

Table S6. Results of the hierarchical AMOVA in lions for four different geographical scenarios.

	3-group scenario <sup>a</sup>		4-group scenario <sup>b</sup>		5-group scenario <sup>c</sup>		6-group scenario <sup>d</sup>	
	$\Phi$ statistics	% total variation	$\Phi$ statistics	% total variation	$\Phi$ statistics	% total variation	$\Phi$ statistics	% total variation
within-population	$\Phi_{ST} = 0.916^{***}$	8.43	$\Phi_{ST} = 0.916^{***}$	8.38	$\Phi_{ST} = 0.916^{***}$	8.44	$\Phi_{ST} = 0.916^{***}$	8.40
among-population within-groups	$\Phi_{SC} = 0.729^{***}$	22.67	$\Phi_{SC} = 0.476^{***}$	7.62	$\Phi_{SC} = 0.192^{**}$	2.00	$\Phi_{SC} = 0.032^{NS}$	0.28
among-groups	$\Phi_{CT} = 0.689^*$	68.91	$\Phi_{CT} = 0.840^{***}$	84.00	$\Phi_{CT} = 0.896^{***}$	89.55	$\Phi_{CT} = 0.913^{***}$	91.32

<sup>a</sup> 3-group scenario = [(ANG+ATL+GIR), (UGA+KEN+SER+NGC+BOT-I), (NAM,BOT-II, KRU)]

<sup>b</sup> 4-group scenario = [(ANG+ATL+GIR), (UGA+SER+NGC+BOT-I), (KEN), (NAM,BOT-II, KRU)]

<sup>c</sup> 5-group scenario = [(ANG+ATL+GIR), (UGA+SER+NGC+BOT-I), (KEN), (NAM,BOT-II), (KRU)]

<sup>d</sup> 6-group scenario = [(ANG+ATL), (GIR), (UGA+SER+NGC+BOT-I), (KEN), (NAM,BOT-II), (KRU)]

NS - not significant; \*  $P < 0.05$ ; \*\*  $P < 0.001$ ; \*\*\*  $P < 0.0001$ .