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PROCELLARIA WESTLANDICA IN THE BEAGLE CHANNEL¹

BRET M. WHITNEY² AND DAVID J. STEJSKAL²

RESUMEN: El primer registro para *Procellaria westlandica* en Argentina está documentado por video y fotografía en el Canal Beagle.

On 29 November 1990, while leading a natural-history tour, we observed at least two Westland Petrels (*Procellaria westlandica*) in the Beagle Channel near Punta Segunda, a few km east of Ushuaia, Tierra del Fuego (approximately 55° S, 68° W). Two birds were first observed resting on the water close together, and we expected them to be White-Chinned Petrels (*Procellaria aequinoctialis*) as they appeared to be just the size and shape of that species, and were overall dark-brownish in color. A closer view (less than 100 m), however, revealed that both of the birds had well-defined blackish tips to their otherwise yellowish bills, rather than entirely yellowish bills as in *P. aequinoctialis*. There is no evidence in the literature or in BMW'S personal experience with hundreds of *P. aequinoctialis* in South American and subantarctic waters and the ocean off southeast Australia to indicate that this species ever has a conspicuous blackish tip on its bill. When the birds flew, BMW noted that at least one of them was molting the inner primaries of both wings.

Later, we located two *P. westlandica* in the same area. We were able to follow these birds for about 20 minutes and determined, in addition to other points noted above, that both of them had black legs and feet. Interestingly, neither of these birds appeared to be molting its inner primaries, suggesting that the molting individual seen earlier was a third bird. The two *P. westlandica* seemed to be rather inactive or tired, spending most of the time resting on the water. In the course of their flights, both frequently crossed the international border of Argentina and Chile that bisects the Beagle Channel north/south. Whether on the water or in flight they kept close together and were not seen to associate with any other birds. Numerous other seabirds in the vicinity, however, such as Blackbrowed Albatrosses (*Diomedea melanophris*) and Southern (Antarctic) Fulmars (*Fulmarus glacialis*), allowed us to make direct comparisons of size and proportions. Our local guide, Domingo Galussio, informed us that unusually large numbers of tubenoses had come into the Beagle Channel during a period of several days of strong westerly winds immediately preceding our visit. In addition to the authors and DG, the *P. westlandica* were seen well by David Willis to the U.K. and our entire tour group which numbered 12 persons.

There are two other species of dark brown procellariids with blacktipped, pale bills: Flesh-footed Shearwater (*Puffinus carneipes*), and Black (Parkinson's) Petrel (*Procellaria parkinsoni*). *P. carneipes* is distinctly smaller than *P. westlandica*, and has a pinkish rather than yellowish base to its

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2. c/o Field Guides Incorporated, P. O. Box 160723, Austin, Texas, USA 78716-0723

bill, and pink legs and feet. Furthermore, its occurrence is quite unlikely in these latitudes, or at this season as the populations are on or near their breeding grounds around northern New Zealand and western Australia from late September to April/May (Harrison 1985). *P. parkinsoni* is the species most similar to *P. westlandica* in that it shares the yellowish, black-tipped bill and black legs and feet. It is, however, smaller and blacker overall, and somewhat shorter-billed. These are points that may be difficult to discern at sea, but BMW's personal experience with *P. parkinsoni* off southeast Australia in November did not match the petrels observed in the Beagle Channel.

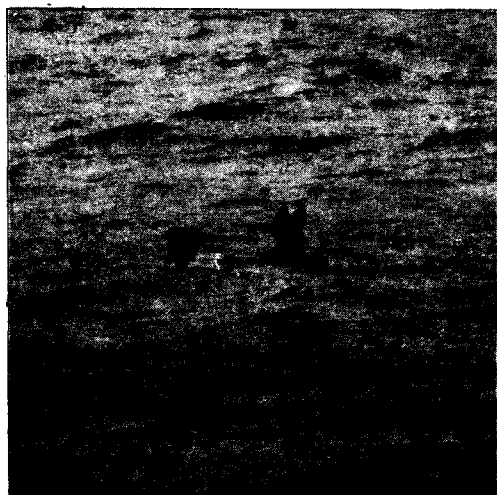
Consideration of the range and documented seasonal movements of *P. westlandica* and *P. parkinsoni* is important in determining the likelihood of occurrence of each. *P. parkinsoni* breeds in New Zealand from November to June, dispersing east toward the Galapagos and Mexico in May/June (Harrison 1985, 1987), with perhaps all New World records north of 10° S. In South American waters *P. parkinsoni* is known from a few records around the Galapagos Islands in the period May to October (Murphy 1936, Harrison 1985), and several collected and/or seen off Ecuador in the first half of 1991 (R. Ridgely in litt.); there is apparently at least one record for Peru (Parker et al. 1982), which has not been included in any of Harrison's summaries (1985, 1987) of this species' distribution. A complete molt is in progress during July (following breeding) and probably through September (see photos in Harrison 1987). *P. westlandica* also breeds in New Zealand, but from March/April through the austral winter, dispersing east to at least 150° W in the central Pacific Ocean in December (Harrison 1985, 1987). It is one of the rarest seabirds in the world, with a total population estimate of only 3000 - 6000 indi-

viduals (Harrison 1985). There are at least two previous documented records for South America: a single, ringed bird found at Tumbes Peninsula (approximately 36° 50' S, 73° 00' W), Chile, on 24 October 1983 (Araya 1986), and one photographed just offshore from Valparaiso, Chile in November 1989 by R. Ridgely (photo archived at VIREO, Academy of Natural Sciences, Philadelphia, Pennsylvania). The Tumbes Peninsula bird had been ringed in South Island, New Zealand, on 10 November 1981 (Araya in litt.). In addition to these records, there is apparently a sight record for southern Chile by Ben Haase of Cuenca, Ecuador (Araya in litt.). Harrison (1985) states that *P. westlandica* "may occur" off western South America, but give no details. Although we have found no published information on the molt of *P. westlandica*, it probably undergoes a complete molt soon after the termination of breeding activities, beginning in November/December. In the first couple of months after breeding, only adult birds will show evidence of such molt in the wing and tail, as birds of the year retain these flight feathers for approximately a year.

In sum, *P. parkinsoni* and *P. westlandica* have different schedules for breeding, dispersal and molt, and differ widely in their nonbreeding distribution. *P. parkinsoni* is a bird of the milder waters north of the Subtropic Convergence and is not to be expected in southern South American waters at any season, especially during November/December when they are at the height of nesting activities. *P. westlandica*, on the other hand, is perhaps likely to occur at least occasionally, possibly regularly, around the west coast of southern South America and the Cape Horn region, especially during the non-breeding period December to February. Thus, through the period October to March, all dark-bellied *Procellaria* petrels off southwestern South America should be routinely checked for a conspicuous black tip on the bill; it is possible that *P. westlandica* has been overlooked owing to its great similarity to *P. aequinoctialis*. A further clue that may prove to be helpful in locating *P. westlandica* in the November to February period is that adults are likely to show wing molt. At this season *P. aequinoctialis*, except perhaps for an atypical non-breeding bird, is not in wing-molt, having completed it sometime during the period April to September.

Diagnostic video tape recording and photographs (see Figure) document our sighting of *P. westlandica* in the Beagle Channel, which represents the first record of occurrence in Argentina, and augments the few previous records for Chile and South America.

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Two Westland Petrels (*Procellaria westlandica*) in the Beagle Channel near Ushuaia, Tierra del Fuego, 29 nov 1990. Photograph by Bret M. Whitney.

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BIRD DENSITIES ALONG THREE TRIBUTARIES OF THE PARANA RIVER IN EASTERN PARAGUAY¹

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RESUMEN. — Densidades lineales de aves en tres afluentes del río Paraná en el Paraguay Oriental. Se realizaron censos de aves (y mamíferos) navegando en canoa a lo largo de 198 km de tres ríos afluentes del río Paraná: Carapá, Itambey y Ñacunday, en el Paraguay oriental. Se presentan datos sobre densidades lineales para aves acuáticas, rapaces, loros y tucanes (y tres especies de mamíferos), en cada río estudiado. No se encontró el amenazado pato serrucho (*Mergus octosetaceus*), un residente anterior de la región, lo que indica que esta especie puede estar ya extinta en el Paraguay.

The Republic of Paraguay is situated within the watersheds of two large rivers: the Paraguay River, which flows southward and divides the country into two distinct regions; and the Paraná River, which forms the southern and eastern border of the country (Fig. 1). The avifauna of the Paraná River watershed of Paraguay, often referred to as the Alto Paraná region, is poorly known. The most significant studies of the area's avifauna were accomplished by Winkelreid Bertoni, an early resident of the area whose many publications were summarized in several major reviews of the birds of Paraguay (Bertoni 1901, 1914, Laubmann 1939, 1940). Since the reviews of Laubmann, the only published information of the region's avifauna includes records of a few species recorded by Partridge (1953), Foster (1987) and Storer (1989), plus a list without supporting documentation published by Perez et al. (1988).

Within the last two decades, the construction of the Itaipú Hydroelectric Dam and a subsequent increase in human immigration has resulted in the extensive flooding of primary forest and the rapid deforestation of large areas in southeastern Paraguay. These anthropogenic changes threaten the survival

of many species of globally endangered animals. However, thus far there have been no systematic attempts at determining the abundance of wildlife in the region. In 1989, we received funding to search for the endangered Brazilian Merganser (*Mergus octosetaceus*) and other endangered birds in eastern Paraguay. Here we report the results of our surveys along three tributaries of the Paraná River. Although our primary focus is on birds, we include data obtained for three species of mammals.

STUDY AREA AND METHODS We censused birds and mammals by canoe along three tributaries of the Paraná River: the Carapá (21-25 July 1989), Itambey (25 August 1989) and Ñacunday (26-27 September 1989) Rivers (Fig. 1). The Carapá River was divided into two transects to facilitate comparisons between upper and lower sections (Fig. 1). Topographic maps published by the Servicio Geográfico Militar (in Asunción) were used to measure (with a planimeter) the length of each transect and the river's gradient (Table 1). In the case of the Carapá I and Itambey transects, we added 5% of the measured length to compensate for the many curves not figured on the maps. During each transect, we estimated the river's minimum and maximum width and the percentage of the river's length in which the banks were covered by forest (Table 1). We also recorded the number of canoes encountered along each transect as a relative measure of the river's use by humans (Table 1). We measured the duration of each transect by watch and calculated the canoe's mean velocity (Table 1).

During each census we recorded all waterbirds, raptors, parrots and toucans (and mammals) observed within 100 m of the river. These groups of birds were the most conspicuous and easiest to count; other species were often hidden in the forest and difficult to census accurately. Censuses were conducted only during the day when visibility was good; no censuses were taken during periods of rain. The linear density of each species along each transect was calculated by dividing the total number of birds observed by 10% of the transect's length (individuals/10 km).

The region's topography is characterized by gentle hills separated by numerous streams and rivers flo-

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