

# TPD-MS study of the ostrich (*Struthio camelus*) eggshells

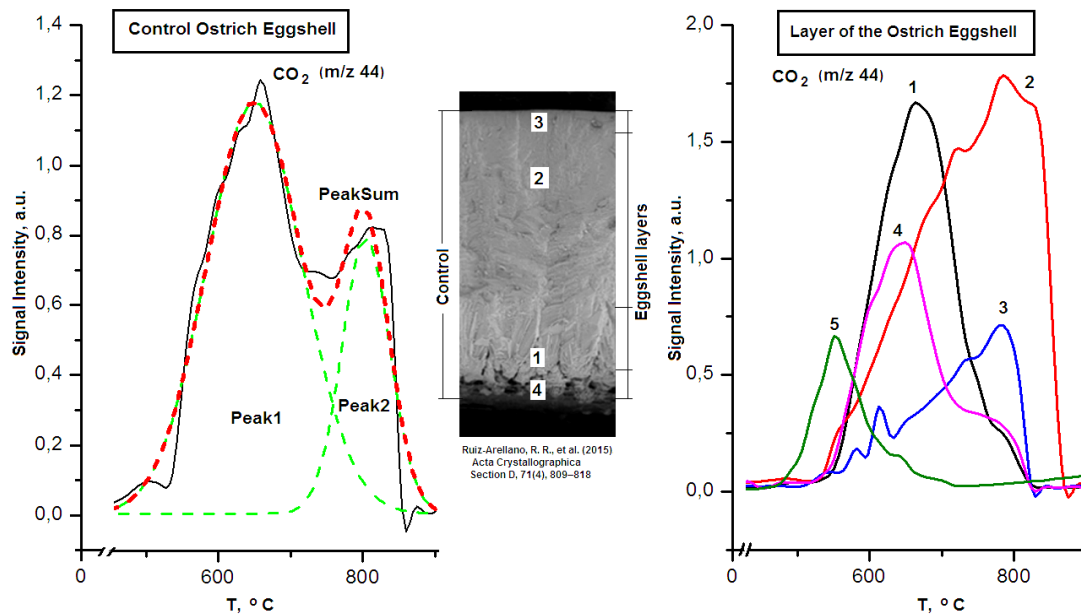
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The spectra of thermal desorption (TDS) of gaseous carbon dioxide (CO<sub>2</sub>) evolved from the different layers of the eggshell of ostrich (*Struthio camelus*) were studied by TPD-MS [1]. The main component of birds eggshell biocomposite structures is calcite (CaCO<sub>3</sub>). It has been shown that the structure of the TDS spectrum of the ostrich eggshell is a function of the structural ordering and dispersity parameter of the different layers this biocomposite.



**Fig.** Thermogram of shell of ostrich (*Struthio camelus*) eggs (TPD-MS technique [1])

An increase of the concentration of microdisperse calcite components in the eggshell biocomposite leads to a significant change the type of the thermal desorption spectrum of CO<sub>2</sub>, which is manifested in the appearance of additional temperature regions of desorption (peaks) and their shift to a region of lower temperatures (Fig.).

1. O.G. Bordunova *et al.*, in: Microstructure and Properties of Micro- and Nanoscale Materials, Films, and Coatings (NAP 2019), Springer: Singapore, 2020, p. 37.