

Field Notes

Birds on Migration and Interaction with Ships

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Introduction

Avian-human interaction has taken many forms and continues to evolve. Birds have often interacted with ships, the commonest being gulls, seabirds and oceanic birds that feed on the offal waste from fishing trawlers. Birds have also been known to accompany fishermen out to sea, in particular egrets (Amar-Singh HSS, 2017). Birds are also known to have travelled on ships, sometimes accounting for species being found in distant locations. Szent-Ivány (1959) described House Sparrows *Passer domesticus* travelling on his ship from Germany to Melbourne.

Ronconi *et al.* (2015) reviewed the literature regarding bird interactions with offshore oil and gas platforms. They noted that these platforms may be responsible for the deaths of a large number of birds due to the collisions associated with lights, poor weather, increased exposure to environmental pollutants and increased exposure to predators.

Less is known about the relationship of ships with birds on migration. Bocetti (2011) documented the death of eight Common Yellowthroats *Geothlypis trichas* during one night on a cruise ship in 2003. She suggests that the bright lights on cruise ships may be a source of avian mortality during migration.

This short field note uses personal observations and a literature review to look at the impact of ships on birds, especially when on migration.

Personal Observations

Table 1 summarises the personal observation of the authors of birds on migration interacting with ships. The first author, from Sabah, North Borneo, Malaysia is a seafarer (Master Mariner), photographer and has recently become interested in birds. His maritime photography include migratory birds that visited or landed on ships he was working on from 2002. Most birds observed visit ships and then leave after a rest. Some stay on board for the entire journey until reaching the next port of call. Some birds are too exhausted to continue their journey and perish after a few days.

From September-October 2002, on a south bound voyage from Japan to Bintulu, Sarawak, Borneo, Malaysia, birds were noted to board the ship sometime after departure from Japan, but not while the ship was in port. Five different species were identified, with total numbers approximately a hundred birds. While at sea and far from any visible land mass, the Brown Shrikes *Lanius cristatus* were observed hunting smaller birds. It was noticed that the shrikes preferred feeding on the entrails of other birds, rather than the flesh. During the times when birds are on-board it is the bosun's job to toss bird carcasses overboard every morning. Most bird species dispersed or died out by the time the vessel passed the Philippines islands. In addition, eight Black-legged Kittiwake *Rissa tridactyla* used the lee side of the vessel to take cover from strong winds while in the Yellow Sea and Eastern Cattle Egrets *Bubulcus coromandus* were occasionally seen resting on the bridge wing.



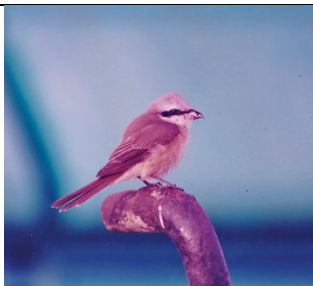
From March-April 2019 at the Arabian Sea near Pakistan, but with no land in sight, the ship received visits from a Eurasian Hoopoe *Upupa epops* and Greater Sand-Plover *Anarhynchus leschenaultii*. Both birds seemed disorientated but otherwise healthy. The ship's crew offered the birds biscuits and bread not knowing their normal diet. Interestingly the Greater Sand-Plover would pretend to be hurt or play dead (distraction displays) when approached for a closer image using a hand phone.

In September 2019 while off the coast of Equatorial Guinea (the vessel standing by offshore waiting for instructions from a client) a Brown Noddy *Anous stolidus* and Brown Booby *Sula leucogaster* took refuge on board due to gusting winds. The birds were exhausted from flying in strong winds and were too tired to even move when approached for an image. The Brown Booby left the ship that same day itself. The Brown Noddy stayed on-board until the vessel arrived at Luba, Bioko, Equatorial Guinea but the crew reported it died just before arrival. It had been given warm shelter but no appropriate food.

In June 2020, while anchored off the coast of Labuan, Borneo, Malaysia, a Black-naped Tern *Sterna sumatrana* used the ship's bright floodlights to hunt for prey at night. The tern hovered above the floodlight's projection in the water and made dives when it saw any prey in the water.

In July 2020, while on voyage from Labuan, Borneo to Johor, Malaysia, the Luconia shoals north-west of Miri, Sarawak were passed. Three Brown Boobies hovered in the ship's wake, waiting for flying fish to get startled and 'fly' out of the water and they would swoop down for the meal. These three Brown Boobies were with the vessel for a number of days. A separate flock of birds consisting of terns *Sterna/Thalasseus/Chlidonias/Sternula spp*, Brown Boobies, and a Wedge-tailed Shearwater *Ardenna pacifica* were observed hunting a shoal of fish around the ship.

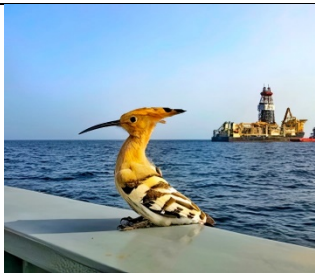
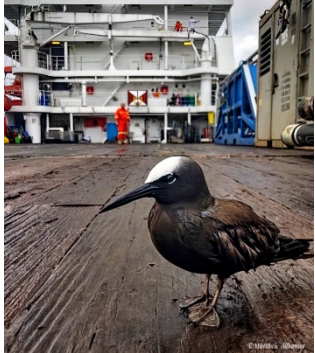
Table 1: Personal Observation of birds on migration interacting with ships*

Bird Species	Type of Interaction with Ships	Location	Observation Date	Image
Brown Shrike <i>Lanius cristatus</i>	Remained on-board from Japan's coast to the Philippines. Hunted other smaller birds while on-board.	En route Japan to Bintulu, Sarawak, Borneo, Malaysia	Sept-Oct 2002	
Eastern Yellow Wagtail <i>Motacilla tschutschensis</i>	Remained on-board from Japan's coast to the Philippines. Hunted by Shrikes on-board.	En route Japan to Bintulu, Sarawak, Borneo, Malaysia	Sept-Oct 2002	



Bird Species	Type of Interaction with Ships	Location	Observation Date	Image
Grey Wagtail <i>Motacilla cinerea</i>	Remained on-board from Japan's coast to the Philippines. Hunted by Shrikes on-board.	En route Japan to Bintulu, Sarawak, Borneo, Malaysia	Sept-Oct 2002	
Oriental Reed Warbler <i>Acrocephalus orientalis</i>	Remained on-board from Japan's coast to Philippines. Hunted by Shrikes on-board.	En route Japan to Bintulu, Sarawak, Borneo, Malaysia	Sept-Oct 2002	
Eastern Cattle Egret <i>Bubulcus coromandus</i>	Perched on the vessel's bridge wing to rest.	En route Japan to Bintulu, Sarawak, Borneo, Malaysia	Sept-Oct 2002	
Black-legged Kittiwake <i>Rissa tridactyla</i>	Taking cover on the lee side of vessel from strong winds	Yellow Sea	Nov 2002	
Great Egret <i>Ardea alba</i>	Observed Great Egret a number of times perched in a small fishing boat going out to sea, looking expectantly at the boatman for a feed. The boatman would give the birds the small fish caught. The Great Egrets do not attempt to eat larger fish already in the boat	Kota Kinabalu, Sabah, Borneo, Malaysia	March 2017	
Greater Sand-Plover <i>Anarhynchus leschenaultii</i>	Taking shelter on-board hiding among deck cargo containers. Interestingly, it would at times do distraction displays (pretending to be hurt).	Arabian Sea near Pakistan	March-April 2019	



Bird Species	Type of Interaction with Ships	Location	Observation Date	Image
Eurasian Hoopoe <i>Upupa epops</i>	Taking shelter on-board, was seen around vessel regularly for 3 days	Arabian Sea near Pakistan	March-April 2019	
Brown Booby <i>Sula leucogaster</i>	Stayed on-board for the day to catch its breath from strong wind while at Equatorial Guinea. (Juvenile shown)	Equatorial Guinea and Luconia Shoals to Malaysia	Sept 2019	
Black Noddy <i>Anous minutus</i>	Stayed on-board for the day to catch its breath from strong wind at Equatorial Guinea but sadly did not recover	Offshore Equatorial Guinea, Gulf of Guinea.	September 2019	
Black-naped Tern <i>Sterna sumatrana</i>	Hunting fish at night, taking advantage of the ship's floodlights projection on the water surface.	Anchored off the coast of Labuan Borneo, Malaysia	June 2020	
Wedge-tailed Shearwater <i>Ardenna pacifica</i>	Hunting fish shoals using the ship's disturbance of the waters	Luconia Shoals to Malaysia	July 2020	
Brown Booby <i>Sula leucogaster</i>	Followed vessel for a couple of days taking advantage of the ship's wake to feed on flying fish startled out of the water at Luconia Shoals	Luconia Shoals to Malaysia	July 2020	

*Observation & images are by Matthew Albanus except for the Great Egret (March 2017) by Amar-Singh HSS



Results of Literature Review

Table 2 summarises a review of the literature that was obtained by using a general internet search which included research group discussions. Berlin (2017) initiated a discussion in Research Gate on birds using ships for longer sea crossings, and this provided a number of useful observations. Most documented observations have involved larger birds; predominantly raptors fitted with GPS trackers. There are reports of smaller passerines, especially an excellent video documentation by Papageorgiou (2018). A number of the reports involve birds taking shelter from storms.

Table 2: Documented occurrences of birds on migration interacting with ships

Bird Species	Type of Interaction with Ships or Offshore Stations	Location	Source
Peregrine Falcon <i>Falco peregrinus</i>	A migrating second-year female Peregrine Falcon perched on a ship or oil platform during a hurricane and left once the storm had passed	Gulf of Mexico	McGrady et al (2006)
Common Yellowthroats <i>Geothlypis trichas</i>	Death of eight Common Yellowthroats during one night on a cruise ship in 2003	Caribbean Sea	Bocetti (2011)
Blackpoll Warblers <i>Setophaga striata</i> and other passerines ('songbirds')	Captain Walt Gebert, on a cargo in September 2010, had hundreds of exhausted migrating birds take protection during a tropical storm	Bermuda	Joseph (2016)
Raptors (Montagu's Harrier, Red Kite)	Monitoring telemetry showed that some birds were using a vessel for sea crossing	Mediterranean Sea from Albania to Libya	Berlin (2017)
Juvenile Honey Buzzard <i>Pernis apivorus</i>	A juvenile Honey Buzzard used a vessel for rest at night before flying westward the next morning. Suspected to be in poor condition and died a few days later in northern Algeria.	Mediterranean Sea crossing	Vansteelant et al (2017)
Lesser Spotted Eagle <i>Clanga pomarina</i>	A young Lesser Spotted Eagle used a vessel for rest for an hour not far from the African coast	Mediterranean Sea from Greece to Egypt	Meyburg (2018)
Snowy Owl <i>Bubo scandiacus</i>	7 Snowy Owls joined a container ship near Newfoundland on 9th December 2013 and left the ship near Europe (Spain, France, Netherlands) between 12-15 December	Newfoundland to Europe	Reglade, MA. (2018)
Saker Falcon <i>Falco cherrug</i>	GPS data of Saker Falcon fitted with satellite transmitter in Hungary, suggested it rested on a fishing vessel during migration over the Adriatic Sea (severe weather) and left when near Greek coast	Adriatic Sea	Prommer (2018)
Eurasian Spoonbill <i>Platalea leucorodia</i>	Stefano Volponi reported a Eurasian Spoonbill marked with colour rings in Italy as chick was observed in Brazil. It was reported that it used a ship to cross the Atlantic Ocean.	Brazil	Pigniczki (2018)
Approximately 70 species of waders, raptors, passerines and even nightjars and owls.	An excellent 9-minute video showing bird migration on merchant ships, predominantly migratory birds.	Not mentioned	Papageorgiou (2018)

A more extensive record of birds on migration interacting with ships is maintained by the Royal Naval Birdwatching Society. They have records since the 1940s with numerous publications (Sea Swallow) on their website and a database available for researchers. They note that "warships frequently pass through waters away from normal shipping routes and this geographical spread makes the dataset distinctive".

Discussion

Birds have long learned to use ships, in particular commercial fishing vessels, as feeding sources. The data available suggest that migrant birds stopping over on ships are not an uncommon occurrence. A live map of marine traffic (Figure 1) shows the sheer number of vessels out at sea at any one moment, offering birds opportunities to rest and feed while on migration.

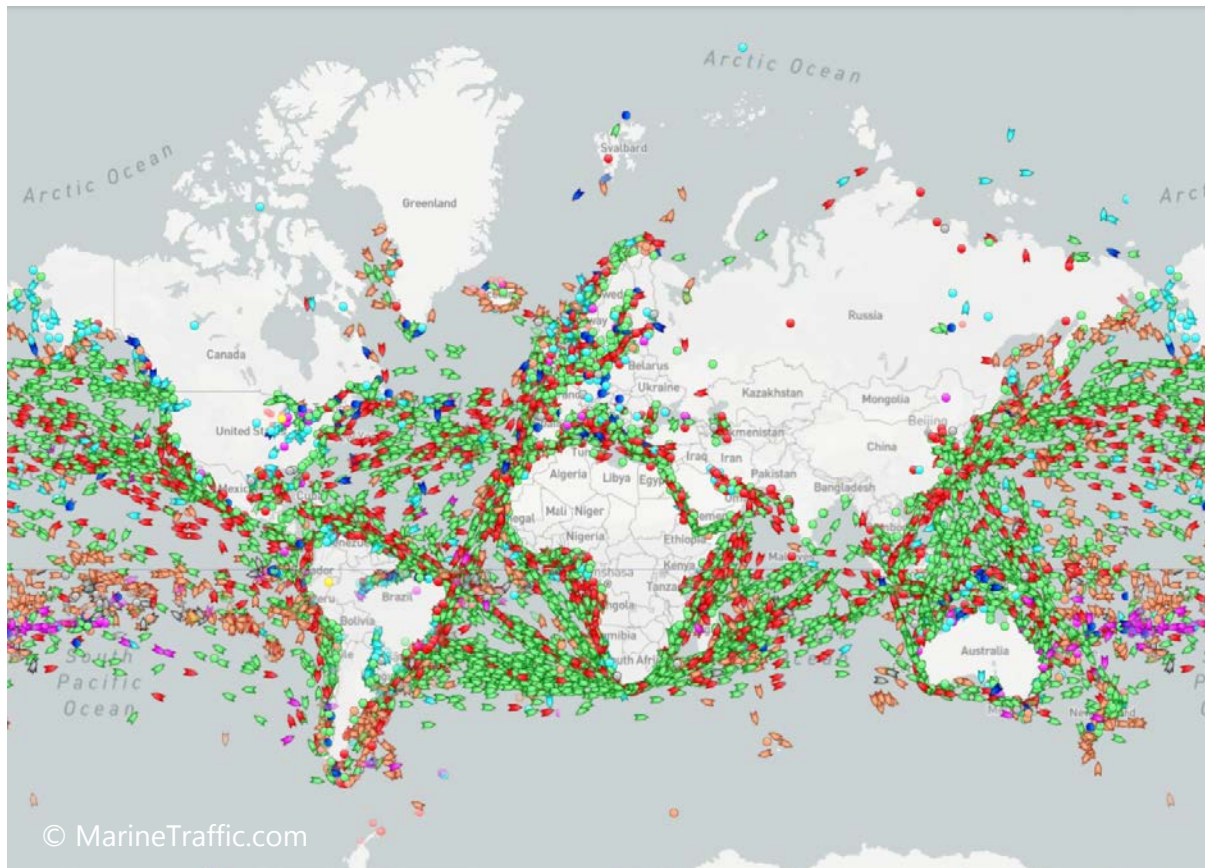


Figure 1: Live map of marine traffic 27 September 2023

Birds on migration may use sea going vessels for a variety of reasons which include shelter from bad weather or to rest when unwell or injured. One less well-recognised reason, as seen in this paper, is that these ships serve as a potential source for food. This may occur in terms of offal waste discarded or fish stirred up by the ship's passage or lights. Ships attract insects that smaller passerines feed on. Owls may also catch rats that live on board the ship. The presence of smaller birds on board encourages birds of prey and shrikes to feed on them. The predation of shrikes on other birds on board ships does not appear to be recognised thus far.

More work is required to ascertain how much of a danger to the birds are the ships themselves. Birds may be attracted to ship lights and result in collision injuries. Ships will have some risk of exposure to environmental pollutants. However, ships serve ecologically as small mobile islands and without them many passerines could perish at sea.

It is possible that large numbers of migratory birds stop over transiently or for longer periods on ships. Ornithologists have an opportunity not just to study this aspect of migration but to offer guidance to shipping companies on the care and salvage of exhausted and injured birds. Ronconi *et al.* (2015) have offered recommendations for offshore oil and gas platforms that may be adapted to ships. Of importance is a continual, systematic and comprehensive monitoring of the

impact of ships on migratory birds with a view to develop strategies to reduce adverse impacts on birds. Working with the Royal Naval Birdwatching Society would be a good start.

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