

Crystal Data: Tetragonal. *Point Group:* $\bar{4} 2m$. As coatings of disphenoidal crystals with stepped surfaces, to 400 μm , epitaxially oriented on wurtzite-sphalerite crystals.

Physical Properties: *Cleavage:* None. *Tenacity:* Brittle. *Fracture:* Irregular. Hardness = 3
D(meas.) = n.d. D(calc.) = 4.278 Nonfluorescent.

Optical Properties: Opaque. *Color:* Dark gray, dark bluish gray in reflected light. *Streak:* Black.
Luster: Metallic.

Optical Class: *Anisotropism:* Distinct, violet to light blue. Moderately birefractant.
R₁-R₂: (471.1) 23.5-25.0, (548.3) 27.4-28.9, (586.6) 28.1-29.4, (652.3) 27.7-28.9

Cell Data: *Space Group:* $I\bar{4} 2m$. $a = 5.3626(2)$ $c = 10.5873(5)$ $Z = 2$

X-ray Powder Pattern: Merelani gem mines, Lelatema Mountains, Simanjiro District, Tanzania.
3.084 (100), 1.882 (40), 1.898 (20), 1.614 (20), 1.600 (10), 1.092 (10)

Chemistry:	(1)	(2)
Mn	0.10	
Sn	0.15	
Fe	0.41	
Ga	17.60	17.77
Ge	0.08	
Zn	32.85	33.34
Cu	16.08	16.20
S	32.55	32.69
Total	99.81	100.00

(1) Merelani gem mines, Lelatema Mountains, Simanjiro District, Manyara Region, Tanzania; average electron microprobe and Raman spectroscopic analyses; corresponding to (Zn_{1.975}Cu_{0.995}Ga_{0.995}Fe_{0.025}Mn_{0.010}Ge_{0.005}Sn_{0.005}) $\Sigma=4.010$ S_{3.990}. (2) Zn₂CuGaS₄.

Mineral Group: Stannite group.

Occurrence: On a single specimen reported to be from the Merelani gem mines.

Association: Graphite, diopside, Ge-Ga-rich wurtzite.

Distribution: From the Merelani gem mines, Lelatema Mountains, Simanjiro District, Manyara Region, Tanzania.

Name: Honors Dr. R. Peter *Richards* (b. 1943), retired water-quality researcher at Heidelberg College, Ohio, USA, and consulting editor of the journal *Rocks & Minerals*, for his research and writing on topics related to understanding the genesis of the morphology of minerals.

Type Material: Museum of Natural History, University of Florence, Italy (3555/I) and the A. E. Seaman Mineral Museum, Houghton, Michigan, USA (DM 31876).

References: (1) Bindi, L. and J.A. Jaszczak (2020) Richardsite, Zn₂CuGaS₄, a new gallium-essential member of the stannite group from the gem mines near Merelani, Tanzania. *Minerals*, 10(5), 467, 1-10.