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## REPORT ON A COLLECTION OF BIRDS FROM GUERRERO, MEXICO

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A report published in 1934 on the ornithology of Guerrero (Griscom, 1934) constituted the first important study of the birds of a Mexican state. Altogether, 297 forms were listed as represented in the W. W. Brown collection of Guerrero birds acquired by the Museum of Comparative Zoology, or as culled from the existing literature.

Griscom's revisions, comprehensive discussion of pertinent faunal problems and generously annotated systematic list are of inestimable value to students of Mexican and Central American ornithology. However, the author deplored the absence of records of many migrant and resident forms common in the adjacent areas, and predicted that further field work in the state probably would result in the addition of 150 species. Subsequent collecting in Guerrero already has partially substantiated this estimate. A collection made at Omilteme for the Museum of Comparative Zoology in 1936 was found to include 15 previously unreported species (Griscom, 1937). Four new records of occurrence were added by Davis (1944) and 12 additional species are treated herein.

Although the basic picture of faunal areas and distribution in Guerrero, as delineated by Griscom, is little altered by the more recent studies, it is abundantly evident that much serious field work remains to be accomplished there. As in 1934, several families and many species of probable occurrence are as yet unreported. Located south of the Mexican Plateau, with its strongly Temperate fauna, and close to the constricting influence of the Isthmus of Tehuantepec, Guerrero supports an avifauna further modified by that of Central America. The need for continued but increasingly selective field work in southwestern Mexico before the complexities of its avian taxonomy and distribution can be solved, is emphasized by the

abundance, in the present small collection, of relatively prominent species only now reported in Guerrero.

This report is based on the study of a collection of 342 specimens collected in the highlands of Guerrero (Chilpancingo, Omilteme, Cuapongo) by Wilmot W. Brown in 1945-46, and later acquired by Chicago Natural History Museum. The majority of the species listed are already known in the state, but 12 of the 109 forms apparently constitute new records. Inclusion in the report of all specimens collected seems desirable both as a means of recording the availability of material that may be required by other investigators and in order to present data correlating gonadal development with specific dates.

Early in the present study I was impressed by the frequency with which the collector's estimate of relative gonadal development indicated a considerable lag in the status of the ovaries as compared with that of the testes in specimens collected on or about the same date. The instances in which some degree of sexual activity in the male, as indicated by observable activity (gross size) of the testes, antedated that of the female by weeks, or even months, are too numerous to list. Surprisingly, the ovaries of many migratory species collected in late spring, or just prior to the northward movement, show little if any pre-breeding activity, whereas gonads of the males of the same species are invariably considerably advanced. This phenomenon suggests the delayed, and finally precipitous development of female gonads in spring comparable to the rate of their post-breeding decline.

Human error undoubtedly enters into any stated estimate of gonad size, but the percentage of error is reduced and becomes relative if the observations are made by a single individual, particularly by one of W. W. Brown's experience. To be conclusive, studies correlating gonad development with seasons, or other factors, must be based upon observations of greater precision (weights, actual measurements, etc.) than were used herein. However, it is hoped that the data presented will incite further investigation of this interesting physiological problem.

#### SYSTEMATIC LIST<sup>1</sup>

##### **Anhinga anhinga minima** van Rossem

Chilpancingo: 1 male, August 12, 1946 (testes one-third enlarged).

<sup>1</sup> Asterisks mark species not previously reported in Guerrero.



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The measurements of this specimen (wing, 300; tail, 235; culmen, 63) correspond with those of the small Pacific coast race that seems to be previously unrecorded in the interior of Guerrero.

**\**Botaurus lentiginosus* Montagu**

Chilpancingo: 1 male, October 27, 1945 (testes one-fourth enlarged).

**\**Accipiter gentilis apache* van Rossem**

Chilpancingo: 1 female, September 1, 1946 (ovary one-third enlarged).

By limiting the southern winter range of the American races of *gentilis* to Chihuahua in northern Mexico current check-lists only partially and quite imperfectly reflect their actual distribution and status. An accumulation of Mexican records, principally during the last decade as a result of the work of van Rossem and Moore, indicates a far more extensive Mexican range than is generally realized. To Chihuahua may be added Sonora, Sinaloa, Jalisco, and Guerrero, for each of which there are one or more authentic records of occurrence.

Evidence that a breeding population of goshawks occurs, at least locally, in the higher mountains of southern Arizona (Santa Rita, Chiricahua) and in Mexico, is not yet conclusive, but an increasing body of data supports that view. Whatever the migratory status of the species in this area may be, one can not dismiss as migrants the late spring and summer records published by competent observers, or discount entirely the implication of two incompletely feathered juveniles collected in the Sierra de Nayarit, Jalisco, on June 20, 1889, by W. B. Richardson (Salvin and Godman, 1897, p. 46).

Arizona records of *gentilis*, and those for Mexico, when acknowledged at all, were formerly allocated arbitrarily to the western race, *striatulus*. However, van Rossem (1936, pp. 126-127) and Moore (1938, p. 24) commented upon the striking appearance of certain individuals observed or collected in this region, and each expressed the opinion that a southern race of *gentilis* might prove to be separable. Subsequently, van Rossem (1938, p. 99) assigned the name *apache* to the resident goshawks of extreme southeastern Arizona (Chiricahua Mountains) and Mexico primarily on the basis of their darker (less bluish) upper parts, and their greater size.

The color differentiation between *striatulus* and *apache* is said to be most pronounced in adult birds. Having seen no specimens of *apache* in mature plumage, I am unable to evaluate the dependability of this character. A painstaking comparison of the Guerrero female and a toptypical male (C.N.H.M. No. 130081), both in immature plumage, with a series of ten male and female specimens of Pacific coast *striatulus* in comparable plumage reveals no evidence that the variations of color and ventral pattern among subadults are of racial significance.

However, available data indicate a size differential, correlated with geographical distribution, and this difference can not be attributed to individual variation. Measurements of the Guerrero female (wing, 371; tail, 291; tarsus, 85) are so much larger than those of a series of ten females from British Columbia, Oregon, Washington and California (*striatulus*) as to emphasize the probable existence of a distinct southern population of goshawks separable on the basis of size alone. The apparent validity of such a population (*apache*) is best demonstrated by the following table of comparative measurements, which includes those of three specimens of *apache* previously published by van Rossem.

	(Southern Arizona and Mexico)		
<i>apache</i>	Wing	Tail	Tarsus
3 females.....	365-390 (375)	285-291 (289)	84
2 males.....	344-354 (349)	250-256 (253)	76-77 (76.5)
	(British Columbia—California)		
<i>striatulus</i>			
10 females.....	311-356 (337)	220-272 (250)	74-78 (77)
10 males.....	302-343 (320.5)	220-243 (231)	70-76 (73)

#### **Accipiter striatus velox** Wilson

Chilpancingo: 2 females, November 27, December 6 (ovaries minute).

#### **Buteo albicaudatus hypospodius** Gurney

Omilteme: 1 male, December 27 (testes minute).

#### **\*Buteo jamaicensis calurus** Cassin

Chilpancingo: 1 male, January 9, 1946 (testes one-fourth enlarged); 2 females, October 17, 1945, January 21, 1946 (ovaries minute).

The male exhibits to a striking degree the continuous unvariegated brownish-black of the dorsal parts (exclusive of the tail) that is characteristic of *costaricensis*. In all other respects, however, it is indistinguishable from representative examples of *calurus*. One female (October) is partially albinistic, but traces of racial characters are sufficiently clear to permit its inclusion under *calurus*, with which the second female unquestionably belongs.

**\*Buteo platypterus platypterus** Vieillot

Chilpancingo: 1 female, January 23, 1944 (ovary minute).

It is difficult to understand how the impressive migratory flights of broad-winged hawks, which I have observed in western Guatemala, can have been unrecorded in Guerrero.

**Asturina nitida plagiata** Schlegel

Chilpancingo: 1 male, December 17 (testes one-fourth enlarged); 2 females, January 21, May 29 (ovaries minute).

**\*Falco sparverius sparverius** Linnaeus

Chilpancingo: 3 females, October 17, 1945–March 2, 1946 (ovaries minute).

Both *sparverius* and *phalaena* occur in southeastern Mexico during migration, but there seems to be no previous record of the former in Guerrero. There is difficulty in distinguishing some individual females of these forms, but the specimens listed compare closely in size (wing, 200–208; tail, 126–140) and in darkness of color with the average of a large series of the nominate race.

**Falco sparverius phalaena** Lesson

Chilpancingo: 1 female, March 9 (ovary minute).

Smaller (wing, 192; tail, 118) and appreciably lighter in color than the preceding specimens of *sparverius*.

**Ortalis vetula poliocephala** Wagler

Chilpancingo: 1 male, June 17 (testes fully enlarged).

**Dendrortyx macroura striatus** Nelson

Omiteme: 1 female, December 28 (ovary minute).

**Charadrius vociferus vociferus** Linnaeus

Chilpancingo: 1 female, December 15, 1945 (ovary minute).

**Zenaidura macroura marginella** Woodhouse

Chilpancingo: 2 males, March 9, 21 (testes one-third enlarged); 4 females, February 19–April 12 (ovaries minute).

**Zenaida asiatica mearnsi** Ridgway

Chilpancingo: 1 male, June 17 (testes fully enlarged).

**Scardafella squamata inca** Lesson

Chilpancingo: 1 female, March 2 (ovary minute).

**Columbigallina passerina pallescens** Baird

Chilpancingo: 2 males, March 9, April 14 (testes fully enlarged).

**Piaya cayana mexicana** Swainson

Chilpancingo: 1 male, February 9 (testes one-fourth enlarged).

**Crotophaga sulcirostris sulcirostris** Swainson

Chilpancingo: 1 male, 1 female, March 25, April 11 (testes one-fourth enlarged; ovary minute).

**Geococcyx velox melanchima** Moore

Chilpancingo: 1 male, September 18 (testes one-third enlarged); 2 females, April 9, December 21 (ovaries minute).

Substantially identical with three specimens from Jalisco (Tuxpan) and Michoacan (Acahuato) in paleness of under parts and pattern of the three outer rectrices. There is no indication of intergradation with *affinis* in these specimens, but it is reasonable to suppose that the races merge somewhere in Oaxaca. Road-runners of southwestern Oaxaca near the coast are said to be *melanchima* (Moore, 1934, p. 464), whereas I find that a Boucard specimen (C.N.H.M. No. 41252) from an undesignated locality in Oaxaca agrees with typical examples of *affinis*.

The series of *velox* at my disposal is too limited for an evaluation of the diagnostic characters of its components, but it is apparent that even the most stable are subject to extensive modification. It may be emphasized that even the color pattern of the tail, regarded as most dependable by Moore, proves to be so variable as to render it useless in many cases.

**Bubo virginianus mayensis** Nelson

Chilpancingo: 1 male, March 9 (testes one-half enlarged).

**Glaucidium brasilianum cactorum** van Rossem

Chilpancingo: 1 female, April 29 (ovary enlarged).

Guerrero pygmy owls are difficult to allocate with certainty inasmuch as they occupy a region between the areas inhabited by characteristic populations of *cactorum* and *ridgwayi*. The influence of both races is apparent in the five Guerrero birds before me, being expressed both in proportions and in color.

Each of the three females and two males from Guerrero (Chilpancingo, Iguala and Apipilulco) has the long wing (female, 99–101; male, 93) of *ridgwayi* and the relatively long tail (female, 65–69; male, 60–63) which van Rossem credits to *cactorum*. All five are in the red phase plumage, but its color tone is very much lighter than that of *ridgwayi*, being little if any darker than specimens of *cactorum* in comparable plumage. Closer affinity with the latter is further suggested by an appreciable degree of grayness, somewhat less pronounced than in *cactorum*, that is found in Guerrero specimens.

A female from Jalisco (Tuxpan) and three males from Colima that I have examined also appear to be intergrades between *cactorum* and *ridgwayi* but, as with Guerrero birds, are more closely related to the former.

**Speotyto cunicularia hypugaea** Bonaparte

Chilpancingo: 1 male, 2 females, November 15–27 (gonads minute).

**Caprimulgus ridgwayi ridgwayi** Nelson

Chilpancingo: 1 male, February 11 (testes one-fourth enlarged).

**Caprimulgus vociferus oaxaca** Nelson

Omilteme: 1 female, January 29 (ovary minute).

Previously recorded in the highlands of Guerrero (Amula) as *C. v. macromystax* Wagler.

**Cynanthus sordidus** Gould

Chilpancingo: 3 males, March 21–April 15 (testes minute to fully enlarged); 1 female, April 7 (ovary minute).

**Cynanthus latirostris doubledayi** Bourcier

Chilpancingo: 1 male, December 15 (testes one-fourth enlarged).

**Amazilia violiceps violiceps** Gould

Chilpancingo: 2 males, April 7, 11 (testes minute).

One specimen (April 11) has the glittering blue crown formerly credited to *A. verticalis*, which has since been found to represent the final subadult plumage of *violiceps*. Three specimens collected at Iguala February 11–22 are in intermediate plumage, their crowns being flecked with both blue and violet.

**Lampornis amethystinus margaritae** Salvin and Godman

Cuapongo: 1 male, November 21 (testes fully enlarged).

The bluish-purple throat of this specimen is characteristic of *L. pringlei* Nelson, which Griscom (1937, pp. 194–195) has demonstrated to be merely an extreme color variant of *margaritae*. Two males from Tancitaro, Michoacan, have the deep mouse gray under parts and violet-purple throats associated with typical *margaritae*. Further retention of *brevirostris* as subspecifically distinct is indefensible in the absence of a stable diagnostic character.

**Eugenes fulgens fulgens** Swainson

Omilteme: 1 male, December 27 (testes minute).

**Archilochus colubris** Linnaeus

Chilpancingo: 1 male, 1 female, October 17, March 22 (testes and ovary minute).

**Trogon mexicanus mexicanus** Swainson

Omilteme: 2 males, 3 females, December 21–30 (testes one-fourth enlarged; ovaries minute).

**Trogon elegans ambiguus** Gould

Omilteme: 1 male, November 9 (testes one-fourth enlarged).

Characters separating *canescens* van Rossem from the present race are decidedly variable and appear to be of value only when applied statistically.

**Momotus mexicanus mexicanus** Swainson

Chilpancingo: 2 males, 1 female, February 27–March 5 (testes one-fourth enlarged; ovary minute); 1 male, June 17 (testes fully enlarged).

***Aulacorhynchus prasinus wagleri* Sturm**

Chilpancingo: 1 female, October 17 (ovary minute).

***Colaptes cafer mexicanus* Swainson**

Omilteme: 1 male, 1 female, December 29 (testes one-fourth enlarged; ovary minute). Cuapongo: 2 males, November 25, 27 (testes one-fourth enlarged).

***Centurus chrysogenys flavinuchus* Ridgway**

Chilpancingo: 1 male, 1 female, May 4, June 7 (testes and ovary fully enlarged).

***Dryobates scalaris azelus* Oberholser**

Chilpancingo: 1 female, March 9 (oviduct with eggs).

***Xiphocolaptes promeropirhynchus omiltemensis* Nelson**

Omilteme: 1 male, 1 female, December 31, January 1 (testes fully enlarged; ovary minute).

***Lepidocolaptes affinis affinis* Lafresnaye**

Omilteme: 1 male, 1 female, January 27 (testes one-fourth enlarged; ovary minute).

These specimens, as well as those of the preceding species, emphasize an apparently widespread phenomenon, that is, the retarded gonadal development of females as compared with that of males collected on or about the same date.

***\*Sayornis phoebe* Latham**

Chilpancingo: 1 female, November 21, 1945 (ovary minute).

The phoebe migrates southward to Oaxaca, but I find no previous record of its occurrence in Guerrero.

***Pyrocephalus rubinus mexicanus* Sclater**

Chilpancingo: 2 males, January 10, February 4 (testes one-fourth enlarged); 2 males, April 15, May 6 (testes fully enlarged); 3 females, February 8, 10, May 17 (ovaries minute).

***Tyrannus vociferans vociferans* Swainson**

Chilpancingo: 1 male, February 4 (testes one-fourth enlarged); 5 females, January 19–March 1 (ovaries minute).

Cassin's kingbird breeds southward to Jalisco, and possibly beyond to Michoacan, as suggested by Blake and Hanson (1942, p. 534). Apparently it occurs in Guerrero only as a migrant and winter visitant, the latest spring record thus far reported being April 17.

**Tyrannus vociferans xenopterus** Griscom

Chilpancingo: 4 males, 2 females, April 27–June 20 (testes fully enlarged; oviducts with eggs); 1 male, 1 female, January 19, March 10 (testes one-fourth enlarged; ovary minute).

Resident in Guerrero and remarkably distinct from the nominate race in male wing formula.

**Tyrannus melancholicus occidentalis** Hartert and Goodson

Chilpancingo: 1 female, May 6 (ovary greatly enlarged).

Measurements of this specimen (wing, 105; tail, 83) are unaccountably small for an adult.

**Tyrannus crassirostris crassirostris** Swainson

Chilpancingo: 1 male, June 21 (testes greatly enlarged).

**Myiarchus tyrannulus magister** Ridgway

Chilpancingo: 1 male, 1 female, May 6, March 9 (testes fully enlarged; ovary minute).

**Myiarchus cinerascens inquietus** Salvin and Godman

Chilpancingo: 4 males, 10 females, January 11–April 12 (testes one-fourth enlarged; ovaries minute); 1 male, 1 female, April 17 (testes one-third enlarged; ovary greatly enlarged).

The variations occurring in Guerrero specimens of this species, and their relationship to the nominate race and to *nuttingi*, constitute an interesting though complicated problem, which has been amply elaborated by Griscom (1934, pp. 387–390).

**Myiochanes pertinax pertinax** Cabanis and Heine

Omilteme: 1 female, January 29 (ovary minute).

**Myiochanes richardsonii richardsonii** Swainson

Chilpancingo: 2 males, 2 females, April 11–May 4 (testes fully enlarged; ovaries minute).



***Empidonax minimus* Baird**

Chilpancingo: 4 females, December 19–May 4 (ovaries minute).

***Empidonax fulvipectus pulverius* Brewster**

Chilpancingo: 3 females, March 1, 9 (ovaries minute).

***Elaenia placens jaliscensis* Nelson**

Chilpancingo: 1 male, May 15 (testes fully enlarged).

***Camptostoma imberbe* Sclater**

Chilpancingo: 2 females, April 12, August 15 (ovaries minute);  
1 female, May 12 (ovary enlarged).

***Tachycineta thalassina lepida* Mearns**

Chilpancingo: 1 female, March 5 (ovary minute).

***Aphelocoma unicolor guerrerensis* Nelson**

Omilteme: 1 male, 2 females, January 1 (testes one-fourth enlarged; ovaries minute).

***Cyanocitta stelleri coronata* Swainson**

Omilteme: 3 females, November 9–December 29 (ovaries minute).  
Cuapongo: 1 male, 2 females, November 27 (testes one-fourth enlarged; ovaries minute).

**\**Parus sclateri sclateri* Kleinschmidt**

Omilteme: 1 female, January 27, 1946 (ovary minute).

Indistinguishable from a series of Michoacan and Zacatecas specimens, which are readily separable from *eidos*. The nominate race apparently breeds in Michoacan (Blake and Hanson, 1942, p. 537) and probably its status as a resident in the highlands of Guerrero will be established by further field work.

***Troglodytes aedon parkmanii* Audubon**

Chilpancingo: 2 males, 1 female, February 11–March 5 (testes one-fourth enlarged; ovary minute).

***Troglodytes brunneicollis brunneicollis* Sclater**

Omilteme: 1 male, November 8 (testes one-fourth enlarged).

**Salpinctes obsoletus obsoletus** Say

Chilpancingo: 1 female, April 2 (ovary enlarged, brooding patch present).

The characters of *notius* Ridgway, which is generally regarded as the resident race of the southern portion of the Mexican Plateau, are repeatedly found in the nominate race as individual variations. In the absence of any stable criterion by which the former may be separated with certainty, I am unable to regard Guerrero specimens as subspecifically distinct.

**Melanotis caerulescens effuticus** Bangs and Penard

Chilpancingo: 2 males, May 21, June 10 (testes fully enlarged).

Guerrero and Michoacan (Cerro de Tancítaro) specimens are indistinguishable from a series of Jalisco birds.

**Mimus polyglottos leucopterus** Vigors

Chilpancingo: 1 female, August 10 (ovary minute).

**Turdus rufo-palliatus rufo-palliatus** Lafresnaye

Chilpancingo: 1 female, February 27 (ovary minute).

**Myadestes obscurus occidentalis** Stejneger

Chilpancingo: 2 females, February 19, March 7 (ovaries minute).

**\*Hyalocichla ustulata swainsoni** Tschudi

Chilpancingo: 1 male, April 27, 1946 (testes one-fourth enlarged).

Both races of *ustulata* are now recorded as migrants in Guerrero. It is odd that *swainsoni*, so widely distributed and frequently reported southward to Argentina in winter, should only now have been found in Guerrero. Re-examination of specimens from early Mexican collections probably would reveal instances, having geographical significance, of confusion between the two, as Hellmayr (1934, p. 457, footnote) postulates has been the case with all records of the nominate race south of Guatemala.

**Catharus melpomene clarus** Jouy

Chilpancingo: 2 females, February 4, April 19 (ovaries minute).

**Poliophtila caerulea caerulea** Linnaeus

Chilpancingo: 1 female, March 7 (ovary minute).

**\**Bombycilla cedrorum* Vieillot**

Chilpancingo: 7 males, January 19–April 20, 1946 (testes one-fourth enlarged); 8 females, January 21–April 27, 1946 (ovaries minute).

***Ptilogonys cinereus pallescens* Griscom**

Omilteme: 1 male, January 27 (testes minute).

***Lanius ludovicianus mexicanus* Brehm**

Chilpancingo: 2 males, February 9 and March 2, 1946 (testes of the former fully enlarged; the latter one-fourth enlarged).

***Vireo hypochryseus hypochryseus* Selater**

Chilpancingo: 2 males, February 19, April 21 (testes one-fourth enlarged).

***Vireo gilvus swainsonii* Baird**

Chilpancingo: 1 male, April 29 (testes one-fourth enlarged); 3 females, March 29, April 19 (ovaries minute).

***Vermivora ruficapilla ruficapilla* Wilson**

Chilpancingo: 1 female, April 20 (ovary minute).

***Dendroica aestiva* subsp.**

Chilpancingo: 2 males, March 29, April 21 (testes one-fourth enlarged); 1 female, August 19 (ovary minute).

Three races of the yellow warbler have been recorded at Chilpancingo as migrants or winter visitants. I am unable to allocate the present specimens with any degree of assurance.

***Icteria virens auricollis* Bonaparte**

Chilpancingo: 1 male, March 9 (testes one-half enlarged).

**\**Passer domesticus domesticus* Linnaeus**

Chilpancingo: 1 male, April 17, 1946 (testes fully enlarged).

The present distribution of English sparrows in Mexico is imperfectly known and I can find no earlier record of its presence in Guerrero.

**Tangavius aeneus assimilis** Nelson

Chilpancingo: 6 males, April 21–August 28 (testes fully enlarged); 2 females, April 2, November 16 (ovaries minute); 1 female, May 12 (ovary enlarged).

**Molothrus ater artemisiae** Grinnell

Chilpancingo: 1 male, February 5 (testes one-fourth enlarged); 3 females, March 9, 29 (ovaries minute).

**Cassidix mexicanus obscurus** Nelson

Chilpancingo: 1 male, April 15 (testes fully enlarged).

**Icterus bullockii bullockii** Swainson

Chilpancingo: 5 females, February 20–April 21 (ovaries minute).  
Omiteme: 1 male, January 29 (testes one-fourth enlarged).

**Icterus spurius spurius** Linnaeus

Chilpancingo: 3 males, April 2, 19, July 27 (testes one-half enlarged); 4 females, February 5–April 13 (ovaries minute).

The latest spring date of this series is April 19. The July 27 specimen, a male in full plumage, is unusually early for a fall migrant. Ridgway (1902, p. 276) records Mexican specimens collected in May (Vera Cruz), June (Jalisco), and July (Oaxaca), but the supposition that the species breeds in Mexico requires substantiation.

**Icterus wagleri wagleri** Sclater

Chilpancingo: 16 males, March 27–June 7 (testes one-third to fully enlarged); 7 females, April 29–June 10 (one May 7 specimen has active gonads; ovaries of other females minute).

**Icterus graduacauda graduacauda** Lesson

Omiteme: 1 female, January 1 (ovary minute).

**Icterus cucullatus californicus** Lesson

Chilpancingo: 1 male, 2 females, February 17–March 3 (testes slightly enlarged; ovaries minute).

**Icterus pustulatus pustulatus** Wagler

Chilpancingo: 10 males, April 7–June 21 (testes fully enlarged); 4 females, April 27–June 1 (one May 5 specimen has active gonads; ovaries of the other females minute).

**\**Tanagra affinis godmani* Brewster**

Chilpancingo: 1 male, January 19, 1946 (testes fully enlarged).

The proper taxonomic position of *godmani* in relation to *T. minuta* and *T. affinis* has been uncertain, since it combines several characters of each. Brewster (1889, pp. 90-92) compared it with the former, specimens of *affinis* being unavailable to him, but expressed the opinion that *godmani* would prove to be more closely related to the latter. This viewpoint was not shared by Ridgway, who apparently attached paramount importance to the possession by *minuta* and *godmani* of a white crissum, whereas that of *affinis* is yellow.

Comparison of the principal characters of each may best be made by means of the following chart.

Male Characters	<i>T. minuta</i>	<i>T. godmani</i>	<i>T. affinis</i>
Relative size.....	small	larger	intermediate
Relative beak proportions....	slender	heavy	heavy
Frontal band.....	absent	reduced	present
Forehead.....	cadmium yellow (narrow patch)	pale yellow (broad patch)	pale yellow (broad patch)
Head (exclusive of forehead).....	violaceous blue	intermediate to <i>minuta</i> and <i>affinis</i>	dark violet
Ventral color (exclusive of crissum).....	cadmium yellow, lower belly white	unmodified expanse of chrome yellow	unmodified expanse of chrome yellow
Concealed white of ventral feathers.....	greatly reduced	prominent	prominent
Crissum.....	white	white, tinged with yellow	chrome yellow
Third lateral rectrix (inner web).....	white spot	white spot	lacks white spot
Secondaries (inner web).....	approximately $\frac{1}{2}$ white	more than $\frac{1}{2}$ white	more than $\frac{1}{2}$ white

Analysis of the foregoing chart reveals a striking degree of resemblance between the three forms, and the apparent intermediacy of *godmani*. Certainly there is no sound basis for retaining it as a distinct species. Both morphologically, as regards the beak, and in the majority of its more superficial characters, *godmani* exhibits stronger affinities with *T. affinis*, to which I do not hesitate to assign it as a racial variant. The validity of this opinion seems further strengthened by the similarity of the females, which are quite different from those of *minuta*.

**\*Piranga rubra rubra** Linnaeus

Chilpancingo: 1 female, January 10, 1946 (ovary minute).  
Apparently the first record of occurrence in Guerrero.

**Piranga ludoviciana** Wilson

Chilpancingo: 2 males, 3 females, March 3–April 25 (testes enlarged; ovaries minute).

**Pheucticus chrysopheplus chrysopheplus** Vigors

Chilpancingo: 11 males, 2 females, May 27–June 30 (gonads greatly enlarged).

The nominate race is more closely allied to *dilutus* than to *aurantiacus*, but Guerrero birds exhibit marked affinities with the latter, both in the characters of adult male rump feathers and in the richness of their under parts. Although readily separable from typical *aurantiacus*, four Guerrero males are somewhat more richly colored below than a Guatemala (El Rancho, Zacapa) specimen of the former, being barely distinguishable from a Chiapas (Ocozocoautla) male. It is evident, therefore, that intergradation of *aurantiacus* and the nominate race occurs in Guerrero and Chiapas, the population of both frequently deviating from the normal of their respective races.

**Hedymeles melanocephalus maculatus** Audubon

Chilpancingo: 1 female, May 6 (ovary minute).

**Guiraca caerulea interfusa** Dwight and Griscom

Chilpancingo: 2 males, 1 female, March 5–April 19 (testes one-third enlarged; ovary minute).

**Guiraca caerulea eurhyncha** Coues

Chilpancingo: 3 males, January 23–April 8 (testes one-third enlarged).

It is evident from their relatively pale wing-bands that all three specimens are intermediate between *eurhyncha* and *interfusa*, though typical of the former in size.

**Passerina cyanea** Linnaeus

Chilpancingo: 3 females, March 7–April 10 (ovaries minute).

***Passerina versicolor versicolor* Bonaparte**

Chilpancingo: 1 male, February 11 (testes minute).

***Passerina ciris* Linnaeus**

Chilpancingo: 1 male, 1 female, April 12, February 11 (testes one-third enlarged; ovary minute).

Comparison of 124 specimens of the painted bunting collected at all seasons, and representing the principal areas of its range, fails to produce evidence that the species is subject to geographical variation. The subspecific characters attributed to the western race, *pallidior*, are by no means constant, being duplicated repeatedly in a series from the southeastern United States.

***Carpodacus mexicanus griscomi* Moore**

Chilpancingo: 6 males, April 1–May 7 (testes one-fourth to fully enlarged); 5 females, February 1–May 6 (ovaries minute); 2 females, March 1, May 9 (ovaries greatly enlarged).

***Sporophila torqueola torqueola* Bonaparte**

Chilpancingo: 1 female, March 1 (ovary minute).

***Spinus psaltria psaltria* Say**

Chilpancingo: 2 males, January 17, June 2 (testes minute and one-half enlarged); 2 females, March 29, April 25 (ovaries minute); 1 female, September 1 (ovary slightly enlarged).

I can find no character sufficiently stable to justify the separation of *mexicanus* Swainson from the nominate race.

***Atlapetes brunnei-nucha brunnei-nucha* Lafresnaye**

Omilteme: 1 female, January 29 (ovary minute).

***Pipilo torquatus guerrerensis* van Rossem**

Omilteme: 1 male, January 27 (testes one-fourth enlarged). Cuapongo: 1 male, 1 female, November 10, 14 (testes one-fourth enlarged; ovary minute).

***Melozone kieneri rubricatum* Cabanis**

Chilpancingo: 1 male, April 27 (testes one-third enlarged).

***Passerculus sandwichensis anthinus* Bonaparte**

Chilpancingo: 1 female, January 19 (ovary minute).

***Ammodramus savannarum bimaculatus* Swainson**

Chilpancingo: 1 male, February 19 (testes one-fourth enlarged); 7 females, February 11–April 13 (ovaries minute).

***Chondestes grammacus strigatus* Swainson**

Chilpancingo: 2 males, January 19–March 21 (testes one-fourth enlarged); 3 females, February 19–April 12 (ovaries minute).

***Aimophila humeralis humeralis* Cabanis**

Chilpancingo: 3 males, June 5, 6, September 27 (testes fully enlarged); 2 females, February 11, 14 (ovaries minute); 1 female, June 7 (ovary enlarged).

***Spizella pallida* Swainson**

Chilpancingo: 3 females, February 11–March 9 (ovaries minute).

***Spizella passerina arizonae* Coues**

Chilpancingo: 1 female, April 20 (ovary minute).

***Melospiza lincolnii lincolnii* Audubon**

Chilpancingo: 2 males, 1 female, January 19–March 21 (testes one-fourth enlarged; ovary minute).

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