

Records in Malta of European Storm-petrels *Hydrobates pelagicus melitensis* during the breeding season away from known breeding sites

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Introduction

The Mediterranean sub-species of the European Storm-petrel *Hydrobates pelagicus melitensis* is a localised common breeding visitor with two known contemporary breeding colonies in the Maltese Islands: Filfla islet (5,000-8,000 bp) and Ta' Cenc cliffs in Gozo (>25bp) (Borg & Sultana 1992-1994; Borg & Sultana 2002; Raine *et al.*, 2009). Schembri (1843) was informed that the storm-petrel breeds only on the island of Filfla, while Wright (1864) stated that the species is sedentary and very common on the south side of the islands, and also breeds on Filfla. Despott (1916) believed that it could 'be met with all around the Maltese islands'. Fifteen years later he noted that it was becoming rare on the mainland (Despott 1932-34). Both Wright and Despott failed to mention any localities on the main islands.

This paper deals with sightings in the Maltese islands of European Storm-petrel outside the known breeding areas (between the period 1968 to 2010) and discusses their significance. Rđum tal-Madonna was the focus of an intensive four year study on Yelkouan Shearwaters as part of an EU LIFE Project that started in 2007 (Borg *et al.* 2010). Sightings from this locality are treated separately from those recorded at other sites.

Methods

Systematic visits to breeding colonies of Cory's Shearwater *Calonectris diomedea* and Yelkouan Shearwater *Puffinus yelkouan* during the storm-petrel's breeding season, which in Malta extends from February to late October (Borg 1989), have been carried out since 1983. Sporadic visits to a smaller number of sites were also carried out from 1968 to 1982 (Sultana & Cilia pers. comm.). While these visits were predominantly undertaken to carry out research on shearwaters, sightings of other species, including European Storm-petrel, were also recorded. These sightings are presented below.

Results: All areas, excluding Rđum tal-Madonna

There have been seven sightings of European Storm-petrel (amounting to a total of 11 birds, of which nine were adults and two juveniles) recorded from 1968 to 2010 away from the known breeding colonies (Table 1)

Date	Location	Number	Age	Observers
29.08.1978	Għar Lapsi	2	juvenile	Sultana & Gauci 1982
03.02.1983	Hal Far	1	adult	JJB pers.obs.
19.06.1992	Għar Lapsi	3	adult	Coleiro & Attard Montalto 1990
20.06.1992	Għar Lapsi	1	adult	Coleiro & Attard Montalto 1990
21.02.1992	Għarb (Gozo)	1	adult	Coleiro & Attard Montalto 1990
05.09.1994	Off Lapsi	1	adult	Borg & Sultana 2002
12.06.2005	Għar Lapsi	2	adult	JJB pers. obs.

Table 1. Observations of European Storm-petrel during the breeding season away from known breeding colonies

Għar Lapsi is located opposite Filfla Island which lies some 5km offshore. The two juvenile birds recorded on 29 August 1978 could have been fledglings from Filfla as suggested by Sultana and Gauci (1982). In the same locality, single birds have been observed flying in front of a narrow deep cave in June 1992 and again in 2005. Two sightings of a

single bird were also noted on two consecutive days on the 17 and 18 August 2009 on the upper slopes of Ghar Lapsi, over the above mentioned cave. On 3 February 1983 a single bird was found sitting under a boulder along the south cliffs of Malta, but during successive site visits, no other birds were observed. In Gozo there has only been one other confirmed sighting away from the Ta' Cenc colony – a single bird flying close to the cliffs at night on the north-west coast on 21 February 1992.

Storm-petrels at Rdum tal-Madonna

Rdum tal-Madonna is located on the north-east coast of Malta at 36°00'N; 14°22'E. It is a promontory at the eastern side of L-Ahrax tal-Mellieha, with a 200m stretch cliffs (up to 25m high) with numerous caves, fissures and crags as well as areas with scattered boulder and rubble scree. Rdum tal-Madonna is classified as an Important Bird Area (IBA) holding between 398 and 602 pairs of Yelkouan Shearwaters and 5-10 pairs of Cory's Shearwaters. It is protected under European legislation as a Special Area of Protection (SPA) and a Special Area of Conservation (SAC). The site was also the main focus of a four year EU-funded LIFE project (LIFE06 NAT/MT/000097 SPA Site and Sea Actions Saving *Puffinus yelkouan* in Malta) which started in 2007.

From 1969 to 2006 no storm-petrels were recorded by fieldworkers visiting Rdum tal-Madonna (J.J. Borg pers. obs.). Following the rat eradication program carried out as part of the EU LIFE project in early 2007, a total of 34 sightings of storm-petrels have been recorded close to the cliff face in the four year period (Figure 1). The average number of birds seen each night when birds were recorded was of between one and two birds, but five to ten birds were noted on 30 May 2009.

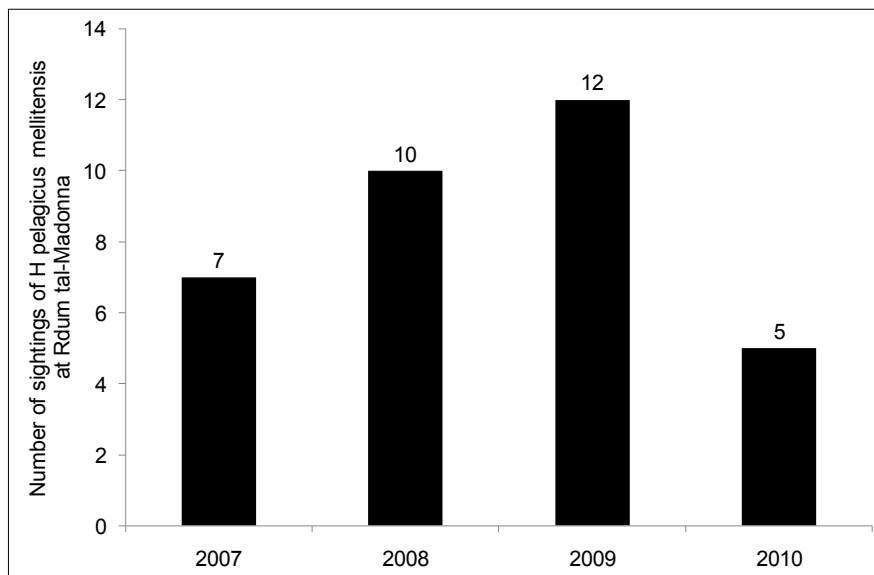


Figure 1. Number of sightings of European Storm-petrel at Rdum tal-Madonna over a four year period from 2007 to 2010.

A six metre long mist-net was set up parallel to the cliffs in front of *P. yelkouan* burrows to catch incoming shearwaters as part of the LIFE project. The study ledge was situated approximately ten metres below the cliff's edge and ten metres above water level. On two occasions a mist-net was erected lower down the cliffs among the boulder scree and two adult birds were mist-netted. Generally, the mist-net was erected at 21.00 and dismantled on average at 02.00 (with the earliest start time at 20.35 and the latest end time at 04.15). When Storm-petrels were noted flying around the net a pre-recorded call on an i-Pod Nano was played at low volume. These calls were only used to attract the birds into the net, and not to attract them to the site from a distance.

The earliest birds were recorded on 10 March 2008 where at least three individuals were observed. The last birds were seen in the first two weeks of July when visits to the colony ceased. The peak period with the highest number of sightings and birds was in May with a total of 13 sightings of up to 34 birds (Figure 2).

A total of 11 individual birds have been ringed at Rdum tal-Madonna - 7 in June 2007, 3 in May and June 2008 and 1 in June 2009. There was also a re-capture of a bird ringed on Filfla Island on 12 June 2007 and controlled at Rdum tal-

Madonna six nights later (18 June). Playback calls were played each time a bird was seen close to the cliffs, but birds responded to these calls only in May and June. During other months, birds carried out a quick inquisitive circular flight and continued on their way. Only 1 bird was mist-netted in May; the rest were caught in June. Eight of these 11 birds displayed a well defined brood-patch.

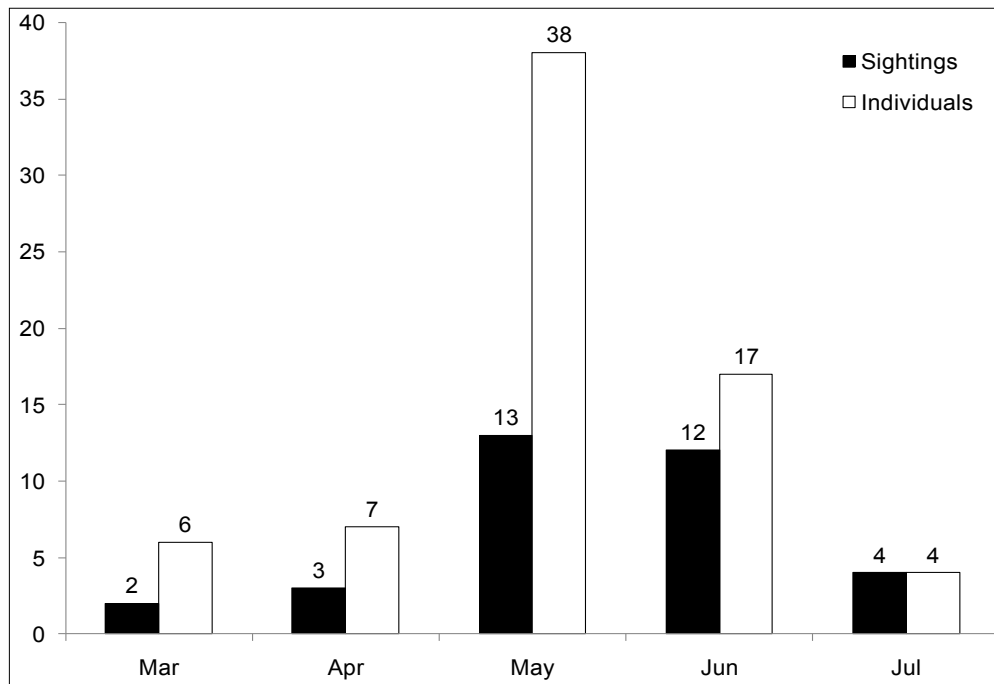


Figure 2. Combined monthly sightings and number of birds at Rдум tal-Madonna in the four year period from 2007 to 2010.

Discussion

Although sightings of storm-petrels away from their known breeding colonies in the Maltese islands are rare, it is evident that this species has been recorded during the breeding season at several other locations in Malta. As this species is often over-looked on land due to its cryptic and nocturnal habits it is therefore possible that there may be other breeding colonies that have so far been over-looked.

This is particularly true for Rдум ta-Madonna, where storm-petrels were recorded on multiple occasions during the breeding season from 2007 to 2010. The continuous and increasing presence of storm-petrels at Rдум tal-Madonna may be attributed to a rodent eradication program which has already been shown to have had a positive impact on the Yelkouan Shearwater (Borg *et al.* 2010). However, in June and early July the main study area as well as the boulder scree beneath was investigated for any possible breeding activity. The absence of the birds' characteristic odour, and the negative response to the pre-recorded calls played, near boulders and other possible breeding areas produced no evidence of breeding to date.

Many of the birds that were mist-netted at Rдум tal-Madonna also had brood patches. It should however be noted that the presence of a brood-patch in storm-petrels does not necessarily indicate that the birds are breeding as immature birds also display a brood patch (Scott 1970). The presence of prospecting storm-petrels away from known breeding colonies during night-time as well as their attraction to pre-recorded calls has been documented by various authors such as Mainwood (1978), Fowler *et al.* (1982), and Insley *et al.* (2002).

This paper has shown that storm-petrels have been recorded, during the breeding season, in areas outside the known breeding colonies in the Maltese Islands. Areas such as Hal Far, Ghar Lapsi, Rдум tal-Madonna and Gharb (Gozo), provide suitable breeding habitat for this species and could hold currently un-recorded breeding colonies. However, rat predation on these mainland sites would cause a serious problem for storm-petrels and is certainly a limiting factor for the colonisation of this species on the mainland. Further research work (including intensive surveys and the use of

play-back during the day in suitable breeding habitat) would help to provide more information on the distribution of this species in the Maltese islands.

Acknowledgements

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