ON THE BEACH


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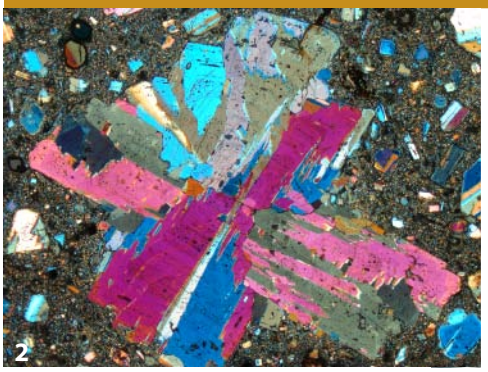
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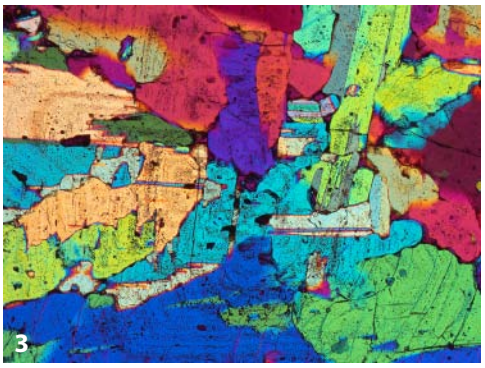
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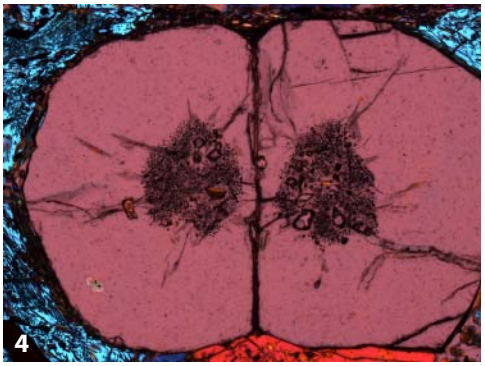
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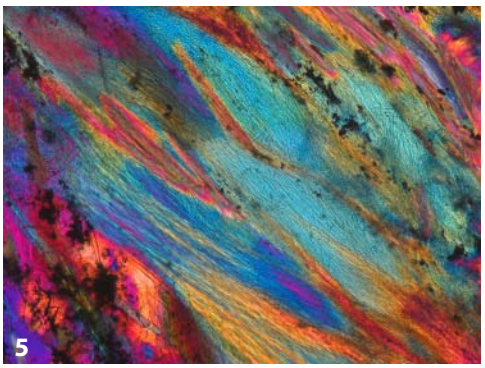
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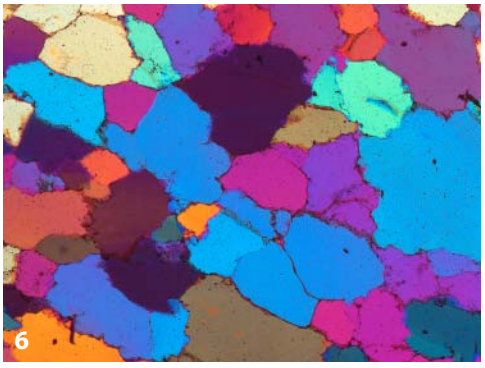
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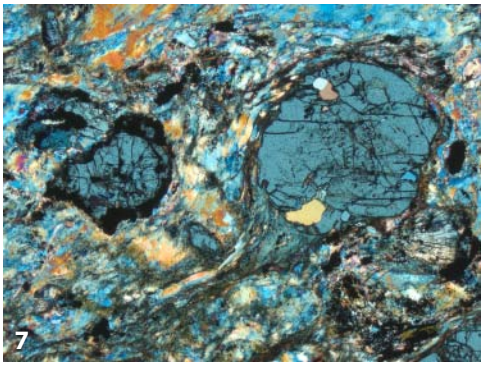
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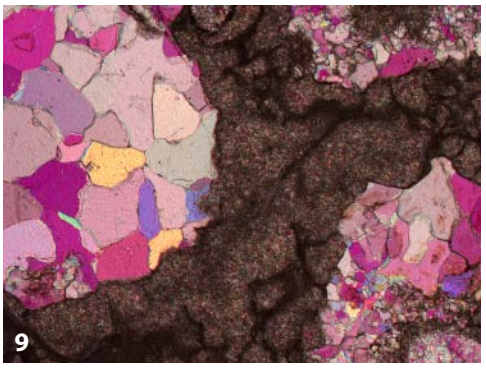
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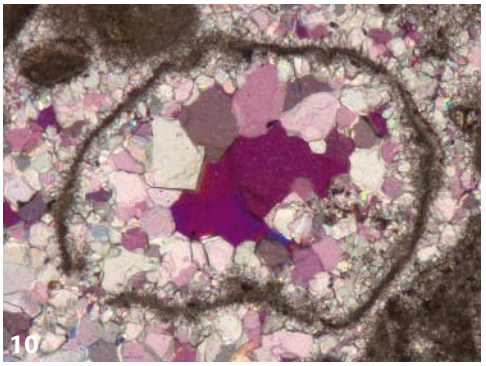
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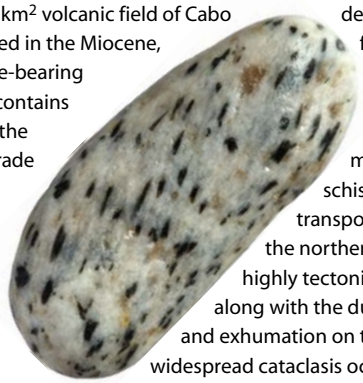
Mainly intended to entertain you with some colorful photomicrographs, this page is also a way for me to thank Maria Teresa and Juan Carlos for a fantastic summer vacation. Think about the song by Chris Rea and relax: we travel to southern Spain and into the stones on the shore at Carboneras (photo 1).

People shouldn't be misled by the name: yes, there's a coal-fired power station right outside the village, but this is the only downside against a long list of assets that includes climate, culture, crystal-clear sea, the amazing Cabo de Gata - Nijar National Park and, why not, food and drinks. The geology of this area is equally exciting, and the rock types so diverse, that I decided to collect some beach pebbles for a photomicroscopic reportage.



Porphyritic andesite is by far the most common rock (2,3), and forms most of the 200 km^2 volcanic field of Cabo de Gata. This rock was extruded in the Miocene, followed by garnet-cordierite-bearing dacites (4). The gravel also contains metamorphic rocks from the Alboran Domain, high-grade metapelites (5), quartzites (6), schists and mylonites (7), transported by streams from the northern hills. The abundance of highly tectonized rocks is not surprising: along with the ductile imprint of subduction and exhumation on the crystalline basement, a widespread cataclasis occurs near the Carboneras fault (8), a lithospheric-scale, still-active structural element of the region. Thus, tectonic breccias add to those that primarily occur in the sedimentary strata of the neighbouring Neogene basins (9,10). All the above rock types, and many others, are cemented in beautiful beach conglomerates (11,12) that formed all along the coast during the last rock-forming event in the Pliocene.

I had thin sections made from the pebbles, and took photomicrographs: the images in this article are just a glimpse into the marvellous small world secreted in those rocks. Note that pebbles are the "artists": I just help them showcase their best colors. And this is the power of polarized light, not of Photoshop!

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