Air Force pilots today are far more likely to tangle with SAMs than with enemy aircraft.

By Rebecca Grant

Lockheed Martin illustration by K. Price Randel

The Missing Aces

On Feb. 28, 1994, USAF Capt. Robert Wright, flying in an F-16, shot down three Serb Galeb aircraft over Bosnia. The outcome of the engagement is depicted here in this painting by Lockheed Martin's K. Price Randel.

THE TERM "ace" has been around since the early days of World War I. Evidently, it was first used in reference to Adolphe C. Pegoud, a Frenchman who, after downing several enemy aircraft, was himself killed in 1915. The word itself is likely an English corruption of the French expression "l'as," used at the time to mean "the best" or "the top." Indeed, French newspaper writers of the day mourned the fallen Pegoud as "l'as de notre aviation."

Becoming an ace—scoring five aerial victories—long has been a badge of high achievement. Across its 97-year history, the Air Force (including predecessor organizations) has recognized a total of only 816 of these airmen.

And the achievement has become increasingly rare. From a high of 708 in World War II, the USAF ace count fell to 39 in the Korean War and three in the Vietnam War. On Oct. 13, 1972, Capt. Jeffrey S. Feinstein, an F-4 weapons system officer, used an AIM-7 missile to down his fifth North Vietnamese MiG-21. Since then, there have been no new aces.

Thus, the Air Force has gone for three decades without minting a new ace. Just 10 USAF airmen since Vietnam have recorded even as many as two aerial victories. Of those 10, only three are credited with three kills. No one has four.

The prime reason is only too obvious: Air Force aircrews today are far more likely to tangle with surface-to-air missiles than with enemy fighters. During Operation Iraqi Freedom in 2003, the Iraqi Air Force stayed on the ground—much to the chagrin of coalition fighter pilots. Challenges from enemy fighters have been nearly as scarce in other recent US operations.

Is the age of the ace finally over? Is the ace standard still the best way

to recognize achievement and motivate aircrews?

By mid-World War I, all belligerents had accepted the standard of five aerial victories to denote an ace, and the concept was well-established by the time American forces entered the war.

The First Ace

A few American pilots flying for France or Britain had already registered five aerial victories, but the first American ace with American training and flying with an American squadron was Capt. Eddie V. Rickenbacker. At the time, Lt. Douglas Campbell was declared the first ace, but Rickenbacker's fifth kill, confirmed a few days later, took place before Campbell's fifth. According to Rickenbacker, Campbell was "a silent and self-possessed fellow" who often went on voluntary patrols "looking for trouble."

Rickenbacker soon surpassed Campbell. Rickenbacker had all the qualities of the early aces: outstanding mechanical aptitude, superb vision, aggressive but thoughtful tactics. To avoid jams at critical moments, he meticulously loaded his own ammunition. He logged the last two of his 26 victories on Oct. 30, 1918, ending the war as America's leading ace.

For sheer scope and magnitude, World War II stands as the peak of aerial combat. Airmen of the US Army Air Forces amassed nearly 16,000 aerial victory credits, and 708 pilots became aces.

They found rich hunting grounds. The skies were full of aircraft, and there ensued a prolonged, bloody contest to control the air and dictate the terms of combined arms campaigns.

In the 1940s, the Army Air Forces had tightened the rules determining who got to call himself an ace. In World War I, the US had followed the more-liberal French crediting rules; when an enemy aircraft was shot down, all pilots who took part in the engagement received a whole victory credit. Thus, a single downed aircraft could result in several "credits." In World War II, however, the US adopted the more-restrictive British system, in which the number of victory credits was equal to the number of aircraft shot down. If two pilots participated in a single shootdown, each would receive a half credit.

The aces of World War II became newsreel heroes back home. These men shared many of the traits that led Rickenbacker and his World War I comrades to success. Spotting the enemy first was paramount. Good gunnery counted, too. In fact, top USAAF scorer Maj. Richard I. Bong was a gunnery instructor before he got into combat.

Capt. Eddie Rickenbacker was the leading US ace of World War I, with 26 victory credits. Pictured are: (l-r) 1st Lt. Joseph Eastman; Capt. James Meissner; Rickenbacker; 1st Lt. Reed Chambers; and 1st Lt. Thorne Taylor.

Leading aces such as Bong and Col. David C. Schilling took on several enemy aircraft at once. Schilling, flying a P-47 with the 56th Fighter Group, was already an ace three times over when he encountered nearly 100 German aircraft on a big mission on Dec. 23, 1944. He attacked and downed three Bf-109s and two FW-190s in that single engagement. Schilling wound up his war with 22.5 aerial victories in just 132 sorties.

It took months and years for the leading scorers to amass their kills. In the Southwest Pacific, Maj. Thomas B. McGuire Jr. shot down 38 enemy aircraft, the first in August 1943 and last in December 1944. Flying in Europe, Lt. Col. Francis S. Gabreski produced his total of 28 kills between August 1943 and July 1944. Bong, who also flew in the Southwest Pacific, scored his first two kills in late December 1942 and his 40th and last on Dec. 17, 1944, following a five-month publicity tour. After that, Gen. George C. Kenney pulled Bong permanently from combat.

World War II's huge victory counts owed much to the intense nature of that "total war" and the gigantic scale of its air combat. The struggle for air superiority took unending effort and used up thousands of aircraft. For example, the Germans produced more than 33,000 of their mainstay Bf-109 fighters, but few survived the war.

Into Korea

The next conflict to produce USAF aces was the Korean War. Some World War II luminaries such as Gabreski became aces all over again.

Gabreski added 6.5 victories in Korea to bring his two-war total to 34.5 victories, making him third on the list of all-time USAF aces. Five others on that list also had credits in both World War II and Korea.

Overall, Air Force aircrews (including a few allied pilots attached to USAF units) shot down 897 enemy aircraft during the Korean War, and 39 airmen became aces. Included in these numbers were "jet-to-jet" aces, the first of whom was Maj. James Jabara, who scored his fifth and sixth MiG kills on May 20, 1951.

The Vietnam War brought even more change, much of it resulting from the Air Force's use of two-man fighter aircrews. Whenever a fighter crew shot down an enemy fighter aircraft, both the pilot and the backseat weapons system officer (WSO) would receive a full victory credit.

In this way, the title of ace was conferred upon two Air Force WSOs: Feinstein and Capt. Charles B. DeBellevue. Air Force pilots, weapons system operators, and even two B-52

gunners scored victories, with a combined total of 247 aerial victory credits. Vietnam aircrews scored most of their kills with heat-seeking air-to-air missiles like the AIM-7 or AIM-9.

There were also several gun kills with the 20 mm and a few "maneuvering" victories in which airmen simply flew their opponents into the ground.

The Vietnam War produced only three official USAF aces: Feinstein, DeBellevue, and Capt. Richard S. Ritchie. All three won their laurels in 1972, a period of intensified air activity.

The need to improve its air combat skills was one of the biggest lessons that the Air Force took away from its experience in Vietnam. Red Flag, aggressor squadrons, and other programs pushed pilots to a higher level of skill. New fighters such as the F-15 and F-16 were designed to guarantee American airmen the advantage.

World War II produced far more air combat—and aerial victories—than any other war. Some 700 Army Air Forces pilots became aces. One of them was Maj. Richard Turner, who was credited with 11 kills.

Col. Francis "Gabby" Gabreski had victories in two wars—28 kills in World War II and another 6.5 in the Korean War. His total of 34.5 victories is third-highest in Air Force history.

"Near Aces"

These factors all came together over Iraq in the 1991 Gulf War. F-15C pilots scored 31 kills of Iraqi aircraft ranging from top-line MiG-29 and Mirage F-1 fighters to Soviet-built helicopters.

There were a few "near aces." Two F-15C pilots topped the list with three kills apiece, but one victory for each came after operations technically had ceased.

Capt. Thomas N. Dietz and 1st Lt. Robert W. Hehemann were both members of the 36th Tactical Fighter Wing. On Feb. 6, 1991, they were on combat air patrol (CAP) east of Baghdad when an E-3 AWACS notified them of Iraqi aircraft taking off from a nearby airfield. The Iraqi fighters were on the deck at 100 feet and trying to flee to Iran—as several dozen had since late January.

"The trick was to get to them before they got to the border," Dietz recalled. The F-15s ran north and then did a right-hand turn to close in behind the Iraqis. Hehemann shot down two Su-25s and Dietz shot down a pair of MiG-21s, all with AIM-9s.

"We were at the right place at the right time," said Dietz.

On March 22, 1991, after the war had ended but while Desert Storm was still running, the pair again found themselves in the right place. Coalition pilots were patrolling a no-fly zone, which at that time covered all of Iraq and only applied to fixed-wing aircraft.

"We'd see a lot of helicopters," said Dietz. "The difficult part was finding a fighter or a bomber."

Dietz and Hehemann spotted a Su-22 and a PC-9 light turboprop flying at about 1,000 feet. As they later learned, the Su-22 was on its way home from bombing Kurds in northern Iraq and the PC-9 was acting as the forward air controller for the Su-22. Dietz engaged the Su-22 at 3,000 feet, sending an AIM-9 "right up his tailpipe." When the Su-22 exploded, the PC-9 pilot ejected. Since Hehemann had still been pressing the engagement of the PC-9, he was awarded the victory.

Six other Gulf War pilots had two aerial victories. Capt. Robert E. Graeter took down two F-1 Mirages on Jan. 17, 1991, the first night of the war. He hit one with an AIM-7 and maneuvered the other into the ground. Ten days later, Capt. Jay T. Denney shot down two MiG-23s with AIM-9s. That same day, Capt. Benjamin D. Powell killed an F-1 Mirage and a MiG-23. Capt. Anthony R. Murphy eliminated two Su-22s

on Feb. 7, 1991. Capt. Rhory R. Draeger claimed a MiG-29 on Jan. 17 and a second victory, a MiG-23, on Jan. 26.

Capt. Cesar A. Rodriguez downed his first enemy aircraft, a MiG-29, without firing a shot. On Jan. 19, Rodriguez and his wingman, Capt. Craig W. Underhill, were on a daylight mission tracking two MiGs that darted back into the safety of a SAM belt around Baghdad. Then, a second pair of MiG-29s closed in on them. Suddenly a MiG-29 had a radar lock on Rodriguez at a distance of about eight miles—"well inside his missile range," Rodriguez said of the Iraqi pilot. Rodriguez executed defensive maneuvers and used the F-15's electronic countermeasures. "I kept him off until [Underhill] could target him and take him out," said Rodriguez.

One MiG-29 was gone, but now Rodriguez was in a visual merge with the second MiG-29. "I had to get a visual ID on him," Rodriguez said. "It turned into a single circle type of fight," with the F-15 and MiG-29 locked in a dogfight that began at 8,000 feet. "By the time it was all over, we were both below 300 feet," said Rodriguez. But the F-15 pilot held the advantage. When the Iraqi MiG-29 tried a Split-S to get under Rodriguez, he miscalculated and hit the ground.

"The total was one missile expended, two MiG-29s killed," Rodriguez later said of the engagement.

A week later, on Jan. 26, 1991, Rodriguez was on CAP when an AWACS spotted three MiG-23s taking off out of H-2 airfield in western Iraq. The Air Force four-ship spread out line abreast, headed west, and killed all three MiG-23s, giving Rodriguez and flight lead Draeger their second kills.

The near-aces of the Gulf War found that training and opportunity made for success. Yet the overall numbers of aerial victories were less than many anticipated, especially given that Iraq had more than 700 combat aircraft at the time.

The Balkan Conflicts

In the mid-1990s, the Air Force was engaged in a number of air combat operations over the Balkans in Europe. It was during one of these engagements that an airman scored three victories in a single day—something not seen since Maj. George A. Davis Jr. pulled it off during the Korean War.

In 1994, Bosnia-Herzegovina, once a province of Yugoslavia, was entering its third year of civil war. The United Nations had ordered the imposition of a no-fly zone over the area.

In the predawn hours of Feb. 28, 1994, Capt. Robert G. Wright, in an F-16, was conducting a patrol within that no-fly zone when six Serbian Galeb aircraft took off from Udbina, an airport in a Serb-held part of Croatia. The Galebs were en route to bomb a Bosnian Muslim munitions factory near the town of Novi Tarvnik.

A US AWACS radar aircraft picked up the flight and so did Wright, who came to lower altitude to see the six Galebs forming up for their bombing runs. Wright later said he joined up as No. 7 in trail.

Wright was in position to shoot down all six of the slower Galebs, but, because this was a UN operation, he needed clearance to fire. He also had to read to the Serb pilots a warning, printed on his kneeboard.

By the time the AWACS cleared Wright to engage, all six Galebs were headed north. Wright got the first Galeb with an AIM-120 fired over a distance of 5,000 feet. "The missile jumped off the rail and there was a huge fireball," Wright remembered. Moments later he bagged the second Galeb with an AIM-9.

Air Force Aerial Victory Credit Totals by War

World War I	1,471
World War II	15,863.6
Korean War	897
Vietnam War	247
Gulf War I	37
Bosnia	4
Kosovo	5
Afghanistan	0
Gulf War II	0
Total	**18,524.6**

Air Force Aces by Conflict

World War I	70
World War II	708
Korean War	39
Vietnam War	3
Total	**816**

Source: Air Force Historical Research Agency. As of Aug. 9, 2004.

In Vietnam, USAF Capt. John Madden (l) had three victories. Capt. Charles DeBelleveue (center) had six, making him USAF's top ace. Capt. Richard Ritchie (right) had five, and was USAF's first Vietnam ace.

Wright then lined up the third. He was so close that he started to go for the F-16's guns "just out of instinct," he said in a 1998 interview. Then Wright noticed the outline of a city in the background behind his target. If he gunned the Galeb, stray 30 mm rounds might hit houses, so Wright used another AIM-9 for the third kill.

By now he was low to the ground and low on fuel and had to break off the attack. Behind him was another flight of F-16s. Capt. Stephen L. Allen fired an AIM-9 and brought down a fourth Galeb.

Airman Magazine photo by TSgt. Jack Braden

Aerial victories have become rare. Col. Cesar Rodriguez recorded three kills in the 1991 Persian Gulf War and Operation Allied Force over Kosovo. Rodriguez is shown here at Langley AFB, Va.

Opportunity Forgone

With a faster clearance from the AWACS, Wright might have had time to shoot down all six Galebs. But that was the nature of combat operations in the no-fly zones of the 1990s. Tight rules of engagement demanded double validation of targets.

The same rules applied five years later during Operation Allied Force, NATO's 78-day air campaign over Serbia and Kosovo. In that war, only four Air Force pilots were cleared to engage Serbian MiG-29s.

Capt. Michael K. Shower, an F-15C pilot, was part of a 16-aircraft escort for F-117s and B-2s on the first night of the war. The air operation was divided into northern and southern packages. Shower was in the northern package when he heard an AWACS call out "splash one MiG-29" and knew someone in the southern package had scored.

It was none other than now-Lt. Col. Cesar A. Rodriguez, bringing his combined Desert Storm-Allied Force total to three victories. Rodriguez and his wingman marked a MiG-29 taking off from Pristina airfield, heading north then turning back to the southwest. "It was obvious he [the MiG-29] was on a prebriefed vector to intercept the strike package," said Rodriguez. Once he ensured a clear field of fire, Rodriguez launched his AMRAAM. The MiG-29 "exploded over the western mountains of Kosovo," said Rodriguez. Snow on the mountains reflected the tremendous flash. "It was like 10 or 15 football fields right next to each other. It just lit up the night sky like nothing I've ever seen before."

Two minutes later, Shower spotted an unidentified aircraft launching out of Batajnica airfield north of Belgrade—a known MiG-29 base.

Cleared to engage, Shower fired two AIM-120s but missed. Now the MiG-29 was closing in on him and nearby F-117s. Adrenaline surging, Shower held his ground. "I didn't think I had a choice of turning and running away," he later told the Nellis base newspaper. "You've got a MiG-29 running around in the area, and there is a chance he could get lucky and find a stealth."

No one knew that better than an F-117 pilot who saw Shower's first two missiles streak past him. The F-117 was just 2,000 feet from Shower's F-15C. Shower took one more shot and this time, the AIM-120 found its mark.

Two days later, ANG Capt. Jeffrey C. Hwang chalked up two victories. He engaged a MiG-29 leader and wingman, both at close range, with AIM-120s. Lt. Col. Michael H. Geczy, flying an F-16CJ, also got a MiG-29 several days later on April 5, 1999. Geczy's kill brought USAF's Balkans total to nine.

The count has not changed in five years. In neither Enduring Freedom (2001-02) nor Iraqi Freedom did any enemy aircraft come up to challenge coalition fighters.

US dominance does not mean other nations have given up on air combat. In the recent Cope India exercise, advanced US F-15Cs took on fighters from the Indian Air Force. The F-15s had their hands full. USAF officials have reported that the Indian Air Force came out ahead much of the time.

A peacetime exercise is not the same as full-fledged combat. Still, talented pilots come from all nations. The existence of capable foreign-built fighters and a core of dedicated pilots will keep the air combat game alive.

Anointing aces in past wars was all about motivating warriors. In modern air and space operations, ace status is not the only possible standard of excellence. Rodriguez said he believes in finding other ways to motivate warriors, be they aircrews in the air or security forces on the ground.

Perhaps never again will USAF pilots see what World War II aces Schilling or Bong saw—five, 10, even 50 enemy fighters coming out of the sun or lurking under a cloud layer, but the consensus is to keep the historical ace standard.

"I think five victories should remain the standard," said Wright. "There were a lot of brave pilots who have earned the honor of being an ace, and any other standard would in my opinion degrade the honor. No need to lower the bar." ■

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