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FIELD NOTES ON SOME DRY-SEASON BIRDS OF NAYARIT, MEXICO

Extensive water control and agricultural development of western México, accelerated by new roads and railways have produced exponential changes in total ecology, and promise profound changes in populations of organisms. Comparative faunal studies are becoming important, particularly since some classes of observations will soon be non-replicable.

A small group of biologists sampled the vertebrate fauna of northern Nayarit, for the Museum of Natural History, College of Puget Sound in 1954. Survey studies of the avifauna were made in 1953, and intensive field observations, similar to that reported here, were also done in neighboring Sinaloa in 1954. The following notes are based mainly on the intensive and day-long observations from 14 to 21 March 1954. Observations were made in part from camouflaged stands, using binoculars and a tripod-mounted 30X telescope. The work was concentrated on the Arid Lower Tropical zone between Acaponeta and San Blas and the Arid Upper Tropical zone toward Tepic. No specimens were taken. Identifications were based on characters given in Blake (1953). Data on reptiles and amphibians, and more extensive notes on the forest birds, will be published elsewhere.

The dry season vegetation at Acaponeta and south is a dry, leafless thorn scrub. There are abrupt cliff faces and granitic plugs. The great cacti of Sinaloa are replaced as the dominant emergent plants by palmettoes (*Sabal rosei*). The thorn forest itself is composed of members of the Mimosoideae (*Cassia, Mimosa, Acacia*) ("huisaches"), with a few broad-leaf trees. Epiphytes and a variety of cacti are present. The country is burned over periodically in an effort to improve the grazing.

The road west of Navarrete winds downward through hilly country and small volcanic cones until, at about the altitude of Singaita, the heavy coastal jungle of figs and palms (amate-cohune association) appears. The palms form a densely canopied forest with little underbrush. The fig trees are sparsely scattered giants, with buttressed and fluted trunks, and tops emerging high over the palm canopy. Mixed stands of other broad-leafed forest trees are seen at lower levels. At intervals grassy savannahs relieve the more majestic growth, and here a variety of smaller trees abound, among them the bull-thorn acacia with each of its spines inhabited by a colony of small biting ants. Epiphytic mosses, fungi, cacti, bromeliads, orchids, and mistletoes are common. These climax forests are being widely razed for banana culture. The plants are set in rows over slash-cleared land set with great blocks of scoriacious lava.

Below the forest zone is a wide belt of mangrove swamp, cut by sluggish estuaries, lagoons, and mud flats, and heavily populated with mosquitoes and biting flies. San Blas lies in this zone, part of the city being in groves of cocopalm (*Cocos nucifera*) which extend westward into the sand dunes immediately above the ocean beaches.

ANNOTATED LIST (ONLY SELECTED LAND-BIRD GENERA INCLUDED)

Pelecanus occidentalis Brown Pelican

Present in hundreds on the beaches of San Blas, the estuaries and rivers of the coast, and on several small rocky off-shore islands.

Phalacrocorax olivaceus Olivaceous Cormorant

Common in small groups on the sand spits of the rivers. Pelicans seemed to have pre-empted the rocky headlands and islands of the coast, leaving for the flocks of cormorants the sand spits of the rivers.

Anhinga anhinga Anhinga

One individual was seen on an estuary east of San Blas.

Fregata magnificens Frigate Bird

Flocks of thousands were observed flying inland over San Blas on the morning of March 21, the first clear hot day after several days of hazy overcast. At other times frigate birds were visible only with a strong glass, far out to sea and at high altitudes.

Ardea herodias Great Blue Heron

At least one was seen on every sizable body of water investigated. Recorded at Rosa Morada, Matanchén and San Blas.

Florida caerulea Little Blue Heron

Recorded at San Blas and Matanchén daily.

Casmerodius albus American Egret

Common at San Blas in the muddy estuaries, and in roadside pools throughout the state, and on the Río Acaponeta.

Egretta thula Snowy Egret

San Blas and Matanchén, records appearing daily in field notebooks. Usually solitary.

Nyctanassa violacea Yellow-crowned Night Heron

Found in mangrove swamps at San Blas whenever looked for.

Cochlearius cochlearius Boat-billed Heron

This solitary bird could be seen daily on the rivers near San Blas. It avoided the mixed groups of shore birds on the wide mud flats and was usually found on narrow strips of land along mangrove swamps. It was slow moving and easily approached.

Plegadis falcinellus Glossy Ibis

A single individual was noted on a small pool south of Resbalón, northern Nayarit, on March 21.

Eudocimus albus White Ibis

Great flocks of these sedate birds could be seen each dusk, in high steady flight toward their colonial roosting areas north of San Blas. It was common on the mud flats there and at Matanchén.

Ajaia ajaja Roseate Spoonbill

Flocks of these beautiful pink birds, spread out on the mud banks of a tropical river, or overhead at dawn and dusk, were seen daily at San Blas.

Anas cyanoptera Cinnamon Teal

One record from the Río Acaponeta, March 21.

Pandion haliaetus Osprey

At Matanchén, above the beaches, on March 19.

Fulica americana Coot

Noted daily at Puente El Conchal, near San Blas.

Jacana spinosa American Jacana

About a dozen birds were noted daily in a marshy pasture near San Blas.

Haematopus ostralegus Oystercatcher

Occasional at San Blas, on the ocean beach.

Charadrius alexandrinus Snowy Plover

San Blas. Flocks of 20 to 40 individuals

Charadrius collaris Collared Plover

San Blas. Single birds.

Numenius phaeopus Hudsonian Curlew

Common on the ocean beach at San Blas.

Numenius americanus Long-billed Curlew

Several pairs were noted on the ocean beach at San Blas.

Actitis macularia Spotted Sandpiper

San Blas. Single birds or pairs.

Catoptrophorus semipalmatus Willet

Noted daily at Matanchén on the beaches.

Heteroscelus incanus Wandering Tattler

Ocean beaches at San Blas. Uncommon.

Arenaria interpres Ruddy Turnstone

Matanchén.

Himantopus mexicanus Black-necked Stilt

Common in muddy cattle tanks and roadside pools away from the coast.

Recurvirostra americana Avocet

Common, often in company with Black-necked Stilts, but not seen below the thorn scrub elevations.

Hydroprogne caspia Caspian Tern

Pacific Ocean at San Blas and Matanchén, several single birds noted daily.

Ara militaris Military Macaw

Several pairs of macaws were seen flying west at sundown in the dry hill country south of Acaponeta on March 14. We did not encounter them elsewhere.

Aratinga canicularis Orange-fronted Parakeet

In habit and local distribution much like *Amazona albifrons* and often associated with that species. The flocks had not broken up yet for breeding, but most of the morning of March 21 was spent watching one pair through a telescope. They were quietly working on a large arboreal termite nest about 30 feet above the ground in a very dense palm forest. One bird took turns with the other in creeping cautiously into holes, barely large enough to admit them. They used the spread tail feathers as a prop much as do woodpeckers. Sometimes one of the pair would be out of sight for many minutes, to come backing out carefully and, sitting on the rim of the cavity, would pick termites from the plumage, eating them or throwing the small bodies to the side with a jerk of the head. Sometimes they picked up the insects from the walls or rim of the hole. No attempt to enlarge the cavity was noted.

Forpus cyanopygius Mexican Parrotlet

Flocks of 25 or so "cartagenas" tended to fly above rather than through the forest as the larger parrots often did. Descending into the fig trees they seemed to disappear, since each was the size and brilliant green color of a fig leaf. Birds of this genus were as noisy proportionately as the larger birds, and had the same appetite for wild figs. The trees with ripening fruits were actually audible for some distance because of the visiting parrots, caciques, magpie-jays, flycatchers, and squirrels.

Amazona albifrons White-fronted Parrot

Common in the dry country near Rosa Morada, in the thorn brush around Navarrete, and in the dense cohune-amate forest. In the fig trees they collected in large numbers, biting into the fruits on the ripening surface and dropping the remainder in a spattering rain through the palm fronds to the ground. *Aratinga canicularis*, with similar feeding and habitat preferences, was often associated with this species.

The flight of *Amazona* is strong, direct, with steady, rapid, wing strokes. The course may be high above the forest top, or an expert zigzag through the trees, much like a hawk.

The shrieking of parrots possibly serves a protective-adaptive function. In flights they are conspicuous, circling and complaining noisily. Once in a treetop they are abruptly silent and observant for a while. The ear-splitting racket recommences with the beginning of feeding, and the larger the flock the sooner screaming starts. A departing group brings noise to a crescendo, and it is sometimes many minutes before an observer is aware that another group, perhaps even larger, has been left behind, silently feeding. These in their turn, depart noisily, leaving another silent decrement. The mixing and separation of flocks obscure the possibility that groups may have some degree of permanency of constitution.

Amazona finschi Lilac-crowned Parrot

One questionable record, in the hills immediately behind San Blas, March 19.

Ceryle alcyon Belted Kingfisher

At Puente El Conchal, San Blas.

Cissilopha san-blasiana San Blas Jay

One record, in the oak brush in the mountains near Tepic on March 20.

Euthlypis lachrymosa Fan-tailed Warbler

A group of eight of these fan-tail birds were observed through the morning and early afternoon of 17 March, following a foraging body of army ants. The insects sounded like rain on the dry leaf floor of the "monte", and covered an area of several square yards. The birds were feeding on insects flushed by the advancing edge of the army. Although they sometimes dashed into the occupied area they appeared to avoid the ants themselves. They had a characteristic alert posture and an uneasy, almost anxious, attentiveness. The tail was widely expanded and folded, in rapid succession, and flicked in an exaggerated manner from side to side. The birds seemed actually to suffer formication, and it would be interesting to observe if they are more serene when apart from such formidable company. In habit they much resembled the Louisiana Water-thrush.

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