Zino's Petrel off Scilly: new to Britain.

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Zino's Petrel off Scilly: new to Britain

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Abstract A Zino's Petrel *Pterodroma madeira* was seen and photographed from a boat approximately 3 km southwest of Bishop Rock Lighthouse, Isles of Scilly, on 30th July 2020. The sighting constitutes the first acceptable record for Britain. Viewing time was typically brief and the bird was thought to be Zino's Petrel on field characteristics. A set of photographs proved the bird's identity beyond doubt. Elimination of the cryptic confusion species, Fea's Petrel *P. feae* and Desertas Petrel *P. deserta*, is discussed, including results of geolocator studies.

Introduction

The weather conditions leading up to 30th July 2020 were quite unusual and looked promising for the coming evening's pelagic trip off the Isles of Scilly. There was a steady westerly wind stretching right across the North Atlantic as far as southwest Ireland, and an 18-knots southerly wind reaching the Southwest Approaches from northwest Africa. Scilly was at the meeting point of these two airflows.

The MV *Sapphire* departed St Mary's Quay at 17.00 hrs with 11 birders on board. There was good light and about 60% cloud cover. Skipper Joe Pender and I discussed which direction to head. On evening trips, we normally take the quickest route to sea, heading south of St Mary's, but, on this occasion, the brisk southerly winds would have made the boat and the smell of chum blow back towards the islands, reducing the chances of finding and attracting any target seabirds. So, we decided to head to Pol Bank, 5 km southwest of Bishop Rock Lighthouse.

The evening did not disappoint, with sightings of six (possibly eight) Wilson's Storm-petrels *Oceanites oceanicus*, three Cory's Shearwaters *Calonectris borealis* and a Great Shearwater *Ardenna gravis*. We commenced the steam home at about 20.40 hrs, pitching and rolling on choppy seas, towing a chum bag to attract seabirds. Folks with cameras stood at the stern, photographing a Cory's Shearwater, which swept in behind the boat numerous times, plunge-diving for fish bits that were coming out of the chum bag, while a moulting Great Shearwater cruised in low, skim-diving for fish bits. Hundreds of

European Storm-petrels *Hydrobates pelagicus* swarmed like gnats over the oily wake. I stood on the step to the cabin to gain height and thus better views. It was quite a show. Once the best of the light had gone, most photographers packed away their cameras.

At approximately 20.55 hrs, we were located about 3 km southwest of Bishop Rock Lighthouse (49°51.382'N 6°28.939'W). I noticed two mid-sized tubenoses off the starboard side, flying close to each other low over the water at a range of perhaps 75 m. The leading bird looked like a Manx Shearwater *Puffinus puffinus*; the following bird looked smaller and something quite different. I raised my binoculars. The lead bird was indeed a Manx Shearwater; the following bird, however, was a *Pterodroma*, apparently smaller than the Manx, with a grey upperside, a dark M-shape across the open upperwings and a dark, panda-like face patch. It was one of the *feae*-complex (Fea's Petrel *Pterodroma feae*, Desertas Petrel *P. deserta* and Zino's Petrel *P. madeira*).

The *Pterodroma* checked out the Manx Shearwater. Then, without warning, it demonstrated rapid acceleration and supermanoeuvrability, towered up in a steep incline from the ocean surface at great speed and with no effort, and revealed its under-

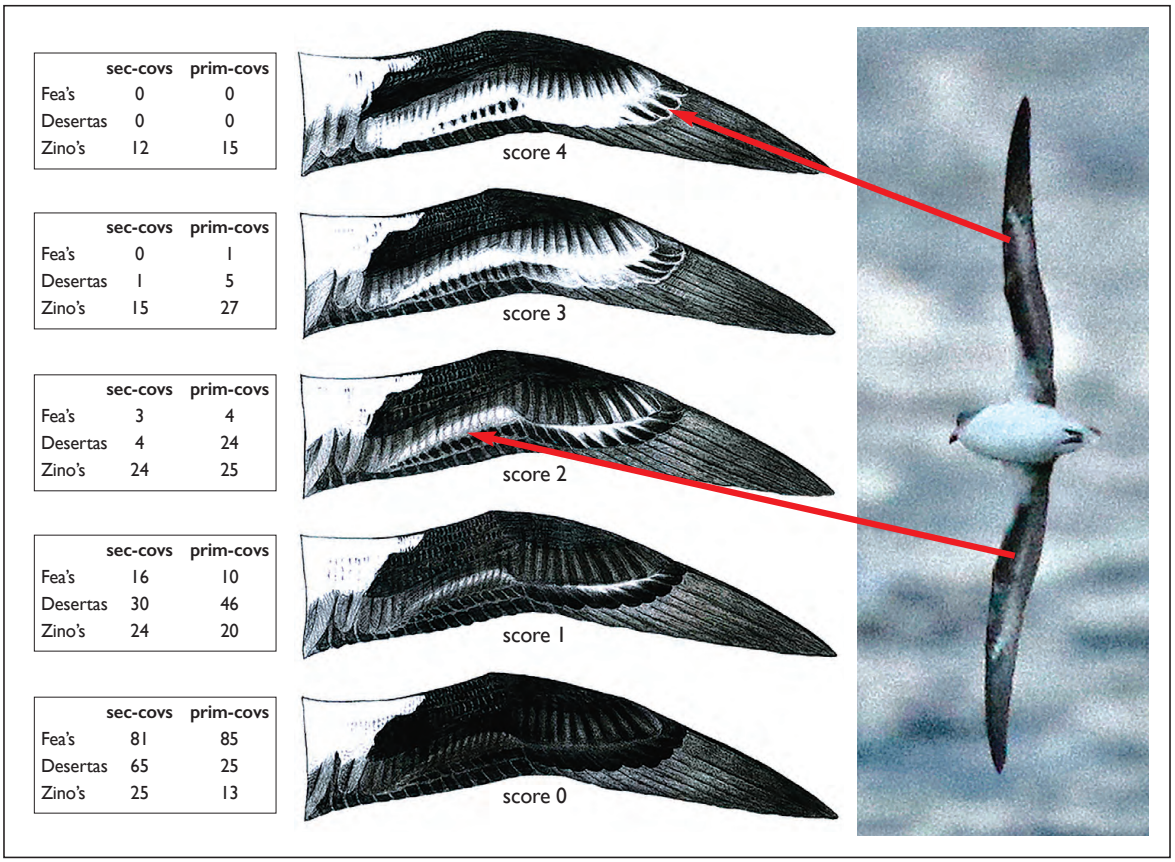


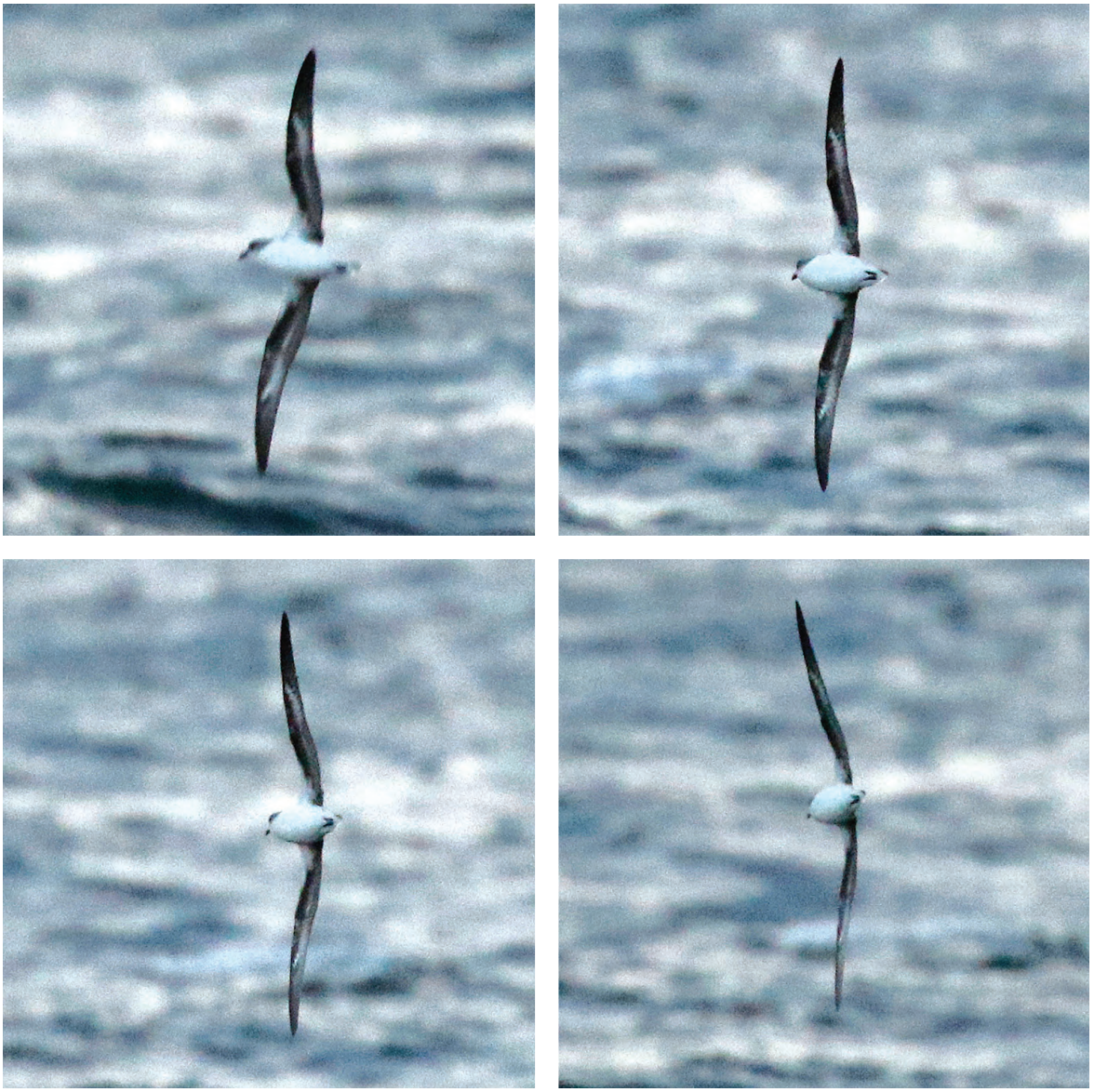
Fig. 1. Above left Scorecard for scoring whitish in the underwing-coverts of the *feae*-complex (Flood & Fisher 2013). **Above right** Zino's Petrel *Pterodroma madeira*, Isles of Scilly, 30th July 2020 (Danni & Zac Hinchcliffe). Whitish occurs in the underwing greater and median primary and secondary coverts ('prim-covs' and 'sec-covs', respectively). An all-dark underwing scores 0, while the greatest extent of whitish scores 4. A bird can have different scores for primary and secondary coverts. Figures in the tables give the approximate percentages of birds showing these scores (based on Shirihai *et al.* (2010)). The primary-covert 'score 4' of the Scilly bird is diagnostic of Zino's Petrel, as neither Fea's Petrel *P. feae* nor Desertas Petrel *P. deserta* shows such an extent of whitish; the secondary-covert 'score 2' of the Scilly bird is near diagnostic of Zino's, with only 3% of Fea's Petrels and 4% of Desertas Petrels having this score, compared to 24% of Zino's. The area of whitish in the underwing-coverts appears more extensive when the underwings are observed face on (here, the underwings in the photograph are at an acute angle, but less so in the first in the sequence of four photographs (plates 55–58)). However, it is evident from the photographs that the greater primary coverts are predominantly whitish except for the outermost three/four coverts, which are predominantly dark; the median primary coverts are extensively whitish distally. The median secondary coverts are predominantly whitish.

wings. The bird then flew to the stern, when it was about 10–15 m from the boat, then flew over the wake for perhaps 30 seconds, ranging between 30 and 75 m. It was, indeed, surprisingly small, as initial views had suggested, and it had extensive white in the underwing-coverts, unlike any Fea's Petrel or Desertas Petrel (fig. 1). It was a Zino's Petrel!

Luckily, Danni and Zac Hinchcliffe had their camera at hand and took four photographs before watching the bird (plates 55–58). Other birders scrambled to their bags for cameras and managed several photographs towards the end of the sighting (plates 59–60). The Hinchcliffe's photographs clinched identification and were pivotal in the acceptance of this first for Britain.

Previous experience of the *feae*-complex

In 2008, I commenced extensive field studies of the '*feae*-complex' in preparation for the book *North Atlantic Seabirds*: Pterodroma *Petrels* (Flood & Fisher 2013). The complex is characterised by cryptic plumage, and species separation and identification is challenging. Up to 2020, I had been at sea off Madeira on about 50 days, observed Zino's Petrels on about 30 of those days, and enjoyed perhaps 50 sightings of Zino's Petrels in total. My experience of Desertas Petrel off Madeira was about the same as for Zino's Petrel. I saw both Desertas and Zino's Petrels on the same day on about 25 days, and side by side on numerous occasions. I had also been at sea off the Cape Verde Islands on about 20 days and observed Fea's Petrel on most of those days. I



Danni & Zac Hinchcliffe *Danni & Zac Hinchcliffe*

Danni & Zac Hinchcliffe *Danni & Zac Hinchcliffe*

55–58. Zino's Petrel, Isles of Scilly, 30th July 2020. The burst of four photographs that captured the diagnostic pattern of the underwing-coverts. The photographs also show the slight build of the bird.

Scott Reid

Joe Pender

59 & 60. Zino's Petrel, Isles of Scilly, 30th July 2020. Photographs taken towards the end of the sighting that give clues to head and bill size and structure, and body build.

had seen ten Fea's-type petrels (Fea's/Desertas) off Scilly, one off the Canary Islands, and five off Hatteras, North Carolina, USA. Identification of the Scilly Zino's would have been difficult without this field experience.

Description

The similar-looking though not kindred Soft-plumaged Petrel *P. mollis* from the Southern Oceans could be eliminated straightaway: it has a complete breast band; a differently coloured rump, uppertail-coverts and tail from the Scilly bird; and its life history is out of synch – all age groups should be in primary moult at the end of July.

The following description incorporates notes by other observers.

Jizz and flight behaviour

Jizz and flight behaviour of the Scilly *Pterodroma* were in strong resonance with my experiences of Zino's Petrel off Madeira and distinctly different from Fea's and Desertas Petrels that I studied off their breeding islands. The Scilly Zino's was a particularly small and lightweight representative of the *feae*-complex and had a striking amount of whitish in the otherwise blackish underwing-coverts. Its flight was fast and erratic, the bird zooming upward and diving downward, making sharp twists and tight turns. In this respect, it reminded me of the small 'Cookilaria' petrels (small *Pterodroma* petrels) of the Southern Oceans. The larger Fea's and Desertas Petrels are too big and too heavy to perform the sharp twists and tight turns of a typical lightweight Zino's Petrel. The Scilly Zino's performed a 'freak-out flight' several times, when it flipped from side to side with rapid and shallow flicks of the wings, like the 'freak-out flight' of Soft-plumaged Petrel. I have never seen Fea's or Desertas Petrels perform this behaviour.

The Scilly bird's flight was noted by Danni Hinchcliffe as 'bat-like... with fast erratic wingbeats and very agile flight.'

Rob Lambert noted that the bird's flight action was 'Startlingly distinctive, agile, zippy, with hugely skilled twists and turns, towering rises up, steep returns down, seemingly in erratic ill-disciplined figures of eight.'

Scott Reid said of the bird's flight: 'Erratic, frantic at times, with short bursts of hurried, fluttering wingbeats, occasionally propelling the bird prior to arcing. Its changes of direction and position were sudden, "flipping sides" at the summit of its arc in a quick, sharp motion before descent.'

Zac Hinchcliffe said: 'My main immediate impression was how small it was and how fast it flew.'

In every respect, the jizz and behaviour was typical for Zino's Petrel.

Size and biometrics

The *Pterodroma* petrel was first seen side by side with a Manx Shearwater, and the size of the Manx provided a benchmark for assessing with reasonable accuracy the size of the Scilly Zino's based on experience and using established biometrics of the *feae*-complex (table 1).

In comparison to the Manx Shearwater, the Scilly Zino's wingspan was similar; the body was shorter and slighter, giving the bird an overall impression of being notably smaller than the Manx Shearwater.

Compared to Manx Shearwater, Desertas Petrel has a visibly longer wingspan, a similar body length, though the head and neck are chunkier, and the overall impression is of a somewhat larger bird.

Zac Hinchcliffe noted of the Scilly Zino's Petrel: 'My main immediate impression was how small it was...', while Danni Hinchcliffe said it was 'a surprisingly small bird'.

Notes from Scott Reid read: '[The Zino's Petrel] appeared slight, no larger than the Manx Shearwaters following the boat and crossing the wake in the moments prior to its appearance, yet its slim build gave it an overall smaller feel.'

The size relative to Manx Shearwater eliminates both Fea's and Desertas Petrels and fitted with Zino's Petrel. In my experience, the Scilly Zino's ranked as a small Zino's.

Plumage

General description

Greyish feathering over the head in the shape of a 'falconer's hood'. Large dark oval patch surrounding the eye. Greyish over the central crown, nape and downward forming neck tabs (broken breast band). Greyish continued over the mantle, scapulars, back and rump. Uppertail-coverts and to some extent the tail were somewhat paler grey than the upperside. Upperwing-coverts and remiges greyish with dark grey feathers forming a clear M-pattern across the open upperwings. Darker grey in the region of the rearmost scapulars and rump feathers formed the central bridge to the dark M-pattern. Underwings blackish, coverts boldly marked whitish (fig. 1), with triangular-shaped whitish inner-forewing patches. Clean-white chin, throat, underbody, and undertail-coverts. Eye not visible. Bill blackish. Finer details of inner-forewing patches and flanks sometimes relevant to identification were not seen in the field or captured by photographs.

John Higginson said of the bird: 'My first view was of the upperparts, clearly one of the Zino's/Fea's/Desertas group, having greyish upperparts, a noticeable dark M-shape across the open upperwings, and a dark panda-like face patch. My next view was one of the underparts, which will live with me forever, showing a clean-white underbody, and the dark underwing having an obvious, strong whitish bar of

Table 1. Comparison of total length, wingspan, and mass (as an approximation of bulk) of Manx Shearwater *Puffinus puffinus*, Zino's Petrel *Pterodroma madeira*, Fea's *P. feae* and Desertas Petrel *P. deserta* (Brooke 2007; Shirihai *et al.* 2010; Flood & Fisher 2013). The large variation in mass reflects sex and stages in the breeding cycle but gives a rough idea of bulk.

species	total length	wingspan	mass
Manx Shearwater	310–380 mm	750–890 mm	350–575 g
Zino's Petrel	300–350 mm (mean 331 mm)	800–843 mm (mean 829 mm)	175–280 g (mean 212 g)
Fea's Petrel	360–390 mm (mean 373 mm)	880–943 mm (mean 908 mm)	251–333 g (mean 288 g)
Desertas Petrel	330–380 mm (mean 361 mm)	860–940 mm (mean 908 mm)	245–428 g (mean 323 g)

Table 2. Breeding seasons and proposed approximate primary-moult timings in the Fea's-type petrel complex. Typical of tubenoses, the first complete moult post-fledging commences a month or two earlier than in breeding adults.

species	breeding	primary moult	primary moult all ages
Zino's Petrel	April to late September/early October	adult, late September–December immature, August–October	August–December
Fea's Petrel	mid October to April/May	adult, May–August immature, March–June	March–August
Desertas Petrel	mid May/June to December/January	adult, December–April immature, October–February	October–April

feathering, from the inner secondary coverts right across the primary coverts.'

The extent and pattern of whitish in the underwing-coverts eliminated both Fea's and Desertas Petrels and was a good fit for Zino's Petrel.

Structure and build

The structure and build shown by photographs are consistent with our field observations. The bill looked small and slight relative to the size of the head. The photographs provide some evidence of this; for example, the slender build of the bill emphasises its length and the shallow base to the bill emphasises the height of the forehead. Fea's and Desertas Petrels typically have a much larger and deeper bill. The head was small, the neck shortish and relatively thick compared to head size, and the body was short and lightly built – flat chest, thin belly, slim hips. These features are evident in the photos. Fea's and Desertas Petrels typically have a blocky head, bull neck, and chunky body – full chest, plump body, broad hips.

John Higginson noted: 'The bill was smaller and more lightly built than [that of] the four "Fea's Petrels" that I have seen. I observed how slender and elegant this wonderful bird was as it effortlessly flew back and forth over the wake...'

The bill, head, and body structure and build eliminated both Fea's and Desertas Petrels and were a good fit for Zino's Petrel.

Moult

The breeding and moult phenology of the three taxa of the *feae*-complex differ and this can assist with their separation in the field, depending on the time of year (table 2). Adult birds do not moult primaries while breeding, while immature birds can commence primary moult a little earlier than adults.

There was no evidence of primary moult on the Scilly bird. In late July, this unfortunately lends no strong clues to identification. Immature Zino's could have commenced primary moult in late July, but adults do not start moulting until September. An adult Fea's Petrel could be completing primary moult in late July while an immature could have finished by July. In Desertas Petrel, primary moult is not expected in any age group in late July.

Tracking results

Zino's Petrel

Geolocators were attached to 14 breeding adults and results from 12 of them showed that foraging trips extended to waters just a few hundred kilometres off southwest Ireland (Zino *et al.* 2011). Accordingly, Zino's Petrel is presumably a rare but regular visitor to British waters. The population has been estimated at 65–85 breeding pairs (Flood & Fisher 2013), though could be as high as 1,000–2,000 birds (V. Bretagnolle *in litt.* 2023).

Fea's Petrel

Jacob Gonzáles-Solís's research group undertook geolocator studies of Fea's Petrel (J. Gonzáles-Solís, T. Militao, A. Leal & H. Dinis *in litt.* 2021). None of the birds travelled farther north than the Canary Islands and

were relatively sedentary throughout the year. This observation comes from 38 trips of 21 birds while breeding and 21 one-year trips of 16 birds. The latter includes two immature birds, respectively tracked for four and five years, suggesting that even immatures do not travel far from Cape Verde. Jacob Gonzáles-Solís said: 'Fea's Petrel is an endemic seabird that stays around Cape Verde waters... In summary, it seems very unlikely that the *Pterodroma* petrels you see off Scilly come from Cape Verde.'

Desertas Petrel

Geolocator studies of 17 adults during the breeding season show foraging at two concentration points – Madeira/Canary Islands and the Azores, though foraging trips range widely in the Gulf Stream to at least 50°N, thus reaching the same latitude as the Isles of Scilly (Menezes *et al.* 2010; Ramírez *et al.* 2013).

Conclusion

In the case of the Scilly petrel, the flight behaviour, the extent and pattern of whitish in the underwing-coverts, the size and biometrics, the bill size, and the build of the head, neck and body beyond question eliminate Desertas Petrel and Fea's Petrel and confirm identification as Zino's Petrel. Fea's Petrel probably does not visit British waters. Soft-plumaged Petrel is easily eliminated by several plumage characteristics.

Acknowledgments

I am forever grateful to Joe Pender for safe passage on the approaching 1,000 pelagic trips off Scilly on MV *Sapphire*, permitting incredible moments such as finding Britain's first Zino's Petrel. Joe has become an accomplished seabirder and seabird photographer, too.

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Paul French, BBRC Chair, commented: 'Zino's Petrel has been on the radar of British birders for several years now, but it is not surprising that there have yet to be any possibles claimed from a headland, as identification of the three North Atlantic *Pterodroma* species remains one of the great challenges in Western Palearctic birding. The identification of this individual is well covered above, but it's fair to say that gaining photographic evidence was vital for the assessment and acceptance of this record. Being able to judge underwing patterns accurately on a fast-moving bird that is only on show for seconds is nigh on impossible but the early shout and the quick response from the photographers meant that these features could be judged at leisure post-sighting. Future claims should concentrate on viewing as much detail as possible on the underwing and evaluating the size, structure and jizz as accurately as possible, preferably combined with prior experience of the complex.'

Alexander Lees, BOURC Chair, commented: 'Tracking studies have revolutionised our understanding of the distribution of North Atlantic *Pterodroma* petrels in space and time (e.g. *Diversity and Distributions* 23: 794–805) and we had been long primed to expect a record of this species from the Southwest Approaches. It should not come as a surprise that a first acceptable bird would concern an individual photographed at sea and, although the images were not of the highest quality compared to what we've come to expect from photographs of many land-based rarities, they were good enough to convince BOURC members of the diagnosis of a species whose field identification criteria have only recently been established. With no issues of provenance, the species was added to Category A of the British List, and we anticipate more records of this species to follow.'