Lindqvistite $\mathbf{Pb_2(Mn^{2+},Mg)Fe^{3+}_{16}O_{27}}$

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Crystal Data: Hexagonal. *Point Group:* $6/m\ 2/m\ 2/m$. As subhedral crystals, tabular on {0001}, to 5 mm.

Physical Properties: *Cleavage:* {0001}, perfect. *Tenacity:* Brittle. Hardness = ∼6 VHN = 818–898, 857 average (100 g load). D(meas.) = n.d. D(calc.) = 5.76(1)

Optical Properties: Opaque. *Color:* Black; gray with a faint brownish tint in reflected light. *Streak:* Brownish black. *Luster:* Submetallic.
Optical Class: Uniaxial. *Anisotropism:* Moderate; in bluish gray to browns.
Bireflectance: Weak.
R_1–R_2: (470) 23.7–22.0, (546) 22.7–21.5, (589) 22.0–21.1, (650) 21.3–20.7

Cell Data: *Space Group:* $P6_3/mmc$. $a = 5.951(1)$ $c = 33.358(4)$ $Z = 2$

X-ray Powder Pattern: Jakobsberg, Sweden.
2.624 (100), 2.802 (95), 2.612 (90), 2.975 (70), 3.011 (60), 4.168 (55), 3.334 (40)

Chemistry:

	(1)
SiO_2	0.16
TiO_2	0.12
Al_2O_3	0.07
Fe_2O_3	67.49
MnO	5.13
ZnO	0.17
PbO	25.95
MgO	1.62
BaO	0.03
Cl	0.00
Total	100.74

(1) Jakobsberg, Sweden; by electron microprobe, average of six analyses, all Mn as Mn^{2+} from associated minerals, Fe^{2+} absent by Mössbauer spectroscopy; corresponds to $Pb_{2.04}Mn^{2+}_{1.27}Mg_{0.71}Zn_{0.04}Fe^{3+}_{14.84}Si_{0.05}Ti_{0.03}Al_{0.02}O_{27}$.

Occurrence: In a regionally metamorphosed lead-bearing Fe–Mn skarn deposit.

Association: Jacobsite, plumboferrite, hematite, phlogopite, andradite, calcite, hedyphane, barite, copper, cuprite, malachite, azurite.

Distribution: From Jakobsberg, Värmland, Sweden.

Name: For Dr. Bengt Lindqvist (1927–), formerly Senior Curator of the Swedish Museum of Natural History, Stockholm, Sweden.

Type Material: Swedish Museum of Natural History, Stockholm, Sweden, 38126; The Natural History Museum, London, England, 1992,375.

References: (1) Holtstam, D. and R. Norrestam (1993) Lindqvistite, $Pb_2MeFe_{16}O_{27}$, a novel hexagonal ferrite mineral from Jakobsberg, Filipstad, Sweden. Amer. Mineral., 78, 1304–1312.

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