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**Integrating the volcanic facies concept with the lithostratigraphic approach to mapping ancient volcanic areas. Examples from the East Carpathians, Romania.**

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Facies models of stratovolcanoes, were devised for individual edifices by considering a central source of eruptive material distributed in an axi-symmetric centrifugal pattern. Facies merging, juxtaposition and superposition in various combinations, associated with facies-unrelated (e.g. debris avalanche) deposits were identified in the case of closely spaced Miocene composite volcanoes from the East Carpathians, Romania. While the proximal cone facies of composite volcanoes in the Calimani, Gurghiu and Harghita Mts. (CGH) are lava-dominated and form recognisable topographic features at the outer slopes of individual edifices, their medial facies mostly composed of volcanoclastic deposits are interfering to each other at their peripheries. Petrographic, geochemical and geochronologic investigation of the volcanic rock assemblages is diagnostic for the volcanic sources to which a particular volcanoclastic formation belongs. Adjoining debris avalanche deposits, found tens of km away from their source edifices could be distinguished from each other based on clast studies. Since volcanism migrated progressively in space and time along the CGH volcanic range, medial facies volcanoclastics, sometimes of the same type and of similar composition, belonging to different volcanoes are found in superposition to each other. One of the major findings of our recent studies at Miocene composite volcanoes in the East Carpathians is that their medial facies mainly composed of primary pyroclastics are volumetrically dominated on the western side by facies unrelated debris avalanche deposits and associated debris-flow deposits. The volcanic facies approach to volcano mapping, as an additional tool to the lithostratigraphic approach, can easily be applied to other type of volcanoes too. Acknowledgements. The research was funded through CNCS – UEFISCDI, project number PN-II-ID-PCE-2012-4-0137.