

- LUNDELL, C. L. 1945. The vegetation and natural resources of British Honduras. Pp. 270–273 in *Plants and plant science in Latin America* (F. Verdoorn, ed.). *Chronica Botanica*, Waltham, Massachusetts.
- PAYNTER, R. A., JR. 1951. Autumnal trans-Gulf migrants and a new record for the Yucatan peninsula. *Auk* 68:113–114.
- . 1953. Autumnal migrants on the Campeche bank. *Auk* 70:338–349.
- . 1955. Ornithogeography of the Yucatan Peninsula. *Bull. Peabody Mus. Nat. Hist.* 9.
- ROGERS, D. T., JR. 1965. Fat levels and estimated flight-ranges of some autumn migratory birds killed in Panama during a nocturnal rainstorm. *Bird-Banding* 36:115–116.
- , J. B. GARCIA, AND A. B. ROGEL. 1986. Additions to records of North American avifauna in Yucatan, Mexico. *Wilson Bull.* 98:163–167.
- , D. L. HICKS, E. W. WISCHUSEN, AND J. R. PARRISH. 1982. Repeats, returns, and estimated flight ranges of some North American migrants in Guatemala. *J. Field Ornith.* 53:133–138.
- AND E. P. ODUM. 1964. Effect of age, sex, and level of fat deposition on major body components in some wood warblers. *Auk* 81:505–513.
- STEVENSON, H. M. 1957. The relative magnitude of the trans-Gulf and circum-Gulf spring migrations. *Wilson Bull.* 69:39–77.

EDWARD D. MILLS AND DAVID T. ROGERS, JR., *Univ. of Alabama, Dept. of Biology, Box 870344, Tuscaloosa, Alabama 35487-0344.* (Present address EDM: *Dept. of Biology, Wingate College, Wingate, North Carolina 28174.*) Received 9 Jan. 1989, accepted 15 May 1989.

Wilson Bull., 102(1), 1990, pp. 150–154

The location of the Mexican locality, Valle Real.—From 1824 to 1829, Ferdinand Deppe and his companions were the first naturalists to collect birds in Mexico for scientific purposes (Stresemann 1954). During this period, Deppe visited a locality, then known as Valle Real, where he collected a number of bird specimens, some of which were used by various authors as types of new species or subspecies. This locality has been referred almost universally to as the state of Veracruz (e.g., Ridgway 1914:356–357, 486; Stresemann 1954; Miller et al. 1957:14, 23). Some years ago, F. W. Loetscher, Jr. (in litt.) suggested to me that Valle Real might be synonymous with Valle Nacional, Oaxaca, a supposition with which I concurred but could not confirm (Binford 1989:389). Recently, however, I discovered an old map that, together with other data, proves this to be the case.

The map (Fig. 1), entitled “Mapa de Departamento Oaxaqueño,” was prepared by Juan B. Carriedo and dated 1840. It shows a nearly direct trail from “Oajaca” [=Oaxaca City] through “Capulalpa” [Capulalpan], “Yxtlan” [Ixtlán de Juárez], Jaltianguis, Analco, Comaltepec [Santiago Comaltepec], “Yolos” [San Pedro Yolox], Guajimulco [probably Santiago Cuanimulco], “S. Juan” [probably San Juan Quiotepec], “Etlá” [probably San Mateo Yetlá], “Valle real” [Valle Nacional], “Tustepec” [San Juan Bautista Tuxtepec], and “Otatitlan” [Otatitlán, Veracruz] to “Chalcatiangis” [Chalcatianguis, Veracruz]. The last town is on the Río Papaloapan, which flows past “Cosamaluapa” [Cosamaloapan; Fig. 1D] to the Gulf of Mexico at Alvarado, Veracruz. Although these 16 towns are not in the exact positions shown on modern maps, they are located properly in relation to one another. Most importantly, “Valle real” (Fig. 1A) is between “Yolos” (B) and “Tustepec” (C), approximately where

modern maps place Valle Nacional. Thus, "Valle real" on the 1840 map is synonymous with present day Valle Nacional. It is situated along the Río Valle Nacional in the Atlantic lowlands at the foot of the Sierra de Juárez. Its elevation is 65 m, and its coordinates are about 17°47'N latitude, 96°18'W longitude, 42 km southwest of San Juan Bautista Tuxtepec.

Another Oaxaca map in my possession, dated in the 1880s, uses the name "Valle nacional." Thus, the name was changed, at least on maps, between 1840 and 1890. Because "real" in Spanish can mean "royal" or "royalist" in addition to "beautiful," perhaps the change was made for nationalistic reasons after the Mexican revolution. The use of small letters beginning "real" and "nacional" has no special significance; adjectives often were not capitalized, even in place names.

That this Valle Real is the one visited by Deppe is confirmed by the following. Deppe's travels in Mexico, based on his letters and on entries in Hinrich Lichtenstein's lists of specimens, both in the Berlin Museum, are outlined in Stresemann (1954:87). Deppe left Oaxaca City on 6 December 1825 "and chose a direct route to Alvarado which proved very difficult. On December 18, he crossed the Cordillera Costal at a place called Valle Real, Veracruz, clad with luxuriant forest in which, besides many fine birds, a troop of monkeys (*Ateles vellerosus* Gray) [spider monkey, now *Ateles geoffroyi* Kuhl] was found. He was back in Alvarado on December 22. Early in January of 1826 Deppe paid another, and this time extensive, visit to Valle Real. From there he returned to Alvarado in March and proceeded via Santuario to the city of Vera Cruz which was reached by March 23." In a letter from Deppe to Lichtenstein, translated by Stresemann for A. R. Phillips (in litt.), Deppe states that Valle Real is "on road from Oaxaca [City] to Alvarado, after passing through heavily forested, steep mts. with coyol palm thickets, and still 40 leagues (=10 days in dry season) by pack train from Alvarado."

As noted, the Valle Real shown on the 1840 map is on a "direct route" (trail) between Oaxaca City and Alvarado. Along this route, the only area fitting Deppe's description is in the northeast foothills of the Sierra de Juárez of Oaxaca, a high, "steep"-sloped, "heavily forested" range that borders the flat coastal plain. The trail would certainly have been "very difficult," as is the highway today! Because Valle Real is at the very foot of this range, it could be said to be the place where Deppe "crossed the Cordillera Costal," i.e., he completed the crossing. The forests of the Sierra de Juárez support coyol palm (*Acrocomia mexicana* Karw. ex Mart.; pers. obs.). According to various old Oaxaca maps I have seen, a "league" was equivalent to about 3.8 km. By transferring the trail shown on the 1840 map to a modern map and measuring it, I found the distance from Valle Real to Alvarado to be about 142 km, or 37.4 leagues, close to the 40 leagues mentioned by Deppe.

During his Mexican travels, Deppe collected 958 bird skins, as well as numerous mammals, reptiles, amphibians, fishes, snails, insects, and plants, some of which are still in the Berlin Museum (Stresemann 1954) and probably elsewhere. I have made no attempt to locate his specimens from Valle Real, but the literature refers to those that became types of species or subspecies, as follows (the first locality mentioned is that of the original description): (1) *Aganus braccatus* = *Trogon violaceus braccatus* (Cabanis and Heine 1863), Violaceous Trogon; "Mexico"; syntypes taken in December 1825 and February 1826 at "Valle Real [Veracruz]" (Stresemann 1954:89; brackets his). (2) *Hylomanes momotula* Lichtenstein 1839, Tody Motmot; "Valle Real, Mexico"; Ridgway (1914:486, in range) lists the locality as "Vera Cruz (. . . Valle Real . . .)." (3) *Pteroglossus prasinus* = *Aulacorhynchus prasinus* (Gould 1834), Emerald Toucanet; "Mexico"; syntypes taken in December 1825 and in 1828 at, respectively, "Valle Real [Veracruz] . . . Pico de Orizaba (?)" (Stresemann 1954:89; brackets and question mark his). (4) *Picus castaneus* = *Celeus castaneus* (Wagler 1829), Chestnut-colored Woodpecker; no type locality given; syntypes taken in December 1825 and February 1826 at "Valle Real [Veracruz]" (Stresemann 1954:89; brackets his). The



A.O.U. (1983:397) gives the locality as simply "Veracruz." (5) *Icterus dives* = *Dives dives* (Deppe 1830), Melodious Blackbird; "Mexico"; according to Stresemann (1954:90, 91), the "type," from the "state of Veracruz," was sold, and an extant "cotype" (Berlin Museum) is from "Valle Real [,Veracruz]." The A.O.U. (1983:726) gives merely "Mexico" as the type locality.

In addition, Deppe collected the Black-headed Trogon (*Trogon melanocephalus* Gould 1836 not 1835 or 1838 as usually cited; see Sauer 1982:26–29) at Valle Real in February 1826. This, and a specimen from Alvarado, Veracruz, are listed as types (Berlin Museum) by Stresemann (1954:89), but most other authors (e.g., Miller et al. 1957:12; A.O.U. 1983:362) consider the state of Tamaulipas as the type locality. Stresemann apparently is in error, because Gould's (1835–1838 [1836]) description clearly gives Tamaulipas, although it is described incorrectly as "a district of Mexico situated between Vera Cruz and the Bay of Honduras." Gould further says that the type "is now in the collection of the Zoological Society of London," not the Berlin Museum.

Published records of non-type specimens from Valle Real are for the Sulphur-rumped Flycatcher (*Myiobius sulphureipygius*) (Salvin and Godman 1888–1904:57) and the Crimson-collared Tanager (*Ramphocelus sanguinolentus*) (Sclater 1856:132). Also, Deppe collected *Dives dives* at "Chiltepec" and "Cosamaloapam," as well as Valle Real (Salvin and Godman 1879–1904:481). There is a San José Chiltepec (not shown, at least by that name, on the 1840 map) 27 km northeast of Valle Nacional toward San Juan Bautista Tuxtepec.

Deppe's collection of the above eight species supports the view that his Valle Real is the same as the one on the 1840 map. *Aulacorhynchus prasinus* is unknown from the Veracruz lowlands southwest of Alvarado but is common in the Sierra de Juárez just above Valle Nacional along the road to Oaxaca City (pers. obs.). The other seven species have been taken more recently at Valle Nacional, where the primary habitat, tropical evergreen forest, is suitable for them (Binford 1989) and for the spider monkey. The December 1825 dates of the Valle Real specimens place him between Oaxaca City and Alvarado, and his presence at San José Chiltepec and Cosamaloapan place him close to Valle Nacional. I know of no other "Valle Real" in Mexico, and no other collector besides Deppe has ever used the name.

In summary, all "Valle Real" specimens and literature records of birds (and other animals and plants) should be referred to Oaxaca, not Veracruz. The type localities should include the originally published locality followed by "Valle Real [=Valle Nacional], Oaxaca, Mexico."

Acknowledgments.—For help in locating the 1840 map, I am indebted to P. E. Dempsey, Geography and Map Division, Library of Congress; J. E. Landing; and J. R. Ristić, American Geographical Society Collection of the University of Wisconsin-Milwaukee Library. A. H. Jordon, Nettie Lee Benson Collection, The General Libraries, University of Texas at Austin, kindly provided the photograph of the map. I thank R. W. Dickerman, F. W. Loetscher, Jr., B. L. Monroe, Jr., A. R. Phillips, and G. C. Sauer for their thoughtful reviews of the manuscript.

←

FIG. 1. Map, dated 1840, of a portion of Oaxaca and adjacent Veracruz, Mexico, showing the position of (A) "Valle real" [=Valle Nacional] in relation to (B) "Yolos" [=San Pedro Yolox], (C) "Tustepec" [=San Juan Bautista Tuxtepec], (D) "Cosamaluapa" [=Cosamaloapan], and other towns (see text) (map courtesy of the Nettie Lee Benson Collection, The General Libraries, University of Texas at Austin).

LITERATURE CITED

- AMERICAN ORNITHOLOGISTS' UNION. 1983. Check-list of North American birds. 6th ed. American Ornithologists' Union, Washington, D.C.
- BINFORD, L. C. 1989. A distributional survey of the birds of the Mexican state of Oaxaca. Ornithol. Monogr. No. 43. American Ornithologists' Union, Washington, D.C.
- CABANIS, J. AND F. HEINE. 1863. Museum Ornithologicum Heineanum, pt. 4, sec. I. R. Frantz.
- DEPPE, W. 1830. Preis-Verzeichniss der Säugethiere, Vögel . . . See reprint in J. Ornithol. 11:54-60.
- GOULD, J. 1834. Characters of the genera and species of the family Ramphastidae, Vig. Proc. Zool. Soc. Lond. 1834:72-79.
- . 1835-1838. A monograph of the Trogonidae or family of Trogons. Published by the author, London.
- LICHTENSTEIN, H. 1839. Abh. Phys. Kl. Akad. Wiss. Berlin (1838):449.
- MILLER, A. H., H. FRIEDMANN, L. GRISCOM, AND R. T. MOORE. 1957. Distributional check-list of the birds of Mexico, pt. II. Pac. Coast Avifauna No. 33.
- RIDGWAY, R. 1914. The birds of North and Middle America, pt. VI. U.S. Natl. Mus. Bull. No. 50.
- SALVIN, O. AND F. D. GODMAN. 1879-1904. Biologia Centrali-Americana. Aves, vol. I. Taylor and Francis, London, England.
- AND ———. 1888-1904. Biologia Centrali-Americana. Aves, vol. II. Taylor and Francis, London, England.
- SAUER, G. C. 1982. John Gould the bird man, a chronology and bibliography. Univ. Press of Kansas, Lawrence, Kansas.
- SCLATER, P. L. 1856. Synopsis avium Tanagrarum.—A descriptive catalogue of the known species of Tanagers. Proc. Zool. Soc. Lond. 1856:108-132.
- STRESEMANN, E. 1954. Ferdinand Deppe's travels in Mexico, 1824-1829. Condor 56: 86-92.
- WAGLER, J. G. 1829. Beiträge und Bemerkungen zu dem ersten Bande seines Systema Avium. Isis von Oken 22.
- LAURENCE C. BINFORD, 330 Grove Street, Glencoe, Illinois 60022. Received 20 Mar. 1989, accepted 20 April 1989.

Wilson Bull., 102(1), 1990, pp. 154-160

Why female Red-winged Blackbirds call at the nest.—Female Red-winged Blackbirds (*Agelaius phoeniceus*) often give a loud, three or more syllable "chit" call when arriving, sitting on, or departing their nests. These calls, distinguished as "Type I" by Beletsky (1983b), are conspicuous and draw attention to the caller and the location of her nest. Since predation is a major cause of egg and nestling mortality (Young 1964, Caccamise 1976), the calling by females is enigmatic. Beletsky and Orians (1985) tested the hypotheses that female calling signaled the male or signaled to other females, to coordinate group departures. Both hypotheses were rejected, and a third hypothesis, identifying females to their mates to maintain pairbonds, inform the male of reproductive status, and as a consequence, inhibit sexual harassment, was suggested. A subsequent study (Birks and Beletsky 1987) supported this hypothesis by showing that calling inhibited sexual harassment. However, Beletsky and