

STILPNOMELANE

Chemical formula: $K(\text{Fe}^{2+}, \text{Mg}, \text{Fe}^{3+})_8[(\text{OH})_8(\text{Si}, \text{Al})_{12}\text{O}_{28}] \cdot 2\text{H}_2\text{O}$

Crystal system: triclinic

Color in thin section: distinctly pleochroic with:

X = pale yellow to golden yellow

Y = Z = brown, reddish brown, greenish brown, dark green, black

Form: micaceous flakes or tablets with irregular outlines, often arranged in radiating, plumose or sheaflike aggregates

Cleavage: good on {001}, poor on {010}

Indices of refraction: $n_\alpha = 1.543 - 1.634$ $n_\beta = 1.576 - 1.745$ $n_\gamma = 1.576 - 1.745$

Birefringence: 0.030 – 0.110

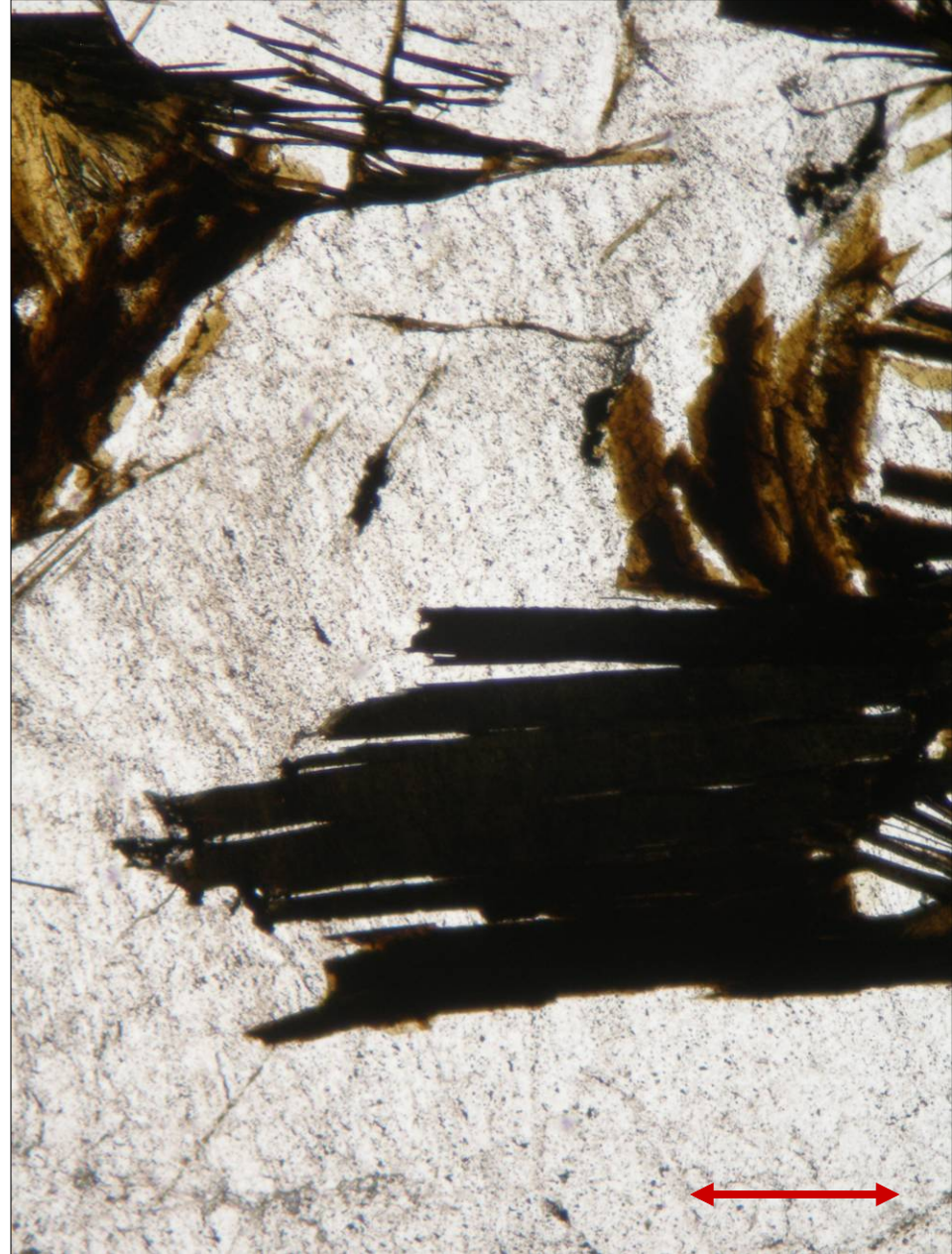
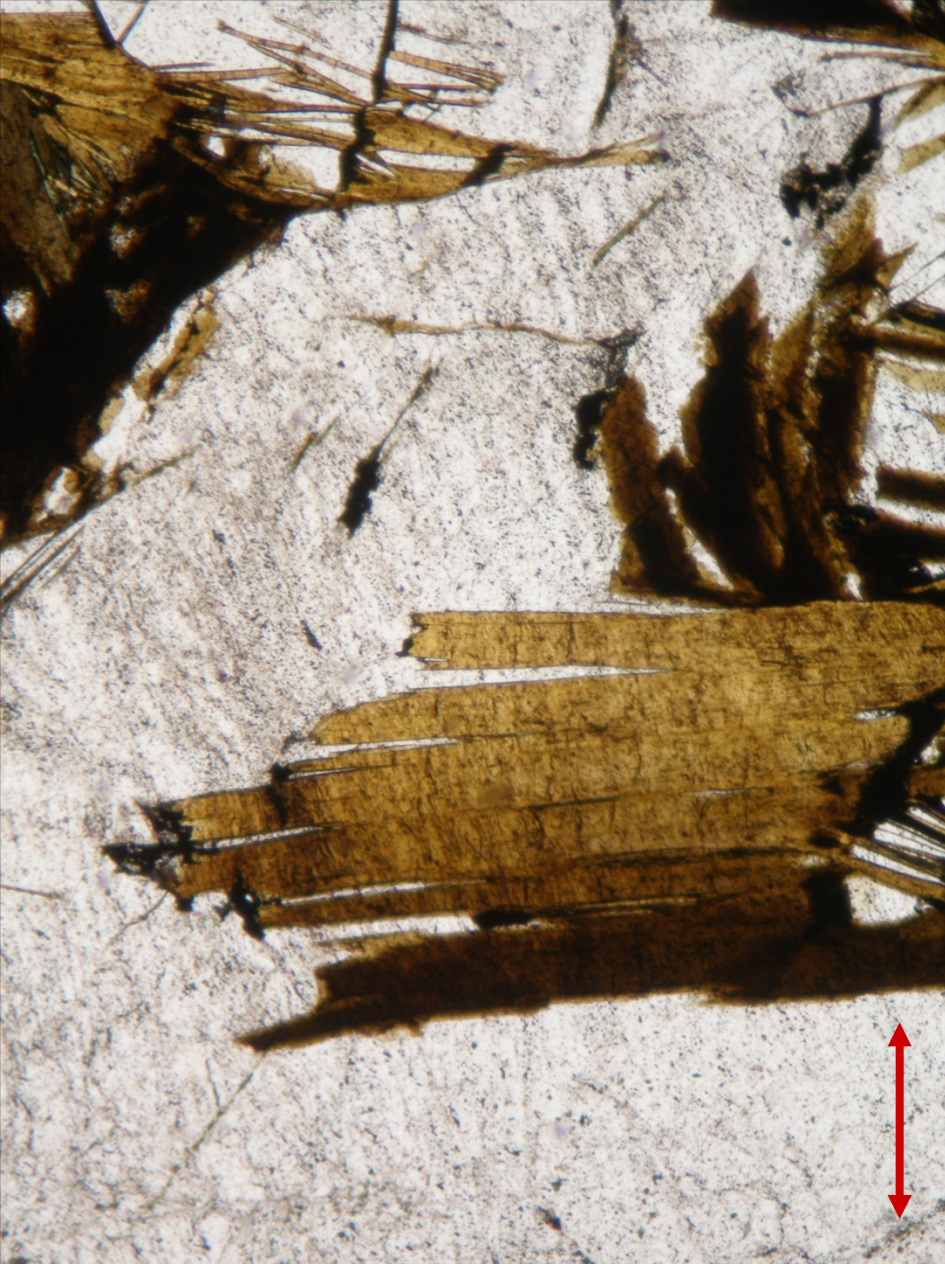
Optic sign: biaxial negative

Sign of elongation: positive

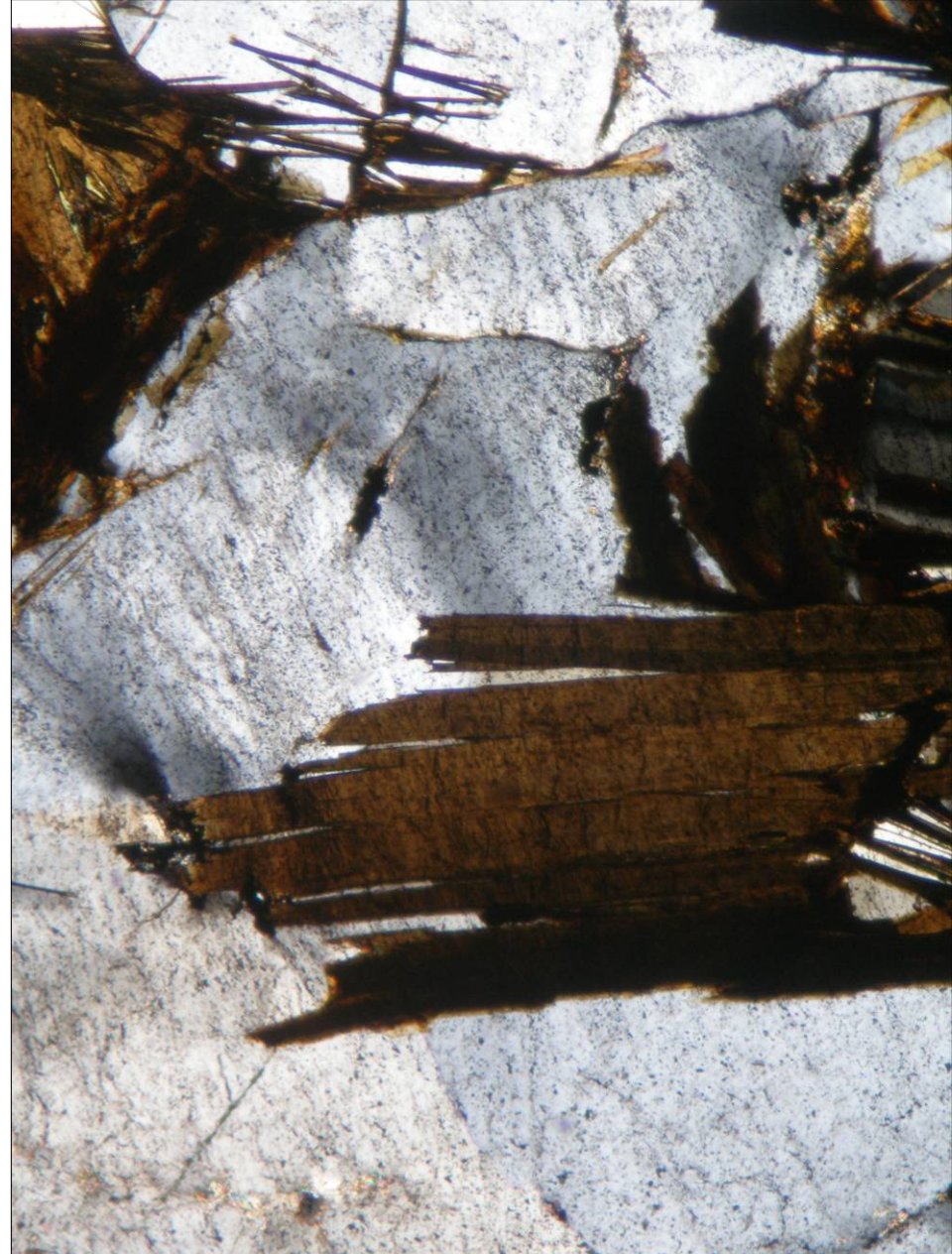
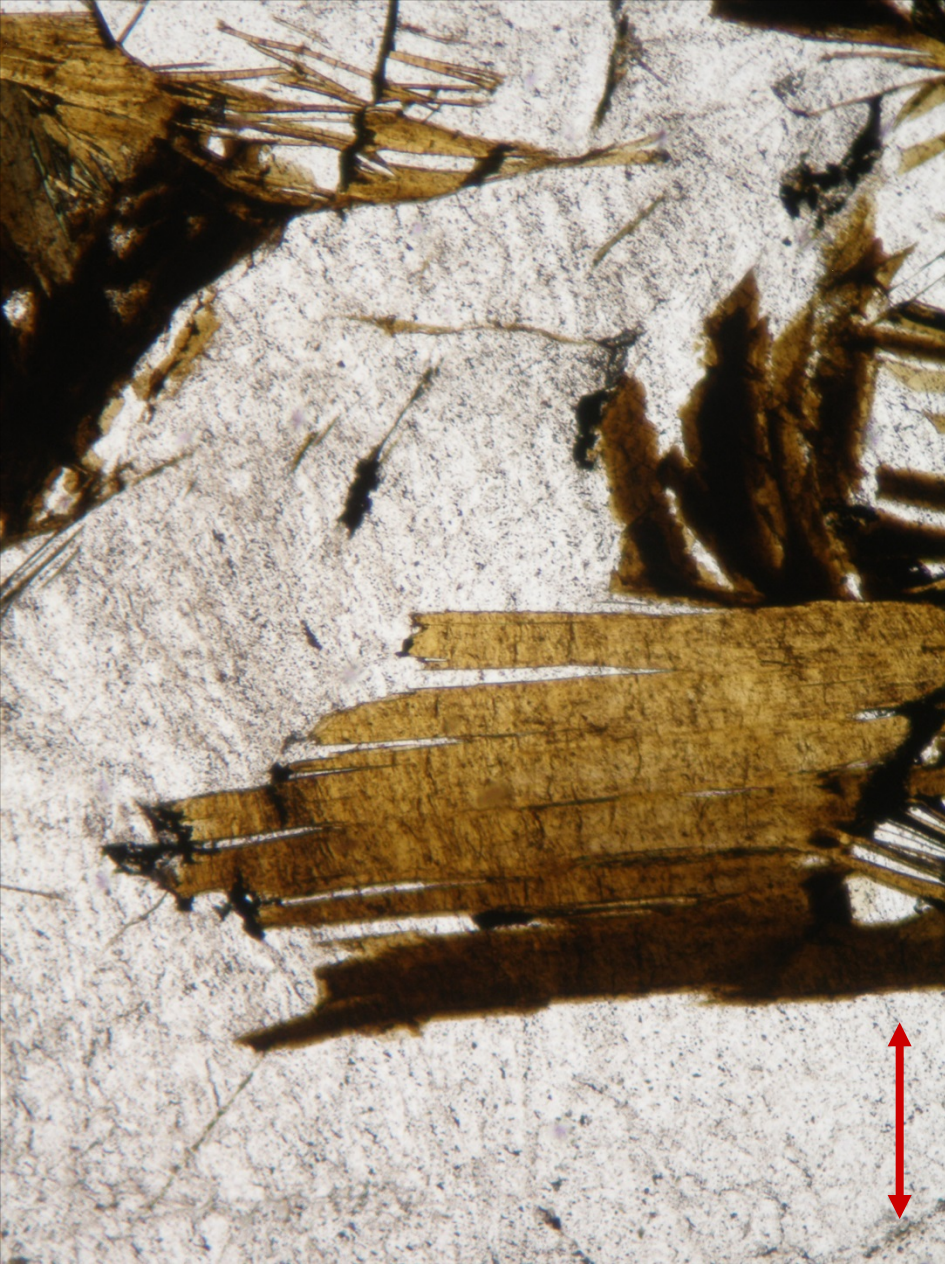
Alteration: may alter to chlorite, clay minerals and iron oxides

Occurrence: stilpnomelane schist, metamorphosed iron ores of sedimentary origin

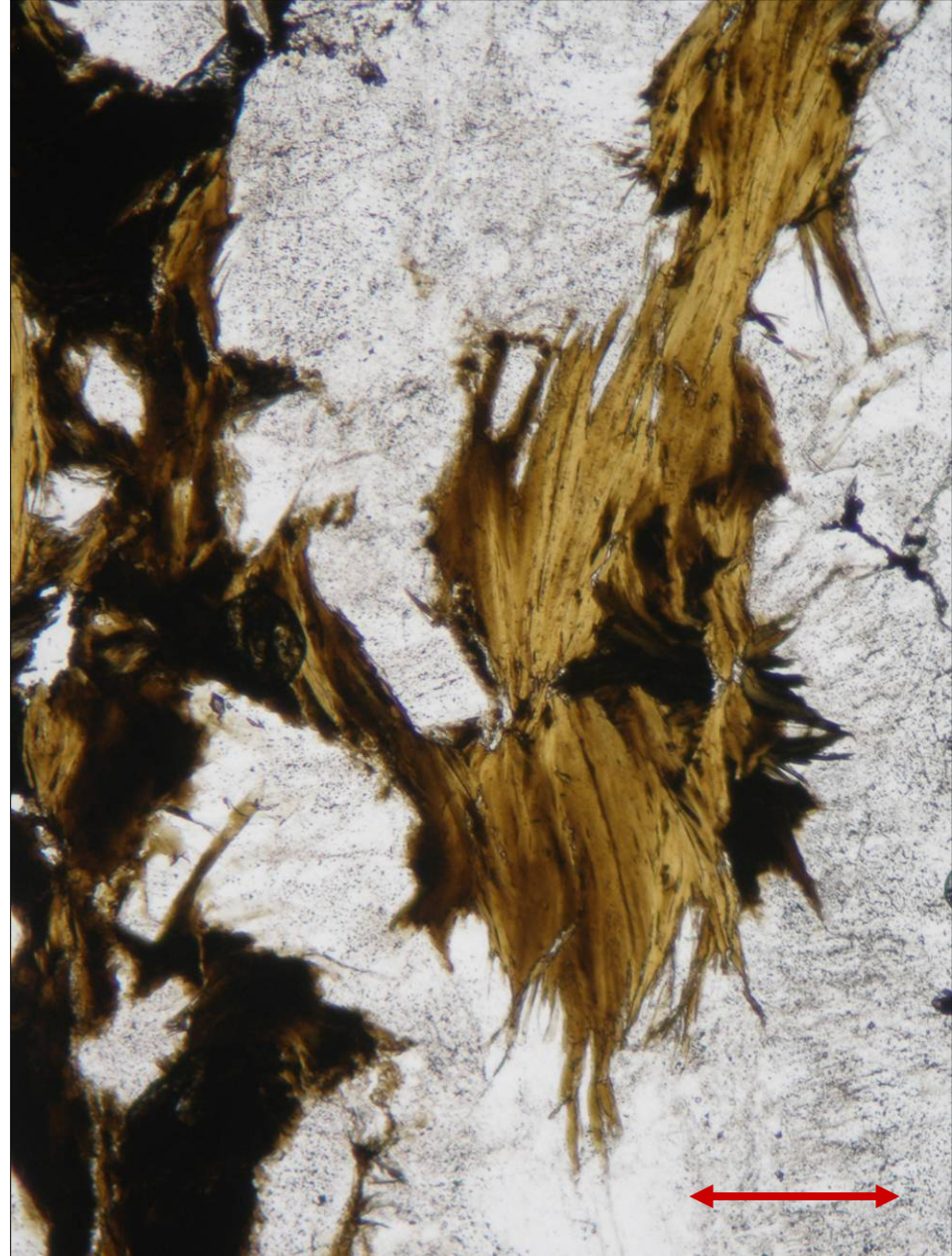
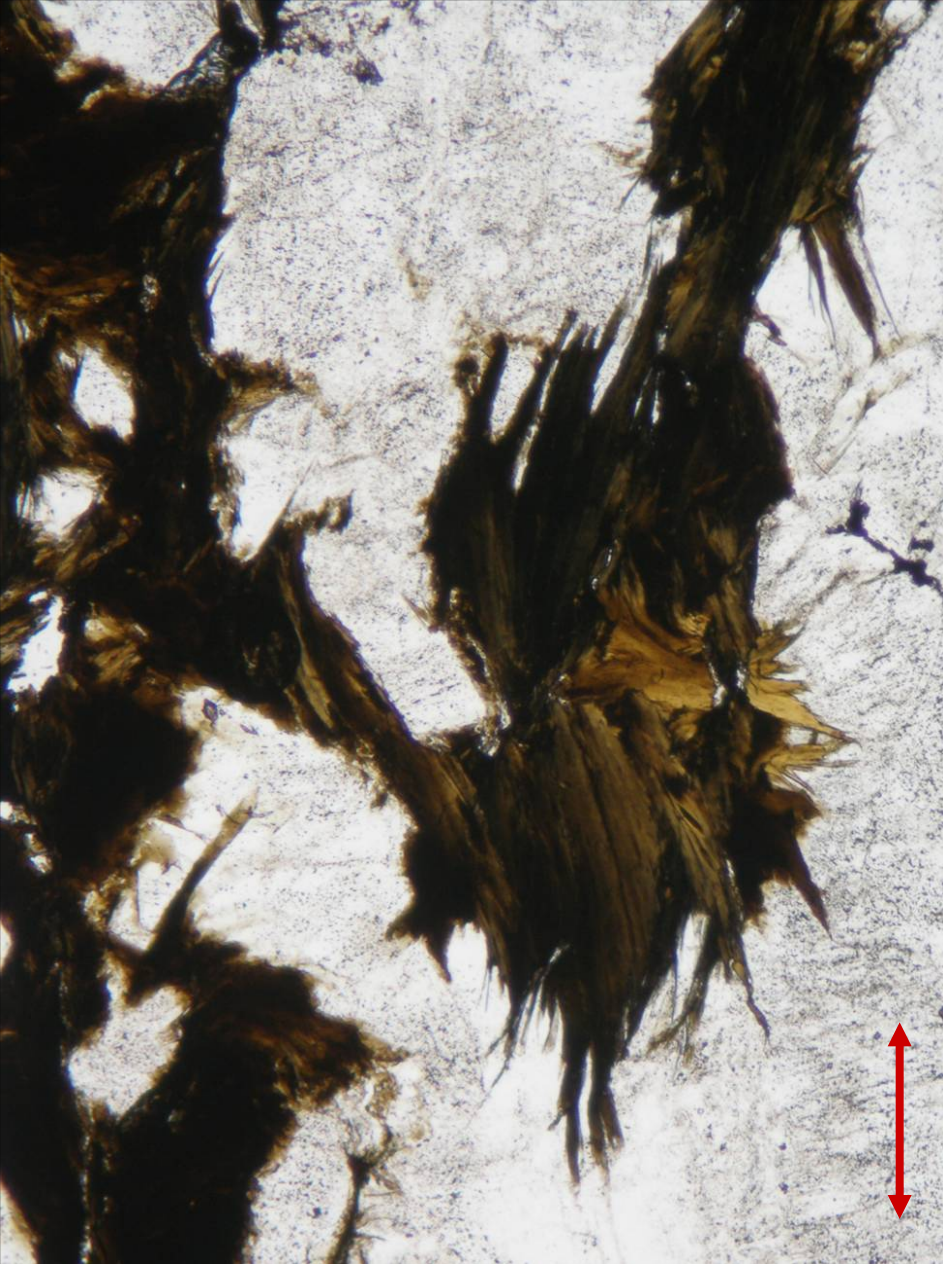
Similar minerals in thin sections: biotite (perfect basal cleavage), chloritoid (lower birefringence), chlorite (lower birefringence)



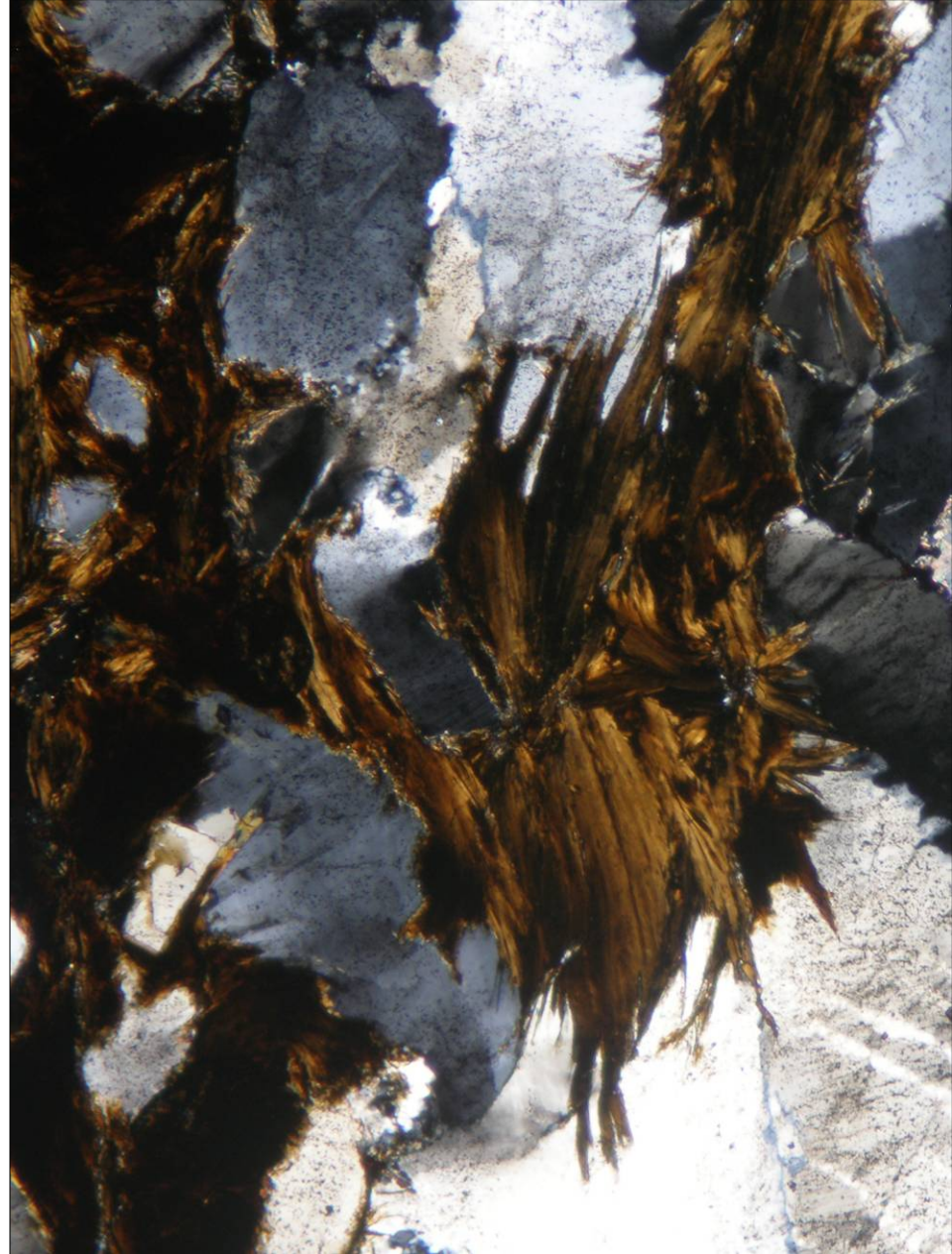
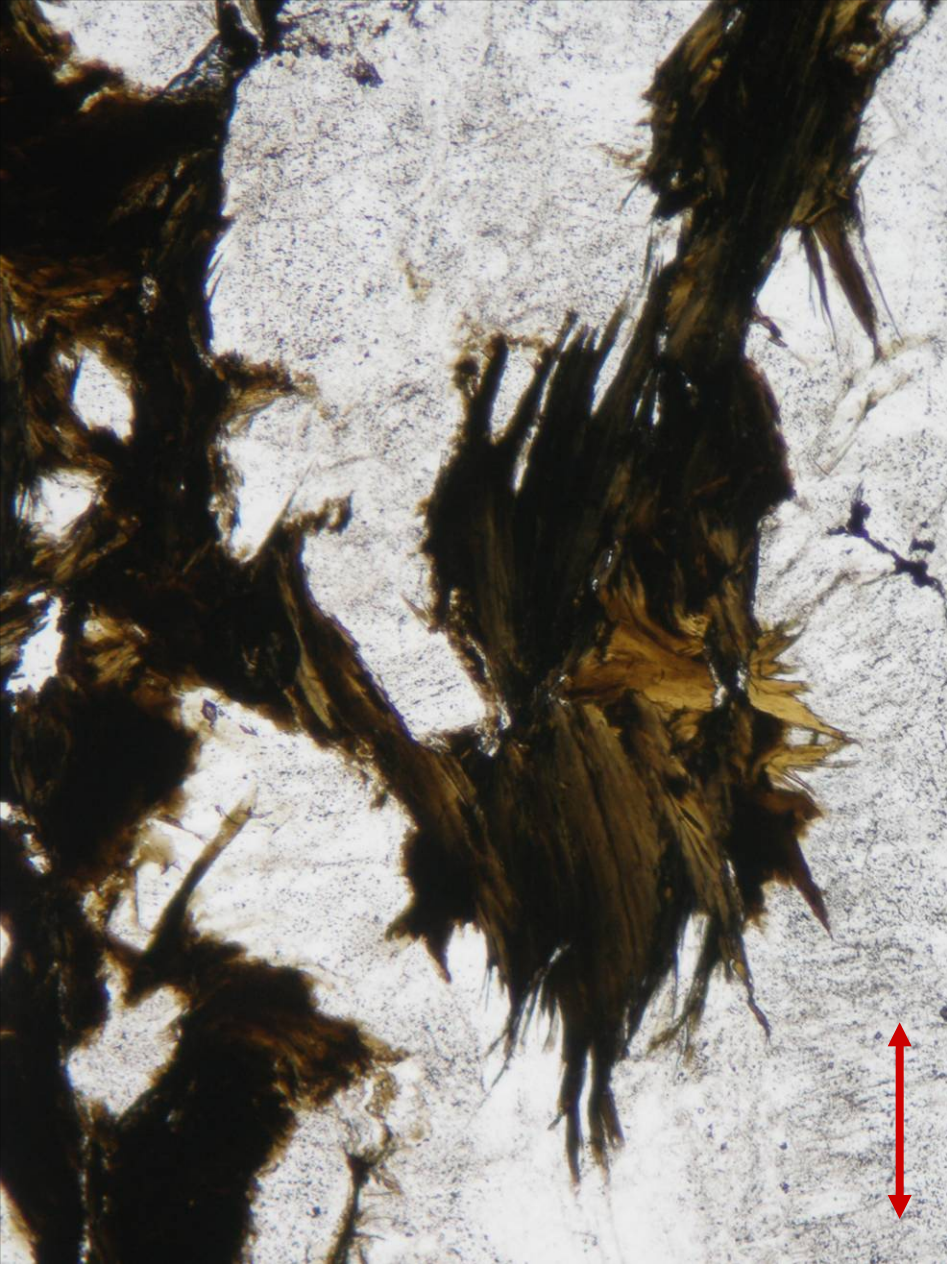
Strong pleochroism of stilpnomelane in a quartz vein from Malá Morávka, the Czech Republic; PPL. Width of fields of view is ca. 0.8 mm. Photo: JiZi.



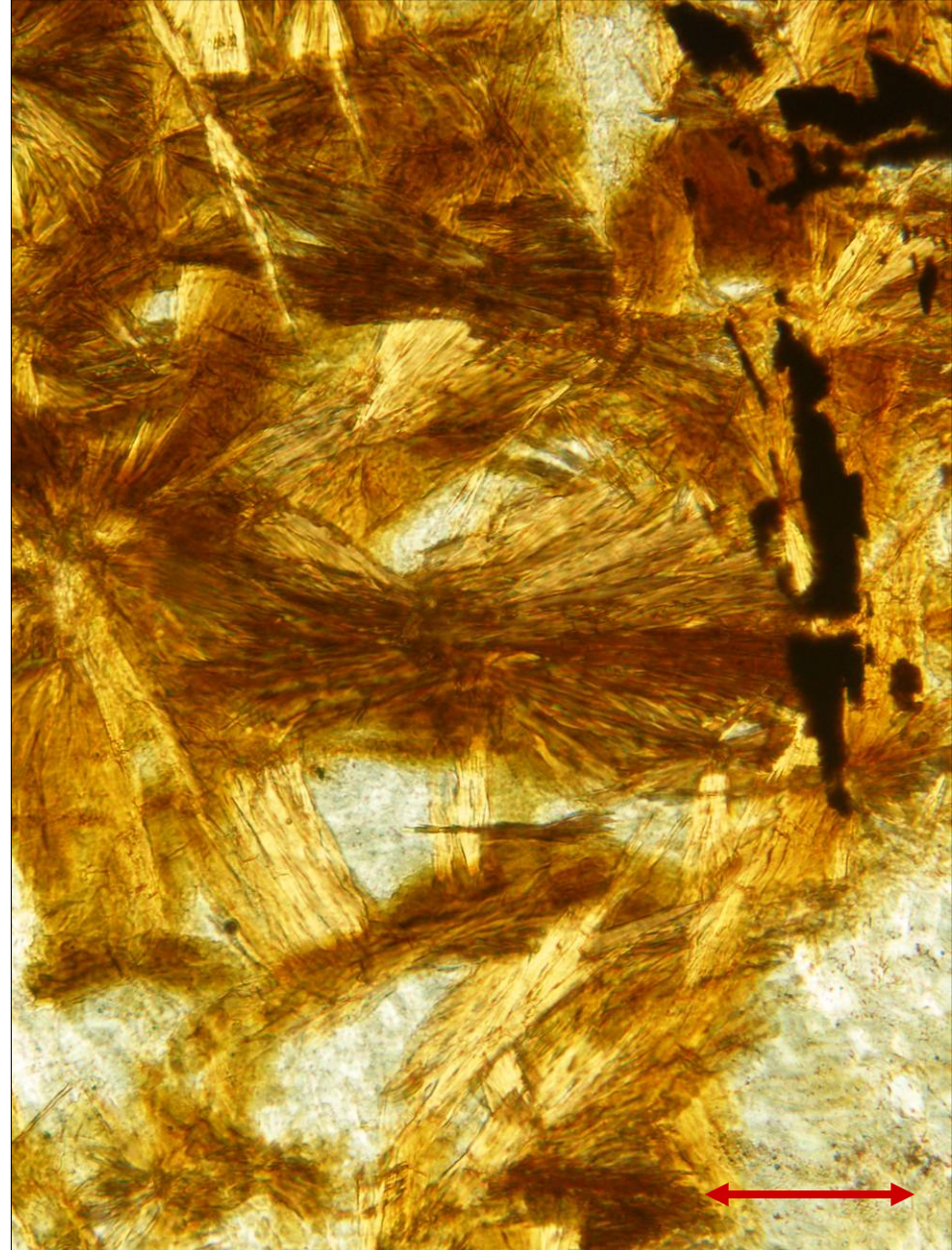
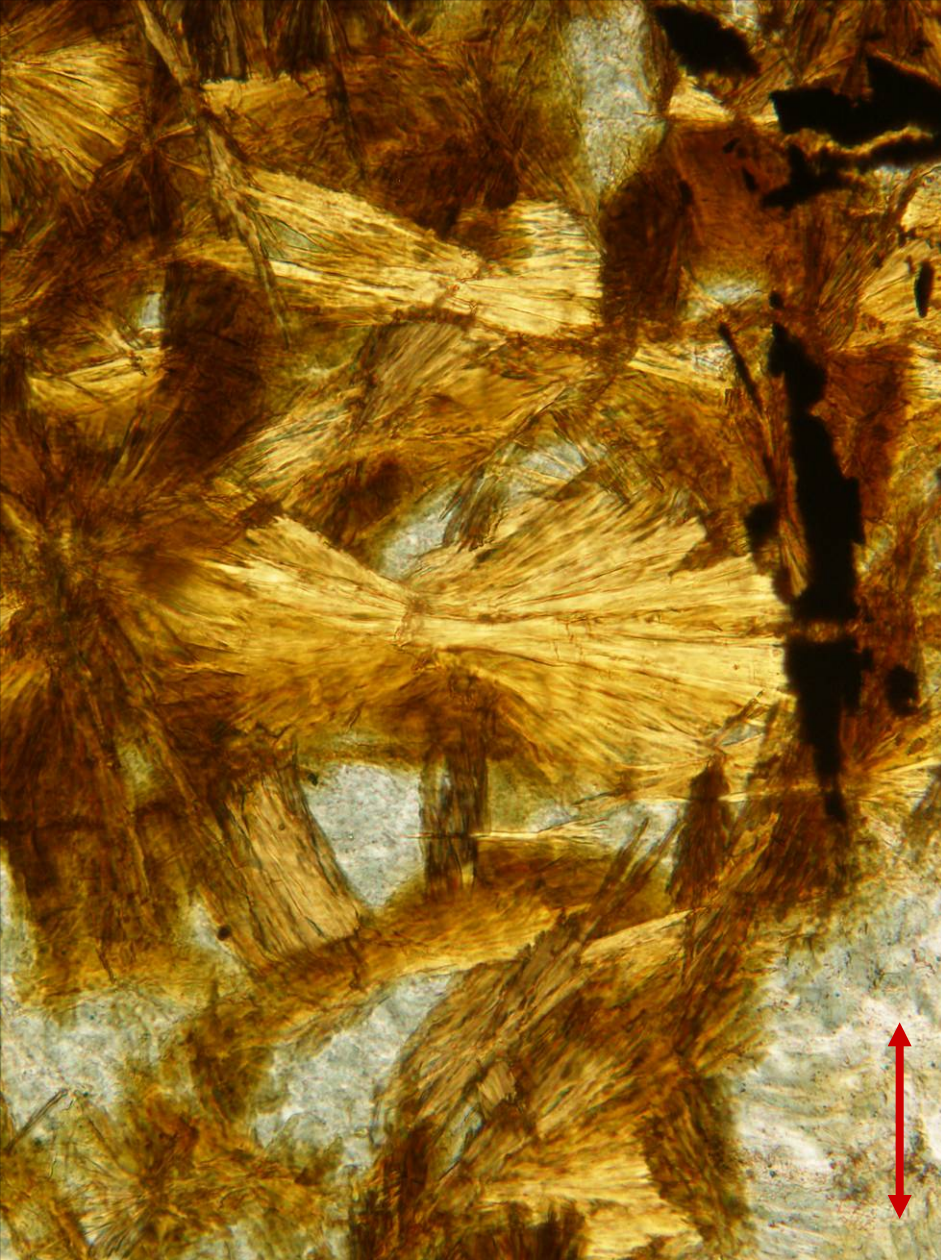
Stilpnomelane in a quartz vein from Malá Morávka, the Czech Republic; PPL (left) and XPL (right). Width of fields of view is ca. 0.8 mm. Photo: JiZi.



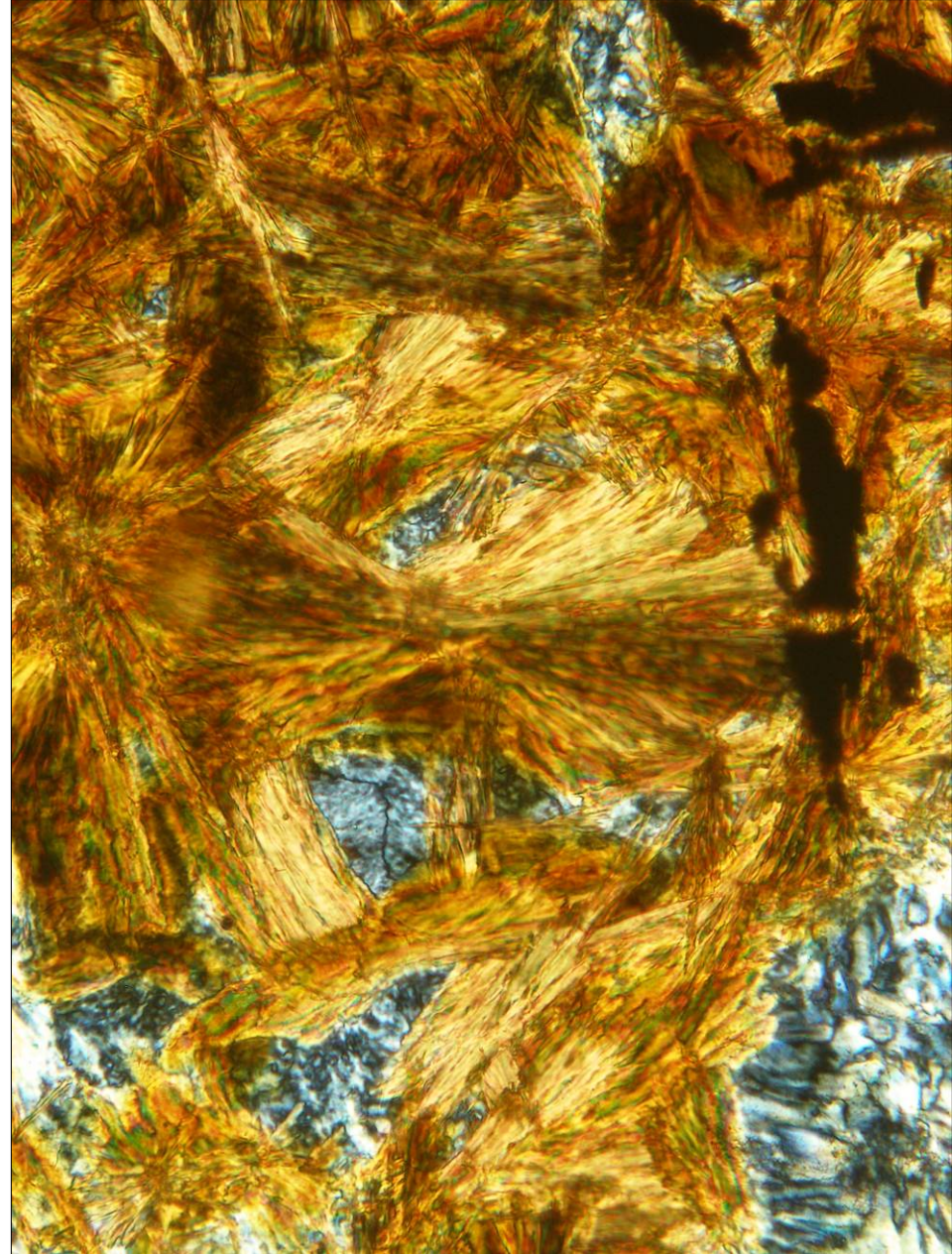
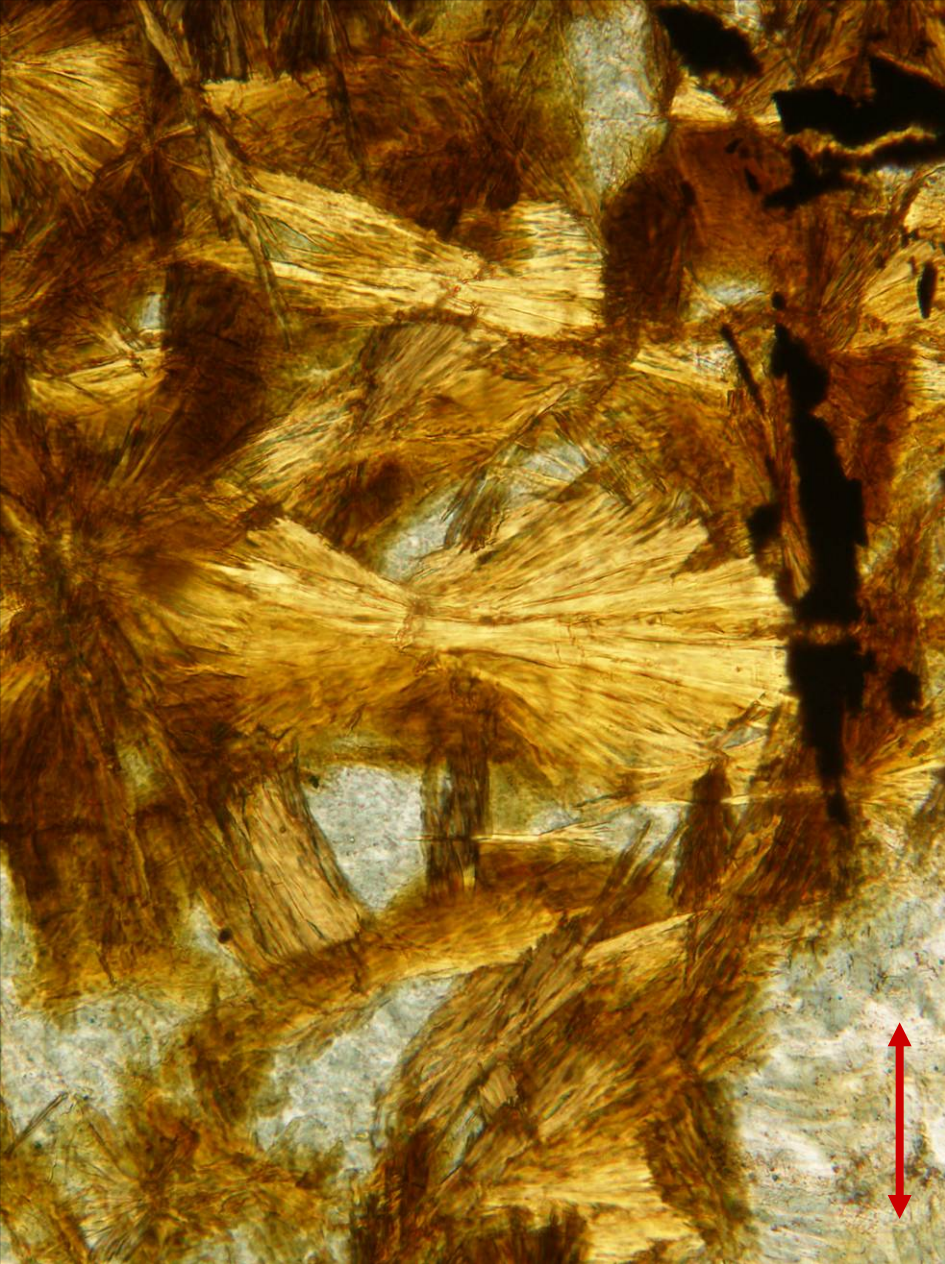
Strongly pleochroic stilpnomelane in a quartz vein from Čabová, the Czech Republic; PPL. Width of fields of view is ca. 1.2 mm. Photo: JiZi.



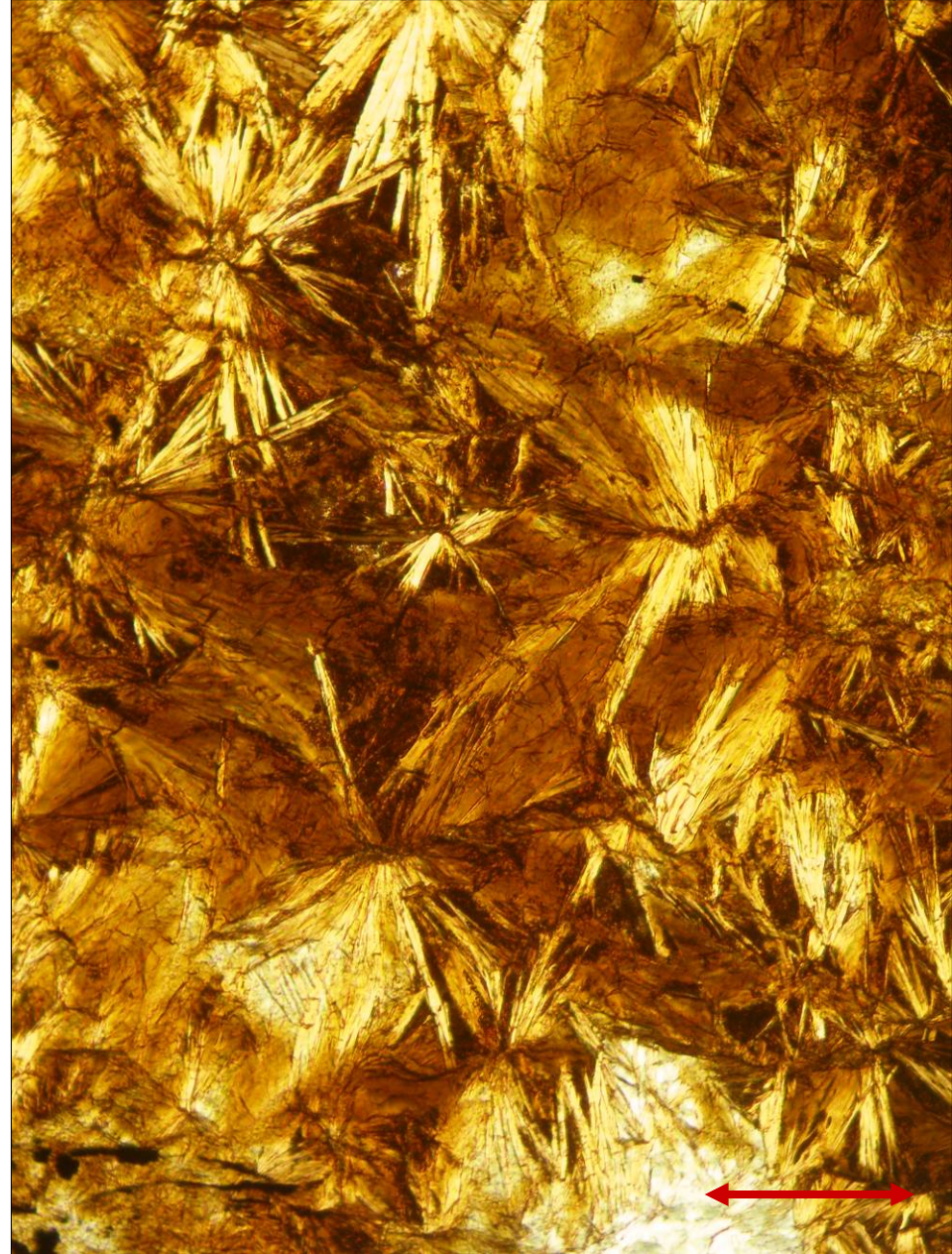
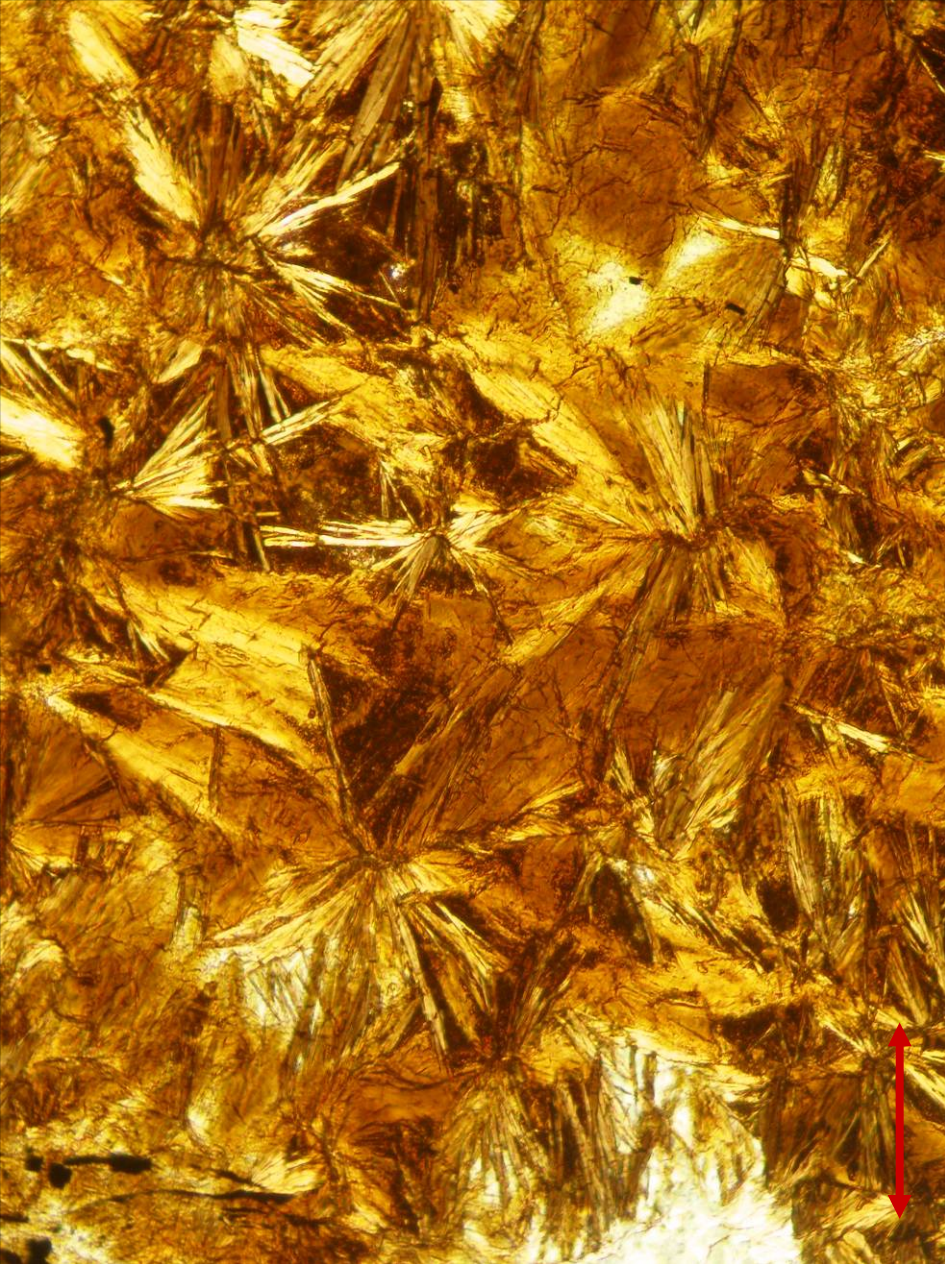
Stilpnomelane in a quartz vein from Čabová, the Czech Republic; PPL (left) and XPL (right). Width of fields of view is ca. 1.2 mm. Photo: JiZi.



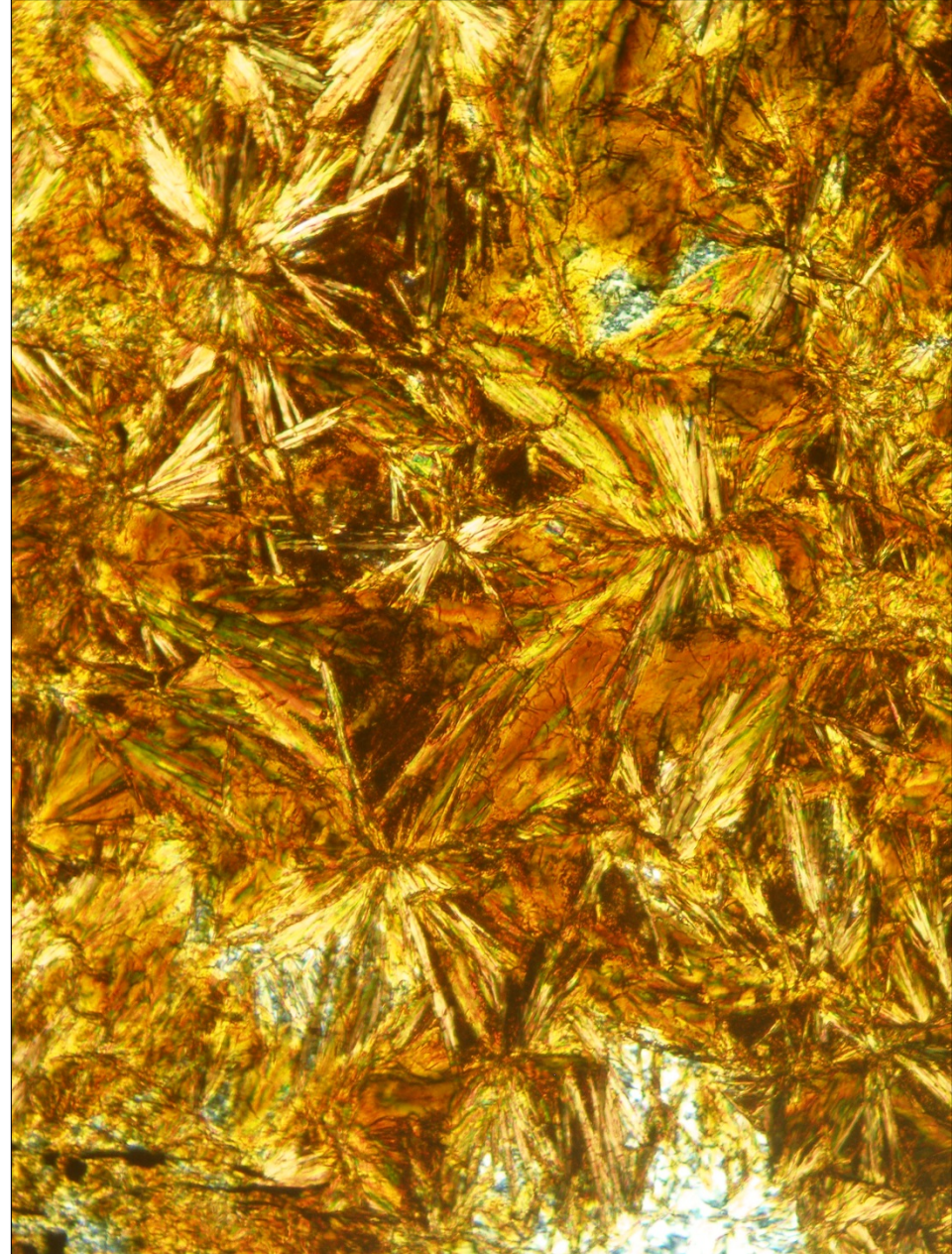
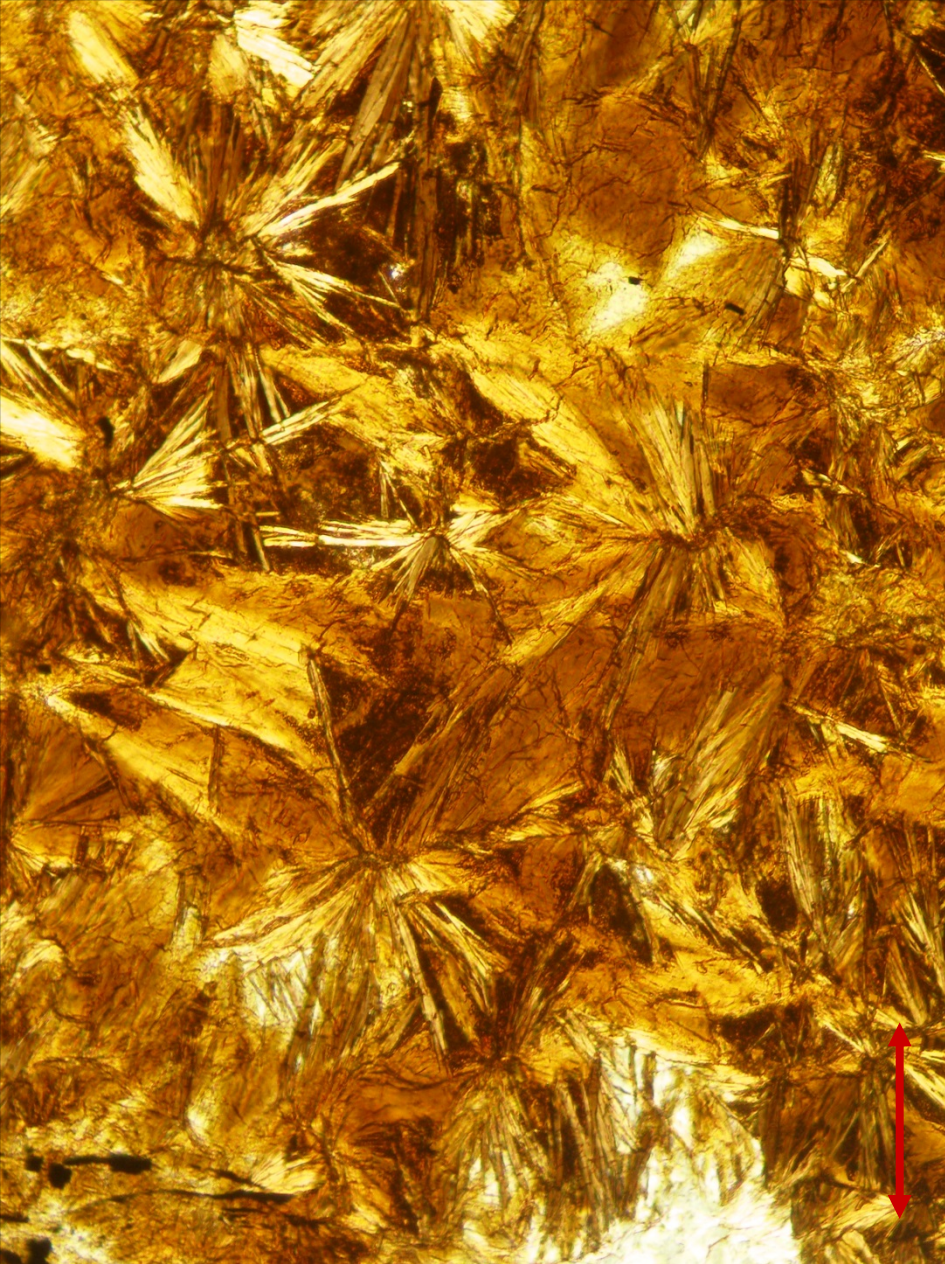
Strong pleochroism of stilpnomelane in iron ore from Chabičov, the Czech Republic; PPL. Width of fields of view is ca. 0.3 mm. Photo: JiZi.



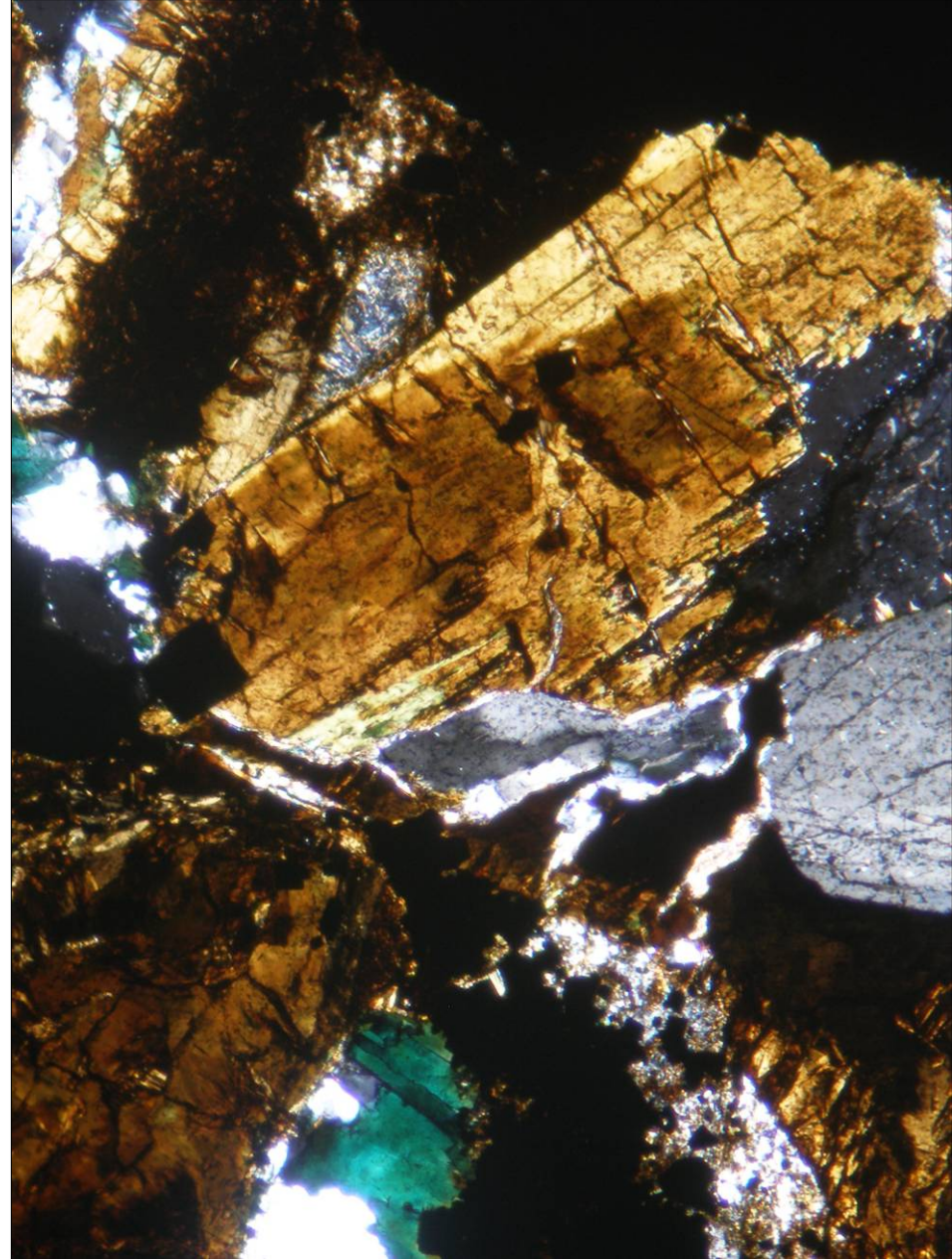
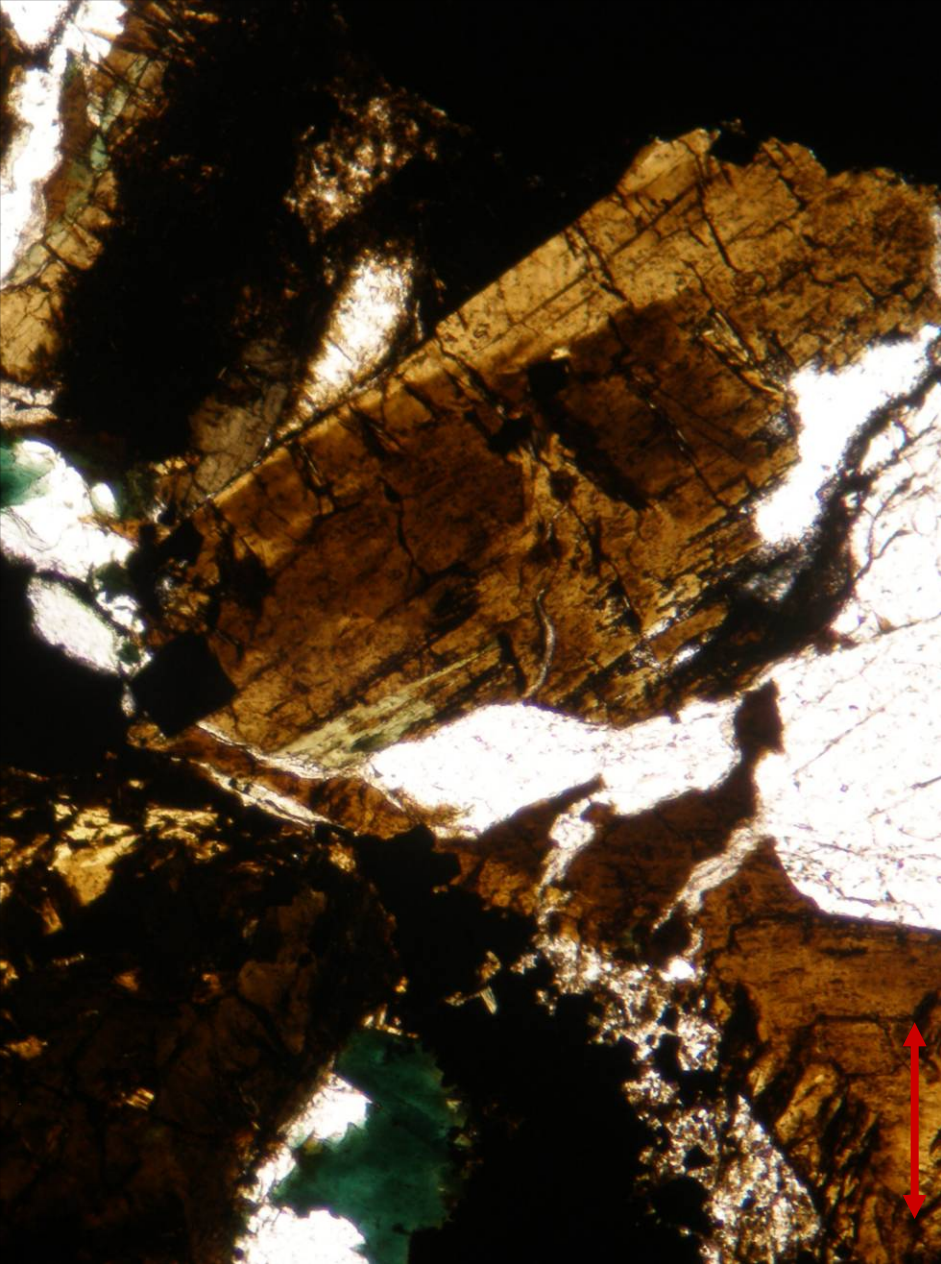
Stilpnomelane in iron ore from Chabičov, the Czech Republic; PPL (left) and XPL (right). Width of fields of view is ca. 0.3 mm. Photo: JiZi.



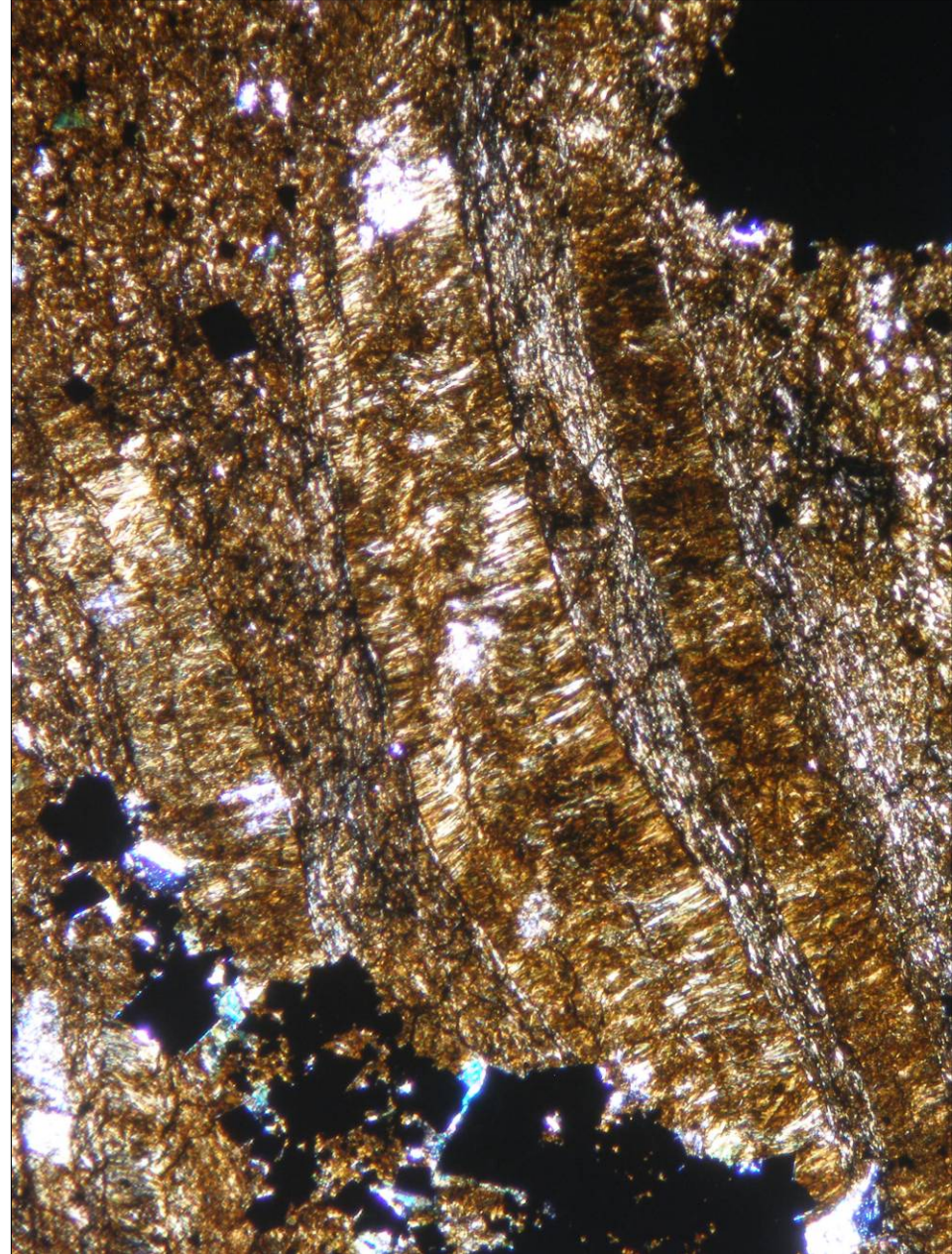
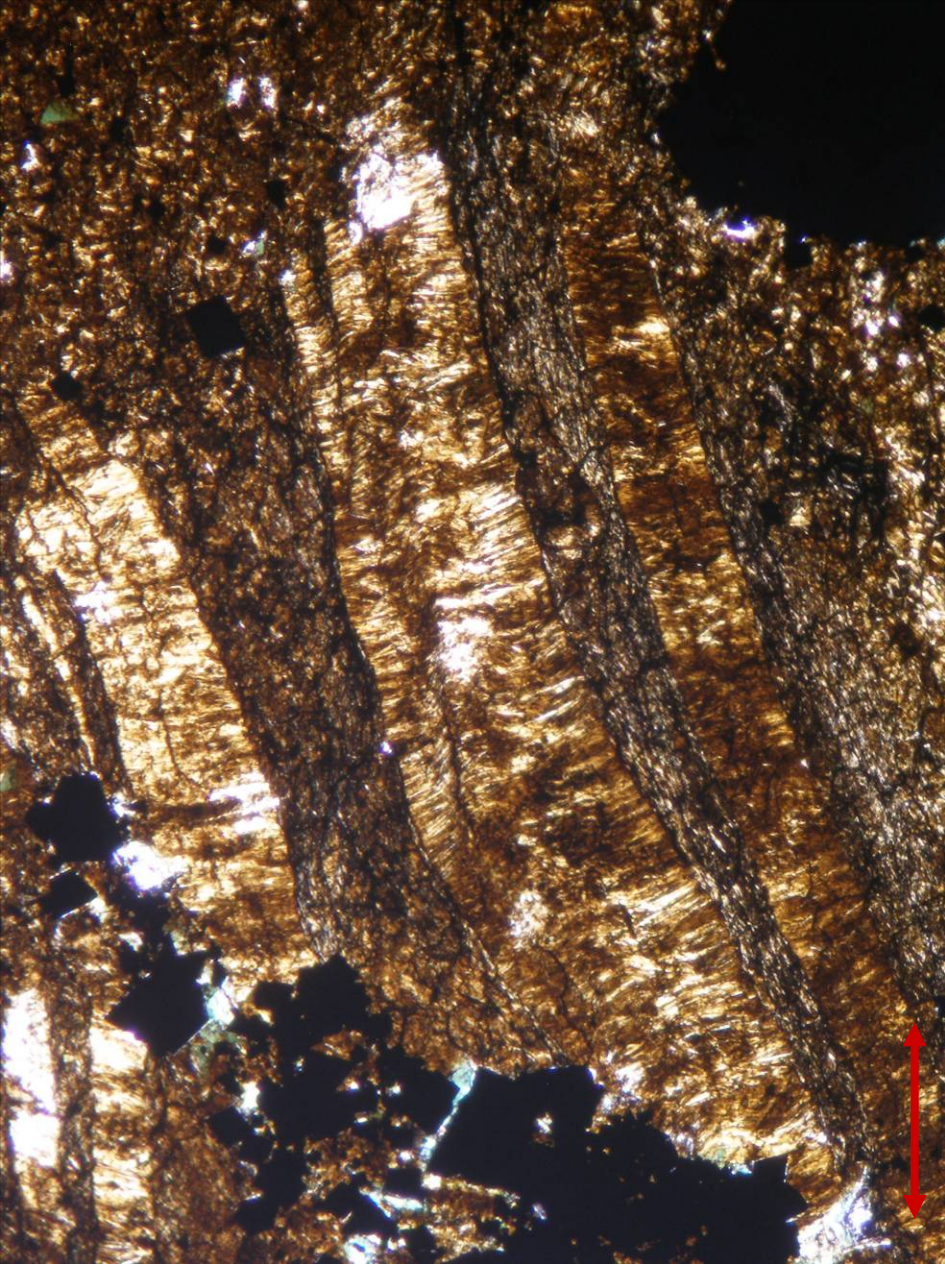
Strong pleochroism of stilpnomelane in iron ore from Chabičov, the Czech Republic; PPL. Width of fields of view is ca. 0.8 mm. Photo: JiZi.



Stilpnomelane in iron ore from Chabičov, the Czech Republic; PPL (left) and XPL (right). Width of fields of view is ca. 0.8 mm. Photo: JiZi.



Stilpnomelane in iron ore from Horní Moravice, the Czech Republic; PPL (left) and XPL (right). Width of fields of view is ca. 1.5 mm. Photo: JiZi.



Stilpnomelane in iron ore from Horní Moravice, the Czech Republic; PPL (left) and XPL (right). Width of fields of view is ca. 2.0 mm. Photo: JiZi.