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## SUPPLEMENTARY ONLINE MATERIAL FOR

### **A large pterosaur femur from the Kimmeridgian, Upper Jurassic of Lusitanian Basin, Portugal**

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#### **Supplementary Online Material**

**SOM Table 1.** Measurements (in mm) of the femora of the Dsungaripteroidea.

**SOM Table 2.** Estimated wingspan range (in mm) of the Dsungaripteroidea indet.

**SOM Table 3.** Measurements of bone circumference, cortical thickness and their ratio.

SOM Table 1. Measurements (in mm) of the femora of the Dsungaripteroidea *Dsungaripterus weii* IVPP V.2777 (Young 1964), Dungaripteridae indet. DFMMh/FV 500 (Fastnacht 2005), *Mesadactylus ornithosphyos* BYU 17214 (McLain and Bakker 2018), *Noripterus complicidens* IVPP RV 73001 (Hone et al. 2017), and the estimated total length for SHN.013. \* based on *Dsungaripterus weii* (IVPP V.2777); \*\* based on Dungaripteridae indet. (DFMMh/FV 500); \*\*\* based on *Mesadactylus ornithosphyos* (BYU 17214); \*\*\*\* based on *Noripterus complicidens* (IVPP RV 73001).

Specimen	Femur length (mm)	Greatest cross section width (mm)	Length/width ratio	References
<i>Dsungaripterus weii</i> IVPP V.2777	221	12	18.4	Young 1964
Dsungaripteridae indet. DFMMh/FV 500	63	4.1	15.4	Fastnacht 2005
<i>Mesadactylus ornithosphyos</i> BYU 17214	71	4.2	16.9	McLain and Bakker 2018
<i>Noripterus complicidens</i> IVPP RV 73001	78	5.4	16.9	Hone et al. 2017
Dsungaripteroidea indet. SHN.013	276*	15		this paper
	230**	15		
	254***	15		
	215****	15		
Mean estimate	244			
Standard deviation	32			

SOM Table 2. Estimated wingspan range (in mm) of the Dsungaripteroidea indet. SHN.013 based on the *Dsungaripterus* (IVPP V.2777) wingspan/femur ratio.

Specimen	Femur length (mm)	Wingspan (mm)	Wingspan/femur ratio	References
<i>Dsungaripterus weii</i> IVPP V.2777	221	2510	11.4	Young 1964; Witton 2008
Dsungaripteroidea indet. SHN.013	maximum	276	3137.5	this paper
	minimum	211	2400.0	

SOM Table 3. Measurements of bone circumference, cortical thickness and their ratio following Mitchell and Sander (2014).

CaM (bone circumference at midshaft)	44746 µm = 44.746 mm
CT (cortical thickness, mean from 4 positions)	2064 µm = 2.064 mm
CT/CaM (bone thickness to circumference ratio)	0.046