Data Papers

Ecology, 98(3), 2017, pp. 882

A life cycle database for parasitic acanthocephalans, cestodes, and nematodes

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Abstract. Parasitologists have worked out many complex life cycles over the last ~150 yr, yet there have been few efforts to synthesize this information to facilitate comparisons among taxa. Most existing host–parasite databases focus on particular host taxa, do not distinguish final from intermediate hosts, and lack parasite life-history information. We summarized the known life cycles of trophically transmitted parasitic acanthocephalans, cestodes, and nematodes. For 973 parasite species, we gathered information from the literature on the hosts infected at each stage of the parasite life cycle (8,510 host–parasite species associations), what parasite stage is in each host, and whether parasites need to infect certain hosts to complete the life cycle. We also collected life-history data for these parasites at each life cycle stage, including 2,313 development time measurements and 7,660 body size measurements. The result is the most comprehensive data summary available for these parasite taxa. In addition to identifying gaps in our knowledge of parasite life cycles, these data can be used to test hypotheses about life cycle evolution, host specificity, parasite life-history strategies, and the roles of parasites in food webs.

Key words: body size; comparative analysis; complex life cycle; food web; helminth; life history; niche shift; ontogeny; predator–prey interactions; trophic transmission.

The complete data sets corresponding to abstracts published in the Data Papers section of the journal are published electronically as Supporting Information in the online version of this article at http://onlinelibrary.wiley.com/doi/10.1002/ecy.1680/suppinfo.

Manuscript received 25 October 2016; revised 30 November 2016; accepted 30 November 2016. Corresponding Editor: William K. Michener.
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