



Valanginian isotopic and paleoecological signals from the Bucegi Mountains, South Carpathians, Romania

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We present the first carbon- and oxygen-isotope records from the Valanginian-earliest Hauterivian interval of the South Carpathians (Romania). Stable isotopic curves have been generated from three sections in the Bucegi Mountains. The carbon-isotope values fluctuate around 2.1‰ to 2.7‰ within the late Early Valanginian, and 1.1‰ to 1.7‰ within the Late Valanginian-earliest Hauterivian. The total organic carbon (loss on ignition method - LOI) content fluctuate between 1.6% to 2.8% within the late Early Valanginian, and 0.6% to 3.3% within the Late Valanginian-earliest Hauterivian. With limited sites recording Valanginian organic-rich black shale deposition, the positive carbon-isotope excursion has been interpreted to represent an increase in organic matter storage, related to high surface water productivity. The abundance of the nannofossils *Biscutum constans*, *Discorhabdus rotatorius*, *Zeughrabdodus erectus*, and *Diazomatolithus lehmanii* suggest higher fertility episodes, cooler surface waters, and eutrophic environments. The presence of conical and trochospiral inflated foraminiferal specimens is interpreted as an indicator of epifaunal to shallow infaunal deposit feeders, that were more tolerant of low oxygen conditions. Moreover, dysaerobic conditions of the sea floor are suggested by the dominant presence of small *Spirillina* among the benthic foraminiferal assemblage. High fertility could be related to an excess in pCO₂ levels, globally linked to the Parana-Etendeka continental floods basalts and to increased rates of oceanic crust production during the Gondwana breakup.