

Editorial

Have your say: welcome to the JEB Forum

Ever read an article that's intrigued you so much that you felt compelled to discuss it with your colleagues? Ever wanted to have your say in an informal venue, but couldn't? Well, finally, here's your chance. *The Journal of Experimental Biology* is launching its first online Discussion Forum, offering readers the opportunity to discuss the Commentary 'When bad things happen to good fish: the loss of hemoglobin and myoglobin expression in Antarctic icefishes' by Bruce Sidell and Kristin O'Brien (Sidell and O'Brien, 2006). The discussion will be open for 4–8 weeks from the date of online publication of volume 209, issue 10.

Antarctic icefish are some of the most interesting creatures on the planet. Isolated from warmer oceans by the Antarctic Polar Front, these fish have evolved in the frigid Southern Ocean for the past 10 million years. Living in the thermally stable, oxygen-saturated waters, icefish have lost the oxygen-transporting haemoglobin pigment, and several have also lost myoglobin from their heart tissue. In response to these unexpected losses, the fish have developed a wide range of compensating physiological characteristics. Sidell and O'Brien discuss the pros and cons of these features of icefish physiology and come to the conclusion that, far from benefiting icefish, the loss of haemoglobin and myoglobin has reduced their physiological performance; yet the fish survive. The authors suggest that icefish owe their survival to their environmental isolation, which leaves them free from competition in their icy niche.

Having outlined the consequences of haemoglobin and myoglobin loss on oxygen transport, Sidell and O'Brien move on to discuss both proteins as nitric oxide regulators. Nitric oxide is a key signalling compound, regulating various physiological functions including vasodilation, vascular growth and the maintenance of mitochondrial density. In many species, haemoglobin and myoglobin regulate tissue levels of nitric oxide with their nitric oxide dioxygenase activities. The authors make the novel suggestion that many of the hallmark cardiovascular characteristics of icefish may have arisen as a direct result of the high nitric oxide levels incurred by the loss of both haemoglobin and myoglobin.

Given this intriguing evolutionary scenario, we are offering

you the opportunity to have your say. It's simply a case of registering with the Forum, logging on and posting your thoughts. All received submissions will be moderated before they are posted to the Forum, as we hope that this will facilitate a scientifically accurate and stimulating discussion for all to enjoy. George Somero has very kindly agreed to assist Kathryn Phillips in moderating the Forum. The moderators will validate submissions twice a week and the deadlines for submission are 09.00 GMT on Mondays and Thursdays. Validated submissions will be made available to Forum subscribers later on those days. Prior to validation, a posting will be unavailable, and a message will be posted in its place notifying you that the message is awaiting validation.

Finally, in the same way as *The Journal of Experimental Biology* requires high standards of its publishing authors, we request that participants in the JEB Forum maintain a similar attitude towards the quality of their submissions to the online discussion. We also request that all members register with their real name, rather than using an alias, and that contributors are prepared to back up their arguments with references when necessary.

So now it's over to you. Simply click the Forum link on the JEB home page, table of contents or Commentary page or go directly to db.biologists.com/forum/ to register and log in before posting your comments; you'll soon be in the thick of the discussion. We hope that you enjoy this new and exciting venture and will look forward to future Forums hosted by the JEB.

Sidell, B. D. and O'Brien, K. M. (2006). When bad things happen to good fish: the loss of hemoglobin and myoglobin expression in Antarctic icefishes. *J. Exp. Biol.* **209**, 1791–1802.

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