



2 Despite catch-up, prolonged growth has detrimental fitness consequences in a long-lived vertebrate.

Marcil-Ferland D, Festa-Bianchet M, Martin AM, Pelletier F.
Am Nat. 2013 Dec; 182(6):775-85

[Save/Follow](#)[Export](#)[Get Article](#)[8+1](#)[RECOMMENDATIONS 1](#) | [ABSTRACT](#) | [COMMENTS](#)[expand all](#)

Recommendations:

Very Good

24 Mar 2014

**Thomas Cameron**

F1000 Ecology
University of Essex, Essex, UK.

[CONFIRMATION](#) | [GOOD FOR TEACHING](#) | [NEW FINDING](#)

DOI: 10.3410/f.718191844.793492436

Several model systems, usually invertebrates or anurans, have been used to study compensatory growth of individuals from resource poor environments. It has been shown that this compensatory growth can result in recovery of body size and/or condition at the same or later ages than siblings born into better conditions. What is great about this contribution is that not only is it able to demonstrate that compensatory growth is not enough to overcome the negative effects of poor juvenile growth conditions on fitness but also that the researchers were able to do this in a wild population. This is only feasible due to long term studies, usually of long term marked individuals, so we could argue that these results will always be biased towards large mammals and birds. But I expect that is not the case.

Disclosures

None declared

[Add a comment](#)

Abstract:

ABSTRACT

Abstract Individuals experiencing poor growth early in life may later make up their size deficit. Compensatory growth or growth prolongation may lead to such catch-up, involving different life-history trade-offs under natural conditions. Frequent recaptures and detailed monitoring of animals surviving to asymptotic size are required to compare growth tactics and their fitness consequences. No study to date has obtained such detailed information for wild animals. We used repeated mass measurements (mean 11.6/animal) spanning the lifetime of 104...

bighorn ewes (*Ovis canadensis*) to quantify growth tactics and identify the determinants and life-history costs of these tactics. Growth prolongation, not compensatory growth, led to partial catch-up: mass difference at age 7 was reduced to 4%, for two groups that differed by nearly 20% as yearlings. Ewes that had been light as yearlings prolonged their growth regardless of density or age of primiparity. Growth prolongation did not affect fecundity or longevity. Ewes that experienced poor early growth prolonged growth at the expense of reproductive fitness, weaning a smaller proportion of their lambs. By tracking multiyear growth patterns and comparing events at different life-history stages, we quantified a trade-off between growth and reproduction that would be overlooked if only the adult phenotype was considered. Compensatory growth in long-lived animals appears unlikely when early growth restrictions are mostly density dependent.

DOI: 10.1086/673534

PMID: 24231538



Abstract courtesy of PubMed: A service of the National Library of Medicine and the National Institutes of Health.

Comments:

[COMMENTS](#)[add a comment](#)

Welcome! Universite de Sherbrooke has a subscription to F1000Prime, so all F1000Prime content is accessible.

To get the best from this access, set up a personalized article feed on your [F1000Prime](#) homepage in 3 simple steps - start by entering a

[NEXT](#)

The F1000.com website uses cookies. By continuing to browse the site, you are agreeing to our use of cookies. [Find out more](#) »

Ecology

Valuing ecological systems and services

Robert Costanza, Ida Kubiszewski, David Ervin, Randy Bluffstone, James Boyd, Darrell Brown, Heejun Chang, Veronica Dujon, Elise Granek, Stephen Polasky, Vivek Shandas, Alan Yeakley

F1000 Biology Reports 2011 3:(14) (01 Jul 2011)

[Full text](#) | [PDF](#) | [Abstract on PubMed](#)

Evolutionary Biology | Ecology

Eco-evolutionary dynamics: intertwining ecological and evolutionary processes in contemporary time

Eric P Palkovacs, Andrew P Hendry

F1000 Biology Reports 2010 2:(1) (18 Jan 2010)

[Full text](#) | [PDF](#) | [Abstract on PubMed](#)

Library Resources

Press Office

F1000 Specialists

F1000 Updates

About/Contact

Article Recommendations

F1000Prime Reports

F1000Prime Faculty

Blog

Subscribe

About

Contact

Articles

Advisory Panel

Blog

Submit

Author Guidelines

Register

About

Contact

Posters

Upcoming meetings

For Depositors

For Societies

Register

About/Contact

© 2000-2014 Faculty of 1000 Ltd. ISSN 2051-9796 | [Legal](#) | [Partner of HINARI](#) • [CrossRef](#) • [ORCID](#)

F1000 is a registered trademark of Faculty of 1000 Limited

Welcome! Universite de Sherbrooke has a subscription to F1000Prime, so all F1000Prime content is accessible.

To get the best from this access, set up a personalized article feed on your **F1000Prime** homepage in 3 simple steps - start by entering a least 3 keywords that best describe your specialty:

NEXT 

close