

A DARK-RUMPED LEACH'S STORM-PETREL
OCEANODROMA LEUCORHOA
IN THE SOUTH ATLANTIC
EEN VAAL STORMVOGELTJE MET DONKERE STUIT
IN DE ZUIDELIJKE ATLANTISCHE OCEAAN

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ABSTRACT

*The first dark-rumped, fork-tailed storm-petrel from the South Atlantic in 1964 resembling a Swinhoe's Storm-petrel *Oceanodroma monorhis*, has been shown by its DNA to be a dark-rumped Leach's Storm-petrel *O. leucorhoa*, adding to the problem of identification and classification of these birds.*

INTRODUCTION

On 22 January 1964, a moribund Hydrobatid resembling a dark-rumped Leach's Storm-petrel *Oceanodroma leucorhoa* was left by a seaman from a passing ship at Ascension Island in the tropical Atlantic in the hope that it could be resuscitated. It was said to have come on board four days before to the south, presumably on the night of either 17-18 or 18-19 January SE of St Helena. When it died, Simmons, who was living on Ascension at the time, realised it was unlike the resident Madeiran Storm-petrel *Oceanodroma castro*, so saved the skin and consulted Bourne. It proved difficult to identify by correspondence since nothing like it was then known to occur anywhere in the Atlantic, and there are several similar forms in the Pacific. Now that similar birds have been found all round the North Atlantic, and some have been identified by their voices (James & Robertson 1985), discriminant analyses of their morphology (Bretagnolle *et al.* 1991), and molecular techniques (Dawson 1992, Dawson *et al.* 1995) as Swinhoe's Storm-petrel *Oceanodroma monorhis* from the Pacific and Indian Ocean, it seems time to report this case.



Example of largely dark-rumped Leach's Storm-petrel from St Kilda, July 1960 (photo W.R.P. Bourne)
Voorbeeld van een Vaal Stormvogeltje met een grotendeels donkere stuit op St Kilda, juli 1960.

DESCRIPTION

The skin, deposited in the British Museum (Natural History) at Tring, is uniformly dark grey-brown with dark primary shafts, paler tips to the upper wing-coverts, and slightly paler on each side of the base of the rump, matching 10 on the Ainley (1980) 11-point scale of variation in the colour of the rump of Leach's Storm-petrels. Its measurements are compared with those of similar forms in Table 1. The bill is long and the wing/tail ratio low for *O. monorhis*, and the bill deep, tarsus long and culmen/tarsus ratio low for nominate *O. leucorhoa*. So, it falls in the area of overlap between these forms, though it is larger than the small, dark-rumped Leach's Storm-petrels from the eastern Pacific (Austin 1952, Ainley 1980). Vincent Bretagnolle (*in litt.*) found that it comes 35 mm above horizontal axis 1 and 20 mm right of vertical axis 2 among the lower Swinhoe's Storm-petrels in Figure 3 of his discriminant analysis of birds of this group (Bretagnolle *et al.* 1991), but Robert Dawson (*in litt.*) found that on comparison with six Atlantic Leach's Storm-petrels it only has a single silent cytosine for thymine substitution in 307 base pairs in its cytochrome-b gene sequence.

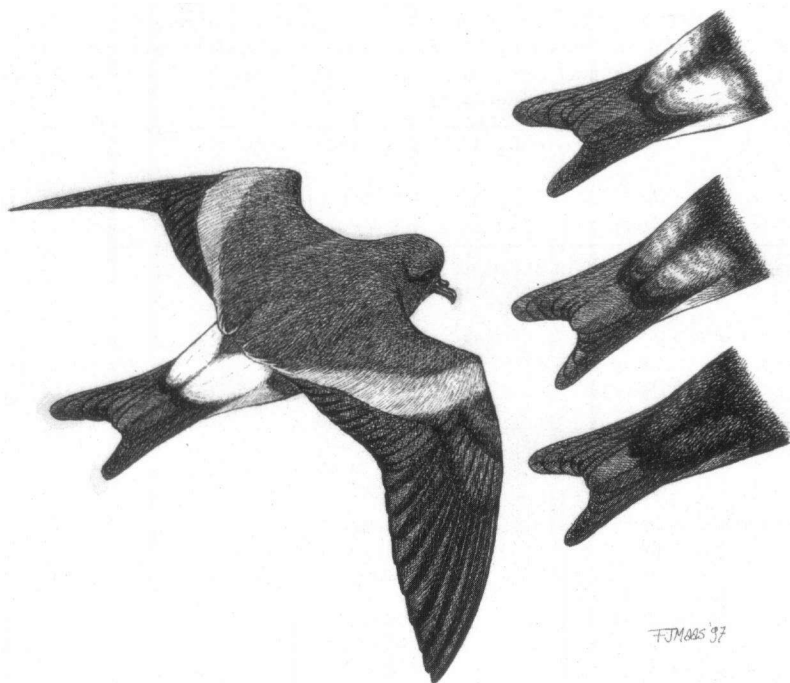
Table 1. Mean, standard deviation and range () of measurements (mm) of a dark-rumped Leach's Storm-petrel from the South Atlantic and similar forms¹.

Tabel 1. Gemiddelde, standaard deviatie en range () van enkele maten (mm) van een Vaal Stormvogeltje met een donkere stuit uit de Zuidelijke Oceaan en die van enkele (onder-) soorten ter vergelijking¹.

Origin, number	wing length	outer tail	centre tail	exposed culmen	depth culmen	tarsus
Aantal	vleugel- lengte	buitenste staartveer	centrale staartveer	snavel- lengte	snavel- hoogte	tarsus
Leach's Storm-petrel SE of St Helena						
1	154	79	63	15.3	6.2	25
Leach's Storm-petrel <i>O. l. leucorhoa</i> N. Atlantic						
12	156.1±27 (152-160)	80.9±3.2 (76-87)	61.3±2.7 (57-65)	15.5±0.5 (15-16)	5.9±0.5 (5.3-6.8)	23.8±0.4 (23-24)
Leach's Storm-petrel <i>O. l. chapmani</i> W Mexico						
9	152.1±4.0 (148-160)	78.6±3.2 (74-83)	59.4±2.8 (54-66)	15.2±0.5 (14-16)	5.9±0.4 (4.8-6.3)	22.1±0.6 (21-23)
Leach's Storm-petrel <i>O. l. socorroensis</i> Guadelupe Island						
12	146.5±4.1 (139-152)	72.4±4.2 (68-78)	59.0±2.4 (57-62)	13.7±0.4 (13-14.5)	5.2±0.5 (4.6-5.7)	20.7±0.6 (20-22)
Swinhoe's Storm-petrel <i>O. monorhis</i> W Pacific						
12	156.7±5.5 (154-165)	74.8±3.9 (70-83)	59.9±3.4 (58-67)	14.5±0.5 (13.5-15)	6.0±0.3 (5.6-6.5)	24.0±0.4 (23-25)
Swinhoe's Storm-petrel <i>O. monorhis</i> Atlantic and Mediterranean area						
9	161.1±4.9 (154-167)	78.6±3.0 (73-83)	63.4±2.3 (59-66)	14.5±0.6 (13.6-15.6)	5.9±0.3 (5.6-6.5)	24.3±0.7 (23-25)
Matsudeira's Storm-petrel <i>O. matsudeirae</i> W Pacific						
12	188.4±4.4 (182-194)	100.4±3.1 (95-105)	68.8±2.5 (65-73)	16.7±0.7 (15.5-19)		27.4±1.1 (25-29)

¹All measurements of skins by WRPB, except those of live Atlantic and Mediterranean *O. monorhis*, taken from Bretagnolle *et al.* 1991, King & Minguez 1994 and F. Zine *in litt.*

Thus while we do not question the identification of previous Atlantic Swinhoe's Storm-petrels examined in the hand, this specimen appears to be a dark-rumped Leach's Storm-petrel similar to those found in the Pacific. Bourne has also seen birds showing the full range of variation found in Leach's Storm-petrel at sea in the Atlantic, and one with a rump as dark as 5 on the Ainley (1980) scale breeding on St. Kilda (Bourne & Jehl 1982). A uniformly dark brown bird with slightly paler edges to the upper wing-coverts which came within about 50m of the



Leach's Storm petrel *Oceanodroma leucorhoa* and some variations in rump-colour, modified from Ainley (1980): full picture represents lightest rump (type 1-4), darker variations from top to bottom type 5-7, type 8-10 and the darkest variety type 11 (F.J. Maas).

Vaal Stormvogeltje en voorbeelden van stuitkleuren, naar de indeling van Ainley (1980; aangepast). De complete tekening geeft de lichtste variant weer (type 1-4), donkere variaties, van boven naar beneden, stellen voor de types 5-7, 8-10 en de donkerste variant 11 (F.J. Maas).

ship at 23°N 18°W off Mauretania on 20 January 1990 was originally assumed to be Swinhoe's Storm-petrel (Bourne 1990), though since it was impossible to see the colour of the primary shafts this now seems less certain. Brinkley (1995) has also recently pointed out that a dark-rumped individual was reported in a wreck of Leach's Storm-petrels in eastern North America in August 1933, and four birds with unusually dark rumps were reported among 900 Leach's Storm-petrels seen off northern Ireland (McKee 1990), and two more among up to 600 seen in the Irish Sea (Vaughan 1990), during an invasion in September 1990, and their identity also now seems equally uncertain.

DISCUSSION

There has been prolonged but inconclusive debate about the classification of these storm-petrels, based mainly on their biometrics and the colour of the rump (Ainley 1980, 1983, Power & Ainley 1985, Bretagnolle *et al.* 1991). Bourne & Jehl (1982) have previously adopted an agnostic attitude to the taxonomic treatment of Leach's and Swinhoe's Storm-petrels as races of the same species while they still appeared to be allopatric forms most closely related to each other. However, the observation that Swinhoe's Storm-petrel and the larger but otherwise similar Matsudaira's Storm-petrel *Oceanodroma matsudairae* share distinctive pale primary shafts absent in other dark *Oceanodroma* storm-petrels (Austin 1952), raises the question whether Swinhoe's is, in fact, most closely related to Leach's Storm-petrel, or whether it and Matsudaira's Storm-petrel are both derived from a population of Leach's Storm-petrel isolated in the warmer part of the west Pacific, where one now occurs inshore and the other out at sea, and both migrate to and from the Indian Ocean (Bailey *et al.* 1968) with the monsoons. If so, they may be more closely related to each other than either is to Leach's Storm-petrel, and better treated as distinct species.

Swinhoe's Storm-petrel might have reached the North Atlantic either by a misplaced northward migration from the Indian Ocean through the Red Sea, since one was found at Eilat in January 1958 (Bourne 1967), or by following warm eddies from the Agulhas Current west around South Africa into the Atlantic (Gordon 1985, Walker 1986, Bourne 1992, Parkin 1995). Since it has also been suggested that Matsudaira's Storm-petrel may be occurring with them (Gantlett 1988), though with the publication of more information (Hume *et al.* 1997, Young & King 1997) it now seems more likely that this was a Bulwer's Petrel *Bulweria bulwerii* moulting its central tailfeathers (Bourne 1997), more caution is clearly now needed not only to distinguish these birds from each other and Leach's Storm-petrel, but also melanistic individuals of several other storm-petrels, including Wilson's *Oceanites oceanicus* and the two *Fregetta* species (Murphy & Snyder 1952, Naveen 1981-1982, Bourne 1987, Curtis 1988, Ryan *et al.* 1987), though of course they all also differ in shape and flight.

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SAMENVATTING

Op 22 januari 1964 werd een verzwakt stormvogeltje met een donkere stuit achtergelaten op Ascension door een zeeman die het dier enkele dagen daarvoor aan boord van zijn schip had aangetroffen. KELS, die op dat moment op Ascension woonachtig was, ontving het dier nadat het was gestorven en constateerde dat het niet om het in deze wateren algemene Madeira Stormvogeltje *Oceanodroma castro* ging. De huid werd geconserveerd en later ter identificatie opgestuurd aan WRPB. Indertijd kon de vogel niet met zekerheid worden gedetermineerd. Inmiddels bleek, na vergelijking met verschillende (donkere) vormen van het Vaal Stormvogeltje *Oceanodroma leucorhoa*, het Chinees Stormvogeltje *O. monorhis* en het Japans Stormvogeltje *O. matsudeira*, dat het hier gaat om een Vaal Stormvogeltje met een geheel donkere stuit. Op grond van deze vaststelling worden vraagtekens geplaatst bij de determinatie van enkele stormvogeltjes met een donkere stuit op volle zee, zoals het vermeende Chinese Stormvogeltje dat op 20 januari 1990 vanaf een schip voor de kust van Mauretanië werd gezien. In de discussie wordt gesuggereerd dat het Japans en het Chinees Stormvogeltje nauwer aan elkaar verwant zijn dan aan het Vaal Stormvogeltje. De recente gevallen van het Chinees Stormvogeltje in de Noordatlantische Oceaan kunnen vogels zijn geweest die abusievelijk via de Rode Zee in dit gebied zijn doorgedrongen (vondst in Eilat in 1958), of verdrepte trekkers die via Kaap de Goede Hoop in de Atlantische Oceaan terecht kwamen. Soms wordt ook verondersteld dat het Japans Stormvogeltje in onze omgeving voorkomt, maar recentelijk werd aanemelijk gemaakt dat het hier ging om een Bulwers Stormvogel *Bulweria bulwerii* met ruiende centrale staartveren. Het voorkomen van dergelijke ruiende vogels, maar ook dat van ongewoon donkere vormen of melanistische stormvogeltjes (inclusief het Wilsons Stormvogeltje *Oceanites oceanicus* en de beide bonte stormvogeltjes *Fregetta* spp.), maakt determinatie in het veld buitengewoon lastig.

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