
Poster Session 2 – Workshop Rodent-Borne Diseases

62 *Schistosomiasis* in the Senegal River Basin and the role of wild rodents as reservoir hosts

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Schistosomiasis is a neglected tropical disease (NTD) of profound medical and veterinary importance caused by dioecious trematodes of the genus *Schistosoma*. This NTD affects over 240 million people globally, with the highest burden in sub-Saharan Africa. *Schistosoma* parasites are characterized by complex multi-host dynamics and interspecific interactions leading, under certain conditions, to viable hybridizations between human and animal schistosomes with subsequent zoonotic transmission. Anthropogenic land-use changes and the progressive loss of ecological barriers may have also favoured interactions between different *Schistosoma* species. Our study elucidated the role of wild rodents as potential reservoirs of zoonotic *Schistosoma* species and hybrids in the Senegal River Basin, a region subject to dramatic anthropogenic change. Between May 2016 and November 2017, we trapped, humanely euthanized and necropsied small mammals from sites around Lake Guiers and the town of Richard Toll, Senegal, applying a multi-locus molecular analysis to identify the isolated *Schistosoma* spp. and estimate local prevalence. A total of 671 small mammals were captured over 4,089 trap nights. *Schistosoma mansoni*, occasionally coupled with zoonotic *Schistosoma haematobium*/*Schistosoma bovis* hybrids, and *Schistosoma bovis* were isolated in the portal system and/or mesenteric vessels of 24 out of 367 *Mastomys huberti* mice (prevalence 6.6%; intensity range 2-64) and 6 out of 257 *Arvicanthis niloticus* rats (prevalence 2.3%; intensity range 1-44). Infection prevalence was highly focal among study sites, with rates up to 52.6% and 28.6% in the villages of Gueo and Temey, respectively. Our findings emphasize the role of *Mastomys huberti* and *Arvicanthis niloticus* as important zoonotic reservoirs of *Schistosoma* species and hybrids, potentially amplifying transmission to humans. In the Senegal River Basin, as in many other endemic areas of sub-Saharan Africa, the breakdown of ecological barriers warrants the application of a One Health, multi-host framework to better tailor setting-specific *schistosomiasis* control programmes, enhancing public health interventions.

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6th International Conference of Rodent
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Bibliografische Information der Deutschen Nationalbibliothek

Die Deutsche Nationalbibliothek verzeichnet diese Publikation

In der Deutschen Nationalbibliografie: detaillierte bibliografische

Daten sind im Internet über <http://dnb.d-nb.de> abrufbar.

ISSN 1868-9892

ISBN 978-3-95547-059-3

DOI 10.5073/jka.2018.459.000



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