

5th International Conference on **Biodiversity**

March 10-12, 2016 Madrid, Spain

Investigation of flora and fauna in Sarsakhti forest reserve: Case study in Shazand area, Markazi province, Iran

Mahmoud Bayat and Seyedmahmoud Monemian
University of Tehran, Iran

In this research, flora and fauna of protected Sarsakhti forest reserve were investigated. Sarsakhti oak forest reserve is about 200 ha in area that is located in Markazi province with a distance of 10 kilometers from Shazand city. In this research, for the first time, the floristic and bio form of Sarsakhti forest reserve were studied. To study the flora of the region, walking around the region was used. In this research, firstly the studied region was categorized geographically and seasonally. The procedure of gathering vegetative samples was implemented through direct inspecting of the region arranged in different seasons. The samples were gathered with their roots, stems, leaves, flowers and fruits. Taking notes of ecological conditions and biological forms of any of the species was implemented directly while investigating the region. The gathered samples were conveyed to Arak herbarium center to be identified after drying process. Then, prepared herbarium samples were identified exactly by some flora references such as Flora Iranica, flora of Iraq, Russia and Iran. Investigation of the flora showed that there are 22 families, 94 genera and 128 plant species in the reserve. The largest plant family is *Apiaceae* with 15 genera and 26 plant species. The largest plant genus in the area is *Artemisia* from *Apiaceae* family with 5 species. The main life forms of the reserve are thermophile, Chamephyte and Cryptophyte. Most geographical distribution of the reserve plant belongs to Irano-Turanian region. To analyze fauna of Sarsakhti restricted oak forest reserve, field cultivation was done and walking was proceeded to detect the borders, situation and different areas of the region. Linear transect method was used to determine animal species, relative frequency, population density and dispersal condition of animals. Moreover, the method was also advantageous to design the propagation map of animal species and ecological classification map of the studied region. The investigation of the reserve fauna showed that there are 19 species of mammals, 19 species of reptiles and 23 species of birds in the study area.

bayatmahmood1983@gmail.com

Bioremediation of a contaminated peatland aguajal in Madre de Dios, Peru

Natalie Wetenhall
Bournemouth University, UK

Although Amazonian peatland swamps (known locally as aguajales) account for approximately five million hectares in the Peruvian Amazon alone, the importance of conserving these ecosystems has only become more evident due to recent advances in carbon storage measurements, characterizing them as the largest carbon sinks of the Amazon rainforest (Draper et al, 2014). Their imperative biogeochemical characteristics deem these ecosystems crucial for conservation and are in desperate need of legal protection to ensure good quality water and sediment in lowland Amazonia. As they are hydrological ecosystems, this constitutes their susceptibility to major contamination from anthropogenic activities such as gold mining, deforestation, industrial/domestic effluent and unsustainable aguaje (*Mauritia flexuosa*) palm fruit harvesting – all activities which are prevalent in the working sector of Madre de Dios. This paper will explore sustainable procedures to restore Amazonian peatland swamps back to their natural state after intense contamination has occurred from urban areas. The paper will focus on a site in Peru's Capital of biodiversity, Puerto Maldonado in the Madre de Dios region. Preliminary testing of peat swamp water quality and sediment analysis of heavy metals, crude oil and VOCs has been occurring since early 2015 to decipher which pollutants are present. Results have already indicated that the water contains excessive amounts of raw sewage, but once more results indicate which specific pollutants are present, an investigation into the potential benefits of phyto-extraction and mycoremediation will be tested on site and in two laboratories in the UK and Lima, Peru. Attempts to mitigate further wetland pollution in Puerto Maldonado will be reviewed as well.

spirotheca@gmail.com