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The Cenomanian–Turonian boundary in Jordan: ammonite biostratigraphy and faunal turnover ^{*}

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Abstract

Well-exposed fossiliferous upper Cenomanian–lower Turonian marine sedimentary rocks are present in west-central Jordan. Ammonites serve as an important faunal marker for this interval and can be used to subdivide the Cenomanian–Turonian transition into two upper Cenomanian biozones (*Neolobites vibrayeanus* and *Vascoceras cauvini*) and two lower Turonian biozones (*Vascoceras proprium* and *Choffaticeras segne*). A revised stratigraphic range of the *Vascoceras cauvini* Zone in the study area is proposed, consisting of the *Metoicoceras geslinianum* and *Neocardioceras juddii* zones of the standard zonation. Based on intercontinental biostratigraphic correlation, a minor unconformity appears to be present around the Cenomanian–Turonian boundary, and a part of the lower Turonian is probably missing. In addition, a faunal turnover is recorded in the uppermost Cenomanian, marked by the disappearance of most of the Cenomanian taxa including *Costagyra olisiponensis* (Sharpe), *Ceratostreon flabellatum* (Goldfuss), *Ilymatogyra africana* (Lamarck), *Rhynchostreon suborbiculatum* (Lamarck), *Harpagodes nodosus* (Sowerby), and *Heterodiadema libycum* (Desor). This bioevent is thought to be an effect of the Oceanic

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