sitism in the American Avocet (*Recurvirostra americana*) and the Black-necked Silt (*Himantopus mexicanus*), but his observations were not conclusive.

Graul's interpretation of the Mountain Plover's mating system (Living Bird 12:69–94, 1973) was substantiated by observations of marked birds involved with a specific nest, but he did not consider additional individuals being involved with the same nest. Future studies of this species should therefore direct attention to the possibility that clutches containing distinct eggs may be the result of two females laying in the same nest.

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Territorial behavior of American Crows.—Territoriality in American Crows (*Corvus brachyrhynchos*) is mentioned by Knopf and Knopf (Wilson Bull. 95:153–155, 1983). Chamberlain and Cornwell (Auk: 613–634, 1971) and Richards and Thompson (Behaviour 64: 184–203, 1978) have described certain vocalizations of American Crows, but as they have not provided territorial or other precise contexts, their work is difficult to interpret. Verbeek et al. (Ibis 123:183–189, 1981) and Butler et al. (Wilson Bull. 96:408–418, 1984) have described territoriality in the Northwestern Crow (*C. caurinus*). This note describes displays, chases, and other patterns of territorial behavior in American Crows in New Hampshire. I watched territorial encounters (N = 45) between two groups of unmarked crows from farm buildings that faced over 30 ha of fields. The two groups were divided by a territorial boundary that ran from a wooded area on the W to buildings on the E, a distance of 150 m. The boundary had no special features other than two dead American elms (*Ulmus americana*) that were frequently used for perching by the groups of crows prior to making attacks. In 1983 the boundary was 60 m to the south, its only markers in fields being the positions of the rival crows facing each other. I called the crows N of the boundary the N crows and those to the S, S crows. In November and December of 1982 there were 3 N and 3 S crows, in the summer of 1983, 4 N and 10 S crows, and in November and December 1983, 3 N and 5 S crows. These numbers were constant once seasonally established, except for scattered days in November and December, when one or two individuals were not seen. Daily counts were facilitated by there being no other crows at the farm and by the members of each group moving about more or less together. I visited the farm every day, with few exceptions, from 1 September until the end of December in 1982 and from 1 July to 30 December in 1983, and watched crows for about 500 h.

Although no two encounters were exactly alike, a number of behavioral patterns were observed repeatedly. *Cawing* (N = 43) consisted of many sharp, brief *caws* corresponding to what Good (Ph.D. diss., The Ohio State Univ., Columbus, Ohio, 1952) designates as a "warning" and Chamberlain and Cornwell (1971) call "simple scolding" calls. The crows of both groups *cawed* when flying toward each other, especially early in the morning. If one group alighted in the field and the other in trees, the latter did the most *cawing. Caws* at high intensity were acompanied by *cawing* displays in which the whole body became involved, with the wings moving out at the "shoulders," the tail spreading, and the head bowing down, then swinging up. Walking displays (N = 17) consisted of rival crows walking toward each other. In a representative encounter on 20 August 1983, the S crows alighted

20–30 m to their side of the boundary, and the N crows—the more aggressive group—did the same. The two groups then walked slowly toward each other for 10–15 min, foraging as they went. When they were about 15 m apart, the N crows took wing and swooped down within 15–20 cm of the leading S crow, which sometimes squatted on the grass with wings outspread. When the N crows returned to the ground, the two groups turned to walk back the way they had come. Intrusions (N = 5) were seen in the fall of 1983 when an N crow alighted 12–16 m inside the S group's territory while the two other N birds remained at the boundary. The single N crow clashed with the nearest S crow. On 11 and 15 December the N crows occupied the vicinity of the boundary with similar positions for 10–20 min at the start of the day, before the S crows appeared.

Other behavioral patterns included "aerial melees" (N = 17), "bunching" (N = 5), and "pursuits" (N = 5). Aerial melees were spectacular, with all members of both groups swirling into the air for 3–4 sec, with some of them swooping on others. On 19 November 1982, the N and S crows, flying from perches on the elms, had five such encounters in 12 min. When about to fly against opponents, crows of either group sometimes flew to within 15–30 cm of each other. On 8 December 1982 the 3 S crows, after grouping in this manner, repeatedly dove on the N crows, driving them 250 m north of the boundary. This was one of the few encounters in which the S crows initiated the interaction. Territorial behavior also included slow, circular flights (N = 11), in which crows of one group circled a short way over the border, then returned to their own territory, and tree-top sitting (N = 17), in which the crows climbed to the top of the dead elms or other bare trees during the territorial encounters. Displacement activities (Terres, Encyclopedia of North American Birds. Alfred A. Knopf, New York, New York, 1980), which I saw only twice, consisted of exaggerated bill-wiping and bark-pecking. "Wing-tail flicking," which in my experience is sometimes a sign of readiness to attack (Kilham, Fla. Field Nat. 13:25–48, 1985), was seen during most encounters.

Good (1952) found no indications of territoriality, except close to nests, at any season among American Crows in Ohio. Territorial behavior, however, can be missed if an observer does not happen upon a section of boundary where neighboring groups meet. I have observed encounters along boundaries between groups of cooperatively breeding crows (Kilham, J. Field Ornithol. 55:349–356, 1984) in Florida during the breeding season, as well as among crows in New Hampshire in summer, fall, and winter. Other species of *Corvus* defending territories include the Carrion Crow (*C. corone*) (J. K. Charles, Ph.D. diss, Aberdeen Univ., Aberdeen, Scotland, 1972), the Jungle Crow (*C. macrorhynchos*) (Kuroda, Misc. Rep. Yamashina Inst. Ornithol. 44:1–34, 1975), and the Black Crow (*C. capensis*) (Skead, Ibis 94: 434–451, 1952). Tree-top sitting as a form of territorial behavior is well developed in Black Magpies (*Pica pica*) (Moller, Ornis Scand. 13:94–100, 1982).—LAWRENCE KILHAM, *Dept. Microbiology, Dartmouth Medical School, Hanover, New Hampshire 03755.* *Accepted 4 Mar. 1985.*

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The status of the Sooty Storm-Petrel in Hawaii.—The total U.S. population of the Sooty Storm-Petrel (*Oceanodroma tristrami*) is estimated to be less than 10,000, and the species has been designated a "sensitive species" by the U.S. Fish and Wildlife Service (USFWS Regional Planning Manual, 1979). The species has a narrow breeding range limited to North Pacific islands, and in Hawaii it breeds on French Frigate Shoals (Amerson, Atoll Res. Bull.