Heftetjernite $ScTaO_4$

Crystal Data: Monoclinic. *Point Group*: 2/*m*. As subparallel elongate, tabular on {100} to columnar, crystals to 0.4 mm.

Physical Properties: *Cleavage*: Perfect on {010}. F*racture*: Irregular. *Tenacity*: Brittle. D(meas.) = n.d. D(calc.) = 6.44 *Hardness* = 4.5 [By analogy to ferberite.]

Optical Properties: Transparent to translucent. *Color*: Dark brown to greenish brown. *Streak*: Dark brown with a reddish hue. *Luster*: Adamantine. *Optical Class*: Biaxial (n.d.). *n*(calc.) = 2.23 *Pleochroism*: Weak , yellowish brown with a reddish tint ⊥ elongation and reddish brown (with stronger absorption) ∥ elongation.

Cell Data: *Space Group*: *P*2/*c*. $a = 4.784(1)$ $b = 5.693(1)$ $c = 5.120(1)$ $\beta = 91.15(3)°$ $Z = 2$

X-ray Powder Pattern: Heftetjern pegmatite, Tørdal, Telemark, Norway.
3.000 (100), 2.9570 (97), 3.662 (53), 2.4877 (34), 4.783 (33), 3.807 (32), 2.5595 (29)

Chemistry:

	(1)
Sc_2O_3	15.59
SnO_2	6.93
TiO_2	1.61
MnO	3.02
FeO	2.07
Ta_2O_5	53.58
Nb_2O_5	14.25
Total	97.05

(1) Heftetjern pegmatite, Tørdal, Telemark, Norway; average of 8 electron microprobe analyses; corresponds to $(Sc_{0.64}Sn_{0.13}\ Mn_{0.12}Fe_{0.08}Ti_{0.06})_{\Sigma=1.03}(Ta_{0.69}Nb_{0.30})_{\Sigma=0.99}O_4$.

Occurrence: In vugs in albite in a mixed LCT-NYF type cleavelandite-amazonite pegmatite.

Association: Albite, fluorite, muscovite, altered milarite, and a metamict, dark grayish brown mineral of the pyrochlore-microlite group.

Distribution: From the Heftetjern pegmatite, between Høydalen and Skarsfjell, Tørdal, Telemark, Norway.

Name: For the locality that produced the first specimens, *Heftetjern* pegmatite, Norway.

Type Material: Department of Geology, Natural History Museum, University of Oslo, Norway (# 41726).

References: (1) Kolitsch, U., R. Kristiansen, G. Raade, and E. Tillmanns (2010) Heftetjernite, a new scandium mineral from the Heftetjern pegmatite, Tørdal, Norway. Eur. J. Mineral., 22, 309-316. (2) (2011) Amer. Mineral., 96, 942 (abs. ref. 1).