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GROWTH RATES VERSUS IMMUNOCOMPETENCE IN NESTLING LEACH'S STORM PETREL (*OCEANODROMA LEUCORHOA)*

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Life-history theory predicts trade-offs among life-history components. One potential trade-off that I tested for is between growth rate versus immunity in nestling Leach's storm-petrels, *Oceanodroma leucorhoa*. The study was done on Bon Portage Island, Nova Scotia. To test immune system strength (immunocompetence), two tests were done: the phytohaemagglutinin skin-test (PHA test), and a bacteria-killing assay. The PHA test assesses adaptive immune responses that involve antibodies tagging invaders for destruction; adaptive immunity can maintain memory of invaders in future infections. The bacteria-killing assay assesses innate immunity that can attack invaders in the blood, primarily through phagocytosis. Growth rates of nestlings were measured by taking four different morphological measurements on a regular basis. No correlation was found between growth rate of tarsus, bill, wing, or mass versus PHA swelling. Likewise, there was also no correlation found for growth rate of tarsus, bill, wing, or mass versus bacteria-killing ability. None of these results was statistically significant (lowest $P = 0.11$). Thus my results suggest that there is no trade-off between immunocompetence and growth rates in nestling Leach's storm-petrels. I did find a significant correlation between PHA swelling and mass on day of test, but this relationship was not found for the bacteria-killing assay. Because my study was observational, future work could manipulate nestling nutrition to affect growth rates, and again test for trade-offs with immunocompetence.

Emily Mills graduated from Dartmouth High School in Dartmouth, Nova Scotia in 2006. She graduated with a French Immersion Certificate and Academic Distinction. Following graduation Emily took a year off and volunteered at a school in England. After her year off Emily began her studies at Acadia and was awarded an entrance scholarship. Emily has been involved with several different organizations at Acadia, including being the House President of her residence, and being the Science Editor of the Athenaeum. Emily will be graduating with a double major in Biology and Nutrition, with her Honours in Biology. Emily hopes to travel following graduation and one-day work with children perhaps, in healthcare.