

Notes on Indian rarities–1: Seabirds

Praveen J., Rajah Jayapal & Aasheesh Pittie

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Praveen J., B303, Shriram Spurthi, ITPL Main Road, Brookefields, Bangalore, Karnataka 560037, India. Email: paintedstork@gmail.com

Rajah Jayapal, Sálím Ali Centre for Ornithology and Natural History, Anaikatty (Post), Coimbatore 641108, Tamil Nadu, India. Email: rajah.jp@gmail.com

Aasheesh Pittie, 2nd Floor BBR Forum, Road No. 2, Banjara Hills, Hyderabad 500034, Andhra Pradesh, India. Email: aasheesh.pittie@gmail.com

Dedication: We dedicate this project to the memory of Padmashri Zafar Futehally (1920–2013), a doyen of the birding fraternity in India.

Introduction

In common parlance, a bird checklist simply means a list of birds found in an area. But, in its strictest sense, it refers to a systematic and comprehensive list of bird species that have been recorded reliably from an area in the past (Campbell & Lack 1985). It then follows that a checklist ought to be based on indubitable records backed by verifiable evidences. As such, a definitive checklist of birds for India does not exist. The only regional work that came close to it was the *Synopsis* (Ripley 1961, 1982), which was, however, less exacting on the merit of the records as its focus was primarily on taxonomy and distribution. Manakadan & Pittie (2001) was another notable attempt to create a working list, but their main aim was standardisation of nomenclature. Regional bird-guides (e.g., Ali & Ripley 1983; Grimmett *et al.* 1998; Kazmierczak 2000), have an ostensibly limited scope in this regard, as field-guides, per se, have a much larger mandate in terms of geographical and species coverage. Still, lists are commonly drawn from these field-guides. An unfortunate fallout is that several contentious species, with dubious provenance, have crept into such lists virtually unchallenged, often abetted by the professional standing of the observers and/or the periodicals they are published in. The biggest lacuna in the present system is the absence of a dedicated group such as an Indian Bird Records / Rarities Committee to undertake independent in-depth assessment of each rarity report and maintain an 'official' bird list for the country.

Rasmussen & Anderton (2005) was probably the first contemporary work on Indian birds to have reviewed nearly all the species records independently and to have classified them as 'established,' 'hypothetical,' and 'possible' for South Asia. Though their work provides the most comprehensive checklist for South Asia to date, it cannot be adopted for India, without further scrutiny, primarily because the authors' decision to include a species in the list is evidently based on the veracity of its record(s) for South Asia and not necessarily from within the political boundaries of India. Moreover, their criteria of specimen-based evidence for acceptability of records excluded a few species for which well-documented records, other than specimens, exist. There have also been a couple of species recorded as new to both, South Asia and India, since the publication of the second edition of their work (Rasmussen & Anderton 2012).

Therefore, we decided to evaluate all the species of birds that have been reported from India in the past, and prepare an objective bird list that only includes species with definite provenance, arrived through extensive consultations with various authorities and reviewers (see Acknowledgements). In the course of our review process, it became clear that we must first draw up annotated notes on the rationale for including or excluding every

contentious species, before a final list is published. We present these annotated notes here, as a series of parts, at the end of which a systematic checklist of Indian birds (hereafter India Checklist) will be published.

Geographical Limits

All records from within the political boundaries of India, as defined by the Government of India, are considered for this exercise. For oceanic birds, a distance of 200 nautical miles (370.4 km) from the nearest Indian coast, including the islands, is considered as the limit. If this overlaps with the same distance from a neighbouring country, the median between the coasts of the two countries is considered as the maritime boundary. In case of a record for which no absolute coordinates are given, but which was purportedly obtained between two countries, it is treated as valid for both the countries. This, we believe, is pragmatic, rather than treating such a record as invalid for either of the countries or for both.

Methodology

To begin with, we researched the ornithological literature of the Indian Subcontinent, using Pittie (2011) to draw up a list of bird species whose records from India were either tentative or suspect, and which required review through consultation with a wide spectrum of field ornithologists. Admittedly, a majority of birds in the Indian list have verifiable specimen records in various museums of the world thanks largely to the legacy of British naturalists and explorers [see Rasmussen & Anderton (2012) for information on museums with significant holdings of specimens of Indian birds]. Still, a large number of species had to be flagged for a re-evaluation of their records.

Typically, we documented all historical records of a species along with our preliminary appraisal based on the merit of each case. We then tried to contact, wherever possible, the original observer, or the author who published an observation, to elicit additional information. Simultaneously, we referred the matter to our expert reviewers for an independent assessment. Reviewers were chosen considering their expertise with pertinent taxa.

Specimens, and published photographs (print or online), followed by documented instances of birds in the hand, are given the highest priority in terms of reliability. In the absence of such robust proof, detailed published notes are given preference over published / unpublished information that is found wanting in detail. Please refer to Table 1 for different assessment criteria in the order of precedence for accepting a record. Species that do not conform to these criteria have been summarily excluded from the India Checklist.

If the original observer, or a subsequent reviewer, had expressed reservations over the veracity of identification, we treat the record as doubtful, even if it were uncritically accepted in popular works—unless we obtain fresh evidence. Sight records of species that are difficult to identify in the field, and would otherwise demand accurate and detailed documentation are treated as tentative. Even when a species is easily identified in the field, and its report is a first for the country, the record will not be considered if the description does not discuss the identification in detail. Mutually substantiating observations are treated with caution, as any error of judgment in the first instance is likely to be perpetuated in subsequent observations.

During the literature survey, we attempted to chase down every primary publication on the region's rarities; this was complemented by information sourced from select grey literature—unpublished trip reports, e-group messages, web blogs, and sometimes, personal communications. The RNBWS database, for example, was used to list all the records of pelagic birds from the Indian seas, but each record was cross-checked with its published source, i.e., the Society's journal, *Sea Swallow*. Any record that did not match was either rejected or classified as suspect.

We did not, however, visit any of the museums to verify specimens. We have largely depended on published museum catalogues, though we did contact the respective museum curators, on a case by case basis, to ascertain the existence of a certain specimen in their collections.

For this project, i.e., the planned series of annotations, culminating in the India Checklist, we follow the taxonomic listing of Dickinson & Remsen (2013).

In this series, we intend to provide concise accounts of rarities—species that do not have more than ten independently confirmed records, from India until 15 August 2013. These may sometimes include species not reported from India but listed in some checklists on the basis of reports from neighbouring countries. Wherever it is required to discuss the status of a species in other parts of South Asia, we have done so. For species with more than three confirmed records, a table is provided, and for species with more than five confirmed records, a distribution map is provided with keys as defined in Table 1.

Table 1. Criteria for inclusion of a species in the India Checklist

Criteria
Evidence available as a validated specimen in a museum
Evidence available as a validated photograph in a publication and/or in an open-access website
Evidence available as a validated call recording in publication and/or in an open-access website
Evidence available as a well-documented specimen, alive or dead, that is not preserved but handled and identified
Evidence available as well-documented observational sight record

Table 2. Abbreviations used in the text

Abbreviations	Reference
AMNH	American Museum of Natural History (www.amnh.org)
BMNH	Natural History Museum, London (www.nhm.ac.uk)
BNHS	Bombay Natural History Society
BSA	Rasmussen & Anderton (2005)
BSA2	Rasmussen & Anderton (2012)
FMNH	Field Museum of Natural History (http://fieldmuseum.org)
Hbk	Ali & Ripley (2001)
OBI	Oriental Bird Images (www.orientalbirdimages.org)
RNBWS	Royal Naval Birdwatching Society (www.rnbws.org)
UMMZ	University of Michigan—Museum of Zoology (http://www.lsa.umich.edu/ummz)
ZSI	Zoological Survey of India

In this first part, we present annotated notes on 30 species of seabirds, from the following families:

- Phaethontidae (Tropicbirds)
- Oceanitidae (Austral/Southern storm-petrels)
- Hydrobatidae (Northern storm-petrels)
- Procellariidae (Petrels and Shearwaters)
- Fregatidae (Frigatebirds)
- Sulidae (Boobies)
- Stercorariidae (Skuas and Jaegers)

Species accounts

Red-tailed Tropicbird *Phaethon rubricauda* Boddaert, 1783: Hbk includes it based on 'vagrants' reported from the Bay of Bengal. BSA states, "Said to breed [in] Chagos and possibly Nicobars...specimens long ago taken from 'Bay of Bengal' and/or 'Nicobars' and one handled between Nicobars and Sumatra..."

The breeding population in Chagos Archipelago is well known (Bruner 1995) and breeding records from Diego Garcia have been documented at least till March 2002 (Guzman 2003). Gibson-Hill (1950), the only treatise on tropicbirds of the Indian Ocean that formed the basis for all subsequent regional works, indicates that the nominate race breeds around Mascarenes in the western Indian Ocean, and *westralis* breeds in Christmas and Cocos (Keeling) Islands in the eastern Indian Ocean. Hbk lists the species under the nominate race, though it admits in the text that the regional birds may belong to *westralis*. Most reports of juveniles from north of the equator have been of misidentified White-tailed Tropicbirds *P. lepturus* (Gibson-Hill 1950). The reference to 'Bay of Bengal' and/or 'Nicobar' has its origins in Hume (1874), wherein, "Blyth mentions the receipt of a specimen of this species which he calls *aethereus* from the Nicobars. We neither obtained nor saw this species, but it occurs I know in the Bay of Bengal, although despite what Blyth says I believe that it is less common in our Indian waters than either of the other two species." Interestingly, Hume (*ibid.*) went on to describe a specimen in the same account as follows: "...a very fine male killed in the Bay of Bengal differs *toto caelo* in measurements and description from those given in Dr. Jerdon." Gibson-Hill (1950) wondered if the latter was the same specimen obtained by Blyth or an additional one from the Bay of Bengal (and this ambiguity has been carried forward till the BSA). However, a close perusal of the account would clearly reveal that it was a different specimen though its details were not given by Hume. Jerdon's remark (Baker & Inglis 1930) that it had been obtained from Bay of Bengal was replete with confusion as in the same sentence he mentioned a Cachar record of this species. However the Cachar record was reported as *P. lepturus* (*vide* Baker 1899). F. G. H. Allen collected an immature male that came on board a ship between the Nicobars and the northern point of Sumatra, and which was examined at the Raffles Museum, Singapore (Gibson-Hill 1949). The specimen was captured nearly 2000 km from the nearest breeding ground of *westralis* and nearly 5000 kms from the Mascarene Island (2500 km from Chagos) where the nominate race breeds. This prompted Gibson-Hill (1950) to suggest that there might be an undiscovered breeding site near the Nicobars from where the Bay of Bengal and Andaman Sea specimens would have originated. However, 60 years hence no fresh evidence has sprung up and therefore that theory has little standing. The whereabouts of the Nicobar specimen are not known and hence that record should be treated as provisional.

Though Hume's description of the specimen is succinct, it is not clear whether its location is within Indian waters or beyond. However, the well-documented specimen (ZRC #3.00081) in the Raffles Museum (Morioka & Yang 1996) should be treated as a record for both the Nicobars and Sumatra, and is here considered as conclusive evidence for the species' entry into the India Checklist. As presumed by Gibson-Hill (1950), the regional occurring race is probably *westralis*.

White-tailed Tropicbird *Phaethon lepturus* Daudin, 1802: Hbk and BSA include it based on specimens from the Andamans. Hbk additionally states it breeds there. BSA mentions of an inland specimen from Cachar, Assam. The only record from the Andaman Islands is described by Hume as, "Colonel Tytler himself shot a fine specimen at Ross Island that for some days had constantly hovered about in the neighbourhood of this dove-cot apparently attracted by the white pigeons he had in it," (Hume 1874). However, it is unclear on what basis Hbk indicates it breeds there. A set



Fig. 1. White-tailed Tropicbird. Map: S. Subramanya.

of ten June–August sight records of this species reported from Chennai during 1984–1986 (Sridhar & Sriram 1986; Sridhar 1987; Sriram & Sridhar 1985) are not considered here as no other observer has reported this species, before or after, from that area, and all Indian records are from January–April. Other records of the species from Indian limits are shown in Fig. 1, and listed in Table 3 and its occurrence in the country is confirmed by two specimens, one preserved tail, and two recent photographs. Therefore, the species is included in the India Checklist.

White-faced Storm-petrel *Pelagodroma marina* (Latham, 1790): Not included in Hbk. BSA indicates, "recent sight reports only," but does not mention any specific record. BSA's statement, "...Regular northward (mostly May–Jul) migrant from seas between Nicobars and S. Sri Lanka to Lakshadweep, Maldives and Chagos. Seasonally frequent..." is presumably from Robertson (1995), and/or Voous (1965). However, Mörzer Bruyns *et al.* (1964) point to a specimen collected on 16 May 1958 from

near Sri Lanka (06°00'N, 83°00'E) and deposited in AMNH, now in California Academy of Sciences (#62032, labelled 15 May). There are only four known records from Indian waters (Table 4), of which three are in the RNBWS database; all four are listed by Robertson (1995). All of them fall between 1960 and 1965, which is generally the case with most records from South Asia. There are 17 records, prior to 1965, from the north-western Indian Ocean in an area north of the equator and west of 80°E, all falling between 18 May and 24 July, indicating a summer dispersal (Voous 1965). Current status of this species is uncertain though the species is easily identifiable, and its presence is well-documented from the Arabian Sea. We believe the reported rarity of the species reflects paucity of information rather than a scarce population because of inadequate pelagic surveys in Indian waters. At least two birds from Indian waters were collected (or seen) on board and one bird was well-photographed by N. Bailey but not published anywhere (W. R. P. Bourne *pers. comm.*, July 2013). Considering all these facts, we accept this species in the India Checklist. Specimens from other parts of the Indian Ocean, including the one from Sri Lanka, all belong to the western Australian race *dulciae* (Voous 1965), which is assumed for the Indian records as well.

White-bellied Storm-petrel *Fregetta grallaria* (Vieillot, 1818): Not in Hbk. Hypothetical in BSA, indicating recent sight reports. BSA lists it from Lakshadweep; the Andamans report (Ferrari 1931) is likely Swinhoe's Storm-petrel *Hydrobates monorhis* (see below). Two records from Indian waters in the RNBWS database. The first record was of two birds sighted 100 km west of Kasargod, Kerala (12°21'N, 74°05'E) on 27 July 1967 (Anonymous 1970), but the field description was equivocal and could not completely rule out Black-bellied Storm-petrel *Fregetta tropica* (Praveen 2011). This is the same record included in the Lakshadweep checklist (Robertson 1995; Pande *et al.* 2007). The second record was of two birds reported 300 km west of Malvan, south-western Maharashtra (15°04'N, 70°56'E; indicated as 250 miles west of Goa) on 27 August 1967 with no further details (Anonymous 1970). Identification is complex (see under Black-bellied Storm-petrel) and hence in the absence of a specimen or photograph, all the reports of this species from the northern Indian Ocean are to be treated as inconclusive. Not included in the India Checklist.

Black-bellied Storm-petrel *Fregetta tropica* (Gould, 1844): Included in Hbk based on one 19th century specimen in the BMNH collected from the Bay of Bengal; but original label

Table 3. White-tailed Tropicbird records				
Date	Location	Coordinates	Remarks	Reference
Undated	Ross Is., Andamans	11°40'N, 92°45'E	A male shot. Whereabouts of the specimen unknown.	Hume (1874); Butler (1900)
9 April 1877	On river Barrak[=Barak], Cachar, Assam	25°04'N, 92°57'E	A juvenile male bird caught alive; specimen now in BMNH.	Hume (1877)
January 1976	Off Battye Malve, S. of Car Nicobar	08°49'N, 92°50'E	Tail feathers in BNHS. Collected from the staff of the ship, of a bird that took refuge in the ship.	Abdulali 1980, 1981
21 March 1976	N. Cinque Is., Nicobar	11°16'N, 92°41'E	Sight record - probably this species.	Abdulali 1981
1 April 1989	Rameshwaram, Tamil Nadu	09°16'N, 79°18'E	A pair of birds in flight.	Balachandran (1992)
2 March 2006	Kovalam, Kerala	08°23'N, 76°58'E	A bird flying close to beach seen by Lindsay J McDougall	Sashikumar <i>et al.</i> (2011)
18 January 2010	Palavayal, 84 km inland from Kannur, Kerala	12°31'N, 75°41'E	An immature bird recovered, photographed and released next day.	Palot (2011)
18 February 2013	120 km W. of Mithbav, S. Maharashtra.	16°04'N, 72°16'E	A bird photographed and a probable seen in the same area a few days later.	Jamalabad (2013); see elsewhere in this issue.

Table 4. White-faced Storm-petrel records				
Date	Location	Coordinates	Remarks	References
24 May 1960	18 km SW. of Minicoy Is.	08°05'N, 73°00'E	Bird on board of ship; photographed	Bourne (1960); Bailey & Bourne (1963)
26 June 1960	105 km W. of Chavakkad	10°30'N, 75°00'E	One bird.	Bourne & Radford (1961), Praveen (2011)
16 September 1961	c. 330 km W-NW. of Sueli Par, Lakshadweep	12°40'N, 68°47'E	One observed	Voous (1965)
12 July 1964	149 km W. of Mangalore	13°00'N, 74°00'E	Bird on board of ship. Location too coarse	Bourne (1966)

lost. BSA states, "Perhaps regular in regional waters," without providing any additional information. The provenance of the BMNH specimen is doubtful, as the label dated 1895 was apparently handwritten by the Ninth Marquis of Tweeddale, who died in 1878 (Gibson-Hill 1948; Robertson 1995). But a clear description and morphometric data exist (Bailey & Bourne 1963) for a bird, which was caught c. 30 km south-west of Minicoy (08°03'N, 72°50'E; indicated as 14 miles south-east of Minicoy) on 9 September 1960 (RNBWS database date 28 May seems erroneous). There was another well-documented sight record of three birds from 250 km west-south-west of North Island, Lakshadweep (08°48'N, 70°17'E) on 20 June 1984 (van den Berg *et al.* 1991). These two records have allowed this species to be listed under Lakshadweep checklist (Pande *et al.* 2007). A sight record of, "a dark storm petrel with white underparts," on 12 April 1977 off Batty Malve, south of Car Nicobar, "may have been this species," (Abdulali 1981). Apart from this, there are a few records from Sri Lanka which also include a sight record of two birds seen south-east of Sri Lanka (van den Berg *et al.* 1991) on the same voyage on which the Lakshadweep bird was sighted, and a more recent sight record off the south-western coast on 7 October 2007 (Pepper & Hettige 2008). The species is accepted into the India Checklist based on the bird examined in hand in 1960, corroborated by the 1984 sight record. The racial status of birds occurring in Indian waters is unknown, but is probably the nominate, as the other race *F. t. melanoleuca* is found mainly in the South Atlantic.

This species is complex in terms of identification and taxonomy as the very similar White-bellied Storm-petrel has also been reported from the northern Indian Ocean. There are several records of *Fregatta* species from the northern Indian Ocean, assigned to either *F. tropica* or *grallaria*. Both the birds are known to have two morphs, one deceptively like the other, and past records with poor descriptions are hard to evaluate. However, in the absence of any well-documented records of *grallaria*, it is believed that all observations of light morph birds are perhaps *tropica* rather than *grallaria*. [Hence the general statement in BSA that it is "regular" in regional waters.] The true status of *tropica* and *grallaria* in Indian waters is still not resolved but birds belonging to either of these species have occurred regularly in the northern Indian Ocean (Cheke 1966).

Band-rumped Storm-petrel *Hydrobates castro* (Harcourt, 1851): Neither in Hbk nor in BSA. BSA2 includes it based on a sight record off the Maldives by Hadoram Shirihai and others in November 2004 (Anderson 2007). Not recorded from India and hence not included.

Matsudaira's Storm-petrel *Hydrobates matsudairae* (Kuroda, Sr., 1922): Not in Hbk. Though well-documented records exist west of Maldives (Bailey *et al.* 1968), it is considered hypothetical in BSA as the records were barely along the political boundaries that define the region. A storm-petrel caught between Lakshadweep and Sri Lanka on 10 June 1923 by H. M. Tomlinson was later identified as a Swinhoe's Storm-petrel by him after he inspected specimens of that species in the Raffles Museum. Tomlinson's bird had not been preserved, allowing W. R. P. Bourne to speculate whether it could have been *matsudairae* (Bourne 1999). Tomlinson described the storm-petrel as, "about the size of a blackbird, and of a uniform chocolate colour." Measurements in BSA, particularly of the 'length' of a Common Blackbird (230–250 mm) are closer to *matsudairae* (195–220 mm) than to Swinhoe's (165–175 mm). About 15 birds were seen 120 km west of Perumal Par, Lakshadweep (11°24'N,

70°48'E) on 1 October 1987 (Bourne 1989). More recently it was photographed from Chagos Islands in November–December 2012 during a pelagic expedition that resulted in 74 sightings, indicating a healthy population (Meeuwig *et al.* 2013). In the absence of any definite sightings from within Indian limits, this species will have to await better documentation to be included in the India Checklist.

Leach's Storm-petrel *Hydrobates leucorhous* (Vieillot, 1818): Neither in Hbk nor in BSA. A single sight record off Maldives exists from April 1998 (Anderson & Baldock 2001). Not recorded from India and hence not included.

Swinhoe's Storm-petrel *Hydrobates monorhis* (Swinhoe, 1867): Hbk and BSA include it based on a specimen from Sri Lanka. BSA indicates that its presence in Lakshadweep

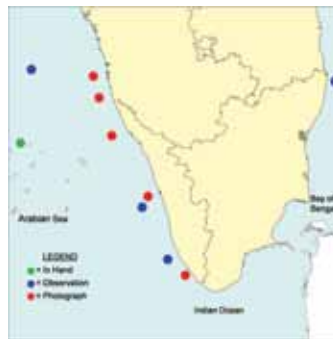


Fig. 2. Swinhoe's Storm Petrel. Map: S. Subramanya.

requires confirmation while the Andaman specimen (Ferrar 1931) of *F. grallaria* is possibly this species; Bailey *et al.* (1968) summarise all Indian Ocean records. Of late, there have been several records (Fig. 2; Table 5), including photographs, from the south-western coast of India (Vivek Chandran *et al.* 2011; Karuthedathu *et al.* 2013b; Praveen *et al.* 2013); the species is, therefore,

admitted to the India Checklist.

Cape Petrel *Daption capense* (Linnaeus, 1758): Included in Hbk and BSA on the basis of a single specimen from Hume's collection, collected before 1870, and now in BMNH. ["... through Mr. H. R. P. Carter, Deputy Chief Engineer of the Madras Railway, I received a specimen from Mr. Theobald, killed in the Gulf of Mannar between Ceylon and the mainland..." (Hume 1870).] Given the very narrow stretch of sea waters that separate Sri Lanka from India, we imply that this record is common to both the countries and hence should be included in the India Checklist. BSA also mentions one other report from Sri Lanka; it was probably Layard's from November 1866 at c. 03°N, south of Sri Lanka (Legge 1983; Robertson 1995). The species is considered a vagrant in the northern Indian Ocean (north of the equator), and it is most likely to be the nominate race for which the nearest breeding grounds are the sub-Antarctic islands south of Indian Ocean.

Trindade Petrel *Pterodroma arminjoniana* (Giglioli & Salvadori, 1869): Not in Hbk but considered hypothetical in BSA based on a, 'recent unpublished report.' Kazmierczak (2000) indicates that the first record for the Indian Subcontinent was of a, "...storm-blown bird found in South India in 1996, unpublished at the time of writing." This may also be the BSA's source. However, this record was never published and the same could not be tracked as the purported photo and the email are not traceable (Krys Kazmierczak *pers. comm.*, August 2012). It is often thought to comprise two species *P. arminjoniana* ('Trindade Petrel') and *P. heraldica* ('Herald Petrel'); long considered to be strictly allopatric, a recent study on intergrades from Round Island, Mauritius has established extensive hybridization among the *Pterodroma* petrels in the island despite significant genetic divergences between the taxa (Brown *et al.* 2011). We follow Dickinson & Remsen (2013) in treating these two forms as conspecific given the degree of hybridization and uncertain taxonomy. In

Table 5. Swinhoe's Storm-petrel records				
Date	Location	Coordinates	Remarks	Reference
10 June 1923	c. 200 km SW. of Kanyakumari	07°00'N, 76°00'E	One bird reported but see under Matsudaira's Storm-petrel. Location too coarse	Bourne (1999); Bailey <i>et al.</i> (1968)
24 December 1930 (?)	Port Blair, Andamans	11°37'N, 92°45'E	A bird took refuge during SE winds at night and was identified as <i>F. grallaria</i> but the description matches this species, "...it has no white markings whatsoever, barring the extreme bases of certain feathers being white."	Ferrar (1931); Bailey <i>et al.</i> (1968)
8 October 1960	c. 130 km S-SW. of Kanyakumari	07°00'N, 77°00'E	6 birds reported. Location too coarse but likely this species based on recent observations during the same month	Bourne (1965); Bailey <i>et al.</i> (1968)
6 May 1962	c. 80 km W. of Kayankulam, Kerala	09°07'N, 75°39'E	3 dark storm petrels, similar in size to <i>O. leucorhoa</i> , probably this species	Bailey <i>et al.</i> (1968)
20 October 1963	Between Chetlat and Bitra, Lakshadweep	11°40'N, 72°25'E	Caught on a ship, well-described, released with a band	Mathew & Ambedkar (1964a, b)
20 May 1964	c. 30 km W-SW. of Kalpeni, Lakshadweep	09°58'N, 73°22'E	1 probable	Bailey <i>et al.</i> (1968)
14 March 1965	c. 40 km N-NE. of Kavaratti, Lakshadweep	10°53'N, 72°45'E	50–60 small all dark storm petrels most likely this species	Bailey <i>et al.</i> (1968)
15 March 1965	c. 200 km W. of Bhatkal, Karnataka	13°32'N, 72°44'E	One positive, 35 other dark-rumped storm petrels, probably this species	Pocklington (1967); Bailey <i>et al.</i> (1968)
January–April 1987	Islands in Lakshadweep viz., Agatti, Bangram, Tinnakara-Parli, Bitra, & Kadmat	NA	Small numbers – more details unavailable but could have been this species. Coordinates too coarse for listing	Mohan (1989)
31 July 2011	c. 40 km W. of Chettuva, Chavakkad, Kerala	10°25'N, 75°44'E	1 bird photographed along with Wilson's Storm-petrel	Vivek Chandran <i>et al.</i> (2011)
24–25 September 2011	Between c. 22–90 km W. of Azheekkal estuary, Kannur	11°54'N, 74°48'E	4 single bird sightings on first day and 5 on second—some of them photographed. Coordinates taken as a median of extreme points	Karuthedathu <i>et al.</i> (2013b)
15–16 October 2011	Between c. 9–70 km W. of Udupi coast, Karnataka	13°22'N, 74°20'E	29 on each day—several photographed. Largest flock till date (6 birds) recorded during this trip. Coordinates taken as a median of extreme points	Karuthedathu <i>et al.</i> (2013b)
3 March 2012	40 km W. of Mangalore coast, Karnataka	12°51'N, 74°29'E	1 bird photographed	Shivashankar (2012)
30 September 2012	Between 20–50 km W. of Neendakara, Kollam, Kerala	08°54'N, 76°15'E	5 single bird sightings	Praveen (2012)
1 October 2012	c. 10 km W. between Neendakara & Vizhinjam, Kerala	08°30'N, 76°42'E	67 birds recorded, several photographed. Coordinates taken as a median of extreme points.	Praveen (2012); Praveen <i>et al.</i> (2013)
28 April 2013	Around 60 km W. off Kochi, Kerala.	10°10'N, 75°60'E	3 sightings (6 birds) observed	Kartha (2013)
Undated	Andamans Is. Precise location unknown.	NA	A bird in hand identified as probably this species from photographs by Mr. Jijo	Raju Kasambe, <i>pers. comm.</i> , February 2012
3 August 2013	c. 30 km NE. of Chennai	13°14'N, 80°29'E	One bird photographed	Manivannan & Mohan 2013; see elsewhere in this issue

the absence of any published evidence or documentation, this species is not considered for the India Checklist.

Barau's Petrel *Pterodroma barau* (Jouanin, 1964): Not in Hbk. BSA states, "Summer visitor (probably regular) off SW coasts. No regional specimens traced. Scarce (or overlooked)..."

There seem to be no published records from the south-western coast of India, nor are there any records in the RNBWS database. Robertson (1995) lists 14 records from Sri Lankan waters and the northern Indian Ocean including two well-documented independent sightings from the Nine Degree Channel between Maldives and Lakshadweep on 27 June 1985 by the Dutch research ship *Tyro* (van den Berg *et al.* 1991). However, the coordinates of these two records (08°58'N, 73°15'E and 09°02'N, 73°01'E), as given in the original reference (*ibid.*) indicate that these spots are well within Lakshadweep, between Kavaratti and Minicoy Islands. In total, 21 Barau's Petrels were recorded by the survey during June–July in 1984 and 1985, roughly between 63°E in the Arabian Sea and 100°30'E off south-western Sumatra; besides, there were also records from north of the equator, as far as 11°N (van den Berg *et al.* 1991). Though there exist no photographs of the birds seen in Indian waters (Chris Smeenk, *pers. comm.*, July 2013), this species was photographed at several other points in northern Indian Ocean in the same voyage. Since there appears to be no reason to doubt the veracity of the Lakshadweep records, we include the species in the India Checklist. It is likely that this bird has been overlooked in Indian waters as forays into the deep sea during summer are

normally hampered by strong monsoon winds and rough seas.

Soft-plumaged Petrel *Pterodroma mollis* (Gould 1844): Not in Hbk. BSA considers it hypothetical. The only report from South Asia is of a bird seen on four occasions during 7–10 September 1988 from Wellawatte beach, Colombo (06°51'N, 79°51'E), Sri Lanka (De Silva 1989, 2011; Gretton 1990). Since the species is known to winter in temperate waters of the Indian and Atlantic Oceans (Dickinson & Remsen 2013), and there is only one other record from the northern Indian Ocean (Shirihai 1999), its report from South Asian waters needs confirmation (Robertson 1995). The record is also being treated with considerable doubt by the Ceylon Bird Club Rarities & Records Committee (Ceylon Bird Club 2013); hence, the species is not included in the India Checklist.

White-headed Petrel *Pterodroma lessonii* (Garnot, 1826): Not in Hbk. BSA considers it hypothetical. The only report from South Asia is of a bird seen on three occasions (probably the same bird) on 1 September 1990 from Wellawatte beach, Colombo (06°51'N, 79°51'E), Sri Lanka (De Silva 1992, 2011). Robertson (1995) treats the identification as tentative and its presence in the northern Indian Ocean and South Asian waters requires confirmation, given its affinity to temperate and sub-Antarctic waters in winter (Dickinson & Remsen 2013). The record is also being treated with considerable doubt by the Ceylon Bird Club Rarities & Records Committee (CBCRRC; Ceylon Bird Club 2013); hence, the species is not included in the India Checklist.

Wedge-tailed Shearwater *Ardenna pacifica* (J.F. Gmelin, 1789): As per Hbk, all records are from Sri Lanka and the

Maldives, and the bird is considered a regular summer visitor to coastal Sri Lanka. BSA adds that it breeds in, "Chagos and present in adjacent waters year-round; regular migrant spring through fall in Maldives and around Sri Lanka, and reported Lakshadweep (May). Also reported off WC Indian coast (Jan). Fairly common." Curiously, these accounts, implying good numbers of the species in South Asian waters west and south-west of the mainland, are in stark contrast to some of the authentic survey reports on pelagic birds of the region (e.g. Bourne 1960; Bailey 1966; van den Berg 1991; Robertson 1995) though it is considered common in the Indian Ocean between south-eastern Sri Lanka and Sumatra. Pre-1955 records could also comprise misidentified Jouanin's Petrel (van den Berg 1991), while some of the records of dark morph birds could refer to the commoner Flesh-footed Shearwater *A. carneipes*. Notably, BSA does not consider the pale morph birds to occur in the northern Indian Ocean though there are three sight reports from Goa (Lainer 2004a, b); it is not clear if these pale birds were Streaked Shearwater *Calonectris leucomelas*. There are three reports from the seas of Kerala in the RNBWS database, of which two are considered likely (Praveen 2011). Its inclusion into the Lakshadweep checklist is based on two records, one historical and another recent (Kurup & Zacharias 1995) but both records are probably of Flesh-footed Shearwaters. However, it has been photographed conclusively off the Kannur coast in May 2011 and its entry into the India Checklist is based on the same, as other records (Table 6) do not stand scrutiny.

Short-tailed Shearwater *Ardenna tenuirostris* (Temminck, 1836): Hbk and BSA include it for the region based on May specimen from south-eastern Pakistan and south-western Sri Lanka. The Pakistan specimen was taken in 1889 near Ormana, Mekran coast, Balochistan (Cumming 1899; misidentified as *A. pacifica*) and the Sri Lanka specimen in 1949 from the southern coast of Sri Lanka (Phillips 1951). Apparently both cases had birds that were 'wrecked on the beach at the

time of the northward migration in May. A clear example of movement north from the Southern Ocean into the wrong ocean,' (Bourne 1967; Robertson 1995). There are recent sight records from Sri Lanka (Karunaratne *et al.* 1994), and the Maldives, from November 2003 (Anderson 2007). Two recent reports of occurrences in northern Bay of Bengal exist, with photographic proof: one from Bangladesh in April 2008 (Thompson *et al.* 2013; see elsewhere in this issue), and the other from the mouth of the Ganges River, West Bengal, in April 2013 (Giri *et al.* 2013; see elsewhere in this issue). Apparently, it is considered a regular west-east spring passage migrant across the Straits of Singapore, and is being recorded with increasing frequency from the western coasts of Thailand and northern Malaysia (Frith 1978; Poole 2011). This species is included in the India Checklist based on the photographic record from West Bengal.

Sooty Shearwater *Ardenna grisea* (J. F. Gmelin, 1789): Not included in Hbk. Hypothetical in BSA based on a recent unconfirmed sighting in November from northern Sri Lanka—perhaps referring to the sighting of 15 birds off the Trincomalee coast in October–November 1974, (Sinclair 1978; De Silva 1990). The CBCRRC has accepted this record and includes the species in the country checklist (Ceylon Bird Club 2013), despite possibility of confusion with other dark shearwaters of the region. Robertson (1995) calls for further records for verification though he does not doubt the identification and Sinclair's (1978) description, "...size, colour, mode of flight and silvery wing linings allowed positive identification," is hardly convincing. We believe that the birds could probably have been the commoner Flesh-footed- or Wedge-tailed- Shearwaters, as pointed out by Colston & Gallagher (1983). A more recent report off the south-western coast of Colombo, Sri Lanka in October 2007 (Pepper & Hettige 2008) is also wanting in details for an independent assessment. Hence, the stand of BSA as hypothetical for the region is valid and the species is not included in the India Checklist.

Table 6: Wedge-tailed Shearwater records

Date	Location	Coordinates	Remarks	Reference
February 1938	Between Malabar coast and Lakshadweep	NA	Attributed to this species by elimination of <i>P. bailloni persicus</i> . "During the passage from the Malabar coast, I encountered several shearwaters, all solitary ... All these had dark underparts and so could not have been <i>P. persicus</i> ." But, these birds could well have been <i>A. carneipes</i> which is missing a mention	Betts (1939)
19 March 1969	c. 290 km E. of Cuttack, Odisha	18°30'N, 87°45'E	Three birds recorded with no further details on identification—the only report from east coast	Bourne & Dixon (1975)
16-17 August 1972	55 km west of Chertala, Kerala	09°45'N, 75°45'E	A report of a 'many,' is questionable vis-à-vis the common <i>A. carneipes</i>	Bourne & Dixon (1975); Praveen (2011)
27 July 1973	c. 160 km SW. of Thiruvananthapuram coast	07°33'N, 75°32'E	51 birds (wrongly stated as 2 in Praveen 2011) reported.	Bourne (1984); Praveen (2011)
5 June 1977	Same as above	07°33'N, 75°32'E	Another group reported from the same location (07°30'N, 75°30'E in the RNBWS database). The two reports from same locality during similar time of the year should substantiate each other	Bourne (1984); Praveen (2011)
20 January 1984	c. 200 km W. of Goa	15°00'N, 72°00'E	Observation. Location very coarse	Chapman (1985); Robertson (1995); Prasad (2004)
April 1988	Lakshadweep	NA	Listed with no further details—while <i>A. carneipes</i> is not listed.	Daniels (1992)
20 September 1998	Anjuna, Goa	15°34'N, 73°44'E	A pale morph bird seen about one km off the coast.	Lainer (2004a, b)
21 September 1998	Anjuna, Goa	15°34'N, 73°44'E	Single birds observed; two pale morph and one dark morph seen between 300 and 1000 m from the coast, travelling south.	Lainer (2004a, b)
5 October 1998				
12 July 2001				
16 August 2001				
7–12 September 2006	Puducherry	11°52'N 79°49'E	Presumed to be this species due to absence of pale morph birds. More likely <i>A. carneipes</i> not eliminated	Madsen (2007)
28 May 2011	c. 30 km W. of Kannur	11°51'N, 74°59'E	A single bird photographed and identification conclusive	Praveen <i>et al.</i> (2011)

Streaked Shearwater *Calonectris leucomelas* (Temminck, 1836): Hbk includes this based on a specimen from Sri Lanka taken in 1884. BSA's comment, "...Visitor (Sep–Jun), evidently

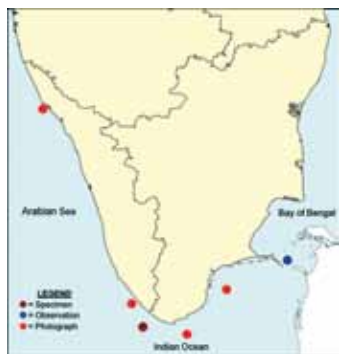


Fig. 3. Streaked Shearwater. Map: S. Subramanya.

regular off coasts of Sri Lanka and extreme S. India. Scarce ..." is probably based on Robertson (1995) who lists six regional records. Karuthedathu *et al.* (2013a) list eight South Asian records of which four are from Indian waters; since then two more sightings have been reported on email discussion groups. Except two records, most regional records for South Asia are during September–February, falling well within its north Pacific non-breeding season (Karuthedathu *et al.* 2013a); six records during September–October indicate an influx during autumn passage. Summer records probably relate to non-breeding over-summering birds. All the records of the species from Indian limits are well-documented (Fig. 3; Table 7). Besides the sub-adult male taken from Indian waters off Cape Comorin (Phillips 1967), the three recent sightings with photo documentation also give support to its inclusion in the India Checklist. We believe that the species is probably under reported from Indian seas as there are very few pelagic surveys conducted in the region.

Tropical Shearwater *Puffinus bailloni* Bonaparte, 1857: A contentious taxon. Conventionally regarded as a subspecies of *P. lherminieri* (Audubon's Shearwater); but found to be specifically distinct in a recent molecular study (Austin *et al.* 2004). However, monophyly of subspecific taxa within *P. bailloni*, *sensu stricto*, is not yet fully resolved; believed to comprise three distinct clades ('*bailloni*', '*persicus*', and '*bannermani*') sometimes elevated as distinct species (e.g. Shirihai *et al.* 1995). We follow Dickinson & Remsen (2013) in treating them as conspecific under



Fig. 4. Tropical Shearwater. Map: S. Subramanya.

P. bailloni. Two races are possible in the Indian Subcontinent: *nicolae* (occasionally synonymised with *dichrous* under the clade '*bailloni*' - e.g., Austin *et al.* 2004), and *persicus*. [Note that BSA treats *nicolae* under *P. lherminieri* but *persicus* as a distinct species.] Taxonomical uncertainty and problems of racial identification in the field mean that the records from the Indian Subcontinent are difficult to appraise and are often inconclusive.

We evaluate, here, both the races independently to assess their status in Indian waters to avoid confusion that may arise during a future split.

Puffinus bailloni nicolae Jouanin, 1971: "Breeds in Maldive Islands...but strangely enough not yet obtained in coastal Ceylon or western India," (Hbk). BSA adds Chagos Archipelago to its breeding grounds and mentions, "...reported from Lakshadweep, where substantiation needed. Possibly vagrant Sri Lanka (this or Persian)." Kurup & Zacharias (1995) and later Pande *et al.* (2007) lists *lherminieri* and quote Ellis (1924) who actually listed *persicus* from Lakshadweep, as a resident species, but without any further information. However, Betts (1938) questions Ellis's birdlist and does not consider it sufficiently authentic. Feare (1984) considers *lherminieri* (= *P. bailloni*) as a questionable breeding species from the isles but the original source of information is unknown. The only other records of *P. bailloni* for Indian waters are published in *Sea Swallow*, but here *persicus* is subsumed under *lherminieri*. First: 40+ seen c. 340km west of Ratnagiri, Maharashtra (17°06'N, 70°00'E) by S. Gorton Green on 8 August 1958, mentioned "as approaching Bombay" (Cheshire 2003; Prasad 2004). It should be noted that the specimens of *persicus* collected from Mumbai were both from July (Prasad 2004) and hence this August record also could be of the same taxon. Second: Bourne & Dixon's (1975) record of one on 4 April 1969, 50km west of Kasargod, Kerala (12°30'N, 74°30'E), indicated as off Mangalore, is most likely *persicus* as the date of observation matches with its spring migration dates in southwestern India (Praveen 2011). The inclusion of *lherminieri* in the Karnataka state bird checklist (Narasimhan 2004) could refer to this same record. Third: one seen on 21 July 1987 c. 87 km south-west of Mincoy Islands (07°42'N, 73°36'E) by Weitkowitz (Bourne 1989); however the location details indicate this was recorded from One and a Half Degree Channel (=Havadhu Kandu / Suvadiva Channel) which is much further south in the Maldives. Proximity of this sighting to the breeding colonies in the Maldives would imply *nicolae* but lack of diagnostic descriptions and confusion on the locality precludes any confirmation. Sighting records of Audubon's Shearwater, as listed in the RNBWS database from the Indian region, may refer to this taxon, though a few are listed under both *lherminieri* (= *nicolae*) and *persicus*.

There are only three sight records from Sri Lanka: from 1982 (De Silva 1990; Robertson 1995), from 1994 (Hoffmann 1996), and more recently, one specifically referring to *bailloni* (Pepper & Hettige 2008) from 6 October 2007. The older records could actually refer to *persicus*. Breeding from the Maldives has been well documented as *nicolae* (= *dichrous*) (Phillips & Sims 1958; Ash & Shafeeg 1995) though earlier authorities believed they were *persicus* (Gadgow & Gardiner 1907). As the bird breeds in close proximity to Indian waters, it is likely to turn up on Indian coasts or Lakshadweep. Field identification is tricky, the colour of the axillaries (white vs brown) being diagnostic. Absence of any substantiated records from Indian waters, therefore, would imply

Table 7. Streaked Shearwater records

Date	Location	Coordinates	Remarks	Reference
6 December 1956	35.5 km W–SW. of Muttum light house, Nagarcoil	08°01'N, 77°00'E	One sub adult male specimen collected by G. N. Grisenthwaite	Phillips (1967)
21 September 1978	Palk Bay between Talaimannar & Rameshwaram	09°13'N, 79°35'E	One bird flushed several times from the ferry between India & Sri Lanka.	van den Berg <i>et al.</i> (1982)
22 June 1984	c. 30 km SE. off Kanyakumari	07°53'N, 77°47'E	One bird photographed	van den Berg <i>et al.</i> (1991)
9 July 2012	9 km NW. of Azheekal estuary, Kannur	11°55'N, 75°12'E	One bird photographed	Karuthedathu <i>et al.</i> (2013a)
1 October 2012	c. 15 km W. of Thiruvananthapuram	08°26'N, 76°48'E	One + four birds. Photographed	Praveen (2012)
21 October 2012	c. 30 km E. of Tuticorin	08°41'N, 78°30'E	One bird photographed	Muthunaryanan (2012); Keshav (2012)

that this taxon is not considered for the India Checklist, though we believe it is very much possible.

Puffinus bailloni persicus Hume, 1872: Included in Hbk and BSA based on two Mumbai specimens. Hbk additionally mentions a record from southern Kerala but its racial identity is unconfirmed. BSA rightly observes that, "...its range is confounded with Audubon's," and sight records or unpreserved specimens (Table 6) evidently require corroboration. However, it has been recently photographed from south-western India (Karuthedathu *et al.* 2013b) and Sri Lanka (De Silva 2011). The presence of two validated specimens and three photographic records allow entry of this species into the India Checklist; all other records (Fig. 4; Table 8) are open to doubt and could refer to *Puffinus bailloni nicolae*.

Mascarene Petrel *Pseudobulweria aterrima* (Bonaparte, 1857): Both Hbk, and BSA include the single record of a live specimen (storm blown?) taken by fishermen from Colaba light house (18°53'N, 72°48'E), Mumbai, 15 June 1940, identified at Colombo Museum by G. M. Henry (Abdulali & Ali 1940). Since the specimen was not traceable for re-examination, Hbk considered the record as tentative. BSA treats the species as hypothetical and adds that it could have been Jouanin's Petrel *Bulweria fallax*, which was not described then (Jouanin 1970; Robertson 1995; Prasad 2004). This 'lost' specimen has been recently traced to the Raffles Museum of Biodiversity Research, National University of Singapore (Morioka & Yang 1996), where it has recently been re-labelled as Jouanin's Petrel *B. fallax*; its identity as Jouanin's has been confirmed from photographs and biometrics (Praveen & Kelvin 2013; see elsewhere in this issue). Hence Mascarene Petrel is deleted from the India Checklist.

Tahiti Petrel *Pseudobulweria rostrata* (Peale, 1848): Neither included in Hbk, nor in BSA. Probably this species, or Atlantic [Schlegel's] Petrel *Pterodroma incerta* was seen c. 75 km south-west of Thiruvananthapuram, Kerala (08°10'N, 76°17'E; described as between Kanyakumari and the Maldives Ridge) on 26 June 1985 (van den Berg *et al.* 1991). The petrel was "rich warm dark brown when swimming," and, "...strikingly contrasting white

lower breast and belly were seen, sharply demarcated from the brown upper breast. It had a fairly long tail," (*ibid.*). More recently, one bird was photographed from Chagos Islands during a pelagic expedition in November–December 2012 (Meeuwig *et al.* 2013). Though this and similar petrels could occur in the northern Indian Ocean (Lambert 2004), the species is not considered for inclusion in the India Checklist in the absence of definite records.

Bulwer's Petrel *Bulweria bulwerii* (Jardine & Selby, 1828): Included in Hbk and BSA based on the specimen collected by W. A. A. Phillips from Addu Atoll, Maldives (Phillips 1959). Sight records, as mentioned by BSA, off southern India and south-western Sri Lanka probably refer to Bourne (1984) who mentioned a sight record by P. W. G. Chilman from 165 km south-west of Kanyakumari (07°11'N, 76°17'E) on 20 August 1973 (also see Robertson 1995). The RNBWS database has erroneously shown the Maldives specimen as from near Lakshadweep, probably a mistake repeated in Kazmierczak (2000); it also lists Chilman's record and another recent sight report by David Ballance on 7 January 2000, 120 km north-east of Minicoy Island (07°30'N, 73°48'E; Bourne 2000). Both these sight records are indicated as "possible" in the RNBWS database and hence cannot be considered definite (Praveen 2011). Following this, we exclude the species from the India Checklist.

Jouanin's Petrel *Bulweria fallax* Jouanin, 1955: Included in Hbk as possible in our region while BSA considers it as a regular visitor to the western coast, stating that all records of Mascarene Petrel, and some of Wedge-tailed Shearwater from the Indian Ocean are of this species (after Bourne 1960; also see van den Berg *et al.* 1991 for clarity of its status in northern Indian Ocean waters). There are at least ten reports (Rahmani 2012) from Indian waters (Table 9) and the specimen, which was collected from Mumbai in 1940 and was earlier misidentified as Mascarene Petrel (see Praveen & Kelvin 2013 for the correction) is probably the first confirmed record of the species from India. Sight records, if not well-documented, are to be treated with caution as the species is easily confused with Wedge-tailed

Table 8. Tropical Shearwater Records

Date	Location	Coordinates	Remarks	Reference
1 July 1885	Alibag, Raigad district, Maharashtra	18°38'N, 72°51'E	1 <i>persicus</i> obtained by W.F.Sinclair now in BNHS Coll.	Keswal (1886), Ali & Abdulali (1939); Abdulali (1968); Prasad (2004)
1903–1904	Veli, Thiruvananthapuram, Kerala	08°30'N, 76°53'E	A specimen brought alive, probably not preserved. As per Hbk, the racial identity (<i>persicus</i> vs <i>nicolae</i>) of this specimen is uncertain	Fergusson & Bourdillon (1904); Ali (1969); Sashikumar <i>et al.</i> (2011)
3 July 1940	Colaba Light house, Mumbai	18°53'N, 72°48'E	One <i>persicus</i> female found alive and now in BNHS Coll. Note, the "one female wing from Bombay" (Prasad 2004), is in fact this entire bird!	Abdulali & Ali (1940); Abdulali (1968); Prasad (2004)
8 August 1958	340 km W. of Ratnagiri, Maharashtra	17°06'N, 70°00'E	About 40+ seen "as approaching Bombay" – reported as <i>P. lherminieri</i> , is probably this species	Cheshire (2003); Prasad (2004)
4 April 1969	50 km W. of Kasargod, Kerala, indicated as off Mangalore, Karnataka	12°30'N, 74°30'E	One recorded as <i>P. lherminieri</i> – very likely this species	Bourne & Dixon (1975); Praveen (2011); Chapman (1984)
7 November 1983	30 km W. of Akari, Kutch, Gujarat	23°23'N, 68°06'E	A small dark shearwater observed, probably <i>persicus</i> . Observer not confident and hence id doubtful	
19 June 1984	Anjuna, Goa	15°34'N, 73°44'E	One bird sailing along the coast towards south – not explicitly differentiated from <i>nicolae</i>	Lainer (2004b)
25 September 2011	Anjuna, Goa	15°34'N, 73°44'E	One bird travelling south at about 250m from the coast – not explicitly differentiated from <i>nicolae</i>	Lainer (2004b)
2 April 2011	c. 8–10 km W. of Mulki, Mangalore, Karnataka	13°01'N, 74°38'E	Two birds of <i>persicus</i> seen, one photographed. Some pictures of this bird wrongly labelled in OBI as <i>P. lherminieri</i>	Shivashankar <i>et al.</i> (2011)
2-3 April 2011	c. 15–30 km W. off Azheekkal, Kannur, Kerala	11°48'N, 75°02'E	About 40 birds of <i>persicus</i> seen on each day, a flock of 23 birds being the largest congregation	Praveen <i>et al.</i> (2011)
4 March 2012	c. 50 km W. off Mangalore, Karnataka	12°37'N, 74°25'E	A hazy photograph of a bird in flight showing the characteristic under wing coverts was identified as <i>persicus</i> .	Shivashankar (2012)
12 July 2013	Kanya kumari	08°04'N, 77°31'E	A sighting – considered <i>persicus</i> based on plumage of underwing	Narayanan (2013)

Table 9: Jouanin's Petrel records

Date	Location	Coordinates	Remarks	Reference
15 June 1940	Colaba Light House, Mumbai	18°53'N, 72°48'E	A specimen secured by fishermen, misidentified as Mascarene Petrel now in Raffles Museum, Singapore	Abdulali & Ali (1940); Praveen & Kelvin (2013)
26 June 1985	50–150 km SW. of Thiruvananthapuram, Kerala	08°14'N, 76°07'E	Nine bird sightings, all singles except one sighting of three birds. Coordinate taken as median of extreme records. Also photographed during the same trip, but from elsewhere, and published, hence these records are considered reliable.	van den Berg <i>et al.</i> (1991)
15 September 1986	190 km S. of Kanyakumari	06°22'N, 77°50'E	Singles. No further information.	Chapman & Cheshire (1987)
1 October 1987	120 km W. of Perumal Par, Lakshadweep	11°24'N, 70°48'E	"...outlying records..." No further information.	Bourne (1989)
April 1988	Lakshadweep	NA	Location unspecified. Details unknown.	Daniels (1992)
13 July 1991	c. 50 km W. of Chavakkad, Kerala	10°30'N, 75°30'E	20 possible specimens (this or <i>B. bulwerii</i>)	Cheshire (1992); Praveen (2011)
23 September 1991	Anjuna, Goa	15°34'N, 73°44'E	342 birds within a span of 90 minutes seen from the coast; diagnostic details unavailable.	Lainer (2004b)
5 February 2008	Bangaram Is., Lakshadweep	10°56'N 72°17'E	One possible sighting.	Prince (2011)
13 February 2008	Between Agatti & Kavaratti, Lakshadweep	10°37'N, 72°22'E	One photographed, very likely this species.	Prince (2011)
July 2009	Marari beach, Alappuzha, Kerala	09°29'N 76°19'E	Photographs of a wind-blown bird recovered, likely this species.	Sashikumar <i>et al.</i> (2011)
24-25 September 2011	80–100 km W. of Azheekkal, Kannur, Kerala	11°49'N, 74°40'E	"About 10" (=13) birds seen and a few photographed conclusively; see Rahmani (2012) for photograph.	Karuthedathu <i>et al.</i> (2013b)
28 July 2013	Dobanki, Sundarbans, West Bengal	22°00'N, 88°45'E	One bird photographed and identified conclusively.	Prasad 2013, see elsewhere in this issue

Shearwater from a distance though the bird is quite likely on the western coast (van den Berg *et al.* 1991). A record cited in Robertson (1995) quotes Sinclair (1979), "W. of Gulf of Kutch"; which is probably not in India but somewhere close to Karachi, Pakistan. There are also two photographic records—one from Lakshadweep and another from Alappuzha in Kerala, but both records demonstrate the challenge in identification of the species from even seemingly conclusive photographs. However, recent photographs of a flock from Kannur in Kerala have been examined and identification confirmed as Jouanin's Petrel while another bird was well photographed from Sundarbans in West Bengal. In view of these photographic documentations and the old specimen record from Mumbai, we include the species in the India Checklist.

Christmas Island Frigatebird *Fregata andrewsi* Mathews, 1914: Hbk concludes that there is no authentic record from the Indian Subcontinent after two specimens—one from Kollam, Kerala (Prater 1929) and another from Sri Lanka, putatively identified as this species, were later reidentified as *F. minor* (Abdulali 1961; Phillips 1953). BSA includes it based on a sight record from Sri Lanka, supported by a sketch in direct comparison with a *F. minor*. A handful of sight records of this species exist from India but they are mostly untenable in the absence of satisfactory documentation. The sight record of a juvenile from the Andamans (Saxena 1994) probably refers to this species but confirmation is desirable as the reported photograph could not be traced. Other regional records include reports from Kerala (Prater 1929; Pillai 1964; Kumar & Kumar 1997), Tamil Nadu (Santharam 1982), and Karnataka (Dwarakanath 1981; Anonymous 1981) but these are largely unsubstantiated and are sometimes misreported Great or Lesser Frigatebirds (Abdulali 1961; Ali 1964; Sashikumar *et al.* 2011). The only reliable, yet unpublished, record is that of an individual recovered at Basirhat (22°38'N, 88°52'E), North 24 Parganas district, West Bengal on 31 May 2006; the specimen is now in the ZSI Kolkata collection, and has been identified as this species from photographs by David James (Sen 2011). A picture purported to be this species from Sri Lanka is available in OBI (Wijeyeratne 2008). Here, we include it in the India Checklist solely based on the Kolkata specimen, though storm-blown birds are very likely to occur in Indian waters, particularly in the Andaman Sea.

Red-footed Booby *Sula sula* (Linnaeus, 1766): Hbk and BSA include this species on the basis of reports from the Bay of Bengal and its breeding in Chagos and Maldives. Jerdon (1864) mentioned that it was occasionally seen in the Bay of Bengal while Blyth described it as "common" (Blyth 1852), and Sundevall (1837–1838) also saw one from the Bengal coast; but strangely enough, there exist no specimens from the Bay of Bengal barring one in BMNH according to Hbk (originally cited in Baker 1929). However, we could not locate any Bay of Bengal specimen in BMNH (Robert Prys-Jones, *pers. comm.*, July 2013) but there is a specimen (#5309) tagged "India" in AMNH with no further details. Blanford (1898) did not accept this species in his Indian list as anecdotal evidences of Jerdon and Sundevall were considered as misidentified Masked Booby *S. dactylatra*. Layard's specimen from the Maldives, identified by Blyth, was also considered unreliable. In the mean time, Hume described a large flock of white boobies seen at Lakshadweep (Hume 1876), but the birds were far away during the entire observation period of one hour, therefore species id considered uncertain (though it was not Masked Booby). Since this species breeds abundantly on the Chagos Islands further south (Symens 1999), it is possible that some birds disperse north but no other observer has recorded it there since Hume. An adult female was recovered alive and photographed from New Digha, West Bengal (21°37'N, 87°29'E) on 11 May 2011 but died later and is believed to have originated from the breeding population of Christmas Island (Karmakar *et al.* 2011). The species is admitted to the India Checklist based on this West Bengal record, though we could not trace provenance of the Bay of Bengal specimen.

Brown Booby *Sula leucogaster* (Boddaert, 1783): Hbk



mentions that it is uncommon in the Bay of Bengal, also in Lakshadweep, and one specimen taken on "Malabar Coast." BSA mentions it is a casual visitor to the western coast and may breed in Lakshadweep. The Bay of Bengal records must have come from Prepara-

Fig. 5. Brown Booby. Map: S. Subramanya.

Table 10. Brown Booby records

Date	Location	Coordinates	Remarks	References
Undated	Malabar Coast	NA	T. C. Jerdon received a specimen whose whereabouts are presently unknown—hence not considered definite	Jerdon (1864); Sashikumar <i>et al.</i> (2011)
10 February 1875	Cherbaniani Is., Lakshadweep	12°20'N, 71°53'E	Sight record by A. O. Hume—could not be shot—likely this species as Hume shot it during the same trip	Hume (1876)
20 February 1875	Perumal Par Is., Lakshadweep	11°09'N, 72°03'E	A female shot by A. O. Hume—now in BMNH	Hume (1876)
1916	Karwar, Uttara Kannada, Karnataka	14°48'N, 74°05'E	A specimen in BNHS collection	Abdulali (1968)
22 August 1987	Mandvi, Kutch, Gujarat	22°49'N, 69°21'E	A bird sitting on a rock and photographed	Varu (1987); Varu (1988); Varu & Bapat (1990)
2 July 1997	Anjuna beach, Goa	15°34'N, 73°44'E	A bird settled just beyond the surf line of the beach	Lainer (1999); Lainer (2004b)
22 November 2012	c. 3 km W. off Nivati, Sindhudurg district, Maharashtra	15°55'N, 73°29'E	Immature photographed on a floating thermocol	Jamalabad (2013)

Coco- Islands, Myanmar, where Hume saw dusky boobies presumably belonging to this species (Hume 1874). Other records from the region are supported well either by specimens or photographs (Fig. 5; Table 10) on the basis of which we include the species in the India Checklist.

Blue-footed Booby *Sula nebouxii* A. Milne-Edwards, 1882: Not in Hbk or BSA. Apparently, a dead bird was obtained from the coast of Gujarat near Mahuva in July 2003, identified as this species at the BNHS and the specimen deposited in its collection (Dave *et al.* 2003; Dhadhal 2003; Dhadhal *et al.* 2004). But on re-examination, it appears to be a juvenile Masked Booby (Rahul Khot *in prep*). Another juvenile, which was recovered from the Mumbai coast in late June 2005 and was initially identified as Blue-footed Booby, was reidentified correctly as Masked Booby from photographs (Prasad 2005). Since the publication of the Gujarat record, there have been at least two other instances (from Kerala and Karnataka) where juvenile Masked Boobies were misidentified as Blue-footed Boobies. The species is typically Neotropical, found along the Pacific coast of South America and associated offshore islands, and therefore highly unlikely to occur in the Oriental region. Birdwatchers should exercise abundant caution in field identification as soft-part colours are always variable in boobies and Masked Booby can also show a bluish tint in its feet.

Long-tailed Jaeger *Stercorarius longicaudus* Vieillot, 1819: Not in Hbk. BSA considers it a possible species. Included in BSA2 on the basis of recent records supported by photographs from the Maldives (Anderson 2007), and additional photographs from Sri Lanka (Wijeyeratne 2010; Rasmussen 2013). The only record from the Indian region was of three birds recorded by D. M. Simpson on 22 February 1987 off Lakshadweep (09°42'N, 72°18'E) described as, "...much more slender than Arctic / Pomarine, more tern-like flight greyer above with white shafts confined to outer webs of primaries. Some white in rump..." (Bourne 1989). This record was not accepted in any of the subsequent regional guides, including BSA. Though this species can potentially occur along the western coast in April during

spring migration, it is not included as yet in the India Checklist for want of definite reports.

South Polar Skua *Stercorarius maccormicki* H. Saunders, 1893: Hbk includes it based on a ringed specimen from Udupi, Karnataka (13°19'N, 74°42'E) collected on 7 August 1964. BSA apparently considers the same specimen as *S. antarcticus lonnbergi* and includes *S. maccormicki* in the South Asia list based on a Sri Lanka specimen (Udayakumara *et al.* 2007). The Udupi bird, a dark morph, was captured with a ring on 7 August 1964 (Editors 1966; Madhyastha 1999; Bhat 2004); it was ringed on 5 March 1961 at the Gonzales Videla base, Antarctic Peninsula (64.49° S, 62.51° W) by the US Antarctic Research Program (USARP) Bird Banding Project (Sladen *et al.* 1968). However, this specimen has been re-examined and its original identification as *S. maccormicki* confirmed from photographs (Praveen *et al.* 2013). Apart from this, a well-documented photographic record of a pair of pale and dark morph birds was made on 1 October 2012, 20 km west of Thiruvananthapuram, Kerala (08°30'N, 76°42'E; Praveen *et al.* 2013). There is also a sight report between Lakshadweep and Kerala in April 1988 (Daniels 1992) but the record is unverifiable in the absence of details on field-characters. More recently, another pale morph was photographed c. 25 km off the Chennai coast in Bay of Bengal on 3 August 2013 (Manivannan & Mohan 2013; see elsewhere in this issue). Based on the Udupi specimen in the BNHS collection and the recent photographs from off the south-western and south-eastern coasts, this species is included in the India Checklist. Identification of dark morph birds at sea is extremely difficult and abundant caution is warranted before they are positively identified.

Brown Skua *Stercorarius antarcticus* (Lesson, 1831): Hbk and BSA include it based on historical specimens, of the race *lonnbergi*, from Ratnagiri (Abdulali 1970) and Thiruvananthapuram (Ali 1969). BSA lists an Udupi specimen which has now been confirmed as a South Polar Skua as originally identified (Praveen *et al.* 2013). The only other definite record is a bird captured and photographed recently from Thiruvananthapuram (Elamon & Kunhikrishnan 2009). All the other records from India are sight

Table 11. Brown Skua records

Date	Location	Coordinates	Remarks	References
20 September 1933	Poojappura, Thiruvananthapuram, Kerala,	08°29'N, 76°58'E	Specimen identified in BMNH as <i>lonnbergi</i> race	Ali (1969)
5 August 1957	Malwan coast, Ratnagiri, Maharashtra	16°03'N, 73°27'E	Specimen in BNHS Coll., identified as <i>lonnbergi</i>	Abdulali (1970)
16–17 August 1972	55 km W. of Cherthala, Kerala, India	09°45'N, 75°45'E	Indicated as 50 miles W. of Kochi—sighting from a ship of two birds—it is either this species or <i>S. maccormicki</i>	Bourne & Dixon (1975); Praveen (2011)
30 January 2007	1 km W. of Kannur, Kerala, India	11°51'N, 75°20'E	Sighting from boat and identified as this species—could have been <i>S. maccormicki</i> also	Sashikumar <i>et al.</i> (2011)
4 Jul 2007	Sanghumukham, Thiruvananthapuram, Kerala, India	08°28'N, 76°54'E	A captured bird photographed and identified as this species from photographs by experts—race unknown	Elamon & Kunhikrishnan (2009)

Table 12. Summary of decisions

Species	Status
Red-tailed Tropicbird	Included
White-tailed Tropicbird	Included
White-faced Storm-petrel	Included
White-bellied Storm-petrel	Excluded
Black-bellied Storm-petrel	Included
Band-rumped Storm-petrel	Excluded
Matsudaira's Storm-petrel	Excluded
Leach's Storm-petrel	Excluded
Swinhoe's Storm-petrel	Included
Cape Petrel	Included
Trindade Petrel	Excluded
Barau's Petrel	Included
Soft-plumaged Petrel	Excluded
White-headed Petrel	Excluded
Wedge-tailed Shearwater	Included
Short-tailed Shearwater	Included
Sooty Shearwater	Excluded
Streaked Shearwater	Included
Tropical Shearwater	Included
Mascarene Petrel	Excluded
Tahiti Petrel	Excluded
Bulwer's Petrel	Excluded
Jouanin's Petrel	Included
Christmas Island Frigatebird	Included
Red-footed Booby	Included
Brown Booby	Included
Blue-footed Booby	Excluded
Long-tailed Jaeger	Excluded
South Polar Skua	Included
Brown Skua	Included

reports which are extremely difficult to evaluate (see Table 11). This species is included in the India Checklist on the basis of the two old specimens and recent photographic reports.

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