



MycoAfrica

Newsletter of the African Mycological Association (AMA)

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Deadline for next MycoAfrica issue:
30 January 2009

Instructions to authors:

Short **mycological pieces** of African relevance are encouraged. These should not be longer than 3 pages/800 words of text

Permanent features that need input from members:

News on our members

Important Dates of upcoming events, forays, workshops, congresses, etc.

Classifieds that can be used to advertise jobs, post-graduate positions, initiatives, etc.

Useful websites relevant to African mycology.

Please submit contributions as doc or txt files and images should be high quality jpg files.

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The Future of Mycology in Africa: The South African Example

By Levi Yafetto

Introduction

In 2006 I attended a joint meeting organized by American Phytopathological Society (APS), Canadian Phytopathological Society (CPS), and Mycological Society of America (MSA) in Quebec, Canada. In addition to having the opportunity to present a poster on my research to a larger scientific community, I was also thrilled by the prospects of networking and possible collaboration with other scientists.

At the meeting, I made a startling observation: there were very few plant pathologists and mycologists from Africa. I fervently questioned the underrepresentation of particularly African mycologists at such an august meeting. In my opinion, this was not a good sign for the continent if we desire to be competitive and progressive in this scientifically and technologically advancing world.

In 2007 and 2008, I made the same observations at MSA meetings held in Louisiana and Pennsylvania. It is worthy to point out that oral presentations scheduled to be given by mycologists arriving from Kenya (in 2007) and Gambia (in 2008) were canceled because they were not present.

I have always bemoaned the lack of interest in mycology among young African scientists, and the fact that the entire world is leaving the continent behind in this noble field. I increasingly feel the urgent need for a pragmatic, definite course of action, if mycology should (i) become an attractive field of study for the young African undergraduate science student, and (ii) ultimately take its rightful place in agriculture and industry, and subsequently play an active role in the sustainable development of African countries. If the time for action was ever ripe, it is now!

Driven by the zeal and quest to dig deep into the situation, I enquired at the Herbarium of Cryptogamic Botany, Harvard University about the

state of its holdings of mycological materials from Africa in the collections. It became obvious that the herbarium does have a few mycological collections from Africa. However, it was mostly expatriates who were on botanical collections in Africa that made these mycological collections. In one instance, a missionary had sent a box of his mycological collections from Africa to the herbarium (my initial assessment of the collections reveal that these were made between 1925 and 1928). A further look at available literature suggested that Professor Emeritus Leif Ryvardeen, University of Oslo, Norway, and collectors from the National Botanical Garden of Belgium Herbarium might have published quite extensively on fungi from South Central Africa.

With these revelations, my disappointment about the little attention given to the field of mycology in Africa by Africans was deepened. At that moment, and the days after, I felt the need to dig deeper and get a feel for the state of mycological collections in other herbaria around the world.

Research and information gathering

I was overwhelmed with enormous amount of information from a number of herbaria and other individuals I had contacted over a short spate of time.

Three of the herbaria contacted (the US National Fungus Collection, BPI; the New York Botanical Gardens, NYBG; and the Swedish Museum of Natural History, SMNH) have well-catalogued collections in their online database. I used these databases to mine information on mycological collections from Africa.

Mycological collections from Africa: an interesting revelation

For lack of space, I provide here some major findings from these databases, and the picture they paint on mycological collections from Africa.

1. Holdings of collections from individual African countries in the three database show that:

- (i) South Africa contributes more than 30 percent of collections in each of these databases (Fig. 1),
- (ii) many of these collections were made mainly by expatriates during the 1800s and the tail end of colonial era, and
- (iii) BPI carries more mycological collections from Africa than NYBG and SMNH (Fig. 2).

2. The BPI carries more mycological collections from North America, Europe, Asia, South America and West Indies than from Africa (Fig. 3). Interestingly, the combined holdings of

mycological collections of all 50 states of the United States in the BPI were more than all of the geographical locations combined: 11 of these states – California, Colorado, Connecticut, Florida, Maryland, Massachusetts, New York, Pennsylvania, Virginia, Washington and Wisconsin – each carries collections more than the combined collections from Africa.

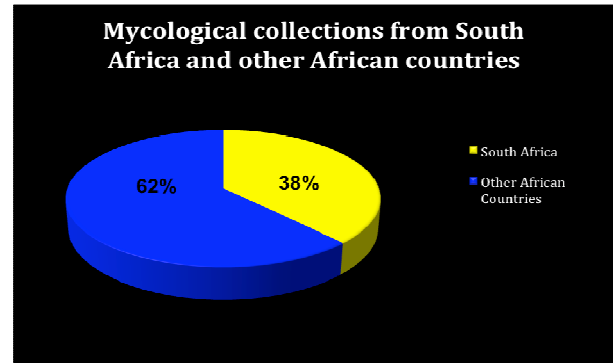


Fig. 1: Distribution of mycological collections from South Africa and other African countries at the U.S. National Fungus Collections

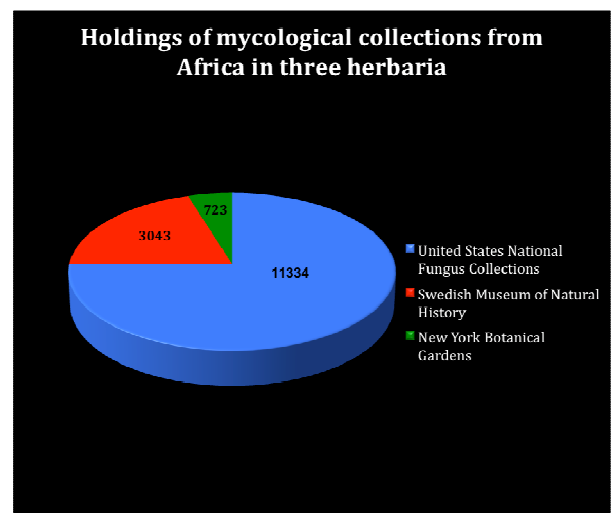


Fig. 2: Distribution of holdings of mycological collection from Africa at the U.S. National Fungus Collections, the Swedish National History Museum, and the New York Botanical Gardens

South Africa: a leader of mycological research in Africa?

Many interesting questions arise from these findings. One of them is this: what sets South Africa apart in mycological research in Africa? During this research, I chanced on two important references that detail the history of mycology and fungal biodiversity in South Africa (Rong and Baxter, 2006 and Crous *et al.*, 2006).

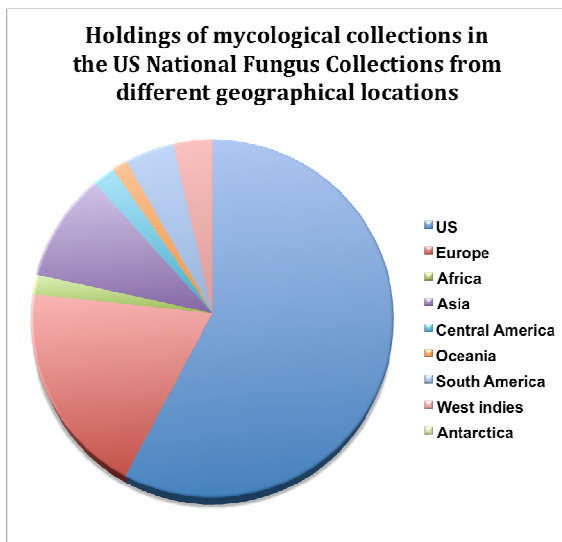


Fig. 3: Mycological collections carried by the United States National Fungus Collections, based on geographical locations. The figures retrieved from the web-based database may be subject to change as the institute updates its holdings.

The field of mycology in South Africa had been pursued with immense interest and dedication by pioneer mycologists in the mid 1800s, with strong support and investment from the government (Rong and Baxter, 2006). One positive development is the establishment of institutions such as the Agricultural Research Council (ARC), South African National Collection of Fungi (PREM), the Forestry and Agricultural Biotechnology Institute (FABI), and the Center for Applied Mycological Studies (CAMS). These institutions continue to build on the foundation laid by the pioneers in the field through cutting-edge research in plant pathology, mycology and forestry. Training of mycologists from other African countries seems to be an integral, active part of their programs.

According to Baxter (1994) and Rong and Baxter (2006), 40 percent of PREM's holdings are foreign. This feat could only be achieved because there are consistent, pragmatic efforts to maintain interest in taxonomic mycology particularly, which is virtually absent on the continent; this is possibly one of the main reasons why expatriates are credited with most mycological collections found in the herbaria I considered.

There are also vibrant, dynamic mycological and plant pathological associations in South Africa that organize meetings where individual research progress and findings are discussed. It's not a surprise then that the affairs of the African Mycological Association (AMA) are almost

exclusively steered from South Africa. Also, James Mehl of the University of Pretoria recently created an AMA group on *Facebook*, an online networking site.

The way forward

Mycologists and scientists from other related fields, as well as their respective governments on the continent, should take a cue from South Africa's excellent example.

- We should encourage taxonomic mycology, train more experimental and molecular mycologists, and equip them with the necessary tools and facilities to conduct research on practical applications and solutions to the enormous problems we're confronted with in agriculture, industry, nutrition, etc.
- These trained mycologists should be supported with funds to publish their findings in well-known scientific journals.
- Introduction of scientific journals pertaining to mycology and other related fields on the continent should be highly encouraged. This should be followed by a bold attempt aimed to publish mycological findings online for easy access.
- Attendance to high-profile scientific meetings in North America, Europe and Asia should be highly supported as well.

We stand a better chance of reaping the dividends of these investments in the long run through broader collaborations and networks, for we have a lot more to offer the entire mycological community than we could imagine. Moreso, we need thorough understanding of fungal biodiversity of the continent. The future of mycology in Africa still looks bright, and South Africa has shown the way forward, irrespective of the challenges.

References

- Baxter AP**, 1994. Past, present and prospective activities: Mycology Unit. PPRI. In: *Proceedings of the 13th Plenary Meeting AETFAT Malawi* (Senayi JH, Chikuni AC, eds) 1: 687-695.
- Crous P, Rong IH, Wood A, Lee S, Glen H, Botha W, Slippers B, de Beer WZ, Wingfield MJ, Hawksworth DL**, 2006. How many species of fungi are there at the tip of Africa? *Studies in Mycology* 55: 13-33.
- Rong IH, Baxter AP**, 2006. The South African National Collection of fungi: celebrating a centenary 1905-2005. *Studies in Mycology* 55: 1-12.

Acknowledgements

Many thanks to Professor Donald Pfister and Genevieve Lewis-Gentry of the Herbarium of Cryptogamic Botany, Harvard University for providing answers to my initial enquiries. I am also equally indebted to Primrose Boynton of the Department of Organismic and Evolutionary Biology, Harvard University, for reading, editing

and making suggestions to the initial script. Finally, my gratitude goes to all curators who responded to my questions.

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Mushroom hunting with the Cape Natural History Society

By Lizel Mostert

On the 29th of June 2008 a few of the members of the Department of the Plant Pathology at the University of Stellenbosch led a mushroom hunt in Jonkershoek valley near Stellenbosch in the Western Cape. The mushroom hunt was organized for the Cape Natural History Society.

Around 30 members of the Natural History Society joined for the morning activity. They arrived in a tour bus at the gates of Jonkershoek. We joined them and drove a short distance into the MTO forestry area that is planted with pine trees. A check list with photos was given to them of which mushrooms they would find. Dr. Lizel Mostert gave a briefing of edible, not edible and poisonous ones illustrating with fresh specimens.

The 'happy hunters' took off each with a basket or bag hoping to find lots of *Boletus edulis* (Cep).

After two hours of perusing through the woods we joined up again to have a show of the mushrooms collected. The edible mushrooms picked included one Bolete and several samples of *Lactarius deliciosus* (Pine ring) (Fig. 1). The fungal forae also included *Lactarius hepaticus* (Plowright), *Laccaria laccata* (Deceiver), *Russula* species, *Tricholoma saponaceum* (Soapy toadstool) and *Amanita muscaria* (Fly Agaric).

After the identifications we tested the 'catch of the day'. The Bolete and the Pine rings was cut in pieces and fried in butter (Fig. 2). Everyone could taste the fried mushrooms and gave their approval or distain (Fig. 3). Mostly, these unknown edible mushrooms got the thumbs up.



Fig. 1. A collection of *Lactarius deliciosus* also known as Pine rings, commonly found around pine trees in the Western Cape.



Fig. 2. Ronnie Glass of the Cape Natural History Society is busy frying some of the mushrooms.

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Message from the Committee

New face for our webpage

Dear AMA members,

Our website at the domain www.africanmycology.org has been redesigned. One of the new features on it involves logging into some features of the site, such as access to the membership lists. This is done in this way to protect your privacy from spam mailers (and others) on the WWW. This feature is not yet functional as the new membership lists are still being finalised. Once everything is ready we will notify you and you will be able to register on the site to receive your passwords.

The version of the website is still a trial so we welcome any comments or requests you might have to make this website informative and useful for you.

Lastly, nominations for members of the next committee have been poor. Please nominate your colleagues. Those of you willing to serve the AMA, please ask your colleagues to nominate you. We are looking forward to hear from you.

Marieka Gryzenhout and Isabel Rong

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Important Dates

South African Association of Botanists (SAAB) congress

Stellenbosch, South Africa

Congress: 19-22 January 2009

46th Congress of the South African Society for Plant Pathologists (SASPP), joint with 6th Congress of African Mycological Association (AMA)

Gordonsbay, South Africa

Congress: 25-28 January 2009

<http://www.saspp.co.za>

e-Biosphere 09, the International Conference on Biodiversity Informatics

London, UK

Congress: 1-5 June 2009

<http://tinyurl.com/25e369>

FEMS 2009 - 3rd Congress of European Microbiologists. Microbes and Man-interdependence and future challenges.

Göteborg, Sweden

Congress: 28 June – 2 July 2009

www.kenes.com/fems-microbiology

SASSB 10th Anniversary Conference (South African Society for Systematic Biology)

Natalia Resort, Illovo Beach, KwaZulu-Natal, South Africa

Congress: 25-27 July 2009

Closing date for Abstracts: 31 May 2009

DIVERSITAS OSC2, Biodiversity And Society: Understanding Connections, Adapting to Change

Cape Town International Convention Centre (CTICC), South Africa

13-16 Oct 2009

www.diversitas-osc.org

International Mycological Congress (IMC9)

(hosted by the British Mycological Society)

Edinburgh, Scotland

Congress: 1-6 August 2010

www.imc9.info

VISIT THE FOLLOWING SITE FOR COMPREHENSIVE LISTS OF UPCOMING CONGRESSES

Horizon Press for lists of microbiology congresses
<http://www.horizonpress.com/conferences/>

Useful websites

(Updated every second issue, more websites in previous issues.)

African Society for Edible and Medicinal Mushrooms

<http://www.asemm.org/>

Encyclopedia of life

<http://www.eol.org/>

Henry Stewart talks (on various biological topics for lectures)

<http://hst.streamuk.com/bsr/index.asp?chk=1>

Hysteriaceae & Mytiliniaceae

<http://www.eboehm.com/>

International Field Guides

<http://www.library.uiuc.edu/bix/fieldguides/main.htm>

Lichenology Mart

<http://www.bi.ku.dk/lichens/courses/>

Horizon Press for lists of microbiology congresses

<http://www.horizonpress.com/conferences/>

Mycoforest Technology

<http://www.micofora.com/index.asp?Idioma=EN&opc=18>

Mycology Education Mart

<http://www2.bio.ku.dk/mycology/courses/>

Mycoroot

<http://www.mycoroot.com/>

Plant Health Products

<http://www.plant-health.co.za/index.html>

South African Association of Botanists

<http://wolfman.rucus.net/SAAB/>

South African Genetics Society

<http://sagene.co.za/>

South African Society for Microbiology

http://www.uovs.ac.za/fac/natural_agricultural/sasm/index2.php

QUESTIONNAIRE OF AFRICAN MYCOLOGISTS FOR THE AMA

(please post/fax to Marieka Gryzenhout)

Name:

Title:

Institution and Postal Address:

Country:

Country or origin:

Email:

Website:

Phone number:

Fax number:

Research interests (choose one or between cell biology, physiology, ecology, pathology, molecular biology, systematics, evolution, medical mycology):

Specific interests:

Details of other African mycologists who may want to join AMA:

Skills to offer AMA (committee member, conference organiser, fund raising etc.):
