

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

culvert. When the culvert was investigated, Cliff Swallows roared forth in a veritable frenzy. Although the roof of the culvert was only four feet from the surface of the stream, the angles between the roof and sides were filled to capacity with single rows of nests—approximately one hundred in all. The nests were fully constructed and incubation was under way. Cliff Swallows were later noticed in the vicinity of four other culverts between Belfield and a point forty miles north.

Magpie (*Pica pica*).—On June 3, a nest was found fifteen feet up in a pine beside the highway five miles north of Pactola in the Black Hills of South Dakota. It contained five large young with opened sheaths on all feather tracts.

Eastern Bluebird (*Sialia s. sialis*).—One male was seen near Berg (McKenzie Co.), North Dakota, on June 6. This was our only record in the western Dakotas. Published statements relative to the summer occurrence of the Eastern Bluebird in specified areas of the western Dakotas are contradictory. Visher (Auk, 26: 153, 1909; Auk, 28: 16, 1911), and Reagan (Auk, 25: 467, 1908) indicate its commonness; Larson (Wilson Bull., 40: 110, 1928) calls it uncommon; Cary (Auk, 18: 231–238, 1901) does not list it. Gabrielson and Jewett (Auk, 41: 303, 1924) and Wood (Univ. of Michigan Mus. Zool. Misc. Publ., no. 10: 81, 1923) give scattered records.

Sprague's Pipit (*Anthus spraguei*).—Noted but once when the flight song of this species was heard above an extensive meadow in a ravine near Belden (Mountrail Co.), North Dakota, on June 7.

Western Warbling Vireo (*Vireo gilvus swainsoni*).—Common and in full song in the Black Hills at varying elevations wherever aspens were prevalent. One male in breeding condition was taken on June 3 near the Rushmore Memorial (Pennington Co.) at an elevation of 5,600 feet.

Black and White Warbler (*Mniotilta varia*).—One male was found on June 6 in a thickly wooded gully near the Little Missouri River about three miles north of Mary (McKenzie Co.), North Dakota. When Pettingill drew near, the bird protested by chipping and circling him from tree to tree. The late spring date, the immediate environment, and the behavior suggested the possibility of the bird occupying breeding territory. Larson (Wilson Bull., 40: 108, 1928) has stated that "a few may nest" in eastern McKenzie County. In adjoining counties, early summer dates given by Wood (Univ. Michigan Mus. Zool. Misc. Publ., no. 10: 72, 1923) further indicate that the species may breed in western North Dakota. We are aware, however, of no actual breeding dates from this extreme section of its range.

Oven-bird (*Seiurus aurocapillus*).—Three individuals were heard singing on June 3 near the Rushmore Memorial in the Black Hills at an elevation of 5,600 feet. Although the area was primarily pine-covered, the Oven-birds were found in ravines forested with aspen and birch. Several lists covering the Black Hills (Cary, Auk, 18: 231–238, 1901; Visher, Auk, 26: 144–153, 1909; *et al*) do not mention the species but there are nearby records. In northeastern Wyoming Visher (*cf.* Grave and Walker, Birds of Wyoming: 72, 1913) found it at Hulett and Sundance in June, 1911, and McCreary (Wyoming Bird Life: 94, 1937) found it near Newcastle in June, 1929. Tullsen (Condor, 13: 102, 1911) heard the Oven-bird in spring and summer on the Pine Ridge Reservation (Shannon Co.), South Dakota, and on two occasions discovered it nesting. North of the Black Hills in North and South Dakota there is evidence of its breeding in isolated localities (see Gabrielson and Jewett, Auk, 41: 303, 1924; Visher, Auk, 28: 15, 1911; Larson, Wilson

Bull., 40: 108, 1928). In a wooded ravine near Berg (McKenzie Co.), North Dakota, we noted one singing bird on June 6.

Long-tailed Chat (*Icteria virens longicauda*).—Observed repeatedly in wooded areas of McKenzie, Billings, and Stark counties, North Dakota. One male in breeding condition was collected near Medora (Billings Co.) on June 6.

Orchard Oriole (*Icterus spurius*).—During a two-hour visit to the northern bank of the White River near Stamford (Jackson Co.), South Dakota, on June 3, we counted six males and two females and heard several other individuals singing. All were noted in a sparse growth of cottonwood with low, thickly-growing shrubs. This apparent commonness of the Orchard Oriole along the White River is corroborated by Sweet (*cf.* Visher, Auk, 26: 149, 1909), his observations being based presumably on a section of the White River between Interior and Kadoka.

Baltimore Oriole (*Icterus galbula*).—Our westernmost record is of a male seen among the shade trees in Watford City (central McKenzie Co.), North Dakota, on June 7.

Bullock's Oriole (*Icterus bullocki*).—Our easternmost record is a male seen along the White River near Stamford, South Dakota, on June 3.

Blue Grosbeak (*Guiraca caerulea*).—Three males were observed along the White River near Stamford, South Dakota, on June 3. They were extremely shy, always keeping well ahead of us as we followed them over the steep, bushy river embankment. The A. O. U. Check-List (1931) does not include South Dakota within the range of the Blue Grosbeak, although there are records for the state. Over and Thoms (South Dakota Geol. and Nat. Hist. Surv., Bull. 9: 118, 1921) state that it is known to nest along the Missouri River as far north as Pierre. Visher (Auk, 26: 151, 1909) took specimens in western South Dakota (locality not given) in August, 1899, and September 2, 1900, and reported (Auk, 30: 280, 1913) an immature specimen collected at Carter (Tripp Co.) on August 16, 1911. Tullsen (Condor, 13: 100, 1911) noticed three males tarrying for several days at the Pine Ridge Indian Reservation (Shannon Co.) late in May, 1905. Youngworth (Wilson Bull., 44: 43, 1932) found it "not uncommon in suitable habitats" in Yankton County. The records cited above refer to the western race (*G. c. interfusa*).

Lazuli Bunting (*Passerina amoena*).—Our easternmost record is a pair seen among low shrubs beside the Riviere des Lacs at Kenmare (Ward Co.), North Dakota, on June 9.

Northern Pine Siskin (*Spinus pinus pinus*).—Numerous flocks were observed in the coniferous woods of the Black Hills on June 3 and 4. The testes of a males taken from a flock near Sheridan on June 4 showed no signs of breeding. On this same day one large flock was noticed among the deciduous trees shading the main street of Spearfish.

Arctic Towhee (*Pipilo maculatus arcticus*).—One pair with gonads greatly enlarged was taken beside the White River, near Stamford, South Dakota, on June 3; several individuals were observed at Kenmare, North Dakota, on June 9. To the west of the above two points, Arctic Towhees were frequently seen in brushy localities. While working through a wooded ravine near Berg, North Dakota, on June 6, we flushed three females from their nests within a period of five minutes. The nests contained, respectively, three newly hatched young, five eggs, and four eggs.

Lark Bunting (*Calamospiza melanocorys*).—In our drive westward through South Dakota from Brookings to the edge of the Badlands on June 2 and 3 the abundance of this conspicuous bird was impressive. Sample counts per mile were made as

we moved along. Only the birds on or within the fences paralleling the road were included. Our estimate was about 15 birds per mile, or roughly 4,125 from Brookings to the Badlands.

Grasshopper Sparrow (*Ammodramus savannarum*).—On one small section of prairie five miles west of Wolsey (Beadle Co.), South Dakota, Grasshopper Sparrows were in abundance on June 3. One breeding male specimen taken is probably referable to the eastern race (*A. s. pratensis*). The breeding range of the eastern form is said to be "east of the Great Plains from southern Wisconsin . . . south to southern Louisiana . . ." (A. O. U. Check-List, 4th ed.: 336, 1931). More specimens are obviously needed.

Brewer's Sparrow (*Spizella breweri breweri*).—In South Dakota on June 5 we collected one male and saw another individual near Indian Creek, north of Belle Fourche (Butte Co.). On the same day still another individual was observed near Redig (Harding Co.). The gonads of the bird collected were in breeding condition. All three birds were singing in grassy ravines with no bushes in evidence. In eastern Montana, where the Brewer's Sparrow is a "common summer resident," it breeds in sage brush (Saunders, Pacific Coast Avifauna, No. 14, 1921). The A. O. U. Check-List (4th ed.: 349, 1931) does not include either of the Dakotas within the eastern limits of the breeding range of the Brewer's Sparrow. Brehens (cf. Visher, Auk, 26: 151, 1909) collected one specimen, supposedly within twenty miles of Rapid City, South Dakota, in July, 1899. Reid (Wilson Bull., 40: 201, 1928) collected a singing bird in the North Dakota badlands 18 miles south of Marmarth on May 28, 1928, and on the following day "saw and heard several of these birds a few miles west of Marmarth."—OLIN SEWALL PETTINGILL, JR., *Carleton College, Northfield, Minnesota*, and EDWARD FOX DANA, *Portland, Maine*.

'Courtship Feeding' in the Black-capped Chickadee.—In his recent paper on 'Courtship Feeding in Birds,' David Lack (Auk, 57: 169-178, 1940) states that he knew of no fully established case where the feeding was restricted to the period of incubation and consequently it could not be classed as courtship feeding, although it was suspected that this might be the case among certain titmice, crows, and finches. In connection with a special study of the Black-capped Chickadee (*Penthestes atricapillus*) (see Auk, 58: 314-333, 518-535, 1941; op. cit., 59: 499-531, 1942), on the Edmund Niles Huyck Preserve, Rensselaerville, N. Y., the writer had an opportunity to follow closely the behavior of this species throughout the year. Observations during the spring indicated that the feeding of the female by the male is not a part of the courtship in chickadees but appears later, particularly during incubation. Neither begging by the female nor feeding of the female by the male was observed before or during the period when pairs first separated out of the winter flocks, which occurred in 1940 between April 10 and 25. During this 15-day period ten pairs were observed, some of them repeatedly and for two or three hours at a time, and only one very weak begging-feeding act was observed. Pairs at this time were clearly mated since they remained closely associated throughout the day and were antagonistic to other chickadees.

The first distinct begging-feeding behavior was noted on May 9 in a pair which had nearly completed excavating a cavity; the male fed the female five times during a two-hour observation period. Between May 10 and 20 the behavior was observed in all pairs which were under observation; all but one of the females at this time were either laying eggs or incubating. During incubation the begging-feeding reached a peak, occurring in all pairs. The female not only begged con-