



University of Edinburgh (Subscriptions)

Search...

Evaluations [v]

Advanced Search

- Evaluations
- Rankings
- Reports
- Posters
- Magazine
- Faculty

MyF1000 Sign In Register

## Article

6

### Fitness costs of disrupting circadian rhythms in malaria parasites.

O'Donnell AJ, Schneider P, McWatters HG, Reece SE  
Proc Biol Sci. 2011 Jan 5

[Abstract](#) | [Full Text](#) | [Related Articles](#) | [Citations on Google Scholar](#) | [Order Article](#)

#### Relevant Sections

Export Email Add to MyF1000

Post to

#### Comments

**Sign in** to leave a comment  
No comments yet.

## Evaluations

Evaluated by **Patrick Duffy** NEW EVALUATION

### This manuscript examines chronobiology in malaria parasites, a fascinating aspect of parasite biology but one that is poorly understood.

The authors find that parasites are responsive to circadian rhythms in rodents. The data are particularly interesting because asexual and sexual parasites diverge in the effects of transferring an infection between animals at different stages in circadian rhythm -- asexual parasites grow consistently less well for 7 days after infection, whereas sexual stage parasites initially develop more slowly but then appear to converge with control parasites at the same parasite density.

The authors also mention that they are unable to reproduce older data suggesting that exposure to melatonin modifies growth of parasites *in vitro*. There are many aspects to chronobiology in malaria parasites, but nothing is known about the molecular mechanisms that control these processes. This is an underexplored area of biology, and could well have implications for interventions. The authors argue that the findings have implications for understanding the evolution of host-parasite interactions, but this implies that these studies would better be done using the natural host for these parasites, the African thicket rat, rather than the lab animals used here.

Competing interests: None declared

[Cite this evaluation](#)

Evaluated by:  
**Patrick Duffy**  
Seattle Biomedical  
Research Institute, USA  
**Immunology**  
08 Feb 2011

**Rating 6**  
**Recommended**

**Classification Key** Changes Clinical Practice Novel Drug Target Technique Clinical Trial Review

[Cite this page](#)

## Faculty of 1000

Faculty of 1000 Ltd  
Science Navigation Group  
Middlesex House  
34-42 Cleveland Street  
London W1T 4LB UK

[Home](#)  
[About](#)  
[FAQs](#)  
[Press Office](#)  
[Contact F1000](#)

[Rankings](#)  
[Faculty](#)  
[The Scientist](#)  
[F1000 Reports](#)  
[Evaluations](#)

[Register](#)  
[Subscribe](#)  
[Sponsorship](#)  
[Affiliates](#)  
[Science Navigation Group](#)

### Follow F1000:



RT @nutrigenomics: y R university mail filter marks "Faculty of 1000 Monthly Update" as SPAM? b/c of the info@.....or b/c ive 2 write my evaluation asap  
about 19 hours ago