



MASARYK UNIVERSITY
FACULTY OF SCIENCE
DEPARTMENT OF BOTANY AND ZOOLOGY

Final Report for ESF (Thermal adaptation in ectotherms: Linking life history, physiology, behaviour and genetics)

Applicant:

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Project title:

Thermal adaptations of two populations of winter-active *Anyphaena accentuata* spiders (SV/3571)

Name of host and host institute:

M.Sc. Marco Isaia Ph.D.
Università di Torino
Laboratorio Ecosistemi Terrestri
Dipartimento di Biologia Animale e dell'Uomo
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10123 Torino
Italy

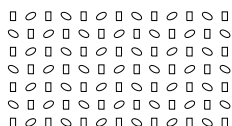
Report:

The short visit trip began on October 25th, 2010 at 6:00 am in the Ruzyně airport in Prague. In the afternoon I arrived to Torino where I met my host Dr. Marco Isaia at Torino University (Laboratorio Ecosistemi Terrestri). I analysed *Anyphaena accentuata* specimens deposited in the Torino University collection. Abundance and body size of spiders were recorded.

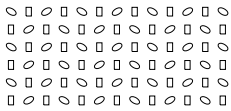
October 26th, 2010 – I continued analysing the university collection. Dr. Isaia and I standardised population and meteorological data for next analyses and statistical evaluation.

I also presented my results and expected future cooperation between me and Dr. Isaia at internal department meeting.

October 27th – I left Torino and I travelled for Monterosso Grana where I stayed till 30th October.



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October 27th – 28th – In an ecological fruit orchard and in its surroundings I observed the activity of *A. accentuata*. The orchard is situated close to the village of Botonnasco (630 m a.s.l.). Samples of all arboreal invertebrates were collected by beating of tree branches in the orchards. Samples will be analysed in a laboratory in Brno. Seventy alive specimens of *A. accentuata* were collected and the group of 30 specimens will be tested for adaptation to low temperature (in the laboratory).

October 29th – The area surrounding the village of Cornaletto Sottano close to Demonte (mixed forest, 900 m a.s.l.) was explored. I expected that the population of *A. accentuata* in this locality would be relatively isolated from Botonnasco population by the Alps mountain range. Twenty nine alive specimens of *A. accentuata* were collected and all of them will be tested for adaptation to low temperature (in the laboratory in Brno).

October 30th – I returned to Torino and at 17:00 pm I flew to Prague. At 22:00 pm my trip was finished.

Goals of visit:

During the short visit trip I analysed samples collected during the whole year 2008 that included samples from both the winter and the warm period. Abundance and spider body size (length of prosoma) were measured for all 2008 samples. The occurrence data for *A. accentuata* living in a tree-crown and on a tree bark, and the meteorological data (daily average) were standardised for the next analyses and the next comparisons with data from the Czech Republic. Alive specimens of *A. accentuata* were collected from two isolated localities (70 and 29 specimens) for later laboratory studies of low temperatures foraging. During my visit I presented obtained and expected results in an internal meeting in Dipartimento di Biologia Animale e dell'Uomo and agreed on the next cooperation.

Planned publication and planned further collaboration:

By the end of year 2010 *A. accentuata* spiders will be tested for foraging at low temperatures, in laboratory conditions. The differences between Czech and Italy populations will be analysed. Occurrence, abundance and body size data of *A. accentuata* and meteorological data from the whole season will be analysed and the difference among populations will be disclosed. Our results will be used for the preparation of a manuscript. Finishing of the manuscript and its submission in a prestigious international journal is expected by the end of year 2011.

Prague, November 1st, 2010

Stanislav Korenko

