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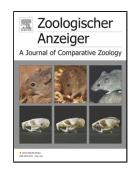
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New insights into the genital musculature of Macrostomum johni (Platyhelminthes,

Macrostomorpha), revealed with CLSM

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**Abstract** 

The genital system is the most thoroughly studied morphological feature in the genus

Macrostomum (Platyhelminthes, Macrostomorpha), for two main reasons: 1) taxonomic

identification and 2) understanding different mating strategies. In the present study the

musculature of the genital system of the freshwater flatworm Macrostomum johni was

visualized using phalloidin-linked fluorescent dye by confocal laser scanning microscopy

(CLSM), and a 3D model was provided. In the female antrum, two muscular chambers are

observed, both attached to the muscular body wall by muscle fibers. In the male system, three

muscle sets associated with the stylet are recognized. Finally, we discuss about the

interspecific variability of sexual musculature arrangement within *Macrostomun* and other

related genus, and speculate whether there is a common pattern in the musculature of genital

organs related to different mating-behavior.

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