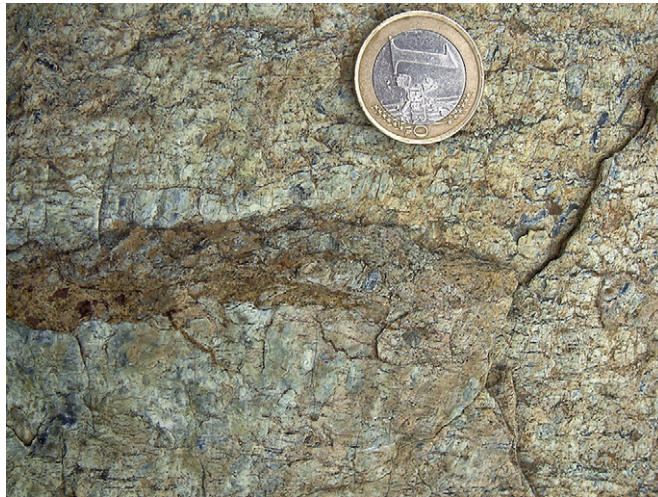




Photograph of the Month

Dehydration-induced brittle vein in a serpentinite mylonite



The vein contains olivine (light brown), clinohumite (dark red), clinopyroxene and opaque oxides. The host rock is an antigorite mylonite with a strong mineral stretching lineation oriented at high angle to the vein margins (elongate blue crystal aggregates). The vein assemblage records a prograde dehydration with respect to the host rock and metamorphic conditions have been estimated at $P=2\text{--}2.5$ GPa and $T=550\text{--}600$ °C, i.e. eclogite facies (Scambelluri et al., 1995, *Geology*; Messiga et al., 1995, *European Journal of Mineralogy*). The curved vein tips, sharp vein margins and narrow apophyses attest to the brittle origin of the vein fracture. Prograde dehydration of the serpentinite in a subduction zone led to brittle hydrofracture. Fluid-filled cracks (now preserved as veins) in subducting slabs exert a major influence on seismic anisotropy, and can produce trench-parallel orientations of P and fast S waves above the dehydration window (Healy et al., 2009, *Earth and Planetary Science Letters*).

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