TABLE 1

MOLT SCHEDULE OF HOUSE SPARROWS DURING 1971

		No. of Birds Examined	Stages of molt in specimens		
			Molt not begun	Molt in progress	Molt completed
July	Juveniles	7	100%	—	—
	Adults	38	79%	21%	—
Aug.	Juveniles	18	50%	50%	—
	Adults	23	30%	70%	—
Sept.	Juveniles	8	12.5%	87.5%	—
	Adults	31	—	97%	3%
Oct.	Juveniles	9	—	22%	78%
	Adults	21	—	70%	30%
Nov.	Juveniles	12	—	25%	75%
	Adults	17	—	18%	82%

The height of the postnuptial molt occurred in September when 97 percent of the birds examined were molting (Table 1). The greatest involvement of feather tracts also occurred in September when all ($N = 30$) of the molting birds had simultaneous renewal of primaries, secondaries, and rectrices. The last adults to exhibit molt in 1971 were a male and female collected on 9 November.

During 1971 six adults were collected in which molt had stopped following replacement of primaries one and two. Four of these birds were caged for observation, and molt resumed in all after intervals of eight, 10, 16, and 47 days, respectively. This suggests that the birds had experienced molt suspension (King, Condor, 74:5–16, 1972) rather than arrested molt, where feather replacement is permanently stopped before completion.

I am grateful to Dr. M. K. Rylander for suggestions during the preparation of this manuscript.—STANLEY D. CASTO, *Department of Biology, Texas Tech University, Lubbock, Texas 79409.* *Accepted 30 November 1973.*

The question of possible surplus females in breeding Red-winged Blackbirds.—The Red-winged Blackbird (*Agelaius phoeniceus*) is a polygynous species, with each male having one to several females in his territory. Males holding territories appear to represent only a portion of those in the population, as Orians (Ecol. Monogr., 31: 285, 1961) found that their removal resulted in a replacement by other males in California. In females, Nero (Wilson Bull., 68:129, 1956) reported that within the territory of a male they hold their own subterritories in Wisconsin. This suggests that in a finite area, females compete for space, and thus a surplus might also exist of this sex. Brown (Wilson Bull., 81:293, 1969), however, has postulated that no such surplus exists, as the males should be able to accept all available females. To provide some insight on the question of possible surplus females in breeding populations, I have reviewed my data collected in connection with studies of reproductive behavior and physiology. The work was carried out near Waterloo, Nebraska, in 1968, with supplementary data obtained from post-breeding birds taken near Wooster and Vickery, Ohio, in 1967.

In 1968, earliest nests were found on 20 April, with the latest in late July. Table 1

TABLE 1

CHRONOLOGICAL RECORD OF ACTIVE NESTS AND FEMALES REMOVED FROM A BREEDING POPULATION OF RED-WINGED BLACKBIRDS

Date	Active nests	Females removed	Date	Active nests	Females removed
25 April	23		30 May	72	7
30 April	36	3	5 June	57	12
5 May	78	4	10 June	51	0
10 May	105	3	15 June	38	0
15 May	119	3	20 June	21	0
20 May	102	9	25 June	16	0
25 May	80	6	30 June	19	0

shows the number of active nests present between 25 April and 30 June. Very few (if any) females initiated nesting after 15 May, and all had begun nesting by 19 May, as evidenced by the unfeathered brood patches of nest-building birds (during construction of the first nest there are some feathers in the brood patch region). Every nest in the Nebraska study area was interrupted by me or by predators prior to the fledging of young. In some cases, I removed eggs and replaced them with artificial eggs to prolong incubation. In addition, 47 females were shot on the study area, 10 of these prior to 13 May when there was a peak of 123 active nests.

Between 15 May and 5 June, I removed 37 females, and 114 nests were interrupted. Over this period the number of active nests dropped from 119 to 57, a decrease of 62. Obviously, the shooting alone would not account for the decrease, as at most only 37 of the 62 deficit nests would have been so affected. The remaining decrease of 25 nests must represent birds that did not renest after their nests were interrupted. Possibly some of these interrupted birds waited longer to renest, as suggested by the fact that a decrease of only six nests occurred between 5 and 10 June—even though 12 females were shot during that period. However, even allowing for later nesting, the substance of these findings seems clear: the number of active nests found during the 1968 breeding season appears to have been the work of females that were either removed or had their earlier nests interrupted. In other words, no nests were found that seem to reflect the presence of a group of surplus females in the population studied.

Most of the females building first nests in mid-May were subadults. Such birds were distinguished from adult females on the basis of color of the upper lesser marginal coverts and the chin feathers, a method of determination which is similar to that of Payne (Univ. California Publ. Zool., 90:57–58, 1969). Overall, of the 56 females (all with brood patches) collected after nest-building began in 1968, 39 were adults and 17 subadults. Payne (op. cit.:50) reported that two of four first-year females taken in May and June had brood patches in his California studies. In Ohio in August 1967, I collected three females from flocks of post-breeding birds and live-trapped 22 other females for examination. Of these, 16 were adults and nine were subadults. All had recently nested, as indicated by the presence of brood patches. These data show that most (all in my study) females develop brood patches, including the first-year birds. If there were a surplus of females in a population, one would expect that more birds would lack brood patches—particularly the first-year females, which would probably form the bulk of any surplus.

On the basis of these findings, I suggest that most female Red-winged Blackbirds breed every year, with no notable surplus existing as non-breeding birds in a breeding population. Thus, the regulation of populations does not appear to be directly influenced by exclusion of potential breeders by territorial behavior of females.—LARRY C. HOLCOMB, *Department of Biology, Creighton University, Omaha, Nebraska 68178.* *Accepted 18 January 1974.*

Vocal mimicry in the Violaceous Euphonia, *Euphonia violacea*.—In Trinidad, Violaceous Euphonias (*Euphonia violacea*) mimic many different species while singing. From June through September 1961, the last four months of my 3½ years residence, I

TABLE 1
SPECIES IMITATED BY *EUPHONIA VIOLACEA* IN TRINIDAD

Species	Call imitated	Number of individuals mimicking call
PSITTACIDAE		
Touit batavica	flight call	1
CUCULIDAE		
Crotophaga ani	alarm "aani" call	1
TROCHILIDAE		
Phaethornis guy	"tich" flight call	4
DENDROCOLAPTIDAE		
Xiphorhynchus guttatus	"kew" call	1
FORMICARIIDAE		
Formicarius analis	"chook" alarm call	2
PIPRIDAE		
Manacus manacus	"trrr" contact call	2
TYRANNIDAE		
Megarhynchus pitangua	"klee lelele"	3
Pitangus suphuratus	"kiskadee"	1
Tolmomyias flaviventris	"weet"	1
TROGLODYTIDAE		
Troglodytes musculus	alarm call	1
TURDIDAE		
Turdus fumigatus	"kikiki" alarm call	3
Turdus nudigenis	alarm mew	3
VIREONIDAE		
Hylophilus aurantiifrons	scolding tit-like note	1
THRAUPIDAE		
Tangara gyrola	"tsee" contact call	2
Ramphocelus carbo	"chink" contact call	2
	squealing note when caught	1
Habia rubica	"pu pu pu"	1
Tachyphonus rufus	"check"	1