Heftetjernite

**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}.  
**Fracture:** Irregular.  
**Tenacity:** Brittle.  
$D(\text{meas.}) = \text{n.d.}$  
$D(\text{calc.}) = 6.44$  
**Hardness** = 4.5 [By analogy to ferberite.]

**Optical Properties:**  
**Color:** Dark brown to greenish brown.  
**Streak:** Dark brown with a reddish hue.  
**Luster:** Adamantine.  
**Optical Class:** Biaxial (n.d.).  
$n(\text{calc.}) = 2.23$  
**Pleochroism:** Weak, yellowish brown with a reddish tint $\perp$ elongation and reddish brown (with stronger absorption) $\parallel$ elongation.

**Cell Data:**  
**Space Group:** $P2_1/c$.  
$a = 4.784(1)$  
$b = 5.693(1)$  
$c = 5.120(1)$  
$\beta = 91.15(3)^\circ$  
$Z = 2$

**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) Heftetjern pegmatite, Tørdal, Telemark, Norway; average of 8 electron microprobe analyses; corresponds to $(Sc_{0.64}Sn_{0.13}Mn_{0.12}Fe_{0.08}Ti_{0.06})_{2-1.01}(Ta_{0.06}Nb_{0.30})_{2-0.99}O_4$.

**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).