

International Conference on

Mycology & Mushrooms

September 12-14, 2016 San Antonio, USA

Valuable additions to the diversity of mushrooms in Gilgit-Baltistan, Pakistan

Abdul Razaq¹ and Saleem Shahzad²¹Karakoram International University, Pakistan²University of Karachi, Pakistan

Samples of Basidiomycetous fungi were collected from Hunza, Nager, Sultanabad, Jalalabad, Bagroot, Nultar, Bassine, Haromush and Jotial areas of District Gilgit and Dashkin, Lashtang forest, Dichalnalla, Mushkin forest, Harchoo, Rama and center Astore (Eidghah) areas of District Astore, Gilgit-Baltistan Province of Pakistan. Spore prints were prepared by removing the stalk and placing the cap overnight on a paper sheet. The samples were brought to the Department of Biological Sciences for further macro and microscopic examination. A total of 20 species belonging to 14 genera, 7 families and 4 orders of Basidiomycota were identified. The collected species included *Aureoboletus cramesinus*, *Boletus aestivalis*, *Boletus edulis*, *Boletus piperatus*, *Boletus subtomentosus*, *Krombholziella oxydabilis*, *Krombholziella scabra*, *Leccinum carpini*, *Leccinum crocipodium*, *Leccinum versipelle*, (Order Boletales: Family: Boletaceae); *Gyrodon lividus* (Order Boletales: Family: Strobilomycetaceae); *Porphyrellus psedoscaber*, *Tylopilus felleus* (Order Boletales: Family: Gyrodontaceae), *Omphalotus olearius* (Order Boletales: Family: Paxillaceae); *Inocybeagardhii*, *Inocybegeophylla*, *Inocybe nappies*, *Naucoria centunculus* (Order Cortinariales: Family Cortinariaceae), *Ganoderma applanatum* (Order Ganodermetales: Family Ganodermataceae) and *Inonotus radiates* (Order Hymenochaetales: Family Hymenochaetaeaceae). All these species appeared to be new records from Gilgit-Baltistan not hitherto reported.

dr.razaq@kiu.edu.pk, Abdul_Razaq555@yahoo.com

Molecular systematic and metabolomic fingerprinting approaches to understand and control aflatoxin biosynthesis in isolated *Aspergillus* species

Alfred Mitema

University of Cape Town, South Africa

Food spoilage and poisoning pathogens lead to pre- and post-harvest losses of crop produce and feed stuff leading to food insecurity and safety worldwide. Aflatoxins are fungal toxins derived from some strains of *Aspergillus flavus*. Kenya has experienced worst outbreak of aflatoxin poisoning where 317 cases and 215 deaths reported. This problem appears endemic to certain Kenyan regions as every year cases are reported. The Maize kernels were collected from high and low risk aflatoxicosis regions, surface sterilized and plated on potato dextrose agar. The 37 isolated *Aspergillus flavus* strains were identified to species level using morphological, anatomical and molecular characteristics based on ITS 1 and ITS 2 molecular marker. Mycotoxin detection by CAM under UV light (365 nm) revealed blue fluorescence (57%, n=21) and (43%, n=16) green. Our findings were further validated through advanced metabolomics fingerprinting approaches (TLC, HPLC and LC-MS/MS) and vegetative compatibility groupings (VCGs). We concluded that strains from Makueni (78%, n=7) might be producers of aflatoxin AFB1, AFB2, the most potent mycotoxins. This could be so far a reason why there has been high risk of constant aflatoxicosis in Makueni as compared to other three study counties.

alfmite@yahoo.com