



**Figure S1.** Bland Altman plots showing the relationship between measurements of (A) log-transformed fat mass (FM) and (B) total body water (TBW) derived via lyophilisation (L) and stable isotope dilution (D). Dotted lines show the mean difference (= bias) and the upper and lower dotted lines represent the mean 1.96 times standard deviation of the differences (= 95% c.i.).

**Table S1.** Body mass and body composition of free-living and captive female and male striped mice determined by biochemical analysis. Presented are average values  $\pm$  s.d.

	Sex <sup>a</sup>	N	B <sub>m</sub> (g) <sup>b</sup>	% FM <sup>c</sup>	% FM <sup>d</sup>	% TBW <sup>c</sup>	% Ash <sup>c</sup>	% Protein <sup>c</sup>
Field	F	12	39.4 $\pm$ 9.7	8.9 $\pm$ 2.5	26.8 $\pm$ 6.5	66.7 $\pm$ 2.3	4.8 $\pm$ 1.0	17.4 $\pm$ 0.9
	M	12	40.7 $\pm$ 7.8	7.3 $\pm$ 2.5	22.1 $\pm$ 5.9	67.0 $\pm$ 2.2	4.5 $\pm$ 0.2	19.0 $\pm$ 0.9
Captive	F	14	51.8 $\pm$ 9.4	13.7 $\pm$ 8.3	34.8 $\pm$ 15.9	63.3 $\pm$ 6.5	3.9 $\pm$ 0.6	17.6 $\pm$ 1.4
	M	16	50.6 $\pm$ 12.2	10.8 $\pm$ 5.9	29.5 $\pm$ 12.2	65.2 $\pm$ 5.0	4.0 $\pm$ 0.6	18.8 $\pm$ 1.3

<sup>a</sup>F = female, M = male; <sup>b</sup>B<sub>m</sub> = body mass; <sup>c</sup>% of living body mass, <sup>d</sup>% of dry body mass

**Table S2.** Yearly variation in climate and food availability at the Succulent Karoo Research Station, Northern Cape, South Africa. An overview is presented concerning the variation in food availability (number food plants) and maximum ambient temperature ( $T_a$ ) during the onset and the end of the dry seasons from 2013 – 2018. Values represent average  $\pm$  s.d.

	Period <sup>a</sup>	2013	2014	2015 <sup>b</sup>	2016	2017 <sup>b</sup>	2018
Food plants	onset	$2.4 \pm 0.5$	$2.2 \pm 0.4$	$1.7 \pm 0.6$	$2.0 \pm 0.9$	$1.9 \pm 0.9$	$2.4 \pm 0.4$
	end	$7.6 \pm 0.7$	$6.4 \pm 1.3$	$6.2 \pm 0.6$	$3.3 \pm 0.5$	$4.7 \pm 2.9$	$6.0 \pm 0.5$
Max $T_a$	onset	$31.0 \pm 4.2$	$33.1 \pm 5.0$	$34.5 \pm 3.7$	$35.2 \pm 5.9$	$34.7 \pm 3.7$	$31.3 \pm 4.4$
	end	$20.3 \pm 5.5$	$21.6 \pm 6.0$	$22.5 \pm 6.0$	$22.0 \pm 6.9$	$22.0 \pm 4.2$	$20.4 \pm 4.7$

<sup>a</sup> The periods were chosen in the same way as in the current study: onset of the dry season =

December – March; end of the dry season = July – August

<sup>b</sup> Current study was conducted in this year