

An important new field guide

Seabirds . . . an identification guide, by Peter Harrison

MY FIRST OCEAN birding, from the foredeck of the ancient, plodding S.S. Ancon, pride of the Panama Railroad Steamship Line, in June 1933, was a source of almost continuous wonder. After three days on the Atlantic from New York, and a day's stopover in Port-au-Prince, Haiti, where every bird was new, we entered the Caribbean for the two-day trip to Cristobal, Canal Zone. The sea was glassy, and of that astonishing soft delphinium blue never seen from northern shores. Pelagic species never before encountered appeared on the horizon, approached, crossed the bow or alongside, sometimes too swiftly to name, sometimes slowly enough to allow leafing through the field guide—and halleluja, an identification!

That field guide in 1933, useful then as it is in 1983, was W.B. Alexander's "Birds of the Ocean", a true "pocket" guide in the Putnam series, with text, 88 plates of drawings and black-and-white photography, many of them poor. But the bird's names, and the places they were found, seemed enormously glamorous to us then: albatrosses, prions, petrels, shearwaters, boobies, noddies, penguins and more; Christmas Island, Macquerie, Reunion, Bounty Island, Kerguelen, South Georgia and Fiji! And they seem so even today, when so many of us participate in pelagic birding and visit the most remote seas and islands of the world. Considering how much of the earth's surface is water, it is curious that for until 1978 this one field guide (through three editions) was all there was, while the landbird (or all-bird) guides have multiplied like gypsy moths.

In 1978, Collins of London published "A Field Guide to the Seabirds of Brit-

ain and the World", by Gerald Tuck and Herman Heinzel. With 781 birds illustrated in color, 138 line drawings, 313 two-color maps, and a competent text, it was an enormous step forward in aids to seabird identification. It surely set the pattern for the present work, and a standard against which it must be judged. The present work is a further step forward.

It is too early to say that the Alexander era is ended, because this will always be a useful companion guide, but it is now about to be eclipsed by an admirable new field guide "Seabirds" published in Great Britain, and distributed in America by Houghton Mifflin. Its author is Peter Harrison, who has not only provided the very detailed text, but has painted all 88 of the full-page color plates, illustrating many aspects and plumages of 312 seabird species. Distribution maps are provided for all species. We are told that the work is the product of an 11-year effort by the author-artist, seven of which were spent travelling the world, working at times at such jobs as deckhand, penguin catcher, apple picker, designer and travel courier. In its writing, Harrison has consulted with many of the world's leading authorities on the various orders and families of seabirds.

THE BOOK IS remarkably complete, and the species treatments, of which we offer five preview samples, unusually detailed. The obligatory foreword by Roger Tory Peterson is followed by introductory chapters that acquaint the reader with the seabird vocabulary, with methods of seabird identification, the various aspects of anatomy and plumage that must be

noted, flight characteristics, habits, and something called "jizz." This latter is an atrocious British coinage which means, roughly, the sum of everything about the bird which aids in identification that cannot be completely described—an amalgam of character, personality, gestalt, essence—a term that cries out to be replaced by something better, perhaps simply "feel." But this may be the only feature of Harrison's guide to which we object.

For those increasing hordes of bird and/or whale watchers who go down to the sea in rolling boats, loaded with cameras, binoculars and dramamine, those travelers who still prefer shipboard passage to airborne cloud-watching, and those shorebound ocean-scanners, Harrison's field guide will answer a heartfelt need. It should make seabird identification in most instances very much easier and more confident. But there will always be those elusive encounters that should best be recorded as albatross, sp., shearwater, sp., small dark seabird, sp. And as the author points out, so much more remains to be solved, with large gaps in our knowledge of the distribution and identification of many species.

A feature of the book is a directory of the organizations that specialize in seabird studies; a good bibliography is provided. A feature of Alexander that might have been an attractive addition here is the summary chapters devoted to the birdlife of each of the oceans.

A lengthy review is unnecessary here: we bring you typical excerpts from the book itself. "Seabirds" goes on sale June 16, 1983. The price is \$29.95.

—R. Arbib

From the book SEABIRDS: An Identification Guide, by Peter Harrison, soon to be published by Houghton Mifflin Company,

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ABBREVIATIONS

On the facing captions text immediately following the scientific name and preceding the map reference number, abbreviations are used to convey a quick distribution reference. This key has been used only for the more pelagic species so that readers can check, at a glance, in which ocean the species under scrutiny normally occurs. Some species may be restricted to one ocean but have been recorded elsewhere and may be suspected of being circumpolar in Southern Oceans (e.g. Buller's Albatross). In such cases only the ocean in which the species is known to occur regularly is listed under the quick distributional reference; a fuller treatment of its range will be found in the main text under DM and by referring to the species map. To avoid possible confusion the abbreviations have been kept to a minimum and are as follows:

- WR** = Wide-ranging (likely to be met with in Pacific, Atlantic and Indian Oceans).
PO = Pacific Ocean.
AO = Atlantic Ocean.
IO = Indian Ocean.
AR = Arctic Ocean and region.
AN = Antarctic region.
SO = Southern Oceans (higher latitudes of Pacific, Atlantic and Indian Oceans forming circumpolar water mass between Antarctic Continent and the major land masses of South America, Africa and Australia).
RR = Restricted range.

The prefixes **N**, **S** and **T** are used to denote North, South and Tropical respectively. Thus NPO and TPO read: North Pacific Ocean and Tropical Pacific Ocean.

Throughout the main text north, south, east and west have been abbreviated to **N**, **S**, **E** and **W** respectively. Thus 'occasionally wanders S to N Pacific Ocean' reads: 'Occasionally wanders south to North Pacific Ocean'. Within the main text months are abbreviated to three letters. Thus **Apr** reads April. Islands are noted simply with 'I,' whilst groups of islands are denoted 'Is'.

As previously mentioned, **FHJ** indicates flight, habits and jizz, **DM** distribution and movements, and **SS** similar species.

45 LAYSAN ALBATROSS 80/199cm *Diomedea immutabilis* NPO MAP 45 Text page 227

45 ADULT and JUVENILE: Alike, latter differing only in greyer bill. In fresh plumage, upperwings, mantle and back blackish-grey, head, rump and underparts white. Underwing mainly white with narrow dark margins and irregular blackish streaks on coverts (much individual variation). Dark eye patch visible at close range.

51 SOOTY ALBATROSS 86/203cm other: Dark-mantled Sooty Albatross *Phoebastria fusca* SAO, SIO MAP 51 Text page 231

51a ADULT: Wholly sooty-brown, darker on head, slightly paler across nape, with white or yellowish shafts to primaries and tail. At close range, bill black with yellow or orange sulcus along lower mandible.

51b JUVENILE: In fresh plumage closely resembles adult except for slightly paler head and mantle, grey sulcus and eye crescents. Primaries and tail lack pale shafts.

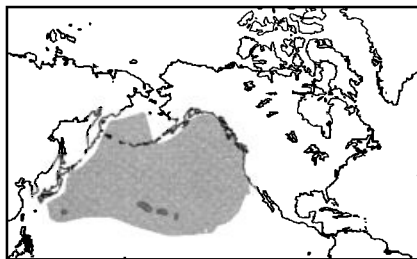
51c IMMATURE: During first year at sea body feathers wear quickly, most birds showing buffish-grey (sometimes white) collar and nape extending onto mantle and upper back. Adults in worn plumage (Apr/May) show similar plumage characters but with bright sulcus and whitish primary shafts. These types superficially resemble Light-mantled Sooty, but usually differ in darker brown lower back and rump.

52 LIGHT-MANTLED SOOTY ALBATROSS 84/215cm *Phoebastria palpebrata* SO MAP 52 Text page 232

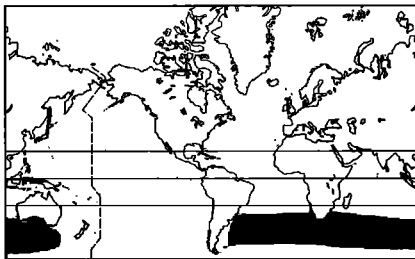
52a ADULT: Differs from Sooty Albatross in distinctive frosty-grey mantle extending to lower back and rump, and contrasting with dark brown head and wings. At close range, bill black with blue or purple sulcus along lower mandible.

52b JUVENILE: Best separated from 51b by extent of paleness on back and rump. In 51b this normally confined to mantle and upper back, whereas in present species it extends to lower back and rump.

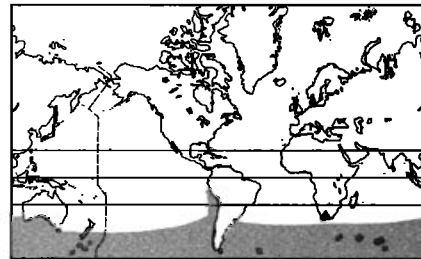
52c IMMATURE: Much as adult but mantle and upper breast often show buff tips. See notes under 52b for separation from Sooty Albatross.



MAP 45 LAYSAN ALBATROSS Text p.227 Plate 15

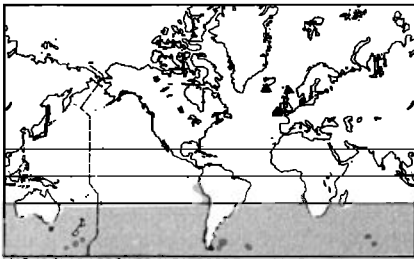


MAP 51 SOOTY ALBATROSS Text p.231 Plate 15



MAP 52 LIGHT-MANTLED SOOTY ALBATROSS Text p.232 Plate 15



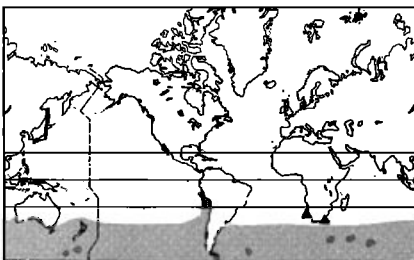


MAP 46 BLACK-BROWED ALBATROSS Text p.228 Plate 13

46 BLACK-BROWED ALBATROSS 88/240cm
 other: Black-browed Mollymawk
Diomedea melanophris SO

MAP 46 Text page 228

- 46a** ADULT: Bears superficial resemblance to a very large black-backed gull; blackish saddle and upperwings contrast strongly with white head, rump and underparts. Underwing white, broadly and irregularly margined black. (It has the widest leading margin of any albatross.) At closer range dark eyebrow and bright yellowish-orange bill are diagnostic.
- 46b** ADULT: *D.m. impavida* breeding in New Zealand area is similar except for honey-coloured iris, more extensive eyebrow and usually a darker underwing. Juvenile *impavida* have underwings as dark as juvenile Grey-headed Albatrosses and require careful treatment. See Fig. 7, p. 228, for *impavida* underwing patterns.
- 46c** SUB-ADULT: Diagnostic horn-coloured bill with black tip. Head white; most show decomposed breast band. Underwing resembles that of adult but paler areas greyer in tone.
- 46d** JUVENILE: Bill greyish or dark horn with black tip and darker ridges (most reliable character to separate from 50d below).
- 46e** Between juvenile and immature stages bill shows a paler central area, the tip, upper and lower ridges remaining dark. It is important to note the distinct difference in acquisition of adult bill coloration between this species and the Grey-headed Albatross. In present species bill is first greyish or dark horn with dark tip and ridges; then latericorn and ramicorn (Fig. 4, p. 221) become horn-yellow, the upper and lower ridges plus tips remaining dark; in the following stage the ridges become yellowish to produce bill colour as in 46c. By comparison Grey-headed fledges with wholly blackish bill (never appears dark-tipped); the tip is first to show yellow (50c) followed by lower ridges (50b), the latericorn and ramicorn remaining black.



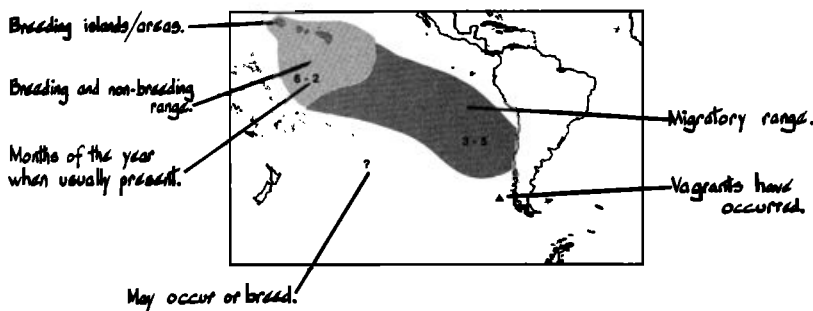
MAP 50 GREY-HEADED ALBATROSS Text p.231 Plate 13

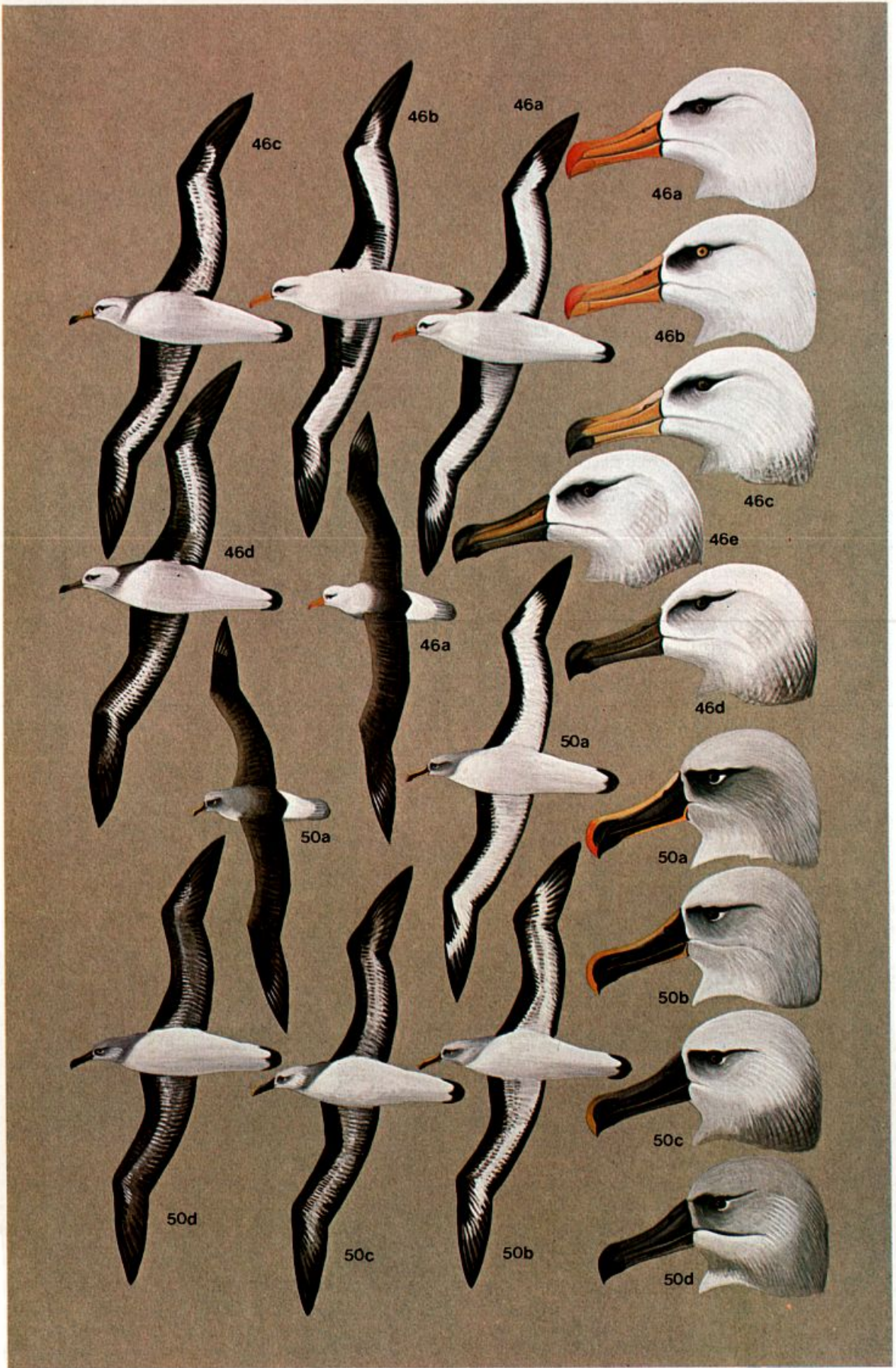
50 GREY-HEADED ALBATROSS 81/220cm
 other: Grey-headed Mollymawk
Diomedea chrysostoma SO

MAP 50 Text page 230

- 50a** ADULT: Bill glossy black, upper and lower ridges bright yellow, tipped orange; at long range appears wholly black. Combination of dark bill, grey head and whiter underwing should prevent confusion with 46a. Compared with 46a leading edge of underwing is narrower, but is wider than in White-capped, Yellow-nosed or Buller's Albatrosses (p. 229, p. 230, p. 228). More likely to be confused with equally dark-headed adults of nominate Yellow-nosed in S. Atlantic but that species has different jizz, bill and underwing pattern.
- 50b** SUB-ADULT: As adult but bill duller, head paler; scattered greyish tips across underwing-coverts.
- 50c** IMMATURE: Bill blackish, tip faintly yellow. Extent of grey on head, breast and underwing-coverts variable; some may show white foreheads and sides of face (little different from some Black-browed). Bill colour most reliable character to look for.
- 50d** JUVENILE: Bill black. During first year at sea, head darker than in adult (some wholly grey). The underwing is the darkest of any southern *Diomedea* albatross at this age (but see juveniles of 46b above).

MAP KEY





45 LAYSAN ALBATROSS
Diomedea immutabilis

PLATE 15 Fig 45
MAP 45

Length 79-81cm (31-32in.). Wingspan 195-203cm (77-80in.). Iris dark, white lower lid. Bill varies, light grey with darker tip and base or yellowish with grey tip. Legs/feet flesh-pink.

Northern Pacific Ocean; the only dark-backed albatross of the region with white head and underparts. Sexes alike; no seasonal variation. Juveniles barely separable (hence *immutabilis*), although bare parts probably greyer. Albinism and hybrid Laysan × Black-footed Albatrosses reported (Palmer 1962, Fisher 1972, Warham pers. comm.).

PLUMAGE: **Head** Mainly white, lores dark grey or black, sides of face often grey (at close range). **Body** Upperparts: mantle, scapulars and back blackish, rump white. Underparts: white or yellowish-white. **Wings** Upperwing blackish above, primary shafts white; browner in worn plumage. Underwing mainly white with narrow, irregular margins broadest at carpal and primary tips; white coverts show irregular blackish streaks (varies individually). **Tail** Greyish.

FHJ: The only dark-backed albatross regularly occurring in N. Pacific with white head and underparts. Occasionally follows ships. Appearance resembles Southern Oceans mollymawks but, unlike that group, feet project slightly beyond tail in flight.

DM: Although formerly widespread throughout N. Pacific,

numbers decimated in early part of 20th century and during Second World War when some colonies exterminated. Until recently known to breed only in central Pacific on northwest Hawaiian chain, mainly at Laysan, Midway, Lisianski Is, Pearl and Hermes Reef. See Palmer (1962) for minor breeding stations. Has recently nested at Kilauea Point, Kauai I., Hawaii Kurata (in Hasegawa 1978) recently reported breeding south of Japan at Bonin Is., the only modern record of breeding away from Hawaiian chain. Returns natal islands Oct onwards, egg-dates Nov/Dec; fledging May. Rarely seen off breeding stations during summer. Post-breeding range E to North America, where regular but scarce off California and Washington; occurs N to Aleutians and W to Japan. Southern limits of pelagic distribution poorly known. Non-breeders scattered over N. Pacific throughout year.

SS: Although most abundant N. Pacific albatross, scarcer off western North America than wholly dark Black-footed Albatross. Adult Short-tailed has white back; see under that species (p. 226) for differences at other plumage stages.

46 BLACK-BROWED ALBATROSS
other: Black-browed Mollymawk
Diomedea melanophris

PLATE 13 Figs 46a-46e

MAP 46

Length 83-93cm (33-36½ in.). Wing span averages 240cm (94in.). Iris brown. Bill bright waxy or orange-yellow, redder at tip, narrow black line at base. Legs/feet bluish-white.

Circumpolar in Southern Oceans; range overlaps with Grey-headed, Buller's and Yellow-nosed Albatrosses (p. 230, p. 228, p. 230); beware especially of confusing juvenile and immature *D.m. impavida* with corresponding stages of Grey-headed Albatross. Sexes alike; no seasonal variation. Juveniles separable from adults. Two subspecies listed; *D.m. impavida* is separable at sea and thus described separately below.

JUVENILE: Bill horny or dusky-grey with culmen and nails blackish; often appears black-tipped at sea (Warham & Sinclair, pers comm.). **Head** Mainly white, dark mark before and passing through eye; nape grey. **Body** Upperparts mantle dark grey merging into blackish-grey scapulars and back; rump white. Underparts mostly white; partial or complete

greyish breast band extending from mantle. **Wings** Upperwing brownish-black, outer primary shafts white. Underwing variable, most show ghost-image of adult's pattern. **Tail** Grey **SUB-ADULT:** As juvenile except bill dull yellow with dark tip, an excellent diagnostic character. **Head** Paler on nape. **Body** Underparts: breast band, if present, weakly pigmented **Wings** Underwing: variable, resembles adult, greater and primary-coverts mostly white.

ADULT: **Head** White, dark eyebrow before and passing through eye. **Body** Upperparts as juvenile. Underparts white **Wings** Upperwing as juvenile. Underwing dark primaries, leading and trailing edges enclose white coverts. Black leading edge broadest of any albatross and forms dark wedge midway along inner wing. **Tail** Grey.

ADULT (*D.m. impavida*). As nominate except iris pale yellow. **Head** Eyebrow more extensive. **Wings** Underwing variable but many show dusky-grey (not white) axillaries and inner greater coverts and, possibly, a wider black leading edge to underwing (at sea underwing may thus appear dark with a central rectangle of white: see photo in Terres 1980 p. 39 and compare with photo in Serventy *et al.* 1971 p. 72). Using bill colour as a guide to age, most immature *impavida* show darker underwings than found in corresponding nominate (pers obs.).

FHJ. Readily follows ships, attends trawlers. Typical flight of genus (p. 221), occasionally submerges to retrieve offal.

DM. Possibly commonest and most widespread albatross. *D.m. melanophris* breeds Staten, Falklands, South Georgia, Kerguelen, Heard, Antipodes and Macquarie Is. and a few at Campbell I.; *D.m. impavida* at Campbell Is. Normal circumpolar range extends from about 65°S to 23°S, but to about 10°S off Peru and 20°S off West Africa in cold-water zones of Humboldt and Benguela Currents. Ringing recoveries have shown that this species has a strong northwards migratory tendency, with different populations going to different areas (Tickell, in Bourne 1967b); this migratory urge helps explain the now almost annual sightings in the North Atlantic (although assisted passage cannot be ruled out).

SS See notes under Grey-headed Albatross (p. 230).

SUB-ADULT

JUVENILE

ADULT

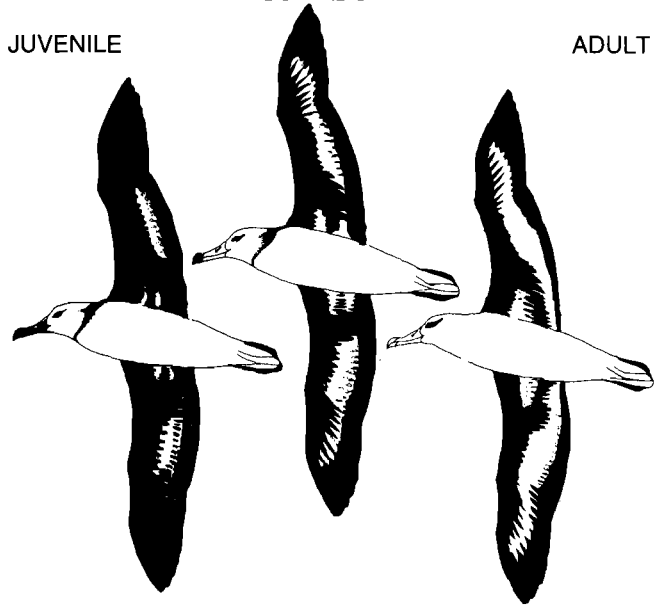


Fig. 7. *D.m. impavida* underwing patterns. Compared with nominate *D.m. melanophris* underwing usually darker, particularly axillaries and innermost underwing-coverts.

50 GREY-HEADED ALBATROSS

other: Grey-headed Mollymawk
Diomedea chrysostoma

PLATE 13 Figs 50a-50d

MAP 50

Length 81cm (32in.). **Wingspan** 220cm (87in.). **Iris** brown. **Bill** black chrome-yellow upper and lower ridges shading to red or orange at tip. **Legs/feet** whitish-flesh.

Circumpolar in Southern Oceans; range overlaps with Black-browed, Yellow-nosed and Buller's Albatrosses (p. 228, p. 230, p. 228). See also *D. cauta salvini* (p. 229). Sexes alike; no seasonal variation. Juveniles separable from adults. No subspecies.

JUVENILE: Bill blackish-grey. **Head** including nape mostly grey, usually darker than adults, with barely discernible dark eyebrow before, and passing through eye, ear-coverts paler.

Body Upperparts: mantle dark grey (extension from nape) merging into blackish-grey scapulars and back; rump white. Underparts mostly white, greyish band across upper breast.

Wings Blackish-brown above, primary shafts paler. Underwing at this stage averages darkest of any southern *Diomedea* albatross. **Tail** Dark grey.

IMMATURE: Bill black, tip of upper mandible yellowish. **Head** As juvenile, but during first year at sea feather tips may abrade revealing whiter bases, particularly on ear-coverts, forehead and crown, imparting white-headed appearance.

Body Underparts: breast band retained though faded or incomplete.

Wings Underwing shows ghost-image of adult's pattern.

SUB-ADULT: As adult except bill duller. **Head** Paler. **Wings** Underwing as adult but scattered grey tips across coverts.

ADULT: **Head** Mostly blue-grey, paler on forehead and crown, dark mark before and passing through eye. In worn plumage or at long range can appear white-headed, though blackish bill separates it from Black-browed Albatross (see Yellow-nosed Albatross, p. 230). **Body** Upperparts as juvenile. Underparts white. **Wings** Upperwing brownish-black, outer primary shafts whitish. Underwing mainly white with irregular black margins, broadest on leading edge midway along inner wing but not forming conspicuous black wedge as in Black-browed and by comparison, demarcation sharp (fuzzy in Black-browed; Warham, pers. comm.). **Tail** Grey.

FHJ: Much as Black-browed but flight often higher; nearly always holds head angled with bill pointing at 45° or more downwards (Sinclair, pers. comm.). Differs from latter in more southerly distribution, preferring colder surface waters, and in less migratory tendencies.

DM: Circumpolar in Southern Oceans, breeding on Diego Ramirez off Cape Horn, South Georgia, Marion, Prince Edward, Crozet and Kerguelen Is., in New Zealand area at Macquarie and Campbell Is. Normal circumpolar range extends from about 65°S to 35°S, but to about 15°S off Peru in Humboldt Current. No records from North Atlantic stand up to scrutiny (Bourne 1967b) whereas sightings of Black-browed and Yellow-nosed Albatrosses now almost annual.

SS: Adults readily separated from adult Black-browed (p. 228) by head, bill and underwing patterns. Juveniles more difficult to separate: on average Grey-headed juveniles show darker head, breast band and underwing but there is some overlap (especially in *D.m. impavida* underwing). Most reliable character at this age is bill colour: Grey-headed fledge with wholly blackish bills, Black-browed with greyish or horn-coloured bills, tipped black (Sinclair & Warham, pers. comm.) Immatures and sub-adults of these two species are more easily separable by differences in head, bill and underwing patterns. Observers in S. Atlantic should beware adult nominate Yellow-nosed which in fresh plumage, has head as dark and as grey as Grey-headed. Experienced birders should notice different jizz, underwing and bill pattern of Yellow-nosed (see Brooke *et al.* 1980). Both Buller's and Salvin's Albatrosses (p. 228, p. 229) also have grey heads, but with contrasting white foreheads, their underwing patterns differ from that of present species.

Genus *PHOEBETRIA*

Two species: moderately large. Adults separable given reasonable views. Juveniles and immatures more difficult and, in

some cases, may be impossible. To facilitate identification, record degree of contrast between mantle, back and upperwings. Bill colour (sulcus), if visible, should be accurately recorded.

51 SOOTY ALBATROSS other: Dark-mantled Sooty Albatross *Phoebetria fusca*

PLATE 15 Figs 51a-51c

MAP 51

Length 84-89cm (33-36in.). Wingspan averages 200cm (80in.). (Adult) Iris brown, with incomplete white crescents. (Adult) Bill black, sulcus yellow or orange (see p. 231). Legs/feet mauve or greyish-flesh.

Southern Atlantic and Indian Oceans; range overlaps with Light-mantled Sooty Albatross (p. 232). Beware also pink-billed juvenile Wandering Albatross and both species of giant petrel (p. 222, p. 233, p. 234). Sexes alike; no seasonal variation but mantle and upper back subject to extreme bleaching. Juvenile separable from adult. No subspecies.

JUVENILE: As adult except: Bill blackish, flesh-grey sulcus, and crescents above and below eye (some authors report yellow, grey or bluish sulcus). **Head** Paler, particularly nape, sometimes forming buffy collar. **Body** Upperparts indistinct paler fringes to mantle (but not extending to lower back and rump as in Light-mantled). **Wings and Tail** Quill shafts dark. **IMMATURE/WORN ADULT:** Much as juvenile but plumage highly variable. **Head** Some show buffy or white collar over nape. **Body** Upperparts mantle and upper back scaled buff or grey (but not usually extending to lower back and rump as in Light-mantled).

ADULT: **Head** Sooty-brown, sides of face darker. **Body** Wholly brown, slightly paler in tone than head. **Wings and Tail** Mostly dark brown, primaries and tail blackish with white or yellowish shafts.

FHJ: Both sooty albatrosses are easily separated from the bulky, all-dark pale-billed giant petrels (p.233, p.234) by slender jizz, long, narrow wings, and pointed tail imparting a 'pointed' appearance at both ends. Their pliable, slender wings and more lightly-built jizz may suggest graceful quality of flight not normally seen in other albatrosses, this quality best seen in gales. Highly inquisitive, readily follows ships, attends trawlers.

DM: Breeds in S. Atlantic at Tristan Da Cunha and Gough Is Also in S. Indian Ocean at Amsterdam, St. Paul, Marion, Prince Edward, Crozet and Kerguelen Is. Returns to colonies Jul/Aug; egg-dates Sep-Nov; fledging and departure Apr/May. Prefers warmer surface water than Light-mantled Sooty, although the two are sympatric at Marion, Prince Edward, Crozet and Kerguelen Is. Pelagic range extends E to Australian Bight and Tasmania, occasionally to New South Wales but apparently not across Tasman Sea to New Zealand. In the W does not normally extend beyond 50°W in southern Atlantic, although there is a record in eastern Pacific at 61°S, 90°W (Watson 1975). Birds occasionally range S to 60°S and N to about 30°S.

SS: Differs from giant petrels (p.223, p.234) in dark bill and slender streamlined jizz. Most problems lie in separation from Light-mantled Sooty Albatross (p.232). Typical adults readily separated, given reasonable views, by differences in sulcus and upperparts coloration. At end of breeding season (Apr/May) adults in worn plumage often show heavy wear and bleaching to mantle and upper back feathers. Immatures at sea can also show similar plumage characters. Superficially these types resemble Light-mantled Sooty Albatross, but can usually be told by darker brown lower back and rump (buffy-grey and brown in Light-mantled). There are, however, individuals which defy identification, both at sea and in museum collections.

52 LIGHT-MANTLED SOOTY ALBATROSS *Phoebetria palpebrata*

PLATE 15 Figs. 52a-52c

MAP 52

Length 79-89cm (31-35in.). Wingspan 183-218cm (72-86in.). Iris brown, eye-crescents white. Bill black, sulcus violet or blue (see p.232). Legs/feet mauve or greyish-flesh.

Southern Oceans, range overlaps with similar Sooty Albatross (p.231). Beware especially worn adults and immatures of latter, which have buffy or white collars and pale mantles. See also pale-billed juvenile Wandering Albatross and giant petrels (p.223, p.233, p.234). Sexes alike, males average larger; no seasonal variation but subject to wear and bleaching. Juveniles separable. No subspecies.

JUVENILE: Sulcus pale yellow or grey. In fresh plumage differs from adult only in dark primary and tail shifts; mantle and breast may show buff tips.

IMMATURE: Feathers subjected to extreme wear during first year at sea, resulting in buffish tips to mantle and upper breast, otherwise as adult (except sulcus and eye-crescents).

ADULT: **Head** Vinaceous dark brown, becoming greyer in worn plumage. **Body** Upperparts pale ash-grey, lower back and rump lightly edged brown. Underparts pale greyish-

brown. **Wings and Tail** Dark brown, blackish primaries and tail show white or yellow shafts.

FHJ: Notes under Sooty Albatross (p.231) also apply to this species.

DM: Circumpolar, breeds S Atlantic Ocean at South Georgia and in S Indian Ocean at Marion, Prince Edward, Crozet, Kerguelen, Heard and Macquarie Is.; also off New Zealand at Auckland, Campbell and Antipodes Is. Returns to colonies Sept/Oct, egg-dates Oct/Nov; fledging and departure Apr/May. Pelagic range generally more southerly than Sooty Albatross, extending S to pack ice and N to about 33°S off western South America however occurs N to 20°S off Peru (R. Hughes, pers. comm.). Further south often seen in large numbers in the Beagle Channel, peak counts up to 3,000 Feb/Mar (Humphrey *et al.* 1970).

SS: See notes under Sooty Albatross (p.231).