



A NEW RECORD SIZE FOR THE NORTHERN DESERT NIGHTSNAKE (*HYP SIGLENA CHLOROPHAEA DESERTICOLA*)

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A NEW RECORD SIZE FOR THE NORTHERN DESERT NIGHTSNAKE (*HYP SIGLENA CHLOROPHAEA DESERTICOLA*)

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Key words: Bergmann's Rule, body size, Northern Desert Nightsnake, *Hypsiglena chlorophaea deserticola*, Washington State

An understanding of the role of geographic variation in body size is of increasing importance in ecological studies on vertebrates (Ashton 2002a; Belk and Houston 2002). Among reptiles, body size can play a role in the type

and size of prey taken (Shine and others 1998), reproductive mode and output (Shine 2003), and foraging behavior (Mushinsky and others 1982). An increase in body size with latitude, known as Bergmann's Rule, has been noted within nearly all vertebrate groups, including turtles (Ashton and Feldman 2003), salamanders (Ashton 2002b), and birds (Meiri and Dayan 2003).

The Desert Nightsnake (*Hypsiglena chlorophaea*) is a nearctic species of dipsadine snake (Mulcahy 2008), of which the subspecies Northern Desert Nightsnake (*H. c. deserticola*) ranges the farthest northward. It is often found in dry, rocky habitat, such as the shrub-steppe of central Washington (Weaver 2008). Most individuals are small, usually <50 cm in total length (TL) (St John 2002). Maximum TL and mass have been recorded from Idaho (621 mm and 48.7 g; Diller and Wallace 1986) and British Columbia (605 mm and 38.5 g; Lacey and others 1996). The largest of 121 specimens from central Washington was 565 mm TL and weighed 42.5 g (Weaver 2010). Here we report a new maximum length and mass for *H. c. deserticola*. We also comment on the potential ecological significance of a larger body size in the northern extent of the distribution of this species.

At 21:45 on 16 May 2009 (ambient temperature 21.1°C), REW, KSW, and TMJ collected an adult female *H. c. deserticola*, dead-on-road (DOR), near mile post 14 along State Route 821 within the Yakima River Canyon, Kittitas County, Washington (UTM: Zone 10U, 694085E, 5189881N, WGS84; elevation 434 m). The specimen was collected and later weighed and measured in the laboratory. The TL and mass of this specimen were 638 mm and 61.5 g, respectively, exceeding all previously documented measurements for this subspecies. Additionally, this specimen was just 22 mm short of the maximum recorded TL for *H. chlorophaea* (Daniel G Mulcahy, Smithsonian Institution, Washington DC, pers. comm.).

The diet of *H. c. deserticola* consists primarily of small sceloporine lizards and their eggs (Rodríguez-Robles and others 1999). In the Pacific Northwest, the diet is quite varied and not limited to small sceloporine lizards. In Washington State, *H. c. deserticola* is known to feed on anguid lizards, scincid lizards, anurans, snakes, and mammals (Weaver 2010). The largest known prey item was taken by a British Columbia specimen of *H. c. deserticola* (Lacey and others 1996), which consumed a neonate Pacific Rattlesnake (*Crotalus oreganus*), a meal nearly 50% of the nightsnake's body mass.

Additional morphometric data on *H. c. deserticola* is needed to show if northern populations reach a larger body size. If future research shows northern *H. c. deserticola* con-

forming to Bergmann's Rule, which other squamate reptiles do not (Ashton and Feldman 2003), it is not surprising that the largest prey items (neonate rattlesnakes, anguid lizards, and mammals) are consumed by individuals of these northern populations.

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BISON (*BISON BISON*) FUR USED AS DREY MATERIAL BY RED SQUIRRELS (*TAMIASCIURUS HUDSONICUS*): AN INDICATION OF ECOLOGICAL RESTORATION

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Key words: American Bison, American Red Squirrel, *Bison bison*, drey, ecological restoration, nesting material, reintroduction, *Tamiasciurus hudsonicus*, Yukon

In 1988, American Bison (*Bison bison*; hereafter Bison) were reintroduced to southwestern Yukon, Canada, as part of a national recovery program to restore populations to their native range. By 2008, the herd was estimated to be more than 1100 animals, and according to relative numbers the reintroduction of this species was considered a success. However, ecological restoration of reintroduced species should entail not only return of animals to the landscape, but also the restoration of their ecological interactions with other species. Noting whether reintroduced species are providing some of the ecological functions they did prior to extirpation is as important as documenting their population size and demography when evaluating the success of reintroduction programs (Pyare and Berger 2003; Sanderson and others 2008). Sanderson and others (2008) listed several ecological functions provided by Bison that may be used in evaluating their restoration from an ecological perspective. One of the

ecological functions of Bison is that their fur may be used as nesting material by birds and small mammals (Soper 1941; Sanderson and others 2008). Soper (1941) noted songbirds using Bison fur as nesting material in Wood Buffalo National Park, Northwest Territories. Use of Bison fur as nesting material by small mammals was expected (Soper 1941), but not previously reported. Herein we report an observation of Bison fur being used as nesting material by a small arboreal mammal, the American Red Squirrel (*Tamiasciurus hudsonicus*; hereafter Red Squirrel).

On 21 July 2008, we found a Red Squirrel drey (nest) that contained fur of a Bison (Fig. 1). Nearby were the partial remains of a dead Bison. The drey was located in the Takhini River Valley (UTM Zone 8, 446153E, 6742473N, NAD83) about 55 km west of Whitehorse, Yukon. Much of the Takhini River Valley burned in 1958 and remains open grassland interspersed with patches of remnant or regenerating forest. Forested areas are dominated by open-canopy stands of immature Trembling Aspen (*Populus tremuloides*), with a few White Spruce (*Picea glauca*) scattered throughout. On 8 October 2008, after leaf fall, we revisited the site