

THE IDENTIFICATION OF THE SMALLER AUSTRALASIAN DIOMEDEA, AND THE STATUS OF THE DIOMEDEA IN SOUTH AUSTRALIA

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IDENTIFICATION OF THE SMALLER AUSTRALASIAN DIOMEDEA

The following is a summary of the points to look for to aid in the correct identification of these albatrosses, and should be used in conjunction with the illustrations. These notes are confined to the smaller Diomedea, because it is this group of albatrosses which presents most of the problems of identification to the field-observer in Australia. All of this group have a white body with grey or white heads, dark back, wings and tail, and all adults, except the Shy Albatross, have the leading dark margin to the underwing broader than the trailing margin. The most important things to check are the bill colour, head (including facial) colour and the underwing pattern. It should be noted that as albatrosses take so long to mature, intermediate plumages to those illustrated also occur. Inevitably, birds will be seen that seems to possess characters making field identification extremely difficult; but this is so in most families of birds. When in reasonable range most can be readily identified.

The author hopes that this paper will help people to identify the albatrosses accurately. A further paper is in preparation which will deal with the numbers and occurrences of all seabirds observed in South Australia. Special attention will be given to the methods used to estimate numbers correctly.

SHY ALBATROSS *D. cauta cauta*

Largest of the group; can approach the great albatrosses in shape. Upperwings and back appear fairly pale. Underwings white with neat dark tips and very thin dark margins on both edges of the wings. Dark mark through eye, cheeks grey with rest of head white. Bill greenish grey, yellow tip, heavy. Immatures resemble the adults except that the bill is duller with a darker tip.

GREY-BACKED SHY ALBATROSS

D. cauta salvini.

Similar to the nominate race except that it is smaller, the back is much paler, and the

head is wholly grey apart from a whitish forehead. The bill is darker on the latericorns, and has a darker spot at the tip of the lower mandible.

CHATHAM ISLAND SHY ALBATROSS

D. cauta eremita

Smaller than the nominate race, back and upperwings darker. Head wholly sooty grey. Bill bright yellow. NOTE: Not known outside the New Zealand area.

BLACK-BROWED ALBATROSS

D. melanophrys.

Appears thick-necked. Back and upperwings blackish brown. Underwing has the widest point of the broad leading margin away from the body. The dark margins tend to fuse in with the white especially near the wing tip and carpal joint. Head white with dark mark over eye, may have grey on upper neck. Bill heavy and wholly yellow. Immature has little or no white in underwing; grey crown, upper neck and variable half-collar; bill blackish. Sub-adult has a narrow white area under the wing, white head and yellowish bill with dark tip.

NEW ZEALAND BLACK-BROWED

ALBATROSS *D. melanophrys impavida.* (Plate 1, I, ad. under.)

Similar to the nominate race except that the underwing has very wide, dark leading margins forming a point between the carpal joint and body. NOTE: Iris is honey-coloured, while in the nominate form it is brown.

GREY-HEADED ALBATROSS

D. chrysostoma.

Lighter in build than Black-browed. Upperwings and back blackish. Underwing has the widest point of the broad leading margin away from the body, and less fusion between patterns than Black-browed. Head wholly grey. Bill is thinner than that of Black-browed, blackish with a yellow stripe above and below. Immature has a wholly dark underwing with little white, a wholly

dark grey head and lacks the yellow on the bill. Sub-adults, if they have a whitish head, can only be safely separated from similar-aged Black-browed by their wholly blackish bill. A Black-browed with a blackish bill would have little white in the underwing, whereas a dark underwinged Grey-headed would have a dark grey head.

BULLER'S ALBATROSS *D. bulleri*.

Heavy build, head appears large. Upperwings and back grey (paler than Grey-headed). The leading dark margin is parallel to the wing's edge or widest at the axilla; the white in the underwing is neatly demarcated from the dark margins. Forehead and crown white, rest of head grey, darker about the lores and eye. Bill is near Black-browed's in size, greyish black with pale yellow strips above and below, the upper strip being noticeably broad at the base of the culminicorn. Immatures similar to

adults except that the bill is wholly greyish black. The grey on the head is only slightly darker, the white forehead being noticeable. NOTE: Unknown in S.A. waters to date.

YELLOW-NOSED ALBATROSS

D. chlororhynchos.

Smaller and more slender than any of the other Diomedea. Upperwings and back blackish brown. Dark leading margin to the underwing parallel to the wing edge or widest at the axilla, margins being neatly demarcated from the white. Head wholly white but some birds in fresh plumage may have a greyish flush on the cheeks. Bill long and slender, glossy black with a chrome yellow stripe along the top. Immatures like adults except that the head is always pure white and the bill either lacks the yellow stripe, or else shows it faintly as a pale upper edge to the culminicorn.

A DISCUSSION OF SOME SPECIAL PROBLEMS OF IDENTIFICATION

Differentiation of Diomedea chrysostoma from D. chlororhynchos and D. melanophrys.

In the available literature on this subject, I have found that there is some variation between authors as to the correct underwing pattern of the Grey-headed Albatross *Diomedea chrysostoma*. I further found that it is usually described inadequately, or is sometimes said to be similar either to that of the Yellow-nosed Albatross *D. chlororhynchos* or to that of the Black-browed Albatross *D. melanophrys*, when in fact it is generally agreed that these two species have very different underwing patterns. Therefore I believe that a reappraisal of the underwing pattern of *chrysostoma* is justified, together with a summary of some other identification points of the three species. The procedure that I will follow is first to review critically the available literature, then to summarise the points about identification that have been firmly established.

Murphy (1936) vaguely describes *chrysostoma* as "very similar, except in the color of the head, to *Diomedea melanophrys*," and as having "underwing coverts white, with a small black band of small coverts along the edge of the wing." He describes *chlororhynchos* as having its "ventral surface white, except for a narrow anterior blackish brown

border on the under surface of the wings." Condon (1936) is correct so far as he goes, saying of *chrysostoma* "when viewed from beneath, the wings of this species are dark with a narrow central white band." Referring to *chlororhynchos*, he says "when viewed from beneath the wings are white with a narrow dark margin on both sides." This is after quoting descriptions of specimens of both species. Alexander (1955) says merely that the underwing of *chrysostoma* is white with darker edges and fails to illustrate it, as he has those of the other species. Moreland (1957) gives descriptions of the underwing patterns of all the albatrosses, but fails to define differences except by using terms such as "very wide" or "relatively broad" when describing the dark anterior margins. His illustrations show *chrysostoma* and *melanophrys* with similar patterns, which differ from that given to *chlororhynchos*. In Falla *et al* (1966) the text appears inconsistent with the illustration given of *chrysostoma*. The only verbal description they give of *chrysostoma* is to say that it has "some white feathering under the wing in a pattern shown in the text figure"—(p. 32). Without illustrating *chlororhynchos*, they say of this species, "resembling the others in plumage pattern except that the underwing, mainly white, has a dark anterior border

slightly wider than the dark posterior one." It can be deduced from this statement, as from Condon (1936), that the two species have differing underwing patterns. Unfortunately this description can be applied very well to the illustration they give of *chrysostoma*.

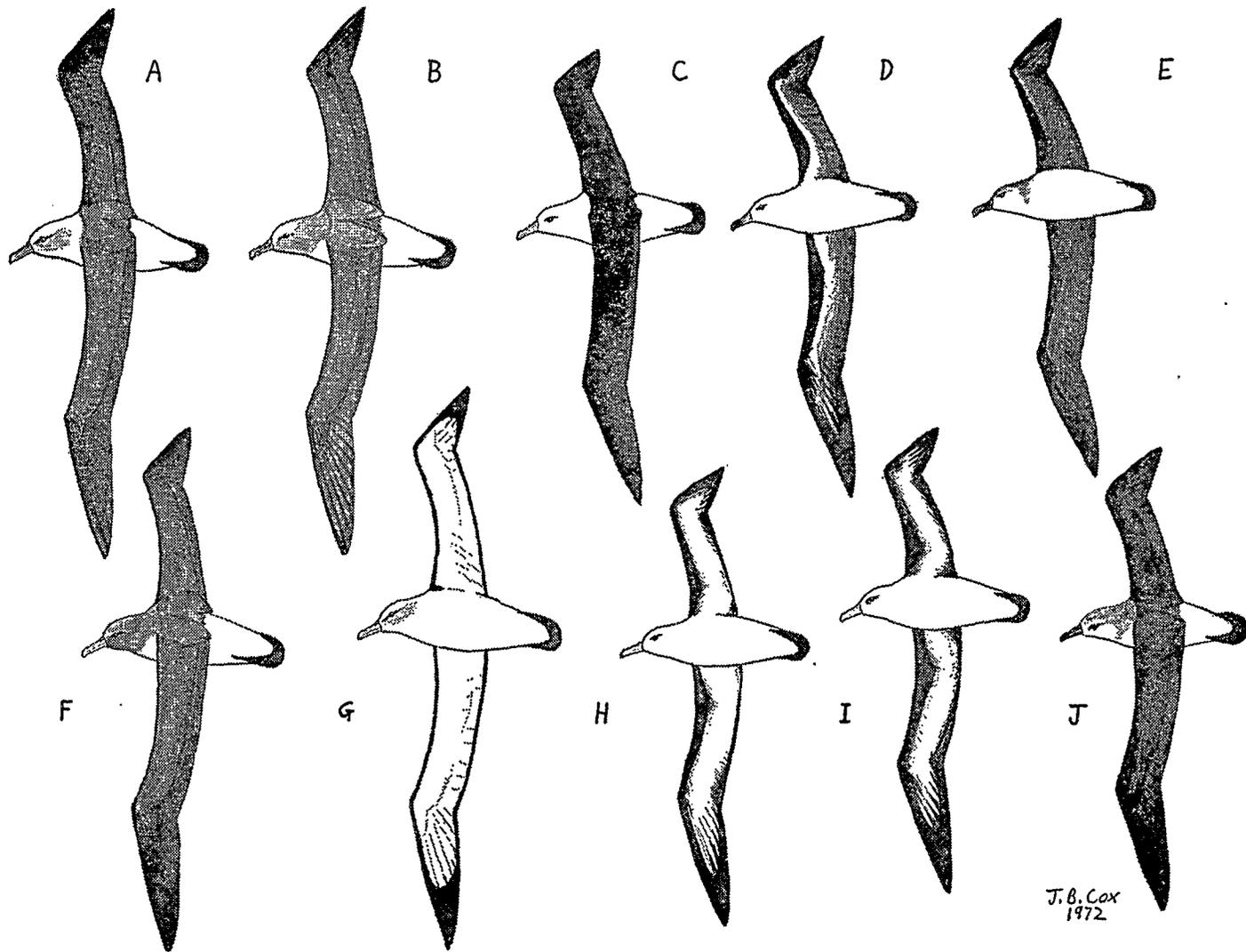
Serventy and Whittell (1967) say misleadingly of *chrysostoma*, "the underwing shows the narrow black edging similar to that of the Yellow-nosed." The underwing of *chrysostoma* is not illustrated as is that of *chlororhynchos*, which shows an excessive amount of black under the wing when compared with many of this species that I have seen. Slater (1970) more correctly describes the underwing pattern of *chrysostoma* as resembling that of *melanophrys*, and illustrates to this effect. But he, like Falla *et al* (1966) and other authorities, illustrate the birds as having disproportionately short, broad wings. Slater apparently tries to rectify this fault by showing too much black in the underwing of *chrysostoma*, while Falla *et al* show too much white. Thus the two works contradict each other by showing the species with very different underwing markings. Serventy *et al* (1971) state correctly (p. 74) that *chrysostoma* can be distinguished from the two other grey-headed species, Shy Albatross *D. cauta salvini* and Buller's Albatross *D. bulleri* "even if the bills are not clearly seen, provided that the underwing patterns are noticed." They also point out (p. 77) that *bulleri* has a similar underwing pattern to *chlororhynchos* and should not be confused with *chrysostoma*. Thus they correct the misleading impression given by Serventy and Whittell (1967). However the line drawing that they give of *chrysostoma* (p. 75) can be seen to be wrong if compared with the photograph on the same page. While it is correct in accordance with the text, which states that the species has about 60% of its underwing white, it differs from the photograph by having a wider dark posterior border, and an anterior border which is straight in pattern, whereas it is shown in the photograph to broaden between the carpal joint and wing-pit. Rogers (1972) points out this fault and, like Slater, states his correct opinion that the underwing of *chrysostoma* is like that of *melanophrys*. He rightly criticises the drawing of *chlororhynchos* on p. 75 because it shows the dark margins to the white under-

wing as equal in width, instead of the anterior margin being the wider.

Robinson (1971) exaggerates the difficulty of differentiating *chrysostoma* and *chlororhynchos* in the field. He states that adult *chrysostoma* "can have a whitish head and neck"—which may be true only in certain cases that I describe below—and that "the underwing patterns are similar"—which is misleading. In fact it seems unlikely that Robinson could have compared the underwings of the specimens of *chrysostoma* and *chlororhynchos* that he refers to, because the difference between the dates of collection of these specimens was nearly four months; and his specimens, like those in the S.A. Museum which I examined, are known to have their wings closed, which would make the underwing pattern impossible to see. Robinson wrongly concludes that "apart from size, the main difference is that the Grey-headed has yellow on the ramicorn and the Yellow-nosed has not."

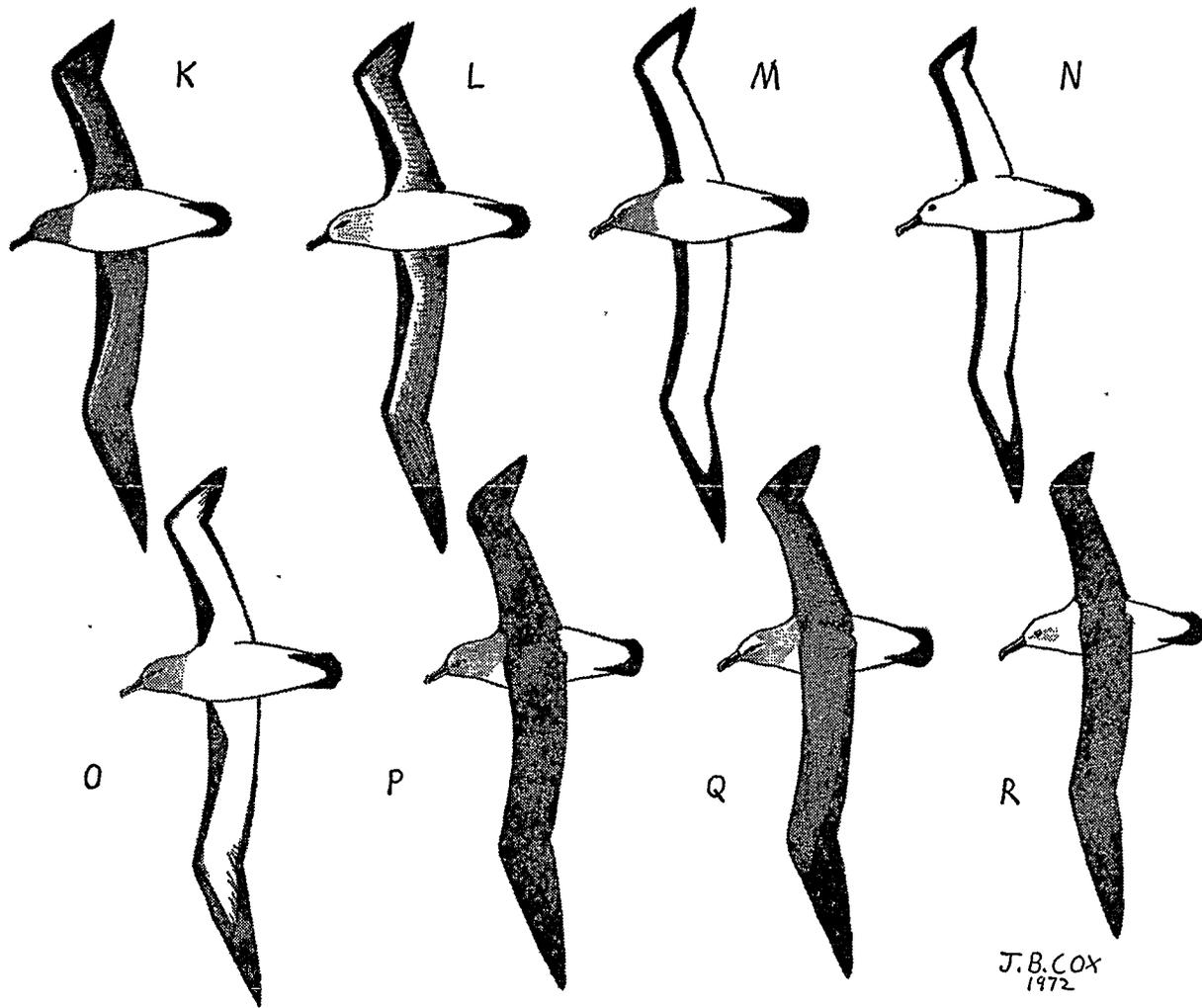
The latest writer, Simpson (1972) rightly says of *chrysostoma*, "the underwing pattern rather resembles that of the Black-browed Albatross and is intermediate in the amount of black margining between the Black-browed and Yellow-nosed species."

Nearly all the available literature, and all available illustrations, show correctly that *chrysostoma* has a different underwing pattern from that of *chlororhynchos*. The only source for the contrary view seems to be Serventy and Whittell (1967). Rogers (1972), Slater (1970) and Simpson (1972) point out that the underwing pattern of *chrysostoma* resembles that of *melanophrys*. But Simpson is the only one of these authors who explicitly compares the amount of dark margining in the two species. My observations support Simpson's description; and Nils Swanson, who regularly sees and bands albatrosses from his fishing boat in the waters near Kangaroo Island, also agrees that it is correct. The dark anterior margin on the underwing of *chrysostoma* is described with relative consistency in the literature, and is usually pictured correctly as broadening from the carpal joint until it reaches the widest point approximately two-thirds of the distance to the body, and then narrowing towards the axilla. The pattern of *chlororhynchos* is always shown with the dark anterior margin being constant in width between the carpal joint and axilla, or



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- Plate 1. A. Shy Albatross *D. cauta cauta*, adult upper.
 B. Grey-backed Shy Albatross *D. cauta salvini*, adult upper.
 C. Black-browed Albatross *D. melanophrys*, adult upper.
 D. Black-browed Albatross *D. melanophrys*, sub-adult under.
 E. Black-browed Albatross *D. melanophrys*, immature under.
 F. Chatham Island Shy Albatross *D. cauta eremita*, adult upper.
 G. Shy Albatross *D. cauta cauta*, adult under.
 H. Black-browed Albatross *D. melanophrys melanophrys*, adult under.
 I. New Zealand Black-browed Albatross *D. melanophrys impavida*, adult under.
 J. Black-browed Albatross *D. melanophrys*, immature upper.



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- Plate 2. K. Grey-headed Albatross *D. chrysostoma*, immature under.
 L. Grey-headed Albatross *D. chrysostoma*, sub-adult under.
 M. Buller's Albatross *D. bulleri*, adult under.
 N. Yellow-nosed Albatross *D. chlororhynchos*, adult under.
 O. Grey-headed Albatross *D. chrysostoma*, adult under.
 P. Grey-headed Albatross *D. chrysostoma*, adult upper.
 Q. Buller's Albatross *D. bulleri*, adult upper.
 R. Yellow-nosed Albatross *D. chlororhynchos*, adult upper.

noticeable, because the transition would appear quite subtle and without the demarcation which shows on flying birds.

The two types of albatross most likely to be confused at a distance are *melanophrys* and *chrysostoma*, in their third or fourth year, if the latter has a whitish head. At this age *melanophrys* has a mainly yellow bill with only the latericorns and tip suffused with brown, while *chrysostoma* has a wholly blackish bill (Tickell, 1969). If these birds are seen sufficiently close, they can be identified by the colour of the bill, because most of this stage of *melanophrys* appear to have a pale bill with a dark tip, which only *cauta* also possesses, and which therefore can be deemed as diagnostic for this species. The unwary might also be warned of confusing *cauta salvini* with *bulleri* even though they are vastly different birds.

In conclusion, *chrysostoma* and *chlororhynchos* can be told apart in the field by their different underwing patterns, and usually by their head colour as well. Only in so far as all adult Australian Diomedea have white underwings with dark edges can *chrysostoma* and *chlororhynchos* be said to have similar underwing patterns. However, very rarely are albatrosses identifiable in the field by head colour and underwing patterns alone. Most birds can usually be distinguished by their bill, their size and comparative shape along with finer points. A separate point worth making is that it seems advisable for museum specimens to have one wing permanently detached, because of the importance of the underwing for the purpose of identification.

The problem of differentiating Diomedea cauta cauta from D. c. salvini in the field.

I have on two occasions seen birds at Waitpinga, S.A., which appeared to be *cauta salvini*. [Note N. Swanson's suspected sightings, on p. 75 — editor.] Although Condon (1968) does not give the race as

having occurred in the State, Serventy *et al* (1971) say that it occurs from New South Wales to south-west Australia. Simpson (1972) says it is suspected, but not proved, to occur in Bass Strait.

The problem of distribution seems hard to resolve, because of difficulties of field-identification. Serventy *et al* (1971, p. 70) say that Falla (in pers. comm. to them) regards "the greyish hood extending down the sides of the neck and contrasting with the light grey back" as being diagnostic of *salvini*. But I regard the pale mantle of *salvini* as an unreliable field-character, because the mantle of *cauta* can also appear rather pale. Therefore, field-differentiation of *cauta* and *salvini* seems to depend on head colour, the former being said to have a mainly white head and the latter a mainly grey one. Unfortunately, it seems uncertain how far this difference also exists in the case of immatures. Simpson (1972) states that immature *cauta* have grey heads and necks, like all ages of *salvini*. This statement could not be true of all ages of immature *cauta*, because I have seen one—still possessing a dark tip to its bill—with a white head, at Waitpinga Beach, South Australia. According to Serventy *et al* (1971), the immature plumage of *cauta* is inadequately described. If this is the case, the omission could and should be made good, as this race breeds in Australian waters. If *cauta* can have a grey head, then field-identifications of *salvini* must be questioned, along with the attributions of photographs such as that alleged by Serventy *et al* (1971) to be of *salvini*, and that alleged by Simpson (1972) to be of an immature *cauta*. The immature plumage of *salvini* is stated by Murphy (1936) to be "exactly like" the adult plumage.

In conclusion, until the immature *cauta* has been authoritatively described, it does not yet seem possible to differentiate it from *salvini* in the field.

COMPARATIVE STATUS OF THE DIOMEDEA IN SOUTH AUSTRALIAN WATERS

Much of our information about the occurrence and status of oceanic birds in South Australian waters comes from beach-washed specimens. While such specimens provide valuable evidence, they can also be misleading, especially in limited quantities. It cannot always be assumed that the incidence of such specimens is the same as

that of live birds. A beach-derelict may, for all we know, have drifted from a great distance — from far outside what anyone would consider as South Australian waters. Moreover a species out of its normal range may be especially likely to succumb to adverse conditions, and thus appear as a beach-derelict. This could be the case with

the six specimens of the Grey-headed Albatross which R. D. Robinson and others (Robinson, 1971) found on Goolwa Beach from July 5 to December 6, 1969. The number of these specimens — and the time-span in which they were collected—are too small to justify generalisation. But anyone reading Robinson's statement (p. 19) that "this was the most common albatross found during the period" of his survey (which continued until September 19, 1970) might think that he had called in question Condon's statement (Condon, 1968), which he quotes, that the species was comparatively rare. In fact, Robinson's findings are undoubtedly atypical of the comparative status of *chrysostoma*, as is shown by the accompanying graph, and by my sightings as given below. It may be that *chrysostoma* is more a species of the open ocean and higher latitudes, as Tickell (1967) suggests, and that *melanophrys* and *chrysostoma* occupy different niches in the ocean habitat, with *melanophrys* favouring the seas adjacent to the continental shelves. The relative abundance of *melanophrys* and scarcity of *chrysostoma* in South Australian waters would certainly support this theory.

My sight-records of live albatrosses from Waitpinga and other points on the South Australian coast during 1971 were as follows: Wandering Albatross *Diomedea exulans*: one adult on August 8. Black-browed Albatross *D. melanophrys*: recorded many times with a maximum of 63 on August 8. This species occurred in greater numbers than any other, although mainly in rough weather. Yellow-nosed Albatross *D. chlororhynchos*: recorded many times with a maximum of 22 on October 3. Condon (1968) states that this species flies close inshore during calm weather. I found that it was often the only species present in calmer weather, and in rough weather was not usually as numerous as the Black-browed. Grey-headed Albatross *D. chrysostoma*: recorded only on August 3, when three birds were present. Shy Albatross *D. cauta*: recorded on one occasion in May and three times in October with a maximum of four on October 3. Although fewer observations were made in 1972, a similar frequency of records was found, the Wandering Albatross being the only previously recorded species not seen.

To ascertain the status of the South

Australian *Diomedea*, all records obtainable, including beach-derelicts, were collected and condensed into the accompanying graph, the purpose of which is to show the relative status of the *Diomedea*, and the seasonal variation in their numbers. The area to which the graph applies consists of South Australian coastal waters from the Murray Mouth to Port Lincoln. The bulk of the records come from this area, and very few are from further west. The records on which the graph is based are sufficiently numerous for its purpose. Those of the Black-browed and Yellow-nosed Albatrosses run to several hundred, and are quite numerous enough to prove that the first is the commonest species and the second the next commonest, and to give a fairly complete picture of their seasonal occurrence. Records of the other three species are much less numerous (probably under fifty in each case), and so give only an approximate idea of the seasonal variation in their numbers. The graph may not include, for example, all the months in which these species are present in significant numbers. Nils Swanson states (see p. 75) that the Shy Albatross may be the commonest species during some summers. But even in the case of the rarer species, the graph does indicate the most likely months in which each species can be seen. In the case of each species, beach-records collected over a long period have been used in combination with sight-records. There is no reason to expect any significant bias in the records used for this graph. In other words, they can be relied on to give a reasonably accurate picture of the real status of these species in South Australian coastal waters.

This graph differs in several respects from Nils Swanson's findings—in his article which accompanies this one—about the comparative status of albatrosses within 20 miles of Kangaroo Island coasts. The main differences are that Swanson has found *melanophrys* to be comparatively more numerous throughout the year and especially in winter, *cauta* to be comparatively more numerous in summer, and *chlororhynchos* to be comparatively less numerous in winter, with its numbers varying less between seasons. Less important differences are that he has often recorded *chlororhynchos* in November and December, and he has found that the

numbers of *melanophrys* normally increase continuously from May to July.

Swanson states (in pers. comm. to the editor) that the main differences can be accounted for by the fact that his "inshore" range extends to about 20 miles from the coast, whereas this graph is restricted to a range of only a few miles from the coast (except presumably for a certain proportion of beach-derelicts). Local variations in status—that is differences between one section of coastline and another not far away—may also account for some of the differences between his findings and the graph. He adds the warning that the total numbers, comparative status and seasonal occurrence of albatrosses can all differ greatly between one year and another.

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