

APATITE

Chemical formula: $\text{Ca}_5(\text{PO}_4)_3\text{F}$ apatite-(CaF)

$\text{Ca}_5(\text{PO}_4)_3\text{Cl}$ apatite-(CaCl)

Crystal system: hexagonal

Color in thin section: colorless

Form: prismatic crystals, allotriomorphic grains

Cleavage: poor on {0001}

Indices of refraction: $n_\omega = 1.633 - 1.667$ $n_\epsilon = 1.629 - 1.665$

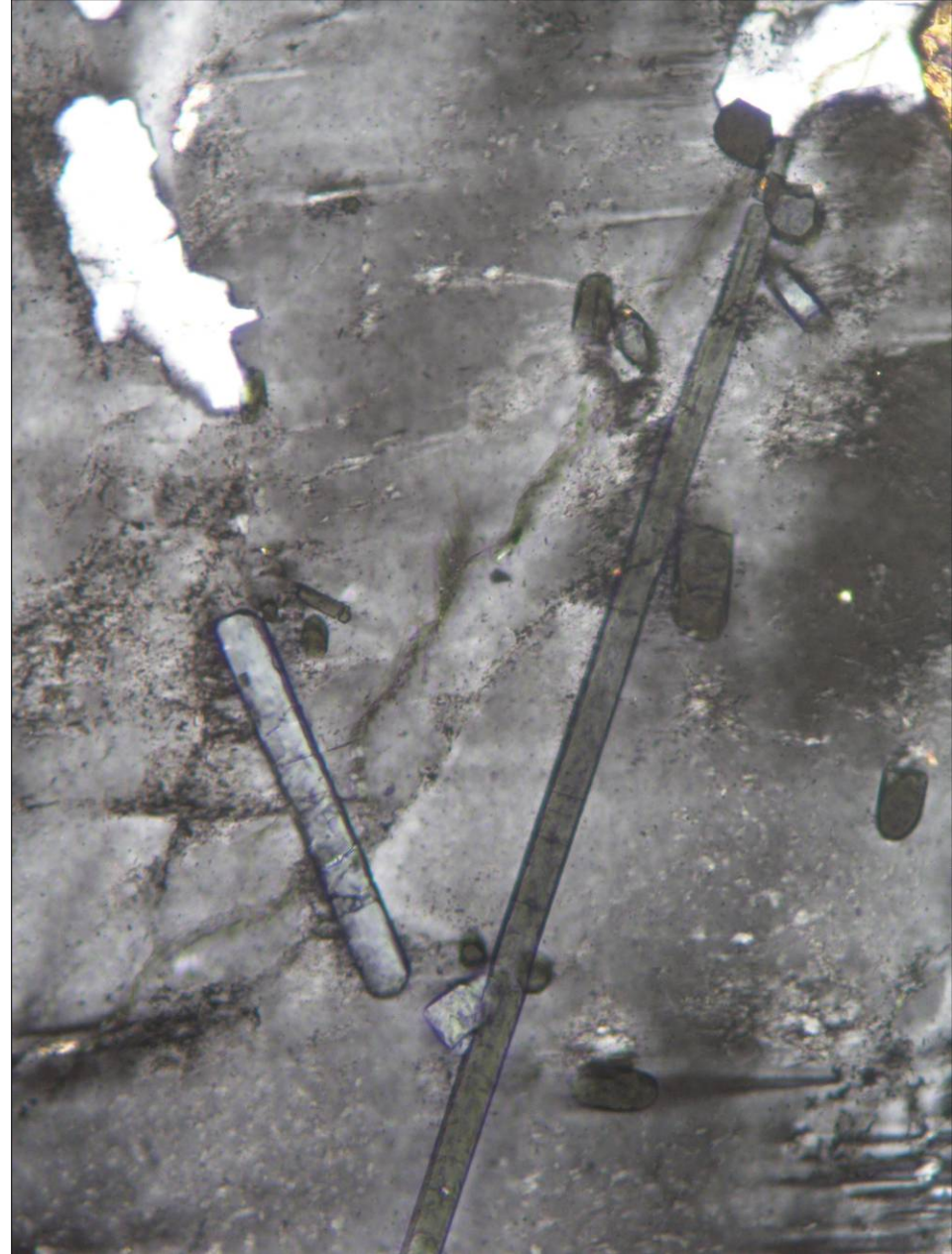
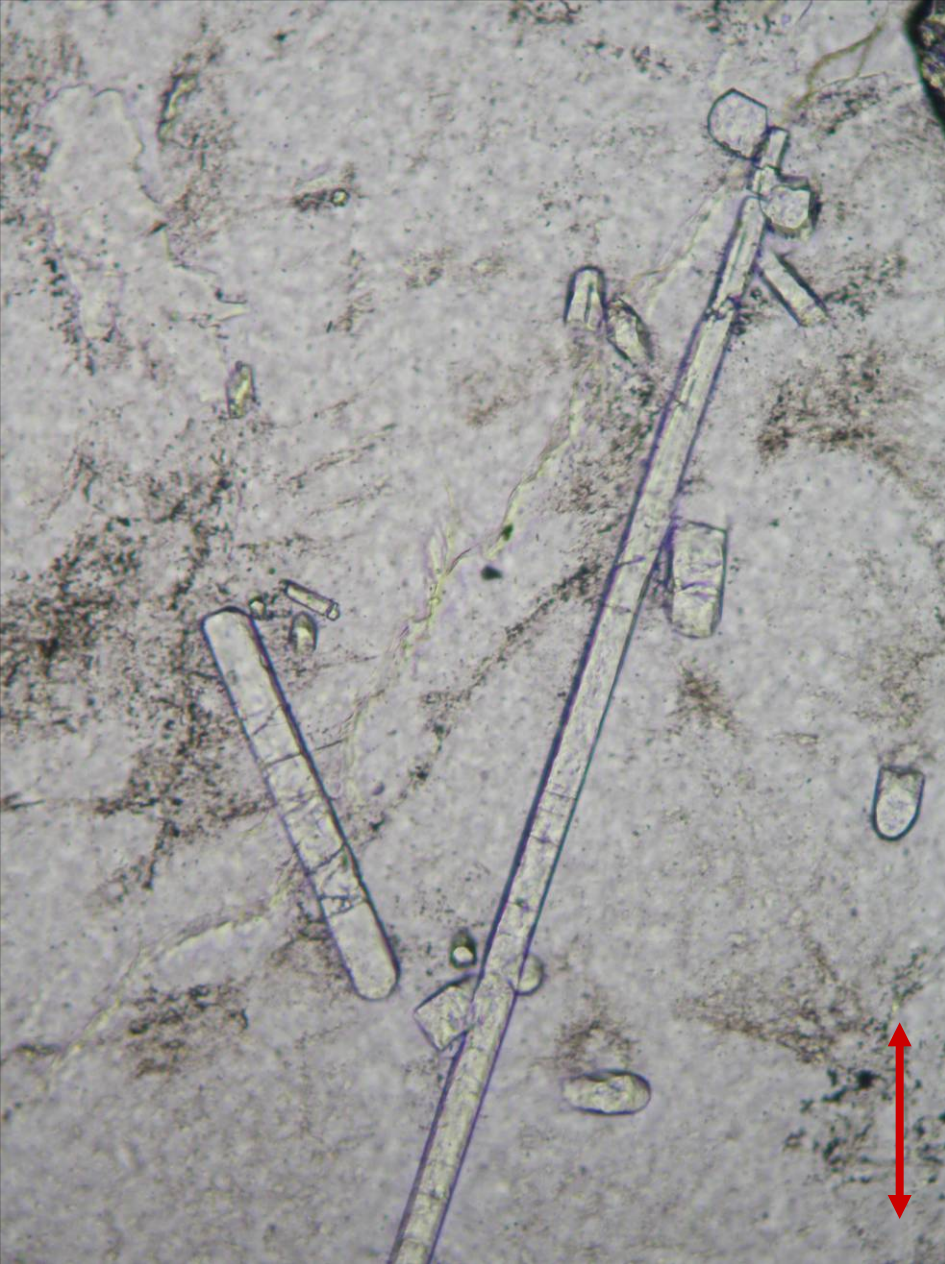
Birefringence: 0.001 – 0.007

Optic sign: uniaxial negative

Sign of elongation: negative

Occurrence: a very common accessory mineral in a wide variety of igneous and metamorphic rocks

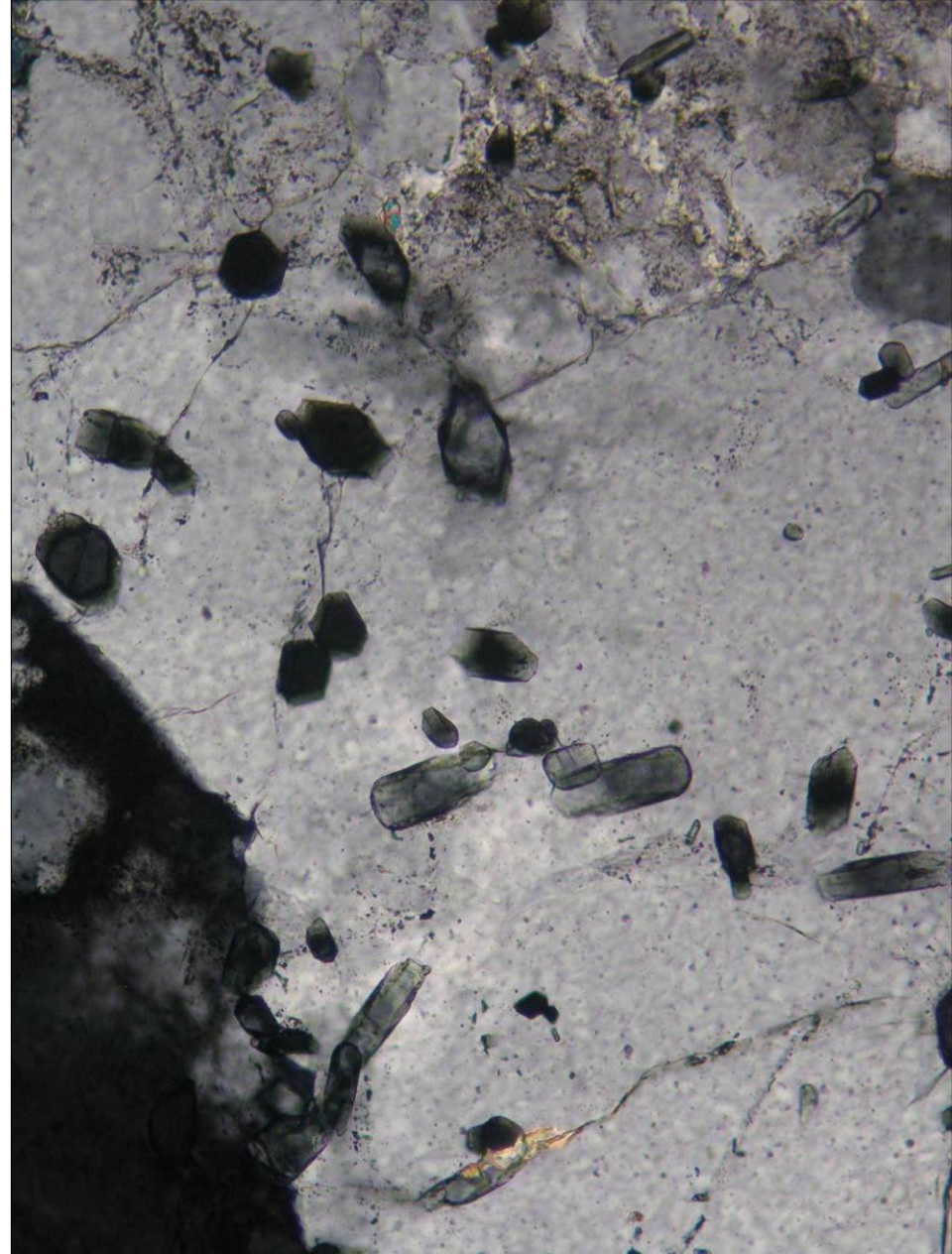
Note: apatite inclusions in biotite or amphibole may be rimmed with dark pleochroic halos



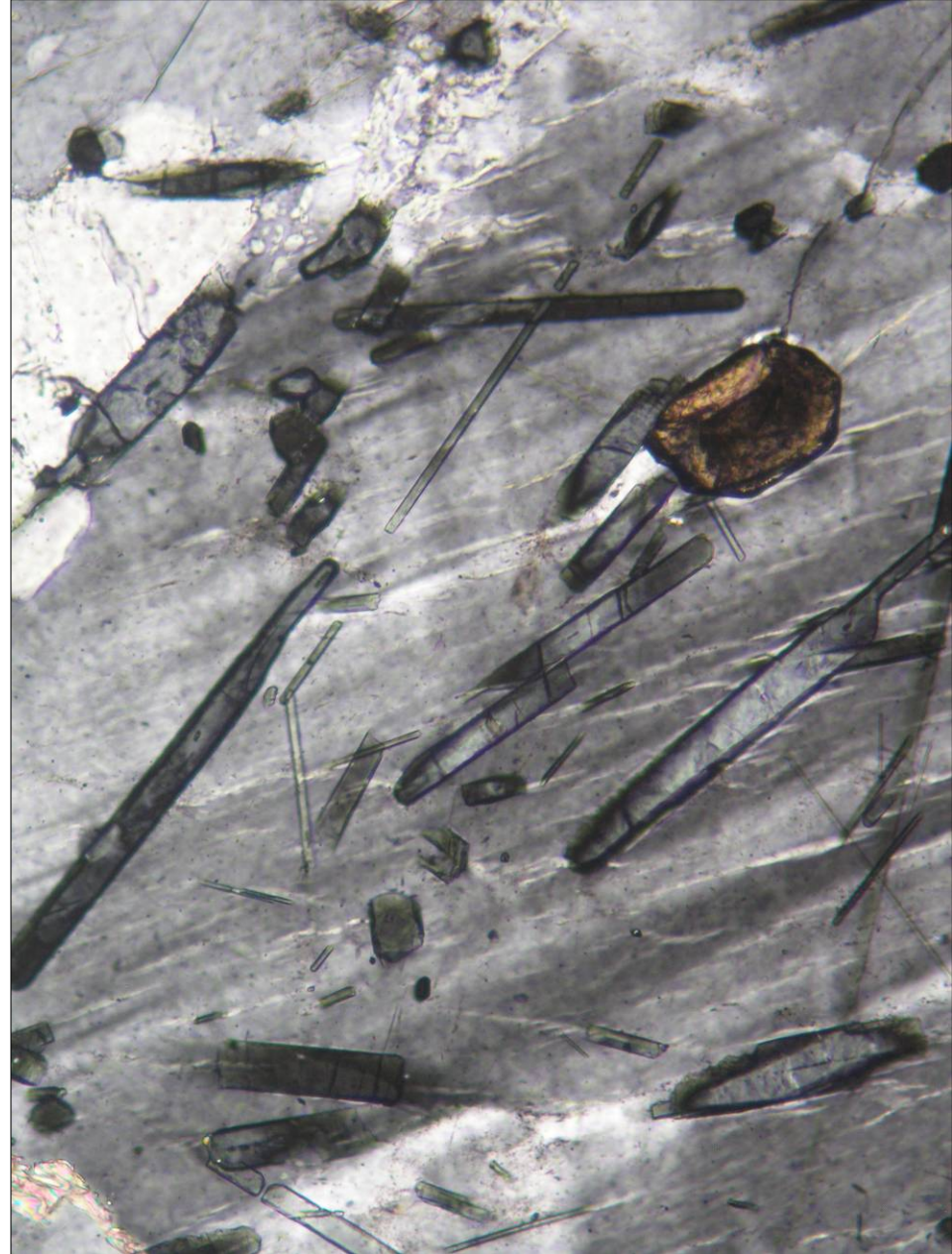
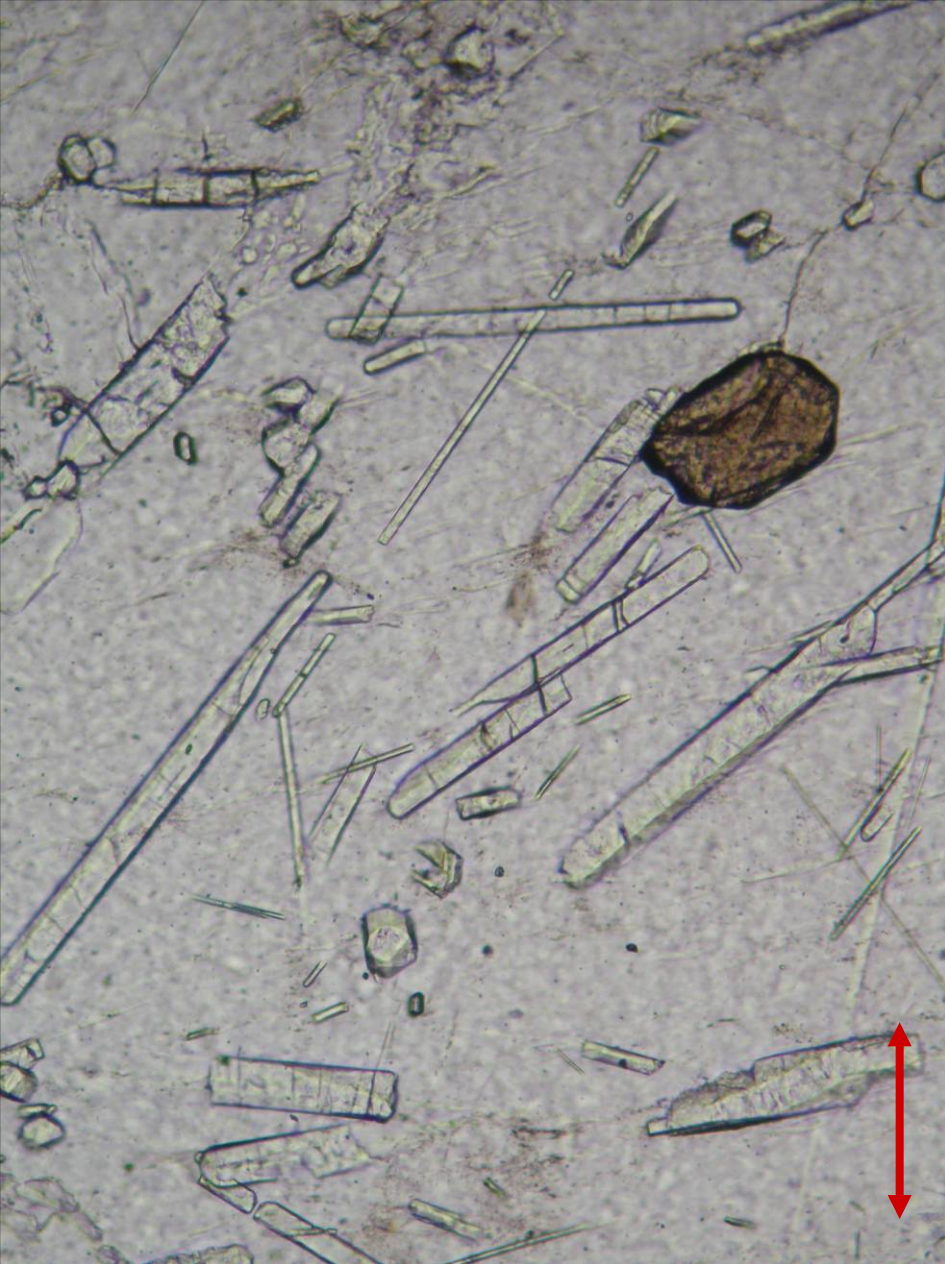
Apatite in pegmatite from Žulová, the Czech Republic; PPL (left) and XPL (right). Width of fields of view is ca. 0.7 mm. Photo: JiZi.



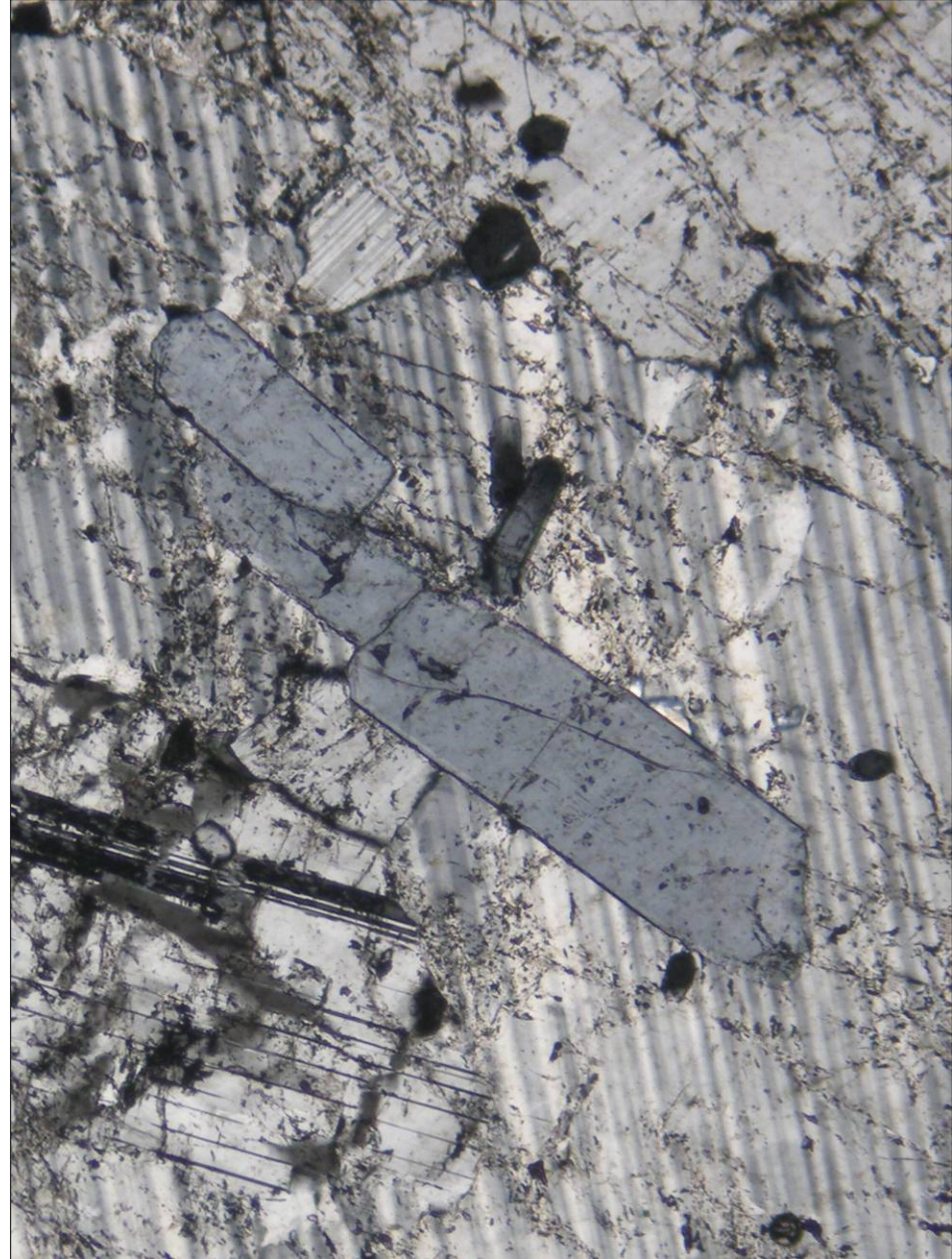
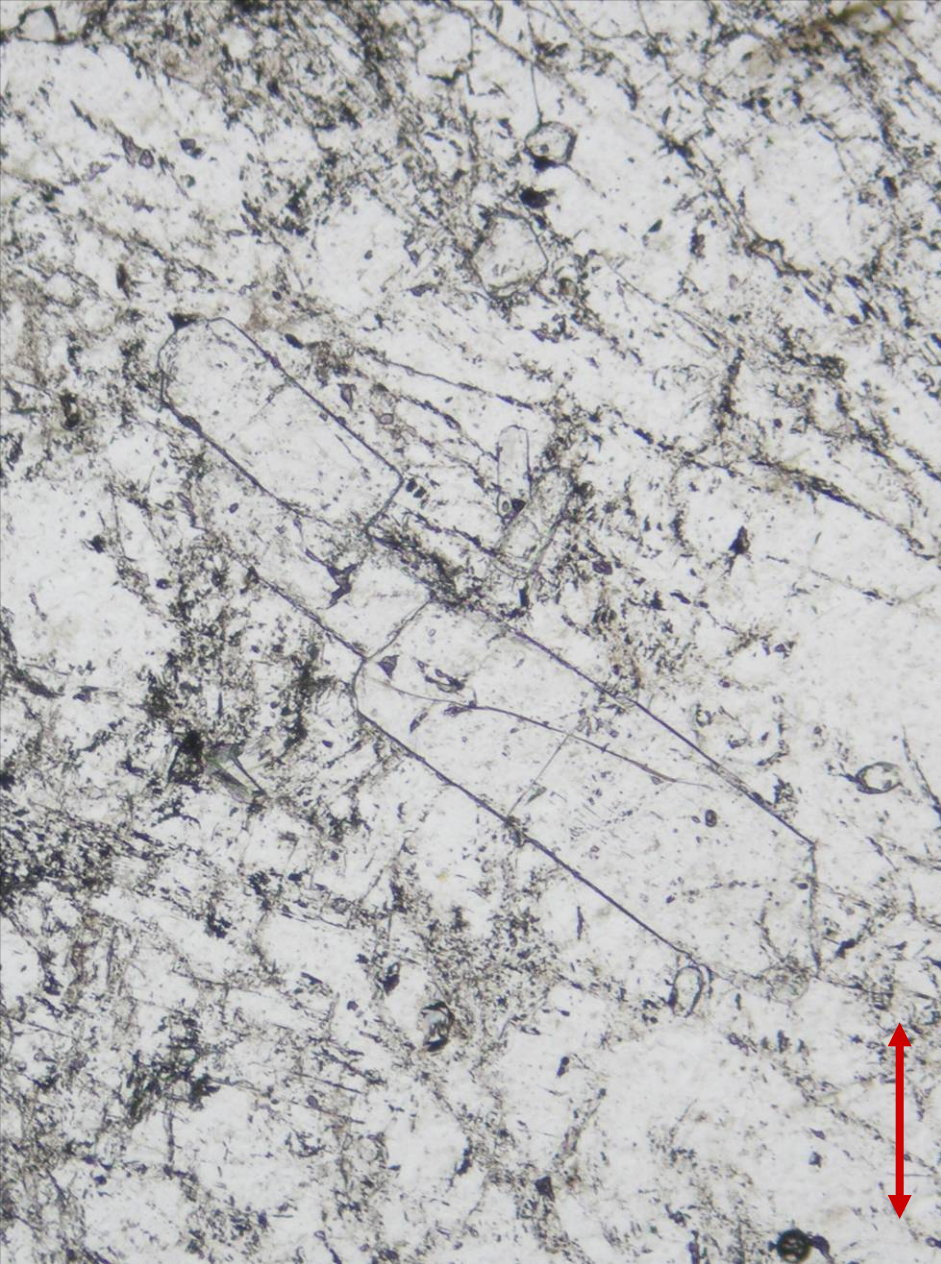
Apatite in pegmatite from Žulová, the Czech Republic; PPL (left) and XPL (right). Width of fields of view is ca. 0.7 mm. Photo: JiZi



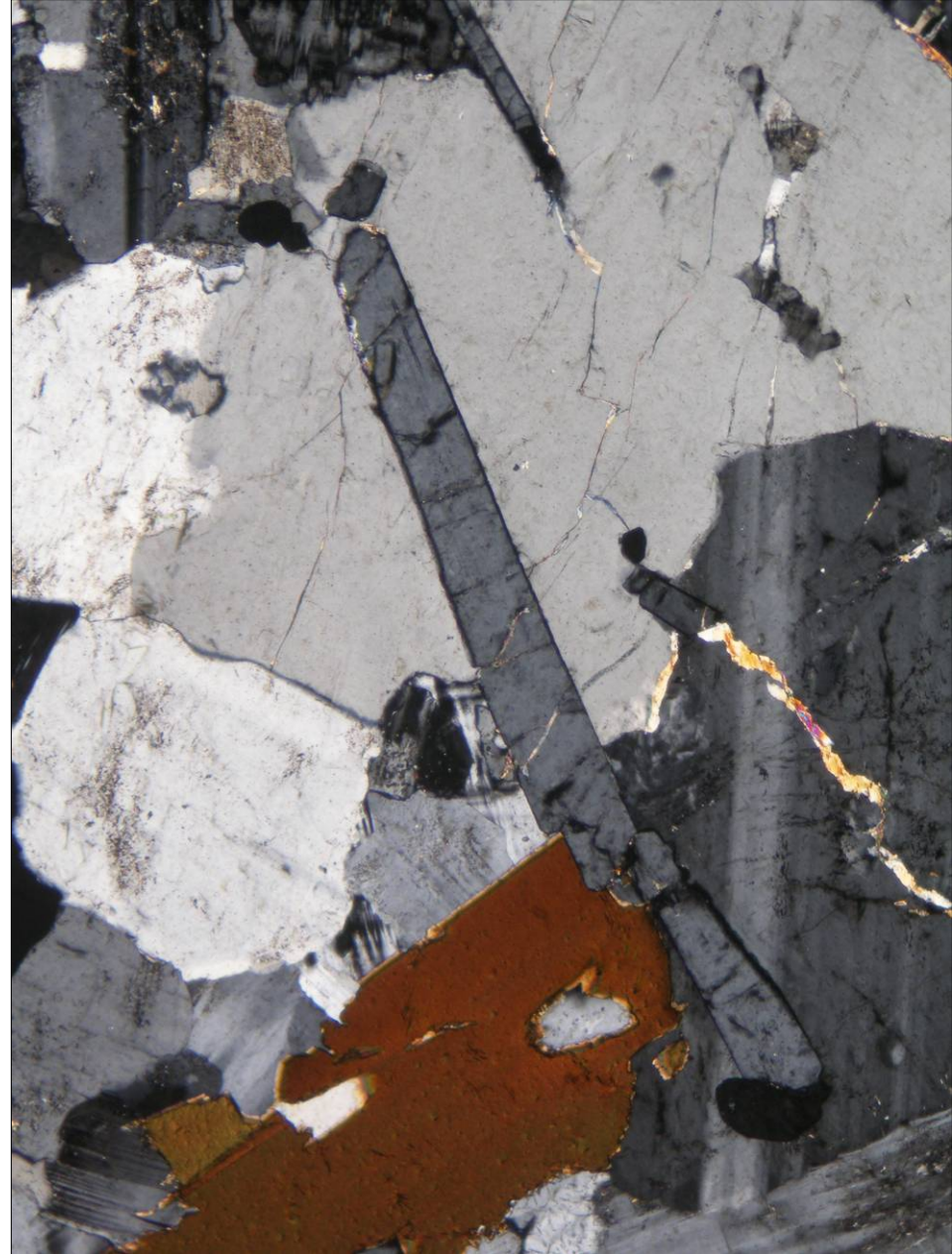
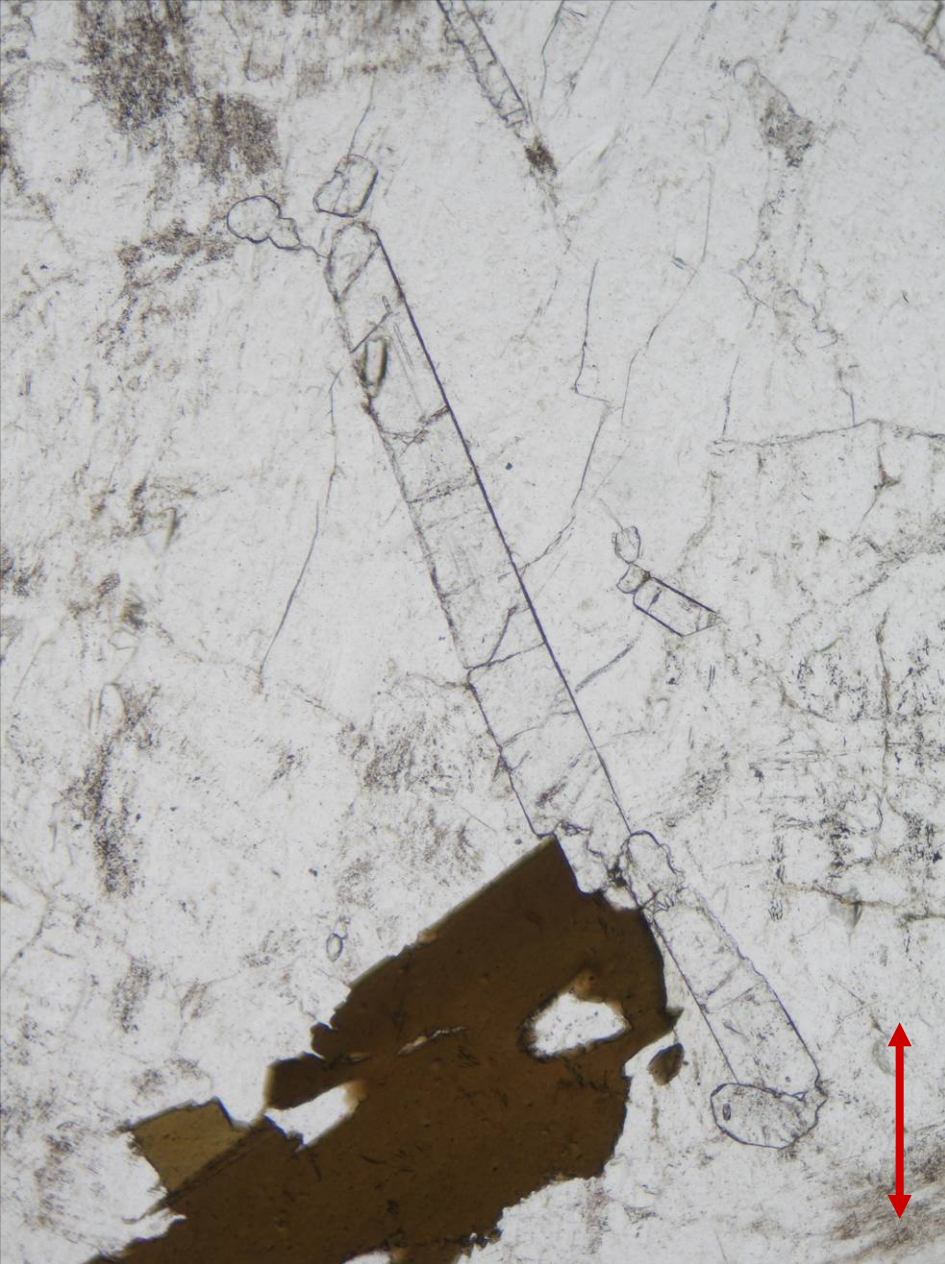
Apatite in pegmatite from Žulová, the Czech Republic; PPL (left) and XPL (right). Width of fields of view is ca. 0.7 mm. Photo: JiZi.



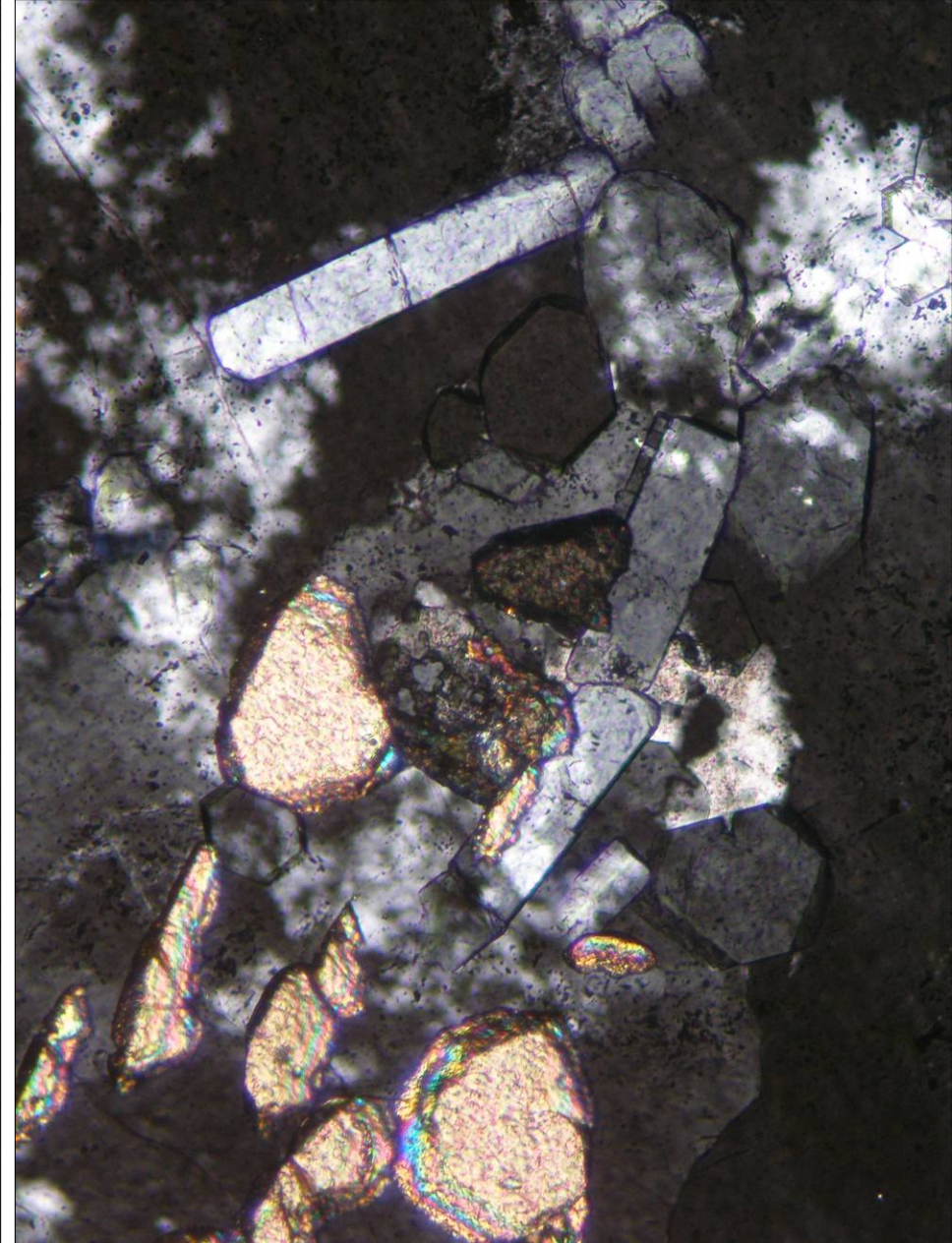
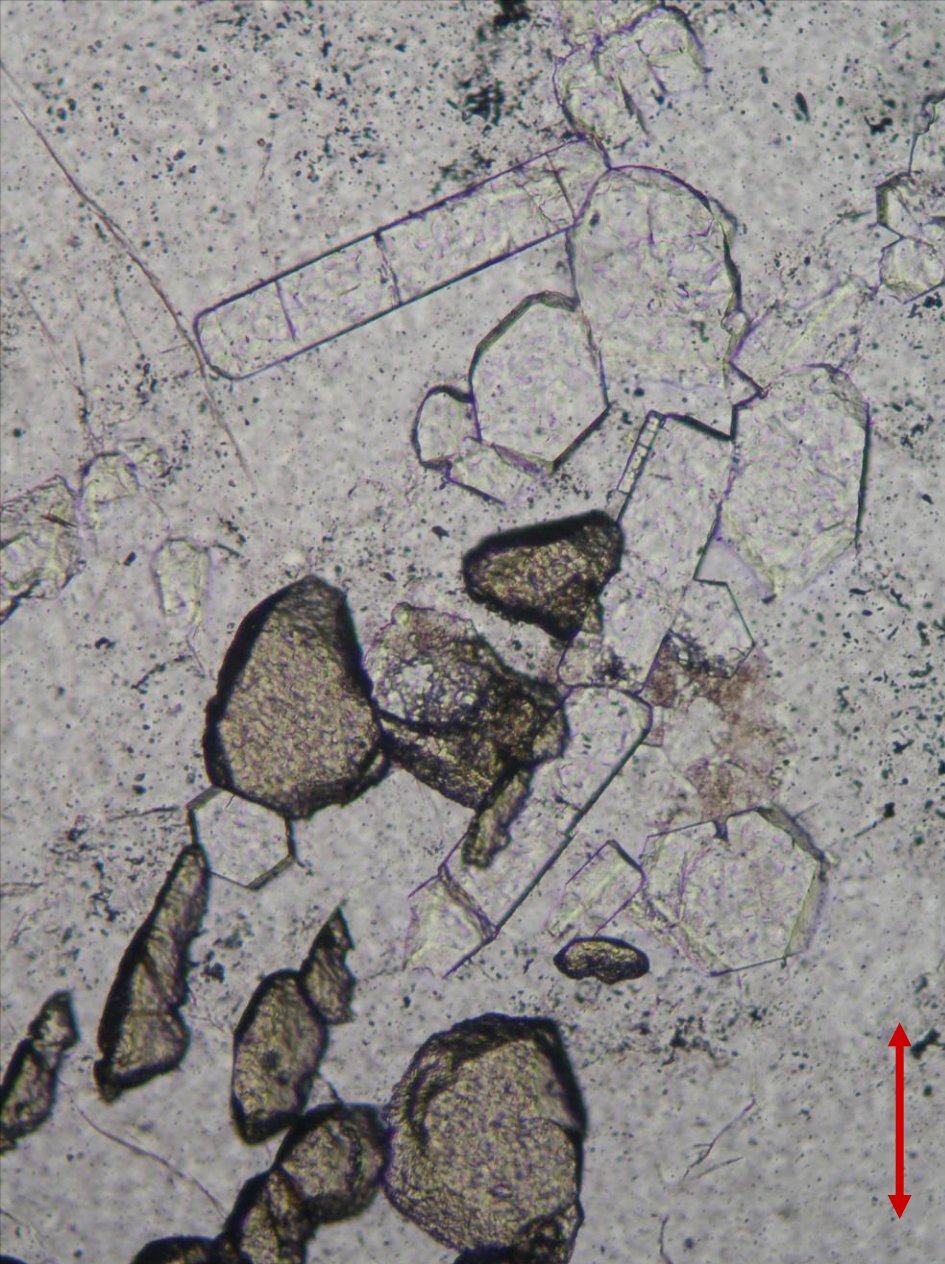
Apatite and allanite-(Ce) in pegmatite from Žulová, the Czech Republic; PPL (left) and XPL (right). Width of fields of view is ca. 0.7 mm. Photo: JiZi.



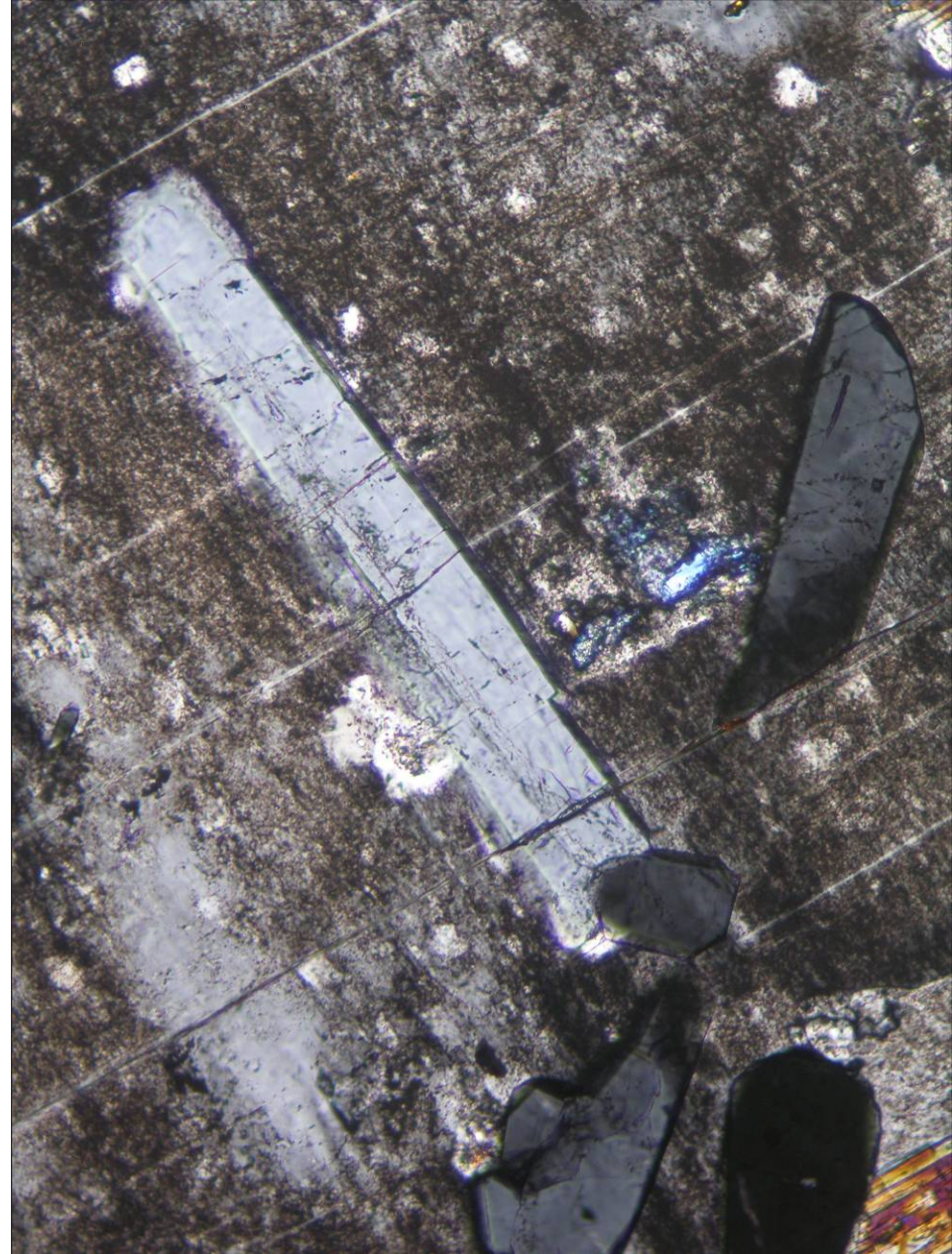
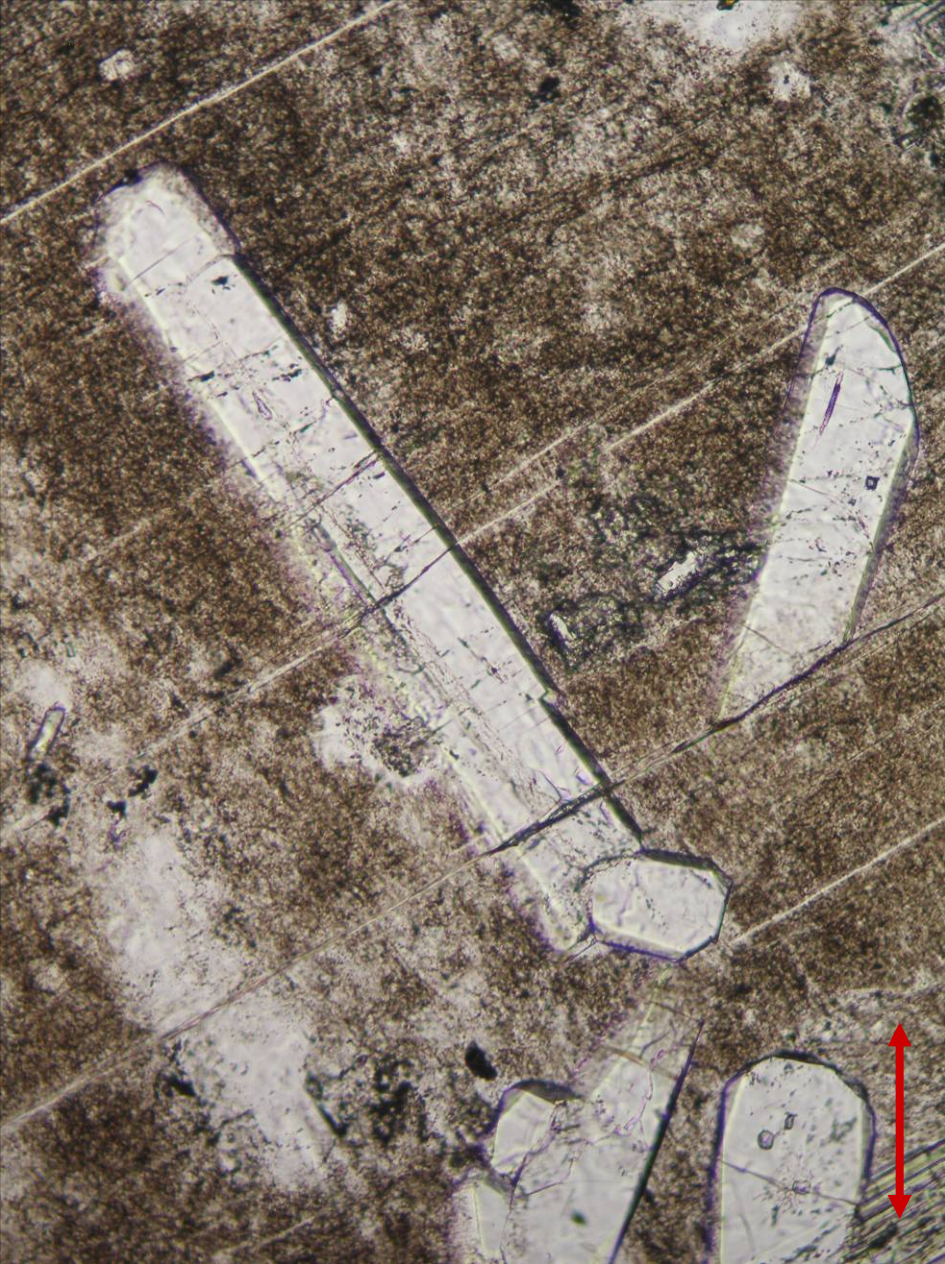
Apatite in pegmatite from Žulová, the Czech Republic; PPL (left) and XPL (right). Width of fields of view is ca. 1.2 mm. Photo: JiZi.



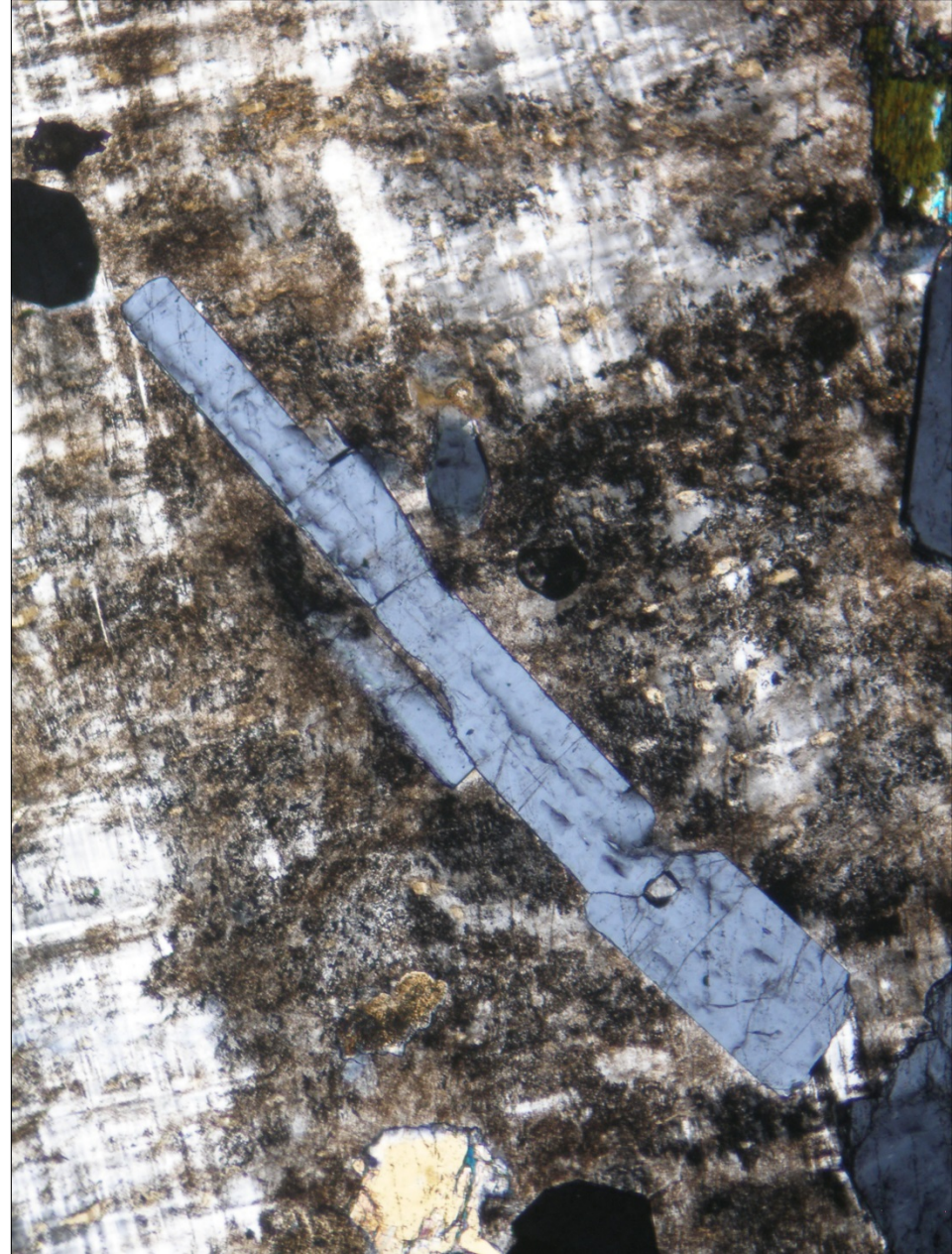
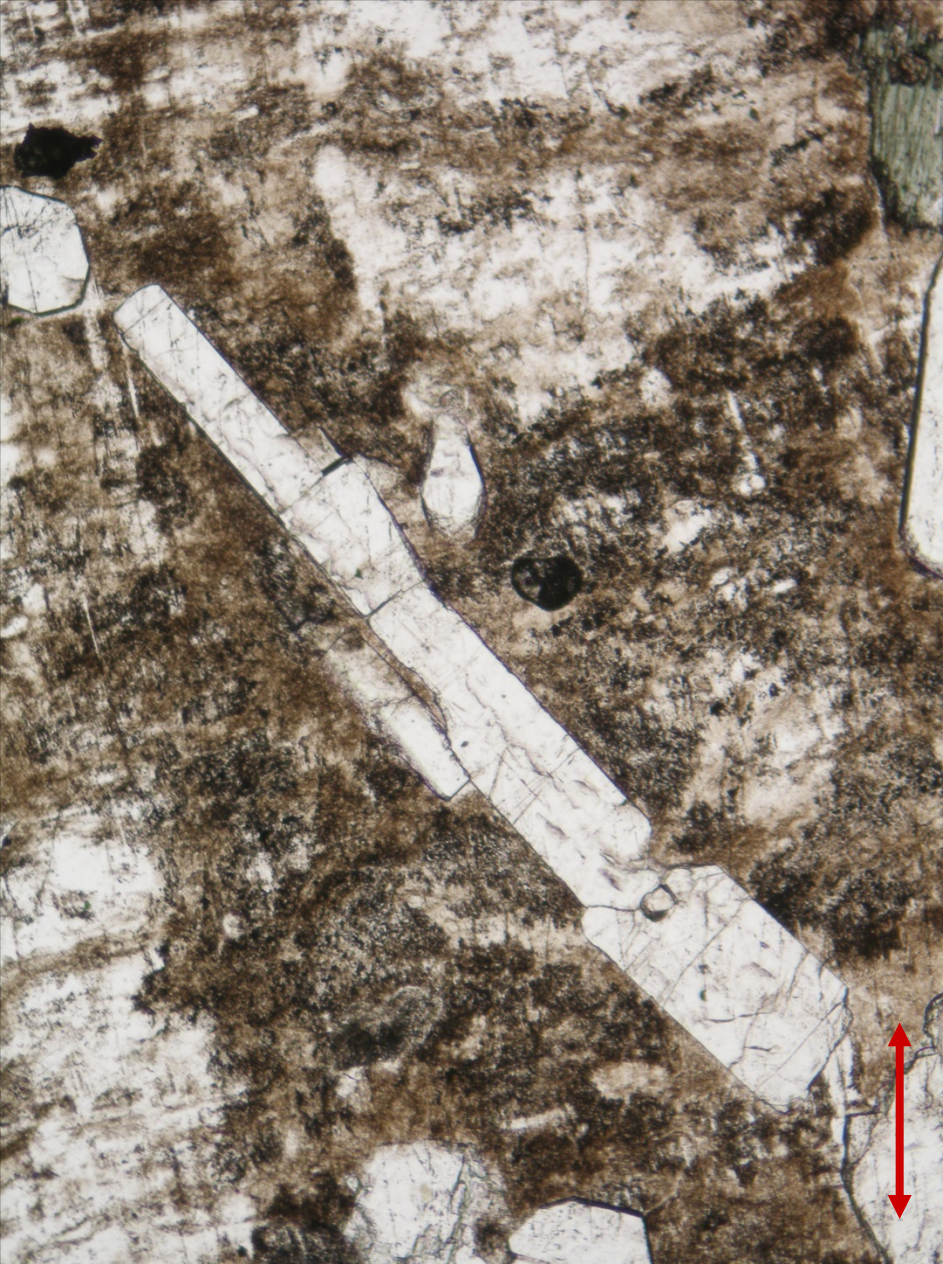
Apatite in pegmatite from Černá Voda, the Czech Republic; PPL (left) and XPL (right). Width of fields of view is ca. 1.7 mm. Photo: JiZi.



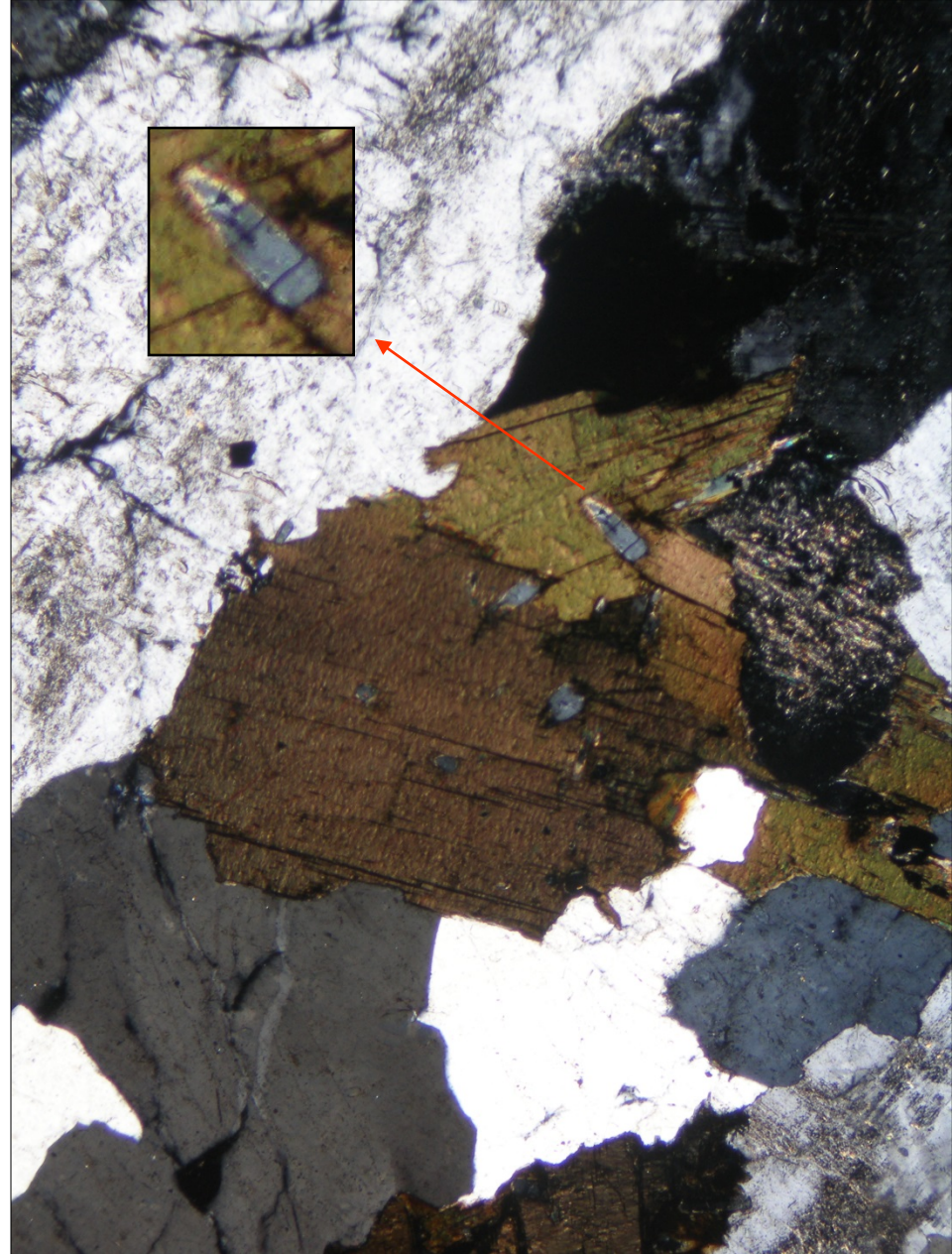
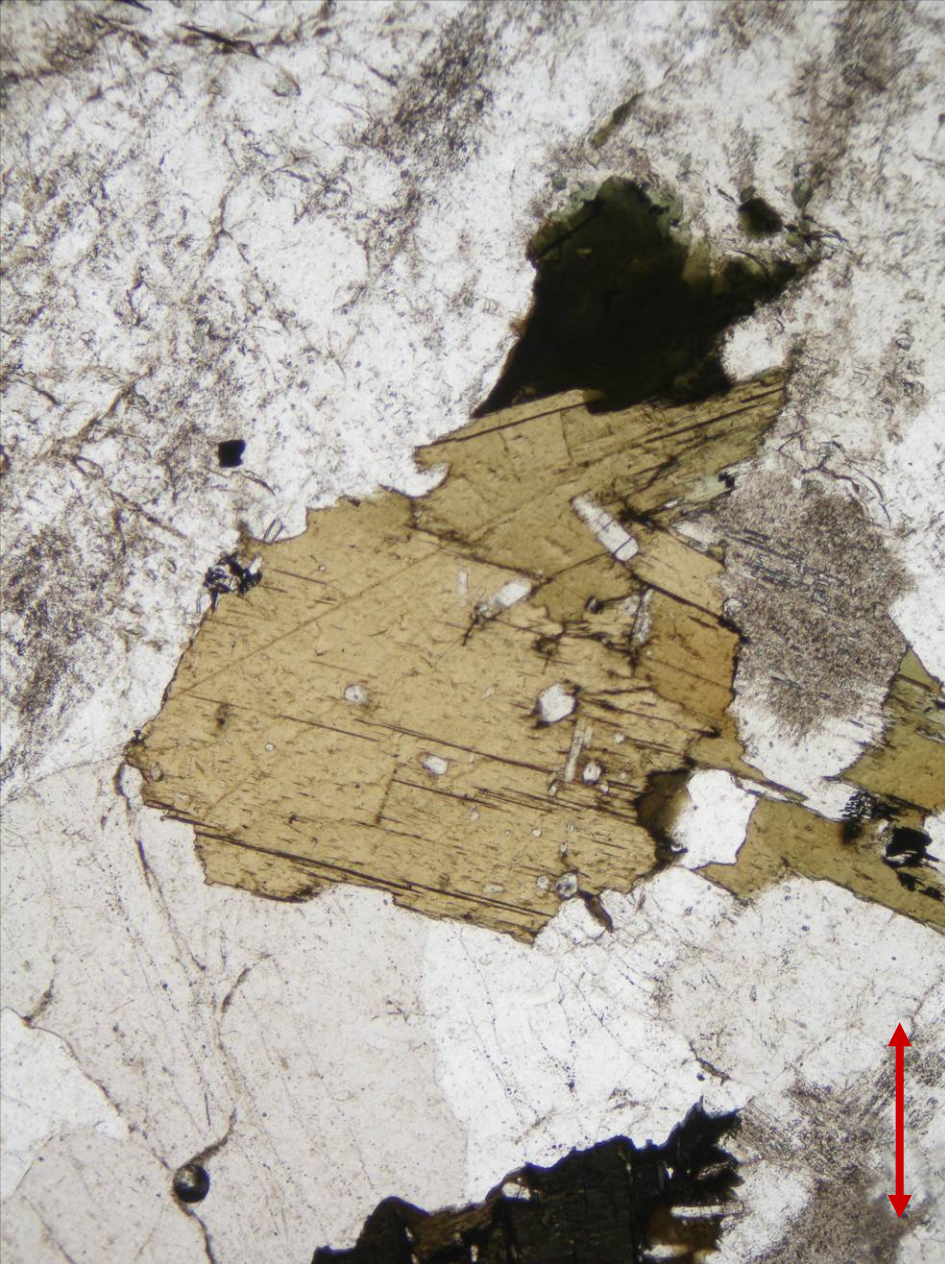
Apatite and titanite in pegmatite from Žulová, the Czech Republic; PPL (left) and XPL (right). Width of fields of view is ca. 0.6 mm. Photo: JiZi.



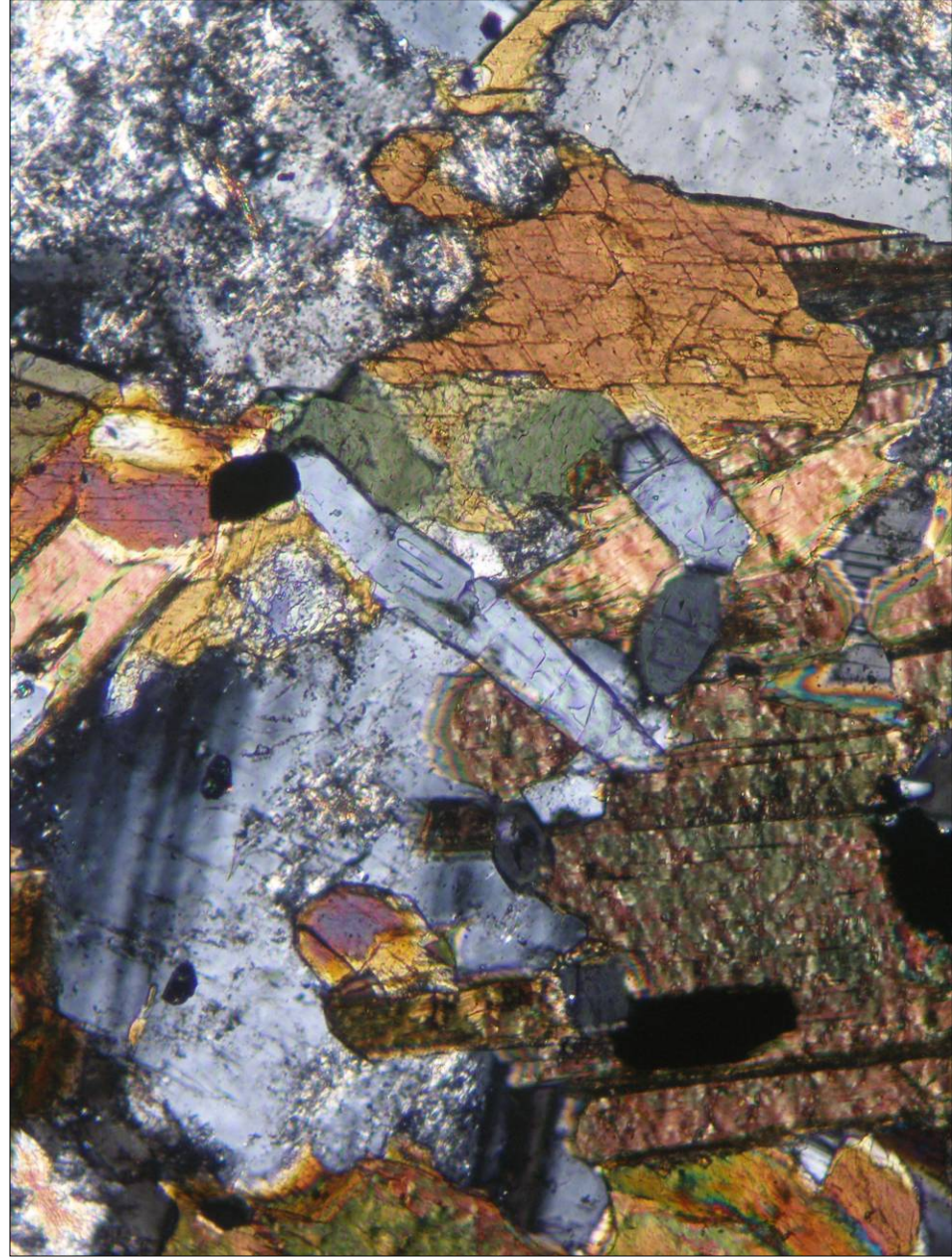
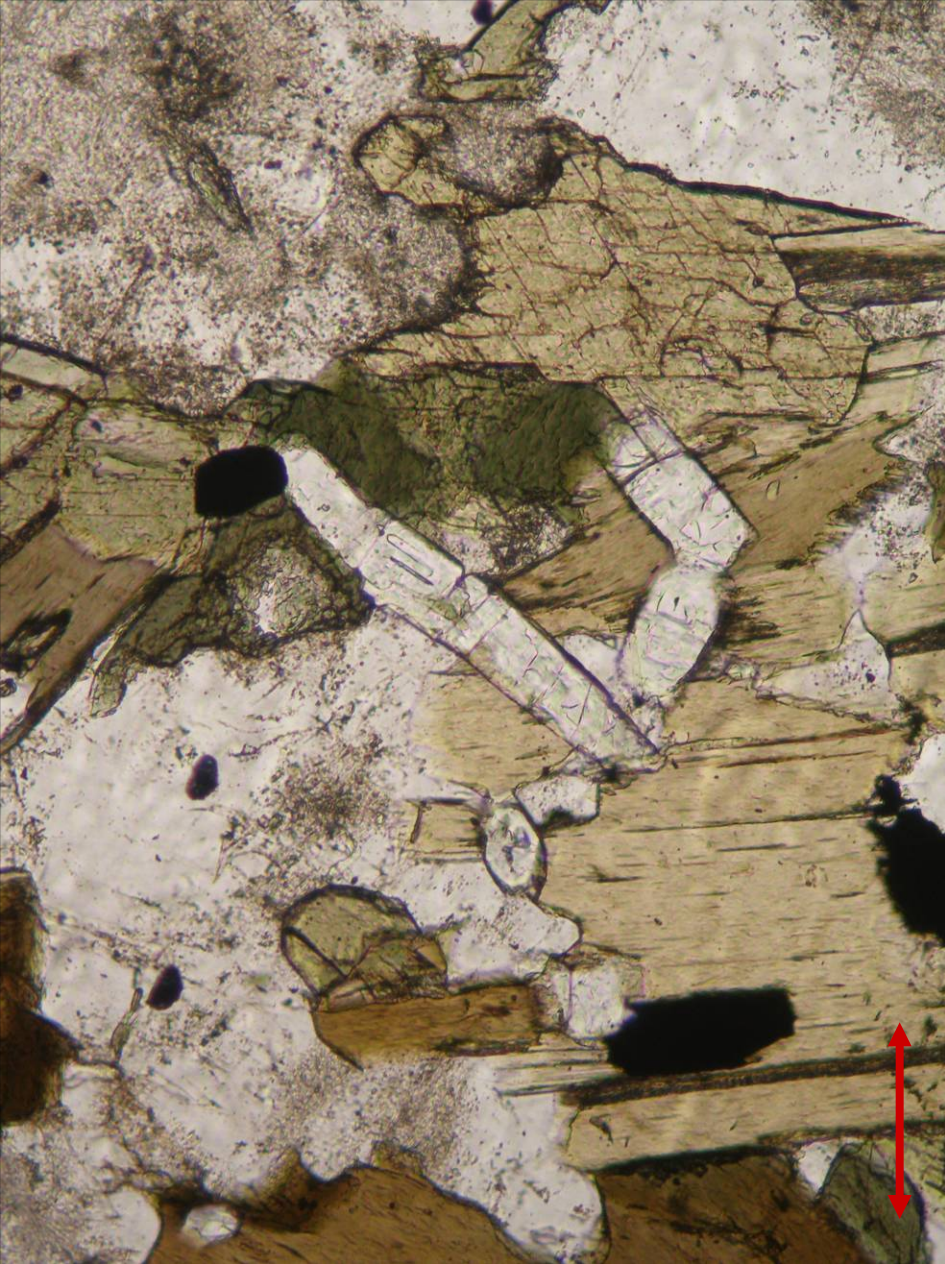
Apatite and altered microcline in pegmatite from Staré Podhradí, the Czech Republic; PPL (left) and XPL (right). Width of fields of view is ca. 0.7 mm. Photo: JiZi.



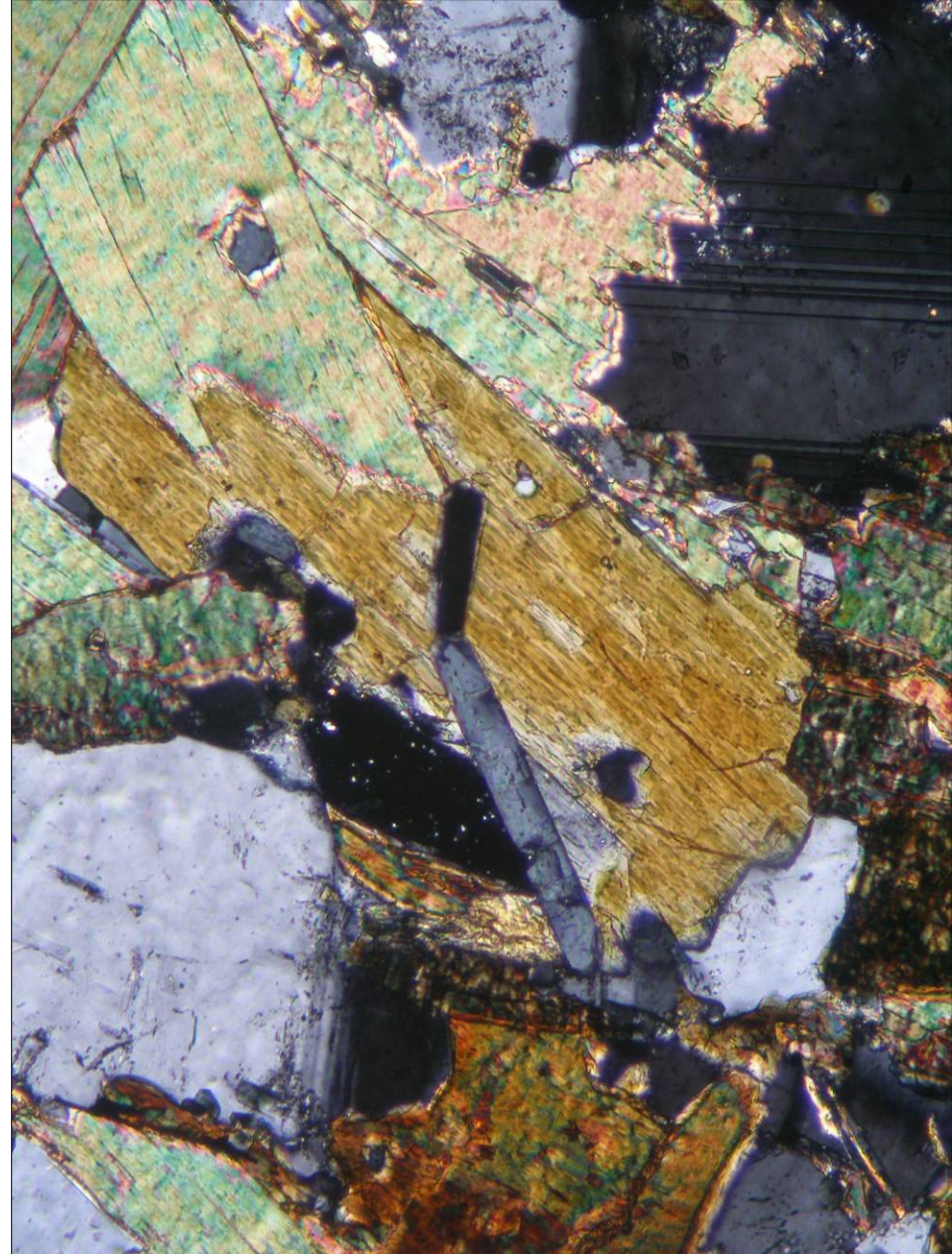
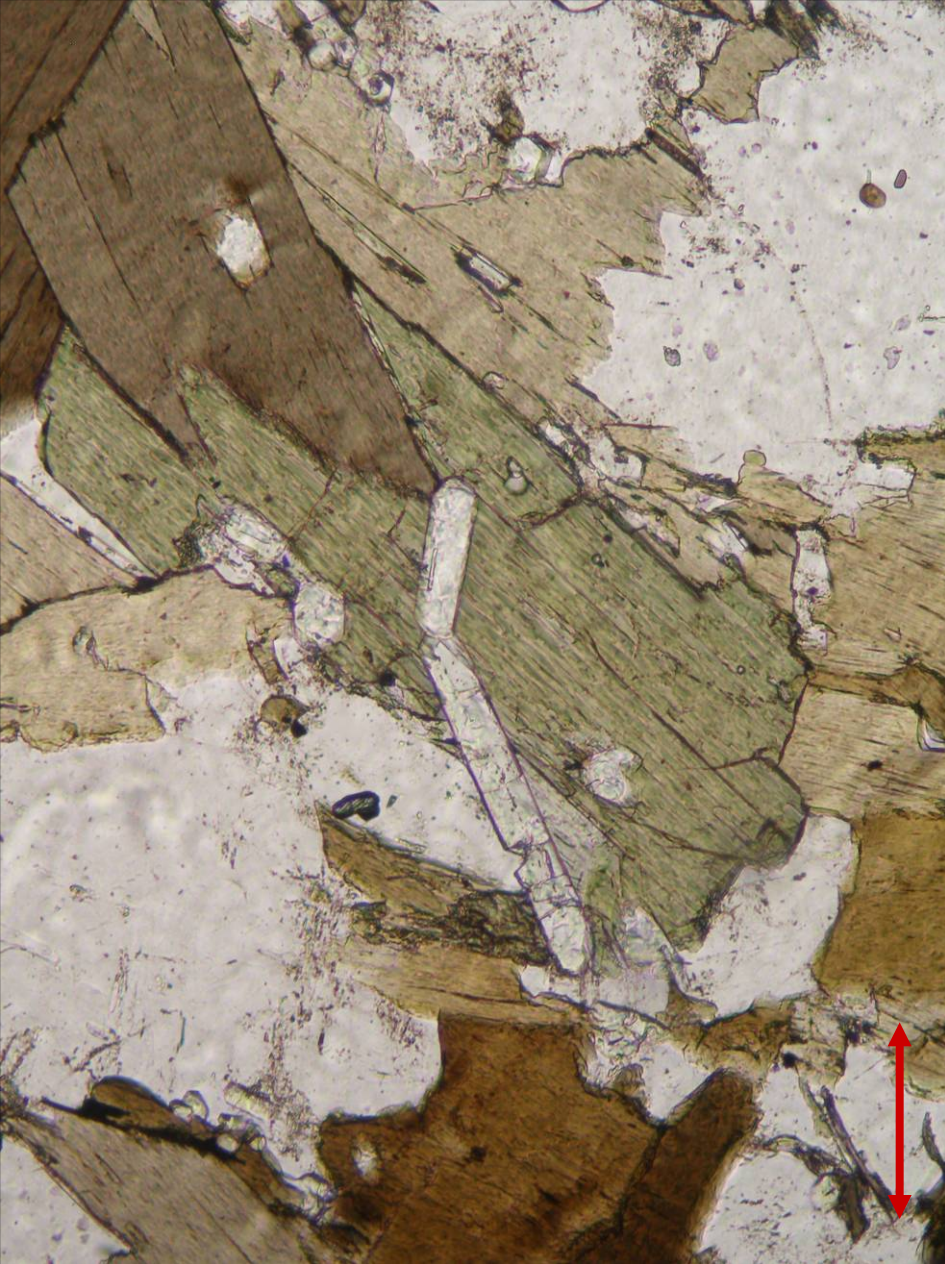
Apatite and altered microcline in pegmatite from Staré Podhradí, the Czech Republic; PPL (left) and XPL (right). Width of fields of view is ca. 1.7 mm. Photo: JiZi.



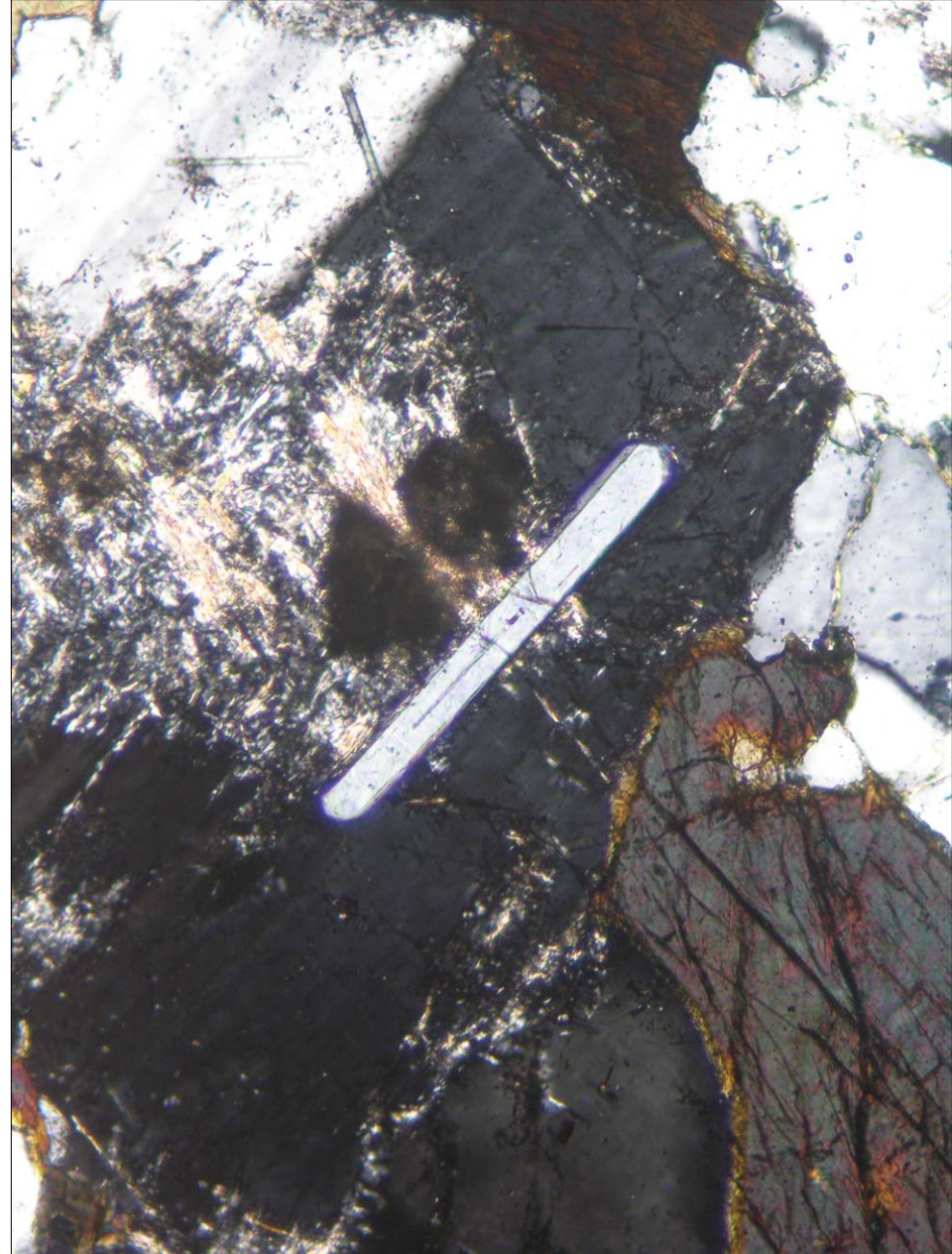
Biotite with apatite inclusions in granite from Liberec, the Czech Republic; PPL (left) and XPL (right). Width of fields of view is ca. 1.6 mm. Photo: JiZi.



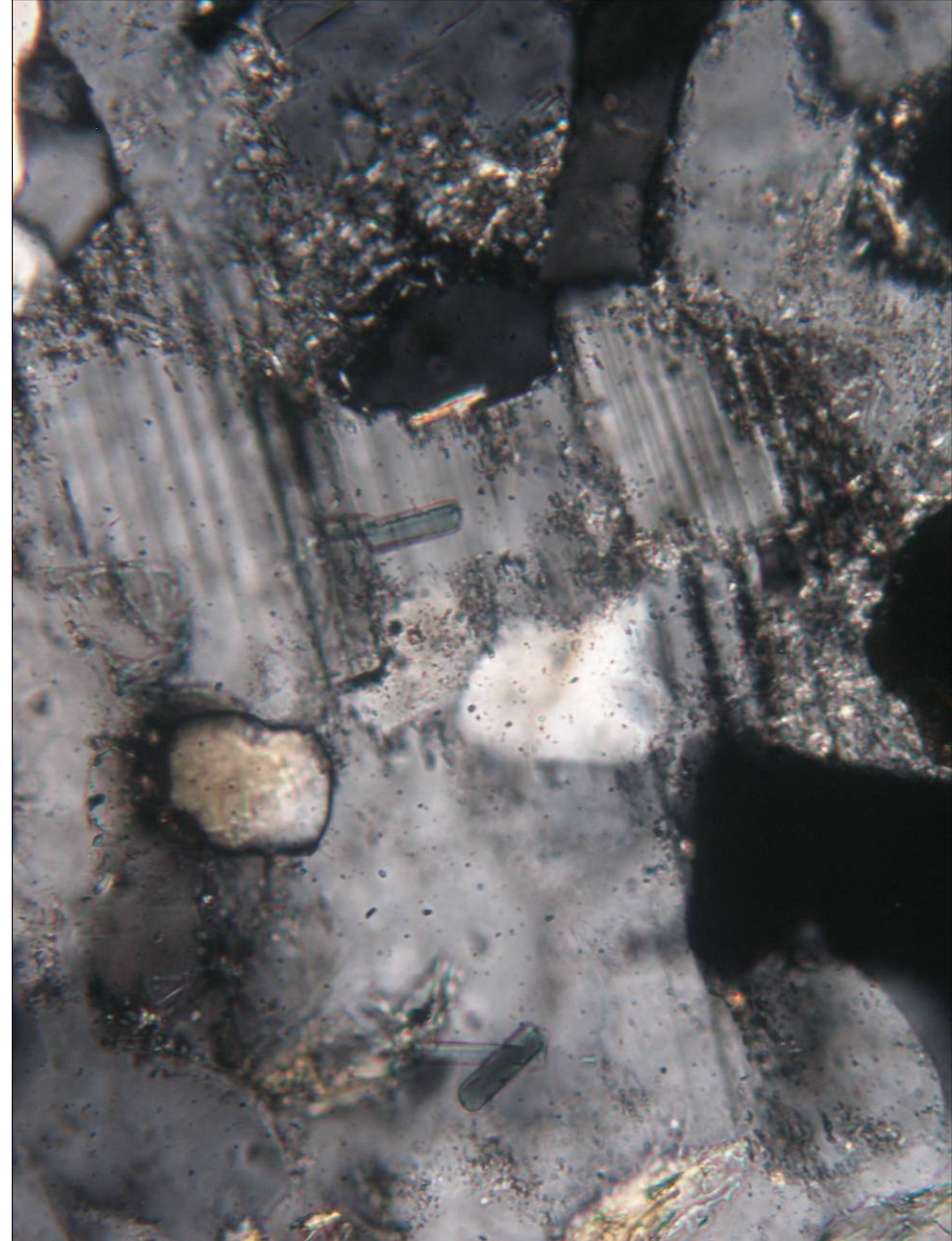
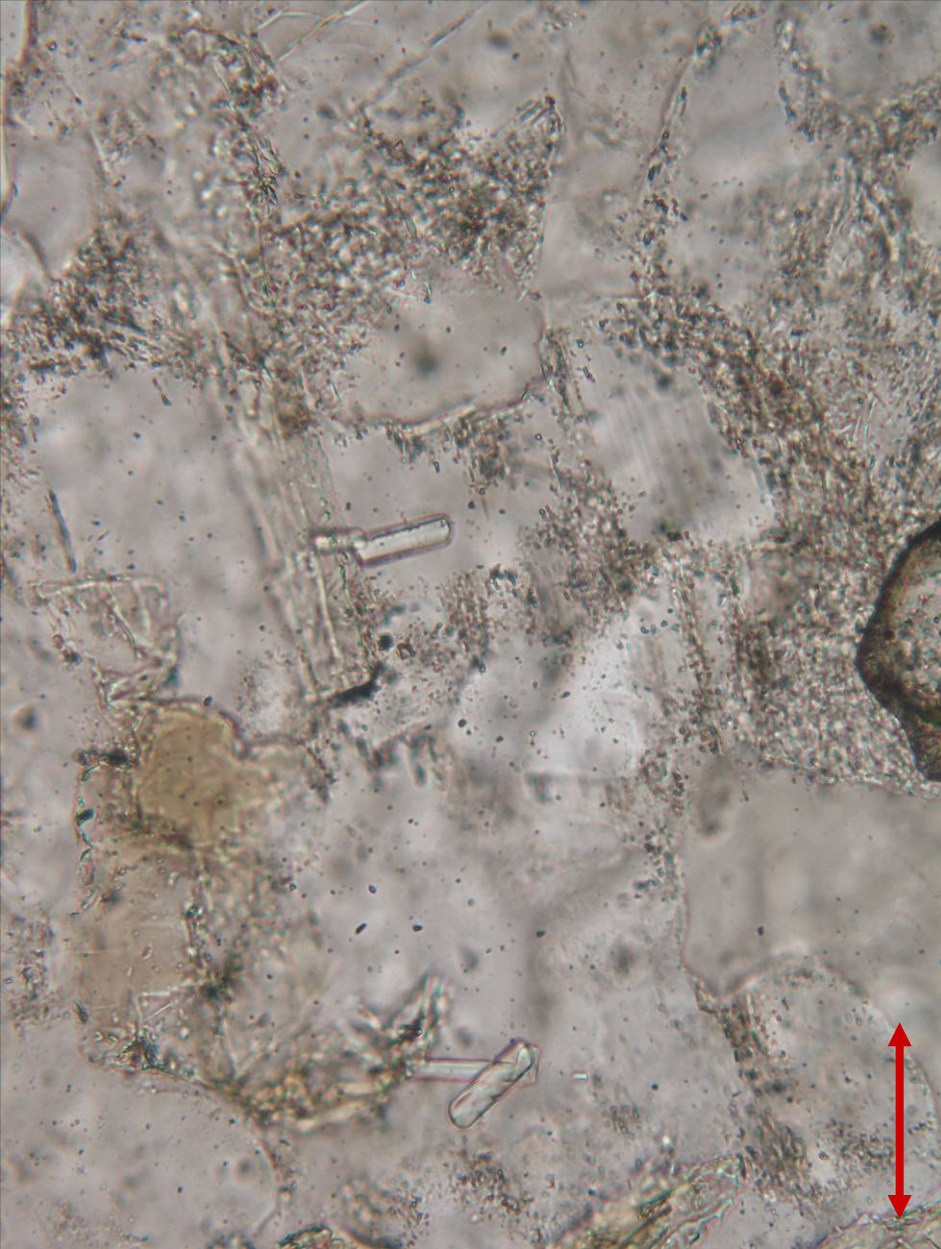
Apatite, biotite, hornblende and feldspars in diorite from Dolní Kounice, the Czech Republic; PPL (left) and XPL (right). Width of fields of view is ca. 0.7 mm. Photo: JiZi.



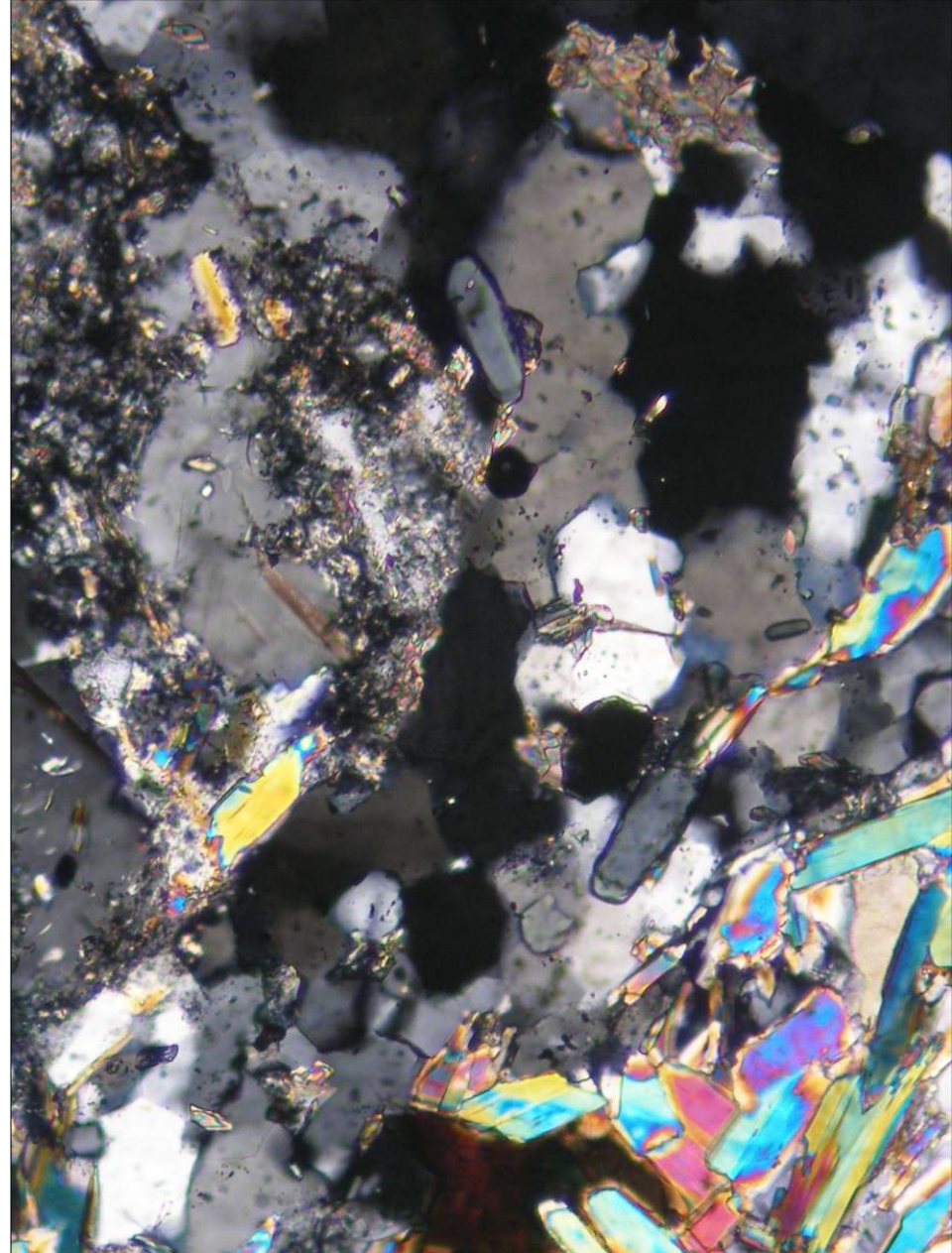
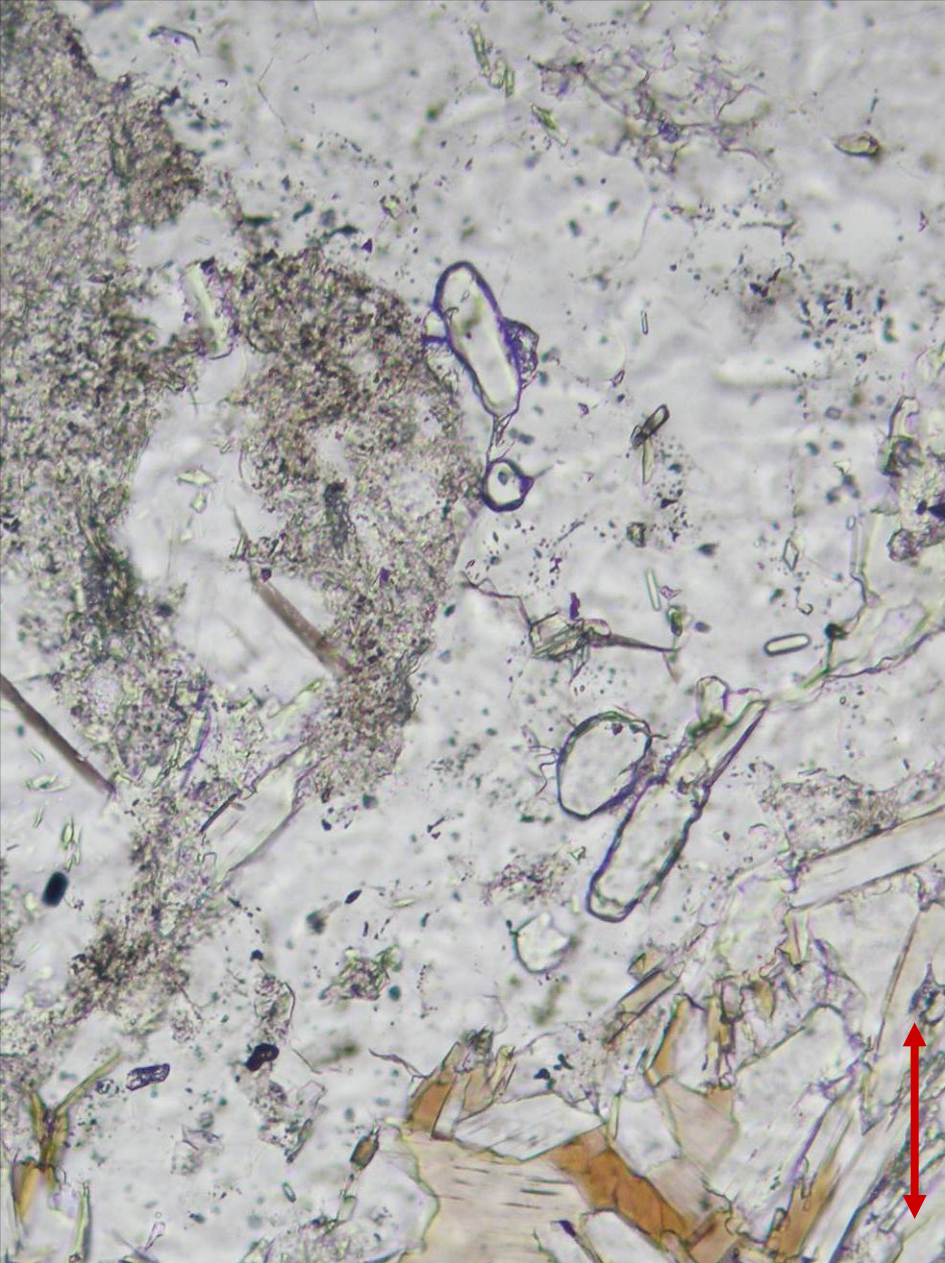
Apatite in diorite from Dolní Kounice, the Czech Republic; PPL (left) and XPL (right). Width of fields of view is ca. 0.7 mm. Photo: JiZi.



Apatite in diorite from Dolní Kounice, the Czech Republic; PPL (left) and XPL (right). Width of fields of view is ca. 0.7 mm. Photo: JiZi.



Apatite inclusions in plagioclase in gneiss from Horní Hoštice, the Czech Republic; PPL (left) and XPL (right). Width of fields of view is ca. 0.2 mm. Photo: JiZi.



Apatite in orthogneiss from Vidly, the Czech Republic; PPL (left) and XPL (right). Width of fields of view is ca. 0.3 mm. Photo: JiZi.