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ADDITIONAL NOTES FROM ISLA CLARION, MEXICO<sup>1</sup>

STEVE N. G. HOWELL AND SOPHIE WEBB

*Point Reyes Bird Observatory, 4990 Shoreline Highway, Stinson Beach, CA 94970*

*Key words:* Isla Clarion; Townsend's Shearwater; feral pigs; Laysan Albatross; Clarion Wren.

Everett (1988) summarized his findings on Isla Clarion, the westernmost island of Las Islas Revillagigedo, following a visit there in January 1986. We spent 19 to 22 February 1988 on and around Isla Clarion and, as our observations update and differ somewhat from those of Everett (1988), we report them here.

The state of the garrison and buildings was as described by Everett (1988) but the recently constructed airstrip was overgrown and its use discontinued. Feral rabbits, not hares as reported by Everett (1988), were abundant over the island and we saw two to three sheep but no goats (c.f. Everett 1988). Feral pigs and evidence of their rooting were widespread but we saw fewer than 50 pigs in total and doubt that the population was as high as the 800-1,000 animals indicated by Everett (1988).

All nesting sites of Townsend's Shearwaters (*Puffinus auricularis*) that we found had been thoroughly rooted by pigs, and numerous shearwater carcasses littered parts of the island. As *P. auricularis* breeds only on islas Clarion and Socorro, in Las Islas Revillagigedo, and on Socorro it is preyed upon by cats (Jehl and Parkes 1982), we express serious concern for its survival.

A total of 380-470 pairs of Masked Boobies (*Sula dactylatra*) was observed at five sites but no eggs had been laid. Only one of the sites corresponded to Everett's three sites (W. T. Everett, pers. comm.) and, as he thought, pigs may cause abandonment and shifting of colonies. We estimated 3,010-3,210 pairs of nesting Red-footed Boobies (*S. sula*) at five sites, the majority with one egg. Later timing of our visit and greater coverage of the island may explain the differences between our counts and those of Everett (1988).

At least 30 Laysan Albatrosses (*Diomedea immutabilis*) were on land, including two birds incubating eggs (details to be published separately). The species was previously unrecorded from Clarion (Brattstrom and Howell 1956, Jehl and Parkes 1982, Everett 1988).

The endemic Clarion Wren (*Troglodytes tanneri*) was common. A survey of all but the easternmost end of the island revealed at least 115-140 pairs and we estimated the population at 170-200 pairs. Everett (1988) noted only "up to 20" wrens; our observations indicate that the wrens could have been incubating during Everett's visit and hence less conspicuous than when feeding young in February 1988. The highest density was around the buildings and adjacent areas. Likewise, the Clarion Island Mourning Dove (*Zenaidura macroura clarionensis*) was common. We estimated a minimum population of 55-75 pairs vs. "no more than 20" seen (Everett 1988). Breeding was mainly at the courtship stage though one group of fledglings was being fed by an adult. Both wrens and doves were well distributed throughout suitable habitat and appear to be in no

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immediate danger. Common Ravens (*Corvus corax*) were common (200–300 birds in total) though persecuted by residents for pilfering their vegetable garden.

The one breeding landbird that appeared rare was the Burrowing Owl (*Athene cunicularia*). Everett (1988) reported no more than 10 and we saw and heard only one. Rooting by pigs may be a reason for the owl's decline.

The following species, unrecorded from Clarion (see Brattstrom and Howell 1956, Jehl and Parkes 1982, Everett 1988), were also observed: 60–100 Cattle Egrets (*Bubulcus ibis*), one immature Peregrine Falcon (*Falco peregrinus*), 12 Semipalmated Plovers (*Charadrius semipalmatus*), one Sanderling (*Calidris alba*), one first-year Herring Gull (*Larus argentatus*), one American Water Pipit (*Anthus rubescens*, see Knox 1988), one Palm Warbler (*Dendroica palmarum*), and one male Common Yellowthroat (*Geothlypis trichas*).

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## BROWN JAYS AS ARMY ANT FOLLOWERS<sup>1</sup>

PAUL D. HAEMIG

*Department of Animal Ecology, University of Umeå, S-901 87 Umeå, Sweden*

*Key words:* Brown Jay; Cyanocorax morio; army ants; Eciton burchelli; Melodious Blackbird; Dives dives; Ivory-Billed Woodcreeper; Xiphorhynchus flavigaster; mixed-species flocks; Tamaulipas.

Since the publication of Hardy's paper (Condor 76: 102–103, 1974) on jays following army ant swarms, we have known that three species of neotropical jays engage in this activity. In Campeche, Nayarit, and Nicaragua, Hardy found Yucatan Jays *Cyanocorax yucatanicus*, San Blas Jays *C. sanblasianus*, and Bushy-crested Jays *C. melanocyaneus*, respectively, accompanying swarms of army ants to feed on arthropods and other small animals fleeing hiding places to escape the advancing ants. Hardy concluded his report by saying that it would "be instructive to know if this habit has gone unnoticed in any of the other neotropical jays."

I recently discovered that still another species of neotropical jay follows army ants. On the morning of 15 April 1989, I observed Brown Jays *Cyanocorax morio* accompanying a swarm of army ants *Eciton burchelli* in the Mexican state of Tamaulipas. The locality at which I made this observation was a second-growth

tropical deciduous forest along the Rio Sabinas, 4 km west of the town of El Encino (23°8'N, 99°6'W), Municipio de Llera, in the same general area where Sutton (Condor 53:16–18, 1951) observed a larger and far more diverse mixed-species flock of ant-following birds.

Accompanying the small army ant swarm that I saw were six Brown Jays, two Melodious Blackbirds *Dives dives*, and one Ivory-Billed Woodcreeper *Xiphorhynchus flavigaster*. I followed this mixed-species flock for 2 hr (08:00–10:00) through the forest and watched them feed on animal life fleeing from the advancing ants. While most of the food that the birds consumed appeared to be arthropods, I saw one Brown Jay devour a small frog that was driven from hiding by the ants. The jay was forced to eat the frog rapidly, for as soon as the other jays saw it, they tried to steal it. The foraging behavior of the Brown Jays closely resembled that of the Yucatan Jays described by Hardy (1974).

From a numerical standpoint, it can be seen that the Brown Jay was the principal attendant present at the ant swarm. The jays Hardy (1974) reported on were also the principal attendants in the mixed-species flocks he observed following army ants. No antbirds (Formicariidae) or ant-tanagers (*Habia*) were present in his flocks or in mine. Like Hardy, I also found that the jays I studied were tamer acting when following ants, and thus easier than normal for a human to approach and observe. The same can be said for the blackbirds and woodcreeper.

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