

Better evidence of this decline is found in the agricultural districts of extreme western New York, where serious depredations upon cherry orchards have been experienced. From June 20 to July 3, 1932, the writer studied bird-depredation problems in Chautauqua County, near Lake Erie, in western New York. At this time most of the young birds had been produced and flocks were just forming, but even this early in the summer a number of flocks were seen in the cherry orchards, where damage to the ripened fruit ranged anywhere from practically 0 to 100 per cent of loss upon individual trees. In the course of approximately thirty minutes one morning, a flock of almost a thousand birds descended upon one tree and completely stripped it of marketable fruit. The writer estimated that there were between 15,000 and 30,000 birds roosting on an isolated two and one-half acre site that obviously accommodated a large percentage of the birds in this section of the county. The nesting season was just drawing to a close, so that recruits were joining this flock daily. Needless to say, serious loss in the cherry crop resulted that year.

A similar study was begun in the same area on June 22, 1942, by Mr. Ford Wilke of the Fish and Wildlife Service Research Division, but the investigation was terminated on June 29 because of a relatively small population of birds and consequently small damage to cherries or other crops. The large concentrations of former years were not seen, and the flocks feeding in the orchards were small, numbering from four or five to fifty birds. According to Mr. Wilke and the County Agricultural Extension Agent (who had assisted with both investigations), the large flocks of earlier years were no longer forming and the cherry growers had experienced only minor depredations during the past two years. It was doubtful whether, in the summer of 1942, the area contained 25 per cent of the concentration found there in 1932.

A similar but less noticeable reduction of the enormous wintering flocks is believed to have occurred in the District of Columbia region, although the birds are still overabundant and constitute an annoyance of major proportions in the Capital City. No careful study of populations has been made, but a number of competent ornithologists who have been connected with the Starling problem for many years have repeatedly expressed their belief that there has been an encouraging reduction in the size and number of these flocks. The writer is of the opinion that there has been a reduction of 15 to 25 per cent in the population wintering in this section during the past eight years.

The evidence indicates, also, that there has been a general reduction in their numbers throughout much of the northeastern part of this country, especially in the section east of the Alleghenies and north of central Virginia. There can be little doubt, however, that there has been a progressive increase in their numbers and an extension of their range in the South and Far West.

A study of Starling populations throughout the country at this time would seem most desirable. Is the species declining in population? If so, what factors are responsible? What are the results of this shift or reduction in population? Are competitive species increasing? How does the shift in population compare with that of the introduced House Sparrow? Comments from other bird students are solicited.—CLARENCE COTTAM, *Fish and Wildlife Service, Chicago, Illinois.*

The occurrence of feather impressions in the Miocene deposits of Maryland.—On April 20, 1941, Roland W. Brown and William E. Salter of the U. S. Geological Survey while examining the cliffs along the western shore of Chesapeake

Bay near the mouth of Parker's Creek, at the northern end of Scientists' Cliffs, Maryland, secured a fragment of coprolite approximately 60 mm. in diameter and the same in length. The specimen is irregular in shape, being roughly rounded, with one side flattened and the ends broken. The broken ends show small, striated areas that gave rise to careful examination by Dr. Brown and Mr. Lloyd G. Henbest who determined that these were parts of feathers, so that the specimen came to my hands for further study.

The entire mass is well fossilized though somewhat brittle. Numerous parts of feathers are exposed on the broken ends and others show in a fracture where a thin piece has been split off one side. The shafts and the vane structure in some are exceptionally well preserved so that there is no doubt as to their identity. Feather impressions are found clear to the center of the coprolite, indicating that they are scattered through it in considerable number. The individual feathers examined seem to be contour feathers, mainly of medium size, with the close web characteristic of aquatic birds; several show strongly ridged barbs and in several the finer lines of the barbules are evident under slight magnification.

The impressions of feathers have been recorded from various localities and ages but so far as I am aware have not been reported previously from a coprolite. The assumption must be that this particular fragment comes from a large fish or a crocodile, both being found in the deposits in question. It appears that the birds of the Miocene had savage enemies in the water as do their descendants today.

The actual location of the find, from data supplied by Mr. Salter, is approximately 540 feet south of the mouth of Parker Creek, or on the first cliff to the south of that point, about 40 feet from the northern end. The fossil was exposed on a little bench in a gray-green sandy clay that overlies a broad exposure of compact, bluish, sandy clay. Dr. Remington Kellogg, who has studied these exposures in detail, informs me that this would place the location of the fossil in zone 12 of the Calvert Miocene, the blue clay below being in zone 11.

The specimen has been presented to the U. S. National Museum, and bears the catalog number 16,738.—ALEXANDER WETMORE, *U. S. National Museum, Washington, D. C.*

Notes on the birds of western North and South Dakota.—During an automobile trip westward through South Dakota on June 3 and 4, 1942, then northward and eastward through North Dakota on June 5 to 13, we made a number of brief stops for ornithological surveys in regions adjacent to the highway. Although the results were mainly of personal interest (acquaintances with species hitherto unknown to us; new impressions of regional bird life), several observations in western North and South Dakota are worthy of record. In general, these observations provide either additional records for species at the extremities of their ranges or information on nesting and abundance.

For the racial identification of certain specimens collected we are grateful to Dr. Pierce Brodtkorb of the University of Michigan Museum of Zoology. Dr. Otto McCreary of the University of Wyoming has kindly given us suggestions in the preparation of this paper.

Cliff Swallow (*Petrochelidon albifrons*).—In southwestern North Dakota, highway 85 crosses over large streams on recently constructed culverts. They are made of cement with vertical sides meeting flat roofs at right angles. Near Belfield (Stark Co.) on June 5 we noticed a Cliff Swallow sitting on a guard rail above one such