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IMMATURE RED-TAILED HAWK CAPTURES MONTEZUMA QUAIL

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Predation by raptors has been identified as a source of mortality in the Montezuma Quail (*Cyrtonyx montezumae*), although few instances of it have been documented in the wild. In the most comprehensive study to date, Stromberg (1990) attributed 5 (26%) of 19 mortalities to raptors in radio-tagged quail in Arizona. One of these was inflicted by an adult female Cooper's Hawk (*Accipiter cooperii*). Also in Arizona, R. Brown (1982) observed a Sharp-shinned Hawk (*A. striatus*) kill a Montezuma Quail, and reported 6 additional cases of suspected raptor predation. In Mexico, Leopold and McCabe (1957) documented one case of avian predation, attributed to a Horned Owl (*Bubo virginianus*). In New Mexico, Ligon (1927) considered the Cooper's Hawk a serious threat to Montezuma Quail, but provided no documentation for his claim.

On 7 December 1991, we watched an immature Red-tailed Hawk (*Buteo jamaicensis*) capture a Montezuma Quail in midair near Dog Spring, Hidalgo County, New Mexico. The observation was made during a survey of these quail in southwestern New Mexico, which used 2 trained Weimaraner pointing dogs to aid in the detection of quail. The incident occurred in a shallow draw in the Dog Mountains (1,550 m elevation) that supports a Chihuahuan semidesert grassland (D. Brown 1982) dominated by perennial grammas (*Bouteloua spp.*), bluestems (*Andropogon spp.*) and three-awns (*Aristida spp.*) with widely scattered patches of mesquite (*Prosopis glandulosa*), catclaw acacia (*Acacia greggi*), little-leaf sumac (*Rhus microphylla*), yuccas (*Yucca spp.*), sotol (*Dasyllirion wheeleri*), and low junipers (*Juniperus spp.*) (<2 m).

At 1300 hrs. on the above date the dogs pointed a family group of 8 Montezuma Quail. The birds were flushed and we collected 3 by shotgun. The remaining birds landed about 20 m ahead of us, where they were pointed a second time. While we examined the downed quail, one of the remaining birds flushed back toward us and was intercepted in midair by an immature Red-tailed Hawk that we had not previously noticed. In fact, we looked up in response to the soft thud the raptor made as it struck the quail. The hawk briefly lost some momentum as it drew the prey close to its abdomen, before flying out of our sight with the quail.

Again on 12 December 1991 at a point about 1.2 km south of the previous location, we observed an immature Red-tailed Hawk make 2 unsuccessful stoops on a family group of 7-8 quail that we flushed. This group was feeding in heavy grass cover on a north-facing slope when encountered at 1335 hrs. As in the previous instance, we were unaware of the hawk's presence until the quail flushed. This time the hawk flew from a juniper located about 10 m upslope from the flushing quail. After nearly striking a bird, it returned to the same perch and waited until we reflushed several of the quail. The distance between the perched hawk and flushing birds was greater than before, and the quail easily evaded the hawk by making a short downhill flight into brush at the bottom of the ravine. Following the second failed attack, the Red-tailed Hawk was joined by an adult Cooper's Hawk that emerged from one of the nearby junipers. The 2 raptors quickly gained altitude and flew away from the area.

Red-tailed Hawks are common residents of the semidesert grasslands and woodlands of southwestern New Mexico, with winter populations in the Dog Mountains probably consisting of both resident and migratory birds. Based on our experience in December 1991, we suspect that the hawk (or hawks) we saw was hunting Montezuma Quail, which was facilitated by our activities. Under normal conditions, raptors probably attack Montezuma Quail mainly on the ground, since these birds appear to use flight as a last resort to avoid predators. During our survey, quail were concentrated along sandy washes in hilly terrain, where they fed on flatsedge (*Cyperus sp.*) tubers. Seasonal use by quail of these relatively open habitats may make them more susceptible to raptor predation than when they use food resources that are more evenly distributed in the protective cover of surrounding grasslands.

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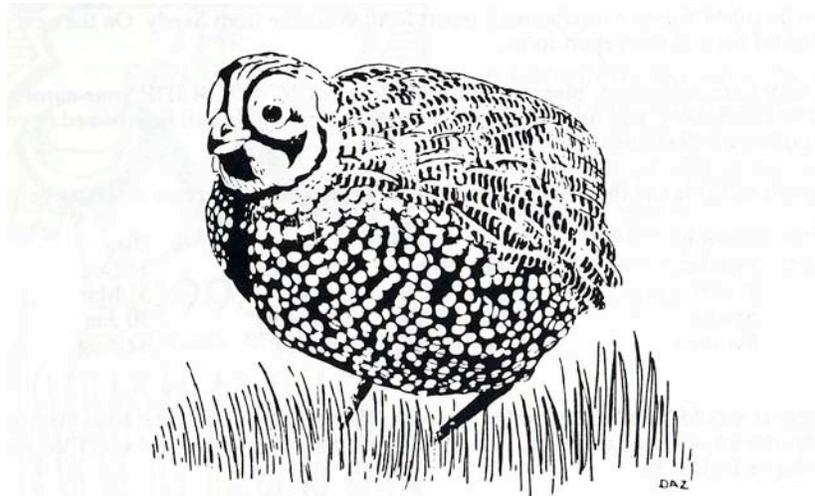
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Montezuma Quail