



Supplementary Figure 1. Number of temperature readings taken in the two enclosures: on-exhibit and off-exhibit. Blue bars represent temperature readings in the on-exhibit enclosure and red bars indicate temperature readings in the off-exhibit enclosure.

Supplementary Table 1. Full questions sent to both private and professional collections across Europe and the USA, alongside all responses. Data from the current study (DMR) are also included.

Question	Respondent 1	Respondent 2	Respondent 3	Respondent 4	Respondent 5	Respondent 6	Respondent 7	DMR on-exhibit	DMR off-exhibit
Country	Unknown	USA	Germany	USA	Belgium	USA	USA	UK	UK
Have you ever kept Smaug mossambicus?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
How many years have you worked with Smaug mossambicus?	2	18	9	5	3	15	3	5	5
Did you keep sexually mature individuals together?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
What sex ratios were in the group? If more than one group, please state ratios for each separate group per line.	1.2.0	1.1.0; 1.2.0	1.1.0	3.4.0; 1.1.0	1.1.0	5.8.0	2.3.0	1.1.0	1.1.0
Did you vary temperatures seasonally? Please state parameter ranges for diurnal and nocturnal temperature ranges in summer and winter.	In winter, lights reduced, therefore temperature was lowered. Night time drop each night	Summer 22–30°C, Winter 18–24°C. Basking heat off Dec–Feb	Days: Summer 30–40°C, Winter 25–30°C. Nights: Summer 20–25°C, Winter 16–18°C	Winter 18–24°C, Spring/summer 29–35°C	20°C for month during winter, otherwise 30°C	No. Day: 25–28°C, Night: 23–25°C	Yes. Winter 18–23°C, Summer 18–32°C	Yes. Winter 20–30, Summer 30–40. Night time drop lower in winter to maybe 12–15°C, summer night time to around 20–25°C	No. Constant year round, 23–35°C day, night above 20°C
Did you vary humidity seasonally? Please state parameter ranges for diurnal and nocturnal humidity ranges in summer and winter.	Higher during winter	Access to natural humidity of Texas	Daily sprays in summer, 1–2 weekly in winter	80% year round	No	Mist year round	Higher in winter	Spray daily, heavier in spring/summer	Spray daily, heavier in spring/summer
Did you vary day length seasonally? Please state parameter ranges for summer and winter.	Daylight hours reduced in winter	Reduced in winter	No, though do have access to natural light	No, 12:12	Yes, reduced winter, higher in summer	Varies due to institutional requirements. Access to skylight	Situated near window with good access to outdoor filtered sunlight year round. Artificial light 12:12 year round.	Varies due to institutional requirements, longer in summer, shorter in winter	No, 12:12
Do you provide UV-B access within the enclosure? If yes, what is the accessible range of UVI?	Yes, 10.0 T8 tube	Powersun UVB bulb	Metal halide UVB bulb	Yes provided, unknown range	Yes, 10.0 all year apart from winter	Yes	Yes	Yes, up to UVI 3	Yes, up to UVI 3
Please state the different food items accepted by the animals you kept.	Black crickets, brown crickets, mealworm, morio worm, locust, waxworm, silkworm	Brown crickets, morio worm, wild grasshoppers from Texas, pinky once yearly	Locust, occasionally crickets and roaches	Brown crickets, mealworm, morio worm, waxworm	Brown crickets, grasshoppers	Black crickets, brown crickets, mealworm, waxworm, Phoenix worm	Brown crickets, mealworms, morio worm, waxworm	Mealworm, morio worm, black crickets, brown crickets, locust, dubia roach	Mealworm, morio worm, black crickets, brown crickets, locust, dubia roach

Supplementary Table 1 (continued). Full questions sent to both private and professional collections across Europe and the USA, alongside all responses. Data from the current study (DMR) are also included.

Question	Respondent 1	Respondent 2	Respondent 3	Respondent 4	Respondent 5	Respondent 6	Respondent 7	DMR on-exhibit	DMR off-exhibit
Did you observe copulation, and if so, what time of year?		No, but thought to occur in Feb	Not observed	Not observed, but assumed November	Not observed	Not observed	Not observed	Yes, November and January	Not observed
Where in the enclosure did you observe copulation?		Not observed	Not observed	Not observed	Not observed	Not observed	Not observed	On substrate, on low rocks	Not observed
What time of year did juveniles appear?		June, July, August	June, July	February	June	May, June (multiple clutches in June)	September	June, June, June	Not observed
How many litters did you observe per year?	1	1	1	1	1	Unknown, would find 1–9 neonates a year	1 X4 and x5 per litter	1	Not observed