

Shorebirds in Parita Bay, Panama

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INTRODUCTION

Many Nearctic breeding shorebirds spend much of the year in the Neotropics (Morrison & Ross 1989). The Pacific coast beaches of Panama near the town of Chitré and east of Panama City support over 300,000 shorebirds (unpubl. data) but the species composition and seasonal abundance is poorly understood. Schneider & Mallory (1982) found no evidence of a spring build-up in numbers of shorebirds near the south entrance to the Panama Canal from January to May 1978 although the Western Sandpiper *Calidris mauri*, Willet *Catoptophorus semipalmatus* and Whimbrel *Numenius phaeopus* are abundant in the region in winter (Ridgely 1981).

Here we present information on species abundance and chronology of shorebirds in Parita Bay near Chitré, Panama from September to March.

STUDY SITE

Parita Bay (8°01'N, 80°25'W) lies in the western end of the Golfo de Panama. Annual precipitation is about 1250 mm with most of the rain falling between May and November. The dry season occurs from December to April when northeast trade winds reach up to 30 km/h. The mean annual daytime temperature is 27°C.

The study area is part of an estuarine ecosystem complex that floods during high tide (Figure 1). Many mangroves have been replaced by commercial shrimp ponds and shallow reservoirs used for salt production. Tidal amplitude is about 5 m. The mudflat is about 1.5 km wide between the highest and lowest tides.

METHODS

Shorebirds were counted and mist-netted mostly near

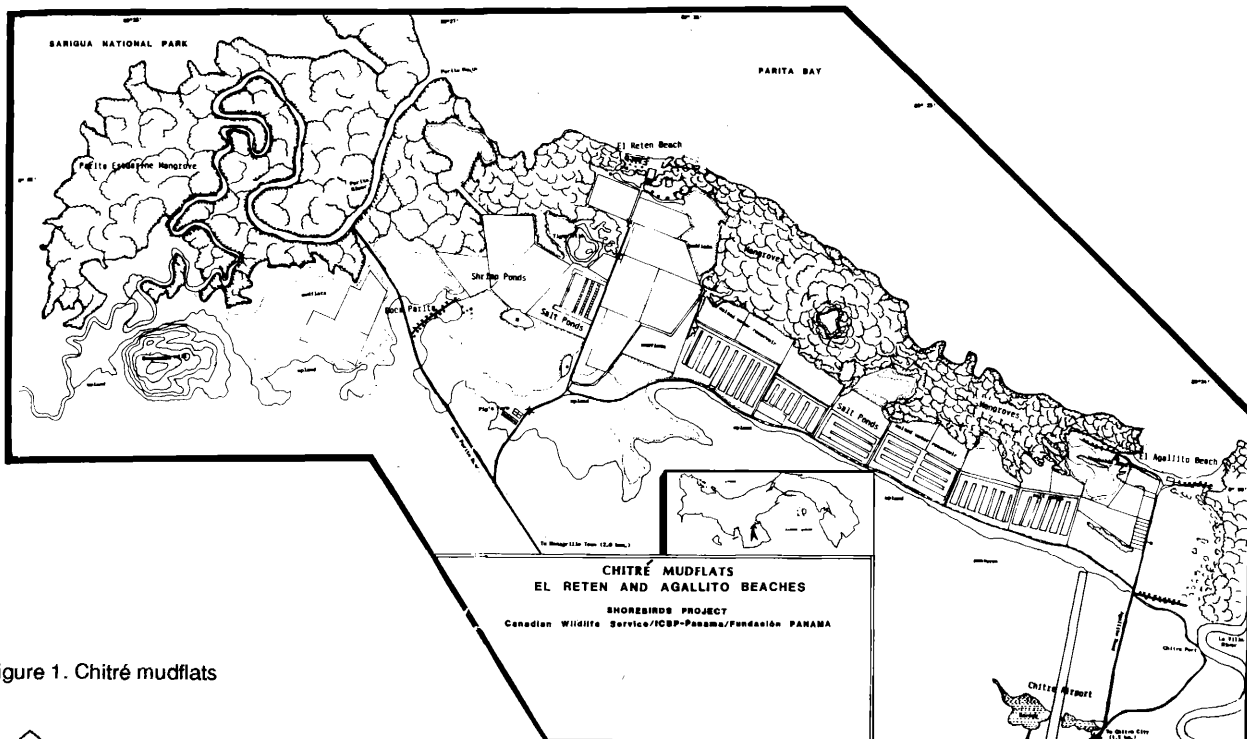


Figure 1. Chitré mudflats



the town of Chitré, on the western end of Parita Bay from 7 September 1989 to 14 March 1990 and from 27 October 1990 to 23 February 1991. Counts were made during high tide when shorebirds roosted on nearby saltponds. Shorebirds were caught in mist nets on poles raised quickly as flocks flew through gaps in the mangrove shrubs to and from roosts. Most banding occurred during ebbing tides.

RESULTS AND DISCUSSION

Calidrine Sandpipers

Four calidrine species, Western Sandpiper *Calidris mauri*, Semipalmated Sandpiper *C. pusilla*, Least Sandpiper *C. minutilla* and Sanderling *C. alba*, made up over half the birds censused in Parita Bay (Table 1). Of 4,496 shorebirds caught in mist nets between October and March, 95.8% were Western Sandpipers, 2.9% were Semipalmated Sandpipers and 1.3% were Least Sandpipers. Sanderling was abundant on sandy beaches east of Chitré.

Small numbers of Calidrine sandpipers spent the summer in Parita Bay. The first flocks arrived from the north in September and increased to a peak in December (Table 2). The population declined in January, possibly because strong trade winds made foraging difficult on the exposed mudflats.

Flocks of 200-600 sandpipers gathered in shallow saltponds when high tides covered the beaches and returned to forage on the beach as the tide ebbed, regardless of time of day or night. Large flocks gathered in Parita Bay during the northward migration in February and departed by March in this and Schneider & Mallory's study (Table 2).

The status of the Semipalmated Sandpiper in Panama was uncertain (Ridgely 1981). Our banding efforts indicated that the likelihood of catching a Semipalmated Sandpiper was less than 2%. Therefore, we considered the status of the Semipalmated Sandpiper at Parita Bay to be "rare-recorded on fewer, usually considerably fewer, than 25% of trips in proper habitat and season (Ridgely 1981)".

Short-billed Dowitcher *Limnodromus griseus*

Short-billed Dowitcher made up 20.9% of all shorebirds counted in Parita Bay (Table 1). Dowitchers arrived in September and were abundant through February (Table 2). Dowitchers roosted on pond dikes and in salt ponds with deep water. Some foraged in rice plantations near the beach but most foraged on mudflats. Spring migration was apparent in February (Table 2)

and all had departed by March. Schneider & Mallory (1982) also found this species to be most abundant in February and reported that dowitchers were present until May.

Plovers

Wilson's Plover *Charadrius wilsonia* and the Semipalmated Plover *C. semipalmatus* were the most abundant plovers in Parita Bay. Both species resemble each other which made identification difficult on the wide beaches of Parita Bay. Near Panama City where we could get close to both species, there were 51.1% Wilson's and 48.9% Semipalmated Plovers on six censuses between September and November, 1989. At Parita Bay, both species roosted singly or in loose flocks on dry shrimp ponds. There were 150-400 plovers per census from September to January and in March in Parita Bay. Over 2,000 Semipalmated Plovers migrated north through the bay in February. Black-bellied Plovers *Pluvialis squatarola* were present in September, January and especially February (Table 2). In contrast, Schneider & Mallory (1982) reported a decline in numbers of both plover species after January near the Panama Canal. A few Wilson's Plovers reside year-round at Parita Bay. Killdeer *C. vociferus* were seen only in January (Table 2).

Whimbrel

Fewer than 100 Whimbrel were present on each census from September to January (Table 2). Northward migration occurred in February when an average of 174 birds were present. Whimbrel roosted on branches of mangrove shrubs and in shallow saltponds and held feeding territories on beaches.

Yellowlegs

Greater Yellowlegs *Tringa melanoleuca* was more numerous than Lesser Yellowlegs *T. flavipes* in Parita Bay. Yellowlegs were seen in most months were fewer than 100 birds per census. They foraged mainly along channels and on mudflats, inland of the mangroves.

Willet *Catoptrophorus semipalmatus*

Willetts were present from September to March and most abundant in December (Table 2). They foraged on mudflats, inland of the mangroves, and on beaches and roosted in large shallow saltponds. This species was the second most abundant shorebird in Pacific Coast beaches in October 1991 (Morrison *et al.* in prep.).



Mallory (1982) and our Table 2) rather than in April and May as defined by Schneider & Mallory (1982).

Marbled Godwit *Limosa fedoa*

The occurrence of Marbled Godwit was sporadic in Parita Bay. It was present in small numbers in October, December, January and March (Table 2). They foraged in tight flocks along muddy channels and roosted on pond dikes and in large shallow ponds.

Ruddy Turnstone *Arenaria interpres*

A small number of Ruddy Turnstones were present in all months except March (Table 2). They fed mostly along sandy shores and roosted in shallow ponds around shrimp ponds. This is the only species that Schneider & Mallory (1982) found more numerous in spring (April-May) than in winter (January-March). We found it most numerous in December and February (Table 2).

American Oystercatcher *Haematopus palliatus*

American Oystercatchers are considered "uncommon and very local" on the Pacific Coast of Panama (Ridgely 1981). Our results agree with those of Ridgely (1981). Fourteen seen in January was our only record of this species (Table 2). Oystercatchers are most often seen on beaches outside of Parita Bay.

CONCLUSIONS

Schneider & Mallory (1982) said that no large concentrations of shorebirds occurred in spring (April-May) near the Panama Canal. We suggest that "spring" migration occurs in February (Figure 1 in Schneider &

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Table 1. Overall species composition of shorebirds censused in every month between September and March, 1989-1991 in Parita Bay, Panama.

Species	Number counted	Percent
Western Sandpiper <i>Calidris mauri</i>	56,684*	50.7
Short-billed Dowitcher <i>Limnodromus griseus</i>	23,379	20.9
Semipalmated Plover <i>Charadrius semipalmatus</i>	8,066	7.2
Willet <i>Catotrophorus semipalmatus</i>	7,697	6.9
Wilson's Plover <i>Charadrius wilsonia</i>	6,599	5.9
Black-bellied Plover <i>Pluvialis squatarola</i>	3,392	3.0
Whimbrel <i>Numenius phaeopus</i>	2,540	2.3
Semipalmated Sandpiper <i>Calidris pusilla</i>	1,716*	1.5
Least Sandpiper <i>Calidris minutilla</i>	769*	0.7
Yellowlegs spp. <i>Tringa flavipes/ melanoleuca</i>	681	0.6
Ruddy Turnstone <i>Arenaria interpres</i>	177	0.1
Marbled Godwit <i>Limosa fedoa</i>	103	0.1
Sanderling <i>Calidris alba</i>	82	<0.1
American Oystercatcher <i>Haematopus palliatus</i>	14	<0.1
Killdeer <i>Charadrius vociferus</i>	7	<0.1
Total	111,906	

* Based on the assumption that the proportion of calidrine species on beaches and in mist net catches, made near high tide, was the same.

