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9 Questions with WRG authors

Title of the paper: A century of taxonomic uncertainty: re-description of two species of tapeworms (Diphyllobothriidea) from Arctic seals

Journal: Polar Biology

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Read the article: <https://doi.org/10.1007/s00300-018-2396-0>



Co-authors Oleg Ditrich (second from the left) and Roman Kucha (far right)

[Dr. Bjoern Schaeffner](#)



1. What previous work was integral to the new study?

I guess this study has been quite unique. As the title implies, there has been a huge confusion about these species and previous authors couldn't identify them unambiguously. I assume the original descriptions of Krabbe (1865) and Germanos (1895) formed an integral part to the present study. However, these also started the before mentioned inability to differentiate the species leading to many erroneous records. It's great that after more than a century we could finally solve this puzzle!





2. Why do you care about this particular subject?

Apart from the fact that tapeworms (or cestodes) are incredible organisms? (*author smiles*) As a parasitologist you deal with different host organisms and collect in various localities worldwide. My main focus is undeniably on parasite infections of sharks, rays and skates (elasmobranchs). However, it has been very interesting to deal with parasites of marine mammals (seals) from the Arctic circle. I mean: who can say that?



3. Did any of the findings surprise you?

A project always turns out bigger than originally anticipated. This was also the case in this study. At first, we aimed to re-describe the species by looking at the type and newly collected material. However, we soon realised that previous authors faced great difficulties to differentiate the species. In order to assess the previous records, we had to go through the entire literature (mostly in Russian!) and borrow more specimens from museum collections for morphological evaluation. So instead of 3, we spent more than 9 months until this study could be published. I think this was a surprise for all authors.



4. What are some of the limitations of this study?

There have to be limitations? (*author laughs*) The only limitation I can think of is the fact that this study is highly specific and as such, only very few people may appreciate and see the purpose of it. But I guess this applies to all parasitic organisms that do not affect humans in their life cycle. A pity, isn't it?



5. Do you expect these findings to be controversial in your field?

Not at all. (*small pause*) However, previous authors dealing with these species might not be too happy realising they misidentified their specimens in the past. But I don't think they will hold a grudge against us.



6. What are the broader implications of these findings?

Certainty! We now know where these species occur, which hosts they infect and how we can identify them! Figuring this out more than 100 years after these species have been discovered is one step in the right direction.



7. What do people usually get wrong about this subject?

Most people consider parasites malign disease agents which need to be eradicated. Although true for certain representatives, most parasites share a long co-evolution with their hosts, without causing any negative side effects. Learning more about the host-parasite relationships, ecology and interconnected evolutionary pathways helps us understand more about the hosts' biology and evolutionary history.





8. Looking back on the study, what were some of the most memorable moments for you and your colleagues?

The most memorable moments for my co-authors were probably the field surveys in Svalbard – an archipelago in the Arctic Ocean. Although they went there during summer, the average temperatures rarely rise above 6° Celsius. My most memorable moment was the observation of specimens that were collected back in 1890. Thinking about that, these specimens were far older than my great-grandmother!



9. What are you working on next?

I am eager to focus (again) on cestodes of elasmobranchs. Especially here in South Africa, only very little known and numerous species await discovery!



Thank you for your time, Bjoern!

