Crystal Data: Triclinic. *Point Group*: $\bar{1}$. As irregular grains to 400 μm.

Physical Properties: *Cleavage*: None. *Fracture*: Irregular. *Tenacity*: n.d. Hardness = 6 VHN = 943(50 g load). D(meas.) = n.d. D(calc.) = 4.097

Optical Properties: Translucent. *Color*: Black to dark brown on thin edges; gray in reflected light with weak brown internal reflections. *Streak*: n.d. *Luster*: Semi-metallic.
Optical Class: n.d. *Pleochroism*: Very weak. Birefringence and anisotropy weak.
R_1-R_2: (470) 12.73-14.05, (546) 12.08-13.17, (589) 11.76-12.78, (650) 11.55- 12.48, (700) 11.42-12.32

Cell Data: *Space Group*: $P\bar{1}$. a = 10.5363(1) b = 10.9242(2) c = 9.0612(1) α = 106.340(1)° β = 95.765(1)° γ =124.373(1)° Z = 1

X-ray Powder Pattern: Gurim anticline, near Arad city, Negev Desert, Israel.
2.5837 (100), 2.5859 (94), 2.7279 (75), 2.7278 (75), 2.9941 (71), 2.5901 (69), 2.9945 (67)

Chemistry:	(1)
TiO_2	1.39
SiO_2	8.29
Fe_2O_3	[63.44]
Cr_2O_3	0.52
Al_2O_3	6.61
CaO	14.21
NiO	0.84
FeO	0.36
MnO	0.57
MgO	3.41
Total	99.64

(1) Gurim anticline, near Arad city, Negev Desert, Israel; average of 11 electron microprobe analyses supplemented by Raman spectroscopy, Fe_2O_3:FeO calculated from stoichiometry; corresponds to $Ca_4(Fe^{3+}_{8.528}Mg_{1.635}Ca_{0.898}Ti^{4+}_{0.336}Ni^{2+}_{0.217}Mn^{2+}_{0.155}Cr^{3+}_{0.132}Fe^{2+}_{0.098})_{\Sigma=12}O_4[(Fe^{3+}_{6.827}Al_{2.506}Si_{2.667})_{\Sigma=12}O_{36}]$.

Mineral Group: Rhönite group, sapphirine supergroup.

Occurrence: Formed from melt and as reaction rims in thin veins of paralava within fine-grained gehlenite rocks (pyrometamorphic hornfels).

Association: Gehlenite, rankinite, schorlomite, pseudowollastonite, Ni-bearing magnesioferrite, Ni-bearing magnesioferrite, andradite, barioferrite, Si- and Fe^{3+}-bearing perovskite.

Distribution: From the Gurim anticline, near Arad city, Negev Desert, Israel.

Name: Honors Azerbaijanian and Israeli geophysicist Boris Emmanuilovich Khesin (1932-2010), after 1991, at the Ben-Gurion University of the Negev, Beer-Sheva, Israel.

Type Material: Museum of Natural History, Bern, Switzerland (NMBE 4717).

References: (1) Galuskina, I.O., E.V. Galuskin, A.S. Pakhomova, R. Widmer, T. Armbruster, B. Krüger, E.S. Grew, Y. Vapnik, P. Dzierażanowski, and M. Murashko (2017) Khesinite, $Ca_4Mg_2Fe^{3+}_{10}O_4[(Fe^{3+}_{10}Si_2)O_{36}]$, a new rhönite-group (sapphirine supergroup) mineral from the Negev Desert, Israel - natural analogue of the SFCA phase. Eur. J. Mineral., 29(1), 101-116.
(2) (2017) Amer. Mineral., 102, 1964 (abs. ref. 1).