

Activity of the weasel skink *Saproscincus mustelinus* under variable weather conditions

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Shade skinks (*Saproscincus*: Eugongylini) inhabit forests and sheltered suburban gardens in eastern Australia (Wilson, 2012). The weasel skink *Saproscincus mustelinus* is surface active, dwelling among leaf litter (Swan et al., 2017; Wilson, 2012; Sazima, 2023a). Its daily activity pattern is variable: this skink is reported as diurnal (Downes & Shine, 1999; Wilson, 2012); diurnal and under warm weather active at night (Robertson & Coventry, 2019); active at dusk or after dark on warm nights (Swan et al., 2017). Recent revisions of traits within Scincidae categorise the weasel skink as cathemeral, i.e. not strictly diurnal, nocturnal or crepuscular (Meiri, 2018; Slavenko et al., 2022), a classification supported by my previous observations on its habits (Sazima, 2023a).

Here I describe and illustrate the activity of the weasel skink under variable weather conditions, including its basking in sunlight (Downes & Shine, 1999), diurnal activity during drizzle and light rain, dawn hunting for winged termites and its predation and scavenging by a diurnal bird species.

I recorded the skinks from October 2023 to January 2024, incidental to my strolls on the Louise Sauvage Pathway (33° 49'51" S, 151° 04'15" E, 7 m a.s.l. to 33° 50'30" S, 151° 03'56" E, 6 m a.s.l.), Newington, New South Wales, Australia. This path is bordered by woodlots and paved with bitumen and small stone chips, and used by people for walking, running or cycling. I walked round trips of about 600 m at a steady pace and looked for skinks on the path and the adjacent ground with leaf litter and sparse vegetation. I recorded active skinks in the morning (about 08:30–09:30 h), in the afternoon (about 16:30–17:30 h) and after sunset (about 19:00–19:30 h) under sunny, cloudy and rainy weather. I photographed the skinks with a digital camera and a 55–250 mm telephoto lens from a distance of 1.5–3 m. Additionally, I recorded road kills during the same periods of the day, and preying or scavenging on the skink by ants and birds. I describe and illustrate first the events observed in the morning, then those in the afternoon, and finally those observed after sunset and at dawn.

I recorded an adult weasel skink basking on a sunlight and shade mosaic in the morning. The skink was under direct sunlight on the paved path (Fig. 1A) and remained basking for about 1 min after first sighted, retreating to the vegetation afterwards. An individual was recorded on a similar sunlight and shade mosaic five days before, but was basking on a shaded spot, and another adult individual was

recorded active, possibly foraging, on a shaded patch of a sunlight and shade mosaic in the morning.

I recorded an adult individual moving during light drizzle in the morning. The skink was in close contact with the collected water (Fig. 1B) and rain drops were visible on its body. It moved across the path and retreated among the vegetation bordering the path. On the following morning, under the same weather conditions, I found a juvenile individual sitting in a shallow puddle (about 0.5 cm). The skink remained motionless there for about two minutes, then crossed the path and retreated among the leaf litter at the path margin.

One fresh road kill skink found on the morning in December was scavenged by small unidentified black ants (Fig. 1C), when it caught the attention of a foraging Australian magpie *Cracticus tibicen* male on the path. The bird took the dead skink full of ants in the bill, released it on the ground once, and thrashed it a little. Afterwards, it consumed the skink almost free of ants (Fig. 1D). Besides the small black ants and the Australian magpie, fresh weasel skink road kills were scavenged in the morning by the large southern meat ants *Iridomyrmex purpureus*.

I observed two predation events on the weasel skink by the Australian magpie at late sunny afternoon. The birds were foraging on the path and spotted the basking skinks, which were caught by the magpies at the mid-body and chewed before being swallowed whole. The events occurred on two consecutive days.

An adult skink individual was recorded active on a cloudy afternoon, about to jump 110 cm from the wall of a residence to the ground (Fig. 1E). On the ground, it began to forage on small unidentified insects (possibly termites or ants). I observed a juvenile individual active under a light rain shower in the afternoon, behaving like the one described above in the part about morning activities. A juvenile individual was recorded active in late afternoon at the onset of a heavy rain, but when a large raindrop fell on its back, it retreated to the vegetation bordering the path.

On one occasion I recorded weasel skinks hunting for swarming winged termites at dawn. There were about four to five skink individuals at a spot of the path, actively searching for termites on the ground, walking with the head raised up (Fig. 1F). Once spotted, a termite was grabbed quickly, chewed and swallowed. A garden skink *Lampropholis*

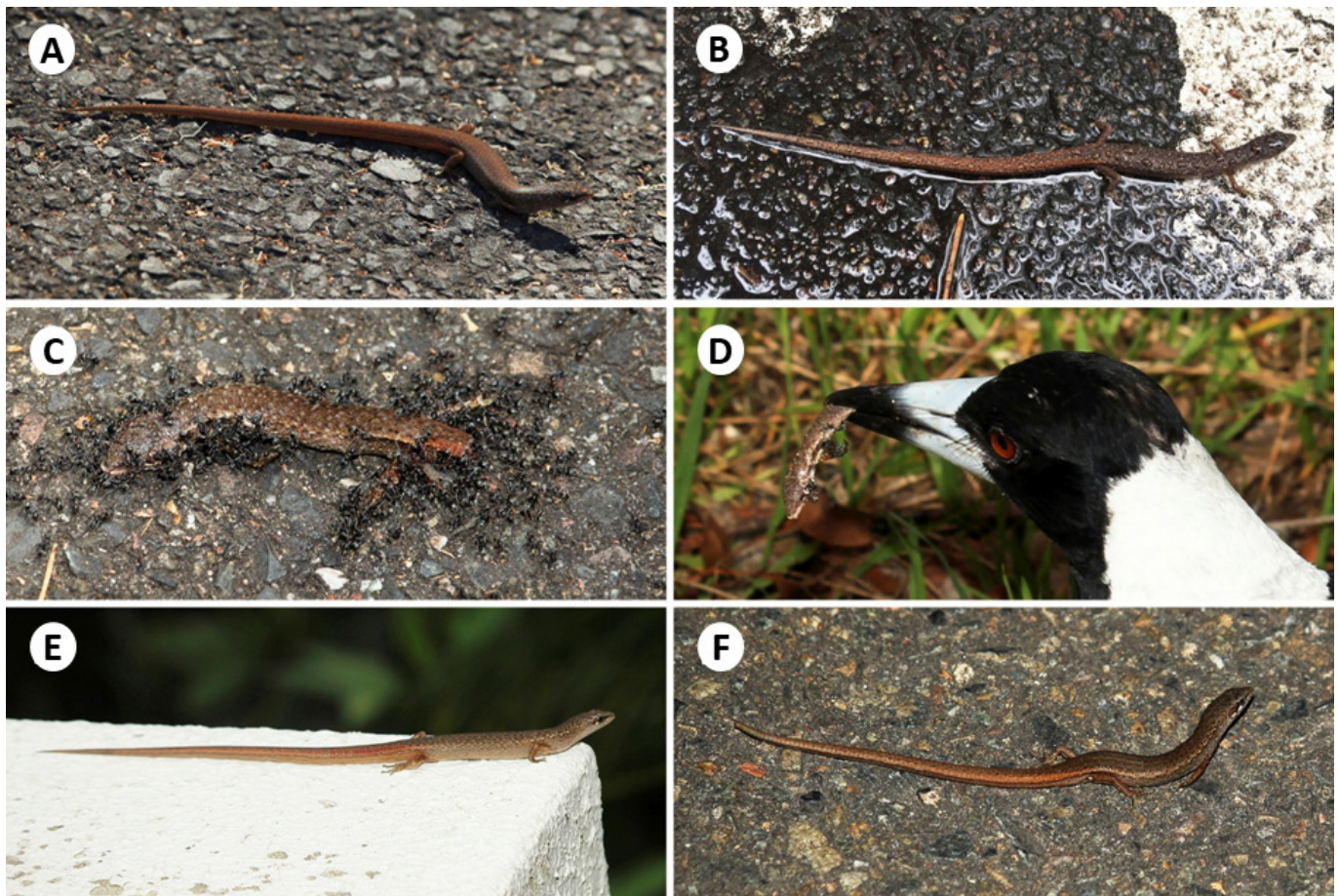


Figure 1. Activity and death of the weasel skink *Saproscincus mustelinus* under variable weather on a paved pathway in south-eastern Australia - **A.** An adult individual basks on a sunlit patch of a sunlight and shade mosaic in the morning, **B.** An adult moves under a light drizzle in the morning (note rain drops on the skink and its close contact with the water on the ground), **C.** A road kill adult scavenged by unidentified black ants in the morning, **D.** An Australian Magpie *Cracticus tibicen* male briefly grasps the same road kill, before thrashing the carcass on the ground and then swallowing it almost free of ants, **E.** An adult active on a cloudy afternoon, about to jump 110 cm to the ground, **F.** An adult actively forages for winged termites on the ground after sunset.

delicata was also hunting the winged termites on this occasion. Adult and juvenile weasel skinks warming on the paved path after sunset were a common sight for the whole observation period.

The observations reported herein document the activity of the weasel skink in three distinct periods during the day and under variable weather conditions. There is no doubt that this skink species qualify as cathemeral (Meiri, 2018; Slavenko et al., 2022) and that it occasionally behaves as a heliothermic lizard basking in direct sunlight (Downes & Shine, 1999), which I failed to record in a previous study (Sazima, 2023a). Still, I observed thigmothermy more often than heliothermy for the weasel skink, possibly due to it using leaf litter during the day (Wilson, 2012) and warming on open surfaces mostly after sunset (Sazima, 2023a; present study).

The ability of the weasel skink to jump from heights greater than 1 m seems to be a novelty, as well as the 'gathering' of a small number of individuals to hunt winged termites. The reported bird predators of the weasel skink now numbers at least three passerine species, the pied currawong *Strepera graculina*, the grey butcherbird *Cracticus torquatus* and the Australian magpie (Rose, 1999;

Sazima, 2023a; present study). I suppose that there are more potential predators among bird species that forage on the ground or from a hunting perch and are quick enough to catch this agile lizard (Sazima, 2023b).

What came as a surprise during my observations was the weasel skink activity during light rain, which may be unusual for such a small lizard which, however, avoided heavier rain. A shade skink *Saproscincus* sp. resting on a leaf, with what seem water drops on its body is illustrated in Wilson (2012), but no information on the source of the drops is given.

It seems that the weasel skink is active mostly in the warm season (Sazima, 2023a), and presumably brumates during the coldest months, which remains to be verified with further observations (Swan et al., 2017; Wilson, 2012).

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