SANDSTONE KARST FEATURES IN THE CENTRAL PORTION OF TOCANTINS STATE, BRAZIL

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RESUMO: Caves in sandstone rocks are little studied because their low spelothems frequency, that in function of the low solubility of this rock type, they are little common, but not inexistent (Young et al, 2009).The caves in sandstones used to occur in agreement with the plans of contact of more resistant layers with crumblier layers, favoring the circulation of the water and, consequently, higher the dissolution of silicate cement (Eszterhás, 2007).These study aims to make a speleological characterization of sandstone caves from the central portion of the Tocantins state, Brazil.The study places are introduced in the geological context of the Parnaíba Basin. This basin covers the Brazilian states of Maranhão, Piauí and part of the Tocantins, Pará and Ceará states.The caves are bearing in the Canindé Group, which is represented locally by sandstones, siltstones, claystones and conglomerate levels; all belonging to the Pimenteiras Formation, that together with the Cabeças Formation and Longá Formation constitutes the mentioned group (Vaz et al, 2007).The Pimenteiras Formation is composed, mainly, by shales ash-darkness to blacks, greenish. Siltstone and conglomerate sandstone sequence shows that the sedimentation happened in a shallow platform dominated by storms (Vaz et al, 2007).During the field works seven caves were mapped, being five of them in the Palmas city (Gruta do Mundico, Gruta do Raimundo, Gruta da Fazenda Sra. Terezinha, Gruta da Fazenda do Ivoneide and Caverna do Evilson). In the Monte do Carmo city were studied two caves (Buraco da Onça and Gruta do Desenho).In a general way, those caves occur in the cliffs of the Tocantins residual Plateau, which border the Parnaíba Basin near Tocantins river. The caves's range from 15 to 105 meters. In all caves it was observed the structural geological control well defined by the intersection of the bedding plans with fractures.The caves of Palmas, are very active, where is possible note great quantity of carried material, opening of new passages (wall pockets) and formation of ferruginous stalactites. While those studied in Monte do Carmo are geologically stagnated.All studied cavities shown ferruginous crusts that constitute a dissolution clue.In conclusion, the genesis of studied caves appears to be linked to an initial phase of forced circulation of water, following by fluvial circulation. AcknowledgementsThe present study was developed with aid of Conselho Nacional de Desenvolvimento Científico e Tecnológico - CNPq in the form of productivity scholarship in research, process no. 314759/2009-3.ReferencesESZTERHÁS, I. 2007. Genetic examples of the sandstone caves in Hungary. Nature Conservation, 63, 13-21.VAZ, P. T.; REZENDE, N. G. A. M.; FILHO, J. R. W. & TRAVASSOS, W. A. S. 2007. Bacia do Parnaíba. Boletim de Geociências da Petrobras, v15, n. 2, p. 253-263.YOUNG, R. W.; WRAY, R. A. L. & YOUNG, A. R. M. 2009. Sandtone Landforms. New York: Cambridge.

PALAVRAS-CHAVE: KARST GEOMORPHOLOGY; SANDSTONE; TOCANTINS STATE.