

## BASIC INFORMATION ON SUB-PROJECT

NAME OF PROGRAMME/FUND	Scholarship Fund - Sciex NMS <sup>ch</sup>
RESEARCH FIELD AND OTHER RESEARCH FIELDS INVOLVED (if applicable)	Basic Biological Research, Environmental Sciences
TITLE OF THE SUB-PROJECT	Testing the suitability of DNA barcoding for spiders (DECODE)
REGION OF THE CZECH REPUBLIC (according to the location of the home institution)	Prague
GRANT AMOUNT SPENT	96 797,00 CHF
INTERMEDIATE BODY	Swissuniversities
HOME INSTITUTION	Crop Research Institute Department of Biology
HOST INSTITUTION	University of Bern Dept. of Biology
NAME OF THE FELLOW	Milan Řezáč

## ABSTRACT OF THE SUB-PROJECT

DNA barcoding is a modern molecular approach enabling quick and safe identification of species in many different taxa of animals. It has a huge impact on numerous fields of biological research since several years. However, certain shortcomings and challenges of this method have also been pointed out. For spiders (Araneae), a mega-diverse group of arthropods that contributes considerably to European species diversity, the suitability of DNA barcoding has never been tested. We initiate a case study in order to gain a better understanding of how this method works when applied to spiders. We want to test if barcodes reliably reflect species boundaries in closely related spider species or even may help to resolve long-lasting taxonomic problems. For this purpose we chose three spider families representing the main European spider groups: Atypidae (Mygalomorphae), Dysderidae (Haplogynae), and Eresidae (Entelegynae). These families include morphologically very similar species, cryptic species can be also expected. Barcodes will probably allow to identify females in species where this is not possible at present, and juveniles that nowadays cannot be determined to species- or even genus-level in most spiders. Thus, spider taxonomy could profit enormously from integrating this modern and rapid approach. Our results will yield important publications in ISI journals, the barcodes will be deposited in GenBank and will be fuelled into the website on European spiders ([www.araneae.unibe.ch](http://www.araneae.unibe.ch)). This will be of considerable use for the scientific community.

## MAIN RESULTS

Řezáč, M., Gasparo, F., Král, J., Heneberg, P. (2014): Integrative taxonomy and evolutionary history of a newly revealed spider *Dysdera ninnii* complex (Araneae: Dysderidae). *Zoological Journal of the Linnean Society*, 172, 451-474.

Řezáč M. & Heneberg P. (2016): *Enoplognatha bryjai* new species, a bizzare cobweb spider of the Pannonian swamps (Araneae, Theridiidae). *Zootaxa*

DATE OF REALISATION OF THE FELLOWSHIP	1.11.2012 - 31.10.2013
MORE INFORMATION ON THE PROGRAMME	<a href="http://www.sciex.ch">www.sciex.ch</a>