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JOHN BORG

THE STORM PETREL *HYDROBATES PELAGICUS*  
IN THE MALTESE ISLANDS: A REVIEW  
(Aves, Procellariiformes)

SUMMARY

The author gathers all previous bibliographical and original data on the Maltese Storm Petrels, in order to give a clear picture on its status and breeding. The Storm Petrel, formerly described as endemic of the Maltese archipelago, is breeding only on Filfla. It is a very common breeding visitor by the end of February to October. Some 10,000 pairs are estimated to breed on the islet of Filfla, that is the largest Mediterranean population. The first eggs are laid by the end of April; young leave the colony by the last two weeks of August to mid-October. It seems that the Yellow-legged Gull (*Larus cachinnans*) (of which 150 pairs breed on Filfla) is the main predator of this little Petrel.

RIASSUNTO

*L'Uccello delle tempeste nelle Isole Maltesi: una sintesi.* L'Autore mette insieme tutte le notizie disponibili, bibliografiche ed originali, su questo Procellariforme nelle isole Maltesi. In particolare sintetizza tutto il ciclo biologico sull'isola di Filfla, ove si riproduce la più grande colonia mediterranea (circa 10.000 coppie) di questo Procellariforme ancora poco studiato nel bacino. I primi individui arrivano nelle isole Maltesi verso la fine di febbraio e si tratteggono per tutta l'estate. Gli ultimi lasciano i siti riproduttivi in ottobre. Le deposizioni più precoci avvengono alla fine di aprile, ma sono frequenti maggiormente in maggio e giugno. Nell'isola di Filfla si riproducono anche 150 coppie di Gabbiano reale (*Larus cachinnans*), che rappresenta probabilmente uno dei principali predatori del piccolo Procellariforme, almeno nei mesi primaverili.

The Storm Petrel *Hydrobates pelagicus* is a very common breeding visitor, breeding in very large numbers in the boulder and rubble slopes of Filfla. At

the present time there is no conclusive evidence of breeding elsewhere on the Maltese Islands (SULTANA & GAUCI 1982).

#### HISTORY

The Storm Petrel was first described for the Maltese Islands by Antonio Schembri in 1843, in his *Catalogo Ornitologico* where he named the petrel *Thalassidroma melitensis*. Schembri noted the coloration of the tail feathers as black with white upper and under tail coverts. A year later, STRIKLAND (1844) corrected this when he compared specimens from Filfla with others obtained from the British Isles; they were found to be identical.

SCHEMBRI (1843) wrote that he was informed by some Maltese hunters that the Storm Petrel does not breed on the south side of Malta, Gozo and Comino, but only on the islet of Filfla. In the 18th Century the historian Canon Agius de Soldanis stated that he found a «strange bird» breeding in a cave between Xlendi and Ta'Cenc cliffs in Gozo (see Appendix).

WRIGHT (1846) noted the Petrel as sedentary and very common on the south side of the islands, and found breeding also on Filfla. DESPOTT (1916) agreed with this, but fifteen years later (1932-34) he noted that it was becoming rare on the mainland. GIBB (1951) recorded it as rather common but found breeding only on Filfla, while ROBERTS (1954) noted that it was formerly a common resident, but now reduced. DE LUCCA (1969) listed the Petrel as an uncertain breeding resident in small numbers and a summer breeding visitor in May. During a visit to Filfla HLC (1953) noted that colony as rather small. ROBERTS (1954) found only two pairs in June 1952.

Bird Ringers of the Ornithological Society of Malta since 1968 have been conducting yearly visits to Filfla. The first of these visits was carried out on 29 June 1968; no fewer than thirty accessible nests were located, while in deep crags and crevices some fifty other sitting birds were found (SULTANA & GAUCI 1970).

#### THE FILFLA COLONY

In 1975, Sultana & Gauci wrote «the colony on Filfla is extremely dense; as a result of ringing activities between 1968-70, the population was estimated as at least 4000 pairs, but further ringing indicated that earlier estimates of the colony size were too conservative. In May 1972, almost 1,300 were mist-netted in a single night in only 24 metres of netting and it may be that the colony exceeds 10,000 pairs».



*Fig. 1.* — Storm Petrel on its newly hatched young, with the broken egg shell nearby. (Photo by J. Sultana).

No proper census has ever been undertaken on Filfla, this is so, due to many disadvantages and difficulties. In the Mediterranean the Storm Petrel seems to be decreasing (MASSA & CATALISANO 1986a). On Filfla this decline has not yet been noted, as numbers trapped each year give a fair indication that the colony is still dense.

#### *Arrival at Colony*

During daylight Storm Petrels are seldom seen, they spend most of the time feeding out at sea. Occasionally it may be observed from a boat some kilometres offshore, feeding in the wake of a ship or on shoals of small fish or plankton. They are strictly nocturnal, where they start to visit the colony a short time after dusk, few in numbers but increasing by the hour. The last birds may be seen flying about before dawn.

Storm Petrels presumably arrive at the colony by late March or early April, although no observations were carried out on Filfla before early May (SULTANA & GAUCI 1970). BANNERMAN & VELLA GAFFIERO (1976) stated that the Petrels start to visit the colony by late February and peak numbers are reached by late March.

According to SULTANA & GAUCI (1982), Storm Petrels are most active on moonlit nights, especially in the early stages of the breeding season. It is not known whether this is so later in the season for the same authors state that on moonlit nights relatively few come in to feed their young.

### *Breeding*

Courting is still at its peak in mid-May, but by this time a few would have already laid their single egg; although freshly laid eggs may be found also as late as mid-July, the latter may be laid by first time thus inexperienced breeders (SULTANA & GAUCI 1970).

In Sicily, where a large colony was discovered in the last years, egg laying was noted to commence at the end of April and to end by mid-July (MASSA & CATALISANO 1986b). In the Balearics, egg-laying starts around the second week of May (CRAMP & SIMMONS 1977).

Incubation lasts 38 days, or even longer if the egg is not incubated regularly (SULTANA & GAUCI 1970). In CRAMP *et al.* (1974) 30-40 days are given, while DAVIS (1957) gives  $40.6 \pm 2$  days. One egg which had undergone chilling for 11 days hatched after 50 days (CRAMP *et al.* 1974).

On the visit to Filfla, in June 1949, TRAIL (1949-50) found an adult with a very young chick. On Corsica on 7 June 1981, an adult with a day old chick was found (BRICHETTI 1981). It may be assumed that both birds laid the egg during the last two weeks of April. So if one takes into consideration the length of time taken for pair-bonding and copulating and pre-laying period it may be right to say that they start arriving at the colony by the end of February.

Fledging lasts  $62.8 \pm 3.5$  (56.73) days according to DAVIS (1957), while SCOTT (in CRAMP & SIMMONS 1977) gives 70 (61-86) days. On Filfla the young start to leave the colony by mid-August (SULTANA & GAUCI 1982). No observations were ever carried out after the month of August on Filfla. In Sicily some chicks found in September were so young as to need at least one whole month of growth; thus the last chick to hatch would fledge by at least the middle of October (MASSA & CATALISANO 1986b). This could also be the case for the Filfla birds.

Breeding in seabird colonies, especially in the *Procellariiformes*, is highly synchronized; egg laying is generally carried out almost simultaneously within the colony. It seems that this is not so for the Storm Petrel where egg laying covers a period of two months, thus another two month period for fledging.

On Filfla in mid-July one can find incubating birds, others brooding young chicks, while the early breeders would be about to abandon their young. Courting birds found late in the season may be newly formed pairs



Fig. 2. — South side of the isolated islet of Filfla (Maltese archipelago), where the largest Mediterranean population of Storm Petrel breeds (about 10,000 pairs). (Photo by J. Borg).



Fig. 3. — Chick of Storm Petrel about one month old. (Photo by B. Massa).

which are not breeding that year or established breeders strengthening the pair bond as both behaviours have been noted in the Cory's Shearwater (CACHIA ZAMMIT & BORG 1987).

### *Predation*

On Filfla the main predator on the Petrels are the 150 pairs of Yellow Legged Gulls *Larus cachinnans*. Remains of adult Petrels are frequently found in the gull's pellets (SULTANA & GAUCI 1982, BORG & CACHIA ZAMMIT 1987). SULTANA & GAUCI (1970) claimed that young Petrels failing to return to the safety of the burrow when daylight comes, fall victims to the gulls. It has been noted that soon after the breeding season in late June, the gulls abandon the colony. A morning visit by the authors on 8 July 1987 resulted in only two first-year birds. At this time the Petrels were found brooding young chicks unable to venture far from the nest.

On moonlit nights, the gulls on Filfla were noted to be very active, calling and flying about. It may be that it is on such nights that the Petrels are preyed upon. During daylight, six adult gulls failed to catch an adult Petrel flying out to sea (SULTANA & GAUCI 1970).

Very few Petrels are thought to be shot, but presumably a few are taken. It is not infrequent that single birds are to be found in showcases of local collectionists and taxidermists, even though it has been protected since 1938. Fishermen informed that while fishing at night with powerful lights offshore, mainly off the southern coast of Malta, the Petrels are attracted by the light and some alight on the boats.

### APPENDIX

A) Antonio Schembri's description of *Thalassidroma melitensis* (Translated in English)

#### *Thalassidroma melitensis* Mihi

Black bill, dark black iris. Crown, neck and back (mantle) black with a slow tendency to sooty. Wing and scapulars of the same colour. The tip in the two inner scapulars is white. Throat, crop, breast belly, flanks and central undertail covers black-sooty; outer undertail coverts and the first uppertail coverts white; the uppertail coverts near the rectrices with 1/3 black with slow tendency to soot. Tail squared; the proximal in a little less than 1/2 white, the distal of the colour of the upper-parts; the three central rectrices entirely of this colour. Forehead edged tawny in some birds, in both sexes.

Wing formula:

Primaries; 2nd and 3rd longest; 2nd > 3rd  
1st > 4th.

Measurements; total length 5 inches

Tail 2 1/2 in.

Tarsus 7/8

Wings 3/8 longer than tail.

B) Cannon Agius de Soldanis description of bird and site.  
(Translated in English)

...and Ghar Ilma, so called because fresh water is to be found in this cave. In this cave, are to be found small creatures of the sea that fly, which during the day spend the time in crags, waiting for nightfall to fly out to sea in search for food. Where these birds are to be found, lingers a foul smell. Some fishermen insured me that in no other cave in Gozo or Malta these birds are to be found. I informed a French Knight, Torgot about this when he came to Gozo in the year 1746 in order to collect specimens of plants and birds. He took eight of these birds of which I saw both on the nest and in the hand. In size they are similar to a Song Thrush *Turdos philomelos*, bill black resembling that of a young pigeon, more or less reddish near the eyes. The feet similar to that of a duck.

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*Address of the Author*. — JHON BORG, Block C2/5 Housing Estate Ta'Xbiex, Malta.