

BioForMoz Newsletter 4

March 20, 2022 – June 30, 2022

Dear colleagues and friends,

here is the fourth newsletter of the BioForMoz project (Support for Environmental Research AID 12089), funded by Italian Agency for Development Cooperation (AICS), entrusted to the Department of Biomedical Sciences of the University of Sassari to collaborate with the Biotechnology Center of the E. Mondlane University of Maputo in Mozambique, together with Dept. Biology and Biotechnology C. Darwin, Sapienza University of Rome and the Department of Earth, Environment and Life Sciences, University of Genoa.

We apologize for the length of this newsletter but since the last newsletter of March 2022, we have been able to develop several actions.

The activities of the research projects related to training and research grants have started.

On 23 March 2022 the Seminar for the Presentation of Research Projects of Training Grants was held at the Museum of Natural History with the participation of the Scientific Direction of the UEM and about 40 guests.

For the area of environmental conservation and terrestrial and marine biodiversity, the following projects are underway.

The following research lines are included in the grants for master's theses:

Suzana Lilia Macuvele Diferenciação genética (filogeográfica) de *Prostephanus truncatus* (Horn) (Coleoptera: Bostrichidae) em Moçambique.

Fabião Simão Siteo: Diversidade Genética Baseada em 21 STRs autossómicos dos grupos etnolinguísticos de Moçambique.

Domingos Alberto Sandramo: Code de barras de DNA para avaliação de biodiversidade específica and phylogenetic and polinizadores (Diptera: Syrphidae): Reserva Nacional de Chimanimani, Província de Manica, Moçambique.

Sheila António Nhasengo: Revisão e identificação taxonómica, morfológica and molecular da biodiversidade de Himenópteros, polinizadores da Colecção de Insectos do Museu de História Natural de Maputo, Moçambique.

The following research lines are included in the research grants:

Erica Tovela: From river to river: the study of genetic migration in fishes.

Carlos Bento: Evaluation of the genetic characteristics of the African buffalo in Mozambique, respecting the biogeographical regions.

In addition to the research lines associated with grants, the following is also configured as an additional research line

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Proposal for the establishment of a BioBank - The two laboratory units of the BioBank are in operation, one at CB-UEM and one at MHN-UEM, for the conservation of biological samples (blood, tissues, faeces, ectoparasites) of the wildlife of the conservation areas to be subjected to genetic characterization of animal populations and the control of zoonoses and available to Mozambican and international research groups. Currently about one hundred samples are preserved (Elephant (41), Zebra (2), Wild Dog (7), Rhinoceros (8), Buffalo (19), Lion (7), Giraffe (9) and Chita (3).)

In the field of zoonoses and communicable diseases, the following lines of research are being developed:

The following research lines are included in the scholarships for master's theses:

Edna Macule: Detecção molecular de patógenos and identificação da source alimentar em carraças do género *Rhipicephalus maculatus* no Parque Nacional de Maputo.

Oswaldo da Conceição Laurindo: Filodinâmica do vírus Influenza pandémico em Moçambique no period from 2009 to 2022 ..

Ernesto Carlos Sambo: Clonagem and Expressão do Componente Genético CP de Banana Bunchy Top Virus (BBTV) em *Escherichia coli* and produção de anticorpos em coelhos (*Cavia Porcellus*) and em Galinhas para a detecção de BBTV em Bananeiras.

The following research lines are included in the research grants:

Vanessa Comé: Caracterização do perfil de resistência antimicrobiana de estirpes de *Escherichia coli* isoladas em animais domésticos que habitam próximo as areas de conservation ..

Raquelina Ferreira: Profile of hemoglobinopathies in children at the Maputo Central Hospital and Beira Central Hospital.

The following lines of research are included in the PhD scholarships:

Marília Mazivele Titoce: Estabelecimento de técnicas de diagnóstico para detecção do Maize lethal necrosis Disease (MLND) and vírus relacionados na região Centro e Norte de Moçambique. .

Hermógenes Mucache: Avaliação de novas ferramentas de eliminação de *Glossina* spp and use of métodos integrados para controle from trypanosomose em bovinos naturally infectados na Reserva Especial de Maputo during 12 months.

The following research line is included in the post-doctoral fellowships:

Lucinda Araújo: Epidemiology and Molecular Characterization of the RVFV and Establishment of Molecular Techniques for detection of RVFV in Mozambique.

In addition to the research lines associated with grants, the following is also configured as an additional research line:

Marília Mazivele Titoce: Identificação do vector do Amarelecimento do coqueiro (ALC).

For the area of food quality control and environmental pollution, the following research is being developed.

The following research lines are included in the grants for master's theses:

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Fernando Caetano Nhassengo: Identificação molecular e perfil de resistência de *Vibrio cholerae* de ambientes aquáticos em zonas endêmicas na Província de Sofala após o ciclone Idai.

The following research lines are included in the research grants:

Amélia Halila Milisse: Genomic evolution of *Vibrio cholerae* in the aquatic environment and in the case of the cyclone IDAI in Moçambique.

Joelma Leão Buchir: Avaliação de contaminantes emergentes no rio Umbeluzi: Sua ocorrência and efeitos em peixes.

In addition, on April 4, Dr. Claudio Ferrari of the University of Parma, held the seminar entitled "The barcode of fishes: how, why and where to protect the biodiversity", ([link](#)). On April 8 Dr. Ferrari has held the theoretical and practical course "From the Field to the Lab", for the staff of the Museum involved in the molecular characterization of different taxa.

On 21 April in the Amphitheater of the Pedagogical Complex I of the Eduardo Mondlane University, the training seminar on the accreditation of UEM Laboratories was held, organized in collaboration with the Scientific Direction of the UEM YouTube

On 13 May, the seminar entitled "Non-invasive genetics in conservation: a case study on the Eurasian otter (*Lutra lutra*) population of the Cilento National Park, Italy" was held in the auditorium of the Natural History Museum, by Dr. Giulia Gentile, of the Univ. Sapienza of Rome.

In June, 3 missions were carried out at the Inhaca Marine Biology Station to verify the state of conservation of the Laboratory facilities together with officials responsible for different institutions of the UEM and colleagues from AICS in Maputo. The tender for the rehabilitation of the Laboratory was also closed, entrusted to the company RIMPEX Lda.

On 24 June the new CB-UEM infrastructures were delivered by the construction company: offices, warehouse, green area.

Finally, Dr. Elisa Taviani, of the University of Genoa, is the new coordinator of BioForMoz in place of Prof. Mauro M. Colombo, who passes to the Scientific Committee.

We thank you for your attention