barcoding, their molecular diversity and its use as phylogenetic marker. Additionally, ribosomal markers (ITS region and the D2 and D3 expansion segments of the 28S rRNA gene) have been also explored. This work provides an important amount of molecular markers obtained using voucher specimens identified by integrative taxonomy. The results showed that mitochondrial and ribosomal markers could be used as barcoding markers using several barcoding approaches, at exception of some species from the *X. americanum*-group. However, some species presented an important variability in *coxI* that need to be further studied. The analysis of the newly provided sequences and deposited in GenBank showed some plausible misidentifications and the use of voucher species and topotype specimens is a priority for this group of nematodes. The use of *coxI* and the D2 and D3 expansion segments of the 28S rRNA gene did not clarify the phylogeny at generic level, but showed important accuracy at specific level.

This research was financially supported by grants P12-AGR 1486 and AGR-136 from 'Consejeria de Economia, Innvovacion y Ciencia' from Junta de Andalucia, and Union Europea, Fondo Europeo de Desarrollo regional, 'Una manera de hacer Europa', grant 219262 ArimNET_ERANET FP7 2012-2015 Project PESTOLIVE 'Contribution of olive history for the management of soilborne parasites in the Mediterranean basin' from Instituto Nacional de Investigacion y Tecnologia Agraria y Alimentaria (INIA), and Project AGL-2012-37521 from `Ministerio de Economía y Competitividad' of Spain.

P.122 Integrative taxonomic approach and molecular phylogeny for identification of dagger and needle nematode species infesting grapevine soils in Portugal. C. GUTIÉRREZ-GUTIÉRREZ[1], M. TEIXEIRA SANTOS[2], M. MOTA[1,3]. [1]*NemaLab/ICAAM, Instituto de Ciências Agrárias e Ambientais Mediterrânicas & Dept. de Biologia, Universidade de Évora, Núcleo da Mitra, Ap. 94, 7002-554 Évora, Portugal.* [2]*Instituto Nacional de Investigação Agrária e Veterinária (INIAV), Quinta do Marquês, 2780-159 Oeiras, Portugal.* [3]*Dept. Ciências da Vida, Universidade Lusófona de Humanidades e Tecnologias, EPCV, C. Grande 376, 1749-024 Lisboa, Portugal. Email: carlosg@uevora.pt.*

"Dagger" (*Xiphinema* spp.) and "needle" (*Longidorus* spp., *Paralongidorus* spp.) nematodes are one of the most economically important parasitic nematode groups in grapevine worldwide. They are polyphagous root ectoparasites causing severe damage to plants by their direct feeding, and in addition some species can transmit plant viruses. Grapevine fanleaf virus (*GFLV*) is transmitted by *Xiphinema index*, and it is one of the most economically important viral diseases affecting grapevine in many Mediterranean grapevine growing regions. Nematode surveys have been conducted from 2015 to 2017 during the spring and autumn seasons in the main Portuguese grapevine-growing areas. An integrative taxonomic approach based on the combination of morphometric and morphological characterizations with molecular analysis using ribosomal DNA (rDNA) sequences from ITS regions and D2–D3 expansion segments of the 28S gene were used for species delimitation and identification. A high biodiversity of longidorid nematode species was found, higher in dagger than needle nematodes. *Xiphinema pachtaicum*, *X. santos* and *X. index* are the most frequent dagger nematodes found in Portuguese vineyards, while relatively to needle nematodes *L. vineacola* is the most common species found. Severe nematode infestations were found in grapevine soils in the oldest vineyard regions, highlighting *X. index* by its phytopathological importance. Disease symptoms were observed on aboveground plant parts of the infected grapevines with *X. index*, displaying a yellow mosaic pattern in leaves, characteristic of infections by *GFLV*.

This research was financially supported by FCT - Foundation for Science and Technology postdoctoral fellowship SFRH/ BPD/95315/2013 and FEDER Funds through the Operational Programme for Competitiveness Factors - COMPETE and National Funds through FCT under the Strategic Projects PEst-C/AGR/UI0115/2011 and PEst-OE/ AGR/UI0115/2014 (Portugal).