



Calibrating biogeographical expectations for richness of trematode flatworms parasitic in coral reef fishes.

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The Trematoda are obligate endoparasitic flatworms at their richest and most diverse in marine teleost fishes. Biogeographic understanding for fish trematodes remains rudimentary and is perhaps the greatest impediment to furthering evolutionary insight and estimating the true richness of the group. Substantial progress has been made to characterise the fauna in Queensland waters, including with genetic sequence data, but from nowhere else, worldwide, is the state of genetic coverage sufficient to enable meaningful comparisons of diversity and richness across the breadth of the fauna. We have been working towards the first genetics based, broad-scale biogeographic comparison for fish-trematodes, by intensively surveying fishes at Ningaloo Reef, Western Australia, and sequencing every trematode species encountered to compare against the decades of accumulated data from Queensland. By comparing the trematode faunas relative to the similarity of the fish faunas, we are beginning to calibrate expectations of biogeographic distributions across the breadth of trematode taxa. I will present the overarching trends detected so far, and discuss the implications for estimations of regional and global richness and the future of trematode taxonomy.

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