***CTENOTUS FALLENS* (West Coast Ctenotus). ANOMALOUS DE-ATH THROUGH USE OF MODELLING CLAY FOR RESEARCH.** Modelling clay replicas or representations of organisms—with a special emphasis on reptiles—are frequently used as a sim-ple method to assess aspects of a species ecology, particularly differences in context-dependent predation risk (site, habitat, season, size or color of organism, etc.) as predators leave distinc-tive marks on the models (Bateman et al. 2016 J. Zool. 301:251–262). The use of modelling clay for such studies has the advanta-ge in that it is non-toxic, and no deaths of study species, or any other organism, through its use has been recorded in the litera-ture. Here we present an observation of an anomalous death of a lizard, related to our use of clay models in the field.

The King's Skink (*Egernia kingii*) is a large scincid lizard (adults up to 244 mm SVL; newborns from 60–80 mm SVL) (Storr 1978. Rec. West. Aust. Mus. 6:147–187; Arena and Wooller 2003. Aust. J. Zool. 51:495–504), common across the south west of Western Australia. As part of an assessment of ontogenetic differences in predation risk in this species, models of King's Skinks representing juveniles (200 mm total length, 250 g) and adults (300 mm total length, 500 g), made from brown non-toxic Plastiplay™ modelling clay, were deployed across an approximate 1500-m^2 area at a coastal site (31.81510°S, 115.73466°E) near Perth, Western Australia during October 2017. Models were placed approximately 20–30 cm from the edge of vegetation in a sandy area to simulate a basking event and were checked for signs of interactions with other species, such as predatory marks, twice daily, morning and afternoon, for five consecutive days.

FIG. 1. The *Egernia kingii* model used, and the dead *Ctenotus fallens* next to the model.

On the afternoon check of the fourth day, a *Ctenotus fallens* (Scincidae; SVL 90 mm) was found dead next to one of the 'adult' models at approx. 1330 h. The legs and parts of the tail and underside of the dead *C. fallens* were caked in clay, which had clumped around the lizard's feet (Fig. 1). It appears that the model had heated in the sun to a point that its surface became molten, and that when the *C. fallens* ran onto or across the model, it had become coated in clay resulting in immobility of the lizard under the sun, leading to hyperthermia and death. The weather on the day of the incident was clear and sunny, with a maximum air temperature of 30.5°C, but the temperatures of the clay model and the nearby ground were 58.7°C and 52.6°C, respectively. Although we had known that the modelling clay could soften in the sun under very high temperatures, we did not anticipate it melting under the prevailing weather conditions and causing the death of an animal. No mortalities of targeted or non-targeted animals were detected as a result of using similar clay models in our other trials (75 models out for five days) or during previous studies by us (e.g., Bateman et al. 2014. Curr. Zool. 60:712–718), nor reported elsewhere.

We could not find the melting point of Plastiplay brand clay, but other brands (Rainbow Brand Modelling Clay & Fun Clay™) report melting points of approximately 65–70°C. At our study sites in Western Australia, ground temperatures could exceed these limits, particularly on substrates such as sand and rock. Although only one mortality event was detected, we believe that other researchers should be aware of potential problems with using clay models in high temperatures and take steps to mitigate potential negative impacts on animals. We therefore suggest the following considerations when using modelling clay for ecological research:

1. Conduct preliminary trials on the proposed research substrate in suspected ambient temperatures to identify thermal limits of the clay models.
2. Provide information for both brand of modelling clay and temperatures of the conducted research when publishing, to assist in identifying brands that are appropriate for ecological uses.
3. Consider trialling insulator materials under the models, that can be hidden under a thin layer of substrate and reduce thermal conductance of the models.
4. If appropriate, consider conducting trials in cooler months or with some degree of shade/cover provided to the models.
5. If carrying out research in warmer conditions, consider deploying models in the afternoon when the day has cooled and check in the morning, potentially covering or removing during the warmer hours of the day.
6. When possible, limit the size of clay models to smaller models to minimise potential impacts. The size of the model is

likely to affect how quickly it reaches unstable temperatures, how long they remain unstable, and the potential amount of molten clay that may be dangerous to other wildlife.

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