

# A capture technique for wintering and migrating steppe eagles in southwestern Saudi Arabia

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**Abstract** We describe a technique to capture steppe eagles (*Aquila nipalensis*) in Saudi Arabia and identify some improvements for their safety. Capture of steppe eagles by vehicle pursuit was successful in 92% of attempts ( $n=52$ ). Speed of capture was related to capture sites ( $P<0.05$ ), but not to relative mass of crop contents ( $P>0.05$ ), total body mass ( $P>0.05$ ), or prevailing weather conditions at capture sites ( $P>0.05$ ). Although this technique of capture was very effective for steppe eagles, its efficient use is limited to open habitats.

**Key words** *Aquila nipalensis*, capture techniques, crop content, raptor, Saudi Arabia, steppe eagle

Commonly used capture methods such as baited snare traps, rocket nets, or enclosure traps (Bloom 1987) are not suitable for steppe eagles (*Aquila nipalensis*). Problems with available traps include potential serious injury to birds (snare), traps designed for solitary birds that are impracticable for many birds at a carcass (enclosure traps), and avoidance of rocket nets by steppe eagles. Likewise, oral drugs are difficult to apply in the appropriate dose, are tolerated poorly, and are potentially dangerous (Ebedes 1973, Day et al. 1980). Remote delivery of drugs by gun has been used to capture griffon vultures (*Gyps fulvus*, Revers and Bögel 1994) but cannot be used for wild steppe eagles, which are difficult to approach and much smaller in size. Although several of the above mentioned techniques are successful on other eagle species (e.g., Harmata 1984, Bloom 1987, Jackman et al. 1994), few authors have addressed the problem of recapturing "trap-shy" individuals with the same technique.

Although the diet of steppe eagles varies considerably throughout their range (Cramp and Simmons 1980), migrating and wintering birds in Saudi Arabia feed on slaughterhouse offal and rubbish dumps in the desert (Hollom et al. 1988). After observing that

birds feeding at these dumps have difficulty gaining flight when chased by a vehicle, we attempted to catch birds by chasing them. Our objectives were to describe a technique to catch wintering and migrating steppe eagles in Saudi Arabia and identify factors to maximize the birds' safety.

## Study area

We conducted our study at 2 rubbish dumps with animal waste located 35 km from the city of Taif (21°15'N / 40°21'E), in west-central Saudi Arabia, at a mean altitude of 1,400 m above sea level. Both sites were sandy desert crossed by dry watercourses (*wadis*). At site 1, the terrain was undulating with numerous acacia trees (*Acacia tortillis*) along the main *wadi*; at site 2, the terrain was flat and trees were scarce. Neither area had naturally occurring permanent surface water. Consequently, the region was sparsely vegetated with intensively grazed perennial grasses and forbs and tall acacia trees present only in the *wadis*. These rubbish dumps primarily contained carcasses of sheep and goats, were not enclosed, and refuse destruction was not practiced. Scavenging birds had direct access to these sites.

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