

TWO NEW IRON METEORITES FROM BAHIA, BRAZIL.

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We report data on two new iron meteorites from Bahia State, Brazil. Both became available to scientific analysis after its reviews in the end of 2007, raising the total number of meteorites from Bahia to five, and the Brazilian meteorites to 58.

In November, 2007, during a paleontological field trip to the city of Palmas de Monte Alto, D.R. was led by the archeologist Joaquim Perfeito to examine a strange rock that lied during years at the hall of a local public school, named "Marcelino Neves". Immediately was noticed its similarity with the Bendegó meteorite, and a contacted with the Meteoritical Sector of the Museu Nacional was performed. A preliminary analysis and survey of the historical background were then conducted.

It is an irregular mass of 97 kg found before 1954 by Mr. Francisco Cruz, a local citizen, at the same site where a supposed large meteorite were been found in 1887 and related by Derby [1]. It is proposed the name "Palmas de Monte Alto"

The meteorite is a medium octahedrite (mean bandwidth 0.95mm) with kamacite displaying subboundaries, Neumann lines and acicular hatched ϵ -shock structure. Taenite and plessite covers 25-35 % by area. Phosphides are very common as irregular Schreibersite bodies, Brezina lamellae and also inside small chromite crystals. It was analyzed and classified by J.T. Wasson, *UCLA*, with the composition given by INAA Co = 0.54, Ni = 9.4 (both in wt%); Ga = 22, As = 16, Ir = 0.70, Au = 1.7 (all in ppm) being classified as a IIIAB, medium octahedrite, anom.

During researches about the study of Palmas de Monte Alto Meteorite find, D.R. and J.P. were informed by the geologist E. Bernardes, from the Southwestern Bahia State University (UESB), about a possible other meteorite housed in Geological Collection of their institution, in the city of Vitória da Conquista.

They identified a single mass of 10.5 kg, resembling a liver, and with maximum dimensions of 25 x 14 x 13cm, with a rather smooth surface. It presents brown rust showing no signs of fusion crust. Unfortunately, there are no records of the its provenience, even after efforts to find any clue, so that it is impossible today to know their collector, time and site where was found.

Etched section in this second meteorite display a fine widmanstätten (mean bandwidth 0.35mm) straight long (L/W ~50) and the kamacite shows a hatched, shock-hardened variety. Taenite and plessite covers about 50% by area as a variety of structures. Schreibersite are common as small and vermicular bodies and Troilite is very rare. Chromite is also present as a tiny euhedric crystals associated with the troilite. It was analyzed and classified by John T. Wasson, *UCLA* The composition (by INAA) of the metal is Co = 0.41, Ni = 9.4 (both in wt %); Ga = 2.4, As = 13, Ir = 0.84, Au = 2.37 (all in ppm), belonging to the IVA group. Indeed as there is no chemical correlation with other Brazilian known meteorite, thus giving support to the contention that this specimen is not part of a previously known meteorite. As the precedence is unknown, it was proposed the name "Vitoria da Conquista" in allusion to the place where it was rediscovered.

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References: [1] Derby, O.A.1888. *Revista do Observatório*, Rio de Janeiro. 1-22