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# Sedimentology and palaeontology of the Upper Karoo Group in the Mid-Zambezi Basin, Zimbabwe: new localities and their implications for interbasinal correlation

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**Supplementary Material**

**Chete Formation**

The Chete Formation’s Escarpment Grit and Ripple Marked Flagstone members (the latter previously termed the Molteno Beds; Bond & Falcon, 1973) have a gradational interfingering boundary (Barber, 2018) reflecting laterally gradational deposition by alluvial fan and braided fluvial systems, respectively. Conformably overlying the Escarpment Grit and Ripple Marked Flagstone members is the Fine Red Marly Sandstone (FRMS) Member. The FRMS (Bond, 1974) has been downgraded to a member of either the Chete Formation (Barber, 2018) or Escarpment Formation (Ait-Kaci Ahmed, 2018). In either case, the authors propose that the Escarpment Grit/ RMF and FRMS members have gradational boundaries and imply they represent coeval facies equivalents. The members of the Chete Formation have been correlated with the Angwa Sandstone Formation in the CBB (Oesterlen & Millsteed, 1994). However, in the CBB, the Massive Sandstone (correlated to the EG in the MZB) and Alternations members of the Angwa Sandstone Formation are considerably thicker reaching 2500 m and 1500 m, respectively. Further detailed sedimentological logging of the Chete Formation is needed to define its internal boundaries and those with the overlying Pebbly Arkose Formation in the MZB.

**Structural mapping**

Although structural mapping was not the focus of our fieldwork, we noted that the beds dip north between 0–12° off the mainland and a series of small and larger scale faults are present in the area (Fig. 1). For example, we noted an east-north-east trending fault (although downthrow was not determined) at Tashinga Camp, Elephant Island and Phytosaur Gulley, and a similar trending fault, downthrown to the north, repeats the basalt and FF stratigraphy on a northern series of islands closer to the original course of the Zambezi River, as seen exposed on Balabi Island. Several smaller-scale faults trending NW were also noted (e.g., wave-eroded NW joints and fractures in FF on Island 126/127; T.J.B., unpublished field notes). These complement the fault trends previously measured in the MZB, for which downthrow could be as great as ~ 60–90 m (Marsh & Jackson, 1974; Stowe, 1974). We did not determine if these are syn-sedimentary. Folding was not noted in our field sites but east-trending axes of gentle folds were documented previously by Marsh & Jackson (1974) and Viglietti et al. (2018), notably the synformal east-north-east axis controlling the formation of the Sibilobilo Lagoon that separates the south-south-east dip of the island stratigraphy from opposite dipping strata off the mainland. Syndepositional, small-scale folds have been noted (Fig. 5G) and are related to tectonic pulses (earthquakes).

**References**

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