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(1980) y Salvador (1988) en la Prov. de Córdoba, Argentina esta especie anida en lugares similares al que se observó.

Por lo antes expuesto, se confirma la nidificación de la especie en Uruguay y la permanencia de por lo menos parte de la población.

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Feeding observations on the Magellanic Plover *Pluvianellus socialis* at Península Valdés, Chubut, Argentina

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RESUMEN.- Observaciones sobre la alimentación de *Pluvianellus socialis* en Península Valdés, Chubut, Argentina.

The Magellanic Plover (*Pluvianellus socialis*) is a rare and enigmatic species of shorebird which breeds only in Tierra del Fuego and southern Patagonia, and winters in sheltered bays north to Península Valdés in northern Patagonia (Jehl et al 1973, 1975). The affinities of *Pluvianellus* are uncertain, but Jehl (1975) demonstrated that many of its characteristics were not shared by the Charadriidae, and suggested placing it in the monotypic family Pluvianellidae.

In May 1988 I made brief observations on the feeding behaviour of *Pluvianellus* at two locations at Península Valdés. On 10 - 11 May, a flock of eight birds was studied 2 km east of Riacho San José in the south-west corner of Golfo San José, a locality where up to 30 had been recorded in the winters of 1971 and 1972 (Jehl et al 1973). A second flock of eight birds was studied on the southern outskirts of Puerto Madryn on 12 May 1988.

Four (25%) of the 16 birds were young birds, one occurring in the first flock and three in the second, and none appeared to be part of any family unit. These first-winter birds differed from adults in that their legs were coloured yellowish orange and not bright reddish orange as in the adults, and eye colour was not as bright red as that of adults. One first winter bird also had a mottled breast, not plain grey as in the other birds. These first winter birds differed from the illustrations of juveniles (presumably younger than the present birds) in Hayman et al. (1986) in that upperparts of the Valdes' birds were uniform grey (not heavily mottled), and the legs were not yellowish. In inland Sta. Cruz, J. Fjeldsa (pers. comm.) found that the February

plumage of juveniles was also not heavily mottled, but rather stippled by pale notches along the feather margins.

In both areas the birds foraged mainly on the mid-upper beach, even during low tide. The preferred feeding areas were gently sloping saturated sandflats, dotted with small shallow (-30mm deep) pools. At Golfo San José these sandflats were also strewn with algae, but the Puerto Madryn sandflats were clean. The birds foraged loosely with Two-banded Plovers (*Charadrius falklandicus*), several hundred of which occurred in each area. The Two-banded Plovers moved to the lower beach as the tide receded, but when these birds returned during flood and high tide, there was an increase in the frequency of low-intensity aggression. Individual *Pluvianellus* sometimes ran briefly at intruding plovers or conspecifics, which would run off to feed elsewhere. At other times, however, *Pluvianellus* would tolerate these plovers and conspecifics to within a metre.

Four feeding patterns were observed:

1 Pecking while walking directly ahead, but using the slight head-twisting method described by Jehl (1975). Peck rates were 6 - 16 per 30s (0.2 - 0.5 per second, average 0.38 per second, $n = 25$), which was the slower of the four methods, but prey were the largest (swallowing was frequently seen).

2 Flipping debris. This behaviour (similar to that of turnstones *Arenaria* spp.) was seen intermittently at both localities and was also recorded by Jehl (1975).

3. Digging. This method is well-illustrated by Jehl (1975), and comprises "Kicking alternate feet postero-laterally ... At the same time it pirouettes rapidly in place, and pecks rapidly at the substrate...". On the breeding grounds this method is used along the upper beach, while an aquatic version was the most characteristic feeding method found at Golfo San José in winter 1971 - 1972 (Jehl 1975). However, I saw this method once only: several individuals were occasionally digging (but mainly food-paddling) in pools just below the high tide line during flood tide on 10 May. Unfortunately, these observations were soon interrupted by a Peregrine (*Falco peregrinus*) which scared all shorebirds from the site.

4. Foot-paddling. Foot-paddling was the common feeding method at both Golfo San José and Puerto Madryn during my visit, but was not seen during Jehl's study. The birds turned on the spot (a shallow pool or saturated sand) and continually raised their feet up and down, and pecking mainly to the side that their body was turning towards. The birds kept pirouetting for up to four (typically 1 - 2) revolutions of their bodies, before changing direction. At Golfo San José peck rates were 29 - 55 pecks per 30s (1.0 - 1.8 per second, average 1.3 per second, $n = 32$). At Puerto Madryn, pecks were too rapid to be counted accurately but averaged 3 - 4 per second. Swallowing at Puerto Madryn was seldom seen, suggesting that prey there were mainly very small.

Foot-paddling differed from foot-paddling to foot-trembling in some typical plovers e.g. *Charadrius bicinctus* (pers obs.), and *C. melanops* and others (Heather 1977), in that it was accompanied by regular pirouetting. It would appear from this behaviour, that foot-paddling in *Pluvianellus* is related to the digging behaviour. Perhaps foot-paddling is used in some situations (such as greater prey abundance in autumn or different substrates) when it is not necessary to use the more energetic activity for disturbing prey into view. Clearly, there is a need for regular observations of habitat requirements, feeding behaviour and diet through autumn and winter, and Península Valdés would be an ideal site for such a study.

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**Observations on the Diademed Sandpiper-Plover *Phegornis mitchellii*
in Peru**

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RESUMEN.- Observaciones sobre *Phegornis mitchellii* en Marca pomacocha, Perú.

The Diademed Sandpiper-Plover *Phegornis mitchellii* is a rare and little-known plover occurring at mainly very high altitudes in the Andes from Central Peru southwards (Johnson 1965). On 25-26 June 1988 I made brief observations on two birds near Marcapomacocha, Peru (11°30 S, 76°20 W). The birds were in a small alpine *Distichia* bog (100 m wide and 150 m long) at about 4600 m a.s.l. Water covered only about 5% of this "bog", mostly in long narrow channels, and the rest of the area comprised dry hummocks and interconnected grassy banks. The bog was quite different to the riverine breeding season habitat described by Johnson (1964, 1965) in Chile.

On both days the birds foraged mainly within 10 metres of each other and rarely up to 60 m apart. The preferred feeding sites within the bog were areas with clear shallow water (with up to 50% cover by aquatic plants) over a soft-mud substrate. From 1400-1630 h on the first day (which was cold with snow falling intermittently) the birds foraged entirely by probing vertically into the mud of pools. Each probe lasted up to one second in length and usually comprised a number of rapid thrusts. After each series of probes (a multiple probe) the bird paused for a fraction of a second during which time the head was brought back to an erect position. The same spot was used for probing many times, with the birds feeding there for up to 30 seconds before taking another step.

On the second day feeding actions were more varied, comprising multiple probes (64%), single probes (27%) and pecks (9%) (N = 100). This day was sunny and warmer than the previous with temperatures of up to 6° or 7°C at 1230-1430h, and there was much more insect activity evident in and around the bog. By 1430h, however, the temperature plummeted and snow and hail fell intermittently for the rest of the afternoon. Brief observations at 1500 h indicated that the birds had returned almost exclusively to multiple probing, but they disappeared soon after.

The birds were inconspicuous when foraging, the most obvious features being the rufous nape and quivering of the tail (coinciding with probing). When alert, the birds were more