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Musculature of the sessile rotifer *Stephanoceros fimbriatus* (Rotifera: Gnesiotrocha: Collothecaceae) with details on larval metamorphosis and development of the infundibulum

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Abstract

The sessile rotifer, *Stephanoceros fimbriatus*, is a member of the clade Collothecaceae (Monogononta: Gnesiotrocha) that includes species with indirect development and adults that lack a typical rotiferan corona. The short-lived larva undergoes a dramatic metamorphosis upon settlement, replacing the larval corona with the adult infundibulum, a highly unusual cup-shaped head that appears to develop from the anterior foregut. The infundibulum of *S. fimbriatus* bears five tentacles that function in the capture of small prey. We studied larval metamorphosis in this species and applied a fluorescent f-actin stain and confocal laser scanning microscopy to follow the development of the musculature from larva to adult. We determined that the larva contains a mostly

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