

THE BIRDS OF SAN PEDRO MÁRTIR ISLAND, GULF OF CALIFORNIA, MEXICO

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The islands in the Gulf of California may be the most ecologically intact nonpolar archipelago in the world. As such, they are of considerable importance to the scientific study of biogeography, community ecology, evolutionary biology, behavioral ecology, and other fields that depend on intact ecosystems. The spectacular beauty of these islands and the abundance of large charismatic animals (primarily marine mammals and seabirds) attract increasing numbers of ecotourists (Bourillón et al. 1994), and the high marine productivity around the islands attracts large numbers of commercial fishermen (Tershy et al. 1992). Despite the biological importance of these islands, the ease of accessibility, and the large number of visitors, "the island birds remain poorly known, with even species lists incomplete" (Cody 1983).

San Pedro Mártir Island (28° 23' N; 112° 20' W), covering 1.9 km², is precipitous and rocky, clothed with dense stands of dwarf cardón cactus (*Pachycereus pringlei*) and globe mallow (*Sphaeralcea hainesii*) on the upper slopes and a layer of white seabird guano on the lower slopes. It lies about 50 km from the coastlines of both Baja California and Sonora and about 43 km from the nearest island, San Esteban (see Tershy et al. 1992 for a detailed description). The most isolated island in the Gulf, it has a steep, rocky, nearly vertical shoreline and no sand beaches (Figure 1).

Previous published ornithological investigations of San Pedro Mártir Island have been based on short visits of one to several days. Goss (1888), Mailliard (1923), and Banks (1963) recorded some of the more conspicuous birds, and Cody (1983) published a more detailed list of birds, apparently based on several visits to the island. Van Rossem's (1945) review of the distribution of birds in Sonora included San Pedro Mártir. Velarde and Anderson (1994) reviewed the status of seabirds on all Gulf of California islands.

From 1990 to 1993 we lived on San Pedro Mártir Island over 13 months (20 March–4 August 1990; 13 February–3 July 1991; 19 January–15 May 1992; 4–14 Mar 1993) and attempted to identify to species all birds seen. Most of our time was spent on the lower slopes at the southeast end of the island where our field camp was located, but during our 1991 and 1992 field seasons we circumnavigated the island in sea kayaks at least once every two weeks. We did not hike to the top of the island or more than about 1 km from our field camp from mid February to early July, to avoid disturbing breeding Brown Pelicans (*Pelecanus occidentalis*) and boobies (*Sula nebouxii* and *S. leucogaster*) (Tershy et al. 1992).

In this paper we present an annotated species list for the resident and migrant birds of San Pedro Mártir Island. During our stays on the island we

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recorded 82 species of birds: 8 species of breeding seabirds, 17 species of nonbreeding seabirds, 7 species of breeding or potentially breeding land birds, 11 species of visiting shorebirds and waders, and 39 species of visiting land birds. Cody (1983) recorded three species for San Pedro Mártir Island that we did not see, Say's Phoebe (*Sayornis saya*), Western Flycatcher (*Empidonax difficilis*), and Curve-billed Thrasher (*Toxostoma curvirostre*), bringing the total number of species recorded for San Pedro Mártir Island to 85. We recorded three breeding seabird species not reported for San Pedro Mártir Island by Velarde and Anderson (1994), Brandt's Cormorant (*Phalacrocorax penicillatus*), Heermann's Gull (*Larus heermanni*), and Craveri's Murrelet (*Synthliboramphus craveri*).

SPECIES ACCOUNTS

Common Loon (*Gavia immer*). Rare visitor to nearshore waters. One observation February 1992. Not previously reported for the waters around San Pedro Mártir Island, though the species winters regularly at least as far south as Colima (Howell and Webb 1995).

Pacific Loon (*Gavia pacifica*). Uncommon winter resident in nearshore waters. One seen June 1990 was outside dates from other years, which all fell between February and April. Not previously reported for the waters around San Pedro Mártir Island, though the species winters regularly throughout the Gulf of California (Howell and Webb 1995).

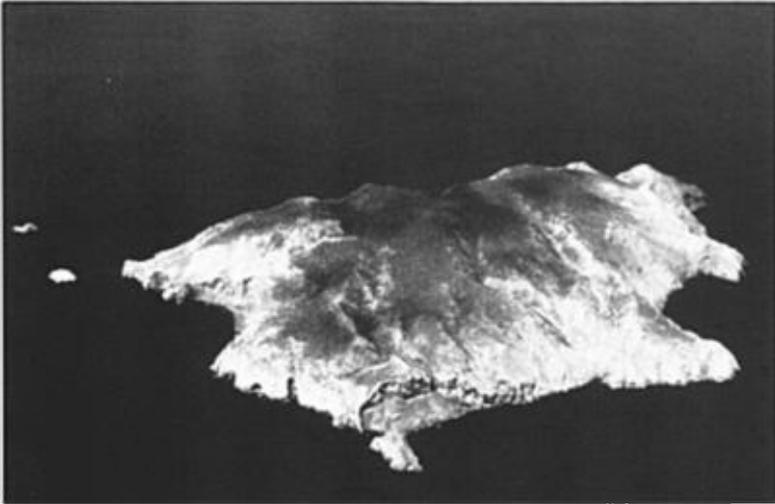


Figure 1. Aerial photograph of San Pedro Mártir Island showing the steep, relatively bare, guano-covered lower slopes of the island and the dense stands of dwarf cardón cactus and globe mallow on the upper slopes.

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Western Grebe (*Aechmophorus occidentalis*). Rare visitor to nearshore waters. One observation February 1992. Not previously reported for the waters around San Pedro Mártir Island, though a regular winter visitor in Gulf of California (Wilbur 1987).

Eared Grebe (*Podiceps nigricollis*). Common winter resident. In 1990 seen only in April; in 1991 seen consistently February through May, in 1992 January through May, and in 1993 in March. The species' seasonal distribution was similar to that found 80 km to the NW in the Canal de Ballenas (Tershy and Breese 1993). Around San Pedro Mártir Eared Grebes were observed foraging in concentrations of the euphausiid *Nyctiphanes simplex* and perhaps of mysiid crustaceans. On 26 and 27 April 1991 a pure white individual was seen feeding with other Eared Grebes. It glowed underwater, and was usually at the edge of the group.

Sooty Shearwater (*Puffinus puffinus*). Rare summer visitor to nearshore waters. One observation June 1991. Not previously reported for the nearshore waters of San Pedro Mártir Island, but common in the central Gulf of California (Tershy et al. 1993, Howell and Webb 1995).

Black-vented Shearwater (*Puffinus opisthomelas*). Rare visitor to nearshore waters. One sighting April 1991. Not previously reported for the nearshore waters of San Pedro Mártir Island, but common in the central Gulf of California (Tershy et al. 1993, Howell and Webb 1995).

Black Storm-Petrel (*Oceanodroma melania*). Uncommon visitor. Seen May, June, and July 1990; February, April, June 1991; March 1992 (flock of many hundreds; some Least Storm-Petrels may have been with this flock). Recorded on the island at night, but no evidence of nesting (although probably prospecting for sites when seen in caves 4 and 6 May 1990). Not previously reported for the nearshore waters of San Pedro Mártir Island; may have nested there prior to the introduction of rats (*Rattus rattus*) (Tershy et al. 1992). A large percentage of the world population breeds on Partida Island 80 km to the NW (Velarde and Anderson 1994).

Least Storm-Petrel (*Oceanodroma microsoma*) Rare visitor. One individual landed in camp the night of 17 June 1991. It may have been attracted to the bright lights of a ship night-fishing for bait. Not previously reported, but may have nested on the island prior to the introduction of rats (Tershy et al. 1992). A large percentage of the world population breeds on Partida Island 80 km to the NW (Velarde and Anderson 1994).

Red-billed Tropicbird (*Phaethon aethereus*). Resident breeder with an estimated 150 pairs. This was the rarest breeding seabird recorded in surveys of the Canal de Ballenas 80 km to the NW (Tershy et al. 1993). San Pedro Mártir has the only significant colony in the Gulf of California (Velarde and Anderson 1994). We found nests on all parts of the lower guano-covered slopes of the island, but most nests were concentrated under boulders on the north end. Breeding seemed to be spread out over much of the year with a possible peak in late winter. We estimated 500 birds in one circumnavigation of the island in March 1991, and our impression was that there may have been more than 150 nests. We collected regurgitations from two Red-billed Tropicbirds, containing a threadfin herring (*Opisthonema libertate*) and an unidentified squid.

Masked Booby (*Sula dactylatra*) Rare visitor. An adult with an orange bill was on the island for three weeks in April and May of 1992 (Figure 2). The orange-billed form *S. l. granti* breeds primarily on the Galapagos Islands. On islands closer to the Gulf of California (Clipperton, Rocas Alijos, and the Revillagigedos) the yellow-billed form *S. l. californica* predominates, and only a handful of orange-billed birds breed. This is, to our knowledge, the first record for the central Gulf of California (Grinnell 1928, Wilbur 1987, Howell and Webb 1995). We color-banded the Masked Booby orange over aluminum on the left tarsus.



Figure 2. Masked Booby on San Pedro Mártir Island April-May 1992, with cardón cactus in background.

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Blue-footed Booby (*Sula nebouxii*) and Brown Booby (*S. leucogaster*). Resident breeders. These were the most abundant birds on the island with an estimated 110,000 and 74,000 pairs, respectively, in 1990 (Tershy et al. unpubl. data). San Pedro Mártir may support the largest Brown Booby colony in the world and the largest Blue-footed Booby colony outside Perú (Figures 3, 4).

Brandt's Cormorant (*Phalacrocorax penicillatus*). Breeder, nesting in three small colonies of about 20 to 60 pairs, one on the southernmost offshore rock, two on the cliffs on the north and northwest sides of the island. San Pedro Mártir Island appears to be the southernmost breeding colony of Brandt's Cormorants in the Gulf of California. Brandt's Cormorants bred earlier than boobies and the Brown Pelican, and most chicks fledged and dispersed away from the island by mid-March (1990) or early May (1991). Only a few birds attempted to nest during the 1992 El Niño, and, to our knowledge, none of them successfully fledged young. Not previously recorded breeding on San Pedro Mártir Island.

Double-crested Cormorant (*Phalacrocorax auritus*). Uncommon spring visitor. Recorded from 1990 to 1992 in April or May, occasionally roosting on coastal cliffs. Not previously reported for San Pedro Mártir Island, but a common resident in more coastal waters on both sides of the Gulf of California (Howell and Webb 1995).

Brown Pelican (*Pelecanus occidentalis*). Breeder, nesting within the cardón forest on the relatively flat upper part of the island, extending down onto the lower slopes in good years. On average about 2000–3000 pairs nest on the island (Velarde and Anderson 1994), but in the El Niño year of 1992 there were fewer than 100 active nests. They may begin breeding as early as December (D. Anderson pers. comm.) and, in 1990, most chicks had fledged by mid-June. By July, there were only a few individuals left on San Pedro Mártir Island.

Magnificent Frigatebird (*Fregata magnificens*). Common nonbreeding summer resident, with many hundred roosting on the cardón cactuses and fig trees (*Ficus palmeri*). There are probably a few individuals year-round on the island, but their numbers increase dramatically in the summer when more than 800 were seen roosting on cardón cacti at the southeast end of the island. For example, in 1991, the mean number of Magnificent Frigatebirds sighted per 10-day period increased from <15 from February through mid-April, to 20–150 in late April through early June, to 450 and 550 in the last 20 days of June.

Black-crowned Night Heron (*Nycticorax nycticorax*), Green Heron (*Butorides virescens*), Snowy Egret (*Egretta thula*), and Great Egret (*Ardea alba*). All rare visitors. Black-crowned Night Heron, Green Heron, and Great Egret seen once each in April of 1990, 1991, and 1992, respectively. Snowy Egret seen in April 1990 and May 1991. None of these species previously reported for San Pedro Mártir Island, though they breed commonly in coastal areas throughout México (Howell and Webb 1995).

Great Blue Heron (*Ardea herodias*). Uncommon visitor. Seen in every year, and at least once in all months but January and July. No previous records for San Pedro Mártir Island, but a common resident breeder throughout coastal areas of the Gulf of California (Howell and Webb 1995) and on several islands (pers. obs.).

American Oystercatcher (*Haematopus palliatus*). Common visitor. Recorded in April of 1990 and 1991, January and March through May in 1992. No previous records for San Pedro Mártir Island, but a common breeder throughout the Gulf of California, including many islands (Howell and Webb 1995).

Spotted Sandpiper (*Actitis macularia*) and Wandering Tattler (*Heteroscelus incanus*). Common winter residents. Both seen in all years with most sightings from



Figure 3. Nesting Blue-footed Booby at the edge of the cardón cactus and globe mallow stands.

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Figure 4. Female Brown Booby with chick on the bare guano-covered lower slopes. Note the steep terrain, typical of San Pedro Mártir Island.

January through May, but some sightings in June. One sighting of a Wandering Tattler in July of 1992. Not previously recorded for San Pedro Mártir Island, but common along coast of Gulf of California, including many islands (Howell and Webb 1995, pers. obs.).

Red-necked Phalarope (*Phalaropus lobatus*). Rare visitor to nearshore waters, seen in May 1992. No previous records for San Pedro Mártir Island, but seasonally one of the most abundant seabirds in the central Gulf of California (Tershy et al. 1993).

Black Turnstone (*Arenaria melanocephala*), and Surfbird (*Aphriza virgata*). Uncommon visitors. Black Turnstone seen in March and April of 1991 and 1992, respectively. Surfbird seen only in March of 1991 and 1992. Neither previously recorded from San Pedro Mártir Island, though common winter residents along the coasts of the Gulf of California (Howell and Webb 1995).

Pomarine Jaeger (*Stercorarius pomarinus*). Rare visitor to nearshore waters, seen only in June 1991 and March 1992. Not previously recorded from nearshore waters of San Pedro Mártir but occurs regularly in the central Gulf of California (Howell and Webb 1995, Tershy et al. 1993).

Heermann's Gull (*Larus heermanni*). Breeder, with an estimated 120 pairs. This is the most abundant gull in the Gulf of California. More than 95% of the world population breeds on tiny Rasa Island (Velarde and Anderson 1994), and several

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smaller colonies are established on other islands in northwestern México. On San Pedro Mártir Island there are two small colonies located near the northeastern and southwestern cobble bars. From a kayak we counted at the northeastern colony 97 nests (probably over 90% of the total) in 1991, 75 nests in 1992. The number of nests at the southwestern colony was considerably less (about 5 nests in 1991 and 1992). Heermann's Gulls breed between late February and early July, after which much of the population migrates to the Pacific coast (Velarde 1989). Not previously recorded breeding on San Pedro Mártir Island.

Yellow-footed Gull (*Larus livens*). Resident breeder, with an estimated 500 pairs. Possibly the Gulf of California's only endemic seabird, nesting along the shorelines of many islands in isolated pairs or small colonies (Spear and Anderson 1989). On San Pedro Mártir Island the nests are scattered along the entire shoreline. We used kayaks to circumnavigate the island and census Yellow-footed Gulls, counting 650 individuals on 30 April 1991 and 614 on 29 March 1992 (perhaps one-half to two-thirds of the population). In late March of both 1991 and 1992 the earliest nests had eggs. Yellow-footed Gulls are vulnerable to inadvertent disturbance by people landing on islands, often resulting in the loss of eggs or chicks and even total reproductive failure (Spear and Anderson 1989). Adults are easily scared off their nests, and because the eggs and chicks are cryptic in coloration, even experienced biologists can stumble into the middle of a small colony without realizing it. Eggging and unintentional disturbance by commercial fishermen camping on the island may have decreased the fledging success of both Yellow-footed and Heermann's Gulls in some years (Tershy et al. 1992).

Bonaparte's Gull (*Larus philadelphia*). Uncommon visitor to nearshore waters. Seen only in April 1991 and March 1992. Not previously recorded from nearshore waters of San Pedro Mártir Island, but common in winter and early spring throughout the Gulf of California (Tershy et al. 1993, Howell and Webb 1995).

Ring-billed Gull (*Larus delawarensis*) and California Gull (*L. californicus*). Both common winter visitors to nearshore waters. Seen January–March of some years, with the Ring-billed Gull being slightly more abundant. Not previously recorded from nearshore waters of San Pedro Mártir Island. Both species are common winter residents in eastern Gulf of California but rare in the Canal de Ballenas in the western Gulf (Tershy et al. 1993).

Elegant Tern (*Sterna elegans*). Uncommon visitor. Seen in nearshore waters in March, June, and July 1990, and April through June 1992. Not previously recorded for the nearshore waters of San Pedro Mártir Island, but most of world population breeds on Rasa Island, 80 km to the NW (Velarde and Anderson 1994).

Royal Tern (*Sterna maxima*). Uncommon visitor. Seen near shore in July 1990 and June 1992. These may have been postbreeding dispersers from Rasa Island, where there is a large breeding colony (Velarde and Anderson 1994). Not previous reported from San Pedro Mártir Island's nearshore waters.

Craveri's Murrelet (*Synthliboramphus craveri*). Breeder, with one pair on one of the offshore rocks in 1991 (Breese et al. 1993) and 1993 but not during the 1992 El Niño. We spent hours thoroughly checking every possible nesting site on the two offshore rocks and are confident that there was only one nest. The murrelets may be excluded from the main island by roof rats, which were probably introduced at the turn of the century and prey on the adults, chicks, and eggs of small burrow-nesting seabirds (Velarde and Anderson 1994). Not previously recorded breeding on San Pedro Mártir Island.

Red-tailed Hawk (*Buteo jamaicensis*). Rare visitor. One seen in February 1992. Not previously recorded from the island but common in Baja California and Sonora (Howell and Webb 1995).

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Osprey (*Pandion haliaetus*). Rare visitor. Seen from March through June 1991 and March through May 1992. Common resident on adjacent coasts of Baja California and Sonora as well as on many islands. Probably does not frequent San Pedro Mártir because of the lack of shallow water (Cody 1983). Not previously recorded from San Pedro Mártir Island.

American Kestrel (*Falco sparverius*). Unconfirmed breeder. Only one pair.

Peregrine Falcon (*Falco peregrinus*). Breeder, with one pair. It feeds on migrating seabirds, shorebirds, ducks, and land birds. We sampled the diet of one or more of the Peregrine Falcons on the island by collecting feathers at the base of a feeding perch (26 Feb, 5 Mar, 15 May, and 25 May 1991; 21 Apr, and 11 May 1992). We recorded feathers of the Black and Least Storm-Petrels, Blue-winged or Cinnamon Teal (*Anas discors* or *A. cyanoptera*), Spotted Sandpiper, Red-necked Phalarope, Bonaparte's Gull, American Kestrel, Mourning Dove, White-winged Dove, Allen's or Rufous Hummingbird, Belted Kingfisher, Rock Wren, Northern Mockingbird, Orange-crowned Warbler, and possibly a Western Tanager (see text for scientific names not listed here).

Mourning Dove (*Zenaida macroura*). Possible breeder. Seen regularly from March through June 1991 and March through April 1992.

White-winged Dove (*Zenaida asiatica*). Rare visitor. Seen only in April 1992. Not previously reported for San Pedro Mártir, but common in Sonora (Howell and Webb 1995).

Great Horned Owl (*Bubo virginianus*) and Burrowing Owl (*Speotyto cunicularia*). Rare visitors. Seen only in May 1990 and March 1992, respectively.

Lesser Nighthawk (*Chordeiles acutipennis*) and White-throated Swift (*Aeronautes saxatalis*). Rare visitors. Seen in March 1992 and June 1990, respectively. Not previously recorded from San Pedro Mártir Island, but common in northwestern México (Howell and Webb 1995).

Costa's Hummingbird (*Calypte costae*) and Anna's Hummingbird (*C. anna*). Rare visitors. Seen in May and March 1991, respectively. Anna's Hummingbird not previously recorded from San Pedro Mártir Island.

Rufous Hummingbird (*Selasphorus rufus*). Common visitor. Not previously recorded from the island. Positively identified only in May and Jun 1991. However, *Selasphorus* hummingbirds that could not be positively identified were seen from January through April in either 1991 or 1992. Hummingbirds that could not be identified to genus were seen in every month and in all years.

Belted Kingfisher (*Megaceryle alcyon*). Common resident. Seen in all months and in all years, but apparently suitable nesting substrate is lacking. Not previously recorded from San Pedro Mártir Island though common in Baja California and Sonora (Howell and Webb 1995).

Tropical Kingbird (*Tyrannus melancholicus*). Rare visitor. One seen in April 1991. Distinguished from Western (*T. verticalis*) and Cassin's (*T. vociferans*) Kingbirds by longer, heavier bill. Not previously recorded from San Pedro Mártir Island.

Black Phoebe (*Sayornis nigricans*). Rare visitor. One seen in March 1991. Not previously recorded from the island.

Say's Phoebe (*Sayornis saya*) and Western Flycatcher (*Empidonax difficilis*). Recorded by Cody (1983) but not by us.

Violet-green Swallow (*Tachycineta thalassina*), Barn Swallow (*Hirundo rustica*), and Purple Martin (*Progne subis*). Rare visitors. All sightings in spring, except for one

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sighting of a Barn Swallow in June 1990. None of these Hirundinidae previously reported from San Pedro Mártir Island, and apparently no published records of the Violet-green Swallow for any Gulf of California island.

Common Raven (*Corvus corax*). Breeding resident. This is the most conspicuous of the island's breeding land birds. There are about 50 ravens on San Pedro Mártir (not all of which are breeding adults). Their diet is probably quite varied, but during the first part of the seabird nesting season they were observed feeding frequently on seabird eggs and chicks, and on fish scraps dropped in the seabird colony. In the late summer they were frequently seen feeding on cardón fruits, and we saw them feeding on carrion whenever it was available. Raven pellets we examined invariably contain parts of an undescribed trojine scarab beetle found on the island.

Rock Wren (*Salpinctes obsoletus*). Breeding resident. This is probably the most abundant land bird on the island (at least in some years). In late winter and early spring, especially after a year of heavy rainfall, Rock Wrens can be seen defending territories and foraging throughout the relatively barren lower slopes of the island.

Hermit Thrush (*Catharus guttatus*). Rare visitor, seen only in April 1991 and 1992. First records for San Pedro Mártir Island.

Loggerhead Shrike (*Lanius ludovicianus*). Rare visitor, seen only in April 1991 and April and May 1992. First records for San Pedro Mártir Island.

Northern Mockingbird (*Mimus polyglottos*). Uncommon visitor, seen only in February and May 1991.

Curve-billed Thrasher (*Toxostoma curvirostre*). Reported by Cody (1983) but not seen during this study.

American Pipit (*Anthus rubescens*). Rare visitor, seen only in March 1991 and April 1992. First record for San Pedro Mártir Island.

Orange-crowned Warbler (*Vermivora celata*). Common visitor, seen February and April 1991, March and April 1992. Not previously recorded for San Pedro Mártir Island.

Yellow-rumped Warbler (*Dendroica coronata*). Common visitor, seen February through May 1991 and April 1992.

Townsend's Warbler (*Dendroica townsendi*) and Yellow Warbler (*Dendroica petechia*). Rare and common visitor, respectively. Seen only in May and April, respectively. No published records of either species from a Gulf of California Island.

Wilson's Warbler (*Wilsonia pusilla*). Rare visitor. One sighting in April 1991. First record for San Pedro Mártir Island.

Common Yellowthroat (*Geothlypis trichas*). Uncommon visitor, seen in May 1990 and April 1991-1992. Not previously reported from San Pedro Mártir Island.

Savannah Sparrow (*Passerculus sandwichensis*) and Lark Sparrow (*Chondestes grammacus*). Rare and uncommon spring visitor, respectively. Neither previously reported for San Pedro Mártir Island.

Black-throated Sparrow (*Amphispiza bilineata*). Possible breeder. Seen only in February and March 1992, but observed singing. Not previously reported for San Pedro Mártir Island.

Clay-colored Sparrow (*Spizella pallida*). Common visitor, seen in February and March 1991 and not previously reported for any Gulf of California island.

Brewer's Sparrow (*Spizella breweri*). Common visitor, seen from February through May 1991 and in February of 1992.

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Black-chinned Sparrow (*Spizella atrogularis*). Rare visitor. One seen in March 1992. First record for San Pedro Mártir Island.

White-crowned Sparrow (*Zonotrichia leucophrys*). Uncommon visitor, seen in spring 1991 and 1992.

Lincoln's Sparrow (*Melospiza lincolni*). Rare visitor. One seen in March 1992.

Brown-headed Cowbird (*Molothrus ater*). Common visitor, seen in April and May 1991 and 1992. Not previously recorded for San Pedro Mártir Island.

Great-tailed Grackle (*Quiscalus mexicanus*). Rare visitor. One individual was a mascot on a commercial fishing ship that came from Topolobampo, Sinaloa. It left the ship and stayed on the island, where it was observed feeding on the endemic side-blotched lizard (*Uta palmeri*).

Streak-backed Oriole (*Icterus pustulatus*). Rare visitor. Three sightings of an immature male, probably the same individual, in April 1992. Distinguished by clear streaks on upper back. New record for a Gulf of California island.

House Sparrow (*Passer domesticus*). Common visitor. Seen in April 1990 and February through June 1991. Not previously reported from San Pedro Mártir Island. House Sparrows were seen only in the immediate vicinity of our research camp.

Lesser Goldfinch (*Carduelis psaltria*). Rare visitor. One seen in May 1992. Not previously reported for San Pedro Mártir Island.

House Finch (*Carpodacus mexicanus*). Possible breeder. Recorded breeding by Goss (1888). Seen by us from April through June 1991, but no nests found.

SUMMARY

On San Pedro Mártir Island in the central Gulf of California, 13 months of study distributed over three years revealed 82 species of birds. Of these, 8 are breeding seabirds (Red-billed Tropicbird, Blue-footed and Brown Boobies, Brown Pelican, Brandt's Cormorant, Heermann's and Yellow-footed Gulls, and Craveri's Murrelet), 7 breeding or probably breeding land birds (American Kestrel, Peregrine Falcon, Mourning Dove, Common Raven, Rock Wren, Black-throated Sparrow, and House Finch), and the remainder nonbreeding visitors. The booby colonies, numbering in the tens of thousands of each species, are among the largest in the world for each species. The populations of the tropicbird, pelican, and Yellow-footed Gull are of regional importance.

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