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Murray Itzkowitz earned his PhD in Zoology in 1970 from the University of Maryland. Prior to joining Lehigh, he performed behavioral and ecological research on coral reef and freshwater fishes in Jamaica, as well as on commercially valuable fishes in the West Indies. He joined Lehigh in 1979 and was promoted to full professor in 1991. He served as department chair for 9 years, from 2008-2017, and retired as emeritus in 2020.

Murray's scholarship focused on social and reproductive behaviors, how these behaviors can be impacted by the environment, and how they may influence conservation efforts. His research spanned multiple fish species and environments, combining field studies with lab-based experiments. Using convict cichlids, Murray assessed the costs and benefits of monogamy, parental care, and territory defense. His findings challenged long-standing theories of the time, demonstrating that changing partners between broods shortens the time between reneating and may enhance breeding success.

In a marine environment, Murray's research on damselfish expanded our understanding of the role of the environment on male reproductive success. He found that territory quality was a more important indicator of male success than their size, and that males more aggressively defended a resource-rich nest than a lower quality nest. Murray's work on these Caribbean species was also relevant to conservation. He found that human-induced changes, such as the introduction of invasive species and habitat destruction, could lead to increased risks of predation and hybridization.

In West Texas, one of Murray's favorite places, he worked to understand the mating and territorial defense behaviors of the very rare and endangered Leon Springs pupfish. Invasive local grasses were crowding out pupfish spawning sites, and a predator was eating their eggs. In collaboration with the Texas Parks and Wildlife department and the Nature Conservancy, Murray established a captive breeding colony of pure pupfish strains here at Lehigh with the goal of saving the species. In parallel, Murray and his students expanded and improved the endogenous spawning sites, and later reintroduced hundreds of captive-bred animals into the restored pools.

Overall, Murray's research on animal behavior provided fundamental novel insights into courtship, parental care, and aggression, significantly advancing our understanding of the evolution of behavior, as well as increasing knowledge in the fields of marine ecology and conservation biology. While his research impacted our understanding of how social behaviors generate and preserve biodiversity, it also provided opportunities for his students to explore and to grow. Murray stayed in touch with many of his students long after they graduated from

Lehigh, in some cases continuing to collaborate, but always offering support and advice as they advanced in their careers.

In the classroom, Murray was invested in helping students to understand concepts of evolution. During the course of his career, he taught at all levels, from introductory to graduate courses.

As department chair, Murray was cheerleader and advocate, and not only for faculty but also for our staff and students. He said that he felt it was his role to tell anyone that would listen how great we are. He often wandered the halls, looking to identify a problem before it became serious, to find out how he could be helpful, or sometimes to talk about research. His leadership style may have been subtle, but he had a way of making all of us feel supported and valued.

Dr. Murray Itzkowitz served Lehigh University with distinction for over 4 decades. He was a scholar, educator, mentor, colleague, friend, and advocate. Murray's legacy includes the 9 faculty he hired as chair, the 18 students he mentored towards their PhDs, his over 90 research publications, and the countless acts of kindness, sarcasm, wit, advice, and knowledge, that are remembered fondly by those who knew him.

On behalf of the department of Biological Sciences, I ask that this memorial resolution be made a permanent part of the faculty record by being included in the minutes of this Senate meeting. I will also share this resolution with members of Murray's family.

Respectfully submitted,

Kathy Iovine, Chair of the Department of Biological Sciences