

Air and Space this Week

Item of the Week

THE BATTLE OF THE CORAL SEA

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Japanese Admiral Isoroku Yamamoto predicted that his naval forces would “run wild” in the South and Southwest Pacific for six months after the attack Pearl Harbor, but after that, the outcome would be less sure. His foresight was spot-on, and it took only five months for the U.S. Navy to start to turn things around.

The first naval battle fought entirely by aircraft, without either task force involved seeing the other, was fought 80 years ago this week. The Battle of the Coral Sea pitted two American heavy aircraft carriers against three Japanese carriers, two heavy and one light. The Japanese caused more damage than they received, but suffered a serious long-term loss as described below.

BACKGROUND

The United States Navy had suffered a considerable blow at Pearl Harbor on December 7, but the damage could have been worse but for two things. The battleships they hit were in very shallow water and all but one two were salvaged, reconditioned, and used to good effect later in the War. The Pearl attack removed any doubt on most of the Navy that the battleship’s day was done and that the aircraft carrier was now the most important warship type. Second, the aircraft carriers that were based at Pearl in December, 1941, were not in port at the time of the attack, and the Japanese did not discover them in time to attack them. Our carriers and their air groups were not fully prepared for combat, and their loss would have been the setback Japan was counting on.

The learning curve for carrier combat was steep, and the Navy did not have the best planes, ancillary equipment, or tactics. Our pilots were skilled, but they still had much to learn.

The Navy got busy restoring their base at Pearl, all the time thanking their lucky stars that the Japanese didn’t hit the huge fuel oil tank form at Pearl, and didn’t hit a lot of the base facilities. Bases were quickly established across the Pacific to facilitate safe passage for ships moving to the southwest Pacific.

The carriers were the only offensive weapon available in the Pacific the first two months of 1942. A series of small-scale carrier raids were conducted against small Japanese bases in the central Pacific, and then against the larger base at Rabaul. Control of defensive fighters over

the carriers involved was relatively primitive, too, and we may well have lost carrier *Lexington* were it not for the skill and courage of Butch O'Hare (see [here](#)).

By the start of spring 1942 our carrier planes had attacked land bases and some shipping, but we had never attacked a large Japanese task force, and we hadn't had to deal with a large-scale carrier plane attack against any of our task forces.

There were five carriers in or approaching the southwest Pacific in late February, 1942. The *Saratoga* was soon to depart to Bremerton for refit, the *Lexington* was in the Rabaul area, and the other three were *Yorktown*, *Hornet*, and *Enterprise*. *Yorktown* was in Pearl in mid-February for refit; Nimitz ordered *Yorktown* to join *Enterprise* for a raid on Wake Island. Rapidly changing war conditions prompted Nimitz to pull *Yorktown* and send *Enterprise* to Wake without a second carrier. *Yorktown* and escorts were sent to join *Lexington* for another crack at Rabaul. *Enterprise* hit Wake, Eniwetok, and Marcus Islands then returned to Pearl to prepare for the Doolittle raid on Japan in April. *Hornet* would carry a deck-load of Army B-25 medium bombers and would not be able to conduct any flight operations until they were launched; *Enterprise* would conduct all search and defense flying on the way to Japan. Their mission would be a success, as told [here](#).

The carrier *Lexington* was still in the Rabaul general area; *Yorktown* was sent to join up and have another go at Rabaul, from the south this time, not the east. They joined up on March 6. Admiral Brown, on *Lexington*, had been sending messages up the chain about the strength of the defenses at Rabaul; he recommended at first that two carriers could do the job, but both he, and higher command, realized that a Rabaul attack was too iffy at that time to justify risking half of the carrier forces then available. Further, reconnaissance aircraft were reporting Japanese invasion shipping was present off several potential bases on northern New Guinea, threatening Australia's northern defenses. This news, and concerns over Japanese awareness of our carrier's presence, resulted in a change of target. *Lexington* and *Yorktown* would attack the Japanese at Lae and Salamaua, two of the invasion sites on northern Papua. [BTW: Lae's airfield was where Amelia Earhart departed from on the fateful leg of her circumnavigation; she never made it to Howland/Baker Island.]

Lae (an airfield) and Salamaua (a peninsula with naval facilities) were close together, and each carrier planned for a multi-type raid in close succession to one another. Starting with Lae, a fighter sweep would lead, followed by dive bombers, followed by a dive bomber and torpedo plane coordinated attack at Salamaua. This would be the first time the Navy would mount as complex a raid against significant potential opposition. In spite of their lack of combat experience, the Americans did well, sinking three transport ships and damaging another, damaging a seaplane tender, and causing minor damage to ships and facilities. One dive bomber was lost.

PRELUDE

The *Lexington* and *Yorktown* split up after the Lae raid, with the former heading back to Pearl while the latter remained in the Coral Sea. There were minor operations going on to the east,

and *Yorktown* would provide air cover. *Lexington* enjoyed a refit and endured changes in their air component; *Yorktown* would refit in April at Tonga. *Hornet* and *Enterprise* were on the Doolittle mission.

The U.S. Navy spent the first months of the War working out aircraft carrier attack and defense plans and establishing support facilities to assist military transport across the Pacific. They also amped up their radio intelligence and codebreaking capability, led by some truly outstanding officers. The Lae attack had been triggered by aircraft patrol reconnaissance, but our ability to ascertain Japanese plans was increasing steadily, and we began to see evidence of additional movements in the Southwest Pacific.

The military situation was influenced strongly by the regional geography (if you are not familiar with the area north and east of Australia, a [map](#) might help). New Guinea stretches across the NNE side of Australia, and the Solomon Island chain, capped by Rabaul on New Britain Island lie to the NE. The hit-and-run raid on Lae was successful, but it did not stop the Japanese from occupying bases at Buna and Gona. The center of Allied defense for New Guinea was around Port Moresby, on the south side of the island, separated from the Japanese-held bases on the north by the formidable Owen Stanley Mountains. The Japanese did attempt to mount an attack overland, but the terrain is extremely formidable and the attack was not successful.

Port Moresby was much more vulnerable if the Japanese staged a naval attack from the south, and that is just what the codebreakers were starting to get wind of.

Naval leaders knew the value of Port Moresby, and the codebreakers were making clearer that the Japanese were gathering their forces for a thrust in that direction. With *Hornet* and *Enterprise* out of the picture, only *Lexington* and *Yorktown* were available to counter any Japanese moves in the Coral Sea. They left their refit sites and rendezvoused off New Caledonia. We knew the Japanese were coming and had a pretty good idea of the composition of their fleet. The Japanese had no idea of what we were doing. And the weather started acting up.

The Japanese had objectives other than just Port Moresby. They captured some areas in the Solomons, including Tulagi and its surroundings, just north of Guadalcanal. Those attacks began on May 3. The main force had two large carriers, [Shokaku](#) and its twin, [Zuikaku](#). A small carrier, [Shoho](#), was directly supporting the Tulagi invasion.

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The Japanese plans were complex, and began to unravel a bit because of a band of bad weather that extended through the Coral Sea, a factor in the battle to come.

Planes from both American carriers conducted a hit-and-run attack on the Tulagi invasion force on May 4. Damage was relatively minor, but the Japanese responded by bringing up *Shoho* for support. Meanwhile, radio intelligence revealed the location of the main body of the Japanese fleet, and both American carriers moved west to ambush it on May 6.

The Japanese invasion force was also sighted, by a Moresby-based plane, but its report was mis-handled and not received by our carriers. The Americans were spotted by an undetected

Japanese reconnaissance plane, its report to the main Japanese force got to them late that afternoon. That the Americans were bringing two big carriers up caused consternation all around. The Japanese main force had been refueling and it seemed unlikely they could square away and get into position before nightfall, especially since the weather in that direction was so bad, so they continued refueling and would get into position for a dawn search.

The two fleets were only 100 miles apart that night.

The Americans were preparing, too. Both carriers refueled from their supporting tanker, which was sent away from the presumed combat area with a destroyer escort.

The Japanese knew that the American force was somewhere to their south, and sent out a pattern of search planes to comb the area. Not long later, a report came back that an "aircraft carrier and a supporting cruiser" were sighted.

Carrier commanders knew that striking first was of paramount importance in carrier combat, so the Japanese commander figured that the sighting was part of the main U.S. fleet, and ordered a full-scale attack from his two carriers. They found out their error too late to recall their strike. Empty tankers are difficult to sink, and destroyer went down under the attack, after knocking down six planes. Many of its crew made it to the tanker and were eventually rescued.

A patrol plane from Australia found the *Shoho* later that morning, and like their Japanese counterparts, the Americans launched a full strike at what was in reality a secondary target, even if it was more valuable than a tanker.

The *Shoho* was a small carrier, recently converted from a merchant ship, and it had limited defenses. It could only put up a few planes for combat air patrol (CAP), and the only two the Americans saw were quickly shot down. The captain of the *Shoho* didn't help matter; he turned *Shoho* into the wind to launch his last three fighters for CAP, but doing so made *Shoho* steam straight ahead, making it an easier target.

Lexington dive bombers went in first, and scored two damaging hits. *Yorktown* torpedo planes attacked in two waves with unobserved results. It didn't matter this time; the bomb damage quickly sank the *Shoho*. An exultant pilot report, "Scratch one flattop!" got considerable news play Stateside.

The surface component of the American fleet was about twice the firepower of the Japanese escorts, but they were accomplished night fighters, and we were not. Both sides pulled back a bit to avoid a night encounter. The Americans were south of the strip of bad weather; the Japanese were in it. Both sides would launch a search at dawn. The Japanese then launched their full attack force, planning to give it final directions while *en route* to target, knowing their scouts would be able to find the Americans quickly, since they were in the clear.

Both side's reconnaissance planes were successful in finding the opposing fleet, almost simultaneously.

The Americans were going up against the Japanese first team for the first time. Yesterday's sinking of the *Shoho* was a mis-match. Today was a different matter.

The American attack was marred by poor coordination of forces, caused in part by the weather and in part by inexperience. The torpedoes were typically ineffective, but three bomb hits were scored, causing damage to the *Shokaku* and causing a temporary halt to its flight operations. *Zuikaku* landed a number of *Shokaku's* orphaned planes.

The Japanese did much better. Their torpedoes actually worked, and in spite of extreme evasion efforts, the *Lexington* took two hits. The *Yorktown* was similarly attacked, but was more responsive to the helm, and suffered only one bomb hit, amidships. The damage was significant, but by no means fatal. Not so the *Lexington*.

Damage control efforts on the *Lexington* were making headway until just over an hour after the attacks, when a secondary explosion of undetermined origin shattered a big portion of *Lexington's* interior. Other internal explosions followed, and four hours later, *Lexington* was ordered abandoned.

Shokaku's damage would require a return trip to Japan and several months to effect repairs.

The Battle of the Coral Sea was over, but its effects were not. And that's the way it was, 80 years ago this week.

AFTERMATH

The Americans lost a heavy carrier and had another heavy carrier damaged, lost a destroyer, lost a tanker, lost 66 aircraft, and suffered 543 KIA during the Battle of the Coral Sea. The Japanese lost a light carrier, 77 aircraft, and had 1074 KIA. There is no question that the Japanese scored an impressive tactical victory.

However, the Japanese objective of capturing Port Moresby was completely thwarted. Further, it was much easier for the Americans to replace lost pilots and aircrew; Japanese pilots were much scarcer and their replacement rate was slow. And keeping *Zuikaku* out of action while she built up a new air complement proved to be a big mistake (see below). For those reasons, Coral Sea was a strategic victory for the United States.

The *Hornet* and *Enterprise* returned from the Doolittle raid unharmed. The *Yorktown* was damaged, and headed back to Pearl at best speed for repairs. Time was of the essence, because the codebreakers had another incredible discovery, the Japanese plans for an assault at Midway Island, something we would need to defeat at all cost. Every welder on Oahu was in action for three days and nights, completing a repair that would normally have taken months. It wasn't pretty, and it wasn't complete, but *Yorktown* sailed off to Midway on schedule.

The Japanese could not conduct major ship repairs as quickly, and *Shokaku* would be out of action for months. What really would hurt the Japanese is the way they managed their carrier airplane groups. *Zuikaku's* air group had been devastated at Coral Sea, but the ship was unharmed. *Shokaku* was badly damaged, but its air group was basically intact. But the Japanese did not/would not move the *Shokaku* planes permanently to *Zuikaku* in time for Midway. They would attack with four carriers and get lose; a fifth carrier might have made the difference.

But that is a story for another day!

CODA

Stanley Johnson was a war correspondent working for the *Chicago Tribune*, embedded on the *Lexington*. His first hand account of the battle, and *Lexington's* sinking, got a lot of news play back home. He had made friends with the *Lexington XO* after they were rescued, and the XO revealed information he shouldn't have, from which Johnston could deduce the Navy was breaking the Japanese naval code. The *Tribune* editors actually allowed Johnston's ideas about codebreaking to be published! They may have been motivated, at least in part, by the animosity between the *Tribune* owner and FDR and the New Deal.

The Navy was outraged, and wanted Johnston to be punished severely for revealing military secrets. But a trial would bring the issue to those passing info to the Japanese, if it hadn't done so already. Neither Johnston nor the *Tribune* were punished, and Johnston even wrote a book about the battle and the sinking (without the codebreaking part).

This wasn't the first time some big mouthed egotist jeopardized U.S. personnel, and, alas, it wouldn't be the last.

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