

WINTER BIRD CENSUS AT XILITLA, SAN LUIS POTOSI, MEXICO

By L. IRBY DAVIS

In an organized, cooperative effort a group of bird students worked, variously from three to seven days, during the Christmas holidays of 1951, to obtain a second winter-bird census in the region of Xilitla, San Luis Potosí, México. The group consisted of Richard Bentley, Jerram L. Brown, Philip P. Caswell, Anna May Davis, Coralyn Davis, L. Irby Davis, Robert Drawe, Jr., Malcolm Gordon, Jean W. Graber, Richard R. Graber, William J. Hamilton III, Pauline James, William S. Jennings, Marshall Johnston, Edgar Kincaid, Jr., William Lidicker, Jr., John Maroney, Jr., Marcella Newman, Robert J. Newman, Richard C. Rosche, Chester M. Rowell, Charles R. Shaw, Carolyn Somers, and George M. Sutton. A preliminary survey was made on November 22, 23 and 24 by Anna May Davis, L. Irby Davis and Pauline James. The number of teams working simultaneously varied from one to ten on different days, but there were at least nine teams in the field on three of the days and seven in the field on a fourth. L. Irby Davis and Edgar Kincaid, Jr., worked as a single team on January 4 and 5, 1952.

The area covered by the various teams represents a typical strip across the mountain range on which Xilitla is located. Each team worked in a limited altitudinal range and worked out from a point on the road which runs from the Rio Axtla through Xilitla to Ahuacatlan and beyond. The area between 5000 and 7000 feet was worked by Jean W. Graber and Richard R. Graber from a base camp on the slope of Cerro Conejo. All work was confined to a circle of seven and one-half miles' radius with a center in the eastern part of the town of Xilitla. Time spent in the field and total number of species seen on different dates are summarized in table 1. The areas covered (fig. 1) were as follows:

A. Tropical forest along Rio Axtla and the river itself, including an area along the road to Xilitla, from the ferry upward one mile, or to point where the road begins to climb up the mountain. The bench forest was obviously quite dense before it was altered by selective cutting. Since the whole region covered by the census has been more or less under cultivation by the native Indians for centuries, it is impossible to say that there is any "virgin" forest in any part of it. Most of the wooded tracts in the vicinity of area A are planted in coffee although at least one mango orchard is included. Coffee is grown as an underbrush shrub with the forest trees remaining in a fairly dense stand to supply shade. The mango trees are tall and mature, and since weeds and shrubs are growing in the understory, the orchard has about the same appearance as forest. Throughout this area epiphytes are common and in most places the underbrush is quite dense. Along the bank of the river there are many trees some of which are very large. They include *Ceiba pentandra*, *Pithecolobium dulce*, *Ficus lapathifolia*, *Elaphrim simaruba*, and many other species including scattered trees of *Tabebuia pentaphylla*, *Taxodium mucronatum* and *Platanus glabrata*. Hanging over the water are many clumps of bamboo (*Bambas aculeata*), which may grow as a dense thicket in a belt of one hundred feet or more along the bank.

B. More than half of the bench forest has been cleared and in this area we now have fields and pastures. At the time of the census most of the fields were grown up in weeds. The pastures contained grasses, many rank weeds and clumps of shrubs; there were also scattered trees of different sizes. Elevation about 300 feet.

C. This area begins one and one-half miles beyond the ferry on the road to Xilitla, where the 500-foot level is reached, and extends along the road for 1.7 miles to the 1000-foot level. Cultivated parts of the 500-1000 foot interval are planted largely in coffee, but there are some small patches of bananas and citrus trees near the native huts. The terrain is rough and the slopes steep. Throughout the region the grades are so steep and the turns so frequent that the road mileage is roughly double the air-line mileage. There are deep, narrow canyons in which the plant growth becomes progressively more luxuriant with increasing altitude and humidity. Ferns and epiphytes become more plentiful. The forest trees contain many species but perhaps the commonest one is *Elaphrim simaruba*. Other

species include *Ficus lapathifolia*, *Pithecolobium arboreum*, *Melia azedarach*, *Croton niveus*, *Croton draco*, *Jatropha wrens*, *Ceiba pentandra*, *ICICA copal* and *Castilla elastica*. The understory tends to be dense with ferns, vines and shrubs.

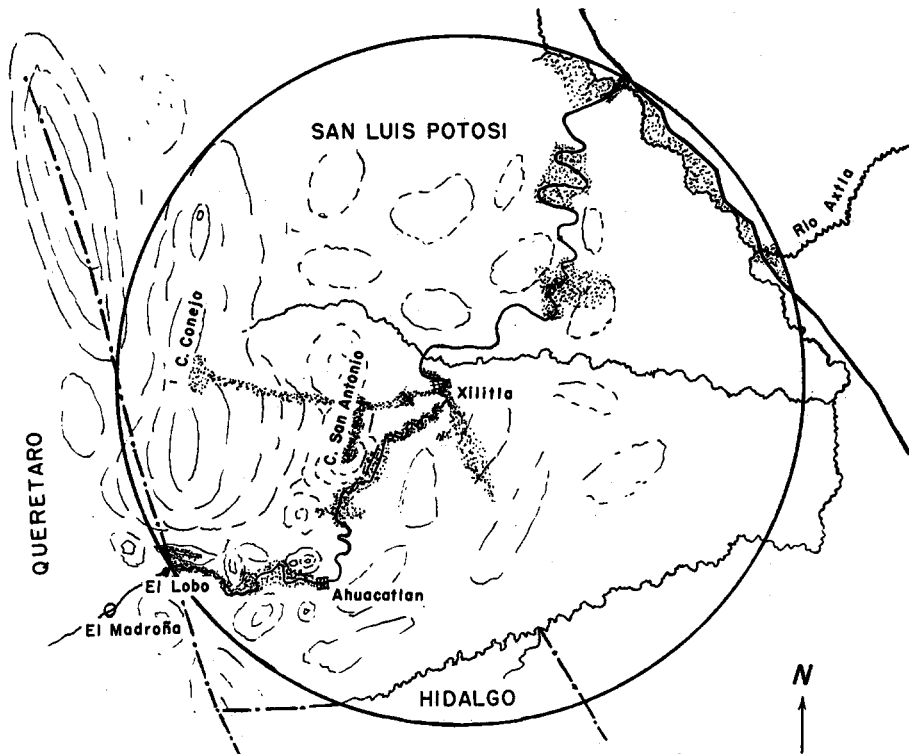


Fig. 1. Region of southern San Luis Potosí where winter birds were censused. The circle indicates 7.5 miles' distance from Xilitla at the center. Stippled parts of the map show areas from which census data were gathered.

D. An area between 1500 and 2200 feet, which is planted almost entirely in coffee except for that part of the upper limit which includes the village of Xilitla. Selective cutting has made three species of trees, which we were unable to identify for lack of flowers and fruit, quite common as shade pro-

Table 1
Party-hours Spent in Census Areas

Date	A	B	C	D	E	F	Area							Total hours	Species	
							G	H	I	J	K	L	M			
1951—																
Nov. 22	½	½													1	15
Nov. 28	½	½		2							½	1½			5	53
Nov. 24	4	4													8	60
Dec. 27	9½	7½	7½	12½	5				1		2¾	3¾			49	144
Dec. 28	10	6½		6	5		3½	6½	3½	6	2¾	2	3		56¾	149
Dec. 29	11	6	9¼	18	6	3	2	5½	12	4½	3¼	3	8		91½	164
Dec. 30	7½	3	9	17	5	4½	1	3½	6	3			6		65¾	145
Dec. 31	8½	3	¼												11¾	58
1952—																
Jan. 4	5	2													7	59
Jan. 5	¼	½	1	1½	1	½			1		2	2¼			10	50
Totals	56¾	34	27	57	22	10	6½	17½	21½	13½	11¼	12	17		305½	238

ducers in tracts of coffee near Xilitla. The other forest trees were largely the same as in area C. In spots where there has been much cutting in recent years without regard to selection ("waste spots," road shoulders, etc.), *Melia*, *Croton* and *Jatropha* are very common. *Erythrina* is abundant in Xilitla; the blossoms greatly attract hummingbirds. The terrain in this area is similar to that in area C. The humidity is greater, however, and the plant growth still more luxuriant. The rainfall at Xilitla is said to be about 100 inches per year, but there is five times as much rain from May through October as in the other half of the year. Still, even in the winter months, the northeast slope of the mountains does not appear to suffer from drought. Most of the limestone cliffs are dripping with moisture in the rainy season. These are covered with begonias and other rock plants. On more level spots there are many sink holes and deep crevices in the rocks, which openings are so choked with vegetation that they can scarcely be seen. Ferns and "elephant-ears" grow rankly, and in places the ground is carpeted with *Selaginella* to a depth of eight inches. The trees are lofty and are so covered with a great profusion of other plants (*Philodendron*, *Peperomia*, *Aechmea*, *Tillandsia*; also ferns, cacti, orchids and mistletoe) that no bark is visible on the trunks or larger limbs. There is great variation in even a single group of these epiphytes; for instance the ferns vary from tiny moss-like species with fronds only a few millimeters long to giant "staghorns" with fronds several feet in length. In short, this is tropical, mountain rain forest somewhat modified by coffee planting.

The relatively open spots in the village and around some of the farm houses permitted the listing of such birds as the Sparrow Hawk, which would probably be absent from the dense woods of the other parts of the area. The Pintails listed in this area were seen flying over a small opening.

E. An area between 2200 and 3000 feet. In this wooded area the transition from tropical plants to "sub-tropical" or temperate-zone species begins. At 2500 feet, sweet gum and oak trees become common. The tracts covered were all southwest of Xilitla where the woods are relatively open. Epiphytes are relatively less numerous and smaller than at lower altitudes, and almost all under-shrubs had been recently cut out to permit the planting of new coffee plants. In a few spots where coffee has not been planted, *Melia* has become dominant.

F. Open areas between 2200 and 3000 feet. These are fields and pastures (mostly corn fields now largely grown up in grass and weeds), with bushes and trees along fence rows.

G. Woods between 3000 and 4000 feet. Here occur sweet gum and oak trees with understory of tree ferns (on the most humid slope of Cerro San Antonio), or shrubs and vines. Epiphytes are common but the growth is less lush than in area D.

H. Open areas between 3000 and 4000 feet. Similar to F.

I. Wooded areas between 4000 and 5000 feet; oak-sweet gum-tree fern association.

J. Open areas between 4000 and 5000 feet; mostly shrubby, hillside pastures on wet side of the mountain.

K. Open areas between 4000 and 5000 feet; mostly rocky canyons, dry weedy fields or bushy pastures on dry slope of mountain (west of Ahuacatlan).

L. A level area at 5000 feet on dry side of mountain (west of Ahuacatlan); mixed pine and oak woods; ground covered with scattered shrubs and grass; epiphytes and vines relatively scarce.

M. Woods on wet slope of mountain (Cerro Conejo) between 5000 and 7000 feet; mostly pine but some oak at the lowest altitudes.

Official data on the rainfall of the area west of Ahuacatlan are not available but the general appearance of the plants suggests (K and L above) that there is less than half as much moisture available as is found on the wet slope of the mountain.

A mild cold front came into the region on the night of December 26. The 27th was chilly and cloudy with a slow rain all day. The following days were mostly clear after early morning fog, which was very heavy along the river where it hung until about 9:30 a.m. most days. The temperature varied from about 55 to 85°F. On January 4, 1952, it rained again all day but the following day was bright and clear.

The early part of 1951 brought freezing weather to Xilitla for the first time in more than fifty years. Most of the tropical trees in the 2000-3000 foot level were either killed outright or severely damaged with new growth sprouting out from the trunks. The result

was a tremendous decrease in the supply of blossoms and fruit at this level over many miles of territory. Where hardy trees were in use, only the coffee plants below were killed and had to be replanted. The underbrush was largely cleared to make way for the planting and this brought about a much more open look to the woods. As compared with December, 1951, the conditions in 1950 were very different and in fact seemed to be the most favorable possible for wintering birds. In 1950 only one census was made at Xilitla (Audubon Field Notes, April, 1951), whereas several daily counts were taken in 1951. But the startling differences in results leave little doubt that even greater differences would have been found had more days been devoted to the counting in 1950.

A comparison of the data for the two years suggests that the Coppery-tailed Trogon, Jalapa Trogon, Gartered Trogon, Mexican Antshrike, Rose-throated Becard, Black Phoebe, Jalapa Robin, Gray Robin, Mexican Pepper-shrike and others are partly migratory in this region. For example, in 1950, 111 Gray Robins were listed in a single day (72 party-hours), whereas, in 1951, 4 was the greatest number listed on any one of the census days and 18 was the grand total listed in all counts (305½ party-hours). Northern birds wintering in the region also showed a big drop: In 1950 there were 203 Pileolated Warblers listed, but in 1951 the most found in a single day was 59. By way of contrast we may consider such common, permanent residents as the Black Vulture and Brown Jay. In 1951 the greatest number of Black Vultures listed in a single day was 201; in 1950 the number was 255. In 1951 there were 175 Brown Jays counted one day, while in 1950 the number was 172. In comparing data for the two years as given in table 2, it must be borne in mind that the 1951 total includes repeats for some or all of the days, whereas the 1950 data include few if any repeats as they represent a single day in the field.

Thus far I find no evidence of regular altitudinal migration, but there is definite indication that some shifting up and down the mountain does occur. In 1950 all the White-crowned Parrots were seen between 4000 and 5000 feet, while in 1951 most of them were seen between 500 and 1000 feet. In 1951 all the Brown-headed Chlorospinguses were above 3000 feet, while most of them in 1950 were in area E, in which none was found in 1951. Since area E showed the greatest degree of freeze damage, it may be that this had something to do with the differences in distribution. Or it may be that non-breeding birds will shift either up or down the mountain depending upon available food.

Some things not shown by the data in table 2 should be pointed out: The Wood Duck (*Aix sponsa*) had never before been listed in the state. What was believed to be the same individual, a female, was found at the same spot on the Rio Axtla on three consecutive days by William S. Jennings.

The Black Crane Hawk (*Geranospiza nigra*), not previously listed in the region, was identified by Robert J. Newman.

The bird listed as a Common Screech Owl (*Otus asio*) was observed in the town of Xilitla by Marshall Johnston. The only Screech Owls collected in the region have been identified as Guatemalan Screech Owls, but these were all obtained at much higher elevation.

The Burrowing Owl (*Speotyto cunicularia*) was found by L. Irby Davis just west of the town of Ahuacatlan. It was on the ground near a roadside ditch and flew over a wall when approached.

Lest someone be misled by the fact that a number of Collared Swifts (*Streptoprocne zonaris*) were listed this year while none was seen in the previous year, it should be noted that they were just as common in 1950 but could not be listed on the day of the census

Table 2
1951 Winter Census in the Xilitla Region, San Luis Potosi
(Largest number listed in each area in one day)

Area	A	B	C	D	E	F	G	H	I	J	K	L	M	Total		
														1951 (all days)	1950 (one day)	
TINAMIDAE																
<i>Crypturellus cinnamomeus</i>	6	0	3	4	0	0	0	0	0	0	0	0	0	0	24	2
COLYMBIDAE																
<i>Colymbus dominicus</i>	4	0	0	0	0	0	0	0	0	0	0	0	0	18	14	
<i>Podilymbus podiceps</i>	9	0	0	0	0	0	0	0	0	0	0	0	0	48	30	
PHALACROCORACIDAE																
<i>Phalacrocorax olivaceus</i>															0	41
ANHINGIDAE																
<i>Anhinga anhinga</i>	2	0	0	0	0	0	0	0	0	0	0	0	0	8	6	
ARDEIDAE																
<i>Ardea herodias</i>	3	0	0	0	0	0	0	0	0	0	0	0	0	6	0	
<i>Butorides virescens</i>	5	0	0	0	0	0	0	0	0	0	0	0	0	17	7	
<i>Florida caerulea</i>	3	0	0	0	0	0	0	0	0	0	0	0	0	9	6	
<i>Casmerodius albus</i>														0	15	
<i>Leucophoyx thula</i>	2	0	0	0	0	0	0	0	0	0	0	0	0	6	6	
<i>Hydranassa tricolor</i>														0	1	
THRESKIORNITHIDAE																
<i>Plegadis mexicana</i>															0	2
ANATIDAE																
<i>Anas platyrhynchos</i>															0	9
<i>Anas cyanoptera</i>	1	0	0	0	0	0	0	0	0	0	0	0	0	1	6	
<i>Anas discors</i>														0	20	
<i>Anas crecca</i>														0	18	
<i>Anas acuta</i>	42	0	0	11	0	0	0	0	0	0	0	0	0	53	9	
<i>Anas strepera</i>	3	0	0	0	0	0	0	0	0	0	0	0	0	6	67	
<i>Mareca americana</i>	4	0	0	0	0	0	0	0	0	0	0	0	0	9	25	
<i>Spatula clypeata</i>														0	4	
<i>Aix sponsa</i>	1	0	0	0	0	0	0	0	0	0	0	0	0	3	0	
<i>Aythya americana</i>														0	4	
CATHARTIDAE																
<i>Coragyps atratus</i>	102	47	19	102	73	15	0	22	1	27	23	10	3	759	255	
<i>Cathartes aura</i>	7	10	9	12	23	1	0	38	0	5	16	1	11	291	54	
ACCIPITRIDAE																
<i>Accipiter bicolor</i>	0	0	0	1	0	0	0	0	0	0	0	0	0	1	2	
<i>Accipiter cooperii</i>	0	2	1	0	1	1	1	1	1	0	0	0	0	10	3	
<i>Accipiter striatus</i>	0	0	0	1	0	0	0	0	0	0	0	0	0	1	1	
<i>Buteo jamaicensis</i>	0	0	0	0	0	0	0	3	0	0	4	1	0	10	3	
<i>Buteo albonotatus</i>	0	1	1	0	0	0	2	0	0	0	0	0	0	4	2	
<i>Buteo magnirostris</i>	2	5	0	0	0	0	0	0	0	0	0	0	0	13	6	
<i>Buteo nitidus</i>	2	4	1	1	0	0	0	0	0	0	0	0	0	15	8	
<i>Hypomorphnus urubitinga</i>	1	0	0	0	0	0	0	0	0	0	0	0	0	1	1	
<i>Buteogallus anthracinus</i>	1	2	0	0	0	0	0	0	0	0	0	0	0	4	1	
<i>Circus cyaneus</i>	0	1	1	0	0	0	0	1	0	0	1	0	0	5	1	
<i>Geranospiza nigra</i>	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	
PANDIONIDAE																
<i>Pandion haliaetus</i>	1	0	0	0	0	0	0	0	0	0	0	0	0	1	1	
FALCONIDAE																
<i>Herpetotheres cachinnans</i>	3	0	0	0	0	0	0	0	0	0	0	0	0	5	0	
<i>Micrastur semitorquatus</i>														0	1	
<i>Micrastur ruficollis</i>	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	
<i>Caracara cheriway</i>	0	3	0	0	0	0	0	0	0	0	0	0	0	6	15	
<i>Falco peregrinus</i>	0	1	0	0	0	0	0	0	0	0	0	0	0	2	2	
<i>Falco albicularis</i>	1	2	0	0	0	0	0	0	0	0	0	0	0	5	0	
<i>Falco columbarius</i>	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	
<i>Falco sparverius</i>	2	10	1	3	1	2	0	11	0	0	7	0	0	86	21	

Table 2 (continued)

Area	(Largest number listed in each area in one day)													Total	
	A	B	C	D	E	F	G	H	I	J	K	L	M	1951 (all days)	1950 (one day)
TYRANNIDAE															
<i>Sayornis phoebe</i>	4	6	0	2	0	1	0	0	0	0	0	0	0	29	15
<i>Sayornis nigricans</i>	1	0	0	0	0	0	0	0	0	0	0	0	0	4	5
<i>Pyrocephalus rubinus</i>	0	16	2	0	0	0	0	0	0	0	0	0	0	60	40
<i>Tyrannus melancholicus</i>	8	13	0	2	1	0	0	0	0	0	0	0	0	81	20
<i>Megarynchus pitangua</i>	8	12	9	34	12	1	0	0	0	0	0	0	0	192	26
<i>Myiozetetes similis</i>	34	43	0	4	2	2	0	1	0	0	0	0	0	187	145
<i>Pitangus sulphuratus</i>	8	8	0	7	1	1	0	0	0	0	0	0	0	55	31
<i>Myiarchus tyrannulus</i>														0	3
<i>Myiarchus tuberculifer</i>	5	11	5	7	3	4	3	1	1	2	3	0	0	97	16
<i>Contopus virens</i>														0	2
<i>Contopus pertinax</i>	2	3	0	3	2	4	0	1	0	0	2	2	0	37	23
<i>Emidonax sp.</i>	1	1	3	4	1	1	0	1	1	1	2	1	3	30	17
<i>Empidonax difficilis</i>	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0
<i>Mitrephanes phaeocercus</i>	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0
HIRUNDINIDAE															
<i>Stelgidopteryx ruficollis</i>	40	1	0	0	0	0	0	0	0	0	0	0	0	82	0
<i>Iridoprocne albilinea</i>														0	1
CORVIDAE															
<i>Corvus corax</i>	0	0	0	0	1	1	0	0	1	0	0	2	7	15	7
<i>Psilorhinus morio</i>	50	24	43	57	31	11	0	4	0	0	0	0	0	573	172
<i>Xanthoeca yncas</i>	5	6	6	23	0	0	0	0	0	0	0	0	0	74	38
<i>Cyanolyca cucullata</i>	0	0	0	0	0	0	0	0	2	0	0	0	0	2	0
<i>Aphelocoma ultramarina</i>	0	0	0	0	0	0	0	0	0	0	0	15	7	54	11
<i>Cyanocitta stelleri</i>	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0
PARIDAE															
<i>Parus wollweberi</i>	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
TROGLODYTIDAE															
<i>Thryothorus rutilus</i>	2	0	4	8	7	4	3	5	0	0	0	0	0	55	23
<i>Thryomanes bewickii</i>														0	1
<i>Troglodytes aedon</i>	4	4	2	6	6	11	0	2	0	4	2	5	0	84	25
<i>Troglodytes brunneicollis</i>	0	0	0	0	0	0	0	0	0	0	0	2	0	2	0
<i>Henicorhina leucosticta</i>	2	0	0	0	0	0	0	0	0	0	0	0	0	3	0
<i>Henicorhina leucophrys</i>	0	0	0	0	0	0	6	0	15	12	0	0	6	66	5
<i>Catherpes mexicanus</i>	0	0	0	6	3	1	0	1	0	1	4	0	0	32	1
MIMIDAE															
<i>Toxostoma longirostre</i>	0	0	0	0	0	1	0	0	0	0	0	0	0	1	2
<i>Melanotis caerulescens</i>	0	0	0	1	0	0	0	0	0	2	0	0	1	5	4
<i>Dumetella carolinensis</i>	3	0	0	0	0	0	0	0	0	0	0	0	0	3	8
<i>Mimus polyglottos</i>	0	3	0	0	0	0	0	0	0	0	0	0	0	4	6
TURDIDAE															
<i>Turdus migratorius</i>	0	0	0	0	0	1	0	0	0	0	0	0	0	1	3
<i>Turdus grayi</i>	2	2	1	1	1	0	0	0	0	0	0	0	0	18	111
<i>Turdus assimilis</i>	0	0	0	1	0	0	0	0	0	0	0	0	0	1	9
<i>Turdus infuscatus</i>														0	1
<i>Myadestes obscurus</i>	0	0	0	0	0	0	0	0	3	0	0	0	7	16	15
<i>Myadestes unicolor</i>														0	1
<i>Hylocichla mustelina</i>	1	0	2	0	0	0	0	0	0	0	0	0	0	1	0
<i>Hylocichla guttata</i>	0	0	0	0	0	1	0	0	0	1	1	3	0	8	8
<i>Catharus mexicanus</i>	0	0	0	0	1	0	0	0	0	0	0	0	0	1	1
<i>Catharus occidentalis</i>	0	0	0	0	0	0	0	0	0	0	0	0	1	2	0
<i>Catharus aurantiirostris</i>	0	0	0	0	0	0	2	0	3	0	0	0	0	5	0
<i>Sialia sialis</i>	0	0	0	0	0	0	0	0	0	0	4	0	0	14	4
SYLVIIDAE															
<i>Poliophtila caerulea</i>	36	17	15	7	10	2	0	2	0	0	1	1	0	194	89
<i>Regulus calendula</i>	1	1	0	1	1	2	1	2	9	0	1	12	22	122	41

Table 2 (continued)
(Largest number listed in each area in one day)

Area	A	B	C	D	E	F	G	H	I	J	K	L	M	Total	
														1951 (all days)	1950 (one day)
BOMBYCILLIDAE															
<i>Bombycilla cedrorum</i>	0	3	0	0	0	0	0	0	0	0	0	0	0	3	258
PTILOGONATIDAE															
<i>Ptilogonys cinereus</i>	0	0	0	0	0	0	0	2	0	0	0	0	1	3	7
CYCLARHIDAE															
<i>Cyclarhis gujanensis</i>	0	1	0	0	0	0	0	0	0	0	0	0	0	1	6
VIREONIDAE															
<i>Vireo griseus</i>	6	1	1	0	0	0	0	1	0	1	0	0	0	20	15
<i>Vireo huttoni</i>	0	0	0	0	0	0	0	0	0	0	0	5	3	15	0
<i>Vireo solitarius</i>	3	3	2	2	6	2	0	0	3	0	1	4	2	48	24
<i>Vireo virescens</i>	0	0	0	1	0	0	0	0	0	0	0	0	0	1	1
COEREBIDAE															
<i>Cyanerpes cyaneus</i>	0	0	1	0	0	0	0	0	0	0	0	0	0	1	9
COMPSOTHYLPIDAE															
<i>Mniotilta varia</i>	6	3	1	2	3	1	0	0	1	0	1	3	1	38	29
<i>Vermivora peregrina</i>														0	1
<i>Vermivora celata</i>	1	2	0	2	4	2	0	4	0	0	0	0	1	23	12
<i>Vermivora ruficapilla</i>	0	2	0	2	4	5	0	0	4	0	1	1	0	27	105
<i>Vermivora virginiae</i>														0	1
<i>Vermivora superciliosa</i>	0	0	0	0	0	0	0	0	0	1	0	1	2	8	4
<i>Parula pitayumi</i>	0	0	10	1	0	0	0	0	0	0	0	0	0	13	7
<i>Peucedramus olivaceus</i>														0	4
<i>Dendroica aestiva</i>	0	1	0	0	0	0	0	0	0	0	0	0	0	1	3
<i>Dendroica magnolia</i>	0	0	0	1	0	0	0	0	0	0	0	0	0	1	1
<i>Dendroica coronata</i>	4	0	0	0	1	0	0	0	0	0	2	13	0	40	12
<i>Dendroica auduboni</i>	1	0	0	0	0	0	0	0	0	0	15	10	0	44	4
<i>Dendroica nigrescens</i>	0	0	0	1	0	0	0	0	0	0	0	0	0	1	1
<i>Dendroica townsendi</i>	0	0	0	0	0	2	0	1	0	0	0	7	8	39	13
<i>Dendroica virens</i>	7	4	5	3	8	1	1	0	2	0	0	0	0	92	75
<i>Dendroica occidentalis</i>	0	0	0	0	1	0	0	0	0	0	0	2	3	15	9
<i>Dendroica fusca</i>	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0
<i>Dendroica dominica</i>	2	0	0	0	0	0	0	0	0	0	0	0	0	2	0
<i>Dendroica graciae</i>														0	1
<i>Seiurus aurocapillus</i>														0	1
<i>Seiurus noveboracensis</i>														0	8
<i>Seiurus motacilla</i>	1	0	0	0	0	0	0	0	0	0	0	0	0	2	8
<i>Oporornis tolmiei</i>	0	0	0	1	1	1	0	0	0	1	0	0	0	5	1
<i>Geothlypis trichas</i>	1	2	0	0	0	0	0	0	0	0	0	0	0	5	21
<i>Geothlypis nelsoni</i>	0	0	0	0	0	0	0	0	0	2	0	0	0	4	8
<i>Chamaethlypis poliocephala</i>	0	1	0	0	0	3	0	0	0	0	0	0	0	5	7
<i>Icteria virens</i>	1	1	0	0	0	0	0	0	0	0	0	0	0	4	7
<i>Wilsonia pusilla</i>	20	6	5	27	19	9	5	13	5	6	2	3	4	231	203
<i>Setophaga picta</i>	0	0	0	0	0	0	0	0	0	0	0	1	0	2	4
<i>Myioborus miniatus</i>	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0
<i>Euthlypis lachrymosa</i>	0	0	4	0	0	0	0	0	0	0	0	0	0	6	4
<i>Basileuterus rufifrons</i>	0	0	0	2	16	0	0	5	2	6	0	3	0	52	50
<i>Basileuterus culicivorus</i>	3	0	1	3	0	0	0	0	1	0	0	0	1	18	19
<i>Basileuterus belli</i>	0	0	0	0	0	0	4	0	21	0	0	0	9	47	1
PLOCEIDAE															
<i>Passer domesticus</i>	0	0	0	4	0	0	0	0	0	0	0	0	0	4	1
ICTERIDAE															
<i>Amblycercus holosericeus</i>	0	0	1	0	0	0	1	0	0	0	0	0	0	2	6
<i>Tangavius aeneus</i>	0	100	0	0	0	0	0	0	0	0	0	0	0	164	0
<i>Molothrus ater</i>														0	1
<i>Cassidix mexicanus</i>	7	305	4	12	2	12	0	0	0	0	0	0	0	1057	117

Table 2 (continued)

Area	(Largest number listed in each area in one day)													Total	
	A	B	C	D	E	F	G	H	I	J	K	L	M	1951 (all days)	1950 (one day)
<i>Euphagus cyanocephalus</i>	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0
<i>Dives dives</i>	79	12	58	41	17	10	0	0	0	0	0	0	0	493	169
<i>Icterus galbula</i>	2	1	0	0	0	0	0	0	0	0	0	0	0	4	3
<i>Icterus bullockii</i>	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0
<i>Icterus spurius</i>	0	3	0	1	0	0	0	0	0	0	0	0	0	4	0
<i>Icterus parisorum</i>	0	0	0	0	0	0	0	0	0	0	1	0	0	2	0
<i>Icterus graduacauda</i>	7	1	8	25	9	5	1	0	0	0	0	6	1	102	38
<i>Icterus gularis</i>	11	13	4	1	0	0	0	0	0	0	0	0	0	64	19
<i>Icterus cucullatus</i>	2	3	3	1	1	0	0	0	0	0	0	0	0	21	10
<i>Sturnella magna</i>	0	2	0	0	0	0	0	0	0	0	0	0	0	4	0
THERAUPIDAE															
<i>Tanagra musica</i>	0	0	0	5	0	0	0	0	0	0	0	0	0	5	2
<i>Tanagra affinis</i>	10	5	0	2	0	0	0	0	0	0	0	0	0	31	3
<i>Tanagra laeta</i>	11	8	0	4	0	0	0	0	0	0	0	0	0	43	26
<i>Thraupis episcopus</i>	3	0	0	0	0	0	0	0	0	0	0	0	0	5	0
<i>Thraupis abbas</i>	10	30	4	4	2	8	0	0	0	0	0	0	0	89	152
<i>Piranga rubra</i>	2	3	3	3	0	0	0	0	0	0	0	0	0	17	17
<i>Piranga flava</i>	0	0	0	1	0	0	0	0	0	0	0	2	2	14	19
<i>Piranga leucoptera</i>	1	0	0	3	2	0	0	0	0	0	0	0	0	8	8
<i>Piranga ludoviciana</i>														0	1
<i>Piranga bidentata</i>	1	0	0	2	0	0	0	0	0	0	0	0	0	3	1
<i>Habia rubica</i>														0	7
<i>Habia gutturalis</i>	3	1	3	0	0	0	0	0	0	0	0	0	0	13	7
<i>Chlorospingus ophthalmicus</i>	0	0	0	0	0	0	41	8	21	0	0	0	3	88	130
FRINGILLIDAE															
<i>Saltator atriceps</i>	14	20	15	10	0	5	0	0	0	0	0	0	0	139	71
<i>Saltator coerulescens</i>	1	1	0	0	0	0	0	0	0	0	0	0	0	2	11
<i>Rhodothraupis celaeno</i>	0	1	0	9	0	0	0	0	0	0	0	0	0	12	38
<i>Richmondia cardinalis</i>	0	0	0	0	0	0	0	0	0	0	0	1	0	1	4
<i>Pheucticus ludovicianus</i>	2	0	1	1	0	0	0	0	0	0	0	0	0	4	7
<i>Pheucticus melanocephalus</i>	0	0	0	0	2	0	0	1	0	0	0	3	0	7	8
<i>Guiraca caerulea</i>	0	0	0	0	0	1	0	6	0	0	6	0	0	18	8
<i>Cyanocompsa parellina</i>														0	7
<i>Passerina cyanea</i>	54	2	0	0	1	0	0	0	0	0	0	0	0	74	10
<i>Passerina ciris</i>	0	1	0	0	1	0	0	0	0	0	0	0	0	2	0
<i>Tiaris olivacea</i>	0	10	0	2	0	8	0	6	0	4	15	0	0	52	57
<i>Carpodacus mexicanus</i>	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0
<i>Sporophila torqueola</i>	1	113	0	0	0	5	0	6	0	1	2	0	0	216	106
<i>Volatinia jacarina</i>	0	1	0	0	0	0	0	0	0	0	0	0	0	2	1
<i>Spinus notatus</i>	0	0	0	31	0	0	0	0	0	12	14	0	0	127	4
<i>Spinus tristis</i>	0	0	0	0	0	2	0	0	0	0	0	0	0	2	0
<i>Spinus psaltria</i>	0	25	0	2	0	23	0	10	0	1	31	0	0	114	37
<i>Loxia curvirostra</i>														0	10
<i>Atlapetes pileatus</i>	0	0	0	0	2	0	3	0	5	5	0	3	0	27	7
<i>Atlapetes albinucha</i>	0	0	0	0	3	0	0	0	0	5	0	0	0	8	2
<i>Atlapetes brunnei-nucha</i>	0	0	0	0	0	2	0	1	2	0	0	0	0	5	0
<i>Arremonops rufivirgatus</i>	2	2	0	1	3	2	0	0	0	0	0	0	0	16	14
<i>Pipilo maculatus</i>	0	0	0	0	0	0	0	0	0	0	0	2	0	5	2
<i>Pipilo fuscus</i>	0	0	0	0	0	0	0	0	0	0	7	0	0	7	4
<i>Aimophila rufescens</i>	0	0	0	4	0	0	0	0	3	0	1	0	0	9	4
<i>Aimophila ruficeps</i>														0	1
<i>Junco phaeonotus</i>	0	0	0	0	0	0	0	0	0	0	0	2	0	3	2
<i>Spizella passerina</i>	0	0	0	0	0	0	0	0	0	0	16	2	0	25	110
<i>Melospiza lincolni</i>	3	3	0	1	2	4	0	0	0	40	2	2	0	72	9
Total individuals	2533	3585	1605	2782	716	298	89	298	200	211	280	355	226	13178	6444
Total species	121	87	66	95	60	51	19	34	27	30	35	40	38	238	230

because of the weather. There was a heavy blanket of clouds just above the tree tops all day in the area where the birds usually fly.

The Western Flycatcher (*Empidonax difficilis*) was picked up dead by Pauline James. The wing formula and all measurements fitted the species. All other members of this group were simply lumped as *Empidonax* sp. It is likely that the Yellow-bellied, Least, and Alder flycatchers are included.

The Yellow Warbler (*Dendroica aestiva*) was identified by Malcolm Gordon, who stated that it was a female or juvenile without red stripes but that the yellow patches in the tail were distinctly seen.

The Black-throated Gray Warbler (*Dendroica nigrescens*) was listed by Marshall Johnston. The species has never been collected in the region.

The Bullock Oriole (*Icterus bullockii*) was identified by Edgar Kincaid, Jr., who stated that the bird was a female and too white below for any other species.

The Scott Oriole (*Icterus parisorum*) was listed by L. Irby Davis. It was in juvenal plumage, just beginning to show a bit of sooty color on the chin and crown. It gave one short burst of song on a sunny morning (the typical "Western Meadowlark" effort). The species has not been found in the region before. It was observed at the same spot at the extreme western edge of the area on two days.

The lone Blue Honeycreeper (*Cyanerpes cyaneus*) listed was a female.

Both Blue-black Grassquits (*Volatinia jacarina*) were in relatively dark brown plumage and showed fine dark lines on the breast; hence they are presumed to have been females or juveniles. It is my opinion that winter males in brown plumage would have been lighter.

The House Finch (*Carpodacus mexicanus*) was listed by George M. Sutton, who also listed the American Goldfinches (*Spinus tristis*) and stated that the call note, distinctly heard, made identification easy.

The White-winged Doves (*Zenaida asiatica*) were seen only on November 23 and the Mourning Doves (*Zenaidura macroura*) only on January 5.

Harlingen, Texas, March 11, 1952.