Title:	Evolution of mate-harm, longevity and behaviour in male fruit flies subjected to different levels of interlocus conflict
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Abstract:	Background: Interlocus conflict predicts (a) evolution of traits, beneficial to males but detrimental to females and (b) evolution of aging and life-span under the influence of the cost of bearing these traits. However, there are very few empirical investigations shedding light on these predictions. Those that do address these issues, mostly reported response of male reproductive traits or the lack of it and do not address the life-history consequence of such evolution. Here, we test both the above mentioned predictions using experimental evolution on replicate populations of Drosophila melanogaster. We present responses observed after >45 generations of altered levels of interlocus conflict (generated by varying the operational sex ratio). Results: Males from the male biased (high conflict, M-regime) regime evolved higher spontaneous locomotor activity and courtship frequency. Females exposed to these males were found to have higher mortality rate. Males from the female biased regime (low conflict, F-regime) did not evolve altered courtship frequency and activity. However, progeny production of females continuously exposed to F-males was significantly higher than the progeny production of females exposed to M-males indicating that the F-males are relatively benign towards their mates. We found that males from male biased regime lived shorter compared to males from the female biased regime. Conclusion: F-males (evolving under lower levels of sexual conflict) evolved decreased mate harming ability indicating the cost of maintenance of the suit of traits that cause mate-harm. The M-males (evolving under higher levels sexual conflict) caused higher female mortality indicating that they had evolved increased mate harming ability, possibly as a by product of increased reproduction related activity. There was a correlated evolution of life-history of the M and F-males. M-regime males lived shorter compared to the males from F-regime, possibly due to the cost of investing more in reproductive traits. In combination, these results suggest that male reproductive traits and life-history traits can evolve in response to the altered levels of interlocus sexual conflict.
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