It is possible, in the absence of eggshells and nesting material, that the young might have hatched in a martin house (two active houses stood within 75 yards of the tree), fallen to the ground, and sought shelter under the elm. But this assumes a highly unlikely chain of events: that three (or more) young from one clutch should fall to the ground, that three (or more) should survive the fall, and that three should be both motivated and able to search out the cavity 30 yards away where we found them. Then too, Forbush (1929, Birds of Massachusetts and other New England states, part 3, Norwood, Massachusetts, Massachusetts Dept. Agr., p. 141) states, "When a young [martin] falls to the ground it is soon deserted by its parents, who give up the attempt to preserve its life, and if not killed by the fall it is soon picked up by some cat or other prowler." The cavity must have been the original nest. No other explanation seems to me to account for the situation.

Of other primitive nesting records of the Purple Martin, Roberts (1932, The birds of Minnesota, vol. 2, Minneapolis, Univ. Minnesota Press, p. 55) reports a case only once removed from ground-nesting, in which O. L. Austin, Jr. found the species nesting colonially among large boulders on two islets in Lake Mille Lacs, Minnesota.—ALAN PISTORIUS, *R.D., Whiting, Vermont 05778.* Accepted 7 Nov. 74.

Clutch size and nesting success in Red-winged Blackbirds.—Variation in clutch size among birds is apparently due to many factors (von Haartman 1971: 419). Productivity is a function of both clutch size and of nesting success, and the relationship between these two parameters determines the clutch size that leads to optimum productivity. Several studies have shown that the usual clutch size for the Red-winged Blackbird (*Agelaius phoeniceus*) is 3 to 4 eggs (Wood 1938, Beer and Tibbitts 1950, Bent 1958, Case and Hewitt 1963, Meanley and Webb 1963), and the most common clutch size inland is 4. In blackbird nest studies in northern Ohio, productivity was compared between large versus small clutches.

The 211 Ohio nests contained 778 eggs; 144 nests were in an old-field habitat, 39 in a small marsh at the edge of Lake Erie, and 28 in a wet grassy meadow on the NASA Plum Brook Station. All locations were within a 5-km radius in Erie County. Sites were searched intensively for nests, and those found with eggs or young were checked periodically as long as eggs or nestlings remained. Only nests in which completed clutch size could be determined were included in this analysis. "Active" nests were those containing one or more eggs or nestlings, and "hatched" nests were those in which one or more eggs hatched.

Table 1 gives reproductive parameters of the 211 nests. Clutches of 1, 2, and 3 eggs were grouped as "small" clutches, and clutches of 4 and 5 eggs were grouped as "large" clutches. Chi-square tests showed no significant difference ($P > 0.05$) between large and small clutches in terms of the proportions of active nests in which eggs hatched, active nests that produced fledglings, hatched nests that produced fledglings, or hatching success of eggs. However, the proportions of eggs that produced fledglings, and of nestlings that fledged, were significantly greater ($P < 0.001$) from small clutches than from large clutches. Large clutches produced more nestlings per active nest and per hatched nest than did small clutches, but the same number of nestlings fledged per nest from large and small clutches. It follows that greater losses between egg-laying and fledging for large clutches were primarily in the nestling stage. Nestlings were found dead (apparently abandoned) in nine nests, all with 4- and 5-egg clutches. Parents apparently were unable to feed and

TABLE 1

PARAMETERS OF NESTING SUCCESS FOR DIFFERENT CLUTCH SIZES IN 211 RED-WINGED BLACKBIRD NESTS WITH 778 EGGS IN NORTHERN OHIO, 1969–73

	Clutch size					
	1	2	3	4	5	Mean
Number of active nests	2	8	53	139	9	3.7
Percent of active nests with hatchlings[1]	50	88	75	72	89	74
Percent of hatched nests with fledglings[1]	100	71	75	62	37	65
Percent of active nests with fledglings[1]	50	62	57	45	33	48
Percent of eggs hatched[1]	50	75	63	65	62	65
Number of eggs hatched per active nest[2]	0.5	1.5	2.0	2.6	3.1	2.4
Number of eggs hatched per hatched nest[2]	1.0	1.7	2.6	3.6	3.5	3.3
Percent of eggs that produced fledglings[2]	50	50	47	34	13	36
Percent of nestlings that fledged[2]	100	67	71	52	21	55
Number of fledglings per hatched nest[1]	1.0	1.1	1.85	1.9	0.75	1.8
Number of fledglings per active nest[1]	0.5	1.0	1.4	1.4	0.7	1.3

[1] No significant difference ($P > 0.05$) between large (4, 5) and small (1, 2, 3) clutches.
[2] Highly significant difference ($P < 0.001$) between large and small clutches.

protect larger broods effectively, or they may have been subject to higher mortality as a result of the effort to do so. In the three areas of this study, 1.2, 1.2, and 1.9 young (overall mean 1.3) fledged per active nest. Other studies have indicated fledging of 1.1 per active nest (Wood 1938), 1.6 per active nest (Williams 1940), 1.9 per active nest (Beer and Tibbitts 1950), 0.6 per active nest (Case and Hewitt 1963), 0.8 per active nest (Holcomb and Twiest 1968), 0.85 per active nest (Robertson 1972), and 1.0 per active nest (Holm 1973).

Production of fledglings was the same (1.4) from 3-egg and 4-egg clutches. The 5-egg clutches produced only half as many fledglings per nest, but the difference was not significant for the small sample of nine active nests. Clutch sizes of 3 and 4 appear to have evolved to produce the largest number of surviving young (Lack 1968: 165), and may be the greatest number of nestlings the parents can feed. Four-egg clutches are less efficient than 3-egg clutches as they require more energy to produce the same number of young. The fourth egg, however, may be of value in allowing larger broods to be raised in years when food is more readily available.

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Possible bear predation on a Yellow-bellied Sapsucker nest.—We found a Yellow-bellied Sapsucker (*Sphyrapicus varius*) nest cavity in mixed conifer habitat on the Apache-Sitgreaves National Forest, 80 km south of Springerville, in the White Mountains, Arizona on 19 May 1974. The nest was 11.0 m up in a 20.6 m quaking aspen (*Populus tremuloides*) with the entrance facing northwest. Nestlings were heard 3 and 24 June. On 29 June the nest was quiet, and a portion of the trunk forming the nest entrance had been torn away. Opposing claw marks on each side of the tree trunk proceeded up the tree to the nest. Judging from their size, they could have been made only by a black bear (*Ursus americanus*), which occurs in the vicinity. DeWeese and Pillmore (1972, Condor 74: 488) noted black bear predation on a Common Flicker (*Colaptes auratus cafer*) nest in quaking aspen in Colorado, but to our knowledge this is the first recorded incident of such predation on the Yellow-bellied Sapsucker. Both these species have very noisy young. DeWeese and Pillmore's suggestion that nestling flicker calls resemble bee sounds and hence may possibly attract bears to the nest was not borne out by our observations of the sapsucker young, whose calls bear no resemblance to the buzzing of bees. Probably the nestlings' loud, conspicuous calling attracted the predator.

We thank R. D. Ohmart for helpful suggestions on improving this note.—KATHLEEN E. FRANZREB, *Department of Biological Sciences, California State University, Chico, California 95926*, and ALTON E. HIGGINS, *Department of Zoology, Arizona State University, Tempe, Arizona 85281.* Accepted 2 Dec. 74.