

KRAS - CLASSICAL KARST (SLOVENIA - ITALY)

KRANJC A.

Karst Research Institute ZRC SAZU, Titov trg 2, Si –6230 Postojna, Slovenia

Kranjc@zrc-sazu.si

Kras is a limestone plateau in the Northwestern (45° 45' N lat., 14° 00' W long.) part of Dinaric Mts., well distinctive from the lower non-carbonate surrounding: Trieste bay (Adriatic Sea) on the SW, alluvial Friuli plain at NW, flysch Vipava valley at NE. Plateau is an anticlinorium of Cretaceous and Tertiary limestone, crossed by three main faults in “Dinaric” (NW - SE) direction. The altitude of Kras is between 200 - 500 m, and it covers about 550 km². In general the surface is rather flat, with exception of the range of hills and a sort of great dry valley crossing it in Dinaric direction. The plateau has very little large-scale relief but has numerous solution and collapse dolines with expanses of rocky terrain. Although there is 1400 - 1650 mm of precipitation, there are no surface streams. Streams flowing from normal relief nearby, disappear into Kras underground when they reach the limestone cliffs. The most important surface stream is the Reka river with an average discharge of 8.3 m³s⁻¹ (maximum about 300 m³s⁻¹). Kras is a very important aquifer. Most of the water drains through the Timavo springs at the Northwestern foot of the plateau. The average discharge of Timavo springs is 30.2 m³s⁻¹. The number of caves must not surprise: there are nearly 3000 of them. Among them there are more than 10 km long active caves, some of them with huge volumes (Martel Chamber of Škocjanske jame cave 2.2 million m³) and some quite deep, Lazaro Jerko cave - 380 m. Of the pre-Roman name which root means rock the Latin name Carusad or Mons Carusadus and from it the modern names Kras (Slovene), Carso (Italian) or Karst (German) developed. The German version entered the international terminology due to the fact that the first scientific researchers published their works in German language. Not only the term karst but also the term “dolina” entered the international terminology from Kras, and some other terms (polje, ponor) came from other parts of Dinaric karst. One of the oldest European show caves, since the 17th century (Vilenica) lies on Kras. The shaft Labodnica (Abisso Trebiciano) (329 m deep) explored in 1841 held the world’s deep record for about 50 years. Different methods of water tracing, including marked eels, were used in Karst very early. First record dates to 1599. Thus Kras is important as an example of typical Dinaric karst, it can be called the reference karst, as well as from the historical point of view, where the term karst came from and where the science of speleology started.

Key words: karst geomorphology, terminology, Kras (Classical Karst), Slovenia.