throughout the book because it masks the importance of verifiable, scientific names. Formal Latin binomials are the basis of communicating about butterflies because they are held in common by all languages. And let’s be honest, the history of Indian butterfly research is built upon them. It is also worth remembering that depending on linguist culture, colloquialisms often have multiple meanings. Thus, one wonders how the editorial process missed the fact that some “common names” employed in this volume are highly offensive epithets in most English-speaking countries. Without putting too fine a point on it, I think field guides are the perfect media for promoting the use of scientific names to students of butterflies and the general public—they are, after all, universal.

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Do Fish Feel Pain?


This short, earnest book presents a straightforward thesis. First, fish possess the neural architecture required to feel pain, and show many of the behavioral sequelae of pain perception. Second, the data on fish cognition suggest that they are consciously suffering this pain. Third, we should be kinder to fish than we currently are. Braithwaite is persuasive with respect to the first and last points, while largely eliding the hefty arguments in philosophy and cognitive psychology needed to assert that fish are capable of conscious experience. She does an admirable job of convincing readers that fish are smart, with engaging discussions of transitive inference in haplochromine cichlids and cooperative hunting between groupers and eels. But the case for suffering hinges on so-called “phenomenal consciousness,” that is, sentient experience of one’s world. The argument for phenomenal consciousness in fish is based on the presence of a limbic-like area in the forebrain of goldfish, along with experiments suggesting that pain may modify behavior in social and learning contexts. The problem is that none of this constitutes evidence against (or for) the Cartesian model of animals as mindless automata; for that matter, it is equally spurious to assert the common counterargument, that fish do not feel pain because they lack a neocortex. Our greater empathy for injured birds and mammals—or fellow humans—arises from analogy and intuition rather than from examination of data.

Do Fish Feel Pain? was written in response to popular coverage of Braithwaite’s coauthored study of fish nociception. Predictably, media statements that “fish feel pain” caused a stir among anglers, and it is to an audience of lay skeptics that this book is addressed. The volume focuses on a British readership to the point of insularity, with first names omitted for some Continental researchers and a gross exaggeration of the global popularity of salmon. More to the point, the book could have benefited from a more universal treatment of cultural norms and regulations concerning animal welfare. Nevertheless, Braithwaite is at her best when conveying the sophistication of fish behavior, and that sophistication alone should give pause to anyone who derives joy from dragging a live animal around by a hook through the mouth. If we are to avoid being cruel to robins, kittens, or George Michael, we should extend that kindness to all our fellow gnathostomes.

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Fish Locomotion: An Eco-Ethological Perspective.


This volume contains 15 articles that review original research in the ecology and behavior of fish swimming. They include discussions of: how fish deal with water flow (two chapters); how they choose swimming style and mode (two chapters); how they swim while interacting with other animals (two chapters); how environmental factors affect swimming behavior (two chapters); how larval fish deal with moving through low Reynolds number environments (one chapter); how telemetry is used to understand how fish swim in the wild (two chapters); and how fish interact with fishing gear (one chapter). Most of the chapters are integrated such that many aspects of fish swimming (speed, endurance, and mode) are discussed relative to several ecological factors (temperature, wave action, and oxygen level) within the context of each chapter.

The volume will be a handy reference for researchers and students interested in how the environment and changes therein affect fish swimming behavior in a variety of natural and anthropogenic habitats from wave swept environments to relatively still waters. The book will be particularly useful for graduate-level courses that cover the behavior and ecology of fish swimming. The volume includes updated research on the typical topics covered in a fish class; however, it also includes excellent discussions of subjects that are not usually covered, including how waves and eddies affect fish behavior and distribution in one chapter and how various fishes navigate fish passages and