

ABSTRACT
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**Karstification Dynamics and Development of the Deep Caves on
the North Velebit Mt. – Croatia**

Mladen KUHTA & Darko BAKŠIĆ

Institute of Geology, Sachsova 2, Hr-10000 Zagreb, Croatia
Faculty of Forestry, Svetošimunska 25, Hr-10000 Zagreb, Croatia
e-mail: kuhta@igi.hr ; baksa@hazu.hr

In an area of approx. 25 km² on North Velebit Mt. in the last 10 years more than 200 caves were discovered and explored. The system Lukina jama - Trojama (-1392 m) and Slovačka jama (-1301 m) are the deepest caves in Croatia and the 12th i.e., 18th cave of the world. Furthermore, significant depth was reached at Patkov gušt (-553 m), Ledena jama (-536 m) and Jama Olimp (-531 m). The development of large caves was analysed in respect to the geology, hydrogeological relations, karstification processes and paleoclimatic conditions. Neotectonic movements with summary amplitudes of about 1600 m, the Bakovac fault and its interruption of the Velebit complex barrier extension, as well as the concentrated recharge during interglacial stages of Pleistocene are recognised as the main factors contributing the speleogenesis.