

## NOTES ON AUTUMNAL TRANS-GULF MIGRATION OF BIRDS

By J. B. SIEBENALER

Autumnal records of migrant land birds over the Gulf of Mexico have been reviewed by Lowery (Auk, 63, 1946:191-195) and more recently by Lowery and Newman (in press). Since there are actually far more records of land birds over the Gulf in spring than in fall, the following autumnal observations made aboard the Fish and Wildlife Service exploratory fishing vessel, the "M/V Oregon," may be of interest to students of bird migration. In the text that follows the figures in brackets refer to the positions of the "Oregon" indicated on the map, figure 1.

On the afternoon of September 17, 1952, the "Oregon" was working at latitude 29° 00' N., longitude 87° 55' W. [1], approximately 73 miles off the Alabama coast and 49 miles east by south of North Pass, Louisiana, the nearest land. At about 3:10 p.m., a flight of twenty-two Common Nighthawks (*Chordeiles minor*) was observed heading south. The flight came near the vessel and one was shot for positive identification. The flight approached from astern and did not change course in passing the vessel. The nighthawks were flying from 20 to 30 feet above the water and drew abreast of the "Oregon" at a distance of 10 to 20 yards. Their air speed was not great and can be estimated at less than 30 miles per hour. The "Oregon" was traveling at 10 knots in the same direction as the birds and was quartering a southeast wind of 6 to 8 miles per hour. The flock did not change its course while under observation and disappeared in the south. The sky was partly cloudy but the visibility was good and the weather had been good on the preceding day.

The same weather conditions prevailed about three hours later, 6:20 p.m., and about 27 nautical miles farther south at latitude 28° 33', longitude 87° 55' [2], when six nighthawks passed the "Oregon," also headed south and flying at about the same height above the water.

On the morning of September 18, the "Oregon" was at latitude 29° 12', longitude 87° 49' [3], about 63 miles south of Mobile Bay, Alabama. A single duck was sighted heading north. At 9:40 a.m., some 16 miles west of the previous position one swallow was observed moving toward the north. Shortly after 4:00 p.m. while at latitude 29° 12', longitude 88° 05' [4], one immature Magnolia Warbler (*Dendroica magnolia*) stopped on the vessel. Four other warblers went by headed north by northeast. The wind was from the southeast at a rate of 6 to 8 miles per hour. It was raining and sky was overcast.

Early that evening while traveling on a true course of 268 degrees to the anchorage position at latitude 29° 15', longitude 88° 18' [5], about 30 miles east of North Pass, Louisiana, birds were heard overhead. About 35 to 40 small birds came over the stern. They hovered there for a few seconds and then flew in random directions. It was raining, the skies were overcast, and visibility was very poor. Birds were in sight continuously for the 25-minute run to the anchorage position. The observations made that evening while on anchor have been extracted from the bird log and are presented here:

7:05 p.m. Raining, visibility poor. The wind from the south decreasing in velocity from 12 to 6-8 m.p.h. About 30 to 40 warblers and other small birds seen at any one time about the vessel. A Least Flycatcher (*Empidonax minimus*) and a Phoebe (*Sayornis phoebe*) taken.

7:10 p.m. A Least Bittern (*Ixobrychus exilis*) landed on the outrigger stays. Easily captured by hand.

7:30 p.m. About 50 warblers and other small land birds seen about the vessel. Some landed for a few seconds on the deck, rails and riggings. Three Black-burnian Warblers (*Dendroica fusca*) and

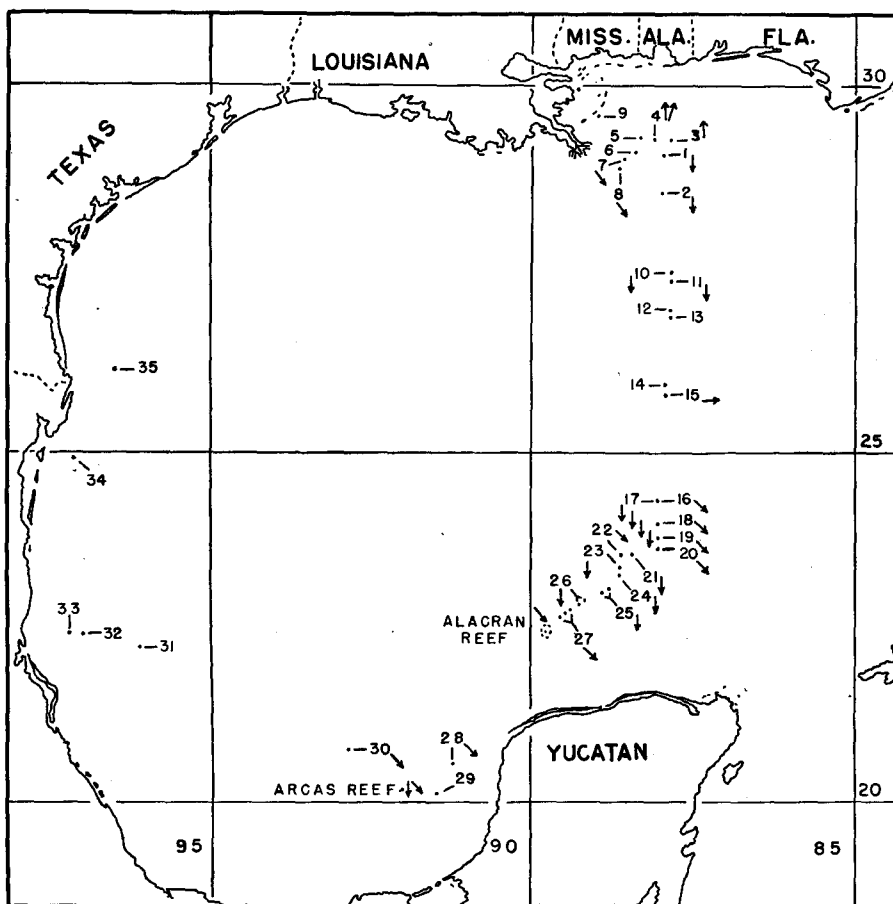


Fig. 1. Positions of the "M/V Oregon" in the Gulf of México in September and October of 1952. Arrows indicate directions of flight of birds observed.

two Red-eyed Vireos (*Vireo olivaceus*) and three Magnolia Warblers were collected. Raining with occasional gusts of wind from the southeast up to 20 m.p.h.

8:30 p.m. Rain began to let up, 30 to 40 birds about the boat but not attempting to land.

10:30 p.m. Skies cleared, rain ceased. Very few birds about.

11:00 p.m. No birds seen.

On the afternoon of September 19 at latitude  $29^{\circ} 01'$ , longitude  $88^{\circ} 24'$  [6], thirty miles off the delta of the Mississippi River, several birds were seen flying about the boat. A Black and White (?) Warbler (*Mniotilta varia*) stopped on deck and flew away when approached. A Bobolink (*Dolichonyx oryzivorus*) was captured at this time by cast net.

At 9:17 a.m. on September 20, while at latitude  $28^{\circ} 58'$ , longitude  $88^{\circ} 33'$  [7], 28 miles southeast of South East Pass, Louisiana, 36 small ducks were seen heading southeast. They were flying close to the water at a speed in excess of 30 miles per hour. The wind was from the southeast at 2 to 4 miles per hour. Two hours later while at latitude  $28^{\circ} 49'$ , longitude  $88^{\circ} 37'$  [8], about 30 miles southeast of South Pass, Louisiana, 2 small, unidentified sandpipers were observed heading south by southeast.

The "Oregon" was anchored at latitude 29° 37', longitude 88° 55' [9], 5 miles south of the southern tip of Chandeleur Island, Mississippi, on the night of September 20. The sky was overcast and the wind was from the east by southeast at 15 miles per hour. No birds were heard or seen until 11:40 p.m. when birds were observed flying about the vessel. A Prothonotary Warbler (*Protonotaria citrea*) hit the rigging and fell on deck. The steady peeping of birds could be heard for twenty minutes. Later during the same night birds were heard overhead for twenty-five minutes.

Table 1

## Bird Observations from October 1 to 4, 1952, Made Aboard the "M/V Oregon"

Date in October	Time	Position of "Oregon" Lat. North	Long. West	Position in fig. 1	Species	Number	Direction of flight
2	6:05 a.m.	27° 30'	87° 50'	[10]	warblers	3 flights (2-4 each)	south
2	6:50 a.m.	27° 24'	87° 50'	[11]	ducks (Red-heads?)	30	south
2	10:20	26° 50'	87° 55'	[12]	sparrow	1	undetermined
2	10:40	26° 46'	87° 57'	[13]	Barn Swallow	1	undetermined
2	4:22 p.m.	25° 50'	87° 57'	[14]	Mourning Dove	1	undetermined
2	4:50	25° 45'	87° 57'	[15]	swallows	6	east
3	10:55 a.m.	24° 16'	88° 00'	[16]	ducks	65-75	southeast
3	10:59	24° 16'	88° 00'	[17]	warblers and other land birds	thousands	south
3	11:17	24° 13'	88° 00'		nighthawks	1	south
3	11:35	24° 10'	88° 00'		Barn Swallows	2	south
3	11:55	24° 07'	88° 00'		herons	10	south
3	1:10 p.m.	23° 55'	88° 00'	[18]	Purple Martin, Barn Swallow	1 each	southeast
3	1:45	23° 50'	88° 00'		Prothonotary Warbler	many	south
3	2:00	23° 47'	88° 00'		Black-and-white (?) Warbler	1	landed on deck
3	2:30	23° 42'	88° 00'	[19]	American Egret	5	south-southeast
3	2:45	23° 40'	88° 00'		Barn Swallow	1	south
3	2:50	23° 39'	88° 00'		cranes (?)	3	south
3	3:00	23° 37'	88° 00'	[20]	unidentified ducks	40	south-southeast
3	3:50	23° 34'	88° 05'		end large flight warblers and small land birds	....	.....
3	5:35	23° 31'	88° 25'	[21]	large hawk	1	south
3	5:40	23° 31'	88° 26'	[21]	Great Blue Heron	8	south
3	6:30	23° 30'	88° 36'	[22]	nighthawks	5	undetermined
4	7:40 a.m.	23° 30'	88° 38'	[22]	egrets Great Blue Heron	13 2	south-southeast south-southeast
4	7:50	23° 30'	88° 38'	[22]	kingfisher	1	undetermined
4	10:30	23° 22'	88° 39'	[23]	duck-size white birds	30-40	south
4	11:30	23° 13'	88° 38'	[24]	Palm Warbler	1	alighted on deck
4	12:37 p.m.	23° 07'	88° 47'	[25]	Mourning Dove	1	south
4	12:40	23° 07'	88° 47'	[25]	pigeon-like bird	1	south
4	12:50	23° 06'	88° 48'	[25]	warblers	4	south
4	1:00	23° 05'	88° 49'	[25]	warblers Yellow Warbler	2 1	south alighted on deck
4	1:25	23° 03'	88° 53'	[25]	warblers	2	south
4	3:35	22° 50'	89° 11'	[26]	warblers	5	south
4	4:25	22° 46'	89° 18'	[26]	warblers	10	south
4	4:30	22° 46'	89° 18'	[27]	warblers	25-30	southeast
4	4:35	22° 45'	89° 19'	[27]	warblers	25-30	southeast
4	4:38	22° 45'	89° 19'	[27]	warblers	20-35	southeast
4	4:40	22° 45'	89° 19'	[27]	warblers	Over 50	southeast
4	4:40-5:40	22° 39'	89° 28'	[27]	warblers	1200	southeast

Observations made aboard the "Oregon" from October 1 through October 4, 1952, are given in table 1. This trip in the course of which these observations were made was undertaken to carry on exploratory fishing near the Campeche shrimping grounds and to survey the shrimping areas off the Mexican coast south of Brownsville, Texas.

At 10:59 a.m. on October 3, 1952, the "Oregon" was 160 miles north of Yucatán, and it was traveling a true course of 180 degrees at a speed of 10 knots. At this time heavy flights of warblers and other land birds were noticed overhead. The wind was from the northeast at speeds of 15 to 18 miles per hour. The birds were not traveling at a uniform altitude, but those that came near enough to be seen well with the naked eye or binoculars were all observed to be compensating for the wind speed and direction by angling their flight and heading approximately 30 degrees to the east of south. This carried the birds on a true southward course at an estimated speed of 30 miles per hour. The largest flights were made up of from 50 to 100 individuals flying in close formation. The individual flights followed each other in rapid succession. The birds paid no attention to the "Oregon" and did not attempt to approach or land. Many birds could be seen as specks against the high cirrus and alto-cumulus cloud formations. On this day a large cumulus cloud was situated about 30 degrees above the horizon. Birds could be seen easily as they passed this cloud. In a ten minute period I was able to count about 300 birds that passed between the vessel and the cloud. Doubtless many passed unobserved. Since birds were high overhead and passing on all sides of the "Oregon," many thousands must have passed, all going south. At 3:50 p.m. a rain squall moved in from the north and no more flights were observed.

Table 2

Weather Conditions in the Period of Heaviest Migration of Birds

Date in October, 1952	Hour	Wind Direction	Wind speed (m.p.h.)	Barometer	Air temp. (F.)	Sky condition
2	12:00 p.m.	E	8-10	30:09	78	partly cloudy
3	2:00 a.m.	NNW	12-15	30:05	76	partly cloudy
3	4:00	NNE	10-12	30:08	79	partly cloudy
3	6:00	ENE	12-15	30:10	80	partly cloudy
3	8:00	ENE	12-15	30:12	82	partly cloudy
3	10:00	NE	15-18	30:14	84	partly cloudy
3	12:00 m.	NEE	15-18	30:08	88	partly cloudy
3	2:00 p.m.	NE	16-24	30:03	82	partly cloudy
3	4:00	NNE	18-25	30:08	78	north squall
3	6:00	ENE	15-18	30:06	78	partly cloudy
3	8:00	NE	15-18	30:12	78	partly cloudy
4	6:00 a.m.	NEE	18-20	30:08	75	partly cloudy
4	8:00	SE	18-20	30:01	76	cloudy
4	10:00	SE	8-12	30:11	80	partly cloudy
4	12:00 m.	SE	8-12	30:11	80	partly cloudy
4	2:00 p.m.	SE	8-10	30:00	89	partly cloudy
4	4:00	SE	6-8	29:99	85	partly cloudy
4	6:00	E	6-8	30:00	81	partly cloudy
4	8:00	NEE	15	30:03	80	partly cloudy
5	6:00 a.m.	SEE	18-20	30:02	79	partly cloudy

On October 4, 1952, the "Oregon" was on a true course of 234 degrees bound for Alacran Reef. While on this course the ship was at all times at least 80 miles north of the Yucatán Peninsula. The flights first observed were small, consisting of two to ten warblers each. A Palm Warbler (*Dendroica palmarum*) was captured at 11:30 a.m. at

latitude 23° 10', longitude 88° 40'. A Yellow Warbler (*Dendroica petechia*) was taken at 1:10 p.m. at latitude 23° 05', longitude 88° 50'. By 4:30 p.m. the size of the flights increased. For the most part the birds actively avoided coming any nearer the "Oregon" than several hundred feet. The flights approached from the open Gulf, north and northwest, and headed southeast. In a one-hour period I counted about 1200 birds crossing the bow of the ship. Those observed crossing the stern were not counted. The wind was from the southeast during the morning and early afternoon, shifting to east in the late afternoon and to northeast and east in the evening. The wind speed decreased during the day from 8 to 12 miles per hour to 6 to 8 miles per hour, and it freshened to 15 miles per hour in the evening.

The "Oregon" was anchored off Isla Desterrada, Alacran Reef, on the morning of October 5. At 11:00 a.m. about 20 warblers were observed flying southeast in the direction of Isla Desterrada. A Palm Warbler was captured at 2:00 p.m. and a half hour later a Sharp-shinned Hawk (*Accipiter striatus*) was taken. A small rowboat was used in retrieving specimens that were shot and fell into the water at some distance from the ship. A Ruddy Turnstone (*Arenaria interpes*) was collected soon after 2:30 p.m. Two Royal Terns (*Thalasseus maximus*) were picked up after having their wings badly damaged by the numerous Man-o'-war Birds (*Fregata magnificens*) in the vicinity. Two White-bellied Boobies (*Sula leucogaster*) were taken for specimens at this time. A slight breeze from the southeast held throughout the day.

At 10:10 a.m. on October 6, while shrimp trawling at latitude 20° 38', longitude 91° 15' [28] a hawk (*Buteo* sp.) was sighted traveling south by southeast. A Barn Swallow (*Hirundo rustica*) landed on deck in the afternoon and was captured; our position then was latitude 20° 12', longitude 91° 28' [29]. The wind was from the southeast at 6 to 8 miles per hour.

While at latitude 20° 13', longitude 91° 59' at 6:00 a.m. on October 7, six Blue-faced Boobies (*Sula dactylatra*) were observed heading southeast. Later in the morning the "Oregon" was anchored in six fathoms of water near Cayo del Oeste, Cayos Arcas. At noon a crew member reported sighting 30 teal heading southeast. The wind was from the north by northeast at 4 to 5 miles per hour. A Blue-faced Booby was collected. The wind velocity increased to about 25 miles per hour from the north by northeast by 3 p.m. At 4:00 p.m. several warblers were seen about the boat and one Yellow-throat (*Geothlypis trichas*) was captured. At precisely the same time an owl about nine inches in height flew into the wheel house. The Captain attempted to capture the bird but it escaped, flying rather clumsily toward the south.

The "Oregon" remained near Arcas for several days, standing by to assist crew members of three shrimp trawlers wrecked on the reef by the storm of the night of October 7. On the morning of October 9, three sparrows came about the boat. A Lincoln Sparrow (*Melospiza lincolnii*) was captured. A short time later several warblers were seen and a Black-throated Green Warbler (*Dendroica virens*) was captured.

On the morning of October 10, the "Oregon" weighed anchor and departed from Cayos Arcas bound for the coast of México near Tampico. The weather was clear and the wind was from the north at 8 to 10 miles per hour. No birds were seen until 1:00 p.m., when five warblers were sighted heading southeast; the ship's position then was latitude 20° 46', longitude 92° 45' [30].

A single large fringillid was seen on October 11, at latitude 22° 19', longitude 96° 05' [31]. The bird alighted on deck, but when approached flew away and disappeared high overhead. Later on the same day at latitude 22° 25', longitude 97° 02' [32], 45 miles northeast of Tampico, México, a Myrtle Warbler (*Dendroica coronata*) was captured on deck. The wind was from the north at 4 to 6 miles per hour. An Audubon Warbler

(*Dendroica auduboni*) was taken that evening while the "Oregon" was at latitude 22° 27', longitude 97° 19' [33], 30 miles northeast of Tampico.

No birds were seen until 10:00 a.m. on October 14, when a Savannah Sparrow (*Passerulus sandwichensis*) alighted on deck and was captured. The "Oregon" at that time was at latitude 24° 57', longitude 97° 09' [34].

Inclement weather conditions prohibiting shrimp trawling forced the "Oregon" to cease operations for several days and to enter Port Brownsville, Texas. On October 20 the return trip to Pascagoula, Mississippi, commenced. Forty miles east of Port Isabel, Texas [35], a Wilson (?) Warbler (*Wilsonia pusilla*) alighted on deck. The wind was from the north at 20 to 25 miles per hour. No birds were sighted for the remainder of the passage.

All specimens that were collected have been identified by George H. Lowery, Jr., Curator, Museum of Zoology, Louisiana State University, Baton Rouge, Louisiana, and they have been placed in the collection at that institution.

*Fish and Wildlife Service, Pascagoula, Mississippi, April 6, 1953.*