

SMALL SHEARWATERS ARE NOT ALWAYS BLACK AND WHITE

- AND NEITHER ARE PHOTOGRAPHS

by Wayne R. Petersen, Whitman

On August 28, 1982, Bird Observer of Eastern Massachusetts sponsored a pelagic bird trip to the waters southwest of Martha's Vineyard and Nantucket Island. The date and relative proximity to waters seasonally warmed by the late summer influence of the Gulf Stream created a potential for observing several species of marine mammals and pelagic birds that would be otherwise unexpected on more traditional Stellwagen Bank pelagic trips. Among the species possibly to be encountered was Audubon's Shearwater (Puffinus lherminieri).

With this in mind over one hundred zealous observers left Plymouth at 4:30 A.M. for a lengthy trip through Buzzards Bay and southward past Cuttyhunk Island to a point approximately thirty-five miles southwest of Martha's Vineyard. By 11:30 A.M., heavy sea conditions and the factor of return travel time made it impossible to continue further toward the edge of the Continental Shelf or to the fifty fathom line, two critical oceanographic features that influence the distribution of warm-water cetaceans and pelagic birds in the region under discussion. A decision was made to "chum" using a concoction comprised of cod livers and fish remains. Within twenty minutes a few gulls, a small group of Wilson's Storm-Petrels (Oceanites oceanicus), and a small dark and white shearwater arrived to feed over the slick. At once, the small shearwater attracted great interest. Initially thought to be a Manx Shearwater (P. puffinus), a closer inspection by many of New England's most respected field ornithologists determined the bird to be Audubon's Shearwater, a species with which a number of observers on board had had previous field experience. Based upon its obviously brownish upperparts, apparently diffuse face pattern, long-tailed appearance, and distinctive behavior, the identification seemed conclusive. Despite the fact that several observers noted rather extensively white undertail coverts with only a narrow dark band showing at the distal end of the ventral tail surface, the characters described above and the fact that the season and location were appropriate for Audubon's Shearwater, all created a consensus that the bird in question was indeed Audubon's Shearwater - the first ever recorded on a pelagic birding trip off the Massachusetts coast.

Alan Brady from Pennsylvania, widely travelled photographer and respected birder, succeeded in getting several excellent black and white pictures which he kindly forwarded to the author upon request. Likewise, Alden Clayton of Concord, an equally respected local observer, was able to secure a respectable colored slide of the bird in question. Examination of Brady's photos (see accompanying pictures) seems to



*Shearwater
August 28, 1982
pelagic trip*

*Photo by
Alden Clayton*



*Shearwater
August 1982 pelagic trip
Photo by Rick Cech*

*These two photos by Rick Cech
of Connecticut were taken of
the bird in question on the
August 28 trip and were added
as the issue went to press.*



*Shearwater
August 28, 1982 pelagic trip
Photo by Rick Cech*

reveal a shearwater with long and extensively white undertail coverts, a sharp demarcation between the dark cap and the white face, dark cheeks, a relatively heavy bill, and body proportions in the flight photograph that are suggestive of Manx Shearwater - another species familiar to many on the trip, including the author, from prior field observations. In summary, Brady's photographs point to the shearwater's identity as Manx Shearwater, not Audubon's as originally determined. Close scrutiny of Clayton's colored slide of the same bird reveals what appears to be a long, ventrally dark tail against which the bird's feet are readily conspicuous, an extensive white cheek area, and a long-tailed, short-winged appearance that are characteristic of Audubon's Shearwater.

There are object lessons to be gained from these events. The first, and perhaps most germane to the issue at hand, concerns the use of photographic evidence to substantiate and support field observations. Dorothy Snyder, who co-authored the book Birds of Massachusetts (1955) with Ludlow Griscom, in 1956 published an article in the Bulletin of the Massachusetts Audubon Society in which she appropriately pointed out the value of using high quality photographs to document noteworthy Massachusetts state records. In closing her article, she wisely cautions, "It must be realized that for many forms no proofs other than specimens are adequate." In the light of recent advances in field identification techniques and given the level of expertise and sophistication present in many of today's top field experts, this situation is admittedly less true than it was twenty-five years ago. Nonetheless, the fact remains that not all species can be readily differentiated, and, more to the point, not all photos can be used to solve field problems. For instance, the use of photographic proof as a way of routinely establishing distributional records is what sets journals such as American Birds apart from The Auk and The Condor. In the first journal, ready use of quality photographs is considered acceptable evidence for the documentation of unusual field records. In the latter two journals, seldom is anything short of a specimen record deemed acceptable unless the photographs provide unequivocal proof. Needless to say, both have their value and both represent current perspectives in ornithology.

In the case of the shearwater photographed off Martha's Vineyard, we are confronted with both the question of interpretation of photographic evidence and of the inherent difficulties associated with the identification of Manx and Audubon's shearwaters. The fact is that the field identification of small shearwaters is not always a black and white situation. There are frequent allusions in the ornithological literature to the problems involved in identifying small shearwaters at sea. For a discussion of the problem the interested reader should especially consult the works and comments of Gordon (1955), Bailey (1955), Griscom (1955), Palmer (1962), Post (1964), Watson (1966), Leahy (1974), Bull (1974), and Cramp (1977). While the finite characters used

to differentiate Manx from Audubon's shearwaters are well treated in the works here listed, those of Palmer, Post, and Leahy are particularly useful. This paper will not attempt a thorough synthesis of existing distributional and identification information but will merely highlight the most critical considerations involved in identifying small shearwaters, particularly with the thought in mind of enlightening future observers as to the pitfalls to be encountered when dealing with birds in this group. The comments that follow will not deal with the Little Shearwater (*P. assimilis*) of the eastern Atlantic Ocean, a species whose occurrence in the western North Atlantic Ocean has been recorded fewer than five times.

Perhaps no introductory comment is more appropriate than to quote George Watson (1966), one of the world's leading seabird authorities, who writes, "The three species of small black and white shearwaters are very difficult to identify unless seen together for comparison (a very rare chance)." In essence, the Manx Shearwater is a small black and white species with long wings and a short tail. It is most common over ocean waters with cold surface temperatures. To be more precise, the race *P. p. puffinus* is typical of the Boreal Zone of Brown et al. (1975), a region characterized by August surface temperatures between 10° and 19° centigrade. While apparently regular in New England waters from March to November, there is also a scattering of winter sight records as well. The species was first recorded in the northern Chesapeake Bight off Maryland in 1974 (Rowlett 1980), and there are specimen records from Florida and Texas (Clapp et al. 1982). In 1973 a Manx Shearwater's nest was found on Penikese Island, establishing a first North American breeding record (Bierregaard et al. 1975). The reader is referred to the paper by Post (1967) for a full discussion of the distribution of all the small shearwaters in the western Atlantic Ocean.

Audubon's Shearwater is smaller and usually, though not always, browner than the Manx Shearwater, and it has short wings and a long tail. It is strongly associated with warm surface water and is typical of the Cool Subtropical Zone (Brown et al. 1975), a region with August surface temperatures ranging between 19° and 23° centigrade. Audubon's Shearwater was first recorded in Canada in 1975 (Godfrey 1976); however, its northern distribution is apparently regular only to the outer Continental Shelf area of New England (Powers et al. 1982) or occasionally closer to shore when late summer Gulf Stream eddies raise inshore surface temperatures (Brown 1977 and Davis 1978). There are only three confirmed records for Audubon's Shearwater in our inshore area, all specimens from the Martha's Vineyard - Woods Hole region (Griscom 1955 and Keith 1968).

The most critical characters upon which an observer should concentrate when seeing a small shearwater at sea are undertail pattern, face pattern, shape, and behavior. Manx

Shearwaters in the western North Atlantic are of the race puffinus, a population that exhibits long, extensively white undertail coverts. When the short, black tail is closed, the effect produced is that the undertail is white with a narrow black border. At a distance and on birds sitting in the water, the undertail often looks completely white. CAVEAT: In flying birds that are banking into the wind with their tails fanned, the outer portion of the undertail appears extensively black but always retains the central intrusion of white created by the undertail coverts. The reader should see Figure 2 in Post (1964).

In contrast, the Audubon's Shearwater has a longer tail and shorter, dark undertail coverts. These two features create the impression of a completely dark undertail with little or no white visible. In some individuals the dusky coloration on the undertail coverts may actually extend forward between the legs. In either case, the total absence of white under the tail, combined with the extra tail length compared to the Manx Shearwater, serve to give the undertail area more the look, minus the dusky belly patch, shown by the Greater Shearwater (P. gravis) than that of the Manx Shearwater. The accompanying photograph of a bird off the Virginia coast demonstrates this effect very clearly.

The face pattern of shearwaters can be difficult to observe clearly under many circumstances; however, there are some important differences if they can be seen. Manx Shearwaters have black caps set off from the white of the face by a line running backwards from the gape of the bill, below the eye and including the cheek area. Audubon's Shearwater has this line of demarcation beginning slightly above the bill gape and extending backwards at an angle that runs through the eye and above the cheek area. These differences have a tendency to make Audubon's Shearwater appear whiter faced and to have a less contrasting cap and face demarcation. CAVEAT: Manx Shearwaters usually exhibit a pronounced, mottled white triangle in the ear region (see Harper and Kinsky 1978) which should not be construed to be the white cheek area described above for Audubon's Shearwater.

The shape and behavior of Manx and Audubon's Shearwaters are sufficiently different to be of use in separating the two species under field conditions. In fact, under many circumstances, these may be the singularly most useful identification criteria. The flight of the two species is a function of the proportional wing and tail differences described above. In general, the long-winged Manx Shearwater flies much like a miniature Greater Shearwater. While its wingbeats are faster than the Greater Shearwater's, it nonetheless shows the same flutter and glide pattern that is typical of all the diving shearwaters (including Audubon's). Lockley (1961) describes it by saying, "Once on the wing the shearwater is all grace as it glides, careening from side to side, now skimming the water for fifty yards with one wing tip, then

rising to about ten feet above the surface, beating its wings once or twice or thrice to gather a fresh momentum, then skimming the sea for a similar distance with the other wing down." When flushed from the water by a boat, the Manx Shearwater usually gets up rather directly, circles once or twice, and then moves off. Only birds on a flat sea or individuals that have recently fed are likely to allow a prolonged examination from a boat. Under such flat sea conditions, the flight of this species is often startlingly fluttery, suggesting certain of the flight attributes more typical of Audubon's Shearwater.

By contrast, the short-winged Audubon's Shearwater is seemingly much less agile on the wing than the Manx. Often encountered sitting on the water, Audubon's Shearwater will frequently raise its wings without taking off as if in hesitation as to what to do, or else it will patter along the surface with wings extended horizontally, occasionally fluttering as though trying to get airborne. These feeble efforts often result in a terminal plop into the water after a flutter/run of several hundred feet. Once on the wing, Audubon's flutters with rapid wing beats broken by wheeling maneuvers in tight circles. The overall effect is one of greater effort than is shown by the Manx Shearwater.

A final caveat applies to alleged differences in dorsal coloration between Manx and Audubon's Shearwaters. While it is true that Audubon's is a rich dark brown above, a feature that can be observed in good light (contra Pough 1956), it is also true that feather wear and bleaching by the sun can often lend the normally jet black dorsal plumage of the Manx Shearwater a distinct and uniform brownish tone. This brownish coloration can be sufficiently obvious to cast grave doubt on the use of brownish color as a sole character on which to base the identification of Audubon's Shearwater. The author has at least two Ektachrome slides in his possession that vividly depict Manx Shearwaters with brown upperparts; however, considering the cautionary notes above, the possibility of a photographic aberration cannot be ruled out.

Where does this leave the photographically documented black and white shearwater that was observed off Martha's Vineyard? Obviously, the photographic confirmation that is so frequently lacking in such situations is in this case at hand for all to examine. Lacking on film, however, are the behavioral manifestations of the bird - aspects very crucial to the identification of birds of this type. Thus, we are left with the question of whether the collective judgment of the many observers involved could have been sufficiently impaired to make a significant error in field identification. Or, is this a case where the photographic evidence may in fact muddy the waters leading to a correct interpretation of all the facts? The readers are left to draw their own conclusions.

In summary, based upon information presented in this paper,

observers are reminded of the importance of some of Leahy's (1974) concerns that (1) conditions at sea are often not the most favorable for noting fine distinctions, (2) that experience with only one of the species is a great handicap in dealing with the problem, and (3) that photographs are particularly valuable, along with on-the-spot notes, in evaluating records of small shearwaters. While the issue of photographs may in fact seem problematical in this instance, the existence of pictures for others to evaluate, along with careful notes, at least provides a forum for intellectual decision-making. Finally, based upon the many data sources consulted by the author, along with twenty-five years of personal experience, it is suggested that all small black and white shearwaters observed off the southern Massachusetts coast be identified with extreme caution and that most such birds seen within fifty miles of eastern Massachusetts waters are probably Manx Shearwaters unless conclusive contrary evidence can be presented.

[Editor's comment: When asked the direct question, Which of the two shearwaters did we see on the BOEM pelagic trip on August 28?, Wayne Petersen stated that he felt that the bird he observed off Martha's Vineyard was an Audubon's Shearwater despite the somewhat conflicting appearance of the photos.]

REFERENCES

- Bailey, W. 1955. Birds in Massachusetts: When and Where to Find Them. The College Press, South Lancaster, Massachusetts.
- Bierregaard, R. O., Jr., A. B. David II, T. D. Baird, and R. E. Woodruff. 1975. First Northwestern Atlantic Breeding Record of the Manx Shearwater. Auk, 92: 145-147.
- Brown, R. G. B., D. N. Nettleship, P. Germain, C. E. Tull, and T. Davis. 1976. Atlas of Eastern Canadian Seabirds. Canadian Wildlife Service, Ottawa.
- Brown, R. G. B. 1977. Atlas of Eastern Canadian Seabirds. Supplement I. Halifax - Bermuda Transects. Canadian Wildlife Service, Ottawa.
- Bull, J. 1974. Birds of New York State. Doubleday, Garden City, New York.
- Clapp, R. B., R. C. Banks, D. Morgan-Jacobs, and W. A. Hoffman. 1982. Marine Birds of the Southeastern United States and Gulf of Mexico. Part I. Gaviiformes through Pelecaniformes. U. S. Fish and Wildlife Service, Office of Biological Services, Washington, D. C. FWS/OBS-82/01.
- Cramp, S. (chief ed.) 1977. Handbook of the Birds of Europe, the Middle East and North Africa. Volume 1, Ostrich - Ducks. Oxford University Press. Oxford.
- Davis, T. H. 1978. Pelagic Birding Trips to Cox's Ledge from Montauk Point, Long Island. Kingbird, 28: 131-149.
- Godfrey, W. E. 1976. Audubon's Shearwater, a New Species for Canada. The Canadian Field-Naturalist, 90: 494.

- Gordon, M. S. 1955. Summer Ecology of Oceanic Birds Off Southern New England. Auk, 72: 138-147.
- Griscom, L. and D. E. Snyder. 1955. Birds of Massachusetts. Peabody Museum. Salem, Massachusetts.
- Harper, P. C. and F. C. Kinsky. 1978. Southern Albatrosses and Petrels - An Identification Guide. Victoria University Press.
- Keith, A. R. and E. L. Chalif. 1968. A Supplemental List of Martha's Vineyard Birds. Massachusetts Audubon Society.
- Leahy, C. W. 1974. Small Black and White Shearwaters in the Western North Atlantic: Manx (Puffinus puffinus puffinus), Audubon's (Puffinus lherminieri lherminieri), and Little Shearwater (Puffinus assimilis baroli). Field Problem No. 11. Massachusetts Audubon Society Birder's Kit.
- Lockley, R. M. 1961. Shearwaters. Doubleday Anchor Book. Garden City, New York.
- Palmer, R. S. (ed.) 1962. Handbook of North American Birds, Volume 1, Loons through Flamingos. Yale University Press, New Haven.
- Post, P. W. 1964. The Occurrence and Field Identification of Small Black and White Shearwaters in New York. King-bird, 14: 133-141.
- Post, P. W. 1967. Manx, Audubon's and Little Shearwaters in the Northwestern North Atlantic. Bird-Banding, 38: 278-305
- Pough, R. H. 1951. Audubon Water Bird Guide. Doubleday, Garden City, New York.
- Powers, K. D., P. M. Payne, and S. J. Fitch. 1982. Distributions of Cetaceans, Sea Birds and Turtles, Cape Hatteras to Nova Scotia. Manomet Bird Observatory, Manomet, Massachusetts.
- Rowlett, R. A. 1980. Observations of Marine Birds and Mammals in the Northern Chesapeake Bight. U. S. Fish and Wildlife Service, Biological Service Program, FWS/OBS-80/04.
- Snyder, D. E. 1956. Photographic Proof. Bulletin of the Massachusetts Audubon Society, 40(3).
- Watson, G. E. 1966. Seabirds of the Tropical Atlantic Ocean. Smithsonian Press, Washington, D. C.

WAYNE R. PETERSEN, resident of Whitman, teaches life science at Hanover Junior High School. He is particularly interested in waterbirds, with special emphasis on shorebirds. In addition, he has taught courses in bird biology and identification, has lectured extensively, and has published a number of papers on various aspects of birdlife.