

discovered on 20 May 1970 at the same locality apparently suffered the same fate. It also contained only two cowbird eggs when found, but was empty when I visited it on the following day. Of 35 nests of the Scarlet-rumped Tanager which I found in the Sierpe area between 15 March to 31 May 1970, these were the only observed instances of cowbird parasitism.

My field work in Costa Rica was supported by the Western Foundation of Vertebrate Zoology, and all specimens mentioned here are deposited in the collection of that organization.—LLOYD F. KIFF, *Western Foundation of Vertebrate Zoology, 1100 Glendon Ave., Los Angeles, California 90024, 20 July 1972.*

Extreme overlap between first and second nestings in the Rose-breasted Grosbeak.—The adaptive value of raising more than one brood per year is obvious and one might expect broods to be closely spaced or even to overlap so as to maximize reproductive output. But countering this is the fact that it may be impossible to meet successfully the demands of two broods at the same time. In most multiple-brooded birds these conflicting selection pressures result in little overlap between nestings although in some species such as the Cactus Wren (*Campylorhynchus brunneicapillus*) (Anderson and Anderson, *Condor*, 62:351-369, 1960) and the Cedar Waxwing (*Bombycilla cedrorum*) (Putnam, *Wilson Bull.*, 61:141-182, 1949) some females lay the first egg of their second clutch on about the day the young from the first clutch fledge. Although the Rose-breasted Grosbeak (*Phœnicurus ludovicianus*) is generally thought to be single brooded (Forbush in Bent, *Life histories of North American cardinals, grosbeaks, buntings, towhees, finches, sparrows, and allies*, Part one, New York, Dover Publications, 1968:39), I have noted one instance in which two nestings overlapped to a greater extent than is apparently known for any other North American passerine.

The first nest was found at 15:45 on 2 July 1969 in a thicket of tall alders (*Alnus* sp.) in Emmet County, Michigan. An adult female was on the nest and a well-grown nestling fledged when I attempted to place a mirror over the nest. Additional nestlings may have been present but I was not able to inspect the contents of the nest at this time. At about 16:00 nest 2 was found about 12 meters away in the same thicket. When inspected an hour later nest 2 contained three eggs and a male grosbeak was incubating. On 3 July at 08:50 another observer and I were able to inspect both nests by using a ladder (the nests were each at least four meters up in the alders). Nest 1 was empty but a fledged grosbeak was on a branch about two meters from the nest. A female was now incubating the three eggs in nest 2. I replaced one of the eggs in nest 2 with an artificial cowbird egg (see Rothstein, *An experimental investigation of the defenses of the hosts of the Brown-headed Cowbird (*Molothrus ater*)*, unpubl. thesis, Yale University, 1970). The grosbeak egg contained a four to five-day-old embryo. During the 10 minutes we visited these nests on 3 July, we searched intensely for adult grosbeaks but, as on 2 July, only one female and one male were seen. The scolding of these two grosbeaks on 3 July was sufficiently intense to induce two Catbirds (*Dumetella carolinensis*) and a female American Redstart (*Setophaga ruticilla*) to join in the scolding, so if additional grosbeaks were participating at the two nests they would almost certainly have also been seen. Therefore, there is little doubt that both nests were being maintained by one pair.

Clutch initiation at nest 2 occurred six or seven days before the nest was found or when the young in nest 1 were only two to six days old (this is calculated using the nine to 12 day nestling period cited by Bent [op. cit.:40]). The male and female did not tend exclusively to one nest since on 2 July at nest 2 the male was incubating while the

female was incubating on 3 July. Nest 2 remained active until at least 6 July but was empty when next visited on 9 July. Although Rose-breasted Grosbeaks are not thought to be double brooded in nature two pairs studied by Ivor (Wilson Bull., 56:91-104, 1944) under conditions of semicaptivity successfully raised two broods each. But the degree of overlap in nestings was minimal, with the building of the second nest not starting until a "short time" before the young of the first nest fledged. Davison (Auk, 6:191-192, 1889) described nests that may have been comparable to the ones I observed. He noted two nests a "few rods" (a rod equals five meters) apart and according to his estimation of the age of the young, the first egg in the second nest was laid when the young in the first nest were not more than a day old. Unfortunately, Davison did not determine whether both nests were from one pair. Dunham (Z. Tierpsychol., 23:438-451, 1966) described certain behaviors occurring during the breeding cycle but the actual nesting of the Rose-breasted Grosbeak has not been intensely studied in the field and possibly it quite commonly has two broods. It remains to be seen, however, whether the extreme degree of nest overlap observed by myself and possibly by Davison occurs with any regularity.

Nesting overlap by grosbeaks, especially if it is more extreme than in most birds, may explain the unusual behavior commonly shown by this species of singing while on the nest. Both sexes are known to engage in this practice (Bent, op. cit.:46) as is the closely related Black-headed Grosbeak (*Pheucticus melanocephalus*) (Bent, op. cit.:61). Possibly when stages of the nesting cycle normally accompanied by singing occur during the second nesting the demands of the first nest may also require the singing bird to incubate or brood. This interpretation imparts an overall adaptive value to singing on the nest even though such behavior may on occasion reveal the nest's location to a predator.

I thank Eugene S. Morton for his comments on this paper. The observations reported here occurred during field work supported by The Frank M. Chapman Memorial Fund, Yale University, and the University of Michigan. I gratefully acknowledge the University of Michigan Biological Station for the use of its facilities and Dr. Olin Sewall Pettingill, Jr. for his aid during my stay at the station.—STEPHEN I. ROTHSTEIN, *Chesapeake Bay Center for Environmental Studies, Smithsonian Institution, Edgewater, Maryland (Present address: Department of Biological Sciences, University of California, Santa Barbara, California 93106.) 28 June 1972.*

First recorded specimens of the White-winged Crossbill from Utah.—On 2 August 1965 a flock of eight White-winged Crossbills (*Loxia leucoptera*) was observed by Everett C. Peck and me on a sidehill immediately south of Pioneer Ranger Station, 9,300 feet elevation, Pavant Mountains, Millard County, Utah (39° 00' N, 112° 08' W). The area is a moderately dense forest of predominantly Englemann spruce, *Picea engelmannii* (70 percent); alpine fir, *Abies lasiocarpa* (10 percent); and aspen, *Populus tremuloides* (20 percent) on an approximately 35° north facing slope. The flock moved largely as a unit, first feeding on cones in one tree and after several minutes flying to another tree to feed. While the birds were thus engaged, I collected three of them before the remainder of the flock was sufficiently alarmed to fly off across the valley. The three birds were prepared as study skins and are now in the University of Utah Museum of Zoology. The female (No. 19578) had heavy fat, the two males (Nos. 19577 and 19579) had relatively little fat, and none showed signs of molting.

Crossbills breed at odd times of the year reacting primarily to an abundant food supply rather than strictly to photoperiod (Tordoff and Dawson, Condor, 67:416-422, 1965). Presence during the summer months is, therefore, an insufficient criterion for breeding.