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MARCO AURÉLIO PIZO, ISAAC SIMÃO, *Dept. de Zoologia-I.B., Univ. Estadual de Campinas, CP 6109, CEP 13083-970, Campinas-SP, Brasil;* AND MAURO GALETTI, *Wildlife Research Group, Dept. of Anatomy, Univ. of Cambridge, Cambridge CB2 3DY, UK.* *Received 7 May 1996, accepted 10 Oct. 1996.*

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**Male-biased breeding ground fidelity and longevity in American Golden-Plovers.**—The American Golden-Plover (*Pluvialis dominicus*) and its close relative the Pacific Golden-Plover (*P. fulva*) are seasonally monogamous with both parents sharing in defense of the breeding territory, incubation, and care of the young (for a detailed treatment of breeding

biology in these species, see Johnson and Connors 1996). Previous studies of *fulva* showed strong male-biased site fidelity on breeding grounds in western Alaska, with marked females usually not seen after the season of banding (Johnson et al. 1993). We now report similar findings for *dominicus* in the same region.

*Study area and methods.*—Work was conducted from 1988 to 1996 northwest of Nome, Alaska on a study site of about 550 ha near the Feather River (at mile 37 on the Nome-Teller Road; Lat. 64°51′N, Long. 166°05′W). Connors et al. (1993) further describe the area. We captured 10 males and 10 females in nest traps, including both members of the pair in eight instances, and marked each bird with a unique combination of color bands plus a USF&WS metal band. A small survey flag was set at 12 paces from each nest to facilitate finding nests within and between seasons.

Almost all of the data presented here were collected during annual 2–4 week periods of field work in the following years (numbers of birds banded shown in parentheses): 1988 (2m, 2f), 1989 (1m, 1f), 1991 (none), 1993 (7m, 7f) and 1994 (none). In those years, we arrived on the site in late May–early June coincident with egg laying and the beginning of incubation (i.e., before nest loss and possible disappearance of marked birds was a major concern). This variable became significant in 1990, 1992, 1995, and 1996 when workers did not arrive at Feather River until after mid-June. Accordingly, only a few observations from these delayed arrival years are included.

We spent most of our time each year on the study site, and there is little question that all plovers in the area were found and observed. It was usually easy to locate site-faithful banded males in subsequent seasons. Distraction displays and defensive behaviors were focused near the previous season's nest within a relatively small portion of the much larger territory (the latter range from about 10–50 ha, Johnson and Connors 1996). To expand the hunt for missing birds, we searched (several times/season) a 1–2 km wide band of tundra surrounding the perimeter of the study area.

*Results and discussion.*—Gender-related breeding ground fidelity varies interspecifically among shorebirds. Little or no difference between sexes has been reported in some species; in others, males are clearly more site-faithful than females (see Johnson et al. 1993, Tomkovich and Soloviev 1994, Moitoret et al. 1996, Paton and Edwards 1996 for additional information and references). We found male American Golden-Plovers faithful to specific breeding territories with 8 of 10 observed near previous nests in seasons subsequent to banding (four/one season; three/three seasons; one/seven seasons). Conversely, none of 10 females were seen anywhere in or around the study area after the season of banding. Additional evidence of male-biased fidelity in *dominicus* (4 of 7 males and 0 of 2 females returned) was reported from breeding grounds on the North Slope of Alaska near Prudhoe Bay (Moitoret et al. 1996).

In postbanding years, four of the eight males from marked pairs had unbanded partners, two were apparently unmated, and two were missing from the study site. Altogether, we found seven nests of banded males in reoccupied territories. Of these, three nests were within 100 m of the nest where the male had been banded in a previous season, two males had moved about 250–300 m, and one male used the same nest cup in 1995 and 1996. Over the years, there were five instances (involving four banded males) in which the male reoccupied his usual territory together with an unbanded female, but no nest was found and neither bird showed nest-related alarm behaviors. After frequent observations of these pairs, we concluded that their clutches probably had been lost to predators.

Our findings from male and female *dominicus* are very similar to earlier studies of *fulva* (8 of 8 males and 1 of 4 females found in postbanding years, Johnson et al. 1993), and support Greenwood's (1980) hypothesis that "partitioning of resources by males prior to selection of mates by females should result in female dispersal." Either chance mortality of

sample females or natural mortality exceeding that of males could be misinterpreted as dispersal. That the former produced our results (80% of males found vs 0% of females found) is statistically very unlikely ($P = .0004$, by Fisher's Exact Test). Although natural mortality of *dominicus* has not been studied, we suspect that it is similar to *fulva* where there was no significant difference between the sexes in survival of color-banded birds on wintering grounds (Johnson et al. 1993).

We conclude that both of these plovers have a breeding system in which it is advantageous for males to reoccupy specific territories, and for females to disperse rather than seek previous partners. The male establishes the territory and performs most defensive behaviors (Johnson and Connors 1996), thus familiarity with a particular place should facilitate rapid reestablishment of territorial boundaries in early spring and effective defense during the nesting cycle. The benefits of site fidelity for males may be reduced in some seasons when delayed snow-melt lessens the attractiveness of a male and his territory. It is reasonable to consider lack of fidelity in females as an adaptation to variable spring weather whereby females pair opportunistically with males possessing suitable territories (Tomkovich and Soloviev 1994).

Interannual absence of marked females on our relatively large study site and surrounding area indicates dispersal over considerable distances. An occasional marked *dominicus* female might turn up at Feather River (as in *fulva*, Johnson et al. 1993). Despite lack of fidelity to a particular territory, females may have regional affinity on the breeding range.

Among other species, older birds and successful breeders tend to be the most site-faithful (for references, see Paton and Edwards 1996). How these factors affect *dominicus* is uncertain. Some of the birds banded were probably first-year individuals, but without reliable age criteria (Johnson and Connors 1996), we were unable to identify them. Because of unavoidable year-to-year variations in the scheduling of field work, we have only partial knowledge of breeding success as measured by successful hatching. Altogether, we monitored 18 nests (those on which birds were captured, plus nests in subsequent years). Of these, six clutches hatched, five were destroyed by predators, one was deserted, and six were still being incubated when field work ended. It is reasonable to include the five pairs without nests (see above) as indicators of predation; therefore at least 10 of 23 clutches (43.5%) were taken by predators. Most of these losses occurred early in the season and were probably first nesting attempts, a few may have been replacement clutches (Johnson and Connors 1996). Although we lack conclusive findings on the relationship between fate of clutch and subsequent male fidelity, our records suggest that lost clutches did not lessen interseason site-faithfulness of males.

Over the years, there were five cases (each a different bird) where males reoccupied their previous territories but were unmated. These lone individuals were observed repeatedly as we worked on the study area. Possible explanations for lack of a nest and female include: failure to attract a female (snow may have been a factor as mentioned above), loss of eggs followed by desertion of the female, delayed pairing (perhaps some pairs formed later in the season after our departure from Feather River), death of the female. The one record of nest desertion involved a male who incubated for at least two days (no female was observed during this time) and then abandoned the eggs. In this species, partners exchange incubation duties about every 12 h, giving the off-nest bird time to feed (Johnson and Connors 1996). Desertion seems inevitable if a mate disappears and the normal daily cycle is disrupted.

We report here the first record of longevity in the American Golden-Plover. Our oldest male was captured in 1989, and has returned to the same breeding territory through 1996. Assuming this plover was in its second calendar year when banded, the bird was at least eight years old in summer 1996. Maximum life span in this species probably exceeds 15 years as in the Pacific Golden-Plover (Johnson and Connors 1996).

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OSCAR W. JOHNSON, PATRICIA M. JOHNSON, *Dept. of Biology, Montana State Univ., Bozeman, Montana 59717;* PHILLIP L. BRUNER, ANDREA E. BRUNER, *Dept. of Biology, Brigham Young Univ.–Hawaii, Laie, Hawaii 96762*; RONALD J. KIENHOLZ, *210 7th St. N. E., Dilworth, Minnesota 56529*; AND PAUL A. BRUSSEAU, *P.O. Box 142375, Anchorage, Alaska 99514.* *Received 3 Sept. 1996, accepted 12 Jan. 1997.*

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**Greater Flamingos breed on Aldabra Atoll, Republic of Seychelles.**—A Greater Flamingo (*Phoenicopterus ruber roseus*) chick was observed on 13 April 1995 on Aldabra Atoll, Republic of Seychelles (46°20′E, 9°24′S). The chick was in a brackish tidal basin located in the Cinq Cases/Takamaka region of the island of Grande Terre. The basin is approximately 1.1 km$^2$ in area and is 700 m from the coast and 1500 m from the lagoon. Two adults were with the chick, although as many as 19 flamingos were in the same basin earlier in the year. The chick was one-third to one-half adult-size with dark gray legs and decurved bill and covered with gray down. It probably was between 25 and 39 days old (Uys et al. 1963). We found three complete nests and three incomplete nests in the basin, but only one nest appeared to have been used. The nests were short cylindrical pillars of mud with a shallow concave nest cup. We took measurements of the single used nest: total height was 33.5 cm, nest diameter was 32.5 cm × 38 cm, nest cup diameter was 13.5 cm × 18 cm, and nest cup depth was about 2.5 cm. All six nests were clumped together