(Klauber 1972. Rattlesnakes. Univ. California Press, Berkeley, 1536 pp.), documentation of interactions in nature is uncommon. Here, we 1) relate the mortality and possible predation of two *Crotalus viridis lutosus* to environmental temperature and condition of snakes at a natural hibernaculum, and 2) note the specific targeting of venom glands by a predator/scavenger. This observation was made at a large snake hibernaculum in Butte Co., Idaho, USA, on the property of the Idaho National Engineering and Environmental Laboratory.

![Fig. 1. Body of *Crotalus viridis* showing extensive tissue loss. Note injury to the right venom gland and teeth marks on transmitter.](image)

As part of a hibernation project on *C. v. lutosus*, we surgically implanted radiotransmitters (8–9 g) into seven adult female snakes and released them at their hibernaculum within one week. On 25 October 1991 we released the last two snakes: #349 (SVL = 77 cm, mass = 339 g) and #365 (SVL = 76 cm, mass = 321 g). On 4 November 1991, all seven radio-equipped snakes were underground within the hibernaculum and presumed alive. On 6 November, rattlesnakes #349 and #365 were found dead and mutilated at two different openings of the hibernaculum. Both snakes possessed injuries to the body; one had minor skin lacerations but the other suffered considerable tissue loss (Fig. 1). Most notable,

**Crotalus Viridis Lutosus** (Great Basin Rattlesnake).

**Mortality.** Although rodents have been reported as enemies of rattlesnakes, especially in laboratory or enclosed situations

![Fig. 2. Head of *Crotalus viridis* missing venom glands.](image)
were the injuries to the lateral, posterior areas of the head, where
the venom glands are located (Fig. 2). Both venom glands of one
snake and one of the other were completely missing. Examination
of the injuries and bite marks on one radiotransmitter sug-
gested that the predator/scavenger was a rodent. The only likely
rodent predator of rattlesnakes in this area is the bushy-tailed
woodrat (Neotoma cinerea), a species commonly associated with
this hibernaculum.

We suspect these two snakes were remaining active and bask-
ing near the entrances to the hibernaculum to promote healing of
the suture site. Although we maintained the postsurgical snakes
at warm temperatures for five days, healing may have been in-
complete. Unfortunately, the weather worsened shortly after the
snakes were released and remained relatively cool, allowing little
time for the snakes to bask and maintain warm body tempera-
tures. From release date until their death, operative snake body
temperatures (measured with a datalogger and painted copper
models) only rose above 20°C a total of 8.5 h. These reduced
temperatures may have delayed healing and resulted in subopti-
mal locomotory and defensive performances (Peterson et al. 1993,
241–314. McGraw–Hill, New York), thereby increasing the snakes’
54) suggested that cool environmental temperatures may have
facilitated a predation event on Coluber by prairie dogs (Cynomys
ludovicianus), and Rowe and Owings (1990. Ethology 86:237–
249) have suggested that ground squirrels can assess the risk of
attacking a rattlesnake by detecting whether a snake is warm or
not. Alternatively, the snakes may have died from other causes
and been scavenged by rodents. Regardless of the mode of death,
venom glands were specifically selected for consumption. We
know of no other case where rodents have targeted snake venom
glands. However, a possibly related observation involves wasps
exhibiting specific attraction to the venom glands of freshly dead
C. viridis on two separate occasions (Brent Charland, pers. comm.).

Submitted by VINCENT A. COBB, Department of Biology,
Northeastern State University, Tahlequah, Oklahoma 74464, USA
(e-mail: cobbva@cherokee.nsuok.edu); and CHARLES R.
PETERSON, Department of Biological Sciences, Idaho State
University, Pocatello, 83209, USA (e-mail: petechar@isu.edu).