

THE STATUS OF SOME PACIFIC COAST CLAPPER RAILS¹

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For those persons unfamiliar with the Clapper Rails of the Pacific coast, a few words as to the manner of their distribution may be appropriate as introductory remarks. Because of environmental limitations these rails do not occur continuously, but as isolated colonies confined to mangrove swamps, lagoons, brackish swamps a short distance inland, or even riparian growths along fresh water streams. Long stretches of rocky or sandy coast or scores of miles of desert intervene between the delimited habitable areas. Interesting problems are presented, not alone by the isolation of the colonies, but by the characters shown by the individuals resident therein. To begin with, there appears to be no tendency for colonies to vary in the direction of the adjacent geographical race or races—in other words, to exhibit gradual mergence with neighboring forms. For instance, the northern, middle and southern colonies of *beldingi* are in characters equally representative of that form, showing no tendency in the north to vary toward *levipes*. Whether the former distribution was continuous, or whether the centers now occupied were populated by "strays", is of relatively little consequence. The facts are that colonies were established in four differentiation areas of proven potency and have there remained for a period of time sufficient for various differential characters to develop. These centers are the San Francisco Bay District, the San Diegan District, the Cape San Lucas District, and the Colorado Delta District.

Existing colonies of Clapper Rails at points distant from these centers are almost certainly the results of the establishment of strays, scouts, or vagrants, which as yet show no divergence from the ancestral stock. Dr. Joseph Grinnell, in his "Distributional Summation of the Ornithology of Lower California", 1928, has concisely stated the facts which logically account for the present day distribution. "A mere dab of a certain niche, as comprised in marshland or forest of but a few acres' extent, does not often suffice to support permanent populations of appropriate species, no matter how well suited to their requirements", although they may be occupied from time to time by products of potent differentiation areas "in continually radiating streams of individuals", which "often extend unmodified along routes of least environmental resistance". Remembering how temporary must have been the existence of the smaller marshes along California's notoriously unstable coast, it is not surprising that the scattered rail colonies of today exhibit unaltered characters over such wide areas.

The trend of coloration is the reverse of that shown almost without exception by the more "plastic" species of land birds occurring over substantially the same area. The exception is *yumanensis*, a pale, desert form, bearing the same relation to *levipes* as do the horned larks, song sparrows and red-winged blackbirds of that area to their coastal relatives. Evidence of origin is to be inferred from the analogy.

Although the Clapper Rails of the Pacific coast have in recent years been universally treated as four distinct species, it was readily apparent on the examination of a fair-sized series that there is overlapping or intergradation of characters through individual variation between all of them. To agree with current custom their relationships must therefore be expressed by trinomials. The series on which these conclusions are based consists of 15 *obsoletus*, 54 *levipes*, 22 *beldingi*, and 2 *yumanensis*, borrowed from Dr. L. B. Bishop, Mr. Donald R. Dickey, Mr. L. M.

¹ Contribution from the California Institute of Technology.

Huey, the Museum of Comparative Zoology, the Museum of History, Science and Art at Los Angeles, the Museum of Natural History at San Diego, the Museum of Vertebrate Zoology, and Mr. Wright M. Pierce. The following is a synopsis of the Pacific coast Clapper Rails and their ranges as now understood. Specimens referred to by number are in the collection of Mr. Dickey unless otherwise designated.

Rallus obsoletus obsoletus Ridgway

Rallus elegans var. *obsoletus* Ridgway, Am. Nat., 8, 1874, p. 111 (San Francisco, California).

Range.—Salt water marshes of California, from Humboldt Bay south to Monterey Bay. "Accidental" on the Farallon Islands.

Remarks.—This race differs from *levipes* principally in more grayish (less brownish) edgings to the feathers of the dorsal surface, together with broader and more blackish mesial streaking, more brownish (less reddish) upper wing coverts and more avellaneous (less reddish) underparts. Overlap in these characters occurs in several of the specimens examined. Some specific instances are: *levipes* nos. 14604 and 14606, from Anaheim Landing, Orange County, which are grayer dorsally than *obsoletus* nos. D 589 and 11749 from Palo Alto, San Mateo County; *levipes* no. 14606 and *obsoletus* no. D 589 are duplicates in width of dorsal streaking; *levipes* no. 14604 and *obsoletus* no. D 589 have similarly colored underparts and *levipes* no. 14612 from Anaheim Landing has the wing coverts less reddish than *obsoletus* no. 11747 from Palo Alto. These are by no means the only examples at hand showing intergradation between these two races.

Rallus obsoletus levipes Bangs

Rallus levipes Bangs, Proc. New England Zool. Club, 1, 1889, p. 45 (Newport Landing, Los Angeles [*sic*] County, California).

Range.—Salt marshes of southern California, from Santa Barbara south to San Diego Bay, occasional on fresh or brackish water sloughs a short distance inland.

Remarks.—In characters as well as geographically, *levipes* is the form intermediate between *obsoletus* and *beldingi*. Its intergradation in characters with those forms is dealt with under their respective headings.

Rallus obsoletus beldingi Ridgway

Rallus beldingi Ridgway, Proc. U. S. Nat. Mus., 5, 1882, p. 345 (Espiritu Santo Island, Lower California).

Range.—Marshes of the coasts of Lower California (including many near-shore islands southerly), north on the Gulf coast to San José Island and on the Pacific side to San Quintín Bay.

Remarks.—Although authorities seem to have been unanimous in including San Quintín in the range ascribed to *levipes*, two specimens collected there by Mr. Pierce and now in his collection show conclusively that the range of *beldingi* extends north, at least to this point. Mr. Griffing Bancroft informs me that Clapper Rails are resident at Ensenada, but their identity must await the examination of specimens. They are probably *levipes*.

Both birds of the San Quintín pair (not numbered) are typical of *beldingi*, and are duplicated by nos. 218666 Mus. Comp. Zool., from La Paz, 11443 Mus. Nat. Hist., from Pond Lagoon, and 11468 Mus. Nat. Hist., from Scammon Lagoon.

This is the dark, richly colored extreme of the forms under discussion, differing from *levipes* in richer brown edgings and broader and more blackish mesial streaking, richer and more reddish underparts and darker flanks, the last named often inclining to blackish next to the transverse white bars. Intergradation between the two races is evident in many specimens. Nos. 14603 and 14609 of *levipes* from Anaheim Landing are, except for the paler flanks, duplicated by *beldingi* no. 120280 Mus. Comp. Zool., from San José Island; *levipes* no. 11328 Mus. Nat. Hist., from San Diego, is darker as regards flank coloration than are *beldingi* nos. 11441 Mus. Nat. Hist., from Pond Lagoon and 11468, Mus. Nat. Hist., from San Ignacio Lagoon;

levipes no. 14610 from Anaheim Landing is a much better "*beldingi*" in coloration of the underparts than is no. 120280 Mus. Comp. Zool., from San José Island.

It may be noted that there appear to be from the material at hand, no measurements nor proportions of any diagnostic value in the case of the three foregoing races.

Rallus obsoletus yumanensis Dickey

Rallus yumanensis Dickey, Auk, 40, 1923, p. 90 (Bard, Imperial County, California).

Range.—Suitable areas along the Colorado River, from Laguna Dam south at least to Yuma. Allocations to this form of the large rail known to inhabit the delta are probably correct.

Remarks.—The race *yumanensis* is very similar to *levipes*, and differs only in more slender proportions and paler coloration. Although on the basis of material at that time available the describer was justified in considering *yumanensis* a full species, more recently collected specimens of *obsoletus*, *levipes* and *beldingi* leave it without a leg to stand on so far as binomial rating is concerned. Female *beldingi* no. 11388 Mus. Nat. Hist., from San Ignacio Lagoon, has both relatively and actually more slender bill, tarsi and feet than female *yumanensis* no. J 1038. Overlap with *levipes* in all measurements as well as in all color characters except for the wing coverts, is shown in the original description. I have examined the two specimens mentioned therein (nos. F 52 and F 53) as being similar in general color to *yumanensis* and agree with the describer that except for the redder (less olive) shade on the wing coverts, there is little by which to distinguish them from *yumanensis*. However, *yumanensis* no. J 1038 is brighter and redder in this respect than *levipes* no. 14612 and is a duplicate of *levipes* no. 14604, both from Anaheim Landing.

For various reasons, I have refrained from comment on the relationships of the Pacific coast races with other American or Mexican forms.

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