

FEATURE ARTICLES

SIMULTANEOUS MULTIPLE CLUTCHES AND FEMALE BREEDING SUCCESS IN MOUNTAIN QUAIL

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Abstract. To evaluate the contribution of simultaneous clutches to breeding success in female Mountain Quail (*Oreortyx pictus*), we located nests of radio-marked male and female Mountain Quail in west-central Idaho from 1992 to 1995 and estimated rates and parameters of nesting success. In our sample, 29 females, 19 males, and 4 quail of unknown sex, including 12 apparently monogamous pairs, incubated nests. Using a logistic regression, we found that constant survival and sex were the best-supported models to explain nest success for 45 nests of known age. Odds of success for male-incubated nests were 1.7-times (95% CI: 0.4–7.9) greater than for female-incubated nests. Mean clutch size for first nests was 11.8 (range: 6–16) and clutches incubated by males (12.6 ± 0.3 eggs) were significantly larger than female-incubated clutches (11.4 ± 0.4 eggs). Mean hatching date for all nests was 2 July (range: 10 June–23 July). Two of six females whose nests were depredated re-nested. Paired females produced an average of 24 eggs (range: 20–28). Mean hatching date for nine paired males was 30 June \pm 3 days and 3 July \pm 3 days for females. The estimated average number of days spent on nesting activities for nine successfully hatched pairs was 59 (range: 54–64). All 12 paired females hatched at least eight chicks from both clutches. Our findings indicate that simultaneous clutches in Mountain Quail ensures breeding success in females under conditions that may not be amenable to other forms of multiple brooding.

Key words: biparental care, female breeding success, Idaho, Mountain Quail, *Oreortyx pictus*, re-nesting, simultaneous multiple clutches.