

Winter Distribution of Subspecies of Clapper Rails (*Rallus longirostris*) in Florida with Evidence for Long-distance and Overland Movements

ROBERT L. CRAWFORD,¹ STORRS L. OLSON,² AND WALTER KINGSLEY TAYLOR³

¹Tall Timbers Research Station, Route 1, Box 160, Tallahassee, Florida 32312 USA;

²National Museum of Natural History, Smithsonian Institution, Washington, D.C. 20560 USA; and

³Department of Biological Sciences, University of Central Florida, Orlando, Florida 32816 USA

Little is known of the extent of movement and winter ranges of Clapper Rails (*Rallus longirostris*) in the United States despite years of study by ornithologists and game biologists (Stewart 1951, 1954; Mangold 1977). For example, only recently was it learned that the endangered southwestern population, *R. l. yumanensis*, leaves its breeding grounds in

the Colorado River Valley to winter in Mexico (Tomlinson and Todd 1973, Banks and Tomlinson 1974). Populations in the southeastern states are thought to be largely nonmigratory and strictly confined to coastal areas (Adams and Quay 1958). The northern subspecies, *R. l. crepitans*, is known to range south in winter along the Atlantic Coast as far as the vi-

TABLE 1. Recent specimens of migrant or out-of-range Clapper Rails from Florida.

Museum ^a	Locality in Florida	Date	Age/sex	Collector
<i>Rallus longirostris crepitans</i>				
USNM 525849	Franklin Co., Turkey Pt.	4 Nov 1966	Adult ♀	Olson, W. M. Hobbs
USNM 525880	Franklin Co., Turkey Pt.	4 Nov 1966	Adult ♀	Olson, W.M. Hobbs
USNM 525881	Franklin Co., Turkey Pt.	4 Nov 1966	Adult ♀	Olson, W.M. Hobbs
USNM 525850	Wakulla Co., Shell Pt.	23 Sep 1961	Immature ♂	Olson et al.
UCF 206	Orange Co., WDBO tower	11 Sep 1969	Adult ♀	Taylor
<i>Rallus longirostris waynei</i>				
USNM 525848	Franklin Co., Turkey Pt.	4 Nov 1966	Adult ♂	Olson, W. M. Hobbs
TTRS 2811	Leon Co., Tallahassee	6 Oct 1965	Immature ♀	H. M. Stevenson
TTRS 3664	Leon Co., WCTV tower	9 Apr 1980	Adult ♀	Crawford
UCF 900	Brevard Co., Merritt Is., VAB	30 Sep 1971	Adult ♀	L. Ellis, R. Bush
UCF 901	Brevard Co., Merritt Is., VAB	20 Oct 1971	Adult ♀	L. Ellis, R. Bush
UCF 916	Pinellas Co. (northern)	Oct 1969	Adult ♀	V. Morrison
<i>Rallus longirostris scottii</i>				
UCF 875	Brevard Co., Merritt Is., VAB	28 Sep 1971	Adult ♀	L. Ellis, R. Bush
UCF 897	Brevard Co., Merritt Is., VAB	28 Sep 1971	Adult ♀	L. Ellis, R. Bush
<i>Rallus longirostris scottii</i> > <i>waynei</i>				
UCF 899	Brevard Co., Merritt Is., VAB	25 May 1971	Adult ♀	L. Ellis, R. Bush
<i>Rallus longirostris saturatus</i>				
USNM 525878	Franklin Co., Turkey Pt.	4 Nov 1966	Adult ♀	Olson, W. M. Hobbs
USNM 525877	Franklin Co., Turkey Pt.	23 Nov 1966	Adult ♂	Olson, W. M. Hobbs
USNM 525875	Franklin Co., Turkey Pt.	4 Mar 1967	Adult ♀	Olson
TTRS 2810	Leon Co., Tallahassee	27 Jul 1937	Adult ♀	M. K. Gibson

^a USNM = National Museum of Natural History, Smithsonian Institution; UCF = University of Central Florida; TTRS = Tall Timbers Research Station.

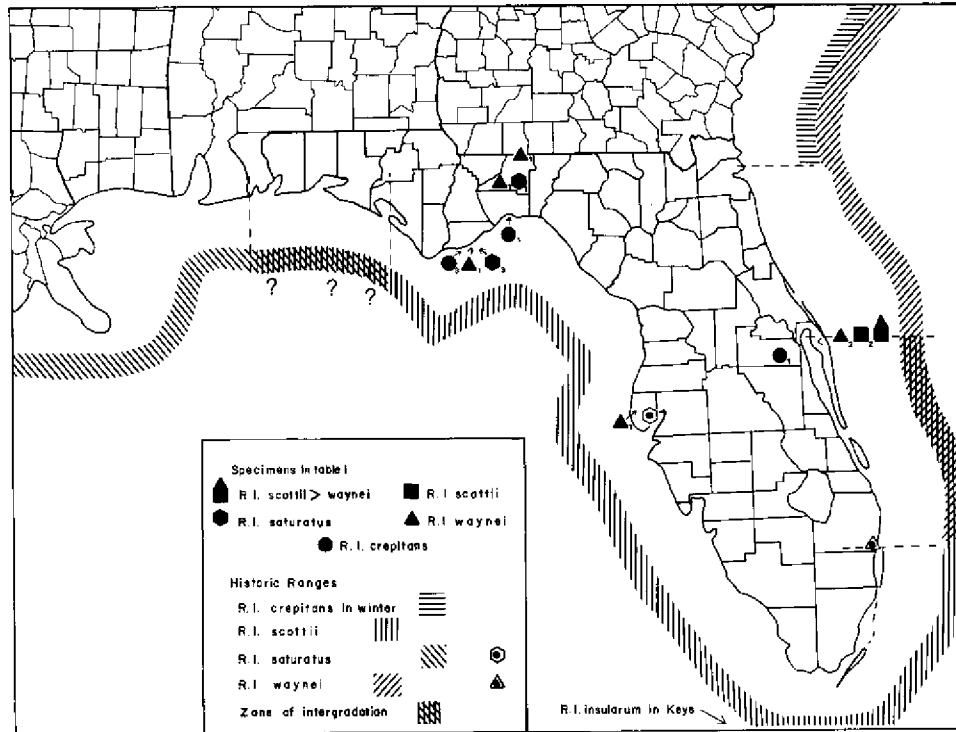


Fig. 1. Distribution of Clapper Rails (*Rallus longirostris*) in Florida with locations of significant new specimen records.

cinity of Jacksonville, Florida (A.O.U. 1957), but the remaining subspecies (*waynei*, *scottii*, *insularum*, and *saturatus*) are believed to be sedentary, with seasonal movements and inland occurrences being limited to aberrant stragglers rather than migrants (Fig. 1, Howell 1932, Oberholser 1937, A.O.U. 1957, Mangold 1977, Kale 1978). Recent banding studies on the Georgia coast, however, indicate the possibility of regular long-distance movements (Hon et al. 1977). One Clapper Rail banded there in September 1974 was recovered in Maryland in May 1975. Another, banded in August 1975, was recovered at Merritt Island, Florida in November 1975. Herein, we report more evidence of overland or long-distance movements by Clapper Rails based on subspecifically identified specimens obtained during our independent studies (Table 1, Fig. 1).

The data presented here indicate that the winter ranges of various subspecies of Clapper Rails in Florida have been, and still are, very imperfectly understood. The distinctive, pale northern race *R. l. crepitans*, heretofore thought to occur only rarely in Florida on the northeast coast, is now known from much farther south and inland in Orange County (Taylor and Anderson 1973), but more significantly on the northern coast of the Gulf of Mexico in Franklin and Wakulla counties. The subspecies of the middle At-

lantic Coast, *R. l. waynei*, stated to occur on the Atlantic Coast in winter south only to Merritt Island, has several times struck the Vehicle Assembly Building (VAB) at Merritt Island during fall migration, implying movement farther to the south. Indeed, Howell (1932) reported a specimen of *waynei* taken in April 1920 at Jupiter, 160 km south of Merritt Island. This subspecies has also been taken on the Gulf Coast in Franklin and Pinellas counties and 40 km inland from the Gulf in Leon County. Olson maintains some reservations about the distinctiveness of the subspecies *R. l. saturatus* of the western Gulf Coast, mainly because the vast majority of available specimens from the range of that form are in quite worn plumage. Nevertheless, specimens matching those assigned to *saturatus* have been taken as far east as Franklin County and inland in Leon County (Stevenson 1950, 1962; and specimens examined in this study), whereas this subspecies had been thought to occur normally no farther east than Pensacola, Florida (Oberholser 1937). The peninsular race *R. l. scottii*, previously thought not to extend farther north on the Atlantic Coast than the vicinity of Jupiter, has now been taken as far north as Merritt Island, where it has been killed during nocturnal flights at the VAB.

The data presented here provide considerable evidence for mixing of populations of Clapper Rails in

Florida in winter. Noteworthy in this context is that on 4 November 1966 Olson and W. M. Hobbs collected specimens of four different subspecies (*crepitans*, *waynei*, *scottii*, and *saturatus*) in a single small area of salt marsh at Turkey Point, Franklin County. The presence of the northeastern subspecies *crepitans* at two localities on the northern Gulf Coast of Florida is an almost certain indication of overland flight, as it is extremely unlikely that these birds would have flown the 1,200 km around the tip of peninsular Florida. The inland occurrences are likewise probably indications of overland movements. In addition to those previously mentioned, there is a specimen of *R. l. waynei*, now at the University of Georgia, that was killed at Atlanta, Georgia on 1 September 1971 (French 1972).

We agree with Hon et al. (1977) that the evidence as yet is too meager to decide whether these movements represent postbreeding dispersal, migration, or merely aberrant wanderers, although we regard the last as the least likely. For example, two of the subspecies of Clapper Rails in the western U.S. are known to disperse, migrate, or both (Wilbur and Tomlinson 1976). There is a highly skewed sex and age ratio among the specimens listed in Table 1. Of 18 specimens taken out-of-range or in migration, 15 are females and 16 are adults. Both of these ratios are significantly at variance from equality by simple Chi-squared tests ($P < 0.0005$). The specimen of *R. l. waynei* from Jupiter, now at the Museum of Comparative Zoology, is also a female (R. A. Paynter, Jr. in litt.); the Atlanta specimen of *waynei* is a male (Lloyd Logan pers. comm.). In species known to be "partial migrants" females are usually the more migratory sex (Lack 1944, Baker 1978: 636).

Additional collecting during the late fall and winter is needed before the true extent and nature of movements among the eastern races of the Clapper Rail can be properly assessed. Meanwhile, it seems likely that inland occurrences are the result of normal patterns of dispersal or migration rather than of disoriented stragglers.

Identifications of specimens in Table 1 were confirmed by Olson with assistance from M. Ralph Browning. We are also grateful to R. C. Laybourne, R. C. Banks, and H. W. Kale II for their previous identifications of certain of these specimens. Tip Hon and H. M. Stevenson generously shared their research material. Lucy Laffitte prepared the figure.

LITERATURE CITED

- ADAMS, D. A., & T. L. QUAY. 1958. Ecology of the Clapper Rail in southeastern North Carolina. *J. Wildl. Mgmt.* 22: 149-156.
- AMERICAN ORNITHOLOGISTS' UNION. 1957. Checklist of North American birds, fifth ed. Baltimore, Maryland, Amer. Ornithol. Union.
- BAKER, R. R. 1978. The evolutionary ecology of animal migration. New York, Holmes & Meier Pub., Inc.
- BANKS, R. C., & R. E. TOMLINSON. 1974. Taxonomic status of certain Clapper Rails of southwestern United States and northwestern Mexico. *Wilson Bull.* 86: 325-335.
- FRENCH, T. 1972. Clapper Rail in downtown Atlanta. *Oriole* 37: 5-6.
- HON, T., R. R. ODUM, & D. P. BELCHER. 1977. Results of Georgia's Clapper Rail banding program. *Proc. Ann. Conf. S.E. Assoc. Fish Wildl. Agencies* 31: 72-76.
- HOWELL, A. H. 1932. Florida bird life. New York, Coward-McCann, Inc.
- KALE, H. W., II. 1978. Florida Clapper Rail *Rallus longirostris scottii* Sennett. Pp. 112-113 in *Rare and endangered biota of Florida*, vol. 2: Birds (H. W. Kale II, Ed.). Gainesville, Florida, Univ. Presses of Florida.
- LACK, D. 1944. The problem of partial migration. *Brit. Birds* 37: 122-130, 143-150.
- MANGOLD, R. E. 1977. Clapper Rail (*Rallus longirostris*). Pp. 84-92 in *Management of migratory shore and upland game birds in North America* (G. C. Sanderson, Ed.). Washington, D.C., Internat. Assoc. Fish Wildl. Agencies.
- OBERHOLSER, H. C. 1937. A revision of the Clapper Rails (*Rallus longirostris* Boddaert). *Proc. U.S. Natl. Mus.* 84 (3018): 313-354.
- STEVENSON, H. M. 1950. Distribution of certain birds in the southeastern United States. *Amer. Midl. Natur.* 43: 605-626.
- . 1962. Clapper Rail in the interior of Florida—a correction. *Amer. Midl. Natur.* 67: 505.
- STEWART, R. E. 1951. Clapper Rail populations of the middle Atlantic states. *Trans. 16th North Amer. Wildl. Conf.*: 421-430.
- . 1954. Migratory movements of the Northern Clapper Rail. *Bird-Banding* 25: 1-5.
- TAYLOR, W. K., & B. H. ANDERSON. 1973. Nocturnal migrants killed at a central Florida TV tower: autumns 1969-1971. *Wilson Bull.* 85: 42-51.
- TOMLINSON, R. E., & R. L. TODD. 1973. Distribution of two western Clapper Rail races as determined by responses to taped calls. *Condor* 75: 177-183.
- WILBUR, S. R., & R. E. TOMLINSON. 1976. The literature of the western Clapper Rails. *U.S. Fish Wildl. Serv. Spec. Sci. Rept.—Wildl.* No. 194.

Received 23 February 1982, accepted 8 July 1982.