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The first pterosaur fossil from Egypt

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Pterosaurs are known from multiple Cretaceous localities across northern Afro-Arabia and the southern Tethys margin, particularly Morocco, Tunisia, Lebanon, and Jordan. However, no confirmed pterosaur remains have previously been described from Egypt, leaving a significant geographic gap in our understanding of the distribution of the group during this time. Here, we report the first pterosaur fossil from Egypt (MUVP 507), an isolated, three-dimensionally preserved first wing phalanx (= left manual phalanx IV-1) recovered from fluvial-floodplain deposits of the lower Cenomanian Bahariya Formation of the Bahariya Oasis, Western Desert of Egypt. MUVP 507 belongs to a medium-sized pterosaur and shares key morphological features with representatives of Ornithocheiromorpha. The fused and ossified proximal extensor tendon process (ETP) indicates that the individual was osteologically mature at the time of death. MUVP 507 is similar to the first wing phalanx of members of the ornithocheiromorph subclade Ornithocheiriformes, displaying a sub-rectangular ETP, a prominent pneumatic foramen, small nutrient foramina, expanded curvature of the dorsal cotyle, thin cortical walls, and a posteriorly flared proximal articulation. By contrast, the new specimen differs from the first wing phalanx of penecontemporaneous azhdarchoids, which typically possess a sub-triangular ETP and weaker curvature of the dorsal cotyle. MUVP 507 represents the first confirmed pterosaur record from Egypt and adds to growing evidence of the high taxonomic diversity and broad geographic distribution of ornithocheiromorph pterosaurs in northern Africa and the then-conjoined Arabian Peninsula during the Late Cretaceous.

Key words: Pterosauria, Ornithocheiromorpha, Ornithocheiriformes, Bahariya Formation, Cretaceous, Egypt, Africa.

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