

## NESTING OF THE BLUE GROSBEAK IN COLORADO

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Whereas the Blue Grosbeak (*Guiraca caerulea*) is not a rare bird in Colorado, details of its nesting here have never been reported. Cooke (State Agric. Coll., Ft. Collins, Colo., Bull. 37, 1897:1-143, Bull. 44, 1898:145-176) was the first to record breeding in the state, with four nests being taken by a Mr. P. L. Jones, in Beulah, Pueblo County, in 1897. No details were given. Smith (Auk, 25, 1908:184-191) found a brood of young in Yuma County in June, 1905, and Lowe (Auk, 34, 1917:453-455) reported that it "nests regularly in the St. Charles Cañon." This last locality is on the St. Charles River, as is Beulah, the site of Jones' nests, and may even refer to the same location. A Mr. Cal Royall also discovered a nest near Sedalia, Douglas County, in August, 1957.

It was the writer's good fortune to observe two successive nestings by the same pair of adults on his ranch some three miles north of Colorado Springs, El Paso County. These two together with the five mentioned above are the only nests of the species known to the author from Colorado.

### ACKNOWLEDGMENTS

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### OBSERVATIONS

The nestings occurred in an area about 200 yards north of an arroyo containing a flowing stream and adjacent to a dusty road heavily used by gravel trucks. The vegetation was composed mainly of skunkbush (*Rhus trilobata*), wolfberry (*Symphoricarpos occidentalis*), goldweed (*Verbesina encelioides*), Kansas sunflower (*Helianthus annuus*), horseweed (*Iva xanthifolia*), and tall tansy aster (*Aster bigelovii*). The sites of the two nests were 58 feet apart. Other birds known to nest in the same plot are Sage Thrasher (*Oreoscoptes montanus*), Lark Sparrow (*Chondestes grammacus*), and Brewer's Blackbird (*Euphagus cyanocephala*). A pair of Brewer's Blackbirds nested only 10 feet from, and concurrently with, the first nesting of the grosbeaks.

*Data from nest one.*—The nest was discovered at 6:30 in the evening on June 8. It was about 30 inches above the ground and was securely fastened to both *Rhus* and *Symphoricarpos*. The nest contained one freshly laid egg. Daily observations between 2:00 and 2:30 p.m. revealed that one pale blue, unspotted egg had been added on each of the three days following discovery, the clutch being completed on June 11. The female was flushed from the nest during each of the above four checks.

On June 22 the first egg hatched, another pipped, and two remained unchanged. The following day, by 10:00 a.m. a second egg had hatched and two were pipped, and by 7:30 p.m. three young were hatched. The fourth egg, although pipped, failed to hatch, the chick dying. Daily inspection showed the young still in the nest on June 30. At 2:00 p.m. on July 1 binocular check revealed one bird in the nest, one on a twig some two feet away, and the third could not be found. All of the young birds were gone the following day by 8:00 a.m.

From the above, it may be seen that the female laid one egg per day for four days; that from clutch completion to presumed hatching time of the last egg was 12 days;

that at least two days were required to complete hatching; and that the nestling period was about nine days.

The nest was eventually examined and found to have an inside diameter of 2.5 inches and a cup depth of 2.0 inches. It was quite substantially built of small twigs, rootlets, and strippings of bark. Several lengths of hemp string were included. Near the periphery there was some newspaper, numerous pieces of cellophane, and several large dried leaves. The cup was lined with very fine rootlets, tendrils, and both black and white horse mane or tail hairs.



Fig. 1. Incubating female Blue Grosbeak on first of two successive nests near Colorado Springs, Colorado. Photograph by Patricia Bailey Witherspoon, June 20, 1958.

*Data from nest two.*—The second nest was discovered at 7:00 p.m. on July 17. At this time it contained four eggs similar to the first four. The nest was 38 inches above the ground and was in a rather sparse clump of *Rhus trilobata*. The routine check at 2:00 p.m. on July 23 revealed one damp, newly emerged chick, one pipped egg, and two eggs intact. The following day by 10:30 a.m. two eggs had hatched and two remained unchanged, and by 4:15 p.m. one of the latter eggs showed a slight pipping. At 10:30 a.m. on July 25 three young had hatched, the fourth egg again failing to hatch. As in the first set, examination showed the last chick had died just prior to emergence, although this one did not pip the shell. Using the first nest's incubation data and the second nest's hatching times, we may assume that the female finished her second clutch on approximately July 12, just about one month from the time she finished laying her first set.

Binocular check of the nest at 11:00 a.m. on August 1 showed all three young present. At 8:30 a.m. on August 3 all of the young had left the nest and inspection of the site indicated that the nest had been vacated the day before, on August 2. No young could be seen in the vicinity of the nest. Duration of occupancy by the second brood was, therefore, nine to ten days.

A study of the second nest showed it to be somewhat less well constructed than the first since the eggs could be seen through the upper part of the wall. The inside dimensions were approximately the same as those of nest one and both cellophane and newspaper had again been woven among the twigs and bark strippings. Numerous small pieces of cardboard, not found in the first nest, had also been used here. Rootlets and horse hairs again lined the cup. Pieces of shed snake skin are said to be a quite common feature of this grosbeak's nests. No such material appeared in the present nests, although several species are known to frequent the area.

An interesting feature of the two nests is the fact that when they were removed for final study each gave rise to a series of dipterous maggots. Dr. C. W. Sabrosky (United States National Museum) and Dr. M. T. James (Washington State College) have identified them as *Protocalliphora metallica*, which has not been recorded previously associated with this bird. At no time were maggots observed in the ears, eyes, or nares of the young grosbeaks.

The six young birds were banded, this being the first Colorado banding of the species.

*Colorado College, Colorado Springs, Colorado, August 5, 1958.*