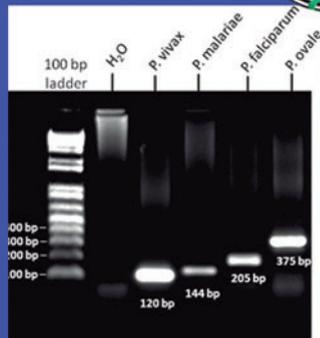


SOVE

7th International SOVE Congress
New Technology Conquering Old Vectors?



October 1-7, 2017
Palma of Mallorca
Spain



NEW TECHNOLOGY CONQUERING OLD VECTORS?





SOVE 2017

NEW TECHNOLOGY CONQUERING OLD VECTORS?

- Book of Abstracts -



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Old *Plasmodium* DNA from Spain hints at parasite origins

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After the certification of eradication of malaria in Spain in 1964, and in southern Europe in the mid-20th century, several studies focused on the capacity of the former malaria vector *Anopheles atroparvus*, still present in the region, to transmit different malaria parasites, mainly *Plasmodium vivax* and *Plasmodium falciparum*. A strain of *An. atroparvus* from Ebro delta in Tarragona was isolated and maintained and tests were carried out to determine its sensibility to *P. falciparum*, showing no infectivity. In 2015, a set of slides with blood stains of malaria-affected people from the Ebro delta, dated between 1942-1944, were recovered in a local medical collection. DNA was extracted from the slides, a subset stained with Giemsa and another consisting of dried blood spots; data was generated using Illumina sequencing. *P. vivax* and *P. falciparum* mitochondrial genome sequences were subsequently reconstructed from the resulting data. Phylogenetic analysis of the eradicated European *P. vivax* mtDNA genome indicates that the European isolate is closely related to the most common present-day American haplotype and likely entered the American continent post-Columbian contact. Furthermore, the European *P. falciparum* mtDNA indicates a link with current Indian strains that is in agreement with historical accounts. Present and future results will give light on the interaction vector parasite and supports that present *Plasmodium* distribution is a result of a series of human mediated dispersals involving transport between different continents.