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REPORT

Taxonomic training & access to collections in Belgium

NOTICE
The present questionnaire must arrive with the Belgian National Focal Point to the Global Taxonomy Initiative within one month of the official closure of the capacity building visits. Electronic submission on the general e-mail address of the Belgian GTI NFP (cbd-gti@naturalsciences.be) is strongly encouraged. If electronic submission should however be impossible, paper copies may be sent by fax or ordinary mail. The Belgian GTI NFP will acknowledge receipt of all project reports.

If grantees have **relevant pictures** to illustrate their capacity building visit, these may be annexed to the report. The Belgian National Focal Point might use some of these pictures in one of its reporting activities, but only after the copyright holder has given his permission.

Contact and further information

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PART I – CANDIDATE INFORMATION	
Family name:	HIGUTI
First name(s):	Janet
Nationality:	Brazilian
Date of arrival and departure in / from Belgium	21.07.2013 - 20.12.2013
Number of training days:	21 days for GTI
Type of visit	Training in taxonomy and collection management
Location of training:	Royal Belgian Institute of Natural Sciences, Brussels
PART II - GENERAL INFORMATION	
Describe concisely how you have learned about the Belgian GTI Project	Professor Koen Martens sent the link of the Belgian GTI Project and gave me the opportunity to participate in it.
Describe concisely how you have learned about this specific call for proposals	Both Professor Koen Martens and the coordination of Belgian National Focal Point to the Global Taxonomy Initiative (GTI) sent an email about this specific call.
If this was your first study visit financed via the Belgian GTI National Focal Point, describe concisely why you needed capacity building in taxonomy and collection management	Not applicable.
If this was not your first study visit financed via the Belgian GTI National Focal Point, describe concisely why you needed further support	The Freshwater Biology section of the RBINS, of which Prof Martens is head, has several advantages for training in taxonomy and collection management: an extensive library of taxonomic literature, good reference collections comprising species from all over the world, good optical equipment, access to scanning electron microscope with digitizing equipment and guidance by an experienced ostracod taxonomist. The reason I need this training is that in my home institution, I am situated in a unit that is concentrating mostly on ecological research. Taxonomic expertise is largely lacking, but is necessary when starting work on a group for which most basic taxonomic work still has to be done, such as non-marine Ostracoda in South America.

Describe concisely what support (e.g. training, access to collections,…) you have received and how this training can be related to taxonomy and /or collection management	Training to learn the various protocols (including the dissection of ostracods, mounting slides, drawings the appendices, scanning electron microscopy, collection management; etc.) necessary for the identification and description of new genera and new species of Ostracoda.
Describe concisely how your gained capacity will help you in your professional duties	The increase taxonomic expertise on Brazilian floodplain ostracods, will solve several of the remaining taxonomic problems, so that meaningful analyses can be made at the specific level. It will contribute to the taxonomy of South American Floodplain Ostracoda, so that they could be used in the future as a model group in long term ecological modeling, much like LTER project of my home institute (http://www.peld.uem.br/). Additionally, this training has contributed immensely in identifying the ostracods of SISBIOTA´s project (National System of Biodiversity Research) in four floodplains (Paraná, Araguaia, Amazon and Pantanal) of Brazil.
Describe concisely how your gained capacity will be implemented in your institution	Training, as well as supply with literature and opportunities to use scanning electron microscope and other facilities at the RBINS will install vital expertise within the unit Nupelia of the State University of Maringá. I am training other students through graduate and postgraduate courses at the University.
Describe concisely what other support you eventually would need	Continued access to all facilities of RBINS and some financial support for new sampling equipment.
Describe concisely what infrastructural and human resources you and your institution eventually still need to become fully functional	Trained professionals and good optical equipment, including high resolution transmittal microscopes with *camera lucida* and high power binocular microscopes.
Describe concisely how you think the Belgian GTI National Focal Point could further construct capacity for you and your institution	The Belgian GTI National Focal Point could continue financially supporting the exchange between researchers of both institutions. If GTI can foresee the possibility to support the purchase of optical equipment, that would be a very important asset.

PART III – TAXON SPECIFIC INFORMATION	
What is your taxon of interest	Ostracoda (Crustacea)
Describe concisely the different methodologies for collecting your taxon.	Macrophytes and littoral benthos are collected with hand nets (160µm), deeper stations are sampled with dredges (Ekman, Petersen). The ostracods associated with macrophyte root systems (called 'pleuston' in case of floating macrophytes) are also hand collected, and roots are thoroughly washed in a bucket. The residues are washed in the same handnet. Both qualitative and quantitative samples are taken. Quantitative samples are obtained by taking the total root systems and determining dry weight.
Describe concisely how to best preserve collected specimens of your taxon for taxonomic purposes	The ostracods are preserved in 70% EtOH. Some specimens are dissected under a stereo-microscope: valves are opened with dissection needles, soft-parts are removed from inside the carapace, appendices are separated and then mounted in glycerine on a glass slide covered with a cover slip and sealed with nail polish. Valves are dried in the air and then stored in a micropalaeontological slide. Some material for molecular analyses is stored in high grade, 100% ethanol and stored at 4°C.
Describe concisely how you intend to make your taxonomic data available to other colleagues	I am already transferring my knowledge through my position at the university and training students through graduate and postgraduate courses at the University. There is at present no other qualified person there. Knowledge is also disseminated through publications in international journals. In addition, I am preparing an atlas of ostracods valves (SEM) to allow the identification of this group by non-specialists, also at other places in South America.
Describe how your taxonomic work helps improving the status of biodiversity in your country	There are about 2000 species of Ostracoda described in about 200 genera from the non-marine environments in the world, of which about 275 species in 55 genera are known in South and Central America (Martens & Behen 1994, Martens et al. 2008). Considering that it is an underestimation on the global scale, South America in general and Brazil in particular would be an example. Martens et al. (1998) reported 96 species in 32 genera from Brazil. Recent additions to the Brazilian fauna of ostracods conducted in the States of Rio Grande do Sul (Würdig & Pinto 2001), São Paulo (Pinto et al 2003, 2004, 2005a, b, 2008.) and Paraná/Mato Grosso do Sul (Higuti et al. 2009a, 2013, Higuti & Martens 2012a, b) increased this number to 112 species in 37 genera. However, new genera and new species still await description in different environments (Pinto 2007, Higuti et al. 2009b, 2010).

Describe how your project could help reduce poverty in your country	Knowledge of biodiversity is essential for scientifically underpinned management of different ecosystems. In the upper Paraná River floodplain, one of the hotspots of biodiversity in Brazil, native people still depend on fisheries for their livelihood and more recently also on activities related to ecotourism. These activities depend mainly on the preservation of the integrity of this vast ecosystem. Whereas most keystone groups in this system are relatively well-known, smaller groups such as Ostracoda are less-well studied, mostly because the taxonomy of such groups is less well-known, so that surveys and studies cannot be performed down to species level. Nevertheless, such groups are of equal importance to ecosystem functioning, and thus of the goods and services that such ecosystems provide. The present study will increase the taxonomic relevance of Ostracoda in the Upper Paraná River Floodplain, and will allow the use of this group as a model taxon for monitoring ecosystem health. As ostracods are rather sensitive to water quality, they can be seen as early-warning sentinel systems for deterioration of ecosystem quality, be that through climate change or through human activities (eg mismanagement of flood control trough upstream dams).

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