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## **Calcareous nannoplankton and Foraminifera biostratigraphy of the Upper Cretaceous St Lucia Formation (Nibela Peninsula, South Africa)**

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The Upper Cretaceous St Lucia Formation at Nibela Peninsula is represented by poorly cemented silty finely grained sandstones with distinct layers of concretions. The beds are rich in invertebrate fossils. Two sections on the south-eastern side of the peninsula have been analyzed.

The lowermost part of the section Nibela 1 (samples 1/1–1/3) is referred to the Lower Campanian Zone UC13 due to the presence of *Arkhangelskiella cymbiformis*, which first occurrence (FO) characterizes the lower boundary of the zone [1]. The main part of the section (1/4–1/32) is referred to the Lower Campanian Zone UC14. Its lower boundary is identified by the FO of *Broinsonia parca parca* and its upper boundary is defined by the FO of *Misceomarginatus pleniporus*. Subzone UC14a is recognized within this interval (1/4–1/7) due to the presence of *B. parca parca*, first recorded in sample 4. The interval 1/8–1/32 belongs to undivided Lower Campanian subzones UC14b–d due to the presence of *Broinsonia parca constricta*, first recorded in sample 8. Subzone UC14c could not be established, since its index species *Bukryaster hayi*, which demarcates the lower boundary of the subzone, has been recorded in a single sample (15). Subzone UC14d could not be recognized either, since *Ceratolithoides verbeekii*, which marks the lower boundary of the subzone, has been found only in samples 26 and 30 as isolated specimens. The upper part of the section (1/33–1/40) belongs to the Lower Campanian Subzone UC15a, which lower boundary is identified by the FO of *M. pleniporus*.

By Foraminifera, the lower part of the Nibela 1 section (samples 1/1–1/11) is older and belongs to the Upper Santonian Zone *Dicarinella asymetrica* [2, 3]. The next interval (1/12–1/18) is referred to the Lower Campanian Zone *Globotruncanita elevata*, whereas the upper parts of the section (1/19–1/39) are referred to the Middle Campanian Zone *Contusotruncana plummerae*.

The lower part of the Nibela 2 section (2/1–2/9) refers to the upper Lower Campanian Subzone UC15b due to the presence of *Ceratolithoides aculeus*, which appearance demarcates the lower boundary of the subzone. The middle and upper parts of the section (2/10–2/32) belong to the upper Lower/lower Upper Campanian Subzone UC15c, which lower boundary is identified by the FO of *Uniplanarius sissinghii* (sample 10).

By Foraminifera, the lower part of the section (2/1–2/20) refers to the Upper Santonian Zone *D. asymetrica*. The interval of 1/21–1/27 is recognised as the Lower Campanian Zone *G. elevata*. The upper part of Nibela 2 belongs to the Middle Campanian Zone *C. plummerae*.

The calcareous nannoplankton and foraminifera offer an older age of the sediments than it has been suggested by ammonites and inoceramids [4]. The discrepancy between nannoplankton and Foraminifera data is still to be clarified.

*References:*

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