

**Fig. 1.** On this adult **Atlantic Yellow-nosed Albatross**, note the light-gray hood; paler forehead and fore-crown; small, dark, triangular eye patches; eel-shaped culminicorn stripe; and relatively broad rounded base to the culminicorn. *Gough Island, South Atlantic Ocean; September 21, 2013. Photo by © Peter Ryan.*

# The 2 Yellow-nosed Albatrosses

## MOLT, AGE, AND IDENTIFICATION

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The thought of an albatross gliding effortlessly over the sea in its native, windy Southern Ocean is therapeutic. Think albatross, ease back into your armchair, and drift away. But yell “Albatross!” during an East Coast pelagic, and you’ll set off unrestrained disorder as folk leap from their seats and tussle for a view. It’s an ornithological emergency!

“What species is it?”

“It’s Yellow-nosed.”

“I see that, but which species is it, Atlantic Yellow-nosed or Indian Yellow-nosed?”

[Pause]

“There’re *two* species?”

“Yep.”

“Wow. So which one? Can you do them?”

Indeed, we can “do them.” Given reasonable views, it is possible to identify and to age Yellow-nosed Albatrosses based on a combination of characters. Key are **primary** molt and wear, plumage, and bill pattern.

### Introduction

Take a look at your *ABA Checklist*, and you’ll see mention of a Code 4 species of albatross, the Yellow-nosed Albatross (*Thalassarche chlororhynchos*). However, this taxon comprises two distinct populations, and they are treated by many authorities as separate species, as here. The **Atlantic Yellow-nosed Albatross** (*T. c. chlororhynchos*, hereafter *T. chlororhynchos*) breeds only in the Tristan da Cunha group and on nearby Gough Island in the South Atlantic, with a population estimate of 29,000 pairs (Ryan 2007). The **Indian Yellow-nosed Albatross** (*T. c. carteri*, hereafter *T. carteri*)

breeds on islands in the South Indian Ocean and is estimated to number 41,600 pairs (ACAP 2012). The split of the Yellow-nosed Albatross, proposed by Robertson and Nunn (1998), is widely accepted (e.g., Brooke 2004, ACAP 2007, Hockey et al. 2007, Onley and Scofield 2007, BirdLife Australia 2015).

A compendium of albatross reports for the northwestern Atlantic Ocean details 42 accepted records of Yellow-nosed Albatross, from Texas to Newfoundland, with 40 since 1960 (Davis 2014). Several more have been reported since the compendium was published (Davis 2015).

Only the Atlantic Yellow-nosed has been positively identified in the North Atlantic (see Davis 2014, Gantlett and Pym 2007). But it is dangerous to assume that all North Atlantic records involve Atlantic Yellow-nosed. The status of the Indian Yellow-nosed in the Atlantic Ocean is uncertain because it looks so similar to Atlantic Yellow-

nosed. Indian Yellow-nosed is widespread off the south and east coasts of southern Africa, with some reaching the west coast of South Africa. The population over the southern African continental shelf and shelf-break has been estimated at 20,000 in the winter and 14,000 in the summer (Hockey et al. 2005). Another **mollymawk** (terms in boldface are defined in

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### The Yellow-nosed Albatross likely consists of two species—but what is their status in the ABA Area?

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the glossary, p. 47). the taxonomically problematic Shy Albatross (treated here as *T. cauta*), breeding in Australasia, also moves to southern African waters (110,000 birds in winter, 60,000 in summer) and some continue into the South Atlantic (Hockey et al. 2005). So the Indian Yellow-nosed might do the same thing, and a few could continue into the North Atlantic. It is also conceiv-

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able that Indian Yellow-nosed could vagrate to the U. S. West Coast, after the manner of Shy Albatross. (Note: The AOU and ABA recently endorsed a multi-way split of the Shy Albatross, at least two species of which are represented by ABA Area records.)

## Identification

The two species of Yellow-nosed Albatross look similar in most respects; a general introduction for a North American audience is given by Howell et al. (2014). They can be separated, however, on the basis of head and neck plumage and the pattern along the top of the bill.

In fresh plumage, typical adults of the two species are relatively straightforward to identify. The Atlantic Yellow-nosed (Fig. 1) has a light-gray hood covering the head and hind-neck, with a paler forehead and fore-crown. It has smallish but obvious dark, triangular eye patches; the eyebrows are short and narrow behind the eyes, thick forward of the eyes and nearly reaching the bill. The Indian Yellow-nosed (Fig. 2) has a whitish head and neck; a very light-gray wash over the face and cheeks; and less obvious and smaller, darkish, more-rounded eye patches, with the eyebrows relatively indistinct and short behind and forward of the eyes. On more-worn birds, though, adults (and sub-adults) look increasingly alike as the head and neck feath-

ers become abraded, bleached, and more evenly white.

Plumage differences between juveniles of the two species are small and of marginal help in field identification. Both have a white head. Atlantic Yellow-nosed has small, dark-gray, triangular eye patches; Indian Yellow-nosed has very small, light-gray, more-rounded eye patches, imparting a beady-eyed look.

Thankfully, there are consistent differences in the shape of the **culminicorn** stripe (Brooke et al. 1980), easier to see on the yellow stripes of adults than on the duller stripes of sub-adults, and in the shape of the **proximal** end of the culminicorn (Robertson 2002, Gantlett and Pym 2007, Rowlands et al. 2010). Good photographs looking down onto the bill are the failsafe way to confirm these features.

On Atlantic Yellow-nosed, the culminicorn stripe is broadest just above the nostrils and rounded at the base, giving an eel-like shape—with the head of the “eel” above the nostrils and the body of the “eel” below the nostrils (Fig. 1). On Indian Yellow-nosed, the culminicorn stripe on average is narrower and is attenuated above the nostrils and fairly pointed at the base, giving a pencil shape (Fig. 2). This feature may be less consistent in sub-adult birds.

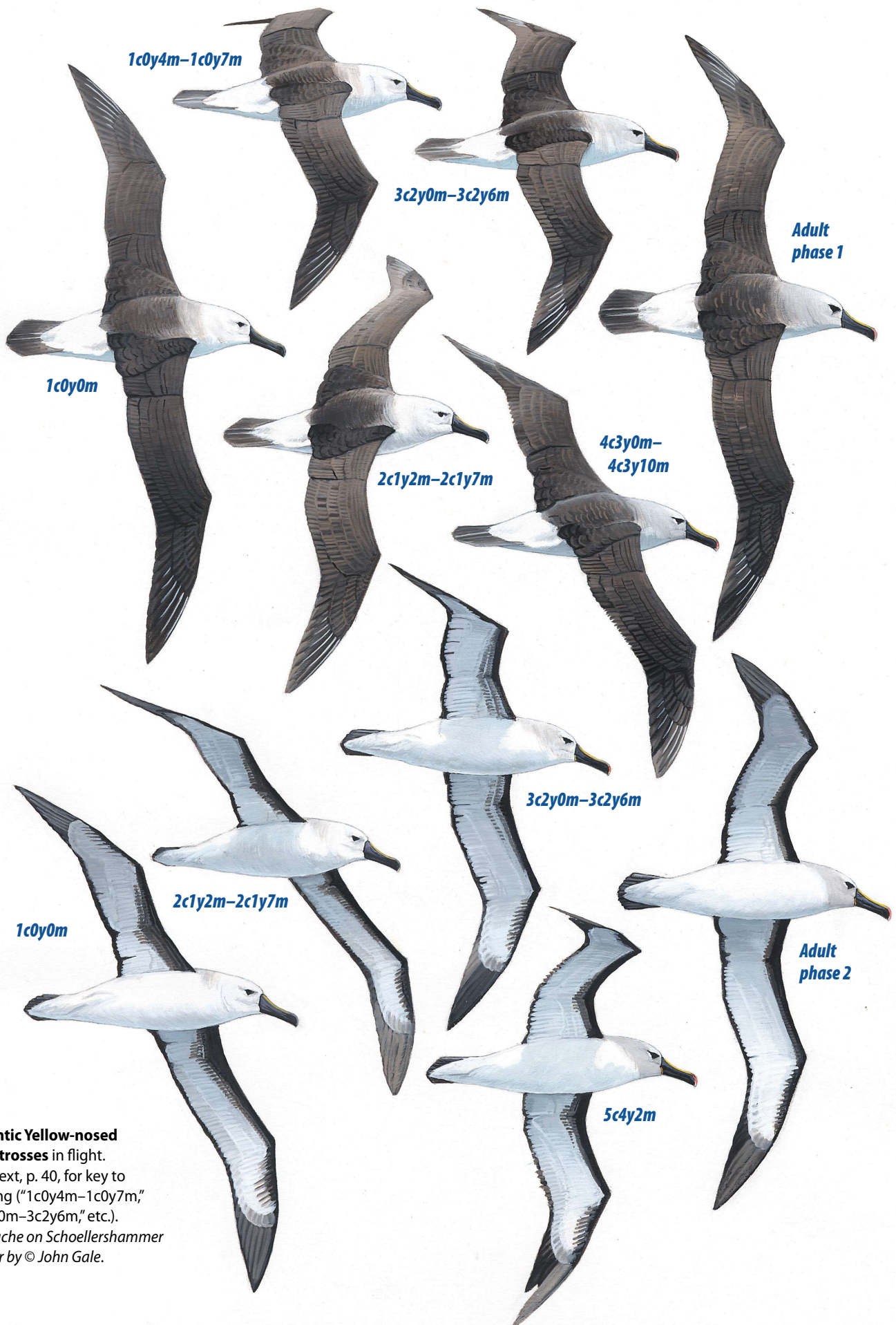
On Atlantic Yellow-nosed, the culminicorn broadens behind the nostrils and has a relatively broad rounded base at the bare skin, and the **naricorn** has convex sides. On Indian Yellow-nosed, the culminicorn is narrower and more-tapered at the base, and the naricorn has straighter sides. This feature is consistent with both adult and immature birds.

Note: Field separation of the yellow-nosed albatrosses from Black-browed and Gray-headed albatrosses is covered in depth in

**Fig. 2.** On this adult **Indian Yellow-nosed Albatross**, note the white head with a very light-gray wash over the face and cheeks; the small, indistinct, dark, rounded eye patches; the pencil-shaped culminicorn stripe; and the relatively narrow and tapered base to the culminicorn. Off Perth, Western Australia, eastern Indian Ocean; April 1, 2012. Photo by © Alan Collins.







**Atlantic Yellow-nosed Albatrosses** in flight.

See text, p. 40, for key to coding ("1c0y4m-1c0y7m," 3c2y0m-3c2y6m," etc.).

Gouache on Schoellershammer paper by © John Gale.

Flood and Fisher (in press), from which the plates here are taken.

### Molt and Wear

Like all other birds, Indian and Atlantic Yellow-nosed Albatrosses molt in cycles (see Howell 2012). For adults, each annual molt commences following breeding; for sub-adults, the annual molt occurs earlier, gradually synchronizing with the adult molt cycle by about the fifth cycle, when the bird is approximately four years of age, (Furness 1988, Bugoni and Furness 2009, Bugoni et al. 2015); before that, these two species follow an annual cycle only approximately. Molt timings summarized below are approximate and vary between individuals. Note, too, that birds present for long periods of time in the northern hemisphere might be expected to show aberrant or asynchronous molt schedules (Howell 2012).

- *The first molt cycle* involves a complete molt in the nest, producing the juvenile plumage.
- *The second and subsequent cycles* involve molt of the head, body, and tail feathers.
- *The third and subsequent cycles* involve wing molt. The pattern of primary molt in primaries 5–10 (P5–P10, P10 being the outermost) is key to aging. The third and fifth molts typically include the renewal of P8–P10 (“phase 1” primary molt; see plates), but not P5–P7, which are typically replaced in the fourth and sixth molts (“phase 2” primary molt; see plates). This pattern of middle and outer primary molt continues into adulthood (Tickell 2000). Hence, from the third molt onward, molt contrast is normally evident between P5–P7 and P8–P10 (see Fig. 3). There are exceptions (see Fig.

4), but the general pattern holds. Many worn and bleached juvenile **secondaries** are retained into the third cycle, and some are retained into the fourth cycle, giving an irregular, sometimes ragged trailing edge to the inner wing.

### Recording Age

By convention, Indian and Atlantic yellow-nosed albatrosses are assumed to fledge on May 1, when they are said to be 0 years 0 months old. Age is recorded with reference to molt cycle, years, and months. For example, a bird in November of its first calendar year is 1c0y6m (1st cycle, 0 years, 6 months), a bird in August of its second calendar year is 2c1y3m (2nd cycle, 1 year, 3 months), and so on. Note that a bird in its third plumage cycle can be in its second year since fledging; for example, 3c1y9m is a bird in February of its second year of life but in its third plumage cycle. Note further that this aging scheme differs from the “American,” or “banding,” scheme, in which the hatch year is counted as the first year.

### Aging criteria

Criteria in this section are based on studies by Furness (1988), Bugoni and Furness (2009), and Bugoni et al. (2015); see Flood and Fisher (in press) for further details on how these criteria were determined. A few general assumptions and points of terminology are in order: Fresh **remiges** are blackish-gray but become increasingly browner and paler with age; primaries and their respective greater coverts molt together. The bill is made up of a number of plates, but I refer mainly to the culminicorn and the **maxillary unguis**, the two main parts relevant to identification.

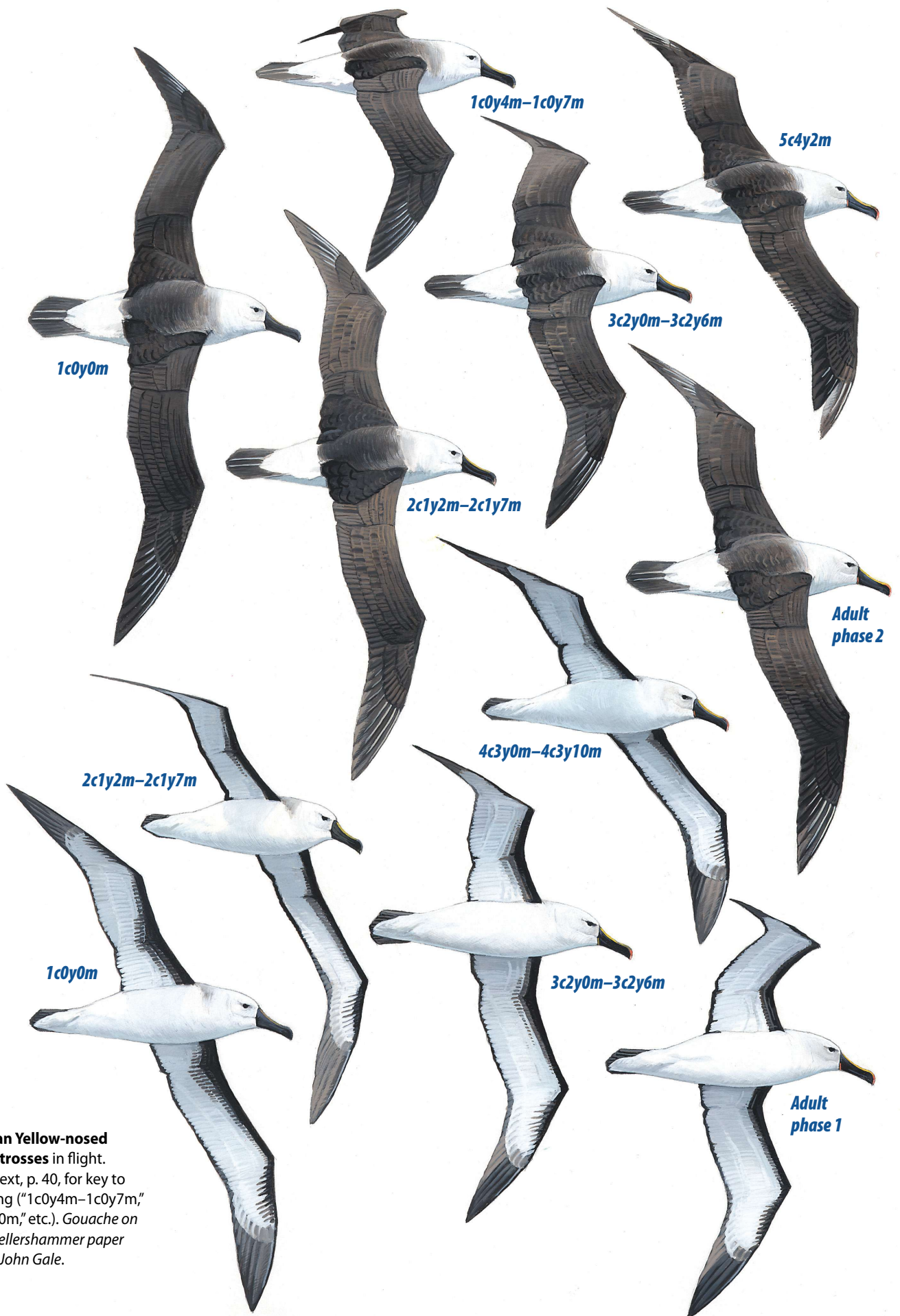
#### First cycle

- *Molt and wear*— In both species, molt in the nest produces juvenile plumage. Both species fledge with uniformly fresh plumage, although some feathers may show wear from the nest. The dark, brownish-gray feathers of the upper-parts slowly bleach browner with age and lack molt contrast. There may be limited head and body molt, but in the first six months after fledging, most feathers are of the

**Fig. 3.** This mollymawk was identified at sea as an **Indian Yellow-nosed Albatross**. Note the very small, light-gray, rounded eye patch imparting a beady-eyed look. Molt contrast between fresh dark P8–P10 and browner, paler, abraded P5–7, in addition to many retained worn and bleached secondaries, indicates a third-cycle bird (3c2y0m). The culminicorn stripe is obscured, given the angle of view, but the tip to the bill is pale. *Agulhas Bank, off South Africa, western Indian Ocean; May 10, 2009. Photo by © Peter Ryan.*







**Indian Yellow-nosed  
Albatrosses** in flight.

See text, p. 40, for key to  
coding ("1c0y4m–1c0y7m,"  
5c4y0m," etc.). *Gouache on  
Schoellershammer paper*  
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same (juvenile) generation (Fig. 5).

- **Bill**—Blackish in both species; on fledging, the bird's culminicorn stripe typically is an indistinct brownish with a paler base, becoming dirty yellowish with a pale tip to the bill. Some birds fledge with dirty yellowish in the culminicorn stripe.
- **Head and neck**—On Atlantic Yellow-nosed, whitish with small, dark-gray, triangular eye patches. On Indian Yellow-nosed, whitish with very small, light-gray, more-rounded eye patches giving a beady-eyed look.

## Second cycle

- **Molt and wear**—In both species, molt takes place January–October; may start earlier in a protracted molt as suggested for Black-browed Albatross (*T. melanophris*) (Howell 2012). Head, body and, at least in some birds, tail molt may be under way

**Fig. 4.** On this **Atlantic Yellow-nosed Albatross**, note the small, dark, triangular eye patch typical of the species; other photos of this bird showed an eel-shaped culminicorn stripe. Molt contrast between fresh dark P9–P10 and browner P6–8 with bleached primary shafts indicates a third-cycle individual; P8 has not been replaced in the third cycle on either wing. The bird could be a 3c1y9m having just finished primary molt—but somewhat early, with only two primaries replaced.

However, the ragged edge to the inner wing results from many retained, very worn and bleached juvenile secondaries; and P6–8 are also very worn. So this bird more likely is a 3c2y9m just prior to entering the fourth cycle, perhaps somewhat late. The well-developed yellow culminicorn stripe and pale line at the base of the lower mandible support classification as a 3c2y9m. A complication with birds in the northern hemisphere, like this one, is that the molt schedule can be disrupted by the northern photoperiod. *Off Hatteras, North Carolina, western Atlantic Ocean; February 22, 2014. Photo by © Kate Sutherland.*

by six months after fledging but should be evident by January. Upper-wings juvenile, variably bleached browner, contrasting with fresh, dark brownish-gray back and scapulars (Fig. 6). Juvenile outer primary tips frayed and outer primary shafts bleached whitish; in more severe cases, these can be taken as a generation older than the middle primaries, with the bird incorrectly aged as older than second cycle.

- **Bill**—Blackish in both species; culminicorn stripe variable brownish to dirty yellowish; tip pale.
- **Head and neck**—Similar to first-cycle birds.

## Third cycle

- **Molt and wear**—In both species, molt takes place January–October. First molt of P8–P10 during the austral summer (roughly January–April) gives strong contrast with juvenile P5–P7. Primary shafts of P5–P7 bleached whitish. Many worn and bleached juvenile secondaries give irregular trailing edge to inner wing. Remiges either new or retained juvenile.

- **Bill**—Blackish in both species; culminicorn stripe variable dirty yellowish to yellow; tip pale.
- **Head and neck**—Both species develop a pale line at base of lower mandible. On Atlantic Yellow-nosed, patchy whitish to light-gray hood, eye patches better developed. Indian Yellow-nosed may show signs of light gray over the face and cheeks; eye patches weak. Beware, as noted above, that sub-adults (and adults) of both species look increasingly alike as the head and neck feathers become abraded, bleached, and more evenly white.

## Fourth cycle

- **Molt and wear**—In both species, molt takes place January–October. First molt of P5–P7 during austral summer (roughly December/January–April as for Black-browed







**Atlantic Yellow-nosed Albatrosses** on water. See text, p. 40, for key to coding ("1c0y0m," 2c1y2m–2c1y7m," etc.).  
 Gouache on Schoellershamper paper by © John Gale.



Albatross, possibly later; Flood 2014) gives moderate contrast with third-cycle P8–P10. Primary shafts of P8–P10 bleached whitish. Some very worn and bleached juvenile secondaries give irregular or ragged trailing edge to inner wing.

- *Bill*– Black in both species; culminicorn stripe yellow; maxillary unguis dark with rosy hints; tip pale.
- *Head and neck*– Adult-like.

## Fifth cycle (“first adult cycle”)

- *Molt and wear*– In both species, molt takes place April–September. Primary molt April/May–August/September includes P8–P10, and gives moderate contrast with fourth-cycle P5–P7. Typically attains definitive basic plumage in fifth cycle.
- *Bill*– Glossy blackish in both species; orange-yellow culminicorn stripe merges with rosy maxillary unguis; pale tip.
- *Head and neck*– On both species, note orange line at base of lower mandible; orange cheek stripes sometimes visible and extend to behind the eyes. On Atlantic Yellow-nosed, note light-gray hood;

**Fig. 5.** This mollymawk was identified at sea as an **Indian Yellow-nosed Albatross**. Note the very small, light-gray, rounded eye patch, imparting a beady-eyed look. The culminicorn stripe is an indistinct brownish-yellow, and the bill is just acquiring a pale tip, typical of first-cycle birds on this date (1c0y6m). The upper-wings and upper-tail are somewhat bleached but fairly evenly brownish with no molt contrast, and the primary shafts are not strongly bleached. However, there is evidence that body molt has commenced, with a number of fresh, dark, brownish-gray feathers on the back intermixed with browner ones, possibly indicating commencement of the second cycle. *Off Durban, South Africa, western Indian Ocean; Nov. 22, 2014. Photo by © Dominic Rollinson.*

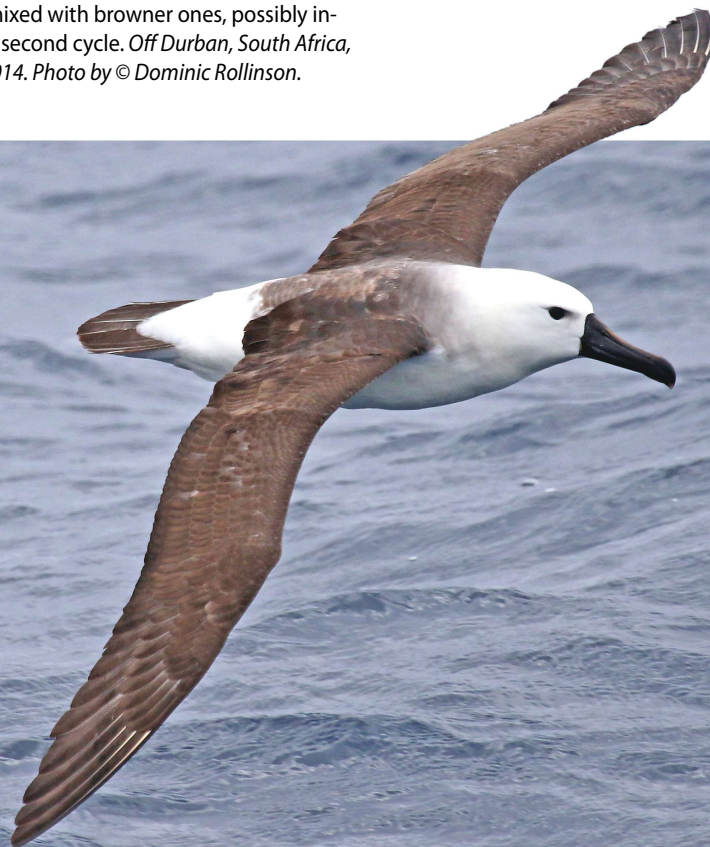
paler forehead and fore-crown; small, dark, triangular eye patches formed by blackish eyebrows merged with dark-gray posterior lores. Eyebrows short and narrow behind eyes, thick forward of eyes nearly reaching the bill. On Indian Yellow-nosed, head white with very light-gray wash over face and cheeks. Smaller, less obvious, darkish, more-rounded eye patches; eyebrows relatively indistinct and short behind and forward of eyes.

## Acknowledgments

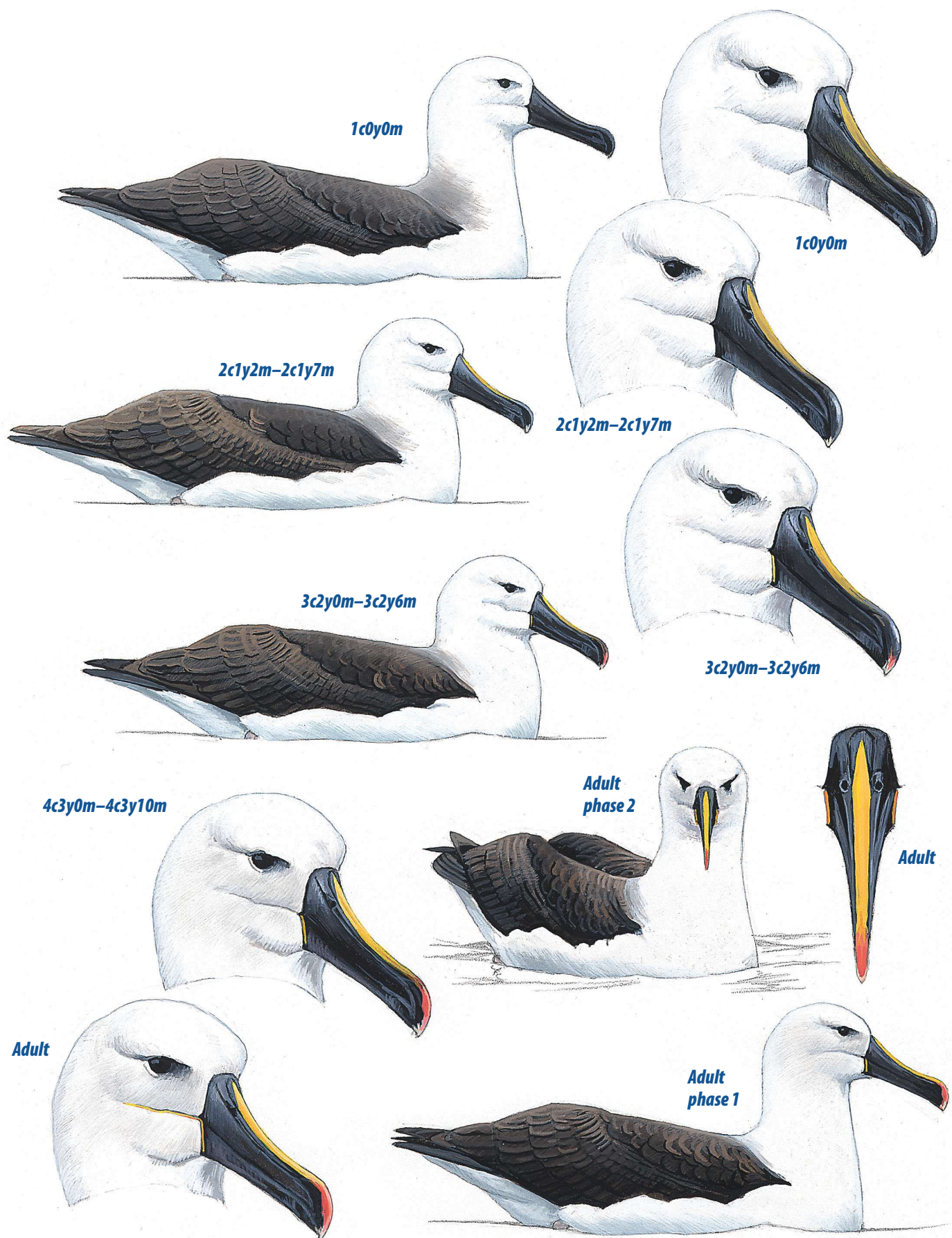
Leandro Bugoni and Peter Ryan provided invaluable information and insights from their research into molt, aging and identification of Atlantic and Indian yellow-nosed albatrosses. Bugoni, Ryan, and Steve Howell kindly gave feedback on the manuscript.

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**Indian Yellow-nosed Albatrosses** on water. See text, p. 40, for key to coding ("1c0y0m," 2c1y2m–2c1y7m," etc.).  
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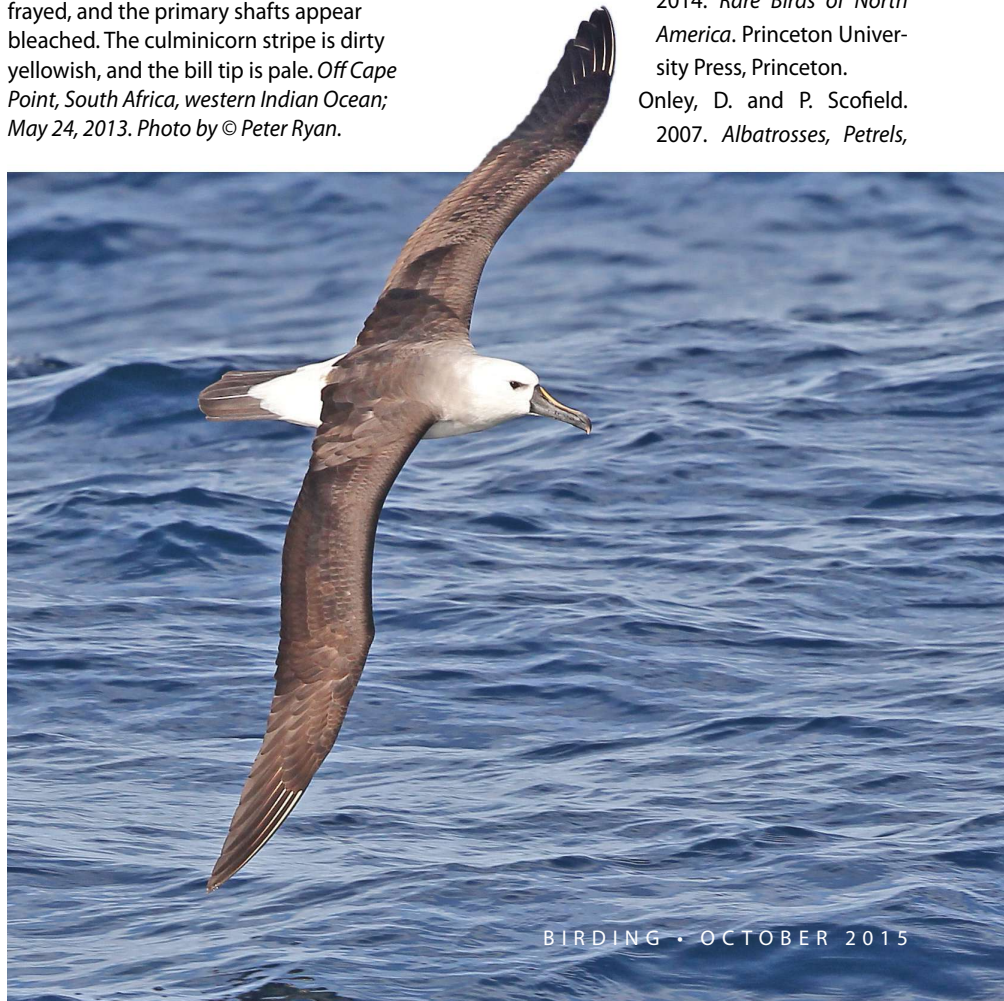
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**Fig. 6.** This mollymawk was identified at sea as an **Atlantic Yellow-nosed Albatross** (2c1y0m). Note the whitish head with small, dark-gray, triangular eye patch. Mainly relatively fresh, dark brownish-gray feathers on the upper-body contrast with the largely bleached, browner juvenile upper-wings. The outermost primaries are somewhat frayed, and the primary shafts appear bleached. The culmicorn stripe is dirty yellowish, and the bill tip is pale. *Off Cape Point, South Africa, western Indian Ocean; May 24, 2013. Photo by © Peter Ryan.*



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## Glossary

**Culminicorn.** One of the bill plates, it sheathes the upper mandible from the base outward toward the tip.

**Maxillary unguis.** Tip of the upper mandible.

**Mollymawk.** Informal name given to the medium–small albatrosses, especially those in the genus *Thalassarche*; more generally, those species that aren't the “great albatrosses,” genus *Diomedea*.

**Naricorn.** A small bill plate, wedged in near the base of the larger culminicorn, it covers and protects the nostrils.

**Primaries.** The long, powerful outer flight feathers of the wing, important in field ID for many birds, including albatrosses; they are numbered from outermost to innermost, P10, P9, P8, etc., for the albatrosses in this article.

**Proximal.** Closer to the body.

**Rectrices** (sing., *rectrix*). The flight feathers of the tail.

**Remiges** (sing., *remex*). The flight feathers of the wing, i.e., the *primaries* plus the *secondaries* (plus tertials and humerals).

**Secondaries.** The inner flight feathers of the wing; compare with *primaries*.

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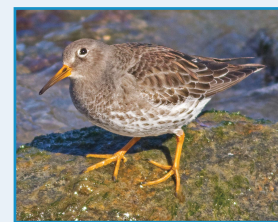
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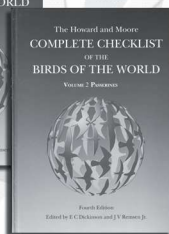
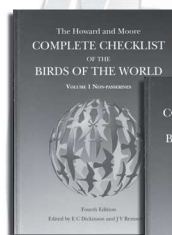
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