

Notes on birds of the Upper Peninsula of Michigan.—The following incidental observations of birds were made while I was investigating the status of Pinnated and Sharp-tailed Grouse in the Upper Peninsula of Michigan, from July, 1940, to December, 1941 (Michigan Federal Aid to Wildlife Restoration Project No. 5 R, under the auspices of the Michigan Department of Conservation and the Federal Fish and Wildlife Service). Approximately half of the total daylight hours during this period were spent in the field. Only those notes that are thought to be a definite contribution to the knowledge of Michigan's avifauna are included. Statements on the status of the various species are based on Josselyn Van Tyne, Check List of the Birds of Michigan (*Univ. Mich. Mus. Zool. Occ. Paper No. 379*, 1938); Leonard Wing, Birds of the Upper Peninsula of Michigan (*Res. Studies of the State College of Wash.*, 7, No. 4, 1939); and on the files of the University of Michigan Museum of Zoology.

Mallard, *Anas platyrhynchos*. Records of Mallards wintering in the Upper Peninsula are uncommon. With Conservation Officer Allan Tweedy, I saw a flock of six Mallards along an open creek about five miles south of Rapid River, Delta County, on February 21, 1941. Several times earlier in the winter, Tweedy had seen what he presumed to be the same flock at the same place.

Long-eared Owl, *Asio wilsonianus*. There are few Upper Peninsula records for this species. I saw a specimen at Dollarville, Luce County, on August 11, 1940, that had been shot about a week earlier, and on the evening of July 22, 1941, I saw a live Long-eared Owl at Shingleton, Alger County.

Northern Cliff Swallow, *Petrochelidon albifrons albifrons*. This swallow is a very rare and local summer resident. On June 3, 1941, I found a small colony of Cliff Swallows on a farm in Luce County (Sec.12, T.45N., R.11W.). There were four new, nearly completed nests under the eaves of the farmhouse.

Hudsonian Chickadee, *Penthestes hudsonicus hudsonicus*. Although this chickadee is considered a common transient and winter visitant in the Upper Peninsula, I noted it on only two occasions. In a small flock of chickadees seen on July 8, 1941, northeast of C.C.C. Camp Cusino (Sec.17, T.47N., R.16W.), Schoolcraft County, I definitely identified one bird as a Hudsonian Chickadee. There were possibly two of the species in the flock, but the birds were so active that I could not be certain. Later, on July 26, I saw two Hudsonian Chickadees about three miles northeast of Shingleton, Alger County.

Catbird, *Dumetella carolinensis*. The Catbird is known to be less common in the Upper Peninsula than in Lower Michigan, but it seems noteworthy that I saw and heard only one of the species while I was afield. I saw this individual just east of Shingleton, Alger County, on June 29, 1941.

Blue-headed Vireo, *Vireo solitarius solitarius*. I know of only one published nest record of the Blue-headed Vireo for the Upper Peninsula (Van Tyne, *Univ. Mich. Mus. Zool. Occ. Paper No. 379*, 1938:31). On June 22, 1941, I flushed an adult Blue-headed Vireo from a nest at Au Train Lake, Alger County. The nest was on the end of a maple branch, about 15 feet from the ground. It contained one egg.

Northern Parula Warbler, *Compsothlypis americana pusilla*. The nest of the Parula Warbler has not yet been found in Michigan. I heard the characteristic Parula song repeatedly for over an hour at a spot along the edge of a heavy evergreen forest at Au Train Lake, Alger County, on June 22, 1941. I saw the singing bird from a distance of only ten feet and definitely identified it as a male Parula Warbler.

Cape May Warbler, *Dendroica tigrina*. Although Lincoln ("The Migration of American Birds," 1939:88) included northern Michigan in the breeding range of the Cape May Warbler, there seems to be no definite breeding record for the state. Braund and Aldrich (*Ool.*, 58, 1941:99,103) recorded a number of these warblers in Luce County in June, 1940. After careful observation, I identified a male Cape May Warbler in a swamp northeast of C.C.C. Camp Cusino (Sec.17, T.47N.,

R.16W.), Schoolcraft County, on July 8, 1941. The bird was in view for five or six minutes, but it flew nervously about among the crowns of the tall spruce trees, making it difficult to obtain a good view. Finally it flew down to within about 30 feet of me, and I noted most of the identifying features; just before it flew out of sight I saw the white wing patches characteristic of the Cape May Warbler. Throughout this time the bird held a caterpillar in its beak. Previously, on June 23, 1941, I had made a similar observation at the same place, but on that occasion the bird in question had remained near the tops of the tall spruce trees, and I could not identify it with complete certainty. It also held something in its bill.

Connecticut Warbler, *Oporornis agilis*. I heard and observed a Connecticut Warbler at close range in a wet poplar woods adjacent to a meadow three miles east of Shingleton, Alger County, on July 1, 1941. The bird sang repeatedly from the same perch and allowed me to approach to within about 30 feet. The white eye ring, comparatively large bill, the light mandible, and the other characteristic features of a male of this species were clearly discernible with the aid of 8-power binoculars.

Brewer's Blackbird, *Euphagus cyanocephalus cyanocephalus*. There is apparently but one specimen record for Michigan of the Brewer's Blackbird, a female collected by Leonard Wing, near Ironwood, Gogebic County, on July 26, 1932, and sight records are extremely rare. I saw a pair of Brewer's Blackbirds southeast of Crystal Falls (Sec.7, T.42N., R.31W.), Iron County, on May 1, 1941. The birds alighted about 25 feet from the car, and with the aid of 8-power binoculars, I clearly saw the light iris and purplish head of the male, and the dark iris of the female.

Hoary Redpoll, *Acanthis hornemanni exilipes*. On March 25, 1941, two miles west of Creighton, Schoolcraft County, I saw a flock of eight redpolls that appeared strikingly light-colored in comparison with most of the redpolls seen during that winter. One or two in this flock (probably adult males) were extremely light, and their breasts were suffused with a delicate pink. I collected two of the flock, and P. Brodtkorb identified them as *exilipes*. Only two earlier Michigan records of this form have been confirmed by specimens.

Alaskan Crossbill, *Loxia curvirostra minor*. In the winter of 1940-41 Crossbills were abundant in the Upper Peninsula from early November to February. Twenty-one specimens which I collected were identified by J. Van Tyne as the Alaskan form, following Griscom's revision of the species (*Proc. Bost. Soc. Nat. Hist.*, 41: 77-210). Many of these specimens were found dead on Highway 28, between Shingleton and Seney, Schoolcraft County, where they had apparently been attracted by salt or calcium phosphate on the road and been hit by cars. Manville (*Wils. Bull.*, 53, 1941:240-241) found crossbills common the same winter in the Huron Mountains, Marquette County, and found some specimens in breeding condition. The testes of two males I collected on January 29, 1941, were enlarged, averaging in greatest diameter 2.7 and 5.2 millimeters. Two females were collected on the same day, one with several ova 0.5 millimeter in diameter, the other with the largest ova 1.0 millimeter in diameter.—GEORGE ANDREW AMMANN, *Camp Carson, Colorado*.

Circulatory congestion as a possible factor regulating incubation behavior—It is generally assumed that periodic hunger is the chief factor regulating attentive-inattentive incubation behavior in birds. But other physiological factors, especially restriction of circulation and related discomfort, may have more to do with determining the length of the attentive period than hunger as such. Recent experimental work (*Ann. Rev. Physiol.*, 3, 1941: 343) has emphasized the importance of the activity of the skeletal muscles in maintaining blood flow in the veins, where the pressure is usually very low. When the body is at rest the action of gravity, reduced arterial pressure, and absence of the kneading action of the skeletal muscles