

SOME NOTES ON THE ALBATROSS

EDITOR'S NOTE: In this, our first article on the flight of birds as related to human flight, we wish to point out the possibility of invaluable lessons to be learned from soaring in nature. We also wish to urge those who are located in various parts of the world where such observations can be made to write in and give us the results of their findings, which can become the basis of future authoritative articles on the subject.

FROM observations of ornithologists and others interested in wild life as well as aeronautics, it seems safe to say that the albatross is probably the most accomplished flier of all birds. Certainly he is the most efficient soarer and, since this means he can fly for hours without effort while he devotes his energies to procuring food, it should also follow that he is the best all round aeronaut among our feathered friends. The best known albatross, of "Ancient Mariner" fame, has been known to attain a spread of 15 feet, although 13 is more common. Rodolphe de Schauensee, distinguished ornithologist and explorer of Philadelphia, has made some interesting observations of these majestic birds. On one ocean voyage he saw an albatross appear from the rear and without visible movement of its wings, catch up with the ship, which was steaming at 15 knots into a 10 knot wind. The albatross soared around the boat for some time and then disappeared from view, headed into the wind. The explanation of this remarkable flight must be found in possible "waves" or "gusts" in the air caused by friction between different strata of the air on which the albatross, with its extremely efficient wing of very high aspect ratio, rides with ease. So far we can do little more than theorize on the explanation of the phenomenon as we have not yet been able to emulate this type of soaring. Perhaps this is partly due to the fact that we have not as yet made any serious attempt to do so.



D. R. Chisholm

Aspect Ratio! D. R. Chisholm holding a white-breasted albatross.



D. R. Chisholm

Observations at Midway Island in the Pacific have disclosed some very interesting facts about the white breasted (*Diomedea immutabilis*) and the black-footed, or brown albatross (*Diomedea nigripes*), which are the two varieties of the northern albatross, weighing as much as a small goose and having a span of about six feet. Donald R. Chisholm, who served several years as medical officer to the staff of the Commercial Pacific Cable Company which occupied one of two small sand islets in the lagoon at Midway before the establishment of the Pan American Airway's base, described the habits of these birds in a recent article in the magazine, ASIA.

Of interest to soaring pilots is the behavior of the "gonies", as they are called, on their arrival for the mating season in October. It is noticeable that their legs seem very weak, which is due to the fact that the birds are then quite fat and they have hardly used their feet during the three months of



D. R. Chisholm

Take off—note footprints.

soaring over the ocean in search for food.

Of interest, too, is the manner in which the young learn to fly. As the albatross is a heavy bird, it must run along the sand for a considerable distance into the wind before it can take off. If there is much wind, the young birds learn much more quickly, as they practice for days before they can make their first "solo" flights.

In the matter of landing, too, the young bird soon learns, after several rolling somersaults over the sand-flats, that it is better to come down against, rather than with the wind. Ducks and similar birds have also been known to turn over on their backs in the water as a result of landing downwind when confused by gun shots. In making a landing on the beach, the gony uses his broadly webbed feet as "airbrakes" by extending them against the breeze.

The similarity in the problems of aerodynamics and flying technique between the soaring birds and man-made soaring craft become very marked. A careful study of the flight behavior of such birds as the vultures, eagles, hawks, and seagulls should teach us some valuable lessons. There is much that we have yet to learn before we can begin to say that we have any real mastery of the air and much of it can be learned from watching some of these birds who do more flying in a few months than most of us do in a lifetime.