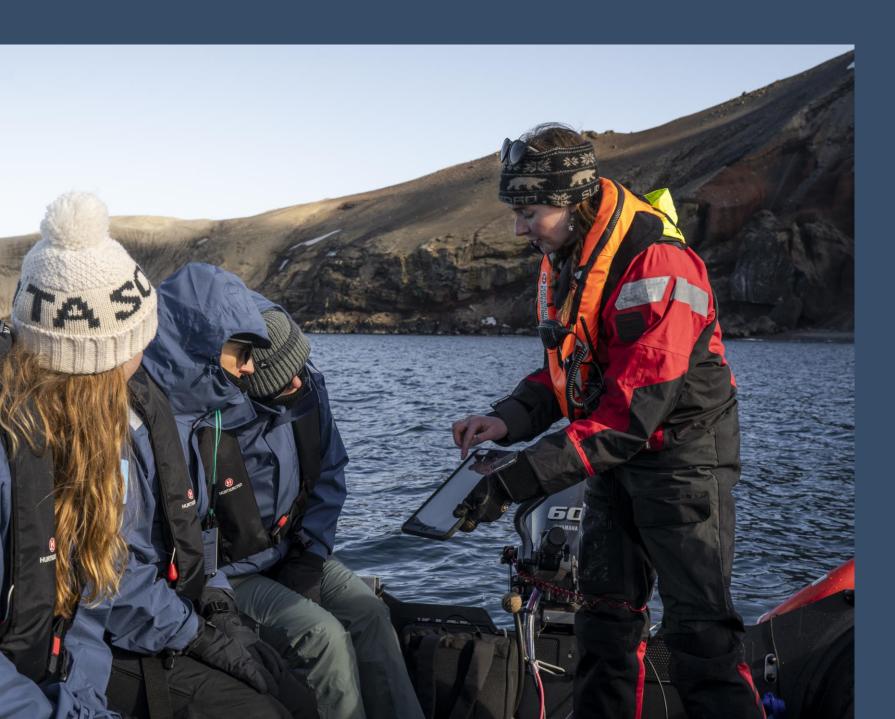


#### MS FRIDJOF NANSEN

Highlights of Antarctica





# Science & education program

The science and education team onboard accompanied you on an expedition cruise through the highlights of Antarctica. Through lectures, discovery sessions and visits ashore we aimed to make every expedition day a memorable and unique learning experience.



# History & Culture: Discovery and Exploration

We learned about different eras of the Antarctica history: the discovery, the sealers, the whalers, the golden age of exploration, the research stations amongst others.

In Whalers Bay on Deception Island we saw traces of and abandoned Whaler Station and of an evacuated British research station. The station was evacuated thanks to Chilean assistance due to two volcanic eruptions in 1967 and 1969.





## NASA cloud observer

We conducted four observations in total during this voyage to the Peninsula. The reports with the results of the observations did not reach us in time to incorporate them in this science report. Our observation will complement the satellite data to improve the models, providing more information about how the atmosphere behaves from below up to the top. Thank you for your interest and help!



### Geological Highlight

Our last stop in Antarctica was Deception Island in the South Shetland Islands. This active volcano boasts a stunning landscape shaped by eruptions. The submerged caldera is surrounded by towering volcanic basalt cliffs. In Whaler's Bay, we explored black sand beaches, saw fumaroles, and observed penguins and seabirds thriving in the geothermal warmth. Deception Island is a living laboratory for volcanology and glaciology, offering geologists a unique and unforgettable experience.

#### iNaturalist

We submitted 109 observations identifying 28 species of marine mammals, birds and plants. We submitted species of penguin, seals, whales and albatross. The most observed species were the cape petrel and the humpback whale. Thank you all very much for your participation!

**Naturalist** 

View our data submitted on our <u>iNaturalist</u> project



#### About

Leave

**23** 

Shared observations from guests and Expedition Team onboard MS Fridtjof Nansen during the expedition cruise "Highlights of Antarctica" from 28th November - 8th December, aiming to collect data on the local biodiversity.

Read More >

Your Membership

PROJECT MEMBERS ONLY

Project Journal

Overview

109 **OBSERVATIONS**  28 SPECIES

**IDENTIFIERS** 

15 **OBSERVERS** 

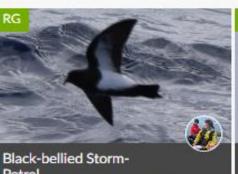
5 Stats

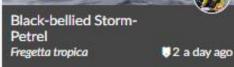
Recent Observations 6

View All



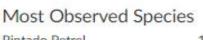


















Most Observations dougiewainwright

80

Most Species dougiewainwright

24

Pintado Petrel

Megaptera novaeangliae

J 4 7 days ago



#### Science Boat

During our voyage we studied the abundance and types of plankton present in our sampling locations. This included taking a plankton sample, recording water conditions using our 'CTD', and using a Secchi disk to record water clarity, indicating the amount of plankton present. The Secchi data can be found in the Table below.

Date	Location	Secchi Depth (m)	Sea Surface Temp (°C)
2.12.24	Petermann Island	6.5	-1
3.12.24	Base Brown	8.13	-0.5
5.12.24	Whaler's Bay	8.25	0.35

<u>View our data</u> submitted to the Secchi Disk Project

#### FjordPhyto

This project aims to monitor the changes in abundance and distribution of phytoplankton in Antarctic waters in relation with glaciar ice melting. We performed samples during this voyage at Petermann Island and Base Brown. We towed a plankton net, deployed our CTD sensor to understand the oceanographical parameters of the water (temperature, salinity, chlorophylle a) and preserved melt water samples to measure later on dissolved oxygen. The whole mission was a success, thank you for participating with us! Use the QR code below to learn more about how this data has and will be used!





# Plankton samples

Plankton are ocean drifters transported by currents and tides, and the lack of ability to navigate against these natural forces. Animals (zooplankton) and plant-like algae (phytoplankton), play a key role in supporting the marine food web and health of our oceans.

During our science boat sessions we collected plankton samples at Petermann Island, Base Brown (Paradise Bay), Whaler's Bay (Deception Island).

The image on the left shows a variety of phytoplankton and a copepod (crustacean), the sample was taken from Paradise Bay.



#### Phytoplankton

Diatoms are a type of phytoplanktonic cells which external skeleton is made of silica. They underpin the bottom of the marine food web as they, like plants on land, convert sunlight into energy and oxygen and also sequester carbon dioxide. This function is provided by the green coloured pigment, chlorophyll which you can observe in the picture on the left.

The left image shows some 'Corethron' diatoms — their specialised silica spines are thought to be used for protection against predators and to help them stay afloat near the waters surface.

# Euphasia superba





Zoomed in on the feeding basket with a pore size of 1 micron

#### Krill

Zooplankton are the animal component of plankton, and are weakly swimming small organisms and larvae.

During the Science Boat in Petermann Island, Holly and her team caught a live krill! We then looked at it under the microscope in a Krill-iant session, hosted by Zoe, and learned all about the most important species in the Antarctic.

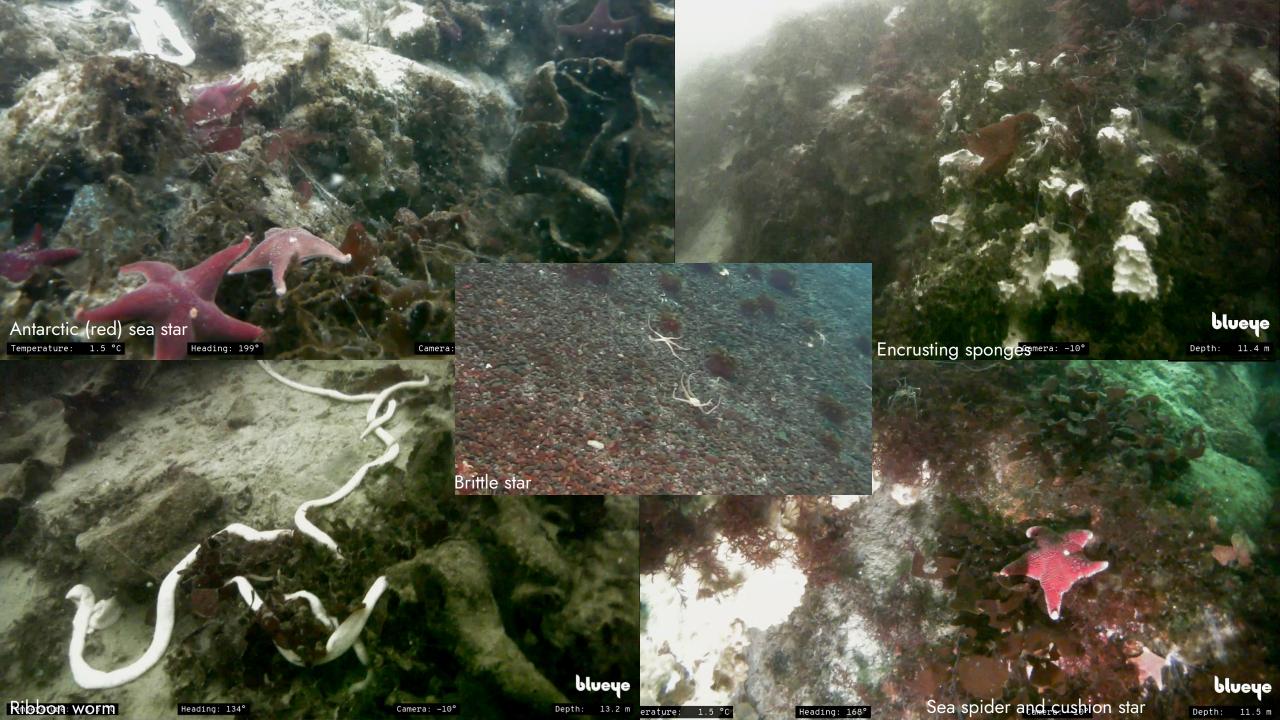
With an estimated 700 Trillion individuals in the Southern Ocean, this nutirious creature supports the whales, seals, penguins, fish and squid.

#### Underwater Drone

Using our underwater drone 'Dora' we explored the underwater marine environment at Base Brown (Paradise Harbour) and Whaler's Bay (Deception Island). We discovered the surprisingly colourful benthic zone and noticed marine creatures including brittle and cushion stars, ribbon worms, encrusting sponges, Antarctic sea urchins and feather worms.

You can view our Drone footage (and footage from other voyages and ships) on the HX Drone Youtube by scanning the QR code.









Whilst onboard our ORCA marine conservationist, Dawn, undertook 22 hours of surveying over 370km.

Highlights include seeing a southern right whale (that would typically eat solo!) feeding with a humpback whale, shortly after our departure from Orne Harbour.

We recorded a total of 67 cetaceans, including an impressive 46 humpback whales. Fin and Sei whales were also identified. Whilst the weather was perfect, making observations relatively easy, this is a high number so early in the season..







#### HappyWhale

This voyage was a total success in terms of whale sightings: 8 flukes were submitted to the platform, 4 of them returning a match. 3 individual were sighted first in Ecuador, one on 2012, other on 2016 and the third on 2020. The 4th whale has been sighted 14 times only in the Gerlache Strait between 2018 and 2024!

Additionnally, 1 Crabeater seal and a southern right whale photos were submitted.

Thank you so much for helping us gathering amazing pictures and moments!

View our data on the global map

#### Special thanks to:











Bryce

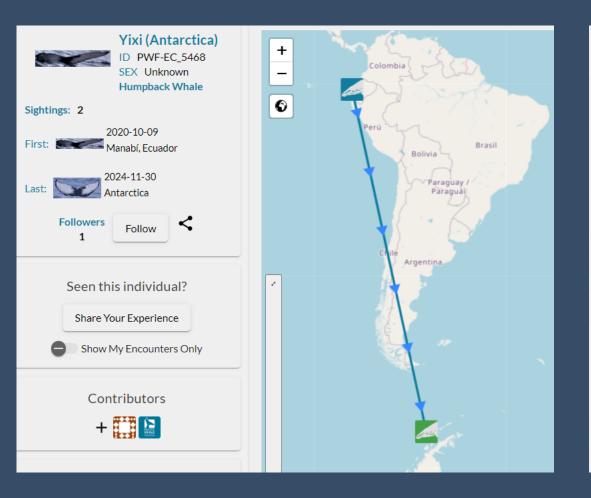
Jose

#### For your photo donations!

#### Special thanks to: YIXI ZHOU









For adopting Yixi (Antarctica)!



#### **CETACEANS - WHALES & DOLPHINS**



Species			November + December									
		28	29	30	1	2	3	4	5	6	7	
Balaenoptera musculus EN: Blue Whale FR: Baleine bleue DE: Blauwal NO: Blahval 中文: 蓝鯨	Credit: Massimo Demma/Ocean Conservation Society											
Balaenoptera physalus EN: Fin Whale FR: Rorqual commun DE: Finnwal NO: Finhval 中文: 長須鯨	Credit: Massimo Demma/Ocean Conservation Society			•						•		
Megaptera novaeangliae EN: Humpback Whale FR: Baleine a bosse DE: Buckelwal NO: Knolhval 中文: 座头鯨	Credit: Massimo Demma/Ocean Conservation Society			•	•	•	•	•	•	•		
Balaenoptera borealis EN: Sei Whale FR: Rorqual de Rudolphi DE: Seiwal NO: Seihval 中文: 塞鯨	Credit: NOAA Fisheries											

Eubalaena australis EN: Southern Right Whale FR: Baleine franche australe DE: Südkaper NO: Sørkaper 中文: 南露脊鯨	Credit: Eden Killer Whale Museum		•		
Balaenoptera bonaerensis EN: Antarctic Minke Whale FR: Petit rorqual de l'Antarctique DE: Antarktischer Zwergwal NO: Antarktisk vågehval 中文: 南极小须鲸	Credit: SEAMMO (Sea Mammal Monitoring Organisation)				
Physeter macrocephalus EN: Sperm Whale FR: Grand cachalot DE: Pottwal 中文: 抹香鲸	Credit: Massimo Demma/Ocean Conservation Society				
Orcinus orca EN: Killer Whale FR: Orque DE: Orca o Schwertwal NO: Spekkhogger 中文: 虎鯨	Credit: Massimo Demma/Ocean Conservation Society				
Hyperoodon planifrons EN: Southern Bottlenose Whale FR: Hyperoodon austral DE: Südlicher Entenwal 中文: 南瓶鼻鯨		•			

Cephalorhynchus eutropia EN: Chilean dolphin FR: Céphalorhynque noir DE: Weißbauchdelfin NO: Chiledelfin 中文: 智利矮海豚	
Cephalorhynchus commersonii EN: Commerson's dolphin FR: Céphalorhynque de Commerson DE: Commerson-Delfin NO: Commersondelfin 中文: 花斑噱头海豚/康氏矮海豚	
Lagenorhynchus obscurus EN: Dusky dolphin FR: Lagenorhynque obscur DE: Schwarzdelfin NO: Morkdelfin 中文: 暗色斑纹海豚	
Lagenorhynchus cruciger EN: Hourglass dolphin FR: Lagénorhynque sablier DE: Stundenglasdelfin NO: Timeglassdelfin 中文: 间纹斑纹海豚/沙漏斑纹海豚	
Globicephala melas EN: Long-finned pilot whale FR: Globicéphale noir DE: Grindwal NO: Grindhval 中文: 长肢领航鯨	



#### **SEALS – TRUE AND EARED SEALS**

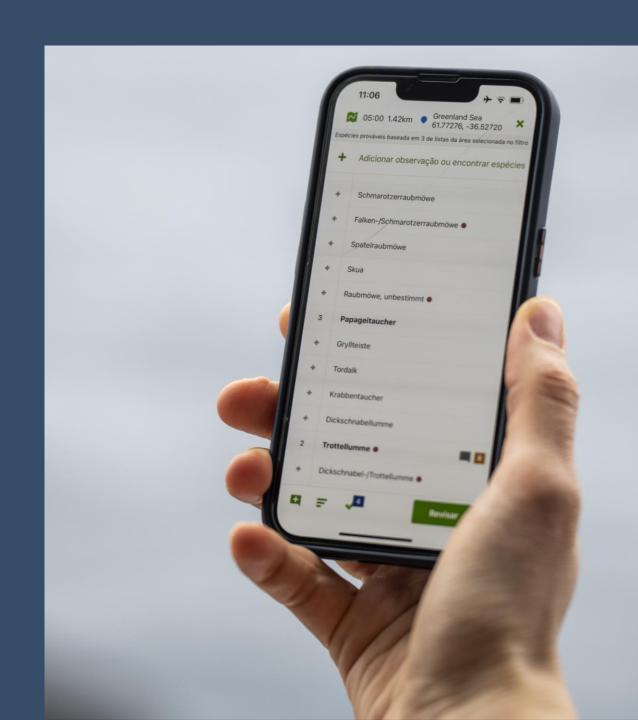
nocios		November + December											
Species		28	29	30	1	2	3	4	5	6	7		
Leptonychotes weddellii EN: Weddell Seal FR: Phoque de Weddell DE: Weddelrobbe NO: Weddellsel 中文: 韋德爾氏海豹	Credit: Kay Fochtmann/HX					•	•	•					
Lobodon carcinophaga EN: Crabeater Seal FR: Phoque crabier DE: Krabbenfresser NO: Krabbeetersel 中文: 食蟹海豹/锯齿海豹	Credit. Martin Johansen					•							

Hydrurga leptonyx EN: Leopard Seal FR: Léopard de mer DE: Seeleopard NO: Leopardsel 中文: 豹海豹	Credit: Kay Fochtmann/HX
Mirounga leonina EN: Southern Elephant Seal FR: Eléphant de mer austral DE: Südlicher See-Elefant NO: Sydlig sjøelefant 中文: 南象海豹	Credit. Martin Hain/HX
Arctocephalus gazella EN: Antarctic Fur Seal FR: Otarie à fourrure antarctique DE: Antarktischer Seebär NO: Antarktis pelssel 中文: 南极海狗/南极毛皮海狮	Credit: Kay Fochtmann/HX
Arctocephalus australis EN: South American Fur Seal FR: Otarie à fourrure australe DE: Südamerikanischer Seebär NO: Søramerikansk pelssel 中文: 南美毛皮海狮	Credit: Lilia Gonzalez
Otaria flavescens EN: South American Sea Lion FR: Lion de mer d'Amérique du Sud DE: Mähnenrobbe NO: Søramerikansk sjøløve 中文: 南海狮	Credit: Liña Gonzalez

#### eBird

During this voyage, our ornithologists,
Júlia, Stephen and Marcus, did 20 surveys
between Ushuaia and the Western
Antarctic Peninsula. A total of 22 species
were observed and 404 individuals
counted.

Find the trip report for the voyage and the checklists here.





#### Trip Report on eBird



#### MS Fridtjof Nansen 2024 # Antarctic Highlights - 28th Nov to 8th Dec

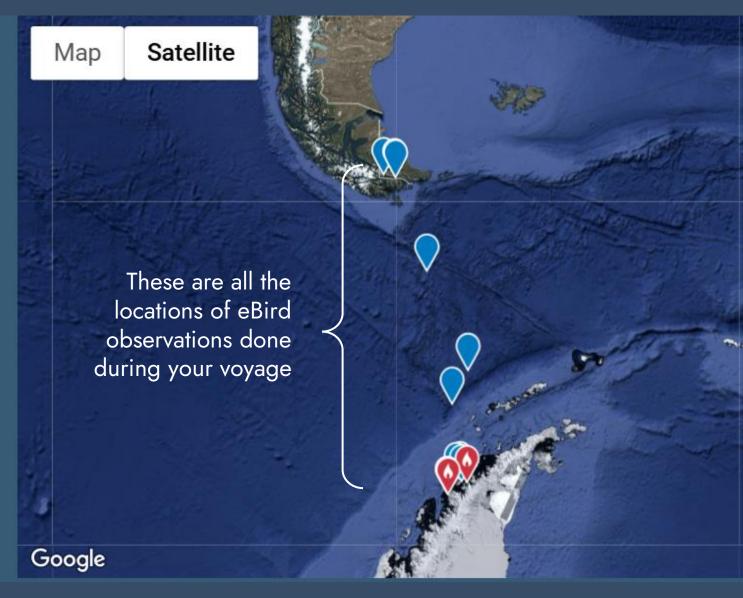
28 Nov - 8 Dec 2024 (11 days)

**Public** 

- Antarctica | Argentina | Chile Subregions
- Julia Victoria Grohmann Finger,
  Marcus Bergström, Maria Mallet, Stephen Feng







During this voyage, together with your help, we have observed 27 species of birds. Here is our full bird list.

## Wildlife List - Birds

Species		November + December									
		28	29	30	1	2	3	4	5	6	7
Pygoscelis papua EN: Gentoo Penguin FR: Manchot papou DE: Eselspinguin NO: Bøylepingvin 中文: 巴布亚企鹅/白眉企鹅	Credit: Kay Fochtmann/HX				•	•	•	•	•		
Pygoscelis adeliae EN: Adelie Penguin FR: Manchot d'Adélie DE: Adeliepinguin NO: Adeliepingvin 中文: 阿德利企鹅	CreditTed Gailin/HX					•	•				
Pygoscelis antarcticus EN: Chinstrap Penguin FR: Manchot à jugulaire DE: Zügelpinguin NO: Ringpingvin 中文: 帽带企鹅/纹颊企鹅	Credit: Martin Hain/HX			•	•			•	•		
Spheniscus magellanicus EN: Magellanic Penguin FR: Manchot de Magellan DE: Magellanpinguiin NO: Magellanpingvin 中文: 南美企鹅/麦哲伦企鹅	Credit: Kim Rørmark/HX	•									

Species		November + December									
	28	3 2	29	30	1	2	3	4	5	6	7
Leucocarbo bransfildensis EN: Antarctic (Blue-eyed) Shag FR: Cormoran antarctique DE: Antarktisscharbe NO: Antarktisskarv 中文: 南极鸬鹚	Credit: Martin Hain/HX				•	•	•	•	•		
Leucocarbo atriceps EN: Imperial Shag FR: Cormoran impérial DE: Kaiserscharbe NO: Knoppskarv 中文: 蓝眼鸬鹚	Credit: Caliponte/Wikipedia										
Stercorarius antarcticus EN: Subantarctic Brown Skua FR: Labbe antarctique DE: Subantarktikskua NO: Sørhavsjo 中文: 棕贼鸥	Credit: Ted Gatlin/HX								•		
Stercorarius maccormicki EN: South Polar Skua FR: Labbe de McCormick DE: Antarktikskua NO: Sørjo 中文: 南极贼鸥/麦氏贼鸥	Credit: Kay Fochtmann/HX			•		•		•			

Species		November + December									
	:	28	29	30	1	2	3	4	5	6	7
Stercorarius chilensis EN: Chilean Skua FR: Labbe du Chili DE: Chileskua NO: Kaneljo 中文: 智利贼鸥	Credit: Arthur Chapman/Wikipedia	•									
Larus dominicanus EN: Kelp Gull FR: Goéland dominicain DE: Dominikanermöwe NO: Taremåke 中文: 黑背鸥	Credit: Kay Fochtmann/HX	•			•	•	•	•	•		
Sterna vittata EN: Antarctic Tern FR: Sterne couronnée DE: Antarktikseeschwalbe NO: Sørhavsterne 中文: 南极燕鸥	Credit: Ted Gatlin/HX				•	•	•	•	•		
Sterna hirundinacea EN: South American Tern FR: Sterne hirundinacée DE: Falklandseeschwalbe NO: Svaleterne 中文: 南美燕鸥	Credit: Dfaulder/Wikicommons	•									

Species		November + December									
		28	29	30	1	2	3	4	5	6	7
Chionis albus EN: Snowy Sheathbill FR: Chionis blanc DE: Weißgesicht-Scheidenschnabel NO: Antarktisslirenebb 中文: 白鞘嘴鸥	Credit: Kay Fochtmann/HX				•	•	•	•			
Diomedea epomophora EN: Southern Royal Albatross FR: Albatros royal DE: Königsalbatros NO: Kongealbatross 中文: 南方皇家信天翁	Credit: Il Harrison/Wikicommons		•								
Diomedea exulans EN: Wandering Albatross FR: Albatros hurleur DE: Wanderalbatros NO: Vandrealbatross 中文: 漂泊信天翁	Credit: Tim Hoffmann/HX										
Thalassarche chrysostoma EN: Grey-headed Albatross FR: Albatros à tête grise DE: Graukopfalbatros NO: Gråhodealbatross 中文: 灰头信天翁	Credit: Kay Fochtmann/HX		•							•	•

Species		November + December								
		28 29 30 1 2 3 4 5 6							7	
Phoebetria palpebrata EN: Light-mantled Albatross FR: Albatros fuligineux DE: Graumantelalbatros NO: Gråalbatross 中文: 灰背信天翁	Credit: Kay Fochtmann/HX		•	•					•	•
Macronectes halli EN: Northern Giant Petrel FR: Pétrel de Hall DE: Hallsturmvogel NO: Nordkjempepetrell 中文: 霍氏巨鹱	Credit: Tim Hoffmann/HX									
Macronectes giganteus EN: Southern Giant Petrel FR: Pétrel géant DE: Riesensturmvogel NO: Sørkjempepetrell 中文: 南方巨鹱	Credit: Kay Fochtmann & Ted Gatlin/HX	•	•	•	•			•		
Fulmarus glacialoides EN: Southern Fulmar FR: Fulmar argenté DE: Silbersturmvogel NO: Sørhavhest 中文: 银灰暴风鹱		•		•	•	•	•	•	•	

Species		November + December									
		28	29	30	1	2	3	4	5	6	7
Daption capense EN: Cape Petrel FR: Damier du Cap DE: Kapsturmvogel NO: Flekkpetrell 中文: 花斑鹱	Credit: Júlia Finger/HX		•	•	•		•		•	•	•
Thalassoica antarctica EN: Antarctic Petrel FR: Pétrel antarctique DE: Antarktissturmvogel NO: Antarktispetrell 中文: 南极鹱	Credit: Júlia Finger/HX			•						•	
Procellaria aequinoctialis EN: White-chinned Petrel FR: Puffin à menton blanc DE: Weißkinn-Sturmvogel NO: Hvithakepetrell 中文: 白颏风鹱	Credit: ]] Harrison/Wikipedia			•							
Pterodroma mollis EN: Soft-plumaged Petrel FR: Pétrel soyeux DE: Weichfeder-Sturmvogel NO: Silkepetrell 中文: 柔羽圆尾鹱	Credit: ]] Harrison/Wikipedia										

Species			November + December										
		28	29	30	1	2	3	4	5	6	7		
Aphrodroma brevirostris EN: Kerguelen Petrel FR: Pétrel des Kerguelen DE: Kerguelensturmvogel NO: Sølvvingepetrell 中文: 短嘴圆尾鹱	Credit: Marcus Bergström/HX												
Ardenna grisea EN: Sooty Shearwater FR: Puffin fuligineux DE: Dunkelsturmtaucher NO: Grålire 中文: 灰鹱	Credit: Marcus Bergström/HX												
Halobaena caerulea EN: Blue Petrel FR: Prion bleu DE: Blausturmvogel NO: Blåpetrell 中文: 蓝鹱	Credit: Kim Rørmark/HX		•	•									
Pachyptila desolata EN: Antarctic Prion FR: Prion de la Désolation DE: Taubensturmvogel NO: Antarktishvalfugl 中文: 鸽锯鹱	Credit: Júlia Finger/HX												

Species		November + December										
		28	29	30	1	2	3	4	5	6	7	
Pachyptila belcheri EN: Slender-billed Prion FR: Prion de Belcher DE: Dünnschnabel-Sturmvogel NO: Smalnebbhvalfugl 中文: 细嘴锯鹱	Credit: Marcus Bergström/HX		•									
Pagodroma nivea EN: Snow Petrel FR: Pétrel des neiges DE: Schneesturmvogel NO: Snøpetrell 中文: 雪鸌	Credit: Marcus Bergström/HX					•						
Oceanites oceanicus EN: Wilson's Storm Petrel FR: Océanite de Wilson DE: Buntfuß-Sturmschwalbe NO: Wilsonstormsvale 中文: 黃蹼洋海燕	Credit: Ethan Rudnitsky/Wikipedia			•	•	•	•	•		•		
Fregetta tropica EN: Black-bellied Storm Petrel FR: Océanite à ventre noir DE: Schwarzbauch-Sturmschwalbe NO: Svartbukstormsvale 中文: 黑腹舰海燕				•						•		

#### Itinerary

- 28/11 Ushuaia, Argentina
- 29/11 Drake Passage
- 30/11 Drake Passage
- 01/12 Damoy Point/Dorian Bay, Wiencke Island, Antarctica
- 02/12 Penola Strait, Peterman Island and Lemaire Channel, Antarctica
- 03/12 Almirante Brown Station/Scontorp Cove, Antarctic Peninsula
- 04/12 Orne Harbor and Wilhemina Bay, Antarctic Peninsula
- 05/12 Whaler's Bay, Deception Island, South Shetland Islands, Antarctica
- 06/12 Drake Passage
- 07/12 Drake Passage

