



Predation Attempt by a Southern Heath Monitor, *Varanus rosenbergi* (Varanidae), on a Western Shingleback, *Tiliqua rugosa* (Scincidae), in Southwestern Australia

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The Southern Heath Monitor, *Varanus rosenbergi* (Mertens 1957), is a diurnal carnivorous lizard that feeds on a wide variety of animal prey (Bennett 1998). The distribution of *V. rosenbergi* is restricted to the southern parts of Australia (South and Western Australia, Victoria, coastal areas of New South Wales, and the Sydney region) and two offshore islands (Kangaroo Island and Reevesby Island) (Auliya and Koch 2020; Zdunek and Lockwood 2022). The Western Shingleback, *Tiliqua rugosa rugosa* (Gray 1825), is a generalist omnivore endemic to southwestern Australia (Dubas and Bull 1991; Wilson and Swan 2013). *Varanus rosenbergi* reaches approximately 160 cm in total length, whereas *T. r. rugosa* reaches 31 cm (Auliya and Koch 2020; Wilson and Swan 2013).

At 1404 h on 25 September 2013, we observed a foraging adult *V. rosenbergi* attempting to prey on an adult *T. r. rugosa* in Arpenteur Nature Reserve, in Cheynes, Western Australia (34.886447 S, 118.415054 E). The night before had been stormy and windy with rain. On the day of observation, the temperature was 14–16 °C, and the sky was clear and sunny.

The vegetation in the surrounding area was dominated by dense heath. The main emergent trees were banksias (*Banksia baxteri*, *B. attenuata*, and *B. coccinea*), small stands of mallee, and *Agonis flexuosa* in the gullies (Fig. 1). The soil was sandy or rocky with scattered, large rocky outcroppings and less than one-meter tall, scrubby vegetation with some thickets of taller brush.

Initially, the *V. rosenbergi* grabbed the *T. r. rugosa* by its midbody. In response, the latter bit and held onto the right side of the predator’s neck. The two animals repeatedly bit each other over the next 24 minutes (Fig. 2), when the monitor got a firm grip on its prey’s midsection and lifted the

smaller lizard off the ground several times, thrashing its body sideways in bouts of a few seconds in an attempt to release his neck. This behavior toward prey is common in varanids (i.e., Loop 1974). Finally, the monitor picked up the motionless (probably exhausted from the fight) *T. r. rugosa* and ran several meters before disappearing into the bushes.

The diet of *V. rosenbergi* consists of a variety of invertebrates or small vertebrates (King and Green 1979; Eidenmüller 2021). They have previously been reported to prey on lizards, without specifying particular species (Bennett 1998). Sutherland (2011) confirmed the presence of *Tiliqua rugosa* in scat and stomach samples from the northern Jarrah Forest of Western Australia. The Southern Heath Monitor also is known to feed on carrion and has even been observed



Figure 1. The Arpenteur Nature Reserve, with an example of habitat and vegetation where the observation was made. Photograph by John Sullivan.



Figure 2. A sequence of images documenting an interaction between an adult Southern Heath Monitor (*Varanus rosenbergi*) and a Western Shingleback (*Tiliqua rugosa rugosa*). Note the monitor grasping the shingleback's mid-section, lifting it off the ground, and shaking it violently, possibly an attempt to flip the shingleback over to get at its softer, less-protected venter. Photograph by John Sullivan.

preying on a juvenile Echidna (Overton 1987). Green et al. (1991) estimated that a 1-kg *V. rosenbergi* would need to consume 4.7 kg of prey each year to retain the energy balance necessary for reproduction. *Tiliqua r. rugosa* is a robust, slow-moving lizard (Swanson 1990), suggesting that it could be a high-energy food source. Although based on stomach contents, Rhind et al. (2019) reported a comparable situation of a Perentie (*Varanus giganteus*) consuming an adult Centralian Blue-tongue Skink (*Tiliqua multifasciata*) from central Australia. However, our observation documenting the duration of the predator-prey interaction and noting that the powerful jaws of *T. r. rugosa* can inflict a severe bite clearly shows that any energy acquired likely comes at a considerable cost.

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