Characteristics of subaerial exposure surfaces marking terrestrial periods during Late Cretaceous to Early Palaeogene carbonate platform evolution, the island of Brač (Croatia)

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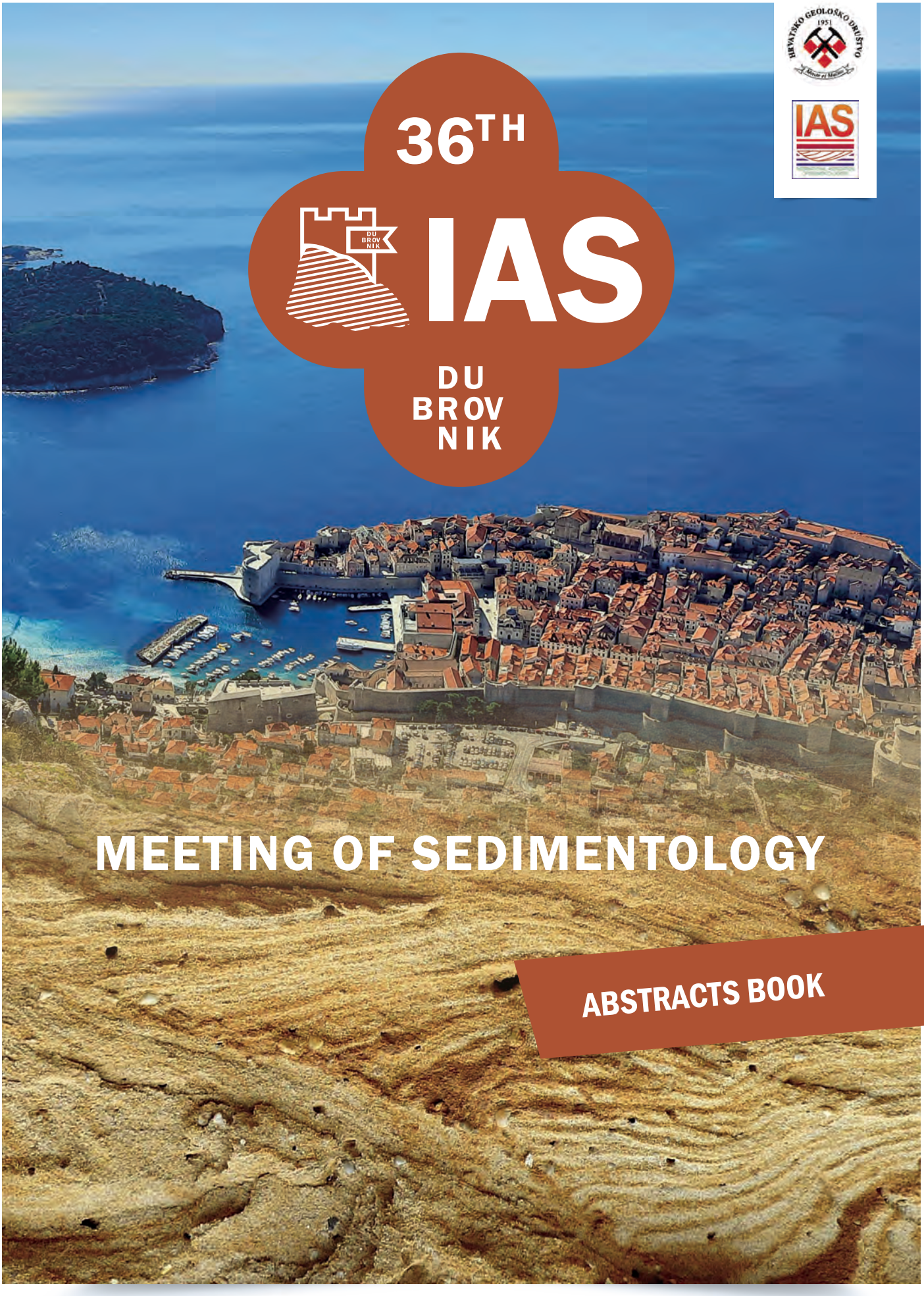

36TH IAS MEETING OF SEDIMENTOLOGY

DU BROV NIK

ABSTRACTS BOOK

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ABSTRACTS BOOK

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Theme 2. Shallow-marine carbonate depositional systems and carbonate platforms

General Session

Poster presentation

Characteristics of subaerial exposure surfaces marking terrestrial periods during Late Cretaceous to Early Palaeogene carbonate platform evolution, the island of Brač (Croatia)

Maja Martinuš[1], Blanka Cvetko Tešović[1], Ivor Perković[2], Igor Vlahović[2]

[1]University of Zagreb, Faculty of Science, Department of Geology, Zagreb, Croatia
[2]University of Zagreb, Faculty of Mining, Geology and Petroleum Engineering, Zagreb, Croatia
maja.martinus@geol.pmf.hr

Upper Cretaceous to Lower Palaeogene shallow marine carbonates are the youngest deposits on the Brač Island and contain numerous subaerial exposure surfaces marked by karstification and soil formation. The most prominent emersion surface marks regional unconformity and occurs at the top of the shallow marine Sumartin fm.

Four correlative sections on different parts of the island reveal temporally and spatially differential exhumation of parts of the former shallow Adriatic Carbonate Platform (AdCP). From west to east the locations are: Cape Gomilica, Likva Cove, Babin Loz Cove and Cape Debelo Čelo. Irregular unconformity in the Cape Gomilica section cuts the upper Maastrichtian part of the Sumartin fm. and is marked with up to 1 m thick transgressive breccia. Overlaying palustrine carbonates (micrites with gastropods including *Stomatopsis* sp., charophyta remains and dasyclad algae) are followed by upper Palaeocene limestones rich in miliolid foraminifera (including *Haymanella* sp.). At Likva Cove unconformity truncates lower Danian part of the Sumartin fm., shows irregular relief and up to 2.5 m thick breccia bed composed of terrestrial carbonate clasts (black pebbles, calcretes, clasts with rhizoliths, *Microcodium* aggregates, alveolar septal fabric) imbedded in clayey calcareous and reddish matrix. The overlaying palustrine carbonates with rare *Kayseriella decastroi* are of late Danian age. At Babin Loz Cove palaeokarst surface is developed in mid–upper Maastrichtian Sumartin fm. and characterized by circular dissolution potholes several metres deep filled with reddish bauxitic material and lithoclasts of terrestrial carbonates. The overlying foraminiferal limestones are of Eocene age. At Cape Debelo Čelo unconformity truncates the Maastrichtian part of the Sumartin fm. and is overlain with 10 m thick carbonate breccia (reworked terrestrial carbonates) followed by palustrine limestones, and finally by shallow marine carbonates.

Terrestrial periods recorded in the Upper Cretaceous to Lower Palaeogene Brač carbonates are the result of a gradual development of a forebulge in front of the emerging Dinaridic orogen. They record a regional change from the Mesozoic semi-isolated AdCP to complex Palaeogene carbonate ramp system as well as change from the warm humid climate to semi-arid conditions.