

DAR AL GANI 876, A FURTHER FRAGMENT OF THE DAG-SHERGOTTITE. R. BARTOSCHEWITZ¹ and D. ACKERMAND², ¹ BML, Lehmweg 53, D-38518 Gifhorn, Germany (Bartoschewitz.Meteorite-Lab@t-online.de), ² Inst. für Geowissenschaften der Univ., Olshausenstr. 40, D-24098 Kiel, Germany

On May 7th, 1998 a meteorite suspected small stone of 6.216 g was found in the Upper Serir al Qattusah, south of Al Fugha in Fezzan/Libya. The exact find site is not known. The stone was brought to a meteorite dealer, who send a sample for investigation.

A polished thin section shows porphyric olivine up to 2 mm in a matrix of pyroxene and maskelynite, accompanied by several opaque minerals, reflecting a basaltic shergottite with relations to the lherzolithic shergottites. The parent body of this meteorite group is most probably the planet Mars.

Microprobe measurements with an Cameca Camebase Microbeam 15 kV 15nA were made from the various minerals with following results:

Olivine	FA37-38
Pigeonite	En59-66Wo8-14
Augite	En52-45Wo33-37
Maskelynite	An56-74Or0.2-1.2
Chromite	(Fe _{0.83} Mg _{0.17})(Cr _{0.85} Al _{0.13} Fe _{0.01} Ti _{0.01}) ₂ O ₄
Ti-Cr-spinel	(Fe _{0.77-0.84} Mg _{0.23-0.16})(Cr _{0.49-0.15} Fe _{0.18-0.45} Ti _{0.18-0.30} Al _{0.14-0.07}) ₂ O ₄
Ilmenite	(Fe _{0.80} Mg _{0.18} Cr _{0.02} Mn _{0.01})TiO ₃
Pyrrhotite	Fe _{0.8} S

The Ti-Cr-spinels showing the complete range from Ti-chromite to Ti-magnetite with 13 to 21 % TiO₂ (fig. 1). Ilmenite with about 2.5 % MgO is accompanying these spinels. The observed pyrrhotite bears 0.5 to 2.5 % Ni.

Petrological data and mineral-chemistry of Dar al Gani 876 meet those of the four former published olivine-shergottites, discovered in the Upper Serir al Qattusa between 1996 and 2000 within an area of approximately 30 x 5 km [1, 2, 3, 4], so DaG876 is most probably paired with them:

DaG 476	2015 g	27°21.16' N, 16°12.04' E
DaG 489	2146 g	~ 27°8' N, 16°5' E
DaG 670	1619 g	?
DaG 735	588 g	27°10' N, 16°10' E
DaG 876	6.2 g	~ 27°30' N, 16°30' E

Petrological very similar are also the olivine-shergottite finds of Sayh al Uhaymir 005, 008, 051 and 094 [4, 5] about 4200 km east, in Oman. It was discussed, whether they are also paired with the DaG shergottite finds. In the meantime, investigation of terres-

trial ages of the Libyan and Oman shergottites confirm, that they are different falls [6].

References: [1] J. ZIPFEL et al. (2000) Petrology and chemistry of the new shergottite Dar al Gani 476. *Meteoritics and Planetary Science*, **35**, 95-106. [2] L. FOLCO et al. (2000) Dar al Gani 670 shergottite: A new fragment of the Dar al Gani 476/489 martian meteorite. *Meteoritics and Planetary Science*, **35**, A54-55. [3] J.N. GROSSMAN (2000) The Meteoritical Bulletin, No. 84, 2000 August. *Meteoritics and Planetary Science*, **35**, A119-225. [4] J.N. GROSSMAN (2001) The Meteoritical Bulletin, No. 85, 2001. *Meteoritics and Planetary Science*, **36**, (in preparation). [5] J. ZIPFEL et al. (2000) Sayh al Uhaymir005/008 and its relationship to Dar al Gani 476/489. *Meteoritics and Planetary Science*, **35**, A178. [6] J. ZIPFEL(2001) *personal communication*.

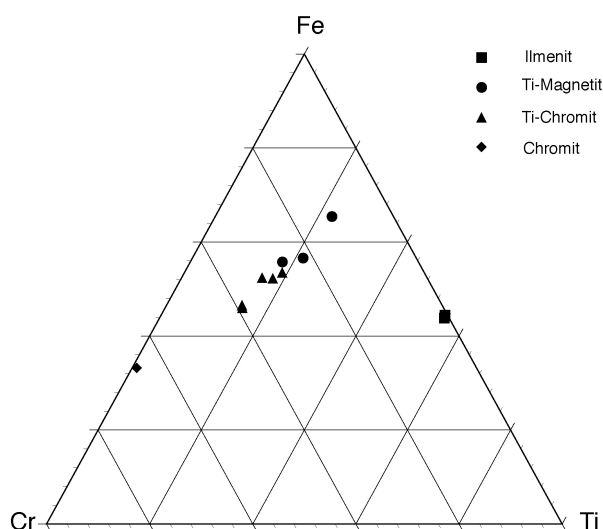


Fig. 1 : composition (atom-ratio) of Fe-Cr-Ti-oxides in DaG876