

FIG. 1. Aggregation of *Sibon longifrenis* on a palm tree in Braulio Carrillo National Park, Costa Rica. Four of six individuals can be seen.

it is likely that the aggregation was related to mating, rather than thermoregulation. This conclusion is further supported by the highly skewed sex ratio of the group.

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SONORA SEMIANNULATA (Western Groundsnake). PREDATION. *Sonora semiannulata* is a common snake found in the central and southwestern U.S. and northern Mexico (Ernst and Ernst 2003. Snakes of the United States and Canada. Smithsonian Institution Press, Washington, D.C. 668 pp.). They have a range of documented predators, including lizards, snakes, birds, and mammals (Ernst and Ernst, *op. cit.*). On 01 November 2014, 11.5 km SE of Valentine, Jeff Davis Co., Texas, USA (30.52166°N, 104.40198°W, WGS 84), we collected at least two identifiable *S. semiannulata* impaled on barbed wire (Fig. 1) at a larder of *Larius ludovicianus* (Loggerhead Shrike). To our knowledge this is the first documented instance of this bird preying on *S. semiannulata*

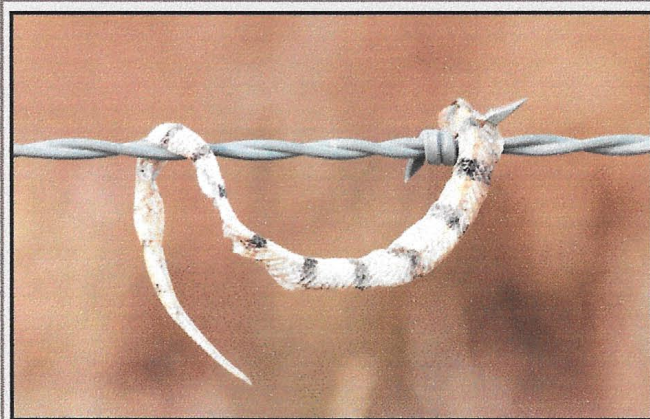


FIG. 1. *Sonora semiannulata* (SRSU 6658) found impaled on barbed wire by *Larius ludovicianus* in Jeff Davis Co., Texas, USA.

(Clark 2011. *Son. Herpetol.* 24:20–22). A representative specimen one of the impaled *S. semiannulata* was preserved in the James F. Scudday Vertebrate Collections at Sul Ross State University (SRSU 6658).

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STORERIA DEKAYI (Dekay's Brownsnake). POPULATION SIZE, DENSITY, AND BIOMASS. *Storeria dekayi* is a small North American natricine snake that is relatively common in a wide variety of habitats, including those associated with human habitation (Christman 1982. *Cat. Amer. Amphib. Rept.* [461]:1–2). Despite the ubiquity of *S. dekayi*, population size and density estimates for the species are few. In suitable habitat, with a plentiful supply of shelter and prey (e.g., slugs and earthworms), population of *S. dekayi* can be quite large (Ernst and Ernst 2003. *Snakes of the United States and Canada*. Smithsonian Press, Washington, DC. xi + 668 pp). The purpose of this note is to report multi-year estimates of population size (N), density (N/area of sampled habitat), and biomass (N × average mass of all marked snakes) at a 0.5-ha urban site in Erie, Pennsylvania, USA.

During the active seasons (March–October) of 2012–2014, I used artificial cover objects along a vegetated slope to study a population of *S. dekayi* (Gray 2014. *J. North Amer. Herpetol.* 2014:28–39). The Schumacher-Eschmeyer mark-recapture method was used to estimate population size (Ricker 1975. *Computation and Interpretation of Biological Statistics of Fish Populations*. *Bull. Fish. Res. Board Canada* 191:1–382). For the population size estimates, each sample consisted of a weekly sampling period up until the first neonate(s) were observed. The population size and density at the site during 2012 were estimated as 130 ± 35 individuals and 260 *S. dekayi* / ha, respectively (Gray 2014, *op. cit.*). Total biomass of *S. dekayi* during 2012 was estimated to be 855 g.

During 2013, thirty-seven adult male (mean \pm 95% C.I., SVL = 214.2 ± 6.7 mm), 24 adult female (SVL = 267.5 ± 12.7 mm), 37 juvenile male (SVL = 149.4 ± 5.7 mm), and 52 juvenile female (SVL = 163.8 ± 8.5 mm) *S. dekayi* were marked. During 2013 the first neonates were observed 6 August. Population size was estimated as 195 ± 53 individuals, resulting in a population density of 390 *S. dekayi*/ha. Total biomass during 2013 was estimated to be 975 g. During 2014, fifteen adult male (SVL = 218.1 ± 11.4 mm), 16 adult female (SVL = 277.9 ± 11.2 mm), 13 juvenile male (SVL = 150.0 ± 9.6 mm), and 11 juvenile female (SVL = 170.2 ± 18.0 mm) *S. dekayi* were marked. During 2014 the first neonates were observed 18 August. Population size during 2014 was estimated as 77 ± 16 individuals, resulting in a population density of 154 *S. dekayi*/ha. Total biomass of *S. dekayi* during 2014 was estimated to be 485 g.

Populations of *S. dekayi* vary considerably in size depending on numerous factors, including the amount of suitable habitat, abundance of prey, intensity of predation, and female fecundity. For instance, estimated population sizes and densities from select studies range from 152–4200 individuals and 14–300/ha, respectively (Freedman and Catling 1978. *Can. Field Nat.* 92:167–173; Mitchell 1995. *Catesbeiana* 15:15–22; Ernst 2003. *Herpetol. Bull.* 86:10–18). Populations of *S. dekayi* at sites noted by Ernst have since been extirpated (Ernst 2003, *op. cit.*). The apparent decline of *S. dekayi* at my Erie County site may have been due