

Upper Karoo vertebrate assemblages (Late Triassic/Early Jurassic) of the Late Kariba region, Zimbabwe

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Southern Africa provides critical information on Late Triassic–Early Jurassic terrestrial tetrapod faunas. Most of the localities in this region are in South Africa and Lesotho, but preliminary work in Zimbabwe has revealed significant potential. Early Jurassic Zimbabwean localities have yielded the basal sauropodomorph *Massospondylus*, the early sauropod *Vulcanodon* and theropod material. Late Triassic localities are also known, but have yielded only fragmentary specimens thus far.

In early 2017, a joint South African-Zimbabwean-UK team conducted fieldwork in the upper Karoo-aged deposits along the shores of Lake Kariba, northern Zimbabwe (Mid-Zambesi Basin). We relocated the *Vulcanodon* type locality on Island 126/127 and found that, contrary to previous reports suggesting a Toarcian age, the quarry was in a horizon pre-dating the onset of Drakensburg volcanism (= Batoka Basalts). It is situated instead within the earlier Lower Jurassic Forest Sandstone. This indicates that *Vulcanodon* is 10–15 million years older than thought previously, recalibrating several nodes within Sauropoda and indicating extensive overlap between true sauropods and 'prosauropods'.

Other new vertebrate localities show that sauropodomorphs are present in the Forest Sandstone and upper Tashinga (Late Triassic) formations, but a grey mudstone facies within the Pebbly Arkose Member of the latter unit yields a more aquatic fauna, including lungfish and phytosaurs, but lacking sauropodomorphs. The phytosaur occurrence is the first in Africa south of the Sahara. Faunal and sedimentological evidence indicates that the Late Triassic and Early Jurassic sites in this region were deposited under more mesic environments than their lateral equivalents in South Africa.