Cachão da Rapa prehistoric rock art paintings revisited:
digital image analysis approach for the assessment
of Santos Júnior’s tracings

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Cachão da Rapa (Trás-Os-Montes, Portugal) was the first rock art site described in
the Iberian Peninsula (1706) and one of the pioneers in Europe. It is considered to be
among the most original paintings in Iberian schematic rock art. Since the
publication of its first tracings by Jerónimo Contador de Argote (1738), the site was
referred to although not studied until 1933, when the Portuguese scholar Santos
Júnior newly published a hand-made drawing of the pictorial remains. That
monograph constitutes nowadays the most complete study of the site. Both Contador
de Argote and Santos Júnior described a dichromatic rock art panel, designed in red
and dark blue colours. This blue colour is unique in the Iberian rock art tradition.
Although the importance of these paintings is well recognized by both the Iberian
and international archaeological community, no further research nor documentation
was undertaken.

This work presents a new approach to the recording of the rock paintings, based on
the use of digital image analysis techniques, to assess the accuracy of the tracings
currently utilised by the researchers (basically, Santos Júnior’s work) and also
exemplifies the possibilities offered by these techniques in order to perform low
cost, low time-consuming and non-invasive tracings. Preliminary data obtained by
digital image analysis emphasizing digital decorrelation of pixel values allowed us
to reach good results for the delimitation of the red colours. The delimitation of the
blue ones resulted more problematic as the spectral behaviour of both: blue motifs
and supporting rock, was similarly pointing to the presence of the same elements
over both the rock and the paintings. Further work will enlighten this issue.