



Photograph of the Month

Photograph of the Month: Ductile–brittle shear fractures in quartzites from Cap de Creus, Spain



Photograph Jordi Carreras and Elena Druguet. © Jordi Carreras and Elena Druguet.

The photograph shows ductile–brittle shear fractures affecting banded and foliated quartzites from Cap de Creus (E-Pyrenees). These quartzites (Rabassers quartzites) are interlayered in a sequence attributed to Upper Proterozoic. The whole sequence was subjected to polyphase deformation and metamorphism during the Variscan. D3 dextral NW–SE shearing (Carreras and Casas, 1987; Gomez-Rivas et al., 2007) caused simultaneous folding and stretching of the pre-existing banding. In sections sub-parallel to D3 stretching lineation, discrete shear bands or minor faults like the synthetic one shown in the photograph prevail, whereas in orthogonal sections only folds are observed. Ductile folding contrasts with shear bands and micro-faults arising from a brittle–ductile extension. The ramp-flat-like geometry of the fault caused displacement gradients in the layers producing the reverse drag folds. Mas Rabassers de Dalt, Cap de Creus peninsula, Catalonia, Spain. Width of view 22 cm. Location UTM 523236mE, 4685098mN.

This locality is included in the Inventory of Areas of Geological Interest of Catalonia as a site of tectonic interest: “#160 Roques del Cap de Creus (Rabassers – Punta dels Farallons)”, http://mediambient.gencat.net/cat/el_medi/natura/sistema_informacio/inventari_interes_geologic/. Information on geological heritage and geoconservation with especial emphasis on structural

geology and tectonic sites can be found in the TecTask website: <http://www.tectask.org/>.

Please send comments to jsg@uni-mainz.de

References

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- Gomez-Rivas E, Bons PD, Griera A, Carreras J, Druguet E, Evans L. Strain and vorticity analysis using small-scale faults and associated drag folds. *Journal of Structural Geology* 2007;29:1882–99.

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