

NOTES

BREEDING BIRDS OF ESTEROS TÓBARI AND SAN JOSÉ, SOUTHERN SONORA

EDUARDO PALACIOS and ERIC MELLINK, Centro de Investigación Científica y Educación Superior de Ensenada, Apdo. Postal 2732, Ensenada, Baja California, Mexico or P. O. Box 434844, San Diego, California 92143

Although the ornithofauna of Sonora has been studied since, at least, the 19th century (van Rossem 1945), it is still rather poorly known. This is particularly true for its southern coastal area. Van Rossem and Hachisuka (1937) provided an extensive list of water birds from Estero Tóbari but found little evidence of local breeding for most species. In 1971 and 1972, Knoder et al. (1980) made aerial surveys of water birds and wetlands along the coasts of Baja California and the west coast of mainland Mexico, from the delta of the Río Colorado to San Blas, Nayarit, but did not include Estero Tóbari as one of their intensively surveyed sites.

Here we report on the breeding birds that we recorded on a trip to esteros Tóbari (including Isla Huivulai) and San José on 14 May 1994 (Figure 1). In Estero Tóbari, we surveyed the north and south mouths of the bay, two islets outside the north mouth, and two heronries on the southeast and northwest sides of Isla Huivulai. San José is a small fishermen's town 8 km northwest of the north mouth of Estero Tóbari, with an estero and a large saltflat nearby, both of which we surveyed. We visited also an abandoned shrimp farm at the north end of Estero Tóbari. The main purpose of our trip was to search for Least Tern breeding colonies.

Great Blue Heron (*Ardea herodias*). A heronry in NE Isla Huivulai contained eight nests, one with two half-grown chicks. On the west coast of mainland México, Great Blue Herons breed from the delta of the Río Colorado (Palacios and Mellink 1993) south to, at least, San Blas, Nayarit (Knoder et al. 1980). Griffing Bancroft (unpublished field notes) had found this species as a breeder at Estero Tóbari in 1930, and van Rossem and Hachisuka (1937) collected a specimen in breeding condition from there.

Great Egret (*Casmerodius albus*). Two heronries in SE and NE Huivulai had about 15 pairs with nests each. Van Rossem and Hachisuka (1937) had recorded this species as a breeder from the area.

Snowy Egret (*Egretta thula*). There were 20 pairs in the SE heronry and about the same number in the NE heronry on Isla Huivulai. The Snowy Egret is reported as occurring along the Pacific coast of Mexico from Puerto Peñasco south to the Istmo de Tehuantepec (Knoder et al. 1980) and being a resident from Guaymas south (van Rossem 1945), but no previous breeding records exist for southern Sonora.

Little Blue Heron (*Egretta caerulea*). We found three pairs with nests in each heronry on Isla Huivulai. This species is known to occur from Punta Sargento south to the Istmo de Tehuantepec (Knoder et al. 1980) and to be a summer resident of the mangrove association of southern Sonora (van Rossem 1945), but no particular breeding locations had been published.

Tricolored Heron (*Egretta tricolor*). We saw five adults feeding on the mudflat in front of the heronry in NE Isla Huivulai; we presume nesting. Like previous species, this heron has been noted from Guaymas south to Tehuantepec (Knoder et al. 1980) and to be a resident of coastal lagoons in southern Sonora (van Rossem 1945), but no specific breeding locations had been provided.

NOTES

Reddish Egret (*Egretta rufescens*). We found three pairs with nests in each heronry on Isla Huivulai. This species ranges from Puerto Peñasco to Tapachula, Chiapas (Knoder et al. 1980). Bancroft (unpublished field notes) found this species breeding at Estero Tóbari, and van Rossem and Hachisuka (1937) collected a specimen in breeding condition there.

Cattle Egret (*Bubulcus ibis*). About 100 pairs were nesting in each heronry of Isla Huivulai. This is the second breeding record for Sonora of this still-expanding species (see Mellink and Palacios 1993).

Green Heron (*Butorides virescens*). We found one pair on a nest in the SE heronry, and five pairs with nests in the NE heronry. This secretive species, which is often overlooked and underestimated, was collected in breeding condition at Estero Tóbari by van Rossem and Hachisuka (1937).

Black-crowned Night-Heron (*Nycticorax nycticorax*). We found three pairs nesting in the SE heronry and several individuals, with no evidence of nesting, in the NE heronry. There were one adult and one immature in nearby agricultural drains. This species is often overlooked, even from the ground. Therefore, very likely there were more individuals in the area. Bancroft found a nest with three eggs on Isla Huivulai on 11 June 1930 (deposited at the Western Foundation of Vertebrate Zoology [WVZ]), and van Rossem (1945) reported it as a resident on "suitable . . . localities" throughout the state.

Yellow-crowned Night-Heron (*Nycticorax violaceus*). We found 20 pairs with nests and one immature in the SE heronry and 20 pairs with nests in the NE heronry on Isla Huivulai. One hundred thirty individuals (including 2 immatures) were foraging throughout the bay and in nearby drains. Bancroft collected nests from apparently four sites on Isla Tóbari [=Huivulai] in Estero Tóbari on 27 April 1930 (6 sets of eggs deposited at WVZ). Van Rossem (1945) reported this species as a local resident on coastal lagoons.

White Ibis (*Eudocimus albus*). The SE heronry of Isla Huivulai had 100 adults, including 37 nesting pairs. The NE heronry had about the same number. We found 20 adults and three immatures at Paredón Colorado, in the central part of Estero Tóbari. The species occurs from Guaymas south to the Istmo de Tehuantepec (Knoder et al. 1980) and has been reported in spring and summer from Estero Tóbari (van Rossem 1945). In May 1930 Bancroft took eggs from two nearby locations, Laguna Guásimas and Isla Lobos (deposited at WVZ).

Roseate Spoonbill (*Ajaia ajaja*). We found 15 pairs with nests in the SE heronry. There were none in the NE heronry. Knoder et al. (1980) found this species from Los Mochis south to the Istmo de Tehuantepec, and the AOU (1983) considered it a resident only from northern Sinaloa south. This is the first breeding record for Sonora.

Common Moorhen (*Gallinula chloropus*). We saw three broods (2 or 3 chicks per brood for 8 chicks; 4 adults) in various agricultural drains near Estero Tóbari.

Snowy Plover (*Charadrius alexandrinus*). On the San José saltflat there was one pair calling and performing a distraction display, and one empty shell-lined nest. There was one adult at Paredón Colorado and one adult on the islets at the northern mouth of Estero Tóbari. No previous nesting records of this species in Sonora have been published, and the AOU (1983) did not include Sonora within the breeding range of this species.

Wilson's Plover (*Charadrius wilsonia*). We saw 20 pairs in Estero de San José; all birds were calling and performing distraction displays, including broken-wing behavior; one adult had a chick less than a week old. Five pairs were on the saltflat near San José. One adult performed distraction behavior at the abandoned shrimp farm north of Estero Tóbari. An eggshell found near this site by M. Tordecillas (pers. comm.), 5 May 1994, probably was from this species.

NOTES

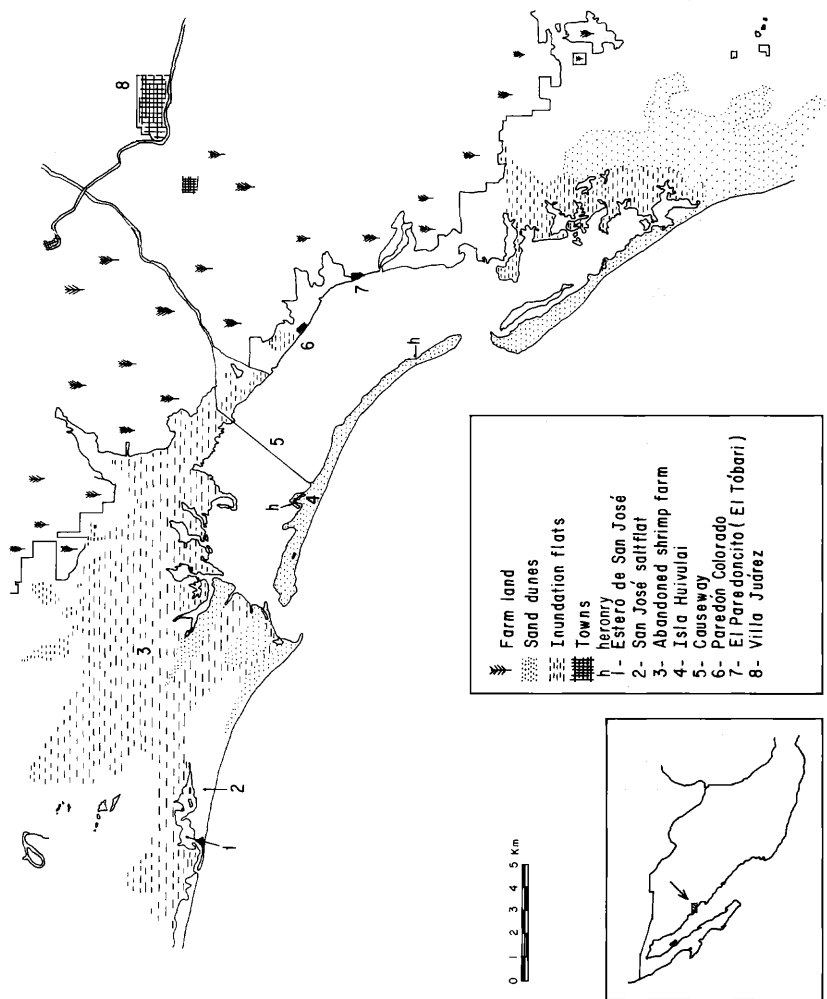


Figure 1. Estero Tóbari, including Isla Huivulai, and San José, with its associated estero and saltflat.

NOTES

American Oystercatcher (*Haematopus palliatus*). There were six pairs nesting on the shell dump south of El Paredoncito (also named El Tóbari), at the south side of Estero Tóbari; one of the birds performed attraction display. There was one pair on a tiny islet in front of El Paredoncito, six pairs, one with three eggs, on the islets outside the north mouth of the bay, and two pairs on the north end of Isla Huivulai. At the Estero de San José there were three pairs, one with three chicks, and at the San José saltflat, two pairs, of which one individual performed pseudo-incubation.

Least Tern (*Sterna antillarum*). We found five aggregations of this species: south side of the south mouth of the bay (82 adults), north side of the north mouth of the bay (34 adults), islet outside the north mouth of the bay (28 adults), Estero de San José (15 pairs nesting; 4 nests had 2 eggs each and 1 nest, 1), and San José saltflat (15 pairs nesting; 3 nests had 2 eggs each). Although, we confirmed nesting only at San José, the birds looked like they were nesting on the islet outside the north mouth. There is a chance that this colony was wiped out by the high tides preceding our visit. Conservation of these colonies of Least Terns is important because, being at the type locality of *S. a. mexicana*, they are relevant to the taxonomic status of Least Terns in northwestern Mexico.

Black Skimmers (*Rynchops niger*) We found 50 adults together with Black Terns (*Chlidonias niger*) on the islet of the north mouth. There were nest-like depressions in the sand, but no definite evidence of nesting. Van Rossem and Hachisuka (1937) indicated that "it was perfectly evident that the breeding season was at hand," although they too failed at finding nests.

White-winged Dove (*Zenaida asiatica*). We heard several singing in both heronries but did not search for evidence of nesting.

Other resident species that we observed and that probably nest in the area, but for which we found no evidence, include five pairs of ducks resembling Mexican Ducks (*Anas diazi*) in nearby drains (it is likely that they are feral domestic ducks), Clapper Rail (*Rallus longirostris*; 1 in the NE heronry), Black-necked Stilt (*Himantopus mexicanus*; 7 adults on one of the islets outside the northern mouth of the bay; 5 elsewhere in the bay), Killdeer (*Charadrius vociferus*; 5 adults throughout the bay), Savannah Sparrow (*Passerculus sandwichensis*; several near El Paredoncito). On the other hand, it was somehow surprising not finding any Wood Storks (*Mycteria americana*), which were reported as common by van Rossem and Hachisuka (1937), nor any Black-bellied Whistling-Ducks (*Dendrocygna autumnalis*), which are resident from central Sonora south (AOU 1983) and abundant in the area (L. A. Moreno-Matiella pers. comm.).

On the whole, the local breeding bird community is more similar to communities in northern Sinaloa (e.g., Knoder et al. 1980, Carmona and Danemann 1994) than to those in northern Sonora (Mellink and Palacios 1993). This is not surprising, as the heronries of Estero Tóbari were found in mangroves, like those in northern Sinaloa, rather than in Sonoran desert scrub (*sensu* Brown and Lowe 1980) as to the north.

We observed also several late migrants or overwintering coastal birds, throughout the area: Black-bellied Plover (*Pluvialis squatarola*; 3), Marbled Godwit (*Limosa fedoa*; 1000), Whimbrel (*Numenius phaeopus*; 20), Long-billed Curlew (*Numenius americanus*; 3), Willet (*Catoptrophorus semipalmatus*; 4), dowitcher (*Limnodromus* spp.; 750), Sanderling (*Calidris alba*; 56), Western Sandpiper (*Calidris mauri*; 400), Black Tern (33 adults and 4 first-spring birds on one of the islets outside the northern mouth of the bay; 6 adults in Estero de San José, overflying the Least Tern colony), and Laughing Gull (*Larus atricilla*; 2 in Estero de San José). Of these, the Whimbrels and Black Terns had not been reported for this area.

Contrasting our data with that of Knoder et al. (1980) shows that mangrove-associated birds are easily overlooked and underestimated from the air (see also Carmona and Danemann 1994). Sampling from the ground should be a regular

NOTES

complement of aerial surveys, at least of those over heavily vegetated habitats, like mangroves.

Our visit to the area was too short to disclose the threats to the nesting birds. However, some points should be made. Villa-Ibarra and Ibarra-Gómez (1993) concluded that water discharge from the nearby "La Atanasia" shrimp farms could cause excessive plant growth or eutrophication in the Estero de San José, and determined that a nearby collector discharging into the same estero was a source of coliform bacteria.

Although fishing is intense, we did not see any direct effects on the birds. Isla Huiivulai receives visitors who can drive as far as one of the mangroves, although this does not seem to happen very often. There are some potential threats from the agriculture that is practiced in the Valle del Yaqui, one of Mexico's main "Green Revolution" areas. This agriculture connects with Estero Tóbari through a series of drains that discharge into it. The most obvious threat would come from the pesticides that are heavily used in local farming. Also, chances are that discharge of sediments has increased and that these sediments are not being removed by tidal currents, which the causeway linking Isla Huiivulai might disrupt.

This article greatly benefited from comments made by Gale Monson and Philip Unitt. We thank Miguel Angel Elizalde for transportation to the islands, Marisol Tordecillas for kindly sharing information with us, and Walter Wehtje and Clark Sumida for providing the museum records at WFVZ. Salvador González and Francisco J. Ponce assisted in typescript preparation. This work was made possible by a grant from the Consejo Nacional de Ciencia y Tecnología (CONACYT), México, to Eric Mellink.

LITERATURE CITED

- American Ornithologists' Union. 1983. Checklist of North American Birds. 6th ed. Am. Ornithol. Union, Lawrence, KS.
- Brown, D. E., and Lowe, C. H. 1980. Biotic communities of the Southwest. Gen. Tech. Rep. RM-78. Rocky Mountain For. Range Exp. Sta. Map.
- Carmona, R., and Danemann, G. D. 1994. Nesting waterbirds of Santa Maria Bay, Sinaloa, Mexico, April 1988. *W. Birds* 25:158-162.
- Knoder, E., Plaza, P., and Sprunt, A. 1980. Status and distribution of the Jabiru Stork and other waterbirds in western Mexico, in *The Birds of Mexico: Their Ecology and Conservation* (P. Schaeffer and S. Ehlers, eds.), pp. 58-127. Proc. Nat. Audubon Soc. Symp.
- Mellink, E., and Palacios, E. 1993. Notes on the breeding coastal waterbirds in northwestern Sonora. *W. Birds* 24:29-37.
- Palacios, E., and Mellink, E. 1993. Additional records of breeding birds from Montague Island, northern Gulf of California. *W. Birds* 24:259-262.
- Van Rossem, A. J. 1945. A distributional survey of the birds of Sonora, Mexico. *Occas. Pap. Mus. Zool., La. State Univ.* 21.
- Van Rossem, A. J., and the Marquess Hachisuka. 1937. A further report on birds from Sonora, Mexico, with descriptions of two new races. *Trans. San Diego Soc. Nat. Hist.* 8:321-336.
- Villa-Ibarra, M., and Ibarra-Gomez, J.C. 1993. Estudio preliminar de la calidad del agua en el parque camaronícola "La Atanasia" y efecto de la descarga de sus efluentes al Estero de San José. *Boletín Humedales Costeros de México* 1(3): 18-19.