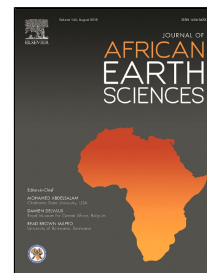


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Resolution enhancement of foraminiferal biostratigraphy of the Campanian-Maastrichtian interval: a case study from the Eastern Desert, Egypt

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1 **Resolution enhancement of foraminiferal biostratigraphy of the Campanian-**
2 **Maastrichtian interval: a case study from the Eastern Desert, Egypt**

3 **Kamel H. Mahfouz⁽¹⁾, Abd EL Galil A. Hewaidy⁽²⁾, Alaa Mostafa⁽¹⁾ and Islam El-Sheikh⁽¹⁾**

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6
7 **Abstract**

8 The Campanian-Maastrichtian (C-M) rocks exposed at the Southern Galala Plateau,
9 North Eastern Desert of Egypt are represented by Sudr Formation, which consists of snow
10 white chalky limestone, rich in planktonic and benthonic foraminifera. The major C-M
11 transgression resulted in a deposition of Sudr Formation in outer neritic environment with
12 high diversity and abundance of species, which led to defining nine planktonic foraminiferal
13 zones and establishing the stage boundaries. In comparison with the foraminiferal zones of the
14 GSSP of the C/M boundary, the lowest occurrence of *Rugoglobigerina scotti* is here
15 considered to be the only marker for this boundary. In contrast, the other species (e.g.
16 *Contusotruncana contusa*) that used to define this boundary at the GSSP is a diachronous and
17 not save to depend on it in definition of the C/M boundary. Therefore, the present study helps
18 in refinement of the C/M boundary definition not only in the study area, but also elsewhere.

19 **Keywords:** Campanian, Maastrichtian, foraminiferal biostratigraphy, Sudr Formation,
20 Eastern Desert, Egypt.

21
22 **1. Introduction**

23 The biostratigraphy of the C-M transition have been studied by many microfossils
24 workers (e.g. Bolli, 1966; Postuma,1971; Caron, 1985; Li and Keller 1998 a,b). They used the
25 highest occurrence (HO) of *Radotruncana calcarata* (Cushman) to define this boundary. Li
26 *et al.* (1999) used the Lowest Occurrence (LO) of *Rugoglobigerina hexacamerata*
27 (Brönnimann) as the bioevent for the C/M boundary based on the biostratigraphic correlation
28 with the geomagnetic time scale of Gradstein *et al.* (1995). In 2001, the GSSP for the C/M

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