

EVALUATION OF BREEDING INFORMATION OBTAINED BY J. E. GOULD IN FLORIDA DURING THE EARLY 20TH CENTURY

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J. E. Gould, an amateur oologist, resided for seven years (1915-1921) in Arcadia, DeSoto County, Florida, from where he reported breeding information for several species of birds (Johnston 1991a). Johnston (1991a) stated that Gould's collection provided evidence of extralimital breeding for two species in south Florida: Northern Harrier (*Circus cyaneus*) and Louisiana Waterthrush (*Seiurus motacilla*). The waterthrush record was the first for the state (Gould 1933). Johnston (1991a) did not recognize that extralimital breeding of the Chimney Swift (*Chaetura pelagica*) also was exceptional. B. H. Anderson (in Stevenson and Anderson 1994) questioned the validity of Gould's breeding information for these three species and Gould's egg set data for five additional species in Florida: Wilson's Plover (*Charadrius wilsonia*), Mangrove Cuckoo (*Coccyzus minor*), White-eyed Vireo (*Vireo griseus*), Summer Tanager (*Piranga rubra*), and Red-winged Blackbird (*Agelaius phoeniceus*). Although Johnston (1991a) did not examine the Gould Collection to verify any of the records, he later criticized Anderson's evaluation of Gould's data (Johnston 1995). Johnston contended that a "precise catalog entry . . . is still an acceptable record" and does not require "validation" or "verification". The Gould Collection is deposited in the Charleston Museum (Ch M) and has now been cataloged and archived. Using this collection and other information, we compared Gould's catalog entries with the actual egg sets to determine how precise the catalog entries are.

Northern Harrier.—Gould's field notes (Johnston 1991a) mention that he found an "old nest" (no eggs) of the Northern Harrier in 1915 near Arcadia, DeSoto County, in south-central peninsular Florida, much farther south than the only other reported breeding pairs in Alachua County (all before 1909; Howell 1932, Robertson and Woolfenden 1992, Stevenson and Anderson 1994). As no eggs were collected, and, other than the catalog entry, no notes were taken about this occurrence, we question whether Gould properly identified the nest he found. According to his catalog, Gould had previously collected only one egg set of the Northern Harrier 22 years earlier (Lake Bradford, Indiana; ChM 91.13.7). Gould did not explain how he differentiated the "old nest" from that of other ground-nesting birds.

Wilson's Plover.—The two egg sets of Wilson's Plover listed in Gould's catalog as taken at Boca Grande, Lee County (Johnston 1991a) are not in his collection. One set was listed as collected on the late date of 7 July 1917 (Stevenson and Anderson 1994). The set was reported to have 4 fresh eggs. The Wilson's Plover rarely lays this number (Anderson 1975): no other Florida set has more than three eggs (Stevenson and Anderson 1994).

One additional set of Wilson's Plover's eggs remains in the Gould Collection. It is not listed in his catalog, but it is correctly identified, and has both an A. O. U. and a clutch number (1/3). The collection also has 8 of the 9 Killdeer (*C. vociferus*) sets that are listed in his catalog (all from Ohio; one set is missing), and these eggs are also correctly identified. This confirms that Gould was able to distinguish the eggs of the two species. The absence of nesting Killdeer south of Lake Okeechobee during the period of Gould's work

(Kushlan and Fisk 1972, Stevenson and Anderson 1994) supports the claim that the two sets collected at Boca Grande were those of Wilson's Plovers. The nest record data are inaccurate, however, indicating that Gould transposed and mislabeled eggs between sets.

Mangrove Cuckoo.—Gould listed a set of the Mangrove Cuckoo eggs taken from an old Gray Kingbird (*Tyrannus dominicensis*) nest at Boca Grande, Lee County (date unknown). Gould placed a question mark beside the entry in his catalog, suggesting that he was not certain of the identification. Egg sets of the Mangrove Cuckoo were especially valuable, as few had been collected (Stevenson and Anderson 1994); we would expect that a definite collection date would have been recorded. The clutch size of four is also large (Stevenson and Anderson 1994). Three eggs from this cuckoo egg set are still extant (ChM 91.13.104). However, the eggs of Mangrove and Yellow-billed (*C. americanus*) cuckoos are indistinguishable, and Gould did not always correctly identify the eggs of Yellow-billed and Black-billed (*C. erythrophthalmus*) cuckoos that he collected in Georgia and Ohio (McNair 1995). As Gould was incorrect about the identification of some cuckoo eggs, and, as the date of collection is unknown, we cannot confirm that positive identification was made.

Chimney Swift.—Gould's catalog listed one set that contained four eggs, obtained from a chimney of his residence at Arcadia, DeSoto County, on 8 June 1920 (Johnston 1991a; Gould's catalog, ChM). This egg set is missing. The southernmost breeding site in Florida at that time was much farther north in Volusia County (Howell 1932), and Chimney Swifts did not extend their breeding range southward in Florida until the 1950s, and then, only gradually (Robertson and Woolfenden 1992). As material evidence of this extralimital breeding record is lacking, the record cannot be verified.

White-eyed Vireo.—Gould collected an egg set at Marianna, Jackson County, on 10 April (Johnston 1991a, Stevenson and Anderson 1994; ChM 91.13.215, one egg missing). The date this set was collected is early, although unremarkable.

Louisiana Waterthrush.—In 1915, the same year Gould reported the Northern Harrier's nest near Arcadia, he also found a "territorial pair" of Louisiana Waterthrushes in DeSoto County (Gould 1933). Gould's note miscites Howell (1932), where he meant Bailey (1925). If considered to be evidence of breeding, this would have been the first for the state. It also would be far south of other known breeding locations (Brewer 1992, Robertson and Woolfenden 1992, Stevenson and Anderson 1994). Gould (1933) also reported a breeding pair in Polk County, 100 km north of Arcadia. Despite the significance of these records, Gould provided no details. Possibly, Gould misidentified Northern Waterthrushes (*S. noveboracensis*) as Louisiana Waterthrushes. The former species establishes feeding territories during the non-breeding period (Eaton 1995).

We question why Gould did not communicate his discovery of the territorial Louisiana Waterthrushes to H. H. Bailey, an occasional field companion (see Gould 1933; also Johnston 1991b). Possibly he did, but Bailey (1925) did not cite the record. We agree with Robertson and Woolfenden (1992) that the breeding of Louisiana Waterthrushes in DeSoto and Polk counties is doubtful.

Brewer's (1992) hypothesis of a northward "withdrawal" of breeding Louisiana Waterthrushes from Florida in the early 20th century depends on (1) the validity of Gould's records, and (2) Stoddard's decade of searching before finding breeding Louisiana Waterthrushes in Leon County, Florida, and Grady County, Georgia (Howell 1936, Stoddard 1978). We believe the delay in discovery is an artifact of insufficient field work in appropriate habitat, rather than a real absence of the species from the region. For example, three other species of warblers that occur in mesic forest along woodland creeks in Grady County, Swainson's (*Limnothlypis swainsonii*; rare and local), Kentucky (*Oporornis formosus*; fairly common), and Hooded (*Wilsonia citrina*; common) were not discovered or confirmed breeding until the early 1930s (Stoddard 1978; Howell 1932, 1936). Gould's data on breeding Louisiana Waterthrushes is a foundation of Brewer's (1992) hypothesis of breeding range contraction in Florida. As Gould's Florida breeding records are highly suspect, we believe Brewer's hypothesis is untenable.

Summer Tanager.—This species returns from the tropics to northern Florida in early April. The earliest reliable clutch dates in Florida occur in late April (Stevenson and Anderson 1994). The set that Gould reported on the exceptionally early date of 2 April at Marianna, Jackson County (Johnston 1991a, Stevenson and Anderson 1994) is not in the collection. The other Summer Tanager egg set that Gould collected in Marianna, in early May (Johnston 1991a; ChM 91.13.193, one egg missing), is in the collection. We suggest that Gould may have written "April" when he meant "May" for the egg set.

Red-winged Blackbird.—The egg set that Gould reported collecting on 16 July (Johnston 1991a, Stevenson and Anderson 1994) is not in the collection. The clutch date is the latest in Florida by three days (Stevenson and Anderson 1994). Late nests of many landbirds in Florida are undersampled (cf., McNair 1996), so this Red-winged Blackbird egg set, if it exists, is unremarkable.

We conclude that Gould's reports of breeding for the Northern Harrier and Louisiana Waterthrush are too important to be accepted without substantiating details. Gould's reports were not consistent with the data of earlier field workers. Gould's unsubstantiated record of Chimney Swift and an examination of the Gould specimens coupled with an assessment of their historical context also forces us to question the validity of his most important Florida records because of misidentification of eggs and inconsistencies between the actual contents of the collection and catalog entries. Gould frequently failed to properly record his records or properly mark his eggs (cf., McNair and Post in press). We doubt that Bailey (1925) overlooked Gould's information. The association of the two men began in Virginia in 1906 (Johnston 1991b). We suspect that Bailey (op. cit.) may have known of these reports and records, but ignored them because the substantiating data were weak. In Florida, in contrast to this field work in Virginia (McNair and Post in press), Gould's collection efforts in Florida were not based on a solid foundation of field research by other ornithologist.

In summary, we evaluated two interpretations of breeding information obtained by J. E. Gould for eight species in Florida during the early 20th century (Anderson *in* Stevenson and Anderson 1994, Johnston 1995). Breeding information on unsubstantiated extralimital occurrences of three species (Northern Harrier, Chimney Swift, Louisiana Waterthrush) are unconvincing. Less important breeding information for three other species (Wilson's Plover, Mangrove Cuckoo, Summer Tanager) also are suspect. The data for the remaining two species (White-eyed Vireo, Redwinged Blackbird) are unremarkable. We conclude that Anderson's interpretation was correct.

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