

Crystal Data: Orthorhombic, pseudo-hexagonal. *Point Group:* $2/m\ 2/m\ 2/m$. Crystals are thin pseudo-hexagonal basal plates, to 0.6 cm, striated on {001} || [100], also || [010]; forming rosettes and fanlike aggregates. *Twinning:* On {130}, lamellar.

Physical Properties: *Cleavage:* Perfect on {001}. *Tenacity:* Thin lamellae are flexible, foil-like. Hardness = 1–1.5 VHN = 31–44 (50 g load). D(meas.) = 4.101–4.215 D(calc.) = 4.275

Optical Properties: Opaque. *Color:* Pinchbeck-brown, may tarnish blue-violet on selected faces; in reflected light, pale brown. *Streak:* Black. *Luster:* Metallic, brilliant on {001}. *Pleochroism:* Distinct, in browns. *Anisotropism:* Strong; bluish and reddish to lilac, reddish brown to pale green with purplish pink shades.

R₁–R₂: (400) 18.2–30.1, (420) 19.0–31.0, (440) 19.8–32.0, (460) 20.6–33.1, (480) 21.6–34.0, (500) 22.4–34.9, (520) 23.2–35.7, (540) 23.9–36.4, (560) 24.5–37.0, (580) 25.2–37.5, (600) 26.0–38.0, (620) 26.7–38.2, (640) 27.3–38.3, (660) 27.7–38.2, (680) 28.0–38.1, (700) 28.1–37.9

Cell Data: *Space Group:* *Ccmb*. $a = 6.615(2)$ $b = 11.639(4)$ $c = 12.693(4)$ $Z = 8$

X-ray Powder Pattern: Měděnec, Czech Republic.
5.780 (10), 2.785 (7), 3.226 (6), 2.616 (5), 4.281 (3), 1.938 (3), 1.893 (3)

| Chemistry: | (1) | (2) |
|------------|--------|--------|
| Ag | 35.27 | 34.17 |
| Fe | 35.97 | 35.37 |
| S | 29.10 | 30.46 |
| Total | 100.34 | 100.00 |

(1) Jáchymov, Czech Republic. (2) AgFe₂S₃.

Polymorphism & Series: Dimorphous with argentopyrite.

Occurrence: In hydrothermal veins with other silver sulfosalt minerals and in Co–Ni–Ag sulfide assemblages.

Association: Stephanite, acanthite, proustite, pyrargyrite, argentopyrite, xanthoconite, pyrite, galena, sphalerite, dolomite, calcite, quartz.

Distribution: In the Czech Republic, from Jáchymov (Joachimsthal) [TL], at Příbram, and in the Krušné hory Mountains, at Měděnec. In Germany, from Johanngeorgenstadt, Freiberg, Marienberg, and Schneeberg, Saxony, and at St. Andreasberg, Harz Mountains. From the Ruen Pb–Zn deposit, Osogovo region, Bulgaria. At Hiendelaencina, Guadalajara Province, Spain. From the Akersberg mine, Oslo, Norway. In the USA, in Arizona, in the Leroy mine, Dos Cabezas Mountains, Cochise Co. At the Highland Bell mine, Beaverdell, British Columbia, Canada. From the Kamikita mine, Aomori Prefecture, Japan.

Name: To honor Caspar Maria Sternberg (1761–1838), Czech botanist, of the National Museum in Prague, Czech Republic.

Type Material: National Museum, Prague, Czech Republic.

References: (1) Palache, C., H. Berman, and C. Frondel (1944) Dana's system of mineralogy, (7th edition), v. I, 246–248. (2) Czamanske, G.K. and R.R. Larsen (1969) The chemical
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identity and formula of argentopyrite and sternbergite. *Amer. Mineral.*, 54, 1198–1201.

(3) Šrein, V., T. Řídkošil, P. Kašpar, and J. Šourek (1986) Argentopyrite and sternbergite from polymetallic veins of the skarn deposit Měděnec, Krušné hory Mts., Czechoslovakia. *Neues Jahrb. Mineral., Abh.*, 154, 207–222. (4) Pertlik, F. (1987) Crystal structure of sternbergite. *Neues Jahrb. Mineral., Monatsh.*, 458–464. (5) Ramdohr, P. (1969) The ore minerals and their intergrowths, (3rd edition), 628–630. (6) Criddle, A.J. and C.J. Stanley, Eds. (1993) Quantitative data file for ore minerals, 3rd ed. Chapman & Hall, London, 536.