The myth of Russia and China's peer stealth threat

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For over a decade, Russia and China have been touted in the media and defense spaces as twin bogeymen menacing the US-led security order.

One of the most feverish ways this fear presents itself is the concept of Russia or China matching or surpassing the US in the fields of stealth technology and advanced fifth-generation fighters.

Bean-count numbers in the casual defense space tally up the PLAAF's J-20 stealth aircraft alongside the US's F-35 and F-22 fleets and speculate on Russia's ability to detect and shoot down US stealth aircraft with its vaunted S-400 air defense system.

If this is indeed an arms race, then the United States should be thrilled as every conceivable advantage is on its side. In this race, the US is effectively bringing Usain Bolt to the contest, Russia is a paralytic and China is a pre-teen getting ready for its first middle school track meet.

To start, Russia's fifth-generation stealth capabilities can be written off with relative certainty. After a tortuously delayed and over-expensive program lasting three decades, the number of Su-57s delivered is just edging over 20.

Russia's absurdly poor production quality paired with the Su-57's 4th generation "unstealthy" engines and absence of meaningful combat near or in Ukraine is strong evidence that its fighters probably are not true stealth nor are they fifth-generation.

Meanwhile, the S-400's ability to detect fifth-generation fighters at any meaningful range is at best questionable given significant overclaiming by the Russian Ministry of Defense in the past, so outrageously revealed in the Ukraine war that Moscow arrested its own top aerospace scientists for treason.

This, combined with Russian legacy systems' historically poor performance against US aircraft in Iraq, Yugoslavia and Syria, gives little sign that the evolutionary upgrade that is the S-400 would fare any better against the US stealth planes of today.

They also suffer from the critical flaw that S-400s are both in NATO and that the Russians have no way to reliably, internally test their own systems against a verified stealth aircraft.

As for China, without a comparative analysis, it would appear that the PLA-Air Force has done somewhat better in the stealth field. While possessing the same unproven ability to actually be a stealth aircraft, the PLAAF has at least fielded its first stealth fighter, the J-20, in 2017 and possesses perhaps as many as 300 today.

Its unveiled H-20 fifth-generation bomber is touted as bringing new and lethal capabilities to China's force projection. Without context, China's growing force can appear to be a pertinent, rising challenge to US aerospace dominance.

Contextualized, however, the US's complete dominance of the aerospace sphere becomes apparent. The US led China by more than four decades in introducing its first stealth aircraft, the F-117 Nighthawk, with the immeasurable advantage of actually being tested in combat and against a highly prepared foe.

In 1991, Baghdad was considered the most heavily defended city on earth, with a vaunted air defense system composed of hundreds of SAM sites, thousands of anti-aircraft guns and a powerful network of air defense radars. More than three decades ago, the first generation of F-117 stealth bombers dismantled this air defense system from within without a single casualty.

Twelve years before the J-20 was operationally fielded, the first US fifth-generation fighter, the F-22 was introduced to service. Today, the US fields more of the F-22's direct successor, the F-35, than every other fifth-generation fighter type in the world combined, including the US Air Force's own sizable F-22 fleet.

If it came to war in the Indo-Pacific, China's J-20, with a radar cross section (RCS) plausibly that of a Super Hornet's, would be outnumbered four to one by F-22s and F-35s, inheritors of a demonstrably lethal line of US fighter technology.

Veteran F-15 pilots have described flying against the F-22 "like having two football teams against each other and one of them [the Raptor] is invisible," and described engaging aggressor fighters with an ease like "clubbing baby seals" in field tests.

China has operationally deployed exactly zero of its much-hyped H-20, leaving the US as the only military force on the globe not only fielding the world's only fifth-generation stealth bombers (the B-2) but having done so unopposed for 27 years.

Put in context, the B-2's 27-year operational gap over the H-20 is the same length of time between the first primitive biplane duels over the battlegrounds of WWI and the vast, coordinated air campaigns of the Battle of Britain.

Three of the B-2's sixth-generation replacement, the B-21 Raider, are already flying in the US. While the USAF has employed stealth aircraft in combat continually from Panama to Desert Storm to the 20-year War on Terror, Russian and Chinese stealth planes have never been confirmed by any outside source to have participated in combat of any kind.

Beyond the US's demonstrated major advantages in numbers and combat experience, the Russians and Chinese both face a nearly insurmountable issue for their own design programs. Put simply, there is no way for either nation to practically verify if their aircraft are "stealthy" or not, or if they can detect enemy stealth aircraft.

There is no question that their engineers have succeeded in designing airframes with a low RCS, which can be independently measured. However, the Russians and the Chinese have no way of knowing if their aircraft have any realistic stealth or counter-stealth capability.

By comparison, the US can test itself against both its own proven designs and its adversary's top systems. Officially decommissioned F-117s have seen regular use in aggressor training, testing modern US designs' ability to acquire and engage stealth targets.

Knowing that their F-117s defeated the best Soviet-era air defenses in the world over Baghdad and that the B-2 operated freely in the well-defended Kosovo airspace gave US engineers a rock-solid base from which to continue their stealth development with the assurance that their designs actually worked in combat.

The presence of Turkish S-400s in NATO has allowed the US a direct ability to test their aircraft against Russia's top defense system and develop countermeasures. Meanwhile, Russia and China have no way to practically test their stealth aircraft and sensor systems, other than using their own unproven designs as a basis.

Between historical and habitual Russian and Chinese overclaiming, no demonstrated capability and no ability for either to realistically test their own "stealth" aircraft, the evidence suggests that neither has any stealth aircraft yet.

Instead, the preponderance of evidence shows that their proclaimed "stealth" aircraft should instead be classified as "low-observable" – aircraft with measures taken to reduce their radar signature – rather than true stealth designs.

This is not to say definitively that neither Russia nor China has any stealth aircraft. Rather, this article calls for their existence to be debatable rather than an unquestioned and accepted truth.

Not only are the Russian and Chinese air forces at a numerical and experience disadvantage in the realm of fifth-generation fighters, but their very possession of stealth aircraft may well be more myth than reality.

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