

COST ACTION:
EURNEGVEC - EUROPEAN NETWORK FOR NEGLECTED VECTORS AND
VECTOR-BORNE INFECTIONS

Short Term Scientific Missions (STSM) "**Biology, Collection, Identification and Monitorization of Simuliids**" in collaboration with Prof. Aleksandra Ignjatovic- Cupina and according to the Work Plan previously provided.

Host institution: University of Novi Sad, Faculty of Agriculture, Department for Environmental and Plant Protection, Laboratory for Medical and Veterinary Entomology; person in charge: Aleksandra Ignjatovic Cupina, e-mail: cupinas@polj.uns.ac.rs

Period: July 7th -14th, 2014;

Applicant: Helder Cortes, PhD

COST STSM Reference Number: COST-STSM TD1303-17254;

Reference code: ECOST-STSM-TD1303-070714-044118

Approved amount: 900€

STSM report Helder Cortes

Purpose of the STSM

Short Term Scientific Mission was aimed at strengthening the existing networks and fostering collaborations by allowing scientists from other participating COST countries to visit University of Novi Sad that provided opportunities to work on simuliids. The developed work contributed to the TD1303 COST Action objectives of "One Health" concept in the ecology of vector-borne diseases (WG1) and to acquire relevant knowledge on European simuliid fauna, especially on species of medical and veterinary importance. It also allowed participants to exchange experience in laboratory and field research methods, to learn new techniques and to gain access to specific environmental/epidemiological conditions concerning the breeding sites, specific developmental conditions and limitations for simuliids. During the study, the applicant developed it's experience in the field of simuliids. In particular, he was trained for the study of vector sampling techniques and simuliid preservation methodology and identification.

Description of the activities carried out during the STSM

a) *Field sampling of simuliids*

During the conducted field trips the applicant sampled larvae, pupae and adult stages of simuliids in different environmental conditions, comprising urban and rural areas. The applicant, with an intensive hands-on activity was taught in different approaches to the most correct sampling attitudes that would lead to obtaining of reliable sampling results, as well as to implementation of appropriate monitoring procedures of simuliids. which implementation of monitoring procedures of these insects with medical and veterinary importance.

Immature stages were collected in different types of running water habitats (creeks, streams, rivers), at different hydroecological conditions, according the selected sampling zones (water velocity, depth, temperature, bottom structure and presence/absence of aquatic vegetation). Adults were collected by sweeping net, aspirator, CO2 baited traps. They were also reared from mature pupae in laboratory conditions.

b) Identification of immature and adult simuliids

Once in the laboratory, all specimens were separated according to their developmental stage. The material was morphologically identified under the microscope to species level using different identification keys related to European simuliid fauna. After the identification the samples were stored in individual tubes, containing 100% ethanol.

Besides the training in identification of the material collected during the field trips conducted under STSM, the applicant had the free access to the simuliid collection stored at the host institution. This way, the training in identification was extended to higher number of species, including those that were not found in the visited habitats during the STSM.

Description of the main results obtained

During the STSM, the applicant developed the skills on the identification of simuliids and a special focus was placed in the standardization of updated collection techniques. The acquired skills in sampling and identification procedure during the STSM resulted in identification of variety of species in the collected material, including mainly species of *Simulium*, *Wilhelmia*, *Neveermania*, *Eusimulium* and *Trichodagmia* subgenus, with the dominance of the mammophilic and anthropophilic species *Simulium ornatum* Meigen, 1818 (complex), also known as proven vector of *Onchocerca linealis* and *O. tarsicola* filarial worms, parasiting cattle and deers in some parts of Europe, respectively.

In the frame of the present COST action and at an international basis, produced data can be compared and correctly understood.

Future collaboration with the host institution

In the frame of the present COST action, ongoing research collaboration will produce results to be presented at a national and international level.

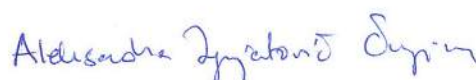
Foreseen publications/articles resulting from the STSM (if applicable)

The results of this STSM will contribute for further ongoing work, which will be presented at different international meetings and published in 1 or 2 peer-reviewed journals.

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

Herewith, I confirm the participation of Dr Helder Cortes, Reference code ECOST-STSM-TD1303-070714-044118, to the STSM organized by the University of Novi Sad, Serbia, Faculty of Agriculture, Department for Environmental and Plant Protection, Laboratory for Medical and Veterinary Entomology and I confirm the correctness of the present report. The active and committed participation of Dr Helder Cortes contributed to the successful execution of this STSM.

Novi Sad, 25th July, 2014



Dr Aleksandra Ignjatović Čupina

OTHER

I am thankful to the COST action for the support to the present STSM and to Professor Aleksandra Cupina, the Host Coordinator from the University of Novi Sad, for her hospitality, the perfect organization of the present STSM and for the constant dedication during the STSM to the ones attending the mission, sharing methods and her knowledge in any topic of simuliid research.

Report done on 24/July/2014

Applicant and STSM participant:

Helder Cortes
(signature)