Clarification in relation to the review paper “Crossbridge and filament compliance in muscle: implications for tension generation and lever arm swing”

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In our experiments on single muscle fibres from *Rana temporaria* and *Rana esculenta*, using a combined approach of fast mechanics and X-ray diffraction we find that the stiffness of the myosin motor is ~ 3 pN/nm in both species and that the 1.5 times larger force per thick filament developed by *Rana temporaria* in isometric contraction is due to a correspondingly larger fraction of myosin heads attached to the actin filament (~ 0.3 in *Rana temporaria* versus ~ 0.2 in *Rana esculenta*, see for instance Decostre et al. (2005) and Piazzesi et al. (2007). In their review in *J. Muscle Res. Cell Motil.*, Offer and Ranatunga (2010) make a contradictory interpretation of our work, and claim that the myosin motor stiffness in *Rana esculenta* is only 60% of that in *Rana temporaria*. This conclusion derives solely from their unsupported assumption that in both species the fraction of myosin heads attached to actin in

isometric contraction is 0.5. We request the publication of this clarification to avoid any misleading interpretation of our work.

References

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