Status of breeding birds on the Red Sea Islands of Egypt, 2012 to 2021

Mohamed Ibrahim Habib

The northern Egyptian Red Sea supports a number of bird species either rare or not found elsewhere in the Western Palearctic and is thus considered an area of ornithological importance. I present the results of a survey of the northern Red Sea Islands up to Rocky Island southeast of the Egyptian border between 2012 and 2021. The aim was to assess the status of breeding seabirds in the Egyptian Red Sea, to highlight threats and to identify conservation management options. Species observed were Brown Booby *Sula leucogaster*, Eurasian Spoonbill *Platalea leucorodia*, Sooty Gull *Larus hemprichii*, White-eyed Gull *L. leucophthalmus*, Caspian Tern *Hydroprogne caspia*, White-cheeked Tern *Sterna repressa*, Lesser Crested Tern *Thalasseus bengalensis*, Greater Crested Tern *T. bergii*, Bridled Tern *Onychoprion anaethetus*, and Saunders's Tern *Sternula saundersi*. Freedom from human disturbance and good food availability are probably the most important factors influencing the distribution of breeding seabirds in the Egyptian Red Sea. Most species were breeding in spring or summer, but two bred in winter. Summer is a particularly stressful period for nesting birds due to the extreme temperatures. Threats to seabirds include oil spills from rigs, and bilge water contaminated from vessels. Also, tourists and fishermen landing on islands cause birds to desert nests. To protect nesting birds, tourists and fishermen should be prohibited from landing on islands during the breeding season.

Seabirds are among the most threatened bird groups and face a wide variety of threats, both on land and at sea. On land, threats include high pressure from coastal developments, affecting the availability and quality of breeding and wintering habitats, and predation at colonies from native and invasive species. At sea, the main threats include interactions with fisheries (bycatch), the lack of prey caused by depletion of fish stocks, acute and chronic pollution (oil spills, chemical discharges etc), marine litter, and disturbance by maritime traffic (Croxall et al. 2012). On the positive side, several gull populations have increased considerably in Australia, Europe and North America, probably as a result of an increase in food availability derived from human activities (Blokpoel and Spaans 1991). Inventories of seabirds breeding on the Egyptian Red Sea islands were presented by Jennings et al. (1985) and Goodman and Storer (1987). In addition, Frazier et al. (1984) presented observations along the Egyptian Red Sea coast during spring 1982, with notes on breeding and migratory species. More recently, Hoath et al. (1997) discussed the breeding birds on islands in the Gulf of Suez. Grieve and Millington (1999) produced a report on the northern Red Sea islands, representing the most comprehensive survey of breeding seabirds in this area since Jennings et al. (1985). The aim of the studies summarised in this ar-

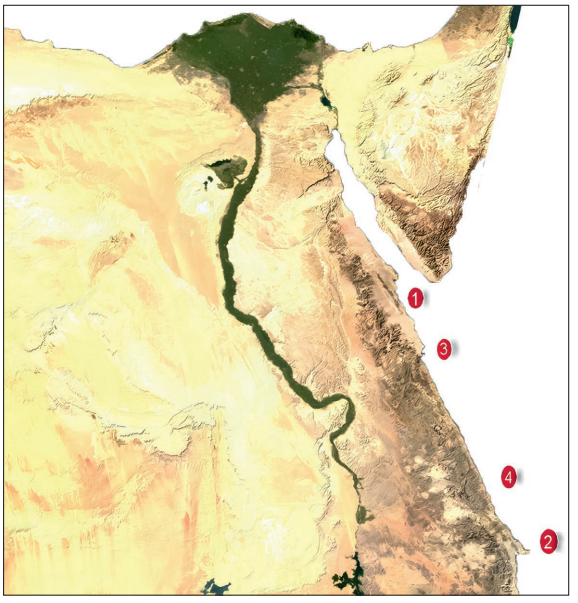

Figure 1. Archipelagos and islands in the Red Sea, Egypt, visited during seabird surveys in 2012–2021: 1 = Ashrafi archipelago, 2 = Zabargad island, 3 = Hurghada archipelago, 4 = Sayal archipelago.
Archipele und Inseln im Roten Meer, Ägypten, die während der Seevogel-Erhebungen 2012–2021 besucht wurden: 1 = Ashrafi-Archipel, 2 = Insel Zabargad, 3 = Hurghada-Archipel, 4 = Sayal-Archipel.

ticle was to survey all islands located in Egypt's Red Sea governorate for breeding seabirds, especially the islands not included in previous studies, for example Zabargad and Rocky Island.

1. Methods

I undertook surveys on the Red Sea coast and islands of Egypt from 2012 to 2021, from January to late December each year, to assess the status of breeding seabirds. The following archipelagos and islands were visited (from north to south): Ashrafi archipelago, Hurghada archipelago, Sayal archipelago, and Zabargad island (Fig. 1). Visits to the various parts of each colony were kept short, usually 5–15 min. Counts were done using the total count method (Bibby et al. 2007). Nest counts were also made, by counting nests that were or are occupied (Bibby et al. 2007). The total number of nests at a given site was the summed numbers of occupied nests and of unoccupied nests that appeared to have been used during the current breeding season (Bibby et al. 2007). Most behavioral observations were made using binoculars and a telescope, using the best vantage points available.

2. Results

Table 1 shows the numbers of species recorded per island. The White-eyed Gull showed the highest occurrence and was found on 44% of islands, followed by the Sooty Gull with 31% of islands.

Table 1. Overview of the species recorded on the individual islands.
Übersicht über die auf den einzelnen Inseln erfassten Arten.

No.	Island	Sooty Gull	Caspian Tern	White-eyed Gull	White-cheeked Tern	Lesser Crested Tern	Greater Crested Tern	Bridled Tern	Saunders's Tern	Number of species per island
1	Asharafi Island	×	×		×			×		4
2	El Hamra Island	×		×		×	×			4
3	Lahmi Azure resort (close island)	×								1
4	Mahabis Island	×								1
5	Shawareet Island	×								1
6	Big Gifton Island		×							1
7	Wadi El gemal Island		×	×	×					3
8	Hamata islands		×							1
9	Tawila Island			×						1
10	Umm El Humate Island			×						1
11	Gysom Island			×						1
12	Big Magawish Island			×	×	×	×	×	×	6
13	Zabargad Island			×						1
14	Gubal islands				×					1
15	Siyal Island							×		1
16	Ras Matarma								×	1
	Total no. of islands with occurrence	5	4	7	4	2	2	3	2	
	% of islands with occurrence	31	25	44	25	12	12	19	12	

3. Species accounts

3.1. Brown Booby *Sula leucogaster*

In the Egyptian Red Sea, the Brown Booby (Fig. 2) is a scarce breeding resident on islands. It is observed with some regularity in the Gulf of Aqaba, but rarely in the Gulf of Suez. The subspecies in Egypt is *S. l. plotus* (Cramp and Simmons 1977, Goodman and Meininger 1989). Previously, the species was found breeding on Ashrafi (seven breeding pairs in spring 1983), on Geisum (46 pairs in spring 1983 and 18 chicks in autumn 1984), and on Umm El Heimat (three pairs in spring 1983 and one chick in autumn 1984; Frazier et al. 1984, Jennings et al. 1985). Before 1999, the species was a regular breeder on Geisum and Umm El Heimat (Grieve and Millington 1999). During my surveys in 2012–2021, the Brown Booby bred mainly on two islands, Ashrafi in the north and Zabargad in the south. The distance between the two populations is more than 400 km. The species no longer breeds at Geisum and Umm El Heimat, due to disturbances by tourists and kite-surfing safari boats. Ashrafi and Zabargad islands are situated far from touristic activity. Table 2 summarizes the results of the counts; see also Habib (2019).

Table 2. Number of nests and individuals of the Brown Booby on Red Sea islands during surveys in 2012–2021.
Anzahl Nester und Individuen des Weissbauchtölpels auf Inseln im Roten Meer während der Erhebungen 2012–2021.

Location	Date	Occupied nests	Nests with two eggs	Nests with one egg	Inactive nests	Adults	First-summers	Fledglings	Chicks
Zabargad Island	April 2014	18	14	4	22	16	0	2	0
	August 2014	0	0	0	0	0	1	4	1
Ashrafi island	June 2012	2	0	2	8	23	0	0	2
	June 2013	0	0	0	0	35	0	1	14
	June 2014	1	0	1	0	17	0	3	14
Sayal island	June 2013	0	0	0	0	1	0	1	0
Abu Mingar	July 2014	0	0	0	0	1	0	1	0

Figure 2. Brown Booby *Sula leucogaster* with juvenile. Red Sea, Egypt, 2016. Photo Mohamed Habib.
Weissbauchtölpel Sula leucogaster mit Jungvogel. Rotes Meer, Ägypten.

Figure 3. Sooty Gulls *Larus hemprichii*. Red Sea, Egypt, 2018. Photo Mohamed Habib.
Hemprichmöwen Larus hemprichii. Rotes Meer, Ägypten.

3.2. Sooty Gull *Larus hemprichii*

The Sooty Gull (Fig. 3) breeds exclusively on islands. It is endemic to the north-western Indian Ocean and breeding is confined to the east coast of Africa, the Red Sea, the Arabian Gulf, and the Gulf of Oman to the south of Pakistan (del Hoyo et al. 1996). This species has a very large range, and hence does not reach the thresholds for the IUCN status «Vulnerable» under the range-size criterion. Despite the fact that the total population appears to be decreasing, the decline is not believed to be as rapid to reach the thresholds for «Vulnerable» under the population-trend criterion either. For these reasons, the species is evaluated as Least Concern (BirdLife International 2022a). According to the survey by Goodman and Storer 1987, Gezira Wadi Gemal seemed to be the only island in the Egyptian Red Sea where Sooty Gull breeds. However, in my survey I found Sooty Gulls breeding at other islands as well (Table 3), with 30 juveniles observed on 10 October 2016 (Habib 2022).

3.3. White-eyed Gull *Larus leucophthalmus*

The White-eyed Gull (Fig. 4) is categorized as «Least Concern» on the IUCN Red List (BirdLife International 2022b). It is expected to experience a moderate population decline in the next three generations (about 30 years) owing to a number of threats including introduced predators, oil-spills, harvest of eggs and chicks, and disturbance. If the population is found to be declining more rapidly, the species might enter a higher threat category. The total of 2686 nests counted during the surveys, representing about 8000 individuals, means that Egypt hosts almost 30% of the world population during the breeding season. These birds should therefore receive protection from threats such as disturbance from tourists. Further, fishermen may collect eggs, due to the belief that the content increases the libido. Also, the species is a surface feeder year-round and is therefore vulnerable to oil pollution and entanglement in fishing lines or ropes. In order to safeguard the colonies, signs should be posted to keep people out of the area during the breeding season. Tables 4 and 5 summarize the results of counts in 2018 and in 2012–2015 (Habib 2017).

Table 3. Number of nests and individuals of the Sooty Gull on Red Sea islands during surveys in 2012–2018.
Anzahl Nester und Individuen der Hemprichmöwe auf Inseln im Roten Meer während der Erhebungen 2012–2018.

Location	Date	Occupied nests	Nests with three eggs	Nests with one egg	Inactive nests	Adults	First-summers	Fledglings	Chicks
Ashrafi Island South	June 2013	3	2	1	12	30	0	0	0
El Hamra Island	June 2013	1	0	1	2	6	0	0	0
Lahmi Azure resorts (close island)	July 2018	0	0	0	0	20	0	0	0
Mahabis Island	July 2016	10	8	2	0	20	0	0	0
Shawareet Island	July 2016	5	4	1	0	10	0	0	0

Table 4. Number of nests and individuals of the White-eyed Gull on Red Sea islands during surveys in 2018.
Anzahl Nester und Individuen der Weissaugenmöwe auf Inseln im Roten Meer während der Erhebungen 2018.

Location	Date	Occupied nests	Nests with two eggs	Nests with one egg	Inactive nests	Adults	First-summers	Fledglings	Chicks
Tawila Island	May 2018	200	120	80	0	420	0	0	40
Umm El Humate island	May 2018	10	8	2	0	22	0	0	4
El Hamra Island	May 2018	20	15	5	0	44	0	0	8
Gysom Island	May 2018	120	100	20	0	260	0	0	30
Big Magawish Island	May 2018	2020	1850	170	0	2400	0	40	600
Wadi El Gamal Island	May 2018	276	200	76	0	600	0	20	120
Zabargad Island	May 2018	40	30	10	0	1	100	4	12

Figure 4. White-eyed Gull *Larus leucophthalmus*. Red Sea, Egypt, 2020. Photo Mohamed Habib.
Weissaugenmöwe Larus leucophthalmus. Rotes Meer, Ägypten.

Table 5. Number of breeding pairs of White-eyed Gull on Red Sea islands in 2012–2015 (Habib 2017).
Anzahl Brutpaare der Weissaugenmöwe auf Inseln im Roten Meer 2012–2017 (Habib 2017).

Location	2012	2013	2014	2015
Tawila	0	200	0	0
Umm El Humate	0	10	0	0
El Hamra	0	20	0	0
Gysom	270	120	0	0
Umm Gawish	1750	1850	1880	1450
Wadi El Gamal	0	0	276	0
Zabargad	0	0	40	0
Tiran & Sanafir	0	0	0	50

3.4. Caspian Tern *Hydroprogne caspia*

The breeding period of the Caspian Tern (Fig. 5) starts in December. A total of 60 breeding pairs were observed on the sandy islands visited during this survey. Breeding occurred on Ashrafi, Big Gifton, Wadi El Gemal, and Hamata archipelago in July 2018 (Table 6). Recently, hatched chicks and nests with eggs were observed on 15 January 2013, and fledged chicks fed by an adult were seen in the third week of February. Also, fledged chicks were seen feeding in mid-July 2013.

Table 6. Number of nests and individuals of the Caspian Tern on Red Sea islands during surveys in 2018.
Anzahl Nester und Individuen der Raubseeschwalbe auf Inseln im Roten Meer während der Erhebungen 2018.

Location	Date	Occupied nests	Nests with two eggs	Nests with one egg	Inactive nests	Adults	First-summers	Fledglings	Chicks
Ashrafi Islands	July 2018	30	20	10	0	60	0	0	5
Big Gifton Island	July 2018	20	15	5	0	40	0	0	2
Wadi El gemal Island	July 2018	10	6	4	0	20	0	0	1
Hamata islands	July 2018	15	10	5	0	30	0	0	2

Table 7. Number of nests and individuals of the White-cheeked Tern on Red Sea islands during surveys in 2018.
Anzahl Nester und Individuen der Weisswangen-Seeschwalbe auf Inseln im Roten Meer während der Erhebungen 2018.

Location	Date	Occupied nests	Nests with two eggs	Nests with one egg	Inactive nests	Adults	First-summers	Fledglings	Chicks
Big Magawish Island	July 2018	140	100	40	0	300	0	2	80
Ashrafi Islands	July 2018	250	200	50	0	550	0	0	280
Gubal Islands	July 2018	40	40	0	0	105	0	0	0
Wadi El Gemal Islands	July 2018	80	70	10	0	170	0	0	35

3.5. White-cheeked Tern *Sterna repressa*

The species was observed nesting in July 2018 on the four sandy islands that we surveyed: Big Magawish, Ashrafi, Wadi El Gemal and Gubal (Table 7).

3.6. Lesser Crested Tern *Thalasseus bengalensis*

Nests of the Lesser Crested Tern (Fig. 6) were found in dense colonies on four open sandy islands in July 2018. The largest colonies were found on El Hamara Island in two colonies (total of 1650 pairs), on Big Magawish (350 pairs), Wadi El Gemal (250 pairs) and Rocky Island (350 pairs; Table 8).

Figure 5. Caspian Terns *Hydroprogne caspia*. Red Sea, Egypt, 2020. Photo Mohamed Habib.
Raubseeschwalben Hydroprogne caspia. Rotes Meer, Ägypten.

Figure 6. Lesser Crested Tern *Thalasseus bengalensis* brooding chick. Red Sea, Egypt, 2017. Photo Mohamed Habib.
Rüppellseeschwalbe Thalasseus bengalensis mit Küken. Rotes Meer, Ägypten.

Table 8. Number of nests and individuals of the Lesser Crested Tern on Red Sea islands during surveys in 2018.
Anzahl Nester und Individuen der Rüppellseeschwalbe auf Inseln im Roten Meer während der Erhebungen 2018.

Location	Date	Occupied nests	Nests with two eggs	Nests with one egg	Inactive nests	Adults	First-summers	Fledglings	Chicks
El Hamra islands	July 2018	1650	0	1650	0	3400	0	0	0
Big Magawish Island	July 2018	350	0	350	0	740	0	0	0
Wadi El gemal Island	July 2018	250	0	250	0	520	0	0	0
Rocky Island	July 2018	350	0	350	0	730	0	0	0

Table 9. Number of nests and individuals of the Greater Crested Tern on Red Sea islands during surveys in 2018.
Anzahl Nester und Individuen der Eilseeschwalbe auf Inseln im Roten Meer während der Erhebungen 2018.

Location	Date	Occupied nests	Nests with two eggs	Nests with one egg	Inactive nests	Adults	First-summers	Fledglings	Chicks
El Hamra islands	July 2018	40	0	40	0	100	0	0	0
Big Magawish Island	July 2018	6	0	6	0	16	0	0	0

Figure 7. Greater Crested Tern *Thalasseus bergii* with chick. Red Sea, Egypt, 2018. Photo Mohamed Habib.
Eilseeschwalbe Thalasseus bergii mit Jungvogel. Rotes Meer, Ägypten.

Figure 8. Bridled Terns *Onychoprion anaethetus*. Red Sea, Egypt, 2014. Photo Mohamed Habib.
Zügelseeschwalben Onychoprion anaethetus. Rotes Meer, Ägypten.

3.7. Greater Crested Tern *Thalasseus bergii*

Courtship behaviour, breeding and Greater Crested Terns (Fig. 7) carrying food were observed on two islands, El Hamra and Big Magawish, both in July 2018 (Table 9). They nested in the southern part of the Lesser Crested Tern colony.

3.8. Bridled Tern *Onychoprion anaethetus*

The Bridled Tern (Fig. 8) was recorded breeding on all sandy islands with vegetation and with fossilised corals. Nests with one and two eggs were found under small bushes and coral ledges. Nests were never exposed to the direct sunlight, as is observed in other tern species. Bridled Tern was found breeding in July 2018 on Ashrafi, Big Magawish and Siyal (Table 10).

Table 10. Number of nests and individuals of the Bridled Tern on Red Sea islands during surveys in 2018.
Anzahl Nester und Individuen der Zügelseeschwalbe auf Inseln im Roten Meer während der Erhebungen 2018.

Location	Date	Occupied nests	Nests with two eggs	Nests with one egg	Inactive nests	Adults	First-summers	Fledglings	Chicks
Ashrafi islands	July 2018	80	80	0	0	170	0	0	0
Big Magawish Island	July 2018	8	8	0	0	20	0	0	0
Siyal islands	July 2018	450	400	50	0	1000	0	0	0

Table 11. Number of nests and individuals of the Saunders' Tern on Red Sea islands during surveys in 2018.
Anzahl Nester und Individuen der Orientseeschwalbe auf Inseln im Roten Meer während der Erhebungen 2018.

Location	Date	Occupied nests	Nests with two eggs	Nests with one egg	Inactive nests	Adults	First-summers	Fledglings	Chicks
Ras Matarma Island	July 2018	45	40	5	0	90	0	50	0

3.9. Saunders's Tern
Sternula saundersi

Habib (2014) described the discovery of the first breeding Saunders's Tern in Egypt, at Ras Sudr, in the western part of South Sinai Governorate. The study area held two colonies in 2014 and 2015, located on a sandbar south of Ras Sudr. The sandbar is over 5 km long, with a width of about 150 m, and encloses two large lagoons. The first colony was located at the western part of the southern lagoon, with halophytic vegetation; most of the sandy shore holds small stones from resort development. The second colony was located in the western part of the northern lagoon; this area is completely covered with pure sand and small shells. At the end of the breeding season all Saunders's Terns were roosting on the largest lagoon of the northern sandbar; the total count was 130 birds (90 adults and 50 fledglings; Table 11). Parents were still feeding fledglings in the air and on the ground, while some fledglings joined the parents during fishing (Habib 2014, 2016).

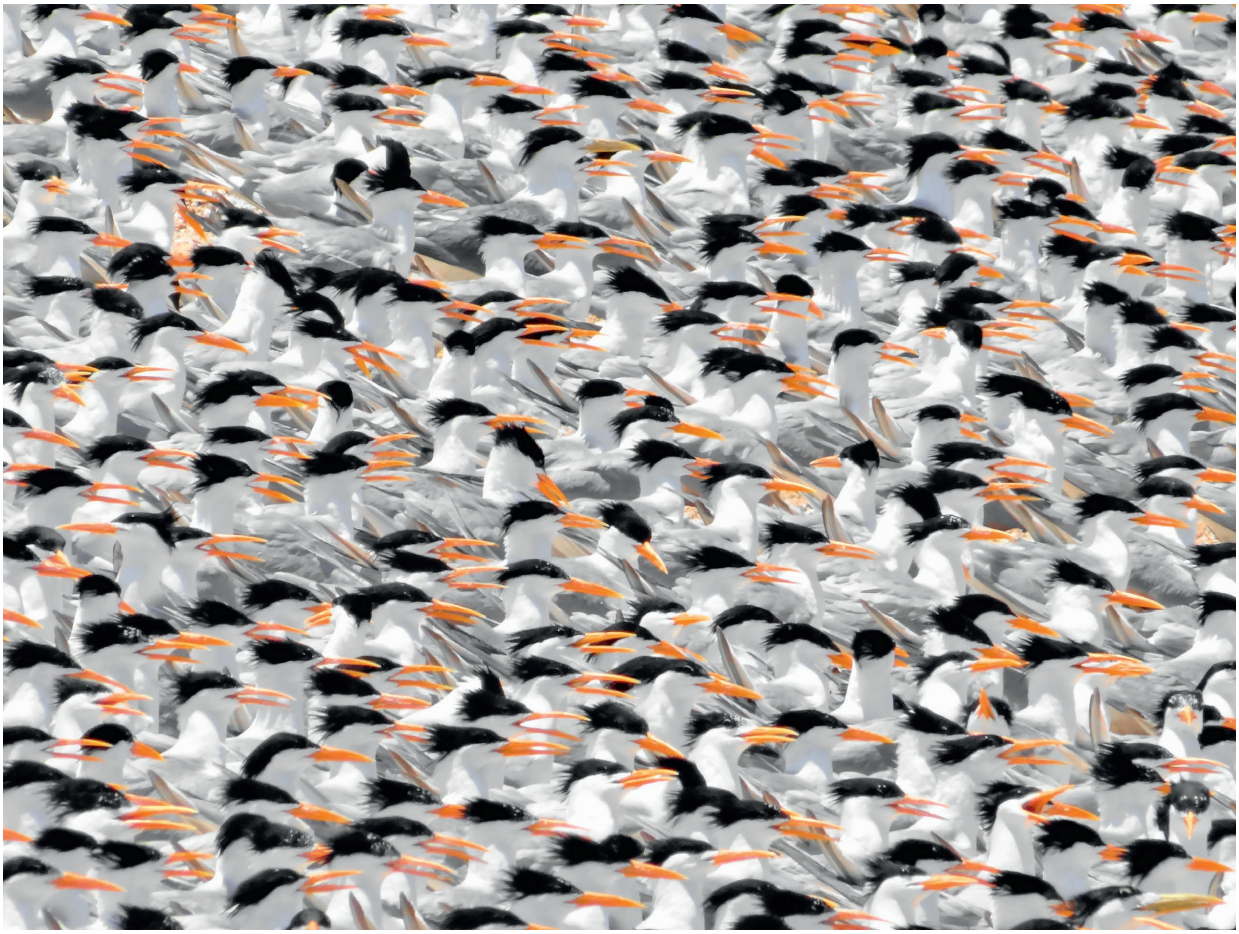

Figure 9. Colony of Lesser Crested Terns *Thalasseus bengalensis* and two Greater Crested Terns *T. bergii* (top center and bottom right). Red Sea, Egypt, 2018. Photo Mohamed Habib.
Kolonie von Rüppellseeschwalben Thalasseus bengalensis und zwei Eilseeschwalben T. bergii (Mitte oben und unten rechts). Rotes Meer, Ägypten.

4. Discussion

Surveys of the Red Sea coast and islands of Egypt between 2012 and 2021 revealed important populations of several seabird species, and one species breeding for the first time in Egypt (Saunders's Tern). In particular, White-eyed Gull, Lesser Crested Tern and White-cheeked Tern bred in regionally important numbers, and the newly discovered breeding population of Saunders's Tern appears to be increasing. The large population size of the White-eyed Gull means that Egypt hosts almost 30% of the world population during the breeding season.

Disturbance by humans is a threat, as fishermen land during the breeding season, and kite surfers regularly arrive on the islands using safari boats and even spend the night at Ashrafi. Similarly, on the Arabian side of the Red Sea, Jennings (2010) mentioned casual visits by tourists and other people for recreation as a source of disturbance. The main sources of pollution in the surveyed areas are, for instance, oil rigs and bilge water from tourist boats. Oil pollution can have devastating effects on seabirds and other birds breeding on the islands, because seabirds in the Red Sea prefer to feed in areas of shallow water. For example, all 10 «seabirds» seen on 13 May 1982 by Frazier et al. (1984) showed oil stains, with three birds being nearly black.

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Zusammenfassung

Habib MI (2022) Status der Brutvögel auf Inseln im Roten Meer, Ägypten, 2012–2021. Ornithologischer Beobachter 119: 308–317.

Das nördliche Rote Meer in Ägypten beherbergt eine Reihe von Vogelarten, die entweder selten sind oder nirgendwo sonst in der Westpaläarktis vorkommen. Es ist daher ein ornithologisch bedeutendes Gebiet. Ich präsentiere die Ergebnisse einer Untersuchung der nördlichen Inseln des Roten Meeres bis zur Rocky Island südöstlich der ägyptischen Grenze zwischen 2012 und 2021. Ziel war es, den Status der hier brütenden Seevögel zu bewerten, Bedrohungen aufzuzeigen und Optionen für das Schutzmanagement zu ermitteln. Die beobachteten Arten waren Weissbauchtölpel *Sula leucogaster*, Löffler *Platalea leucorodia*, Hemprichmöwe *Larus hemprichii*, Weissaugenmöwe *L. leucophthalmus*, Raubseeschwalbe *Hydroprogne caspia*, Weisswangenseeschwalbe *Sterna repressa*, Rüppellseeschwalbe *Thalasseus bengalensis*, Eilseeschwalbe *T. bergii*, Zügelseeschwalbe *Onychoprion anaethetus* und Orientseeschwalbe *Sternula saundersi*. Das Fehlen menschlicher Störungen und die gute Nahrungsverfügbarkeit sind wahrscheinlich die wichtigsten Faktoren, die die Verteilung der brütenden Seevögel im ägyptischen Roten Meer beeinflussen. Die meisten Arten brüten im Frühjahr oder Sommer, zwei im Winter. Der Sommer ist wegen der extremen Temperaturen eine besonders anstrengende Periode für nistende Vögel. Zu den Bedrohungen für die Seevögel gehören Ölverschmutzungen durch Bohrinseln und kontaminiertes Bilgenwasser von Schiffen. Auch das Anlanden von Touristen und Fischern auf Inseln führt dazu, dass Vögel ihre Nester verlassen. Um nistende Vögel zu schützen, sollte das Betreten der Inseln während der Brutzeit untersagt werden.

References

Bibby CJ, Burgess ND, Hill DA, Mustoe SH (2007) Bird census techniques. Second edition. Academic Press, London.

BirdLife International (2022a) Species factsheet: *Larus hemprichii*. www.birdlife.org, downloaded 29 July 2022.

BirdLife International (2022b) Species factsheet: *Larus leucophthalmus*. www.birdlife.org, downloaded 29 July 2022.

Blokpoel H, Spaans L (1991) Superabundance in Gulls: causes, problems and solutions [Introductory Remarks]. Page 2361–2364 in: Bell BD (editor) Acta XX Congressus Internationalis Ornithologici. New Zealand Ornithological Congress Trust Board, Wellington.

Cramp S, Simmons KEL (1977) Handbook of the birds of Europe, the Middle East, and North Africa. The birds of the Western Palearctic. Volume 3, Waders to Gulls. Oxford University Press, Oxford.

Croxall J, Butchart SHM, Lascelles B, Stattersfield A, Sullivan B, Symes A, Taylor P (2012) Seabird conservation status, threats and priority actions: A global assessment. Bird Conservation International 22: 1–34.

del Hoyo J, Elliott A, Sargatal J (1996) Handbook of the birds of the world. Volume 3, Hoatzin to Auks. Lynx Edicions, Barcelona.

Frazier JG, Salas SS, Saleh MA (1984) Ornithological observations along the Egyptian Red Sea coast, spring 1982: with notes on migratory and breeding species. Courser 1: 17–27.

Goodman SN, Meininger PL (1989) The birds of Egypt. Oxford University Press, Oxford.

Goodman SM, Storer RW (1987) The seabirds of the Egyptian Red Sea and adjacent waters, with notes on selected Ciconiiformes. Gerfaut 77: 109–145.

Grieve A, Millington L (1999) The breeding birds of the northern Red Sea islands, Egypt. Unpublished report to the Egyptian Environmental Affairs Agency, Cairo.

Habib IM (2014) Saunders's Terns breeding at Ras Sudr, Egypt, in 2012–13. Dutch Birding 36: 20–24.

Habib IM (2016) Surveys of breeding Saunders's Terns at Ras Sudr, Egypt, in 2014–15. Dutch Birding 38: 75–79.

Habib IM (2017) Surveys of White-eyed Gull on islands in Red Sea, Egypt, and notes on behavior. Dutch Birding 39: 13–21.

Habib IM (2019) Breeding Brown Boobies *Sula leucogaster* on Egyptian islands of the Red Sea. Sandgrouse 41: 71–77.

Habib IM (2022) Surveys of Sooty Gull *Larus hemprichii* on islands in Red Sea governorate, Egypt, and notes on feeding behaviour. Dutch Birding 44: 31–34.

Hoath R, Russell D, Khalil R, Khalil D (1997) The birds of the islands at the mouth of the Gulf of Suez, Egyptian Red Sea. Sandgrouse 19: 22–29.

Jennings MC (2010) Atlas of the breeding birds of Arabia. Fauna of Arabia 25. King Abdulaziz City for Science and Technology, Riyadh, Saudi Wildlife Commission, Riyadh, and Senckenberg Gesellschaft für Naturforschung, Frankfurt a.M.

Jennings MC, Heathcote PC, Parr D, Baha El Din SM (1985) Ornithological survey of the Ras Dib area and the islands at the mouth of the Gulf of Suez, Egypt. Oil Pollution Research Unit, Pembroke.

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