

**(SOUTH) AFRICA ALWAYS BRINGS SOMETHING
NEW**

SEMPER ALIQUID NOVI AFRICAM ADFERRE

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Rong & Baxter (2006), Stud Mycol 55



Semper aliquid novi Africam adferre

“Mid 16th-century saying, encapsulating a traditional view of Africa as a mysterious continent; from the *Historia Naturalis* of the Roman writer Pliny the Elder (ad 23–79).” www.oxfordreference.com

Too many mushrooms without names.

Too few native southern african mushrooms and other larger fungi have been described.

We ran out of species with names.

The plea of fungal biodiversity in south africa.



Jean Stephenson

WHAT DO WE KNOW?

- Field guides

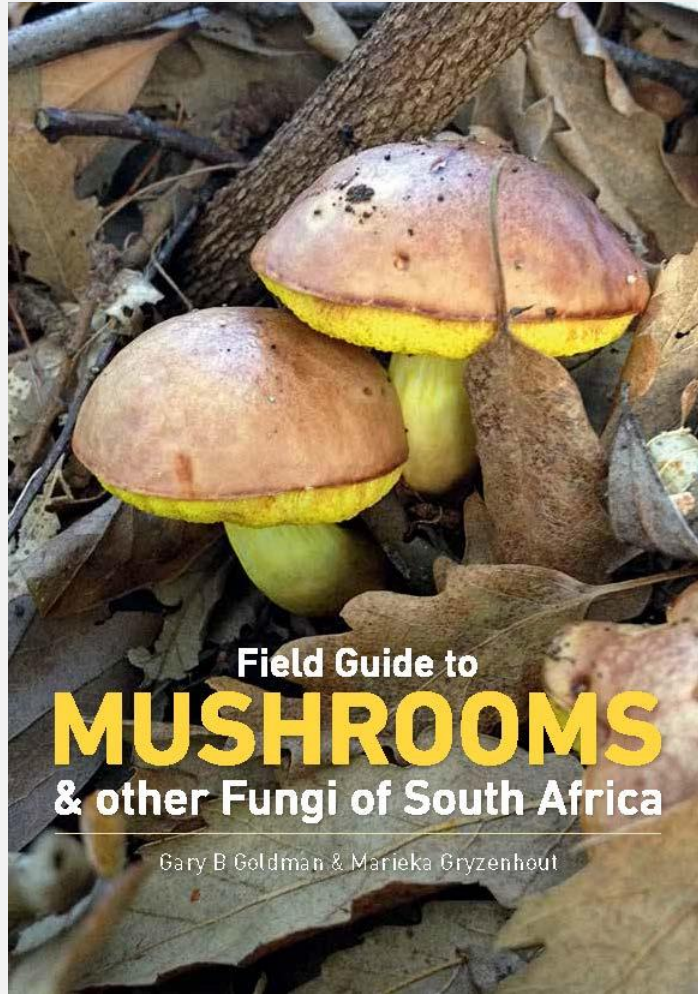


FUNGI AND LICHENS OF THE LIMPOPO VALLEY *& Mapungubus National Park.*



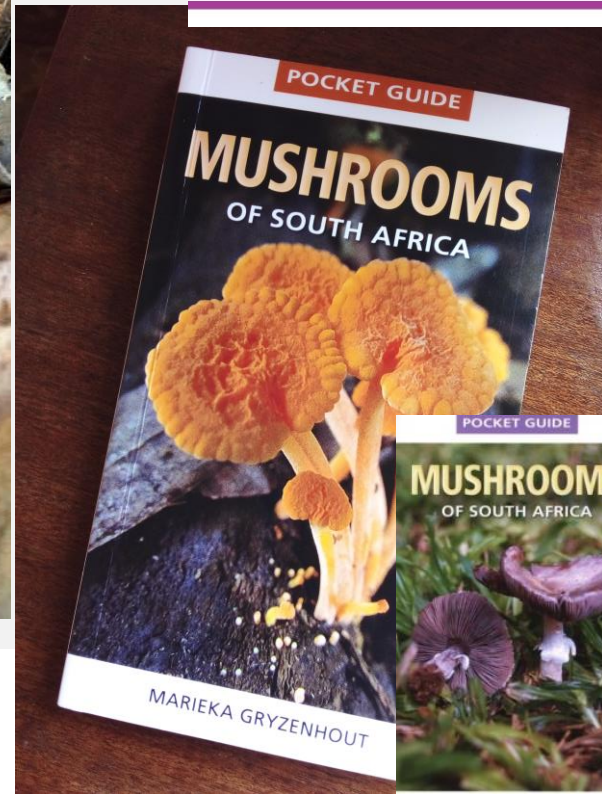
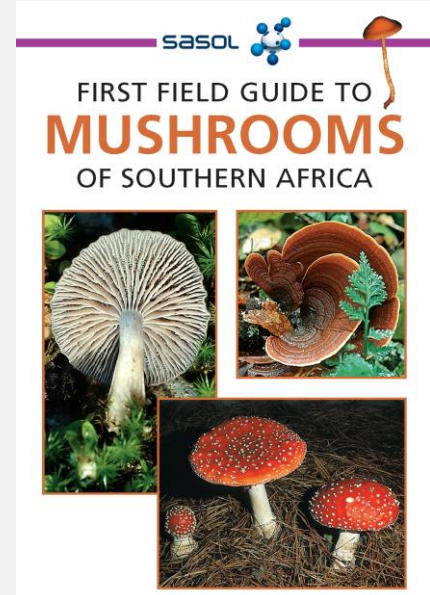
RETHA VAN DER WALT ·
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Field Guide to **MUSHROOMS** & other Fungi of South Africa

Gary B Goldman & Marieka Gryzenhout



WHAT DO WE KNOW?

- Iconic monographs
- History of research



Liz Popich

Marasmius haematocephalus (rosy parachute)

WHAT DO WE KNOW?

- First checklist (Kinge et al. 2020, MycoKeys 63)



Anthracophyllum archeri (orange fan)

WHAT DO WE KNOW?

- Incredible amateur mycologists

MycoSens is a section in IMA Fungus introduced for historical or topical commentaries and observations of potential interest to a wide range of mycologists, but which fall outside the scope of other sections of the journal.

The need to engage with citizen scientists to study the rich fungal biodiversity in South Africa

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Abstract: Fungi are a marginal interest group for the South African public even with the recent boom in nature guides covering diverse topics. However, fungi are not a marginal group in any ecosystem on Earth, and have vital ecological functions with significant positive or negative impacts on the lives of humans. The reasons for the obscurity of fungi, are that fungi are not well-known, often negatively perceived and not well publicized. Yet strong interest exists from laymen to diverse biologists. These enthusiasts are frustrated by a lack of information and expertise. South Africa has an incredibly rich diversity of fungi but there are no active experts cataloguing and describing these fungi, especially the groups the public encounters. This is a problem also experienced by many other African countries. Planned and focused efforts including citizens will contribute to the needed stimulation, promotion and funding of research in mycology in South Africa.

Keywords: education, mycology, South Africa, training



MYCOSENS



Liz Popich

***Hygrocybe conica* (blackening wax cap)**

WHAT DO WE KNOW?

- Sociological importance



Boletus aereus (queen bolete)

WHAT DO WE KNOW?

- Incredible biodiversity



Bernice Porter

Phlebopus sudanicus
(bushveld bolete)



Campanella capensis

Liz Popich

WHAT DO WE KNOW?

- Native fungi
- Endemic fungi



Amanita veldii
(Veldie's lepidella)

"Vulnerable"

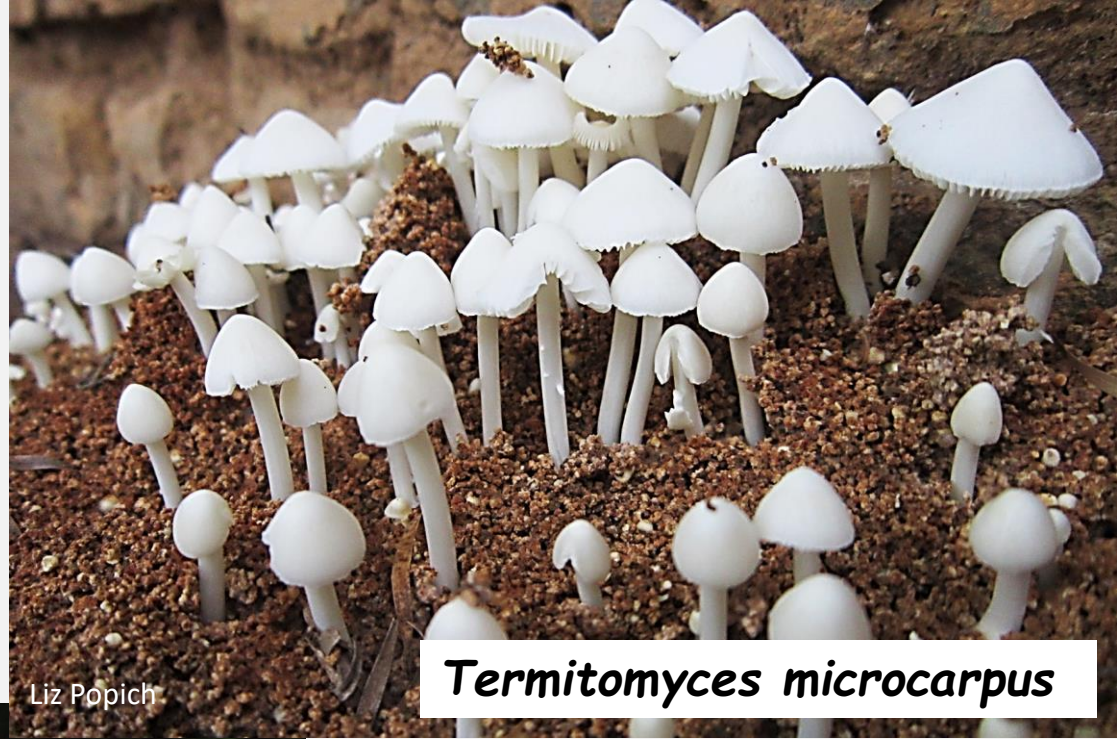


Liz Popich

Clathrus transvaalensis

WHAT DO WE KNOW?

- Interesting ecological stories



Liz Popich

Termitomyces microcarpus



Liz Popich

Termitomyces umkowaan
(steak mushroom, ikowa)



WHAT DO WE KNOW?

- New reports



Macrocybe lobayensis



Heliocybe sulcata
(daisy mushroom)

Liz Popich

MOST SPECIES IN THE GUIDES ALSO OCCUR ELSEWHERE



Mike Wingfield

***Leucocoprinus birnbaumii* (lemon-yellow lepiota)**

WHAT DO WE NOT KNOW?

- Unknown/undescribed species and genera



Liz Popich



Liz Popich

WHAT DO WE NOT KNOW?

- DNA sequence



WHAT DO WE NOT KNOW?

- Importance: Ecology



WHAT DO WE NOT KNOW?

- Importance: Residency status, invasion potential and movement



Gary Goldman

***Amanita pantherina* (panther)**



Gary Goldman

***Lactarius deliciosus* (pine ring)**

Fungal conservation in Africa

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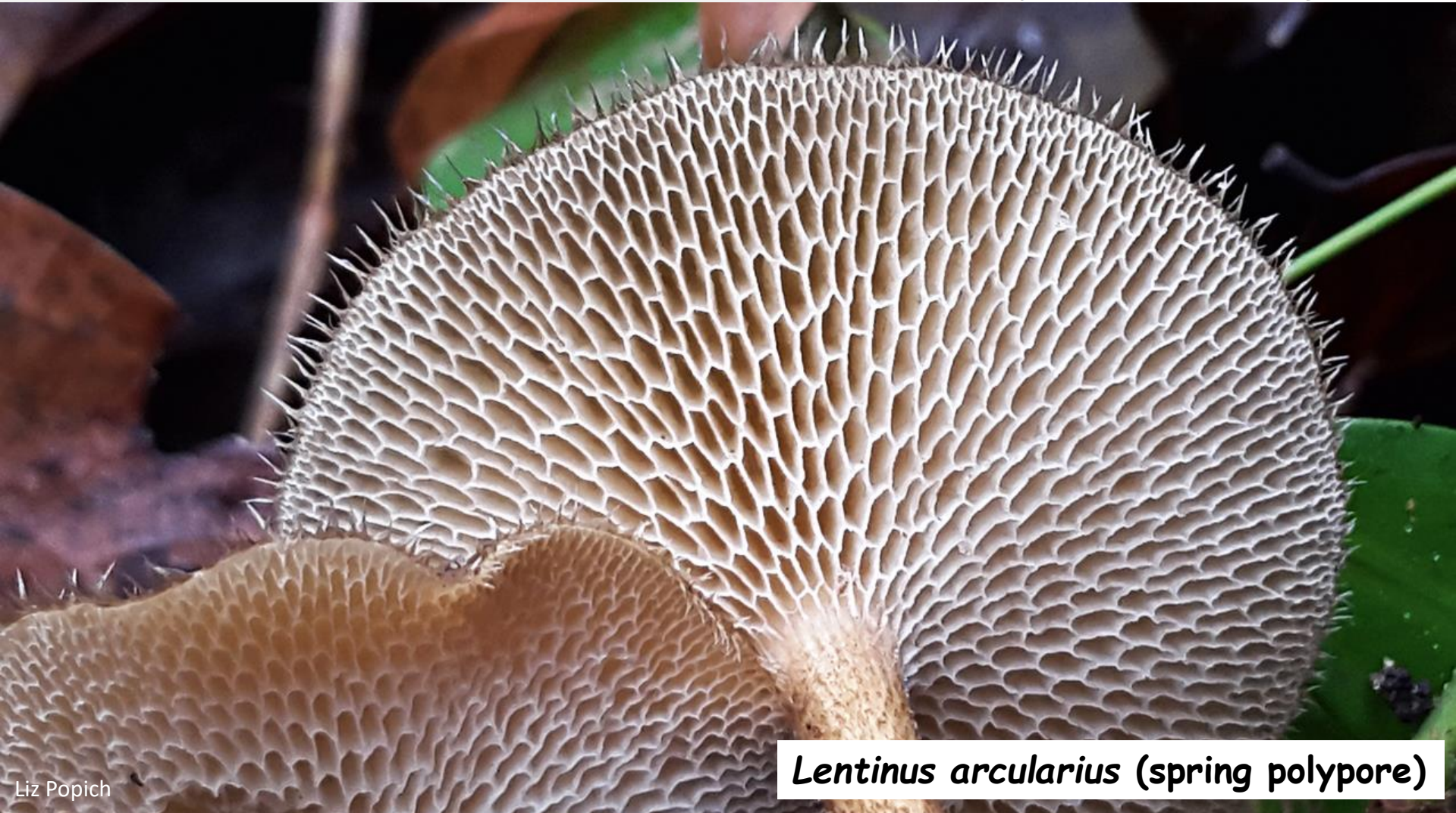
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Abstract. Nature conservation and conservation training in Africa are actively pursued and receive much international interest, but there is little awareness of fungi, of their importance, their uses, their unexplored diversity and the need to protect them. This review summarises the current state of fungal conservation in Africa,

WHAT DO WE NOT KNOW?

- Importance: Conservation status



Lentinus arcularius (spring polypore)

WHAT DO WE NOT KNOW?

- Importance: Ethnomycology and other uses



WHAT DO WE NOT KNOW?

- Applications for African problems, e.g. mycoremediation



Marasmiellus candidus
(blackfoot parachute)

SO WHAT?



**STATEMENT BY MRS. ELIZABETH MARUMA MREMA
EXECUTIVE SECRETARY OF THE CONVENTION ON BIOLOGICAL DIVERSITY**

on the occasion of

THE FIRST AFRICAN FUNGUS DAY

25 May 2022

Distinguished participants,
Ladies and gentlemen,

It is my great pleasure to help launch the celebration of African Fungus Day. I would like to thank the Arab Society for Fungal Conservation and the other organizers of this event, the first of its kind.

I must admit that I am very new to the world of fungus and probably I am not alone. As I will share with you that the very word has mixed connotations for me. While the culinary delights might be the first thing that spring to mind, the term also has less pleasant connotations. As mycologists, you are undoubtedly aware that fungus doesn't always get respect it deserves. It's time this changed, and this celebrative launch is such that it offers

Biodiversity is made up of all life on Earth: animals, plants, microorganisms and fungi. Without biodiversity we would have no food to eat, no water to drink, or air to breathe. Without biodiversity there would be no life. Understanding the importance of biodiversity and the intricate relationships within the natural world, including the role of fungi, will encourage us to take the necessary actions to protect biodiversity. This first African Fungus Day aims to advance and share knowledge and raise awareness for the often underappreciated but highly critical fungal networks, on which the survival and health of our planet and people depend. Our understanding of the vital roles that fungi play in the overall health of our planet encourages us to work to conserve and utilize these climate warriors in our fight against biodiversity loss, desertification, and climate change.

Fungi remain an untapped resource with enormous potential in fields such as biotechnology, restoration, and carbon sequestration. If it were not for fungi, life on Earth would look very different than it does today. Around 1.3 billion years ago, fungi began creating an environment in which other life forms could survive. This was done through the acids and enzymes produced by fungi extracting minerals from rocks and forming calcium oxalates, which caused rocks to crumble and the generation of soil to begin. Fungi not only help to produce soil, but also

se and absorb water into the soil, which is essential in the prevention of erosion. With fungal networks work to break down waste and redistribute nutrients between ecosystems, cycling energy within and between ecosystems, a process without which life on earth would not be possible. And while fungi work to create and maintain healthy soils and ecosystems, fungi have also been found to use enzymes to break down oil and turn hydrocarbons into carbohydrates, where mushrooms can grow and attract other forms of biodiversity and eventually create a thriving ecosystem. These findings can be game-changing for restoration, as fungi may restore degraded or contaminated lands back into healthy ecosystems, as well as carbon sequestration, as fungi extract carbon from plants and use it in their growth, store it in the soil and reducing the amount of greenhouse gases released into the atmosphere. As a result of these benefits we receive from healthy fungal networks, fungi are also essential in pharmaceutical production processes, and provide the world with globally significant medicines, such as penicillin and lovastatin.

Effective conservation and management of biodiversity is largely dependent on the thorough understanding of the many species that make up each ecosystem and the contributions that each one brings to maintaining the health of those ecosystems. And now that we know that fungi are essential for a sustainable and healthy planet, it is estimated that over 90 percent of fungal species are currently unknown to science. Reinventing the field of mycology is essential to ensure that fungi are understood, valued, conserved, and sustainably used, with the benefits arising from their use fairly and equitably shared for the well-being of society and the sustainability of the planet.

The draft post-2020 global biodiversity framework, currently being developed under the Convention on Biological Diversity, aims to halt biodiversity loss by 2030 and will thus contribute to the achievement of the 2030 Agenda for Sustainable Development. It also aims to achieve recovery and restoration by 2050 to reverse the current crisis caused by the combined effects of climate change, biodiversity loss, desertification, and pollution and to realize the 2050 vision of Living in Harmony with Nature. But this can only happen through a fundamental change that ensures sustainable development. If biodiversity loss is not stopped, the opportunities for new solutions to pressing socio-economic and environmental problems will forever be lost.

Mycology is a highly specialized field of science. And yet, mycologists have much in common with other environmental scientists whose aim is to better understand the world around us and combat biodiversity loss, climate change, pollution, and environmental degradation. We are united by our vision of a sustainable future where human activities support biological and cultural diversity to improve our livelihoods and well-being. We are united by our collective intention to prove the status of species, genetic and ecosystem diversity.

May this first African Fungus Day increase our knowledge of the immense importance of fungi in the health and prosperity of, not only the African continent, but all life on Earth. I encourage you to take the knowledge and passion from today's presentations and apply them to our common goals of work, to further advance the research and conservation of the fungal world.

I wish you fruitful discussions.



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SO WHAT?

...maintaining the health of those ecosystems....

- She called fungi....

...highly critical fungal networks...

...climate warriors...

...untapped potential in fields such as biotechnology, restoration, and carbon sequestration...

- We need....

...90 percent of fungal species are currently unknown to science...

...thorough understanding of the many species...

- We unite to.....

...combat biodiversity loss, climate change, pollution, and environmental degradation....sustainable future...

WHAT TO DO

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The status of mycology in Africa: A document to promote awareness

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Abstract: The African Mycological Association (AMA) promotes mycology amongst members in Africa and globally. The AMA has about 200 members, mostly from African states but also with strong representation from Europe and USA, amongst others. Recent efforts by members of the AMA focused on reviving and developing mycological research and networking in Africa. A great deal must, however, still be done to promote the AMA under African mycologists, and those elsewhere with interests in Africa. African mycologists also experience challenges typical of the developing world and a great deal of fungi still needs to be discovered. This can also be seen as representing great opportunities for research and collaboration. Several issues pertinent to mycology in Africa were discussed during Special Interest Group sessions of the 8th International Mycological Congress in 2010, and through several opinion pieces contributed by AMA members.

Key words:

Africa
challenges
mycology
opportunities
threats
uses

Favolaschia thwaitesii (ping pong bats)

WHAT TO DO

- Maintain the capacity and knowledge.
- Collect (and properly)!
- Sequence African species.
- Take part in international initiatives.
- What do fungi do and how do we maintain that function?
- Make fungi part of our lives.
- Without a baseline there is no way to know when there are changes.

Omphalotus olearius (copper trumpet)

THANK YOU

