

**Use of Spadefoot Toads by Western Burrowing Owls** – From 19-22 April 2004, I observed two breeding pairs of Western Burrowing Owls (*Athene cunicularia hypugaea*) located 20 m apart within a vernal pool system near Goshen, Tulare County, California. Each owl pair used a network of burrows clustered 1-3 m apart. The primary burrow used by the pair at each cluster was decorated with domestic sheep dung, skunk (*Mephitis mephitis*) fur, and desiccated remains of western spadefoot toads (*Spea hammondi*), a species of special concern (California Department of Fish and Game 1994). The entrances of the burrows in each cluster exhibited 3-5 toads in various states of disarray. Hindquarters were present without the head or thoracic cavity, and nearby were the heads and upper bodies either still attached or in separate pieces. The soft organs of the thoracic cavity were missing.

Burrowing Owls commonly decorate their burrows with a variety of items, such as dung, grass, paper, cotton, and dried moss (Levey et al. 2004, Smith and Conway, 2007). Flattened mummified remains of southern toads (*Bufo terrestris*), assumed to be roadkills, have been found at Burrowing Owl burrows as well (D. Levey, pers. comm.). The spadefoot toads were readily available to the Burrowing Owls because the owls' burrows were within a vernal pool system, a habitat where spadefoots commonly occur (California Department of Fish and Game 1994).

Burrowing Owls have been infrequently reported to prey on toad species (Haug et al. 1993). Although toads have toxins within their dorsal surfaces, owls and other predatory birds are able to avoid the poisons by consuming the vulnerable ventral portions (Olson 1989). In this instance, the owls may have captured and consumed the toads and then used their remains as a burrow decoration. – Howard O. Clark, Jr., H.T. Harvey & Associates, 423 West Fallbrook Avenue, Suite 202, Fresno, CA, 93711.

#### LITERATURE CITED

- California Department of Fish and Game. 1994. Amphibian Species of Special Concern. Sacramento, CA.
- Haug, E.A., B.A. Millsap, and M.S. Martell. 1993. Burrowing Owl (*Athene cunicularia*). In The Birds of North America, No. 61 (A. Poole and F. Gill, Eds.): The Academy of Natural Sciences, Philadelphia, and American Ornithologists' Union, Washington, D.C.
- Levey, D.J., R.S. Duncan, C.F. Levins. 2004. Use of dung as a tool by Burrowing Owls. Nature 431:39.
- Olson, D.H. 1989. Predation on breeding western toads (*Bufo boreas*). Copeia 1989:391-397.
- Smith, M.D., and C.J. Conway. 2007. Use of mammal manure by nesting Burrowing Owls: a test of four functional hypotheses. Animal Behaviour 73:65-73

Reprinted from: CVBC Bulletin 10(2):51.

**Predation on a Western Burrowing Owl by an apparent Prairie Falcon** – We observed a raptor capture and kill a Western Burrowing Owl (*Athene cunicularia hypugaea*), a California species of special concern (California Department of Fish and Game 1992), on the morning of 29 September 2004 while conducting a Burrowing Owl survey in a vernal pool system near Goshen, Tulare County, California. The identification of the raptor as a likely Prairie Falcon (*Falco mexicanus*) was based on observations of this species at the site by a qualified ornithologist (J. Seay, pers. comm.) a few days prior to the take of the owl. We observed the raptor to have a pale brown dorsal surface and creamy white with heavy spotting under the wings. There was no distinctive helmet, as on the Peregrine Falcon (*F. peregrinus*).

We inadvertently flushed the owl from its burrow during our survey. The falcon dove on the owl while the owl was flying to a nearby burrow. The falcon drove the owl to the ground where it presumably killed the owl. The falcon then struggled with labored flight to carry the lifeless owl several hundred feet, where it landed out of sight in the grass. We were unable to find the second landing site.

Mammals, including badgers (*Taxidea taxus*) and coyotes (*Canis latrans*), are major predators of Burrowing Owls (Green and Anthony 1989, Haug et al 1993). However, raptors, including Swainson's Hawk (*Buteo swainsoni*), Ferruginous Hawk (*B. regalis*), Red-tailed Hawk (*B. jamaicensis*), Peregrine Falcon, Great Horned Owl (*Bubo virginianus*), and Cooper's Hawk (*Accipiter cooperii*) have been observed or suspected to take Burrowing Owls, as well (Peeters 1963, Fitzner et al. 1977, Haug et al. 1993). Predation by the Prairie Falcon on Burrowing Owls has also been documented before (Haug et al. 1993).

The owl's attempt to fly to another burrow appeared to be a reaction to our presence, which may indicate that it considered us a threat. We apparently distracted the owl so that it did not notice the approaching falcon. The falcon's behavior of removing its kill and flying some distance away may also have been caused by our presence. Prairie Falcons do not normally transport prey (except to nest sites), but rather simply eat their prey at the kill site (Steenhof 1998). Burrowing Owls have a mass range of 144-178 g (Plumpton and Lutz 1994) whereas Prairie Falcons have a mass range of 420-720 g (Steenhof 1998, Sibley 2000); therefore, transporting a Burrowing Owl several hundred feet away is a formidable task for the falcon (Steenhof 1998). – Howard O. Clark, Jr. and Norman R. Sisk, H.T. Harvey & Associates, 423 West Fallbrook Avenue, Suite 202, Fresno, CA, 93711.

#### LITERATURE CITED

- California Department of Fish and Game. 1992. Bird Species of Special Concern. Sacramento, CA. (<http://www.dfg.ca.gov/hcpb/species/ssc/sscbird/sscbird.shtml>.)
- Fitzner, R.E., D. Berry, L.L. Boyd, and C.A. Rieck. 1977. Nesting of Ferruginous Hawks (*Buteo regalis*) in Washington 1974-75. *Condor* 79:245-249.
- Green, G.A., and R.G. Anthony. 1989. Nesting success and habitat relationships of Burrowing Owls in the Columbia Basin, Oregon. *Condor* 91:347-354.
- Haug, E. A., B. A. Millsap, and M. S. Martell. 1993. Burrowing Owl (*Athene cunicularia*). In *The Birds of North America*, No. 61 (A. Poole and F. Gill, Eds.). The Academy of Natural Sciences, Philadelphia. and American Ornithologists' Union, Washington, D.C
- Peeters, H. J. 1963. Two observations of avian predation. *The Wilson Bulletin* 75:274.
- Plumpton, D. L., and R. S. Lutz. 1994. Sexual size dimorphism, mate choice, and productivity of Burrowing Owls. *Auk* 111:724-727.
- Sibley, D. A. 2000. *The Sibley guide to birds*. Alfred A. Knopf, Inc., New York.
- Steenhof, K. 1998. Prairie Falcon (*Falco mexicanus*). In *The Birds of North America*, No. 346 (A. Poole and F. Gill, Eds.). The Academy of Natural Sciences, Philadelphia. and American Ornithologists' Union, Washington, D.C.

Reprinted from: CVBC Bulletin 10(2):49-50.