

Accepted Manuscript

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PII: S0165-0270(17)30430-2
DOI: <https://doi.org/10.1016/j.jneumeth.2017.12.012>
Reference: NSM 7918

To appear in: *Journal of Neuroscience Methods*

Received date: 7-9-2017
Revised date: 12-12-2017
Accepted date: 20-12-2017

Please cite this article as: Gutiérrez Héctor Carreño, Vacca Irene, Pons Anna Inguanzo, Norton William H.J. Automatic quantification of juvenile zebrafish aggression. *Journal of Neuroscience Methods* <https://doi.org/10.1016/j.jneumeth.2017.12.012>

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Automatic quantification of juvenile zebrafish aggression

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Type of article: Research article.

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Highlights

- Novel software can automatically quantify zebrafish aggression and locomotion
- One month-old juvenile zebrafish show similar aggression levels as adult fish
- Zebrafish aggression levels are stable throughout the day and across the year
- Automatic quantification can detect alterations to aggression levels caused by drug treatment or mutation

Abstract

Background

Although aggression is a common symptom of psychiatric disorders the drugs available to treat it are non-specific and can have unwanted side effects. The zebrafish is an ideal model for aggression research. Zebrafish are small, amenable to genetic and pharmacological manipulation, and agonistic behaviour can be measured reliably.

New Method

In this study we have established a novel setup to automatically quantify aggression and locomotion in one-month old juvenile zebrafish, a stage at which fish exhibit adult-like behaviour but are small that one camera can film several animals.

Results

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