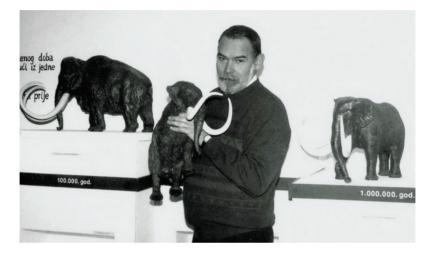


in memoriam DOI 10.20302/NC.2021.30.38

IN MEMORY OF MR. SC. DARKO RUKAVINA

(Gospić, June 8, 1944 – Zagreb, June 1, 2021)



Our dear colleague and friend, museum advisor mr. sc. Darko Rukavina, passed away on June 1, 2021 at the age of 77.

Darko Rukavina was born on June 8, 1944 in Gospić. He finished primary and secondary school in Zagreb, and then graduated from the University of Zagreb, Faculty of Science, in 1970 with a BSc degree in geology. At the same faculty, he continued his postgraduate studies and defended his master's thesis in 1982, entitled "Palaeoclimatological processes and their role in the stratigraphic interpretation of the Upper Pleistocene of Yugoslavia."

He got his first official job in 1973 as an assistant in the Geological – Palaeontological Collection and Karst Laboratory (since 1974 the Institute for Quaternary Palaeontology and Geology) of the then Yugoslav Academy of Sciences and Arts, where he devoted himself to the study of Quaternary sediments in numerous caves and open localities throughout Croatia (in places as diverse as Vindija in Hrvatsko zagorje, the Barać caves in Lika, and Šandalja in Istria).

In 1983 Darko Rukavina started working at the Geological and Palaeontological Museum (now the Department of Geology and Palaeontology of the Croatian Natural History Museum), where he remained for 26 years, i.e. until the end of his career (2009). He continued to deal with the issues of Quaternary geology, basing his museum activities not only on field research, but also on cabinet work, which included the preservation, protection and processing of the Osteological Collection of Mammals and Reptiles, as the head of collection. Meticulous, creative and always full of new ideas, he worked with equal devotion, professionalism and conscientiousness on the collections and on their presentation in numerous exhibitions that had their

own identity and were extremely well attended. His exhibitions, along with an abundance scientific and professional information, always included something new, attractive, likable, interesting...

At the 1994 exhibition *The Age of Dinosaurs*, Darko Rukavina presented a very attractive topic – the life and appearance of the huge reptiles that ruled the Earth during the Mesozoic Era. Different genera and species of dinosaurs were featured, emphasizing their taxonomic affiliations, external appearances, modes of living and evolutionary adaptations to different environmental conditions. Furthermore, the exhibition tried to answer the eternal question *"why did dinosaurs become extinct?"*, dealing with several current theories about the extinction of these unusual animals. Without a doubt, the biggest attraction of the exhibition was the huge reconstruction of dinosaur in the atrium of the Museum, made by sculptors Stanislav Tucaković and Ljiljana Tucaković-Mujagić, backed up by the illustrations of Berislav Kržič, very impressive and accurate depictions of dinosaurs at the exhibition as well as in the catalogue.

Another exhibition, no less interesting, was *The Ice Age*, presented to the public in 1996. The exhibition especially emphasized the last ice age, which "took place" in the Quaternary, more precisely in the Pleistocene, which was, anyway, an area of interest and activity of Darko Rukavina. He also presented a number of findings and details about the Ice Age, highlighting numerous researchers and naturalists in that field, among whom was the first Croatian educated geologist and curator at the National Museum, Gjuro Pilar. The exhibition revealed various details about the living world during the Ice Age, focusing on the animal groups that marked that period. One of the most impressive animals must have been the woolly mammoth, whose skeletal remains were reconstructed in life size. Equally attractive were the smaller recon-



Darko Rukavina at the exhibition The Ice Age in 1996 (both photos)

structions of ice-age large mammals that were presented in chronological order at the exhibition. No less interesting were the depictions of other animals, such as the woolly rhino, giant deer, elk, steppe bison, cave bear and others, as well as a number of smaller ice age animals that "paraded" through the exhibition. Of course, Darko also took into account the fact that the Pleistocene, or Ice Age, was the period when a rational being appeared on Earth and evolved into today's human. It is important to mention that the catalogue is fully illustrated with original drawings made by the author himself, representing numerous reconstructions of ice age animals in their characteristic environment.

The exhibition *Restless Earth* from 2004 gradually took visitors on an unusual journey through ancient times, from the creation of our planet to the Earth as it is today. Darko Rukavina presented the restless Earth through several thematic units: *Earth and space, Cross section of the Earth and the Earth's crust – lithosphere, Lithospheric plates – "floating continents", Tectonics (folds, faults, thrusts), <i>Earthquakes and volcanoes, Lithosphere, hydrosphere, atmosphere,* and *The emergence and development of life on Earth.* Unlike the previous two exhibitions, which were accompanied by comprehensive catalogues, with this exhibition, unfortunately, only a short Guide was published, although Darko had prepared complete texts and graphics for the catalogue.

The 2007 exhibition Sharks: Megalodon featured sharks and their systematics, biology and evolution, especially the largest of them, the extinct 20-metre long megalodon, the sovereign of the sea's depths in the Neogene Period. Since sharks are cartilaginous fishes, and cartilage is difficult to preserve due to its specific structure, their only fossil remains are, actually, teeth. Therefore, a large number of original shark teeth from the Museum's collections were presented at the exhibition. In addition, in an environment that resembled the vast depths of the sea, reconstructions of diverse species of sharks were exhibited, accompanied by numerous and interesting data about them. Definitely the most attractive exhibit was a large life-size reconstruction of the megalodon, enabling visitors to enter in its body interior through terrifying gaping jaws. The internal space of megalodon's body was "inhabited" with fossil remains of various organisms that were shark's food during its lifetime. Darko's comprehensive approach, inspired by a good topic and excellent concept, accompanied by an imaginative artistic display, as well as a compendious catalogue, aroused great visitor interest, impressions that will be remembered and referred to for a long time to come.

In addition to the exhibitions, Darko Rukavina was twice involved in the museum project called *Zagreb before Zagreb – prior to 1094*, well known to the Zagreb cultural public. First he took part in the installation of a bronze sculpture of a woolly mammoth (*Mammuthus primigenius*), together with a cast of its femur, at the site of its discovery, in the lobby of the Gavella Drama Theatre in Frankopanska Street (1992 and then 2015). Also, he was engaged in the installation of bone casts and the reconstruction of the "Zagreb whale" (*Mesocetus agrami*) in 2001, above the stream along the Aleja Bologne in Podsused, not far from the place of its discovery. Of course, the originals from which the casts were made are stored in the Croatian Natural History Museum, and they belong to the collections curated by our colleague Rukavina.

In addition to numerous papers, professional and scientific articles published in various journals, several museum publications should be highlighted, such as the *Catalogue of Fossil Vertebrates and Invertebrates Stored in the Croatian Natural History*

Museum, in six volumes, and a very useful *Fossil Preparation and Protection Manual* written with Hrvoje Malinar.

Darko Rukavina was an active and long-term member of various professional associations – Croatian Geological Society, Croatian Anthropological Society, Croatian Speleological Society and Croatian Museum Society. He also attended numerous congresses and symposia related to the Quaternary geology and palaeontology and its museum presentation and interpretation.

Everyone who knew Darko will agree that he was a really good geologist and museum curator and that he truly put the geological and museum profession in his debt with his dedicated and creative work. He was a kind and considerate man, well-meaning and always friendly, so it was nice to share time with him, whether working or otherwise, in our Museum in Demetrova street 1. And certainly, in some new museum stories and gatherings, Darko will be forever stored in our memories, we will miss him and fondly remember those times spent with him.

> Katarina Krizmanić and Nediljka Prlj Šimić Photo by: Nives Borčić

> > Croatian Natural History Museum

BIBLIOGRAPHY

- **R**UKAVINA, D. & RADOVČIĆ, J., 1972: Fosilni ljudi u pećini Šandalja kod Pule. Vjesnik, **33** (9117), 6. 7. 1972, p. 8, Zagreb.
- MAIEZ, M., **R**UKAVINA, **D.** & SUŠKOVIĆ, T., 1972: Eine neue paläontologische Fundstelle in Westbosnien. Bull. sci. Cons. Acad. Yougosl. (A), **17**/7-8, 229–231.
- RUKAVINA, D., 1973: Prilog poznavanju gornjopaleozojskih školjkaša Like i sjeveroistočnog podnožja Velebita (A contribution to the information about Upper Paleozoic Bivalves of Lika and the north east foot of Velebit (central Croatia). Geol. vjesnik, 26 (1972), 319–323.
- MAIEZ, M., RUKAVINA, D. & CRNOLATAC, I., 1974: Discovery of the Pleistocene "Hyena cave" in northern Istria. Bull. sci. cons. Acad. Yougosl., 19/1-2, 8-9.
- MAIEZ, M., RUKAVINA, D., SIIŠKOVIĆ, T. & KAP EL, A., 1974: Two new sites of Pleistocene fauna and of the Palaeolithic in Bosnia. Bull. sci. cons. Acad. Yougosl. (A), 19/3-4, 80–83.
- Ruкavina, D., 1975: Najveći speleološki objekti na svijetu. Speleolog, 20-21 /1972–1973/, 17–18.
- Ruкavina, D., 1975: Tragovi prethistorijskog čovjeka na području Like. Lički kalendar, 1976, 142–148, Gospić.
- MAIEZ, M., RADOVČIĆ, J., RUKAVINA, D. & JAIŽIĆ, B., 1975: Discovery of upper Pleistocene fauna in the cave on Mt. Klek (Croatia). Bull. sci. cons. Acad. Yougosl., 20/7-8, 209–210.
- MAIEZ, M. & RUKAVINA, D., 1975: Krioturbacijske pojave u gornjopleistocenskim naslagama pećine Vindije kod Donje Voće u sjeverozapadnoj Hrvatskoj. (Kryoturbate Erscheinungen in Ablagerungen des Oberen Pleistozän der Höhle Vindija bei Donja Voća in Nordwestkroatien). Rad Jugosl. akad. znan. umjet., 371, 245–265.
- MAIEZ, M., RUKAVINA, D. & ŠERCEIJ, A., 1975: Paläontologische Merkmale des Villafranchium der Lokalität Dronjkova Glavica in Norddalmatien. Bull. sci. cons. Acad. Yougosl. (A), 20/3-4, 69–71.
- MAIEZ, M., POJE, M. & RUKAVINA, D., 1977: Naseljavanje Požeške kotline u paleolitiku. Monografija "Požega 1227–1977", 76–83, Slavonska Požega.
- MAIEZ, M., POJE, M. & **R**UKAVINA, **D.**, 1977: Naseljavanje Požeške kotline u paleolitiku. Vjesnik Muzeja Požeške kotline, 1, 15–42, Slav. Požega.
- Rukavina, D., 1978: Paleoklimatološki i paleoekološki odnosi u gornjem pleistocenu Hrvatskog zagorja. (Paläoklimatologische und Paläoökologische Verthältnisse während des Oberen Pleistozän in Hrvatsko Zagorje). Krapinski pračovjek i evolucija hominida. Jugosl. akad. znan. umjetn., 319–330, Zagreb.

- RUKAVINA, D., 1978: Pojave krioturbacija u spiljskim sedimentima. Slijed spiljske sedimentacije. Vodič ekskurz. 3. skupa sediment. Jugosl., 43–45, Zagreb.
- MAIEZ, M., **RUKAVINA**, **D.** & SUŠKOVIĆ, T., 1978: Kvartargeološki i paleontološki odnosi u pećini Rastuša kod Teslića. (Quartärgeologische und paläontologische Verhältnisse in der Höhle Rastuša bei Teslić). Glasnik Zemalj. muz. B. i H. Prir. nauke N.S., **16**, 5–22, Sarajevo.
- RUKAVINA, D., 1978–1979: Iskopavanje spilja i osobitosti koje susrećemo. Speleolog, 16-17, 26–29.
- MAIEZ, M. & RUKAVINA, D., 1979: Položaj naslaga spilje Vindije u sustavu članjenja kvartara šireg područja Alpa. (Lage der Höhlenablagerungen von Vindija im System der Quartären Vollgliederung des Alpengebietes). Rad Jugosl. akad. znan. umjetn., 383, 187–218.
- RUKAVINA, D., 1980: Spiljski sedimenti i rekonstrukcija klimatskih oscilacija za vrijeme gornjeg pleistocena. (Cave sediments and reconstruction of climatic oscillations within the upper Pleistocene). 7. Jugosl. speleol. kongr. Herceg Novi (1976), 395–402, Titograd.
- MAIEZ, M., SMITH, F. H., RADOVČIĆ, J. & RUKAVINA, D., 1980: Upper Pleistocene Hominids From Vindija, Croatia, Yugoslavia. Current anthropology, 21, 3, 365–367, Chicago.
- POJE, M. & RUKAVINA, D., 1980: Zavod za paleontologiju i geologiju kvartara. Vijesti Jugosl. akad. znan. umjetn., 1/2, 16–17, Zagreb.
- RUKAVINA, D., 1981: Sedimenti istarskog podzemlja i rekonstrukcija klime tijekom pleistocena. (Istria cave sediments and the reconstruction oft he Pleistocene period climate). Liburnijske teme (Prirodna podloga Istre), 4, 149–155, Opatija.
- WOIP OFF, M. H., SM ITH, F. H., MAIEZ, M., RADOVČIĆ, J. & RUKAVINA, D., 1981: Upper Pleistocene Human remains from Vindija Cave, Croatia, Yugoslavia. Amer. Jour. Phys. Anthrop., 54, 499–545, Chicago.
- RUKAVINA, D., 1982: Paleoklimatološki procesi i njihova uloga u stratigrafskoj interpretaciji gornjeg pleistocena Jugoslavije. Magistarski rad, PMF Sveučilišta u Zagrebu, Zagreb.
- RUKAVINA, D., 1983: Biokovo i klimatska zbivanja u pleistocenu (abstract in English). Acta biokovica, 2, 111–122, Makarska.
- RUKAVINA, D., 1983: O stratigrafiji gornjeg pleistocena s osvrtom na topla razdoblja i njihov odraz u naslagama na području Jugoslavije. (On the stratigraphy oft he Upper Pleistocene with special reference to warm periods and their marks on some profile sin Yugoslavia). Rad Jugosl. akad. znan. umjetn. 404 (Razr. prir. znan. knj. 19), 199–221.
- RUKAVINA, D., 1985: Spiljski sedimenti i njihov paleontološki i kulturni značaj. Speleološki priručnik, 1, 34–46, Zagreb.
- RUKAVINA, D., 1986: Paleontološki i kulturni sadržaj spiljskih sedimenata. Speleološki priručnik, 1. svezak. Naše planine, 3-4, 60 64. Planinarski savez Hrvatske, Zagreb.
- MAIEZ, M. & RUKAVINA, D., 1988: Stratigraphy oft he Krapina Site. Abstracts 12. Intern. Congr. Anthrop. Ethnol. Sci. (Collegium Antropologicum 12) Suppl., p. 347, Zagreb.
- RUKAVINA, D., 1989/90: Životinje ledenog doba. Priroda, 4-5, 10–14.
- RUKAVINA, D., 1993: "Zagrebački kit" Mesocetus agrami. Priroda, 794, p. 28.
- Rukavina, D., 1994: Doba dinosaura. Exhibition catalogue (ilustrirao Kržič, B.) 17 pp., Croatian Natural History Museum, Zagreb.
- RUKAVINA, D. /autor teksta i ilustracija/, 1996: Ledeno doba. Exhibition catalogue, 60 pp., Croatian Natural History Museum, Zagreb.
- RUKAVINA, D., 1998: Podno brda gdje podrtina susedgradska stoji. Naš Museum: zbornik radova sa znanstvenog skupa "150 godina od utemeljenja hrvatskog Narodnog muzeja u Zagrebu 1846.– 1996." (eds: Balabanić, J., Krizmanić, K. & Vuković, M.), 101–109, The Archaeological Museum in Zagreb, Croatian History Museum, Croatian Natural History Museum, Zagreb.
- RUKAVINA, D., 1999: Carcharodon Megalodon gospodar tercijarnih mora. Priroda, 862-4, p. 14.
- RUKAVINA, D., 2000: Pomozite zagrebačkom kitu, Vjesnik, 1. 4. 2000.
- Ruкavina, D., 2003: Katalog fosilnih kralježnjaka pohranjenih u Hrvatskom prirodoslovnom muzeju. 192 pp., Croatian Natural History Museum, Zagreb.
- RUKAVINA, D., 2004: Katalog fosilnih beskralježnjaka I. pohranjenih u Hrvatskom prirodoslovnom muzeju: Anthozoa, Brachiopoda, Cephalopoda, Echinoidea, Foraminifera, Graptolithina, Hydrozoa, Insecta, Trilobita. 240 pp., Croatian Natural History Museum, Zagreb.
- RUKAVINA, D., 2004: Nemirna zemlja. Exhibition depliant. 14 pp., Croatian Natural History Museum, Zagreb.

- Rukavina, D., 2005: Katalog fosilnih beskralježnjaka II.1 pohranjenih u Hrvatskom prirodoslovnom muzeju: Lamellibranchiata (paleozoik, trijas, jura, kreda, eocen, oligocen, miocen). 280 pp., Croatian Natural History Museum, Zagreb.
- Rukavina, D., 2005: Katalog fosilnih beskralježnjaka II.2 pohranjenih u Hrvatskom prirodoslovnom muzeju: Lamellibranchiata (pliocen). 200 pp., Croatian Natural History Museum, Zagreb.
- Rukavina, D., 2006: Katalog fosilnih beskralježnjaka III.1 pohranjenih u Hrvatskom prirodoslovnom muzeju: Gastropoda (paleozoik, mezozoik, eocen, oligocen, miocen i pliocen). 404 pp., Croatian Natural History Museum, Zagreb.
- Rukavina, D., 2006: Katalog fosilnih beskralježnjaka III.2 pohranjenih u Hrvatskom prirodoslovnom muzeju: Gastropoda (miocen i pliocen) (Zbirka Brusina). 295 pp., Croatian Natural History Museum, Zagreb.
- **Rukavina, D.** & Malinar, H., 2006: Priručnik za prepariranje i zaštitu fosila. 56 pp., Croatian Natural History Museum, Zagreb.
- Rukavina, D., 2007: Morski psi. Megalodon. Exhibition catalogue, 47 pp. Croatian Natural History Museum, Zagreb.