

Hemolymph circulation in insect flight appendages: physiology of the wing heart and circulatory flow in the wings of the mosquito, *Anopheles gambiae*

Ravi Theja V. Chintapalli and Julián F. Hillyer

Department of Biological Sciences, Vanderbilt University, Nashville, TN, USA, 37205

julian.hillyer@vanderbilt.edu

Journal of Experimental Biology

Supplementary materials:

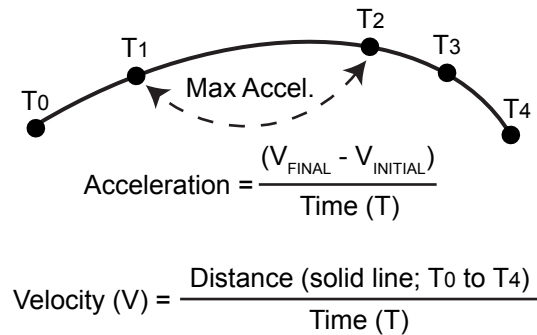


Figure S1. Diagrammatic representation of the measurements of velocity and maximum acceleration in the wing space.

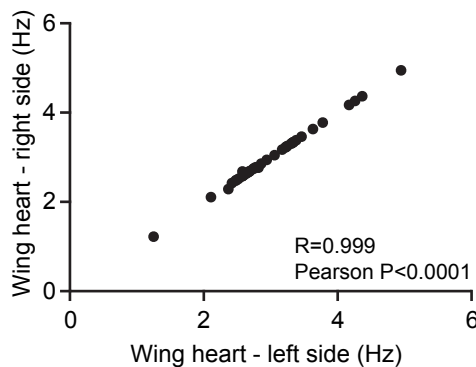
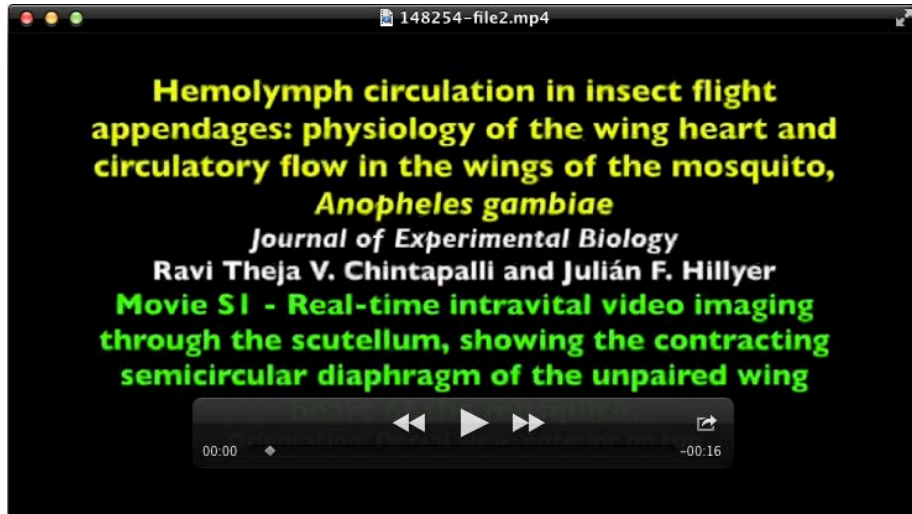
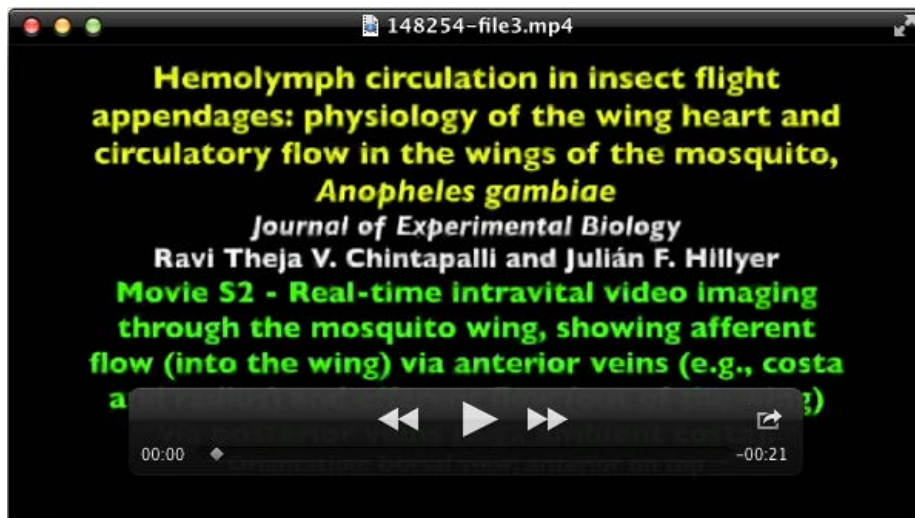


Figure S2. Correlation between the contraction rates of the right and left sides of the semicircular pulsatile diaphragm of the wing heart. The strong correlation further confirms that the wing heart of mosquitoes is unpaired.



Movie S1. Real-time intravital video imaging through the scutellum, showing the contracting semicircular diaphragm of the unpaired wing heart of the mosquito.



Movie S2. Real-time intravital video imaging through the mosquito wing, showing afferent hemolymph flow (into the wing) via anterior veins (e.g., costa and radius) and efferent flow via posterior veins (e.g., ambient costa).