***Curriculum Vitae***

**MARTIN KEMLER**

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**Education**

2003 – 2007 Eberhard Karls Universität Tübingen, Tübingen Degree: Dr. rer. nat. Dissertation: Evolution and Biology of the smut fungal genus *Microbotryum* (Pucciniomycotina) Supervisor: Prof. Dr. Dominik Begerow

2002 – 2003 Eberhard Karls Universität Tübingen, Tübingen Degree: Diploma, Biology Thesis: Molecular phylogenetics of *Entyloma ficariae* Thümen ex von Waldheim Supervisor: Prof. Dr. Franz Oberwinkler

1998 Intermediate Diploma, Biology

**Academic Positions**

2014 – present Research Fellow, Forestry and Agricultural Biotechnology Institute (FABI), University of Pretoria, Pretoria, South Africa (Prof. Bernard Slippers)

2010 – 2013 Postdoctoral Fellow, Forestry and Agricultural Biotechnology Institute (FABI), University of Pretoria, Pretoria, South Africa (Prof. Bernard Slippers)

2007 – 2010 Research Associate & Postdoctoral Fellow, Geobotany, Ruhr-Universität Bochum, Bochum, Germany (Prof. Dominik Begerow)

2005 – 2007 Research Associate, Systematic Botany & Mycology, Eberhard Karls Universität Tübingen, Tübingen, Germany (Prof. Franz Oberwinkler & Dr. Dominik Begerow)

**Publications**

**ISI rated:**

Lutz M, Göker M, Piatek M, Kemler M, Begerow D, Oberwinkler F. 2005. Anther Smuts of Caryophyllaceae: Molecular Characters Indicate Host-Dependent Species Delimitation. *Mycological Progress* 4, 225-38.

Kemler M, Göker M, Oberwinkler F, Begerow D. 2006. Implications of Molecular Characters for the Phylogeny of the Microbotryaceae (Basidiomycota: Urediniomycetes). *BMC Evolutionary Biology* 6, 35.

Lutz M, Piatek M, Kemler M, Chlebicki A, Oberwinkler, F. 2008. Anther Smuts of Caryophyllaceae: Molecular Analyses Reveal Further New Species. *Mycological Research* 112, 1280-96.

Kemler M, Lutz M, Göker M, Oberwinkler F, Begerow D. 2009. Hidden Diversity in the Non-Caryophyllaceous Plant-Parasitic Members of *Microbotryum* (Pucciniomycotina: Microbotryales). *Systematics and Biodiversity 7, 297-306*.

Schäfer AM, Kemler M, Bauer R, Begerow D. 2010. The illustrated life cycle of *Microbotryum* on the host plant *Silene latifolia*. *Botany* *88, 875-885.*

Yurkov AM, Kemler M, Begerow D. 2011. Species accumulation curves and incidence-based species richness estimators to appraise the diversity of cultivable yeasts from beech forest soils. *PLoS ONE 6(8), e23671.*

Piatek M, Lutz M, Ronnikier A, Kemler M, Świderska-Burek U. 2012. *Microbotrum heliospermae,* a new anther smut fungus parasitic on *Heliosperma pusillum* in the mountains of the European Alpine System. *Fungal Biology*, 116, 185-195.

Yurkov AM, Kemler M, Begerow D. 2012. Assessment of yeast diversity in soils under different management regimes. *Fungal Ecology 5, 24-35.*

Kemler M, Martín MP, Telleria MT, Schäfer AM, Yurkov A, Begerow D. 2013. Contrasting phylogenetic patterns of anther smuts (Pucciniomycotina: *Microbotryum*) reflect phylogenetic patterns of their caryophyllaceous hosts. *Organisms Diversity and Evolution* 13, 111-126.

Piatek M, Lutz M, Kemler M. 2013. *Microbotryum silenes-saxifragae* sp. nov. sporulating in the anthers of *Silene saxifraga* in southern European mountains.  *IMA Fungus* 4, 29-40.

Kemler M, Garnas J, Wingfield MJ, Gryzenhout M, Pillay KA, Slippers B. 2013. Ion Torrent PGM as tool for fungal community analysis: A case study of endophytes in *Eucalyptus grandis* reveals high taxonomic diversity. *PLoS One* 8(12): e81718.

Riess K, Bauer R, Kellner R, Kemler M, Piatek M, Vánky K, Begerow D. 2015. Identification of a new order of root-colonising fungi in the Entorrhizomycota: Talbotiomycetales ord. nov. on eudicotyledons. *IMA Fungus* 6(1): 129-133.

Vivas M, Kemler M, Slippers B. Maternal effects on tree phenotypes: beyond plant genes. *Trends in Plant Science*. (in press)

Jimu L, Kemler M, Wingfield MJ, Mwenje E, Roux B. The *Eucalyptus* stem canker pathogen *Teratosphaeria zuluensis* detected in seed samples. *Forestry*. (accepted).

**Non-ISI rated:**

Kemler M, Begerow D, Lutz M. 2007. Biodiversität von Brand- und Rostpilzen auf der Alp Flix. *Jahresbericht der Naturforschenden Gesellschaft Graubünden 114*, *65-72*. (Biodiversity of smut and rust fungi at the Alp Flix)

Kemler M. 2009. Parasitische Pilze. *Mitteilungen der Naturforschenden Gesellschaft des Kanton Glarus 18, 126-131.* (Parasitic fungi)

Kemler M, Lutz M. 2010. Brand- und Rostpilze. *Jahresbericht der Naturforschenden Gesellschaft Graubünden 116*, *9-11.* (Smut and rust fungi)

**Commentaries:**

Kemler M. 2015. Education: Botanists still need to tell plants apart. *Nature* 521, 32.

**Publications (under review)**

**Book chapters**

Begerow D, Schäfer AM, Kellner R, Yurkov AM, Kemler M, Oberwinkler F, Bauer R (2014). Ustilaginomycotina. In: The Mycota Vol. VII, 2nd ed.: *Systematics and Evolution*, Editors: DJ McLaughlin and Spatafora JW. Springer: Heidelberg, Germany, 295-329.

**Posters & Presentations**

Kemler M, Göker M, Lutz M, Begerow D, Oberwinkler F. 2004. The genus *Microbotryum* and its boundaries – an approach based on ITS. *Silene/Microbotryum Meeting, Mountain Lake, USA, 28 – 29 August.* (oral presentation)

Kemler M, Begerow D, Oberwinkler F. 2004. Phylogeny of anther smuts and their relatives in the genus *Microbotryum* (Microbotryales, Uredinomycetes). *Annual Scientific Meeting of the British Mycological Society, Nottingham, UK, 13-15 September.* (poster presentation)

Kemler M, Begerow D, Göker M, Lutz M, Oberwinkler F. 2004. Phylogenie der Antherenbrände und ihrer Verwandten in der Gattung *Microbotryum*. *Internationale Tagung der Deutschen Gesellschaft für Mykologie (DGfM) und der Gesellschaft für Mykologie und Lichenologie (GML), Friedrichroda, Germany, 24 September – 1 October.* (oral presentation)

Kemler M, Begerow D, Oberwinkler F. 2005. Phylogenetic relationships in Microbotryaceae (Urediniomycetes). *XVIIth International Botanical Congress, Vienna, Austria, 24 – 30 July.* (poster presentation)

Kemler M, Göker M, Lutz M, Begerow D, Oberwinkler F. 2006. Evolutionary patterns in *Microbotryum* (Pucciniomycotina). 8th *International Mycological Congress, Cairns, Australia, 21-25 August.* (poster presentation)

Kemler M, Begerow D, Lutz M, Göker M, Oberwinkler F. 2006. Hidden diversity in the plant-parasitic genus *Microbotryum* (Pucciniomycotina). *Meeting StEvE, Tübingen, Germany, 13 – 14 October.* (oral presentation)

Kemler M, Begerow D, Lutz M, Göker M, Oberwinkler F. 2006. Hidden diversity in the plant-parasitic genus *Microbotryum* (Pucciniomycotina). *Internationale Tagung der Deutschen Gesellschaft für Mykologie (DGfM), Tübingen, Germany, 29 September – 7 October.* (oral presentation)

Kemler M, Lutz M, Bloss U, Begerow D. 2007. Pilzliche Pflanzenparasiten der Alp Flix. *Symposium: Schatzinsel Alp Flix – 7 Jahre danach, 15 June, Chur, Switzerland.* (oral presentation)

Kemler M, Begerow D. 2008, Radiation and host specificity in *Microbotryum*. *International Workshop Silene: from populations to genes, Ascona, Switzerland, 4-9 May*. (oral presentation)

Kemler M, Begerow D. 2009. Radiation and host specificity in the genus *Microbotryum*: a phylogenetic perspective. *9th Botanical Congress of the German Botanical Society, Leipzig, Germany, 6 – 10 September* (oral presentation)

Kemler M, Lutz M, Begerow D. 2010. Intraspecific variation of the IGS in the white smut *Entyloma ficariae*. 9th *International Mycological Congress, Edinburgh, UK, 1 – 6 August.* (poster presentation)

Kemler M. 2010. Host specificity and radiation in *Microbotryum*: a phylogenetic perspective. *Forestry and Agricultural Biotechnology Institute, South Africa, 29 March* (oral presentation)

Kemler M. 2011. Fungal – bacterial interactions. *Bindura University of Science Education, Zimbabwe, 17 July* (oral presentation)

Kemler M, Garnas J, Wingfield MJ, Gryzenhout M, Pillay KA, Slippers B. 2013. Semiconductor sequencing reveals high fungal diversity associated with *Eucalyptus grandis*. *48th Congress of the Southern African Society for Plant Pathology, Bela-Bela, South Africa, 20 – 24 January*. (oral presentation)

Kemler M. 2013. *Microbotryum* – bits and pieces. *2ndInternational Microbotryum Meeting, Amherst, USA, 3 – 5 May*. (oral presentation)

Slippers B, Kemler M, Wingfield MJ. 2013. Dealing with the global movement of plant associated fungi, including emerging plant pathogens. *Global Challenges University Alliance workshop on Environmental Monitoring and Detection of Invasive Organisms, Uppsala, Sweden.* (keynote address)

Kemler M, Pillay KA, Garnas J, Gryzenhout M, Wingfield MJ, Slippers B. 2013. Comparison between 454 and Ion Torrent sequencing to elucidate the microbiome of Eucalyptus. *GRI Seminar Day, University of Pretoria, Pretoria, South Africa, 14 November* (poster presentation).

Kemler M, Wingfield MJ, Slippers B. 2013. The guts of trees - community structures of tree-associated fungal microbiomes. *Genetics 11th Annual Postgraduate Symposium, University of Pretoria, Pretoria, South Africa, 29 November* (oral presentation).

Kemler M, Garnas F, Wingfield MJ, Slippers B. 2014. Host specificity of fungal communities in the phylosphere of Southern African trees. *International Mycological Congress 10. Bangkok, Thailand, 3-10 August* (poster presentation)

**Invited talks**

Kemler M 2014 Endophyte diversity at the tip of Africa. *International Congress of the German Society for Mycology (DGfM). Mettlach-Orscholz, Germany, 29 September – 1 October 2014*

**Grants**

SYNTHESYS & European Commission of Transnational Access to major Research Infrastructures (EC-funded IHP Program) ES-TAF-1431

University of Pretoria Postdoctoral Fellowship (2014 – 2018)

University of Pretoria Research Fellowship (2011 – 2012)

IRT Genomics funding for a trial sequencing of endophyte communities in *Eucalyptus* (together with Prof. Bernard Slippers)

IRT Genomics funding for the project: “The influence of host plant and anthropogenic impact on the community composition of endophytes and latent pathogens in trees” (together with Prof. Bernard Slippers)

IRT Genomics funding for the project: “Characterizing leave-associated fungal communities of *Eucalyptus* in South Africa: Laying the foundations to characterizing the global phyllosphere microbiome of *Eucalyptus*”

**Attended Workshops**

EMBL-EBI/Wellcome Trust Workshop: Molecular Evolution. 2009. Cambridge, UK, 29 March – 9 April; arranged by Dr Nick Goldman (EBI, Cambridge), Dr Ziheng Yang (University College, London) & Dr Aidan Budd (EMBL, Heidelberg)

Population genetics Workshop. 2010. Pretoria, South Africa, 9 – 10 November; presented by Dr Ignazio Carbone (North Carolina State University, USA)

Genome Annotation Workshop. 2012. Pretoria, South Africa, 27 February – 2 March; presented by Dr Lieven Sterck (University of Ghent, Belgium)

Writing Workshop. 2012. Pretoria, South Africa, 26 & 27 September; presented by Dr John F. Leslie (Kansas State University, USA)

**Professional Associations**

Southern African Society of Plant Pathology

International Mycological Association

University of Pretoria Postdoctoral Association

**Community services**

**Reviews**

Applied Microbiology and Biotechnology, Australasian Plant Disease Notes, BMC Genomics, Current Genetics, International Journal of Plant Sciences, Infection, Genetics and Evolution, Microbial Ecology, PloS One, South African Journal of Science, Southern Forests, Systematic Biology

**Other**

Secretary for the University of Pretoria Postdoctoral Association (2014)

Chairperson of the University of Pretoria Postdoctoral Association (2015)

**Teaching Experience**

**Eberhard Karls Universität Tübingen**

Undergraduate Systematic Botany course

**Ruhr-Universität Bochum**

Undergraduate Molecular Systematics Laboratory courses

Undergraduate Phylogenetic Systematics Computer courses

**University of Pretoria**

Rust and smut fungi (Plant Pathology Techniques course)

Journal discussion advisor (Department of Genetics Honours Course 2014)

Journal discussion advisor (Department of Genetics Honours Course 2015)

Mentoring of undergraduate students in semester assignments (2015)

**Graduate students supervised/mentored**

René Prior, Diploma (2010)

Sascha Lotze-Engelhardt, Diploma (2010)

Angela Schäfer, Diploma (2007)

Birgit Lemcke, Diploma (2006)

Vusi Letsoale, BSc Honours (2013)

Lize-Marie Chapman, BSc Honours (2014)

Robyn Leigh Smith, BSc Honours (2015)

Mandy Messal, PhD (2015 - present)

**Undergraduate students supervised/mentored**

Dominique Werner (2008)

Florence Kurth (2008)

Lucia Winterberg (2009)

Steffen Lind (2010)

Thato Mohayane (2011)

Robert Friedrich Krüger (2012)

**References**

Prof. Bernard Slippers, Forestry and Agricultural Biotechnology Institute, University of Pretoria, Pretoria 0020, South Africa, Tel: +27 12 420 3938, email: bernard.slippers@fabi.up.ac.za

Prof. Michael J. Wingfield, Forestry and Agricultural Biotechnology Institute, University of Pretoria, Pretoria 0020, South Africa, Tel: +27 12 420 3938, email: mike.wingfield@fabi.up.ac.za

Prof. Dominik Begerow, Department of Geobotany, Ruhr-University of Bochum, 44780 Bochum, Germany, Tel: +49 234 32 27212, email: dominik.begerow@rub.de