

STSM report

Rafael Antonio do Nascimento Ramos

□ Title of STSM

A multinational field parasitological expedition on the track to the vector of *Onchocerca lupi*

□ Purpose of the STSM

Short Term Scientific Missions (STSM) entitled “A multinational field parasitological expedition on the track to the vector of *Onchocerca lupi*”.

- Host institution: Universidade de Évora;

- Period: 14/04/2014 to 19/04/2014;

- Reference code: COST-STSM-ECOST-STSM-TD1303-140414-044132;

- Approved amount: EUR 800.

This STSM aimed at strengthening the existing networks and fostering collaborations by allowing scientists from different European countries to visit the University of Évora, whose staff provided new data on the neglected parasite *O. lupi* and it is currently investigating the identity of its unknown arthropod vector. The research contributed to the TD1303 COST Action objectives of “One Health” concept in the ecology of vector-borne diseases (WG1), as well as to the investigation of rare and emerging vector-borne pathogens (WG5). In addition, this study allowed participants to exchange their experience in laboratory and field, learn new techniques and gain access to specific environmental/epidemiological conditions concerning parasite and vector biology. In particular, two PhD students have been addressed to the learning of new entomological/parasitological techniques, as well as two ESRs.

□ Description of the work carried out during the STSM

The participant actively contributed to the field and laboratory work. In particular, it was collected blood samples from dogs in areas around forest and rivers, after owners consent, examining the presence of filarids, i.e., *Dirofilaria immitis*, *Dirofilaria repens* and *Acanthocheilonema reconditum* microfilariae. In addition, skin snips on the same animals were performed and examined the sediment for microfilariae of *O. lupi*, *Cercopithifilaria* spp. Finally, ectoparasites were sampled (i.e., ticks and fleas), morphologically identified and dissected to assess the presence of nematode developing larvae. Moreover, the collection and identification of haematophagous flies (i.e., sand-flies, mosquitoes, blackflies and biting midges) were performed.

□ Description of the main results obtained

- During the STSM period, 10 dogs were sampled and those that scored positive for microfilariae are reported in the following. All species were morphologically and morphometrically identified.

Dog 1

Name: Old; **Age:** *circa* 10 years old; **Gender:** male; The dog displayed weight loss, ocular discharge; alopecia; lymph node enlargement; pale mucous and the presence of ticks; **Result of the blood analysis:** negative for the presence of microfilariae; **Result of the skin snip:** 20 microfilariae *O. lupi*/20µl. **Collected ticks** (*Rhipicephalus sanguineus* group): 6 engorged female, 12 un-engorged female and 8 male. After tick dissection no developing larvae were detected.

Dog 2

Name: Peluda; **Age:** *circa* 8 years old; **Gender:** female; The dog displayed alopecia; lymph node enlargement; pale mucous and the presence of ticks; **Result of the blood analysis:** negative for the presence of microfilariae; **Result of the skin snip:** 16 microfilariae *Cercopithifilaria* sp. II / 20µl. **Collected ticks** (*Rhipicephalus sanguineus* group): 3 engorged female, 9 un-engorged female and 3 male. These specimens will be dissected 30 days post-collection (i.e., 17 May 2014).

Dog 3

Name: Nice; **Age:** *circa* 3 years old; **Gender:** Female; **Result of the blood analysis:** negative for the presence of microfilariae; **Result of the skin snip:** 8 and 4 microfilariae *O. lupi* and *Cercopithifilaria baina*, respectively. **Collected ticks** (*Rhipicephalus sanguineus* group): 2 males. After tick dissection no developing larvae were detected.

Dog 4

Name: Cento; **Age:** *circa* 2 years old; **Gender:** Male; **Result of the blood analysis:** *D. immitis* microfilariae; **Result of the skin snip:** 10 microfilariae *O. lupi*/20µl. No Ectoparasites.

- Identification of insects

The participant was addressed on the sampling and identification procedures of blackflies and mosquitoes. During the STSM, he was able to identify the following insect species:

- Mosquitoes: *Ochlerotatus caspius*; *Culex pipiens*; *Ochlerotatus detritus*
- Blackflies: *Simulium pseudoequinum*; *Simulium intermedium*

□ Foreseen publications/articles resulting from the STSM (if applicable);

The results of this STSM will be published in 1 or 2 peer-reviewed journals.

□ Confirmation by the host institution of the successful execution of the STSM;

I herein confirm the present report regarding the COST-STSM-ECOST-STSM-TD1303-140414-044132 in Portugal.

Évora, 16th of May 2014



Helder Carola Espiguiinha Cortes