

DR JAMES OMONDI OUTA

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SUMMARY: Broadly trained scientist with multidisciplinary research experiences in Aquatic Parasitology, Limnology and Ecosystem Health. Research interests include (i) helminths of molluscs and fish; their taxonomy and phylogenetic relationships, life cycles, the biotic and abiotic interactions that influence their occurrence, and human health risk aspects (ii) aquatic pollution and ecotoxicology (iii) biomonitoring and bioindication

WORK AND RESEARCH EXPERIENCE

Postdoctoral Research Fellow, November 2021- October 2024

Department of Zoology, University of Johannesburg, South Africa

- Project title: Taxonomy, phylogeny and ecology of parasitic helminths of snails and fish from selected water bodies in Gauteng, South Africa

Achievements

- Introduced research on gastropod-helminth associations at the Parasitology Research Group, University of Johannesburg
- Lead author on six papers
- Presented research findings in four conferences
- Supervised one Honours student

Research Assistant, July 2014 - February 2016

Lake Victoria Comprehensive Ecosystem & Aquatic Environment Research Development Project (LAVICORD) – research collaboration between Nagasaki University, Japan and Maseno University, Kenya

- Performed water quality assessment through field surveys and laboratory analyses

Field and Laboratory Technician, February 2012 - June 2014

International Joint Master's Degree in Limnology & Wetland Management (LWM), Egerton University, Kenya

- Prepared equipment for limnological surveys on water quality, benthic macroinvertebrates, zooplankton, phytoplankton and aquatic macrophytes
- Guided students through field sampling and laboratory analyses

Part-time Lecturer, January 2012 - June 2014

Egerton University, Kenya

- Taught and assessed undergraduate modules on Invertebrate Zoology, General Zoology, Ecology and Environmental Science, and Fish Parasitology

Teacher, May - August 2010

Ngere High School, Seme, Kenya

- Taught Biology and Chemistry

EDUCATION AND TRAINING

Doctor of Philosophy (PhD), Biology, 2016 - 2020

University of Vienna, Austria

- Thesis title: Snail- and fish parasites and trace elements in water, sediments, macrophytes, invertebrates and fish in Lake Victoria, Kenya: ecological, bioindicative and toxicological aspects
- Thesis and oral defense graded excellent; overall grade – distinction
- Published four papers in Web of Science indexed journals
- Research findings presented in five conferences

Master of Science, Limnology, 2010 - 2014

Egerton University, Kenya

- Thesis title: Temporal and environmental conditions regulating biomass dynamics in water hyacinth and its effects on water quality in Lake Naivasha, Kenya
- Coursework, thesis, and oral defense graded excellent

Bachelor of Education (Zoology, Botany and Chemistry), 2006 - 2010

Egerton University, Kenya

- Grade: First-class Honours

Short courses

Nagasaki University, Japan

Training on HPLC Analysis and Molecular Ecological Methods, July 2015

University of Natural Resources and Life Sciences (BOKU), Austria

Post-graduate short course in Applied Limnology, March - June 2014

UNESCO-IHE, Netherlands & Egerton University, Kenya

Post-graduate short course in Limnology and Wetland Ecosystems, February - May 2011

RECENT AWARDS AND SCHOLARSHIPS

- Research Council of Lithuania, two-year postdoctoral grant, September 2024; € 120 000
- University of Johannesburg Research Committee (URC) three-year postdoctoral research fellowship grant, November 2021; approx. € 50 000
- Second place in the senior category (oral presentation) at the 48th Annual Conference of the Parasitological Society of Southern Africa (PARSA), 2019
- Conference (abroad) travel grant, awarded by the University of Vienna, Research Services and Career Development department, 2019; € 600

- PhD Scholarship funded by the Austrian Agency for International Cooperation in Education and Research (OeAD- GmbH), March 2016-March 2020; approx. € 60 000
- Applied Limnology summer school fellowship, 2014 – funded by the Rotary Club of Vienna

PROFESSIONAL BODY MEMBERSHIP

- Parasitological Society of Southern Africa (PARSA)
- International Association of Great Lakes Research (IAGLR)

ACADEMIC AND COMMUNITY SERVICE

- Adjudicator for experienced researchers' poster presentations at the 52nd Annual Conference of the Parasitological Society of Southern Africa (PARSA): 6th-8th October 2024
- Adjudicator for postgraduate students' oral presentations at the 51st Annual Conference of the Parasitological Society of Southern Africa (PARSA): 17th-19th September 2023
- Zoology career talk to grade 11 students at Daliwonga Secondary School in Soweto, South Africa: 30th of August 2023
- Scientific peer reviewer – Environmental Research & Public Health (MPDI), Scientific Reports (Nature Portfolio), Acta Parasitologica (Springer) and Onderstepoort Journal of Veterinary Research (OVI)
- Science presentation to the public ('Neugier WissenSchafft') at the Natural History Museum of Vienna, Austria: 6th of November 2019

RESEARCH OUTPUT

Journal Articles

- **Outa, J.O.**, Avenant-Oldewage, A. (2024). Echinostomatids from South African freshwater limpets: phylogenetic analyses and diagnostic morphological features for cercariae of *Petasiger*. *Journal of Helminthology* (Cambridge) – Accepted. DOI: 10.1017/S0022149X24000749.
- **Outa, J.O.**, Bhika, P., Avenant-Oldewage, A. (2024). Gastropod invasions in anthropogenically impacted impoundments in South Africa: tracing their origins and exploring field evidence of parasite spillback and amplification. *International Journal for Parasitology* (Elsevier) 54 (6): 279-301. <https://doi.org/10.1016/j.ijpara.2024.02.004>.
- **Outa, J.O.**, Avenant-Oldewage, A. (2024). Underreported and taxonomically problematic: characterisation of sanguinicolid larvae from freshwater limpets (Burnupiidae), with comments on the phylogeny and intermediate hosts of sanguinicolids. *Parasitology* (Cambridge) 151(1):108-124. <https://doi.org/10.1017/S003118202300121X>.
- **Outa, J.O.**, Avenant-Oldewage, A. (2023). Integrated characterisation of *Daubaylia burnupiae* n. sp. (Nematoda: Daubayliidae) from a freshwater gastropod in South Africa, with comments on the biology of *Daubaylia* spp. *International Journal for Parasitology: Parasites and Wildlife* (Elsevier) 20: 96-107. <https://doi.org/10.1016/j.ijppaw.2023.01.005>.

- **Outa, J.O.**, Hörweg, C., Avenant-Oldewage, A., Jirsa F. (2022). Neglected symbionts and other metazoan invertebrates associated with molluscs from Africa's largest lake: diversity, biotic interactions and bioindication. *Freshwater Biology* (Wiley Online Library) 67:2089-2099. <https://doi.org/10.1111/fwb.13998>.
- **Outa, J.O.**, Dos Santos, Q.M., Avenant-Oldewage, A., Jirsa F. (2021). Parasite diversity of introduced fish *Lates niloticus*, *Oreochromis niloticus* and endemic *Haplochromis* spp. of Lake Victoria, Kenya. *Parasitology Research* (Springer) 120: 1583-1592. <https://doi.org/10.1007/s00436-021-07095-x>.
- **Outa, J.O.**, Sattmann, H., Köhler M., Walochnik J., Jirsa, F. (2020). Diversity of digenean trematode larvae in snails from Lake Victoria, Kenya: first reports and bioindicative aspects. *Acta Tropica* (Elsevier) 206. <https://doi.org/10.1016/j.actatropica.2020.105437>.
- **Outa, J.O.**, Kowenje, C.O., Avenant-Oldewage, A., Jirsa, F. (2020). Trace elements in crustaceans, mollusks and fish in Lake Victoria, Kenya: bioaccumulation, bioindication and health risk analysis. *Archives of Environmental Contamination and Toxicology* (Springer) 78 (4) 589-603. <https://doi.org/10.1007/s00244-020-00715-0>.
- **Outa, J.O.**, Kowenje, C.O., Plessl, C., Jirsa, F. (2020). Distribution of arsenic, silver, cadmium, lead and other trace elements in water, sediment and macrophytes in Lake Victoria, Kenya: spatial, temporal and bioindicative aspects. *Environmental Science and Pollution Research* (Springer) 27 (2): 1485-1498. <https://doi.org/10.1007/s11356-019-06525-9>.

Oral presentations in conferences

- **Outa, J.O.**, Bhika, P., Avenant-Oldewage, A. Long distance travellers find home in South Africa: bioinvasions and gastropod-trematode associations in the Crocodile River (West) system. 52nd Annual Conference of the Parasitological Society of Southern Africa (PARSA), 6-8 October 2024, Hartbeespoort, South Africa.
- **Outa, J.O.**, Avenant-Oldewage, A. (2023). Rare findings in neglected freshwater limpets: integrated characterisation of *Sanguinicola* spp. (Digenea) cercariae and a monoxenous nematode in *Burnupia* spp. from South Africa: 51st Annual Conference of the Parasitological Society of Southern Africa (PARSA), 17-20th September 2023, Muldersdrift, South Africa.
- **Outa, J.O.**, Avenant-Oldewage, A. (2022). Small, neglected snail *Burnupia stenochorias* (Ancyliidae), harbours diverse symbionts with complex biotic interactions. 4th International Congress on Parasites of Wildlife (ICPW) 2022, 11-15th September 2022, Kruger National Park, South Africa.
- **Outa, J.O.**, Dos Santos, Q.M., Avenant-Oldewage, A., Jirsa, F. (2022). Parasitic copepods of cichlids from Lake Victoria, East Africa: indicators of environmental changes? 14th International Conference on Copepoda (ICOC), 25-30th July 2022, virtual conference.
- **Outa, J.O.**, Hörweg, C., Jirsa, F. (2021). Neglected symbionts of molluscs from Lake Victoria: diversity, biotic interactions and bioindication. 36th Ichthyoparasitological Symposium, 18th June 2021, virtual conference, hosted by the University of Duisburg-Essen, Germany.

- **Outa, J.O.**, Sattmann H., Jirsa, F. (2019). Diversity of Digenea larvae in snails from Lake Victoria, Kenya: first reports and bioindicative aspects. 53rd Annual meeting of the Austrian Society of Tropical Medicine, Parasitology and Migration Medicine, 8th November 2019, Vienna, Austria.
- **Outa, J.O.**, Sattmann, H., Jirsa, F. (2019). Larval stages of trematodes associated with snails from Lake Victoria, Kenya. 48th Annual Conference of the Parasitological Society of Southern Africa (PARSA), 15-17th September 2019, Windhoek, Namibia.
- **Outa, J.O.**, Otachi, E.O., Avenant-Oldewage, A., Jirsa, F. (2019). Parasite Fauna of Nile Perch *Lates niloticus*, Nile Tilapia *Oreochromis niloticus* and *Haplochromis* spp. from Lake Victoria, Kenya. 48th Annual Conference of the Parasitological Society of Southern Africa (PARSA), 15th - 17th September 2019, Windhoek, Namibia.
- **Outa, J.O.**, Sattmann, H., Jirsa, F. (2019). Trematode larvae in snails from Lake Victoria, Kenya. 35th Ichthyoparasitological Symposium, 28th of June 2019, Oer-Erkenschwick, Duisburg-Essen, Germany.
- **Outa, J.O.**, Otachi, E.O., Jirsa, F. (2018). Parasite fauna of fish from Lake Victoria, Kenya. 34th Ichthyoparasitological Symposium, 15th of June 2018, Oer-Erkenschwick, Duisburg-Essen, Germany.

REFEREES

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