

In the Claws of the Tomcat: US Navy F-14 Tomcat in Combat, 1987–2000

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It would appear that Celandier had the most fun writing part 3, in which he looks at the evolution of carrier warfare. His engineering background shines forth as he takes the reader through a series of comparisons. Was concentration or dispersion of carriers more effective? What was the proper mix of bombers and fighters? One of Celandier's more intriguing speculations pairs a lone battleship against a lone carrier. The author concludes that, by the later phases of the war, the odds were with the battleship; however, he acknowledges the very great unlikelihood of such an encounter ever occurring. While this may seem an esoteric question, Celandier is just getting started.

Celandier spends significant time examining the effectiveness of seaborne antiaircraft guns. At several points he reminds readers that American efforts to develop reliable proximity fuses were extraordinarily expensive yet disappointing in their results. He also looks at the effectiveness of large-caliber guns when deployed against aircraft. After painstaking analysis, Celandier concludes that the U.S. Navy would have been served far better if every five-inch gun mount had been removed from carrier escorts and replaced with quad 40 mm mounts. As the solution to an interesting thought experiment, the effort is convincing, but this is, in the end, an exercise performed on something like the famous frictionless plane of physics. A battleship's or cruiser's secondary batteries had more to do than just provide antiaircraft fire; in a surface action, the five-inch batteries would engage in direct combat with enemy ships, in addition to providing illumination. During shore bombardments the same batteries would provide a wide variety of explosives

to handle a spectrum of targets. The quad 40 mm gun well may have been the best surface-based aircraft killer in the inventory, but that was not the five-inch gun mount's only job.

The book concludes with something of a hodgepodge of topics. Celandier comes out in favor of armored flight decks and single hangar decks. He suggests that carrier air wings of the future should be composed of drones and manned aircraft, and those manned aircraft should be subsonic turboprops along the lines of the Super Tucano. He also concludes that in application John R. Boyd's "OODA loop" is more useful than Alfred Thayer Mahan's principles of naval warfare.

With all that said, Celandier does the reader at least one tremendous service. His meticulous accounting illuminates the very great risks that naval aviators took and the extreme losses they endured, particularly American pilots during the first two years of the war. Technological limitations and operational realities all too often resulted in these young men being expended like flesh-and-blood ammunition. Their willingness to accept long odds and their dedication in performing their missions represent one aspect of carrier operations during World War II that never should be forgotten.

RICHARD NORTON



In the Claws of the Tomcat: US Navy F-14 Tomcat in Combat, 1987–2000, by Tom Cooper. Warwick, U.K.: Helion, 2021. 80 pages. \$29.95.

As a junior officer in the U.S. Navy's F-14 Tomcat community, I routinely heard three explanations for why the

Navy's premier fighter never scored an air-to-air victory during Operation DESERT STORM: the U.S. Air Force refused to assign air-to-air missions to the Navy; the Tomcat lacked the necessary hardware to distinguish friend from foe; and Iraqi aircrews turned and ran from Tomcat radars, owing to their experiences against Iranian Tomcats during the Iran-Iraq War.

Tom Cooper leads off his new operational history, *In the Claws of the Tomcat*, by setting up these same old saws. Thereafter, while he does not outright "bust" these three "myths"—which he describes, probably more accurately, as "contradictions" (p. 2)—he offers up ample information for readers to make up their own minds. In addition to highly readable histories of U.S., Soviet, Iranian, and Iraqi aircraft development and acquisition, he provides detailed descriptions of all major air-to-air engagements in the Persian Gulf from 1987 to 2000 that pitted the Tomcat against a host of Iranian and Iraqi opponents. And he does all this in a slim volume of eighty pages.

Although a self-taught historian and researcher, Cooper accessed a great deal of information, some of it previously unpublished. While the majority of his historical and technical background information relies on secondary sources, he did interview most Tomcat crews involved in the engagements highlighted in his book. More importantly, he had access to official Iranian and Iraqi publications as well as interviews with former senior Iraqi aircrew members. Citing classification concerns for the Americans—and safety concerns for the Iranians and Iraqis—he presents the information on the engagements as oral history. Additionally, the book features

hundreds of archival photos, some showing the actual aircraft and engagements themselves, as well as beautiful watercolors of all aircraft involved.

Decidedly, *In the Claws of the Tomcat* is pitched at the aviation enthusiast. The book includes brief overviews of the Cold War and the Iran-Iraq War—the latter curiously called the "First" Persian Gulf War, to distinguish it from the "Second" Persian Gulf War (i.e., Operation DESERT STORM). Abbreviations for aircraft, weapons, and hardware abound. That said, the descriptions of the development of the Tomcat and the aircraft that opposed it are presented in layman's terms and nicely describe the different capabilities, tactics, and mindsets of the United States, Iran, and Iraq.

The second half of the book includes descriptions of every air-to-air engagement featuring the Tomcat from 1987 to 2000—including three huge revelations. First, Cooper lays out the evidence, which includes photos of a damaged Iranian F-4, for a "soft kill" of an Iranian F-4 in 1987 that the U.S. Navy long had discounted. Second, he establishes, through multiple eyewitness interviews, that Lieutenant Commander Scott Speicher, the first American casualty of the war, was shot down by an Iraqi MiG-25, not a surface-to-air missile, as long had been the Navy's official position. Third, Cooper likewise argues that a shootdown long credited to the dreaded "optical" mode of the SA-6 surface-to-air missile system (against which a generation of U.S. aircrews grew up defending) may have been instead another Iraqi air-to-air kill.

Although earlier in the book Cooper draws excellent diagrams of basic air-to-air maneuvers, unfortunately he misses the opportunity to do the same for these engagements. Although his

research is thorough, the engagements are somewhat hard to follow, and the adjacent maps of Iraqi air bases do not provide much clarity. Dedicated diagrams would have been invaluable. While Cooper does an admirable job of comparing differing accounts of complicated engagements and suggesting the most likely sequence of events, his reliance on oral history colors his overall assessments of the performance of the Tomcat and its aircrews. It is unclear whether Cooper believes the performance of the Tomcat is underappreciated or that it is appreciated correctly and he merely wants to provide context. His three “contradictions” never are dealt with explicitly, but the evidence suggests that they—especially the latter two: that the Tomcat lacked the proper equipment and that Iraqi pilots knew to avoid its powerful radar—are accurate. Cooper goes out of his way to commend the performance of Tomcat aircrews, attributing their lack of air-to-air victories to their strict adherence to the rules of engagement and tactics; however, two of the incidents described feature some obvious mistakes regarding both. Finally, there are minor editorial quibbles involving the aforementioned “First” and “Second” Persian Gulf Wars, the occasional improper use of military acronyms, and his use of Soviet instead of the more familiar NATO designations for some weapon systems (e.g., referring to the R-40D instead of the AA-6 Acrid), but this may be an idiosyncrasy of the military aviation enthusiast community. Despite having heard these same stories for years—some of them from the same people Cooper interviewed—I definitely learned something new from *In the Claws of the Tomcat*. Cooper describes

the Iranian and Iraqi pilots that the U.S. Navy faced from 1987 to 2000 as experienced combat veterans, and his book rightly credits their performance. Naval aviation sometimes overestimates its future performance and underestimates that of its future opponents, but it does so (and did so) at its own peril.

JOSHUA HAMMOND



Inside the US Navy of 1812–1815, by William S. Dudley. Baltimore, MD: Johns Hopkins Univ. Press, 2021. 368 pages. \$54.95.

In the first chapter of *America, Sea Power, and the World*, James Bradford’s edited textbook on the history of the American navy, the author explains to students and readers what he considers to be the three elements of a modern Navy: purpose-built warships, a professional force—in particular, a professional officer corps—and a shore establishment of supporting structures and bureaucracies. In large measure, naval history across the past several generations has tended to focus on the first two elements, the warships and the sailors. William S. Dudley’s new book, *Inside the US Navy of 1812–1815*, is a masterwork of depth and research that returns the third element, the shore establishment and bureaucracy, to the center of the history of early American naval power. In doing so, Dudley offers not only a great service to our understanding of the U.S. Navy’s past but also key reminders of the breadth of naval topics that require our attention in the present and the future. In June 1812, when the United States declared war on Great Britain, the U.S. Navy was not ready. Americans were taking on the most powerful maritime