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NOTES ON NESTING BIRDS OF THE CIÉNEGA DE SANTA CLARA SALTFLAT, NORTHWESTERN SONORA, MEXICO

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The Ciénega de Santa Clara is a 20,000-hectare brackish wetland on the east side of the delta of the Río Colorado in Sonora, México. It has developed as a result of the discharge of brine from the Wellton–Mohawk Irrigation District, in southwestern Arizona, through the Wellton–Mohawk Main Outlet Drain Extension, since 1977. The northern third of the ciénega is covered by dense cattails (*Typha domingensis*), Common Reed (*Phragmites communis*), and bulrush (*Scirpus americanus*). The southern two-thirds of the wetland consist of unvegetated evaporative saltflats (Glenn et al. 1992). The area is important for conservation, yet little effort has been devoted toward its birds. Investigations have focused mainly on its vegetated portion, which supports a large population of the endangered Yuma Clapper Rail (*Rallus longirostris yumanensis*; see Eddleman 1989) and of wintering waterfowl. The use of the saltflats by birds has been mostly overlooked. Only Eddleman (1989) has reported on the birds his team recorded incidentally while surveying Yuma Clapper Rails.

On 20 April and 3–4 May 1994, we visited two sites on the saltflat, both adjacent to pools of fresh water. These are fed by underground springs located on the San Jacinto Fault, which runs through the eastern boundary of the ciénega to the Estero de Santa Clara and beyond into the Gulf of California. We have named the sites after the nearest villages, El Doctor and La Flor del Desierto, from which they are about 2 and 3.5 km to the southwest, respectively.

American Avocet (*Recurvirostra americana*). On 20 April 1994 we found 20 adults and 2 nests at El Doctor. One nest had four eggs, the other three eggs and one fledgling. On 3 May one of the nests had only eggshell fragments, and we presume successful hatching. We could not refind the other nest. Although no nesting of this species in Sonora has been confirmed previously, Mellink and Palacios (1993) suspected that avocets breed near Puerto Peñasco, also in the northern Gulf of California. Howell and Webb (1995) reported the species as a breeder only in northwestern Baja California and on the central plateau of Mexico.

Black-necked Stilt (*Himantopus mexicanus*). On 20 April we recorded about 20 adults, some of which were performing distraction behavior, at El Doctor. On 3 May three adults were performing the broken-wing display there. Eddleman (1989) reported stilts in roughly the same area in 1984, and G. Monson (pers. comm.) and S. M. Russell found a nest with three eggs a few kilometers north of the site on 9 April 1994. Howell and Webb (1995) did not record the species as breeding in Sonora.

Snowy Plover (*Charadrius alexandrinus*). At El Doctor there were about 40 adults and we located two nests. To reduce disturbance we did not search for more nests, but

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it was evident that many more pairs were nesting. The nests had two and three eggs, respectively. One of the nests was lined with broken shells; the other had a dried mud bottom. Both nests were in old horse tracks. At La Flor del Desierto on 4 May we found 14 adults apparently attending chicks. This species had been reported in this area by Eddleman (1989). Our finding of over 50 adults at only two small sites surveyed, and Eddleman's report that the species nests at "at least a few sites," suggest that the breeding concentration is an important one. Van Rossem (1945) commented on the apparent summer absence of this species in Sonora, and Howell and Webb (1995) did not include the species as a breeder for Sonora. Its confirmed breeding in this area, as well as at La Salina oasis, northwestern Sonora (Mellink and Palacios 1993) and at Estero San José, southern Sonora (Palacios and Mellink 1995), indicates that scattered populations may inhabit suitable sites along the entire Sonoran coast.

Killdeer (*Charadrius vociferus*). We saw four adults, and heard more calling, at La Flor del Desierto on 4 May. We suspected nesting, but could not find evidence of this. That nesting might occur is not surprising, as this species breeds widely in northern Mexico (Howell and Webb 1995) and is a "common resident everywhere in suitable territory" in Sonora (van Rossem 1945).

Least Tern (*Sterna antillarum*). We found four pairs occupying nests and courting on the ground at El Doctor on 3 May. One nest had two eggs. On 4 May we found two pairs performing aerial courtship and fishing in the pool at La Flor del Desierto. This species, whose breeding in the area had been suspected by Eddleman (1989), is a common summer resident throughout the Gulf of California (Howell and Webb 1995) and breeds widely along its continental shore (Palacios and Mellink 1995).

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