

season, during May and June, one may hear the territorial song of the male, a rapidly uttered trill much like that of a Worm-eating Warbler (*Helmitheros vermivorus*). I also heard on one occasion its protracted, rather canary-like "whisper song." This was given by a male just prior to copulation, so that it would seem that song plays a part in courtship in this species. The "whisper song" of the Arrow-headed Warbler resembles that of the Prothonotary Warbler (*Protonotaria citrea*) as described by Brewster (*Bull. Nutt. Ornith. Club*, 3, 1878: 157), although the latter "is apparently uttered only while on the wing." I have also heard similar canary-like whisper songs—though never when the bird was in flight—from the Oven-bird (*Seiurus aurocapillus*), Yellow-throat (*Geothlypis trichas*), and Gray-crowned Palm Tanager (*Phaenicophilus poliocephalus coryi*). All were uttered by males during the nesting season and were so low as to be barely audible at a distance of 30 feet. The tanager sang while approaching the female with outstretched wings, but no female was seen near the Oven-bird or Yellow-throat.

Usually the Arrow-headed Warbler is found in, or about the edge of, humid mountain forest where it does not have to compete with the hosts of migrant warblers, which prefer the more open, sunnier parts of the island at lower elevations. During my exploration of the Blue Mountains in 1931, I found three nests of the Arrow-headed Warbler. These were placed at elevations of from 5 to 12 feet above the ground. Two were old, disused nests; the third, which contained two slightly incubated eggs when discovered on June 24, was described in my "Birds of the West Indies" (1936:315).—JAMES BOND, *The Academy of Natural Sciences of Philadelphia*.

**The Cardinal's period of dependency.**—Gaps in a table on the development of young birds in the new Song Sparrow volume of Margaret M. Nice (*Trans. Linn. Soc. N.Y.*, 6, 1943:70) indicate that data are lacking on the age at which the Richmondininae attain the power of flight, and independence.

Recent observation of color-banded young Cardinals (*Richmondina cardinalis*) showed weak but effectual flight on the day of nest-leaving, at about 10 days of age, the birds being able to keep in cover well above the ground; strong flight by the age of about 19 days, partial independence at about 38 days, complete independence at 45 days, and severance of family ties at 56 to 59 days. The findings in detail are:

♂ AW-0: Hatched June 16–18, 1942; banded in nest; next seen July 29, partly dependent; last seen fed by parent July 31, age 43–45 days; last seen with parent August 12, age 55–57 days.

♂ A-W2J: In nest with 2 other young, estimated age 4 days, found August 3, 1943; young left nest August 9, age about 10 days; A-W2J and at least one other flew weakly same day. A-W2J alone: flying strongly August 18, age about 19 days; first seen to forage September 6, age about 38 days; last seen to be fed by parent September 12, age about 44 days; last seen with parent September 26, age about 58 days.

The 45-day age of attaining independence thus determined for the Cardinal is a higher one than Mrs. Nice gives (p. 70) for any temperate zone passerine of comparable size, and is closely approached only by the "40 plus" of the Cinclidae. However, in view of her comment (p. 253) that with multiple-brooded birds the bond between parents and young may be longer than usual in the case of the final brood, and that "this is certainly true of Cardinals," I should add that I believe my 1942 nest to have been a final one, and know that the 1943 nest was that.

In the presence of a parent both of the juveniles that I kept under observation begged for food to the very end of their association, although during the final

12 or 14 days the begging was always futile. The way in which the parent's presence stimulated this begging was interestingly shown by AW-0 when he was 49-51 days old and had been independent for 6 days. He and his female parent flew into the same tree, then the adult went on deeper into the wood; while thus left alone the juvenile foraged and uttered *tsik* notes just like an adult's; when later the female flew back to a comparatively distant part of his tree he changed to the juvenile *tih* call; and when still later the parent went close to him, he not only gave the juvenile calls but intermittently fluttered his wings.—HERVEY BRACKBILL, 4608 Springdale Avenue, Baltimore 7, Maryland.

**Blue Grosbeak breeding in West Virginia.**—On June 22, 1944, while accompanied by George H. Breiding, I found a pair of Blue Grosbeaks (*Guiraca c. caerulea*) three miles southwest of Shepherdstown, Jefferson County, in the eastern panhandle of West Virginia. The male sang repeatedly, and the female carried food, but it was only after considerable searching that I found the nest in a roadside fencerow. The nest, bulky and well built, was supported at a height of 30 inches by a clump of 40 green sprouts of osage-orange hedge. It contained two young about six days old.

The adults were left to re-nest, but we collected the two young and the nest to substantiate the record. One nestling, a male of 15.2 grams, is in the writer's collection; the other, a female of 14.8 grams, has been given to the West Virginia University Museum.

In West Virginia, as in most northern states, a number of questionable "sight records" of the Blue Grosbeak have been reported during the migration periods. But there are also the following reliable records of occurrences during the breeding season and late summer: (1) Monongalia County, during the summers of 1911 and 1923 (A. B. Brooks and Maurice Brooks); (2) a singing male during June, 1923, near Clifty, Fayette County (Maurice Brooks); (3) a male near Huntington, Cabell County, on May 29, 1925 (William Waldron, *Redstart*, 7, 1940:51); (4) an adult female at Bethany, Brooke County, July 6, 1929 (George M. Sutton, *Cardinal*, 3, 1933:121); (5) an adult male seen by Sutton and Karl Haller near Bethany, August 28, 1935 (*Auk*, 53, 1936:90); (6) a female at Jackson's Mill, Lewis County, August 28, 1936 (Roger T. Peterson); (7) a male at Oglebay Park, Ohio County, August 25, 1938 (I. B. Boggs, *Redstart*, 6, 1938:12); (8) a singing male seen on several occasions during May and June, 1944, at Jackson's Mill (Maurice Brooks).

The present record, however, according to Maurice Brooks, is the first specimen collected and the first nesting record in West Virginia.—LAWRENCE E. HICKS, *Ohio State University, Columbus, Ohio*.

**Bachman's Sparrow taken in Michigan.**—On April 29, 1944, Harold Mayfield and I collected a male Bachman's Sparrow (*Aimophila aestivalis bachmani*) near North Cape, Erie Township, Monroe County, Michigan. It was in rather poor condition, with practically no fat, but acted normally. The specimen has been given to the University of Michigan Museum of Zoology.

Bachman's Sparrow has never been reported before for Michigan. Maurice Brooks (*Wils. Bull.*, 50, 1938:86-109) described the recent northward extension of the range of this species in Ohio but mapped no records nearer Michigan than southern Wayne and Ashland counties. W. E. Saunders (*Canad. Field-Nat.*, 33, 1919:118) collected the first Canadian specimen on April 16, 1917, on Point Pelee.—LOUIS W. CAMPBELL, 4531 Walker Avenue, Toledo, Ohio.