWE	X	X	1, 2
Northern Bobwhite				
<i>Colinus virginianus</i>	EAST	X	X	
PODICIPEDIFORMES				
Least Grebe				
<i>Tachybaptus dominicus</i>	TROP	X		
Pied-Billed Grebe				
<i>Podilymbus podiceps</i>	WIDE	X	X	
Eared Grebe				
<i>Podiceps nigricollis</i>	WEST	X		
PELECANIFORMES				
American White Pelican				
<i>Pelecanus erythrorhynchos</i>	WIDE	X	X	
Neotropic Cormorant				
<i>Phalacrocorax brasilianus</i>	TROP	X	X	
Double-Crested Cormorant				
<i>Phalacrocorax auritus</i>	WIDE	X	X	
CICONIIFORMES				
Great Blue Heron				
<i>Ardea herodias</i>	WIDE	X	X	
Great Egret				
<i>Ardea alba</i>	WIDE	X	X	

Appendix A. (Continued)

Species	Distribution ^a	Galvan Ranch	Laredo	Conservation Status ^b
Snowy Egret <i>Egretta thula</i>	WIDE	X	X	
Little Blue Heron <i>Egretta caerulea</i>	EAST	X	X	6
Tricolored Heron <i>Egretta tricolor</i>	EAST		X	
Cattle Egret <i>Bubulcus ibis</i>	WIDE	X	X	
Green Heron <i>Butorides virescens</i>	WIDE	X	X	
Black-Crowned Night-Heron <i>Nycticorax nycticorax</i>	WIDE	X	X	
White Ibis <i>Eudocimus albus</i>	EAST		X	
White-Faced Ibis <i>Plegadis chihi</i>	WEST		X	
Wood Stork <i>Mycteria americana</i>	TROP	X	X	
Black Vulture <i>Coragyps atratus</i>	EAST	X	X	
Turkey Vulture <i>Cathartes aura</i>	WIDE	X	X	
FALCONIFORMES				
Osprey <i>Pandion haliaetus</i>	WIDE	X	X	
White-Tailed Kite <i>Elanus leucurus</i>	TROP	X		
Northern Harrier <i>Circus cyaneus</i>	WIDE	X	X	4, 5, 6
Sharp-Shinned Hawk <i>Accipiter striatus</i>	WIDE	X	X	
Cooper's Hawk <i>Accipiter cooperii</i>	WIDE	X	X	
Harris's Hawk <i>Parabuteo unicinctus</i>	SOWE	X		3, 4
Red-Shouldered Hawk <i>Buteo lineatus</i>	EAST	X		1
Swainson's Hawk <i>Buteo swainsoni</i>	WEST	X	X	1, 2, 3, 4, 6
Red-Tailed Hawk <i>Buteo jamaicensis</i>	WIDE	X	X	
Ferruginous Hawk <i>Buteo regalis</i>	WEST	X		3, 5, 6
Crested Caracara <i>Caracara cheriway</i>	TROP	X	X	
American Kestrel <i>Falco sparverius</i>	WIDE	X	X	
GRUIFORMES				
Sora <i>Porzana carolina</i>	WIDE	X		
Common Moorhen <i>Gallinula chloropus</i>	WIDE	X	X	
American Coot <i>Fulica americana</i>	WIDE	X	X	
CHARADRIIFORMES				
Snowy Plover <i>Charadrius alexandrinus</i>	WEST		X	3, 4, 5, 6
Killdeer <i>Charadrius vociferus</i>	WIDE	X	X	
Black-Necked Stilt <i>Himantopus mexicanus</i>	WIDE	X	X	
Greater Yellowlegs <i>Tringa melanoleuca</i>	WIDE	X	X	
Lesser Yellowlegs <i>Tringa flavipes</i>	WIDE	X		
Solitary Sandpiper <i>Tringa solitaria</i>	WIDE	X		6

Appendix A. (Continued)

Species	Distribution ^a	Galvan Ranch	Laredo	Conservation Status ^b
Willet				
<i>Catoptrophorus semipalmatus</i>	WIDE	X		
Spotted Sandpiper				
<i>Actitis macularius</i>	WIDE	X	X	
Long-Billed Curlew				
<i>Numenius americanus</i>	WEST	X		3, 4, 5, 6
Semipalmated Sandpiper				
<i>Calidris pusilla</i>	EAST	X		
Least Sandpiper				
<i>Calidris minutilla</i>	WIDE	X	X	
White-Rumped Sandpiper				
<i>Calidris fuscicollis</i>	EAST		X	
Baird's Sandpiper				
<i>Calidris bairdii</i>	WIDE	X		
Stilt Sandpiper				
<i>Calidris himantopus</i>	WIDE	X		4, 5, 6
Long-Billed Dowitcher				
<i>Limnodromus scolopaceus</i>	WEST		X	
Common Snipe				
<i>Gallinago gallinago</i>	WIDE	X		
Wilson's Phalarope				
<i>Phalaropus tricolor</i>	WEST	X		3, 6
Least Tern				
<i>Sterna antillarum</i>	WIDE	X	X	5, 6
Black Tern				
<i>Chlidonias niger</i>	WIDE		X	
Black Skimmer				
<i>Rynchops niger</i>	WIDE	X		5, 6
COLUMBIFORMES				
Rock Pigeon				
<i>Columba livia</i>	WIDE	X	X	
Red-Billed Pigeon				
<i>Patagioenas flavirostris</i>	TROP	X	X	4, 5
White-Winged Dove				
<i>Zenaida asiatica</i>	SOWE	X	X	
Mourning Dove				
<i>Zenaida macroura</i>	WIDE	X	X	
Inca Dove				
<i>Columbina inca</i>	SOWE	X	X	
Common Ground-Dove				
<i>Columbina passerina</i>	SOWE	X	X	
White-Tipped Dove				
<i>Leptotila verreauxi</i>	TROP	X	X	
PSITTACIFORMES				
Green Parakeet				
<i>Aratinga holochlora</i>	TROP		X	1, 2, 3
CUCULIFORMES				
Yellow-Billed Cuckoo				
<i>Coccyzus americanus</i>	WIDE	X	X	5, 6
Greater Roadrunner				
<i>Geococcyx californianus</i>	SOWE	X	X	
Groove-Billed Ani				
<i>Crotophaga sulcirostris</i>	TROP	X	X	
STRIGIFORMES				
Barn Owl				
<i>Tyto alba</i>	WIDE	X	X	
Eastern Screech-Owl				
<i>Megascops asio</i>	EAST	X		
Great Horned Owl				
<i>Bubo virginianus</i>	WIDE	X	X	
Elf Owl				
<i>Micrathene whitneyi</i>	SOWE	X		1, 2, 3, 4, 5
CAPRIMULGIFORMES				
Lesser Nighthawk				
<i>Chordeiles acutipennis</i>	SOWE	X	X	
Common Nighthawk				
<i>Chordeiles minor</i>	WIDE	X	X	

Appendix A. (Continued)

Species	Distribution ^a	Galvan Ranch	Laredo	Conservation Status ^b
Common Pauraque				
<i>Nyctidromus albicollis</i>	TROP	X	X	
Common Poorwill				
<i>Phalaenoptilus nuttallii</i>	WEST	X	X	
Whip-Poor-Will				
<i>Caprimulgus vociferus</i>	EAST	X		6
APODIFORMES				
Chimney Swift				
<i>Chaetura pelagica</i>	EAST	X	X	
Ruby-Throated Hummingbird				
<i>Archilochus colubris</i>	EAST		X	
Black-Chinned Hummingbird				
<i>Archilochus alexandri</i>	WEST		X	
CORACIIFORMES				
Ringed Kingfisher				
<i>Ceryle torquatus</i>	TROP	X	X	
Belted Kingfisher				
<i>Ceryle alcyon</i>	WIDE	X	X	
Green Kingfisher				
<i>Chloroceryle americana</i>	TROP	X	X	
PICIFORMES				
Golden-Fronted Woodpecker				
<i>Melanerpes aurifrons</i>	SOWE	X	X	
Ladder-Backed Woodpecker				
<i>Picoides scalaris</i>	SOWE	X	X	
PASSERIFORMES				
Acadian Flycatcher				
<i>Empidonax virescens</i>	EAST	X		1
Black Phoebe				
<i>Sayornis nigricans</i>	SOWE		X	
Eastern Phoebe				
<i>Sayornis phoebe</i>	EAST	X	X	
Say's Phoebe				
<i>Sayornis saya</i>	WEST	X		
Vermilion Flycatcher				
<i>Pyrocephalus rubinus</i>	SOWE	X	X	
Brown-Crested Flycatcher				
<i>Myiarchus tyrannulus</i>	TROP	X	X	
Ash-Throated Flycatcher				
<i>Myiarchus cinerascens</i>	WEST	X	X	
Great Kiskadee				
<i>Pitangus sulphuratus</i>	TROP	X	X	
Couch's Kingbird				
<i>Tyrannus couchii</i>	TROP	X	X	
Western Kingbird				
<i>Tyrannus verticalis</i>	WEST	X	X	
Eastern Kingbird				
<i>Tyrannus tyrannus</i>	WIDE	X		
Scissor-Tailed Flycatcher				
<i>Tyrannus forficatus</i>	SOWE	X	X	5, 6
Loggerhead Shrike				
<i>Lanius ludovicianus</i>	WIDE	X	X	4, 5, 6
White-Eyed Vireo				
<i>Vireo griseus</i>	EAST	X	X	1
Bell's Vireo				
<i>Vireo bellii</i>	WIDE	X	X	1, 2, 3, 4, 5, 6
Solitary Vireo ^c				
<i>Vireo solitarius</i>	EAST	X	X	1
Warbling Vireo				
<i>Vireo gilvus</i>	WIDE	X		
Blue Jay				
<i>Cyanocitta cristata</i>	EAST		X	
Green Jay				
<i>Cyanocorax yncas</i>	TROP	X	X	
Chihuahuan Raven				
<i>Corvus cryptoleucus</i>	SOWE	X	X	

Appendix A. (Continued)

Species	Distribution ^a	Galvan Ranch	Laredo	Conservation Status ^b
Purple Martin				
<i>Progne subis</i>	WIDE	X	X	
Tree Swallow				
<i>Tachycineta bicolor</i>	WIDE	X		
Northern Rough-Winged Swallow				
<i>Stelgidopteryx serripennis</i>	WIDE	X	X	
Bank Swallow				
<i>Riparia riparia</i>	WIDE	X	X	
Cliff Swallow				
<i>Petrochelidon pyrrhonota</i>	WIDE	X	X	
Cave Swallow				
<i>Petrochelidon fulva</i>	SOWE	X	X	
Barn Swallow				
<i>Hirundo rustica</i>	WIDE	X	X	
Black-Crested Titmouse				
<i>Baeolophus atricristatus</i>	SOWE	X	X	1, 2
Verdin				
<i>Auriparus flaviceps</i>	SOWE	X	X	1, 2, 4
Cactus Wren				
<i>Campylorhynchus brunneicapillus</i>	SOWE	X	X	1, 2, 4
Rock Wren				
<i>Salpinctes obsoletus</i>	WEST	X	X	
Carolina Wren				
<i>Thryothorus ludovicianus</i>	EAST	X	X	1
Bewick's Wren				
<i>Thryomanes bewickii</i>	WEST	X	X	6
House Wren				
<i>Troglodytes aedon</i>	WIDE	X	X	
Winter Wren				
<i>Troglodytes troglodytes</i>	WIDE	X		1
Sedge Wren				
<i>Cistothorus platensis</i>	EAST	X		5, 6
Ruby-Crowned Kinglet				
<i>Regulus calendula</i>	WIDE	X	X	
Blue-Gray Gnatcatcher				
<i>Poliioptila caerulea</i>	WIDE	X	X	
Black-Tailed Gnatcatcher				
<i>Poliioptila melanura</i>	SOWE	X	X	1, 2
Hermit Thrush				
<i>Catharus guttatus</i>	WIDE	X		
Wood Thrush				
<i>Hylocichla mustelina</i>	EAST		X	1, 3, 6
Clay-Colored Robin				
<i>Turdus grayi</i>	TROP		X	
American Robin				
<i>Turdus migratorius</i>	WIDE	X		
Northern Mockingbird				
<i>Mimus polyglottos</i>	WIDE	X	X	
Sage Thrasher				
<i>Oreoscoptes montanus</i>	WEST	X		1
Long-Billed Thrasher				
<i>Taxostoma longirostre</i>	TROP	X	X	
Curve-Billed Thrasher				
<i>Taxostoma curvirostre</i>	SOWE	X	X	1, 2, 3, 4
European Starling				
<i>Sturnus vulgaris</i>	WIDE		X	
Cedar Waxwing				
<i>Bombycilla cedrorum</i>	WIDE	X	X	
Orange-Crowned Warbler				
<i>Vermivora celata</i>	WIDE	X	X	
Nashville Warbler				
<i>Vermivora ruficapilla</i>	WIDE		X	1
Yellow Warbler				
<i>Dendroica petechia</i>	WIDE	X	X	
Yellow-Rumped Warbler				
<i>Dendroica coronata</i>	WIDE	X	X	

Appendix A. (Continued)

Species	Distribution ^a	Galvan Ranch	Laredo	Conservation Status ^b
Black-And-White Warbler <i>Mniotilta varia</i>	EAST	X		
American Redstart <i>Setophaga ruticilla</i>	WIDE	X		
Northern Waterthrush <i>Seiurus noveboracensis</i>	WIDE	X		
MacGillivray's Warbler <i>Oporornis tolmiei</i>	WEST	X		
Common Yellowthroat <i>Geothlypis trichas</i>	WIDE	X	X	
Gray-Crowned Yellowthroat <i>Geothlypis poliocephala</i>	TROP	X		
Yellow-Breasted Chat <i>Icteria virens</i>	WIDE	X	X	
White-Collared Seedeater <i>Sporophila torqueola</i>	TROP	X	X	
Olive Sparrow <i>Arremonops rufivirgatus</i>	TROP	X	X	
Green-Tailed Towhee <i>Pipilo chlorurus</i>	WEST	X		1, 2
Spotted Towhee <i>Pipilo maculatus</i>	WEST	X		
Cassin's Sparrow <i>Aimophila cassinii</i>	WEST	X	X	1, 2, 4, 5, 6
Rufous-Crowned Sparrow <i>Aimophila ruficeps</i>	SOWE	X		
Chipping Sparrow <i>Spizella passerina</i>	WIDE	X	X	
Clay-Colored Sparrow <i>Spizella pallida</i>	WIDE	X	X	
Brewer's Sparrow <i>Spizella breweri</i>	WEST	X		1, 2, 3, 6
Field Sparrow <i>Spizella pusilla</i>	EAST	X	X	
Vesper Sparrow <i>Pooecetes gramineus</i>	WIDE	X	X	
Lark Sparrow <i>Chondestes grammacus</i>	WEST	X	X	
Black-Throated Sparrow <i>Amphispiza bilineata</i>	WEST	X	X	1, 2
Lark Bunting <i>Calamospiza melanocorys</i>	WEST	X	X	1, 4, 5
Savannah Sparrow <i>Passerculus sandwichensis</i>	WIDE	X	X	
Grasshopper Sparrow <i>Ammodramus savannarum</i>	WIDE		X	1, 6
Song Sparrow <i>Melospiza melodia</i>	WIDE	X	X	
Lincoln's Sparrow <i>Melospiza lincolni</i>	WIDE	X	X	1
Swamp Sparrow <i>Melospiza georgiana</i>	EAST	X	X	1
White-Crowned Sparrow <i>Zonotrichia leucophrys</i>	WIDE	X		
Northern Cardinal <i>Cardinalis cardinalis</i>	EAST	X	X	
Pyrrhuloxia <i>Cardinalis sinuatus</i>	SOWE	X	X	1, 2, 4
Blue Grosbeak <i>Passerina caerulea</i>	WIDE	X	X	
Indigo Bunting <i>Passerina cyanea</i>	EAST	X	X	1
Varied Bunting <i>Passerina versicolor</i>	SOWE	X	X	1, 2, 4, 5
Painted Bunting <i>Passerina ciris</i>	EAST	X	X	1, 2, 3, 4, 5, 6

Appendix A. (Continued)

Species	Distribution ^a	Galvan Ranch	Laredo	Conservation Status ^b
Dickcissel				
<i>Spiza americana</i>	EAST	X	X	1, 3, 4, 6
Red-Winged Blackbird				
<i>Agelaius phoeniceus</i>	WIDE	X	X	
Eastern Meadowlark				
<i>Sturnella magna</i>	EAST	X	X	
Western Meadowlark				
<i>Sturnella neglecta</i>	WEST	X		
Yellow-Headed Blackbird				
<i>Xanthocephalus xanthocephalus</i>	WEST	X		1, 2
Brewer's Blackbird				
<i>Euphagus cyanocephalus</i>	WIDE	X		
Common Grackle				
<i>Quiscalus quiscula</i>	WIDE		X	
Great-Tailed Grackle				
<i>Quiscalus mexicanus</i>	WEST	X	X	
Bronzed Cowbird				
<i>Molothrus aeneus</i>	SOWE	X	X	
Brown-Headed Cowbird				
<i>Molothrus ater</i>	WIDE	X	X	
Orchard Oriole				
<i>Icterus spurius</i>	EAST	X		
Hooded Oriole				
<i>Icterus cucullatus</i>	SOWE	X	X	4, 5
Bullock's Oriole				
<i>Icterus bullockii</i>	WEST	X	X	
Altamira Oriole				
<i>Icterus gularis</i>	TROP	X		4, 5
Audubon's Oriole				
<i>Icterus graduacauda</i>	TROP	X	X	1, 2, 3, 4, 5
House Finch				
<i>Carpodacus mexicanus</i>	WIDE	X	X	
Lesser Goldfinch				
<i>Carduelis psaltria</i>	WEST	X	X	
American Goldfinch				
<i>Carduelis tristis</i>	WIDE	X	X	
House Sparrow				
<i>Passer domesticus</i>	WIDE	X	X	

^aPrimary species distributions classified as follows: New World tropics = TROP; widespread in North America = WIDE; southwestern United States and Mexico = SOWE; eastern United States and Canada = EAST; western United States and Canada = WEST.

^bConservation status numbers identify high-priority species for conservation according to the following plans: Partners in Flight Species of Continental Importance for the U.S. and Canada – 1; Partners in Flight Species of Continental Importance in the Southwest Avifaunal Biome – 2; 2002 Audubon WatchList – 3; U.S. Fish and Wildlife Birds of Conservation Concern for the Tamaulipan Brushlands Bird Conservation Region – 4; U.S. Fish and Wildlife Birds of Conservation Concern for the Southwestern Region – 5; U.S. Fish and Wildlife Birds of Conservation Concern for the National List – 6.

^cAt the time of our study, the Blue-headed Vireo (*Vireo solitarius*), the Plumbeous Vireo (*Vireo plumbeus*) and the Cassin's Vireo (*V. cassinii*), formed the former Solitary Vireo complex of three subspecies.

SHORT COMMUNICATIONS

FEEDING ECOLOGY OF WHITE-COLLARED SEEDEATERS AT ZAPATA COUNTY PARK

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The White-collared Seedeater (*Sporophila torqueola sharpei*) was virtually extirpated from the Lower Rio Grande Valley during the 1950s and 1960s, because much of its habitat was converted to croplands

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White Collared Seedeater on barnyard grass. (Photo by author.)

(Oberholser 1974, Eitniear 1997, Lockwood and Freeman 2004). Currently, the species distribution is associated with reeds and grasses along the Rio Grande in Starr, Zapata, and Webb counties (Brush 2005).

A common resident of grassy disturbed areas, often near water, from Mexico to northern Panama (AOU 1983), its near absence in the Lower Rio Grande Valley, where such habitat abounds, remains unexplained. While believed extirpated due to the application of agrochemicals, most of the potential habitat today is not associated with agricultural areas; thus, the impact of fungicides, insecticides and herbicides is likely minimal (Brush 2005). The species is a grass seed specialist (Rubenstein et al. 1977). This study investigated whether grassy areas in the Lower Rio Grande Valley are not being recolonized because preferred grass seeds of White-collared Seedeaters are no longer currently abundant.

A study of the White-collared Seedeater was conducted at a marsh bordering a pond in Zapata County Park located within the city of Zapata (Fig. 1). The habitat was characterized by Bermudagrass (*Cynodon dactylon*), buffelgrass (*Cenchrus ciliaris*), Guineagrass (*Panicum maximum*), Johnson grass (*Sorghum halepense*), southwestern bristlegrass (*Setaria scheelei*), barnyardgrass (*Echinochloa crus-galli*), Louisiana cupgrass

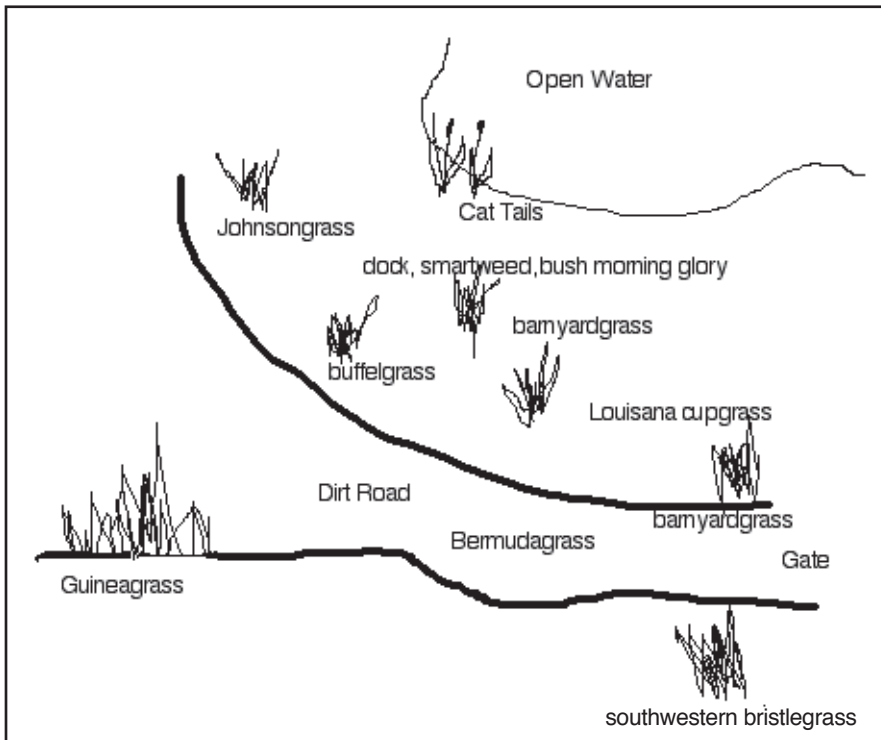


Figure 1. Plant composition of southwest corner of Zapata County Park.

(*Eriochloa punctata*), dock (*Rumex chrysocarpus*), pink smartweed (*Polygonum pensylvanicum*), bush morning glory (*Ipomoea carnea*) and cat tails (*Typha domingensis*). Trees (important singing posts are dead tree snags) were sparse along the pond and included sugarberry (*Celtis laevigata*), black willow (*Salix nigra*), huisache (*Acacia farnesiana*), and guajillo (*Acacia berlandier*) (Hatch et al. 1990, grasses identified by R. Lomard).

Activities of seven White-collared Seedeaters were observed from a stationary blind. The focal-animal sampling method was used in observing behaviors of seedeaters (Lehner 1996). Movements of birds, were documented on 30 April 07 and 27 May 1997. Despite being small, cryptic and secretive in nature, seedeaters were never unobservable for more than 10 min during any observational period throughout the day.

Although covering 73.7 % of the study area no observations were made of seedeater's foraging on buffleggrass, Johnsongrass or Bermudagrass (Table 1). Even with seeds in the green milky stage these three introduced species were not fed on when occurring with the other four grasses. Quantitative analysis is lacking, but most foraging observations were made of birds feeding on seeds of barnyardgrass and Louisiana cupgrass. These observations are consistent with other observations made of the species upriver in San Ygnacio (Eitniet and Rueckle 1995, Eitniet 2004).

On three occasions birds were observed foraging in southwestern bristlegrass, an uncommon grass for the region (Lonard 1993). Only a single observation was made of the species feeding on Guineagrass. Brush (2005) suggested that the importance of particular grass species as food resources should be evaluated prior to drafting habitat management plans designed to enhance the seedeater's reoccupation of areas within its former range in the Lower Rio Grande Valley. This study, while small in scope, supports Brush's statement and promotes the current practice of replacing introduced species with native grasses in habitat enrichment or revegetation programs.

Table 1. Area (m²) and percent cover of grass species at study site

Common/Scientific name	Area (m ²)	Percent
Barnyardgrass <i>Echinochloa crus-galli</i>	13.3	5.3
Louisiana cupgrass <i>Eriochloa punctata</i>	02.8	1.2
Guineagrass <i>Panicum maximum</i> ¹	42.4	18.4
Southwestern bristlegrass <i>Setaria scheidtiana</i>	03.3	1.4
Johnsongrass <i>Sorghum halepense</i> ¹	16.7	7.3
Buffleggrass <i>Cenchrus ciliaris</i> ¹	109.6	47.6
Bermudagrass <i>Cynodon dactylon</i> ¹	43.4	18.8
Total	231.5 m ²	100.0%

¹Introduced species

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LATE NESTING OF SCALED QUAIL (*CALLIPEPLA SQUAMATA*) IN BIG BEND NATIONAL PARK, TEXAS

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Scaled Quail (*Callipepla squamata*) exhibit variable mating behaviors, allowing them to adjust to changing environmental conditions (Delehanty 2001). Nesting typically occurs from May until August (Wallmo 1957), and egg laying is suggested to occur into early October (Schemnitz 1994) although it has never been recorded later than 22 September (Jensen 1925). Here we report a late season nesting record from early October in Big Bend National Park (BBNP), Brewster County, Texas.

On 4 October 2006 one of us (DJL) found a white pyriform egg 43 mm length, laying on the open desert floor near a roadside pullout in BBNP (29°μ 19'20" N, 103°μ 26'00" W). When DJL approached the egg, a Scaled Quail (presumed female) flushed from a nearby clump of Chino grama grass (*Bouteloua ramosa*). Inside the grass clump was a nest containing 9 additional unhatched eggs. On 10 October 2006 during a follow-up visit, the adult bird and four hatchlings were observed and five unhatched eggs remained in the nest. On 12 October 2006, the nest had been abandoned, and with the exception of eggshell fragments, no eggs were present in the nest. A single bird was heard vocalizing nearby on 12 October, though calls typical of juveniles were not heard on that day.

Our observation of late nesting may be attributable to delayed summer rainfall in 2006. Less than normal rainfall was recorded during April (26 mm), May (26 mm), June (3 mm), and July (21 mm), but a near-record amount of rainfall followed in August (146 mm) (Panther Junction Headquarters, BBNP – NWS). This late rainfall triggered the growth of much herbaceous vegetation which in turn produced a boom in insect abundance (pers. observ.). It is assumed that this late season insect boom resulted in late breeding for some birds that were physiologically incapable of breeding beforehand.

While late season nesting in Scaled Quail has been rarely reported, data collection has typically ceased in most years prior to August (Rollins, pers. comm.), making it likely that late clutches go unreported. Northern Bobwhite (*Colinus virginianus*), an ecologically similar and partially sympatric species (Rollins 2000), have been recorded breeding as late as November (Olberholser 1974). We suggest Scaled Quail breeding is a resource dependant activity, and reproduction may be delayed until resources are available.

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BREEDING WATERBIRDS IN LAGUNAS TAMIAHUA AND PUEBLO VIEJO, NORTHERN VERACRUZ, MEXICO

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Spanning about 5 degrees of latitude in the lowlands of the Gulf of Mexico, Veracruz ranges from subtropical communities in the northern part to tropical ones in the south. Its avifauna is tropical and very rich (Loetscher 1941). However, the lagoons of the northern part of the state have received little ornithological attention (see, for example, Lowery and Dalquest 1951).

Lagunas Tamiahua and Pueblo Viejo are two coastal lagoons in northern Veracruz (Fig. 1). The region has a sub-humid climate with moderate evaporation and heavy rainfall but dry during the winter with the exception of storms associated with northerly winds. Laguna Tamiahua (21° 16' 22" 06' N, 97° 23' 97" 46' W) is a long, 2–3 m deep, 88,000-ha lagoon between the Panuco and Tuxpan rivers.

The lagoon is separated from the Gulf by an extensive sand barrier (Cabo Rojo) and has a number of islands (del Toro, Juana Ramírez, El Idolo, Burros) and some islets, including some formed by dredge spoils. The lagoon receives water from several, mostly seasonal, rivers and streams: La Laja, Cucharas, Carbajal, Tancochín, Tampache, and Malpas. As a result, it is predominantly brackish (Contreras 1985). The lagoon is highly polluted by human waste.

Laguna Pueblo Viejo (22° 05' - 22° 13' N, 97° 50' - 97° 57') is a 1.5 m deep, 930-ha lagoon is part of the delta of the Panuco River. It is 15 km long, 9.5 km wide, and covers 9,300 ha. This lagoon harbors many mangrove islands, and its southern portion has marsh areas and the Estero Tamacuil. The most important source of water of this lagoon is the Río Pánuco from which it receives fresh water during the rainy season, but sea-water flows up the river at other times. Other rivers providing water to the lagoon, although seasonally, include the Tapada, Pedernales, La Cuásima, La Puerca, and Tamacuil (Contreras 1985). This lagoon is polluted by industrial waste discharged into the Panuco River.

METHODS

We searched for nesting waterbirds during mid-June 2005, mostly by exploring the two lagoons aboard fishing skiffs. On 11 June 2005 we surveyed the southern part of Laguna Tamiahua. We left the town of Tamiahua



Although known to breed in Tamaulipas the documentation of 241 Black Skimmers (*Rynchops niger*), of which possibly 52 pairs were nesting, was noteworthy. Photo Fernando Cena.

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and traveled north to the southern part of Isla Burros, returning through the channel on the eastern side of Isla El Ídolo. On 12 June we surveyed Laguna Pueblo Viejo, leaving from Mata de Chávez. On 14 June we surveyed the northern part of Laguna Tamiahua. We left La Ribera de Tampico (near Tampico Alto) and traveled for some kilometers north on the Chijol Channel, and then south through the same channel down to the lagoon reaching the middle part of the Juana Ramirez Island. We discovered waterbirds nesting at nine sites.

- 1) Islote Tantalamos. An Islet near the southern end of Laguna Tamiahua a few dozen meters long and 1–2 m wide, which resulted originally from sediments dredged 40 or 50 years ago to improve navigation. More mud was piled upon it about five years ago when the channel was re-dredged. Small mangrove shrubs are scattered along most of the islet with some clear spaces.
- 2) Isla Frijoles. A small islet created by sediments dredged two, and again four, years ago, and currently receiving more material, as dredging continues. Isla Frijoles is mostly devoid of vegetation, with only a few mangrove shrubs.
- 3) Sandy islet near Isla Burros, about 800 m long by 10 m wide.
- 4) Two islets near the center of Laguna Tamiahua, 100 x 50 m and 800 x 150 m, which resulted from dredging two and four years ago. Both were receiving more dredging sediments at the time of our visit, and were mostly devoid of vegetation. The second islet was being planted with mangroves.
- 5) Islote Tamacuil, southern Laguna Pueblo Viejo. A small islet covered by some halophytic vegetation in the middle but with its lower parts devoid of vegetation.
- 6) Three islets in the center of Laguna Pueblo Viejo covered mostly with black (*Ryzophora mangle*) and red mangrove trees (*Conocarpus erectus*).

RESULTS

We documented nesting of 13 species of waterbirds: Great Egret, Tricolored Heron, Cattle Egret, Black-crowned Night-Heron, Roseate Spoonbill, White Ibis, Neotropic Cormorant, Brown Pelican, American Oystercatcher, Black-necked Stilt, Laughing Gull, Least Tern, and Black Skimmer. In addition, Snowy Egret, Little Blue Heron, and Wilson's Plovers were probably breeding, but we found no actual proof of it.

SPECIES ACCOUNTS

Ciconiiformes

All ciconiiformes species were nesting in mixed colonies in the canopy of mangrove trees of the three mangrove covered islets in Laguna Pueblo Viejo.

Great Egret (*Ardea alba*). Great Egrets were nesting at the three islets. There were 150–200 individuals on islet 2, and many on Islets 1 and 3. We counted 46 nests, 36 of which had adults sitting on them and noted 13 chicks between one-fourth to half grown.

Snowy Egret (*Egretta thula*). We observed five adult Snowy Egrets at Islet 2. When we saw them they were not clearly associated with any nest, but their presence on the mangrove branches among other nesting egrets, like elsewhere in tropical Mexico (Mellink et al. 1995, Mellink and Riojas *in press*) suggested possible nesting.



The documented nesting of Brown Pelicans (*Pelecanus occidentalis*) added a new species to the list of breeding birds in Veracruz. Photo Fernando Cena.

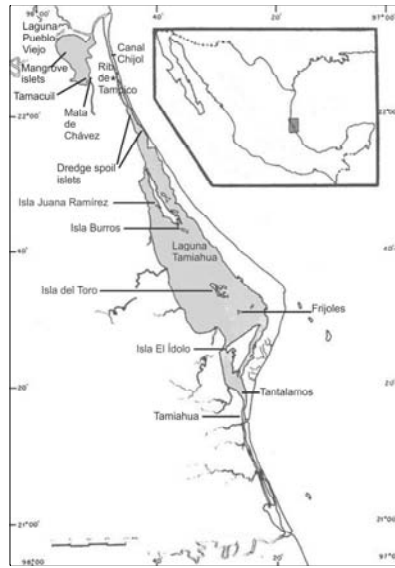


Figure 1. Lagunas Tamiagua and Pueblo Viejo, northern Veracruz, Mexico.

Little Blue Heron (*Egretta caerulea*). We found 14 individuals of this species in the three islets, but we could not associate them clearly with any single nest. However, as with the Snowy Egret, the circumstances suggest that the species was nesting there.

Tricolored Heron (*Egretta tricolor*). We counted 24 adults of this species on the three islets, and documented proof of breeding on two of them: six large chicks (about three-fourths grown) and three fledglings were observed.

Cattle Egret (*Bubulcus ibis*). We found this species nesting on mangrove trees at the three mangrove islets of Pueblo Viejo. We estimated 239 reproductive individuals. We saw three chicks at least one week old. Many nests may have contained smaller chicks or eggs, but we could not examine them from the skiff.

Black-crowned Night-Heron (*Nycticorax nycticorax*). We found this species nesting on two of the mangrove covered islets in Laguna Pueblo Viejo. We counted 19 nests, five fledglings, and two (three-fourths grown) chicks on Islet 2 and three breeding adults and three fledglings on Islet 3.

Roseate Spoonbill (*Platalea ajaja*). We documented nesting of this species on the three islets, where we counted 29 adults, three chicks, one fledgling, and seven juveniles.

White Ibis (*Eudocymus albus*). This species was nesting at one islet, where we counted 61 adults, three juveniles, and three chicks (one three-fourths grown, two smaller). Many other eggs or chicks could be in the colony, but we could not examine the nests from the skiff.

Neotropic Cormorant (*Phalacrocorax olivaceus*). These cormorants were nesting in two mangrove-covered islets in the center of Laguna Pueblo Viejo. We estimated at least 150 pairs respectably. Large (three-fourths grown) chicks were present throughout the colony, and many nests could have contained smaller chicks or eggs. This is a common species nesting throughout the lowlands of eastern Mexico (Howell and Webb 1995).

Brown Pelican (*Pelecanus occidentalis*). We recorded three Brown Pelican nests on Islet 1. We could not examine their contents. This is a new breeding record for the state of Veracruz (Howell and Webb 1995).

Charadriiformes

Species of charadriiformes nested on the low islets in both lagoons.

American Oystercatcher (*Haematopus palliatus*). We documented breeding by three pairs in the area, and another pair whose nest we could not locate, but exhibited distraction behaviour. A single pair was found at Tantalamos, Frijoles (with a two-three weeks old chick), sandy islet near Isla Burros (with one small chick), and dredge islet 1 (two young).

Black-necked Stilt (*Himantopus mexicanus*). We recorded five pairs. Four pairs on the sandy islet near Isla Burros had four, four, three, and two eggs. S (with one small chick), and dredge Islet 2 had one small chick.

Wilson's Plover (*Charadrius wilsonia*). At Tantalamos, there were two pairs of Wilson's Plovers evidently nesting (based on distractive behavior), but we did not search for nests to avoid disturbing the colonies of the other waterbirds. This species nests in the Barrier Island of Laguna Madre, Tamaulipas (Selander et al. 1962), and northern Veracruz (Howell and Webb 1995).

Laughing Gull (*Larus atricilla*). Laughing gulls had not been recorded nesting in Veracruz or Tamaulipas (Loetscher 1955, Selander et al. 1962, Howell and Webb 1995), although Selander et al. (1962) considered that they possibly nested in the latter state. We found the species nesting on Isla Frijoles, which had 29 nests: five nests had one egg; 21 had two eggs; and three had three eggs. Nest contents suggested that laying had started a few days before our visit. On dredge Islet 1 we counted about 50 immature individuals.

Least Tern (*Sternula antillarum*). This species had not been recorded nesting in Veracruz (Loetscher 1955, Howell and Webb 1995), although Loetscher (1955) thought it could be a breeder in the state. Warner and Mengel (1951) collected a specimen of this species at the mouth of Río Jamapa, in Central Veracruz, but we were probably too late to document breeding. We found the species nesting at three sites. At Tantalamos there were seven pairs on nests, whose contents we did not examine. On dredge Islet 1 there were 10 pairs on nests and five juveniles visible, and at dredge Islet 2 several adults (we did not count them) with 11 small chicks, two large chicks, two fledglings, and one juvenile.

Black Skimmer (*Rynchops niger*). Although known to breed in Tamaulipas (Selander et al. 1962, Howell and Webb 1995), Black Skimmers were not known to nest in Veracruz (Howell and Webb 1995). We found them nesting at Tantalamos and Tamacuil. At the first site there were 111 adults, 28 of which were in incubating posture, and from the skiff we observed two eggs in one nest and three in another. At the second site there were 130 adults of which 24 were in incubating position.

DISCUSSION

Although our visit was very brief, both nesting Larids and suitable nesting sites were in very low numbers in northern Veracruz. Three of our records (Laughing Gull, Least Tern, and Black Skimmer) were of species not known previously to breed in the state of Veracruz, and an additional species (Brown Pelican) is a new breeding record for central and northern Veracruz. Two of these species (Brown Pelican and Laughing Gull) had not been recorded breeding in the remainder of the northeastern coast of Mexico (Tamaulipas) either.

Three of the five sites used for nesting Laridae in Laguna Tamiahua resulted from dredging operations. Although dredged offal islets are suboptimal for nesting waterbirds (Mallach and Leberg 1999), in Laguna Tamiahua they appeared to be the only suitable nesting sites for these birds. Maintenance of the suitability of these islets is affected by local management, as the newly formed islets are promptly planted with mangrove trees to prevent their erosion (and, probably, as a general policy to ameliorate the loss of mangrove areas in the country). In spite of our limited knowledge of use of dredge islets by waterbirds in this area, it seems safe to recommend that they should not be planted with mangroves, but rather, the effects of their covering with shell debris (*sensu* Mallach and Leberg 1999) should be investigated. Also, waterbirds might be favored by making dredge offal islets as long narrow strips rather than more circular ones.

We cannot overstate the need for more intensive surveying wetlands along the entire coast of the Mexican part of the Gulf of Mexico, especially in search of nesting Laridae. Increased survey efforts will uncover, we believe, a number of other isolated colonies of these species.

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One of the more unexpected finds of 2006 was this Rufous-backed Robin near Utley, Bastrop Co., from 7 January–7 April 2006. Photo by Shawn Ashbaugh.