

Abstract: At the Joint Technical By-catch Working Group (JTBWG) held prior to Kobe III the ACAP Secretariat offered to review the seabird identification guides currently used by the tuna RFMOs (tRFMO) with a view to collating the information that would best assist observers to accurately identify seabirds caught in fishing operations. Seabird identification guides have subsequently been obtained from two tRFMOs, as well as from some National Observer Programmes. An initial review of this and additional material has shown that a small number of species do not have sufficient distinguishing characteristics that would allow their certain identification across all relevant age classes. In these cases, an alternative method, such as DNA analysis, may be required for species-level identification.

Progress Report on Development of Seabird Identification Guide for Use by tRFMOs

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At the first meeting of the Joint Tuna Bycatch Working Group, which preceded Kobe III, ACAP offered to review the seabird identification guides currently used by the tuna regional fisheries management organisations (tRFMOs), with a view to producing a consolidated version that could be used by all tRFMOs, thereby assisting with the harmonisation of data collected by them. The guide is primarily intended for use at sea by fisheries observers to assist in the identification of seabirds killed in longline operations.

A number of seabird identification guides from national observer programmes were also reviewed, to assess whether these contained methodologies and/or information that would add to the value of the identification guide. One approach in particular was deemed to add additional value to the approach currently being taken with many of the guides. This was the use of photos of seabirds that had been caught as bycatch, which the Japanese national observer programme incorporated into their identification guide. The Japanese Fisheries Agency (JFA) kindly contributed a selection of their photos of dead seabirds to the draft identification guide presented in this paper.

Currently, the intention is to develop a 'pocket' guide for use on deck which will be complemented by a more comprehensive guide and possibly a web-based key. The pocket guide will be small in size with as

few pages as possible and contain the minimum of information and photos required for species identification. The larger guide will contain more information and more photos.

The pocket guide is still being developed but an indicative draft of the larger guide is attached. At the moment, the draft deliberately errs on the side of too much information, some of which may not be necessary.

There are a number of questions that need to be answered before the guide can be completed and these are referred to relevant bodies of the IOTC for its advice. These questions are:

Questions:

1. Are there any species not included in the list which should be?
2. Are there any species on the list which don't need to be?
3. Is there information missing from the guide which would be of use?
4. Is there information included in the guide that is unnecessary?
5. Is the species identification information accurate?
6. Are there any characteristics which would not be useful at sea?
7. Where there are insufficient physical characteristics available to be confident about the identification of the seabird, should an alternative method be used to achieve this, such as DNA analysis?

It is recommended that the draft guide be circulated to relevant observer programmes for their comment/input into the development of the guide and for their assistance in answering the questions above.

Species list

The list of species included in the guide was compiled from existing RFMO species guides (IOTC, CCSBT) and RFMO databases of bycatch species. Currently, only albatrosses, petrels and shearwaters have been included, and only those for which multiple records of capture by longline fisheries could be identified. In total 36 species are currently included. The IOTC guide also includes skuas, boobies and gannets, and frigatebirds. These have not been included in the draft guide, but could be easily included if it was thought appropriate.

Common name	Scientific Name
Albatrosses	
<i>Diomedea</i>	
Northern Royal Albatross	<i>Diomedea sanfordi</i>
Southern Royal Albatross	<i>Diomedea epomophora</i>
Wandering Albatross (Snowy Albatross)	<i>Diomedea exulans</i>
Antipodean Albatross (incl. <i>gibsoni</i>) (New Zealand Albatross)	<i>Diomedea antipodensis</i>
Amsterdam Albatross (Amsterdam Island Albatross)	<i>Diomedea amsterdamensis</i>
Tristan Albatross	<i>Diomedea dabbenena</i>

<i>Phoebetria</i>	
Sooty Albatross	<i>Phoebetria fusca</i>
Light-mantled Albatross	<i>Phoebetria palpebrata</i>
<i>Phoebastria</i>	
Waved Albatross	<i>Phoebastria irrorata</i>
Black-footed Albatross	<i>Phoebastria nigripes</i>
Laysan Albatross	<i>Phoebastria immutabilis</i>
Short-tailed Albatross	<i>Phoebastria albatrus</i>
<i>Thalassarche</i>	
Atlantic Yellow-nosed Albatross	<i>Thalassarche chlororhynchos</i>
Indian Yellow-nosed Albatross	<i>Thalassarche carteri</i> (formerly <i>T. chlororhynchos carteri</i>)
Grey-headed Albatross	<i>Thalassarche chrysostoma</i>
Black-browed Albatross	<i>Thalassarche melanophris</i>
Campbell Albatross	<i>Thalassarche impavida</i>
Buller's Albatross	<i>Thalassarche bulleri</i>
Shy Albatross	<i>Thalassarche cauta</i>
White-capped Albatross	<i>Thalassarche steadi</i>
Chatham Albatross	<i>Thalassarche eremita</i>
Salvin's Albatross	<i>Thalassarche salvini</i>
Petrels	
Southern Giant Petrel	<i>Macronectes giganteus</i>
Northern Giant Petrel	<i>Macronectes halli</i>
White-chinned Petrel	<i>Procellaria aequinoctialis</i>
Spectacled Petrel	<i>Procellaria conspicillata</i>
Black Petrel (Parkinson's Petrel)	<i>Procellaria parkinsoni</i>
Westland Petrel	<i>Procellaria westlandica</i>
Grey Petrel	<i>Procellaria cinerea</i>
Cape Petrel*	<i>Daption capense</i>
Great-winged Petrel	<i>Pterodroma macroptera</i>
Shearwaters	
Flesh-footed Shearwater*	<i>Puffinus carnipes</i>
Sooty Shearwater*	<i>Puffinus griseus</i>
Wedge-tailed Shearwater*	<i>Puffinus pacificus</i>
Great Shearwater*	<i>Puffinus gravis</i>
Short-tailed Shearwater*	<i>Puffinus tenuirostris</i>
* <i>Non-ACAP listed species.</i>	

Photos

Below are examples of the photos which would ideally be included in the guide for as many species as possible. Of these, the head shots are the most important. If possible, we would like to include photos of both adults and juveniles, particularly where juveniles may look quite different (e.g. *Thalassarche*)



The Keys

The guide will include a number of keys to assist in identification. At the moment, only the albatross keys have been developed. Where possible, species identifications have been based on those characteristics that are most likely to be preserved in dead birds that may have been underwater for long periods of time. It has been assumed that in most cases, these are bill characteristics, primarily size and colour, followed by head plumage and ocean basin and that these will be able to discriminate between most species. It has been assumed that other characteristics, such as subtleties of wing plumage, may not be available or useful on dead birds.

However, where a characteristic will separate two otherwise indistinguishable species it has been included even though that characteristic may not always be available. **These keys are based on information compiled from guidebooks and photos rather than from practical experience in identifying seabirds. Therefore, it has not always been possible to assess the reliability of some characteristics as distinguishing features, in particular, ocean basin. Also, a lack of photos has made it difficult to assess the distinguishing features of the juvenile *Thalassarche* to fit them into the key.**

Table 1 lists the features used to develop the albatross keys found on pages 4 and 13 of the draft guide.

TABLE 1.

Distinguishing characteristics	Species
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	<i>Phoebastria</i>
North Pacific, peach/pink bill with grey tip	Laysan
North Pacific, pink bill with blue tip	Short-tailed
North Pacific, black bill	Black footed
Tropical Pacific, yellow bill with greenish tip	Waved
	<i>Phoebetria</i>
Black bill, yellow sulcus stripe	Sooty (generally not found in Pacific Ocean)
Black bill, pale blue sulcus stripe, Pacific Ocean	Light-mantled Sooty
Black bill, dark head	Juvenile Sooty or Juvenile Light-mantled Sooty
	<i>Diomedea</i>
Pink bill, dark cutting edge, >155 cm	Northern or Southern Royal (may be distinguished in some cases by white patches on upper wing of Southern)
Pink bill, dark cutting edge, <155 cm	Amsterdam
Pink bill, no dark cutting edge >155 cm	Wandering
Pink bill, no dark cutting edge, <155 cm, South Pacific Ocean	Antipodean
Pink bill, no dark cutting edge, <155 cm South Atlantic Ocean	Tristan
	<i>Thalassarche (Adult)</i>
Orange bill with red tip, west Indian or Atlantic Ocean, dark iris	Black-browed
Orange bill with red tip, pale iris (not always possible to see in dead birds?)	Campbell (not found in west Indian or Atlantic Ocean)
Black bill, yellow upper ridge only, 'U' shaped base to upper ridge (not always reliable?), South Atlantic Ocean	Atlantic Yellow-nosed
Black bill, yellow upper ridge only, 'V' shaped base to upper ridge (not always reliable?), Indian Ocean	Indian Yellow-nosed
Black bill, yellow upper and lower ridges, tapering base to upper ridge, Indian or Atlantic Ocean	Grey-headed

Black bill, yellow upper and lower ridges, broad base to upper ridge	Buller's (not found in Indian or Atlantic Ocean)
Yellow bill with black lower tip	Chatham
Grey bill, yellow upper ridge, black lower tip	Salvin's
Grey bill, yellow tip	Shy or White-capped (may be distinguished in some cases by yellow colouration at base of bill in Shy)
	<i>Thalassarche (Juvenile)</i>
Grey <u>or black</u> bill, possibly starting to turn orange, with black tip, dark underwings, <u>no exposed skin on the base of bill</u>	Black-browed or Campbell
Black bill, possibly with some yellow on upper ridge, white underwings	Indian or Atlantic Yellow-nosed
Black bill, possibly with some yellow on upper and lower ridges, dark underwings, <u>exposed skin on the base of bill</u>	Grey-headed
Grey or brownish grey bill with dark tip, white underwings	Buller's
Grey bill with black tip, possibly turning yellow	Chatham, Salvin's, Shy or White-capped

Procellariiformes (Tube-noses)

- Albatrosses - separate nostrils (pg 3)



- Petrels - fused nostrils, short, thick based bill (pg 28)



- Shearwaters - fused nostrils, long slender bill (pg??)



Other seabirds (?)

- Skuas (pg??)
- Boobies and Gannets (pg??)
- Frigatebirds (pg??)

1. Observed in the North or tropical Pacific



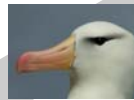
2. Predominantly black bill, dark head

3. Pink or flesh coloured bill >154 mm, dark cutting edge



4. Pink or flesh coloured bill > 135 mm

5. Orange bill, red tip, white head



6. Black bill, yellow upper ridge only



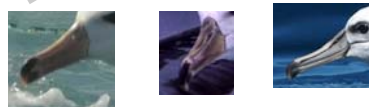
7. Black bill, yellow upper and lower ridges



????8. Yellow or grey bill



????9. Other



Phoebastria

North Pacific Albatrosses

Pages 5-8

Phoebetria

Sooty Albatrosses

Pages 9-10

Diomedea

Royal Albatrosses

Pages 11-12

Wandering Albatross Key

Page 13

Thalassarche

Black-browed Albatrosses

Pages 18-19

Yellow-nosed Albatrosses

Pages 20-21

Grey-headed Albatross
or
Buller's Albatross

Page 22

Page 23

Adult 'Shy type' Albatrosses

Pages 24-26

Juvenile *Thalassarche* Key

Page 27

Campbell Albatross

Thalassarche impavida

ENDANGERED

Bill length: 105-118 mm

Wing length: 49-54 cm

Body length: 80-95 cm

Distinguishing features:

- **Pale iris**
- White head, white body, dark mantle and upper wings
- Bright orange bill
- Dark eye patch
- Juveniles similar to adults, pale grey head, pale brown/grey bill with black tip
- Generally not found in west Indian or Atlantic Ocean

Similar species:

Adults distinguished from Black-browed (pg 18) by pale iris. Juveniles are indistinguishable. Juveniles may also be confused with juvenile Grey-headed (pg 22) and Buller's (pg 23). May be distinguished from juvenile Grey-headed by paler bill and Buller's by dark underwing.



Grey-headed Albatross

Thalassarche chrysostoma

VULNERABLE

Bill length: 109-121 mm

Wing length: 50-55 cm

Body length: 70-85 cm

Distinguishing features:

- Grey head, white body, dark mantle and upper wings
- **Black bill with yellow upper and lower ridges**
- Yellow upper ridge tapers towards base
- White eye crescent
- Juveniles similar to adults, greyer head with variable white cheek patch, blackish-brown bill with black tip, all dark underwing, lightening with age

Similar species:

Distinguished from Buller's Albatross (pg 21) by less extensive yellow on bill. Yellow upper ridge tapers at base rather than forming broad, rounded base. Juveniles may be confused with juvenile Black-browed and Campbell albatrosses (pg 18-19) but distinguished by darker bill.

