



### Introduction

**O**n the morning of 5 April 1942, a force of 127 aircraft from the five aircraft carriers of *Kido Butai* (*KdB*), the Imperial Japanese Navy's carrier task force, attacked Colombo, the capital and principal port of the British colony of Ceylon (now Sri Lanka). This was no bolt from the blue, however. The defenders had been preparing for weeks for just such an eventuality. Reconnaissance aircraft had detected *KdB*'s approach the previous afternoon and tracked it during the night. The defending aircraft and anti-aircraft (AA) guns had come to full readiness before first light and were supported by an operational radar station. The defending fighters were nevertheless still on the ground when the Japanese aircraft arrived and were not scrambled until the pilots themselves saw the attackers overhead. As a result, the defenders lost 20 of the 41 fighters that took off, while the Japanese lost only seven aircraft.

So what happened? Was there a problem with the radar, did someone blunder, or was there some other explanation? This article is a first look into why the defenders were caught on the ground.

### Reinforcements

On 7 December 1941, the air defences of Ceylon consisted of four obsolescent three-inch AA guns at Trincomalee. The only Royal Air Force (RAF) unit was 273 Squadron at China Bay, near Trincomalee, with four Vildebeests and four Seals, both of which were obsolete biplane torpedo aircraft. There were no fighters and no radar. During the next two months, British reinforcements were sent mainly to Singapore and Burma, and the only additional aircraft provided to the RAF in Ceylon during this period was a single Catalina flying boat.

The Japanese Navy's switch on 4 December 1941 to a new additive table for JN-25B, its main operational code, temporarily cut off the Allies' best potential source of intelligence on Japanese intentions. But the authorities in London still knew how to read a map, and they did their best to foresee Japan's strategic options. On 16 February, the day after the fall of Singapore, the War Cabinet Joint Planning Staff submitted an assessment entitled "Far East Policy" which commented that:

9. By the seizure of Ceylon and raids on the Indian coast Japan could raise overwhelming internal security troubles in India, induce instability in Indian forces and threaten our communications to Middle East, Burma and Australia. Our fleet would be denied the use of Trincomalee and Colombo. ...

11. In the near future we may expect to see ... Attack on Ceylon by a raid of the "Pearl Harbour" type or by general assault. ...

13. The basis of our general strategy lies in the safety of our sea communications, for which secure naval and air bases are essential. We must therefore make certain of our main bases, i.e. Burma, India, Ceylon and Australia, before we think of reinforcing the Malayan barrier.<sup>1</sup>

The assessment concluded that the top two priorities for reinforcement were now Burma, whose retention was "vital to prolongation of Chinese effort," and Ceylon, whose loss "would imperil whole British war effort in Middle East and Far East."<sup>2</sup> Seeing things the same way, the Chiefs of Staff advised the War Cabinet five days later that:

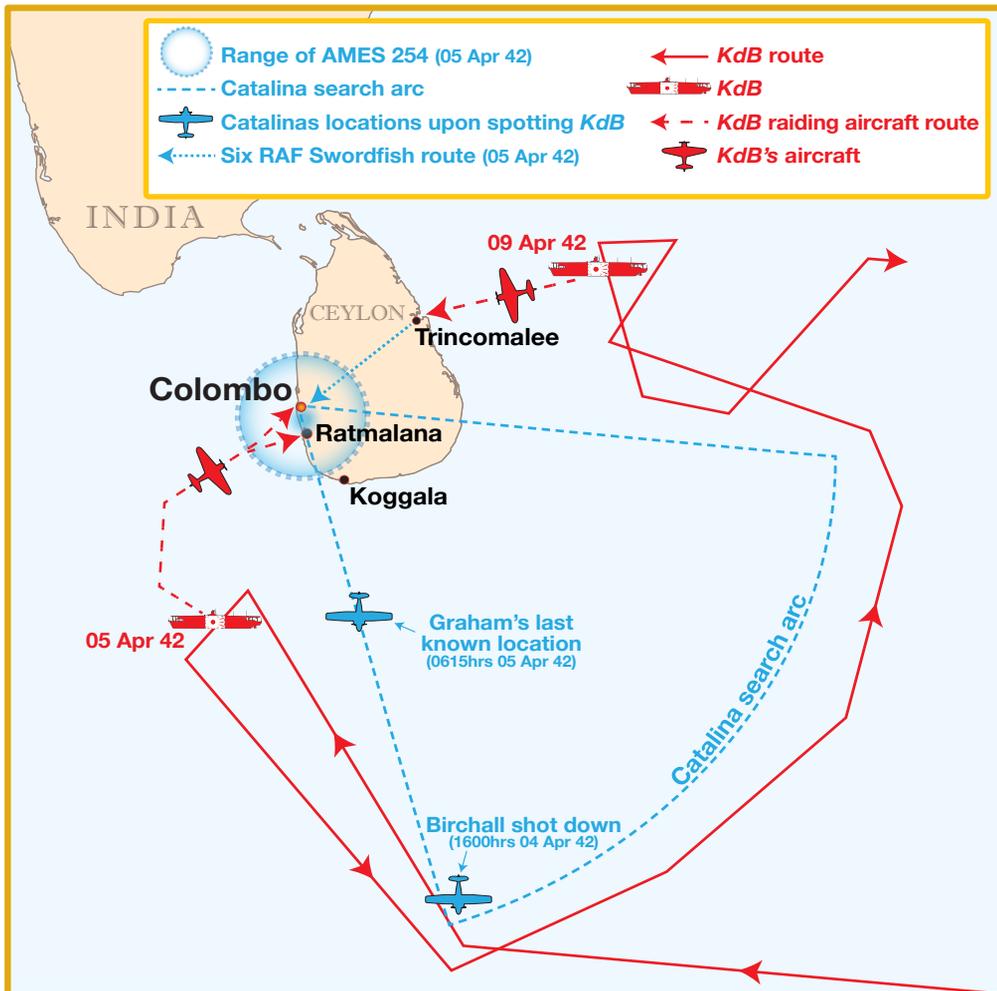
The loss of Ceylon would imperil the whole British war effort in the Middle and Far East, owing to its position in relation to our sea communications. Immediate measures are being taken to provide the island with adequate defences, particularly air forces, anti-aircraft guns and increased R.D.F. [Radio Direction Finding, i.e., radar].<sup>3</sup>

The theatre commanders also anticipated the threat to Ceylon. On 7 February, Admiral Layton, then commanding the Eastern Fleet from a headquarters at Colombo, warned London of the defencelessness of Colombo and Trincomalee to a Pearl Harbor-style Japanese air attack.<sup>4</sup> On 27 February, General Wavell, Commander-in-Chief India, suggested that the "immediate danger to Ceylon seems to lie in a raid of Pearl Harbour or Port Darwin type, from carriers to destroy warships, merchant ships, aircraft base, installations [and] oil tanks at Trincomalee and Colombo."<sup>5</sup> Altogether, the British explicitly acknowledged the possibility of a Pearl Harbor-type attack on Ceylon on at least seven occasions.



His Royal Highness the Duke of Gloucester inspects Canadian pilots and their Hurricane fighter aircraft at an RAF station in Ceylon, India, in July 1942.

Photo: DND PL-10021



It is very clear that the attack on Colombo was not a strategic or operational surprise. The British anticipated the threat ahead of time and did what they could to reinforce the island. On 4 April, the following air and air-defence forces were in place: 7 Catalinas,<sup>6</sup> 67 Hurricane fighters,<sup>7</sup> 44 Fulmar fighters, 14 Blenheim IV bombers, 12 Swordfish torpedo aircraft, 1 radar station at Colombo, 1 radar station at Trincomalee, and 144 AA guns.<sup>8</sup>

### SIGINT reduxit

The Allies' signals intelligence (SIGINT) units spared no effort to break back into JN-25B [Japanese code], and on 3 March, the Far East Combined Bureau (FECB), the SIGINT centre at Colombo, read its first JN-25B message since 4 December. This message revealed that five Japanese submarines were to be based at Penang, on the northwest coast of Malaya (now Malaysia),<sup>9</sup> which clearly indicated that submarines would be operating in the Bay of Bengal and the Indian Ocean and was probably taken as a possible indication of pending surface operations in the same area. By mid-March, Allied SIGINT was aware that Carrier Divisions 1 (*Akagi* and *Kaga*) and 2 (*Soryu* and *Hiryu*) were at Staring Bay, its forward base in Celebes (now the Indonesian island of Sulawesi), and that Carrier Division 5 (*Shokaku* and *Zuikaku*) was on its way to join them.<sup>10</sup>

During the second half of March, firmer indications of what *KdB*'s next operation might be were seen. FECB later recorded that “about 20 March 1942 certain JN.25 messages concerned an operation by a Japanese carrier force, accompanied by another force (thought to be heavy cruisers), in the D area, including an air raid on DG on 2<sup>nd</sup> April.” The identity of “DG” was not known at that point but was deduced on 28 March from additional decrypts. FECB “estimated that D was the Ceylon area and DG a town in Ceylon—probably Colombo.” The commander of the Eastern Fleet, Admiral Somerville, who had assumed command only two days earlier, summoned the head of FECB's cryptanalysis branch to discuss the reliability of this intelligence and was persuaded that it was correct.<sup>11</sup>

On 29 March, Somerville advised London that “according to a Combined Fleet telegram orders were issued that an A/C [aircraft] carrier unit, which would normally be expected to consist of 2 carriers 4 cruisers and 12 destroyers, should leave Staring Bay on about 21<sup>st</sup> March for the attack on ‘D.G.’ on or about first April.” He then noted that the Japanese carrier *Kaga* “had instructions some time ago to proceed [to] Japan, fill aeroplanes and subsequently take part in an attack on ‘D.G.’ ... It is therefore deduced [the] area in which A/C Carrier KAGA force is to attack is Ceylon.”<sup>12</sup>

With the benefit of hindsight, we know that FECB was wrong about the composition of the attacking force—it had five carriers rather than two, and *Kaga*, *KdB*'s sixth carrier, was actually in Japan undergoing repairs. FECB also got the date wrong, but this was not an error in analysis, since the original Japanese schedule did call for *KdB* to attack Ceylon on 1 or 2 April. The schedule was pushed back, unbeknownst to Allied SIGINT, because the arrival of *Shokaku* and *Zuikaku* at Staring Bay was delayed until 24 March, and *KdB* did not sortie until 26 March.<sup>13</sup>

The British reacted energetically to FECB's warning. The fighter and anti-aircraft units were put on alert; Colombo was cleared of as much shipping as possible; Somerville assembled the Eastern Fleet south of Ceylon with the intention of ambushing *KdB*, and the small Catalina force intensified its patrolling, focusing on the southeastern approaches. But 1 April and then 2 April came and went, and the enemy did not arrive.

Having swept back and forth south of Ceylon for two-and-a-half days without seeing any sign of *KdB*, Somerville packed it in at 2100 on 2 April and led the bulk of the Eastern Fleet to Addu Atoll, some 600 miles [966 kilometres (km)] to the southwest of Ceylon, thinking that perhaps the Japanese were not coming after all. The RAF units reverted to a lower alert level and resumed their training activities, but the Catalinas continued their patrolling.



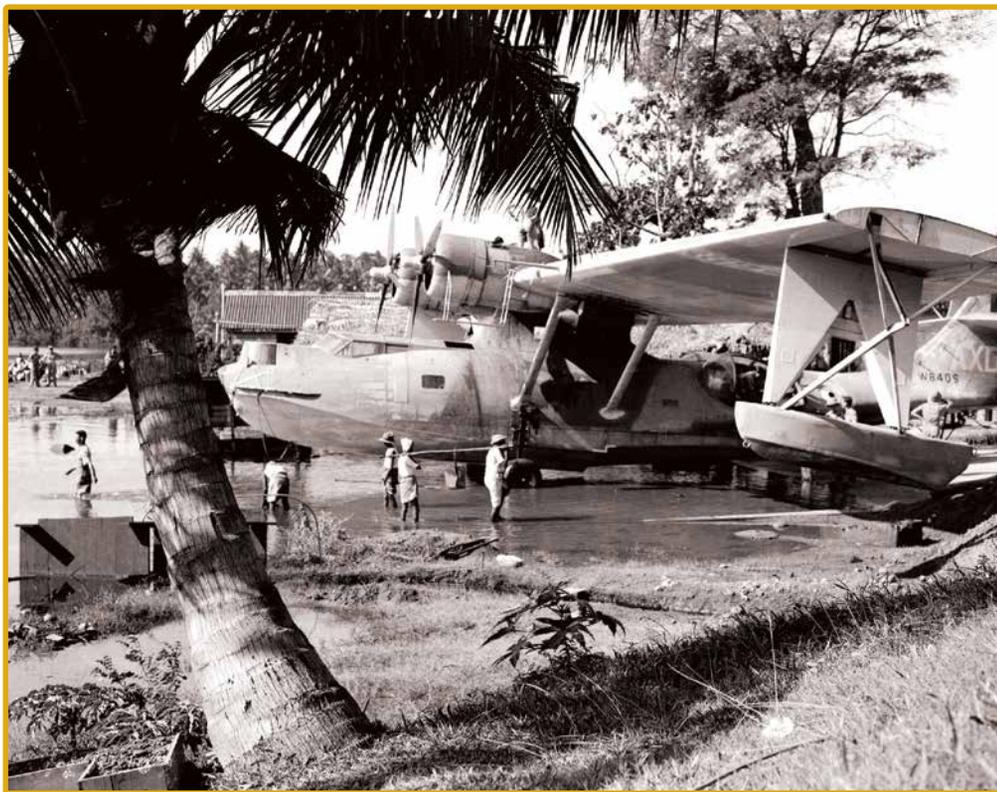
Squadron Leader L. J. Birchall, of 413 Squadron, in the cockpit of a flying boat (Catalina) aircraft.

Photo: DND PL-7405

And then *KdB* showed up. It was spotted at about 1600 hours on 4 April, 360 miles [579 km] southeast of Ceylon, by Catalina QL-A from 413 Squadron, the only Canadian unit in the theatre. QL-A was shot down, after getting off a sighting report giving *KdB*'s position and course but not its composition. The pilot of QL-A, Squadron Leader "Len" Birchall, was one of the six survivors from the crew of nine. He was dubbed "the Saviour of Ceylon" by the Canadian press and became one of the Royal Canadian Air Force's (RCAF's) most notable leaders.<sup>14</sup>

The crew of QL-A gave the defenders a crucial warning of what was coming 15 hours before the Japanese arrived over Colombo. And that was not the last contribution of the Catalina force. At 1745, 205 Squadron's FV-R, piloted by Flight Lieutenant "Jock" Graham, took off to take over the shadowing of the enemy force.<sup>15</sup> At 2237, Graham reported one destroyer in position 01.59N, 82.20E, course 315 degrees, speed 20 knots [37 kilometres per hour (km/h)]; at 0045 on 5 April, it reported six destroyers in position 02.54N, 82.10E, course 325 degrees, speed 21 knots [38.8 km/h], and at 0615 one battleship, one cruiser "and at least four other ships" 110 miles [177 km] and 195 degrees from Dondra Head, the southernmost tip of Ceylon.<sup>16</sup> *KdB*'s fighters attacked FV-R and shot it down about 90 minutes later. There were no survivors.

The sighting reports from the two lost Catalinas permitted the British to follow *KdB*'s progress and work out roughly where it would be at dawn. Air Vice Marshal D'Albiac, the commander of 222 Group, which controlled all RAF units on Ceylon, convened a conference at his headquarters within an hour of Birchall's signal being received and briefed his subordinates



A Catalina MK1 undergoing repairs at a picturesque Royal Canadian Air Force base in Ceylon, India. It was one of these planes which first spotted Japanese warships attempting to attack that strategic section of the Indian Empire.

Photo: DND PL-10007

on the “anticipated Japanese air attack sometime after dawn.”<sup>17</sup> At some point before midnight, 222 Group issued Operation Order No. 43, which included the observation that: “Should the enemy force maintain present reported course at a speed of 25 knots it will arrive in position approximately 150 miles [241 km] from Colombo at 2100 hours G.M.T. [Greenwich Mean Time]”<sup>18</sup> The time given, 2100 GMT, was 0300 local time on 5 April. The fact that *KdB*’s anticipated position at 0300 was given suggests that Albiac also saw an attack at or before dawn as a possibility, and “standby” was assumed at 0400 at all his airfields, with the pilots at immediate readiness.<sup>19</sup>

### **The four dogs which didn’t bark**

So, 5 April found Colombo’s air defences forewarned and forearmed. They had been reinforced in good time; they were shadowing the enemy carrier force; they expected to be attacked, and they were on full alert. All that was required to get the Hurricanes and Fulmars in the air was word of the approaching raid and the order to scramble. Unfortunately, the word never came. A mystery novel may hinge on the dog which never barks, but in this case, there were four silent dogs.

#### ***The first dog: BN-L***

At 0534, another Catalina took off to shadow *KdB*. This was 240 Squadron’s BN-L, piloted by Flight Lieutenant Bradshaw. At about 0640, Bradshaw’s crew sighted six aircraft resembling Fulmars flying at about 5,000 feet [1,524 metres] in light clouds, heading north in a V formation, 100 miles [160 km] south of Ceylon. Two minutes later, four aircraft resembling Sea Hurricanes were seen heading in the same direction. Believing these aircraft to be British, Bradshaw did not break radio silence to report them.<sup>20</sup> However, we know that they were Japanese, because an aircraft from the carrier *Hiryu* sent a message at 0645 reporting that at 0638 it had “Sighted enemy plane. One flying boat at 346 degrees, 43 nautical miles [80 km] from launch point.”<sup>21</sup>

On 4 June 1942, an American Catalina which sighted inbound aircraft famously broadcast the “Many planes heading Midway” message. That Bradshaw did not send a “Many planes heading Colombo” message on 5 April robbed the defenders of about 50 minutes’ warning of the raiders’ approach, which should have been enough to get Colombo’s fighters airborne and climbing to altitude.

#### ***The second dog: The coast watchers***

Anyone familiar with the Battle of Britain will recall that once an inbound Luftwaffe formation crossed the English coast it was efficiently tracked by the Observer Corps. Ceylon had a counterpart organization in 1942, which was described as follows in a contemporary document:

1. A Civil Coast Watching [C.W.] System operates in all coastal areas of CEYLON. ...
2. Duties of C.W. Posts are ... to report on:
  - (a) Unidentified ships
  - (b) Aircraft
  - (c) Gunfire at sea
  - (d) Preparations for enemy landings

3. Reports are written on special pro-formas, taken by cycle to C.W. Station, verified by Inspector on duty and forwarded to FIRE CHIEF. Majority of stations have no telephone, and reports have to be made from nearest Police Station. Consequently there is considerable delay in communicating information. ...
4. Coast Watching Personnel are drawn from CEYLON EXCISE & EDUCATION DEPTS. They are stated to be reliable, but they lack training and equipment.<sup>22</sup>

It would not have been surprising if this ill-prepared organization had failed to detect enemy aircraft crossing the south coast and heading north, but in fact, it never got the chance to show what it could or could not do. The Japanese aircraft kept well out from the west coast before swinging in to cross the coast just south of Colombo and head for their targets.<sup>23</sup> Neither the coast watchers nor any other ground observers had an opportunity to sound the alarm.

### ***The third dog: The Fulmar patrol***

One of the actions ordered in 222 Group's Operation Order No. 43 was for Fulmars from Ratmalana, Colombo's main air base, to carry out a line patrol from dawn onwards between Bentota on the west coast, 35 miles [56 km] south of Colombo, and Pottuvri (now Pottuvil), 135 miles



RAF's Ratmalana Air Base in Ceylon, India

Photo: DND

[217 km] away on the opposite coast. Six Fulmars of 803 Squadron duly took off early on 5 April to patrol this line, but as the Japanese aircraft stayed well off the coast, the Fulmars did not encounter them and had no opportunity to sound the alarm or undertake any attack.

While heading back to Ratmalana, the Fulmars saw a number of aircraft heading out to sea, but one crew member later recalled that "Japanese aircraft were

farthest from our minds on the return flight that morning, and we dismissed the aircraft seen by thinking they were another unscheduled FAA [Fleet Air Arm] flight." (One wonders what kind of pre-flight briefing they had been given!) They were not aware of the raid until they landed and saw the damage.<sup>24</sup>

### ***The fourth dog: Radar***

A fair amount of misinformation has been printed to the effect that the radar station at Colombo was unmanned, down for maintenance, or not yet operational on 5 April. From the Operations Record Book (ORB) of the radar unit in question, AMES 254 (Air Ministry Experimental Station—the euphemism for a ground radar station), it is clear that none of these suggestions are true. The unit's personnel arrived at Colombo on 18 March, and their equipment arrived four days later. They then moved to the Royal Colombo Golf Course at Ridgeway, in Colombo's suburbs, and worked around the clock to put up the masts and get

everything working. The station became operational on 25 March and on 28 March was connected by telephone to No. 20 Operations Room. AMES 254's ORB records "Normal Operations throughout month" for April, indicating that it was neither down for maintenance nor unmanned at any point.<sup>25</sup>

That said, it seems to be true that AMES 254 did not provide any timely warning of the approaching raid. No. 20 Operation Room's ORB notes that "the early warning system failed to provide information on the Japanese aircraft until they were very close to Colombo."<sup>26</sup> A 222 Group post mortem produced in June 1942 says only that "the early warning system failed and the fighters were on the ground when the attack commenced."<sup>27</sup> AMES 254's own ORB gives no indication that it detected the approaching aircraft, noting only that its Lewis machine guns were in action during the raid!<sup>28</sup>

Sufficient information is available for some informed speculation as to why AMES 254 provided no timely warning of the approaching raid. In the first place, we know from a cable from Layton to Churchill that AMES 254 "experienced interference from hills" and had a range of only about 60 miles. [96.5 km].<sup>29</sup> This distance was not the best that this type of radar could do. With similar hardware, AMES 272 picked up the Japanese aircraft approaching Trincomalee on 9 April at 91 miles [146 km], for example.

As noted, we also know that AMES 254 was located at Ridgeway. Ridgeway is about six miles [10 km] north of Ratmalana, where three of Colombo's four fighter squadrons were based, and one mile [1.6 km] east of the improvised airstrip at Colombo's racecourse, where the fourth fighter squadron was based. The leading Japanese aircraft, which approached from the south and over the sea, were nine Zero fighters from *Hiryu*. The Zero cruised at just over 200 miles per hour [322 km/h], so they could cover the roughly 54 miles [86 km] between the nominal edge of AMES 254's coverage and Ratmalana in about 17 minutes. As noted below, it took about five minutes for Colombo's Hurricane squadrons to get airborne that morning, so there was a window of only about 12 minutes for AMES 254 to detect the raid and report it to No. 20 Operations Room, and for the fighter controllers to get their orders to the squadrons. And since it took about six minutes for a Hurricane to reach 15,000 feet [4,572 metres], and the same amount of time for a Fulmar to reach 10,000 feet [3,048 metres], all of this would have to be accomplished in six minutes if the defending fighters were to get to altitude before the raiders arrived.

After the war, the Air Historical Branch in London produced a number of "staff narratives" on the RAF's wartime operations, and *Signals Volume V: Fighter Control and Interception* makes two relevant comments. The first is: "The failure to detect the raid on 5 April was attributable in part to the very troublesome permanent echoes and to gaps subsequently discovered in the vertical polar diagram of the station."<sup>30</sup> To deal with permanent echoes the operator needed to be skilled at the operation of the set and to have experienced the return from local aircraft to be able to recognize the characteristics of false echoes and discount them. AMES 254 had gained operational experience in Egypt and, presumably, had adequately trained operators, but having been in operation at Colombo for less than two weeks, it is unlikely that all its operators were yet familiar with local conditions. It is pure speculation to say so, but it is perhaps possible that the operators on duty on 5 April may initially have taken the real echoes from the enemy aircraft as being false echoes. (It is even more speculative to wonder if the echoes from the first Japanese aircraft were taken as coming from the Fulmars patrolling their beat south of Colombo.)

The reference to “gaps ... in the vertical polar diagram of the station” may require some explanation. AMES 254’s transmitting antenna array consisted of parallel dipole elements. In Figure 1, which shows a deployed radar unit of the same type as AMES 254, the transmitting mast is on the left and it can just be made out that there are three parallel dipoles pointing toward the camera and another three dipoles perpendicular to them. Each of the six dipoles radiated its own signal and thus had its own lobe. The lobes overlapped but there could also be gaps between them. For example, an aircraft 60 miles [96.5 km] away which could be detected at 8,000 feet [2,438 metres] or at 12,000 feet [3,657 metres] might not be detected at that distance at 10,000 feet [3,048 metres] if there was a gap at that altitude. In the case of AMES 254 on 5 April, the altitude at which these gaps occurred is not known, and consequently, it is not known whether the leading Japanese aircraft fortuitously flew in at an altitude at which they would be detected at something less than 60 miles [96.5 km] out. However, the quote from *Signals Volume V* seems to imply that this was the case.

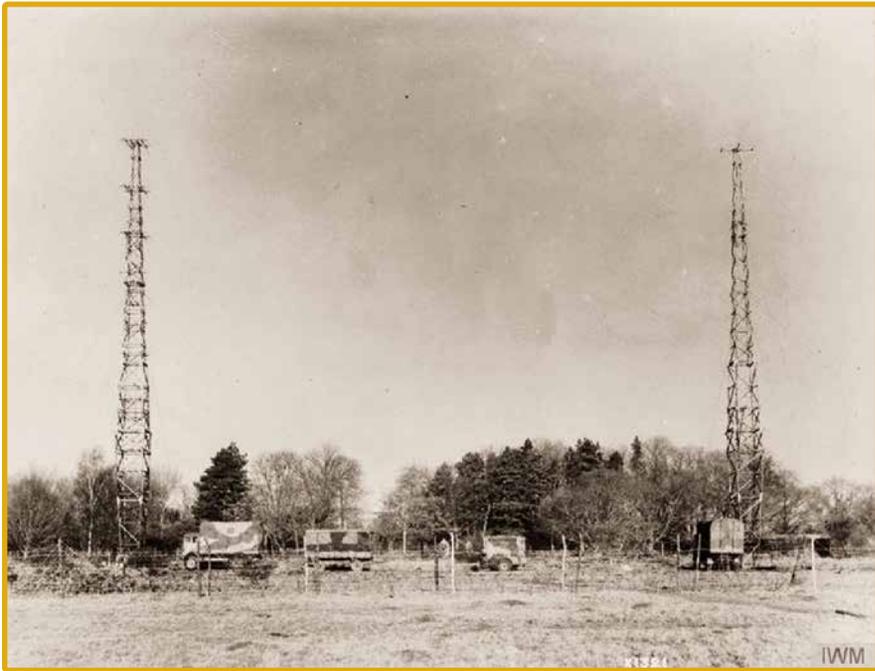


Figure 1. A radar unit of the same type (mobile radio unit) as AMES 254<sup>31</sup>

The second relevant comment in *Signals Volume V* is that “another contributory cause of the failure was an unequally divided watch-keeping roster resulting in operators continuing on watch with diminished alertness.”<sup>32</sup> This clearly implies that the operators on duty when the Japanese came within range had been at their consoles too long. In this context, it is important to note that the operators did not have before them a plan position indicator display, the radar “scope” familiar to everyone today, which displays both range and bearing. At Colombo the operators had “A scopes,” which gave only range.<sup>33</sup> Working out the bearing, height, and strength of an approaching formation entailed a number of steps which needed to be completed in sequence, and fatigue would no doubt slow things down and tend to result in errors.<sup>34</sup>

## The raid

The first indication anyone at Colombo had that the raid was on was the arrival over the racecourse airstrip at about 0730 of the nine Zero fighters from *Hiryu*, sweeping ahead of the main force. They were seen from the ground, and Squadron Leader Fletcher, the commanding officer (CO) of 258 Squadron, miscounting by two, advised fighter operations that a formation of 11 aircraft was overhead and his pilots were running to their planes. The unit's 14 Hurricanes got off in good order and were airborne by 0735.<sup>35</sup> By that time *Hiryu's* Zeros had disappeared in the direction of Colombo harbour. They soon caught six Swordfish torpedo bombers lumbering along and quickly shot down all six. The Swordfish, from 788 Squadron, had taken off from Trincomalee's China Bay airfield early in the morning and were being transferred to Ratmalana with a view to attacking the Japanese task force. Apparently no one had calculated that they might arrive over Colombo at the same time as the Japanese. The Swordfish crews were so oblivious to this possibility that they assumed the fighters approaching them were Hurricanes and fired recognition flares.<sup>36</sup>

Behind *Hiryu's* Zeros were 38 "Val" dive bombers from *Shokaku* and *Zuikaku*. They were spotted at 0740 from Ratmalana, where word of the sighting of enemy aircraft over the racecourse airstrip 10 minutes earlier had apparently not yet been received. Most of the Vals headed for the harbour, but 14 from *Zuikaku* attacked Ratmalana at 0745, just as 21 Hurricanes from 30 Squadron, 7 of them piloted by Canadians, were getting airborne in ones and twos, in a chaotic scramble which gave them no chance to form up. Four of them were still taxiing when the first bombs hit, and another Hurricane, the CO's, was damaged and could not take off.<sup>37</sup>

30 Squadron paid dearly for the lack of warning, with eight Hurricanes being shot down and several others badly shot up, leaving the unit with only seven serviceable aircraft at nightfall and five pilots killed as well as two wounded.<sup>38</sup> In addition, four of the six Fulmars from 803 and 806 Squadrons that also took off were lost, and three of the pilots were killed.<sup>39</sup>

The 27 fighters taking off from Ratmalana got caught up in defending their own airfield. In this they were successful. Aided by heavy cloud cover, the first few Hurricanes to get airborne managed to bounce the 14 Vals before their bombs were dropped, shooting down 5 of them and damaging up to 6, as well as destroying one Zero. Distracted by the defending fighters and hampered by the cloud cover, the remaining Vals did little damage to Ratmalana.<sup>40</sup>

The 14 Hurricane pilots scrambled by 258 Squadron did not have to take off while being attacked because the existence of the racecourse airfield was unknown to the Japanese until *Hiryu's* Zeros spotted it and no bombers were assigned to attack it. Squadron Leader Fletcher's report records that:

Having received no warning and finding the A/C overhead, we took off and climbed for the HARBOUR as being the most likely point of enemy attack. When we arrived, we found that the Bombers had commenced their attack, and there was a strong force of enemy fighters as top cover, and considerably above our formation. I decided to attack the Bombers in the hope that it would impair the efficiency of the enemy attack. I realized that this would put the enemy fighters in a strong position. We continued to attack the bombers for as long a period as possible, though this resulted in rather heavy losses inflicted by enemy fighters.<sup>41</sup>



The bombers attacked by 258 Squadron were the 19 Vals from *Shokaku*. The carrier's *kodochosho*, or air group operations log, notes that its Vals attacked from 0750 to 0753 and that the Hurricanes attacked from 0752 to 0800.<sup>42</sup> One Val was hit over the harbour and later plunged into the sea, and another was damaged, but it is unclear if 258 Squadron or flak from the ground was responsible.<sup>43</sup> 258 Squadron did not prevent *Shokaku's* Vals from sinking the armed merchant cruiser *Hector* and damaging the submarine depot ship *Lucia*, and it suffered proportionately higher losses than 30 Squadron—eight Hurricanes shot down and two badly damaged, with five pilots killed and two wounded.<sup>44</sup> It is evident that 258 Squadron's losses and its inability to attack *Shokaku's* Vals before they bombed their targets were due to the lack of early warning.

258 Squadron pretty much shot its bolt attacking *Shokaku's* Vals. The 5 Vals from *Zuikaku* which attacked the harbour and were probably responsible for damage inflicted on the British tanker *San Cirilo* escaped fighter attack, as did the 53 "Kate" torpedo bombers which attacked after the Vals. Each of the Kates, acting as level bombers, carried one 800-kilogram bomb, and all of them attacked the harbour area. They sank the old destroyer *Tenedos*, damaged the merchant ship *Benledi*, and battered various workshops as well as other facilities.<sup>45</sup>

It has been noted that the racecourse airfield escaped attack because the Japanese were not aware of its existence. They were equally ignorant of the fact that Ceylon's Catalina force was based on Koggala Lake, on the south coast about 70 miles [113 km] from Colombo, and it too escaped attack. In this case their ignorance was due in part to disinformation from the survivors from QL-A. Birchall and his crew lied to their rescuers, telling them that they had taken off from Colombo, and the Japanese believed them.<sup>46</sup> The Japanese could easily have added Koggala to their target list, but this particular bodyguard of lies protected this particular truth.

## Conclusion

Before the event, the British fully expected that Colombo would be raided, à la Pearl Harbor. This is just what the Japanese set out to do, and they managed to catch the defending fighters on the ground as they had at Pearl Harbor. That they sank just three ships and damaged only another three was due primarily to the weather, the anti-aircraft fire, and the partial evacuation of shipping from the harbour on the previous day. The British fighters successfully defended Ratmalana, their major base, but did little to blunt the assault on the harbour.

It is impossible to say with any degree of confidence what difference it may have made if the Hurricanes and Fulmars had been scrambled in good time, but it seems fair to suppose that they would likely have accomplished more at less cost than they actually did. All four means by which early warning might have been given failed. First, the Catalina that spotted some of the Japanese aircraft failed to recognize or report them. Then the Japanese avoided both the ground warning system and the Fulmar patrol by flying well off the coast during their approach flight. The fourth trip wire, radar, also failed, due to there being only one operational station and to it being sited too far north and suffering from a number of technical and operational problems. The radar failure was undoubtedly crucial. The difference that early warning could make was demonstrated just four days later, when the Japanese attacked Trincomalee. That day, the local radar station detected the Japanese at a range of 91 miles [146 km]. The early warning got the defending fighters airborne in good time and allowed them to draw first blood, when one section of Hurricanes bounced three Zeros and shot down two of them,

and no serviceable fighters were caught on the ground. Something of the sort might have happened at Colombo, but 5 April 1942 was one of those days when, on the early-warning front, nothing went right. 🌀

---

Robert M. Stuart has Bachelor of Arts and Bachelor of Education degrees from the University of New Brunswick. He served in the Regular and Reserve components of the Canadian Forces from 1975 to 1991 in the Communications and Electronics Branch, (twice) attaining the rank of captain. He has been employed by the Communications Security Establishment since 1989. Rob has been studying the Imperial Japanese Navy's 1942 Indian Ocean raid since 2004, and this is his second published article about it.

### Abbreviations

<b>AA</b>	anti-aircraft
<b>A/C</b>	aircraft
<b>AMES</b>	Air Ministry Experimental Station
<b>CAB</b>	Cabinet
<b>CO</b>	commanding officer
<b>C.W.</b>	Coastal Watching
<b>FECB</b>	Far East Combined Bureau
<b>GMT</b>	Greenwich Mean Time
<b>HMS</b>	His Majesty's Ship
<b><i>KdB</i></b>	<i>Kido Butai</i>
<b>km</b>	kilometre
<b>km/h</b>	kilometres per hour
<b>NA</b>	National Archives
<b>ORB</b>	operations record book
<b>RAF</b>	Royal Air Force
<b>RCAF</b>	Royal Canadian Air Force
<b>SIGINT</b>	signals intelligence

### Notes

1. United Kingdom National Archives (NA), Cabinet (CAB) 79/18.
2. Ibid.
3. NA, CAB 79/19.
4. NA, Commander in Chief Eastern Fleet, 0315Z/7, in "Admiralty War Diary".
5. Commander in Chief India, 4231/G 27/2.
6. The seven Catalinas were the RAF's FVR, BNL, BNM and BNK, the RCAF's QLY and QLA, and the Dutch Y56. An additional two RAF and three Dutch Catalinas were unserviceable, most or all of them were being overhauled at Bangalore. Two more RCAF Catalinas were en route, arriving on 6 and 7 April.
7. Eight Hurricanes were flown in from Karachi on 23 February, having been assembled there after being delivered in crates on *Cefn-Y-Bryn*. A further 60 were ferried to Ceylon by *Indomitable*, arriving on 6 and 7 March, bringing the total delivered by 4 April up to 68. However, a 30 Squadron Hurricane crashed into the sea on 3 April and was lost. Other Hurricanes were damaged in accidents on 12 March, 15 March, and 2 April. The number of serviceable Hurricanes in the Colombo area on 5 April appears to have been 37 or 38.

8. This is an estimate derived from multiple primary sources, notably the war diaries of the relevant AA headquarters and units. On 5 April, Ratmalana was defended by 12 x 40-mm and 4 x 3.7-inch guns, and Colombo by 3 x 12-pounders, 23 x 40-mm, 4 x 3-inch, and probably 19 x 3.7-inch guns.

9. Michael Smith, *The Emperor's Codes* (New York: Arcade Publishing, 2000), 128; and John Prados, *Combined Fleet Decoded* (New York: Random House, 1995), 273.

10. Prados, *Combined Fleet Decoded*, 274; Commander-in-Chief Pacific operations log, accessed September 23, 2014, [http://www.ibiblio.org/anrs/docs/D/D7/nimitz\\_graybook1.pdf](http://www.ibiblio.org/anrs/docs/D/D7/nimitz_graybook1.pdf); and Op-16-F-2 summaries of Japanese Naval Activities, accessed September 23, 2014, <http://www.fdrlibrary.marist.edu>.

11. NA, HW 4/25, Captain H. L. Shaw, *The History of HMS Anderson*, 24 May 1946, 6. His Majesty's Ship (HMS) *Anderson*, a shore-based installation, was the intercept and direction finding station at Colombo. "HW" is the file designation for signals intelligence.

12. Commander in Chief Eastern Fleet, 0626Z/29, in "Admiralty" 223/867.

13. Osamu Tagaya, *Aichi 99 Kanbaku 'Val' Units 1937–42* (Oxford: Osprey, 2011), 56, explains that *Shokaku* and *Zuikaku* were delayed primarily due to a wild goose chase in response to false reports of United States' activity northeast of Wake. For an overview of the Japanese operation, see the author's "Leonard Birchall and the Japanese Raid on Colombo," in *Canadian Military Journal* 7, no. 4 (Winter 2006–2007, accessed September 23, 2014, <http://www.journal.forces.gc.ca/vo7/no4/stuart-eng.asp>).

14. Birchall was awarded the Distinguished Flying Cross for warning of *KdB's* approach and the Order of the British Empire for his conduct as a prisoner of war. See "Leonard Birchall," Wikipedia, accessed September 23, 2014, [http://en.wikipedia.org/wiki/Leonard\\_Birchall](http://en.wikipedia.org/wiki/Leonard_Birchall), for a generally accurate biographical sketch.

15. NA, AIR 28/431, Koggala ORB; and 222 Group Operation Order No. 43. FV-R was the last surviving aircraft of 205 Squadron, which had been based at Singapore.

16. *Battle Summary No. 15, Naval Operations off Ceylon, 29<sup>th</sup> March to 10<sup>th</sup> April, 1942*, Admiralty Training and Staff Duties Division, London, 1943, 6, accessed August 14, 2014 at <http://www.navy.gov.au/sites/media-rrom/publications/naval-staff-histories> (content no longer available). Commander-in-Chief East Indies War Diary, April 1942 (mislabelled as the Eastern Fleet War Diary), accessed September 23, 2014, <http://www.naval-history.net/xDKWD-EF1942a.htm>; "Report of Proceedings of Eastern Fleet from 29<sup>th</sup> March to 13<sup>th</sup> April 1942," para 31, accessed September 23, 2014, <http://www.naval-history.net/xDKWD-EF1942-Introduction.htm>; and Colombo W/T 1229z/4 and Deputy Commander in Chief Eastern Force 0209z/4, both in "Admiralty" 223/259.

17. The quote is from the 30 Squadron ORB. The 258 Squadron ORB says that its CO attended the meeting, or left to attend it, at 1700. Presumably the COs of 803 Squadron and 806 Squadron also attended.

18. NA, AIR 25/930.

19. NA, AIR 27/1530, 30 Squadron ORB; Michael Tomlinson, *The Most Dangerous Moment* (Kimber, 1976), 99; and Wing Commander John Barrass, "The Most Dangerous Moment: 30 Squadron and the Air Battle over Colombo 5<sup>th</sup> April 1942," accessed September 23, 2014, <http://www.30squadronassociation.com/history/ceylon.html>.

20. Koggala ORB; and Tomlinson, *The Most Dangerous Moment*, 100–1.

21. From Japanese primary sources, via January 30, 2013 email from Mr. Yu, an avid historian, to the author. The author is indebted to Mr. Yu for his assistance.

22. 17 Australian Infantry Brigade Group Operations Order No. 3, 11 April 1942, 113, accessed September 23, 2014, <http://static.awm.gov.au/images/collection/bundled/RCDIG1025987.pdf>.

23. *Hiryu* Detailed Action Report (Japan Centre for Asian Historical Records, C08030581700), 46–47, accessed September 23, 2014, <http://www.jacar.go.jp/english/>. See also the thread “5 April ‘42: KdB’s Launch Point and the Strike Aircraft’s Flight Path,” accessed September 23, 2014, <http://www.j-aircraft.org/smf/index.php?topic=14557.0>.

24. Christopher Shores and Brian Cull, with Yasuho Izawa, *Bloody Shambles, Volume 2: The Defence of Sumatra to the Fall of Burma* (London: Grub Street, 1993), 402–3; Gordon Wallace, *Carrier Observer: A Back Seat Aviator’s Story* (Shrewsbury, United Kingdom: Airlife, 1992), 81; and Tomlinson, *The Most Dangerous Moment*, 92.

25. The AMES 254 ORB is in AIR 29/174. “AMES” stands for Air Ministry Experimental Station, a name originally chosen to conceal the nature of such units.

26. NA, AIR 29/31.

27. NA, AIR 23/4801.

28. NA, AIR 29/174.

29. NA, Layton to Churchill, 2 May 1942, IZ 155, 1353Z/2, in AIR 20/4693.

30. *Signals Volume 5*, footnote on page 63, quoted in Ross McNeill post of 5 March 2014, “Question on MRU Radar Stations,” *Royal Air Force Commands*, accessed September 23, 2014, <http://www.rafcommands.com/forum/showthread.php?14236-Question-on-MRU-radar-stations>.

31. Image taken from the Imperial War Museum’s website, accessed September 23, 2014, <http://www.iwm.org.uk/collections/item/object/205210707>.

32. *Signals Volume 5*. The CO of the submarine *Trusty*, alongside *Lucia* during the raid, comments in his memoirs that “On the previous night our staff had anticipated an attack and the radar warning set was kept manned by the best available rating. Unfortunately, he was left on duty too long. The human faculties slow down after twelve hours’ strained watching and the vital warning sounded only a few minutes before the first bomb fell.” William King, *Dive and Attack A Submariner’s Story* (London: William Kimber 1983), 139–42. RCAF radar mechanic Gordon MacPhail has recorded that he was on radar duty at Ridgeway from 2300 on 4 April to 0800 the next morning. It appears from these sources that the night shift was at least nine hours long, and we know that the Japanese aircraft came into range only during the last 50 minutes, approximately. MacPhail was one of 723 RCAF radar mechanics who served in what became the South East Asia Command (SEAC) in 1943. Angus Hamilton, *Canadians on Radar in South East Asia, 1941–1945* (Douglas, New Brunswick: Self-published, 2000), ISBN 0-9681353-1-5.

33. For an explanation of radar display types, see Air Publication 1093C, Vol. I, Chapter 3, accessed September 23, 2014, [http://www.vmarsmanuals.co.uk/archive/634\\_AP1093C\\_Vol\\_1.pdf](http://www.vmarsmanuals.co.uk/archive/634_AP1093C_Vol_1.pdf).

34. The process is described in a passage from *Signals Volume 5* quoted by Ross McNeil, historian/researcher, in his second post of 5 March 2014. The author is indebted to Mr. McNeill for his insights.

35. NA, AIR 27/1530/19, 258 Squadron ORB.

36. Shores and Cull, *Bloody Shambles*, 395–97.

37. Flight Lieutenant Robert T. P. Davidson, RAF, and Pilot Officers Donald Alexander McDonald and James Henry “Jimmy” Whalen; Flight Sergeant Grant Roswell Bishop; and Sergeants Gerald George Bate, John Bernard “Jack” Hurley, and Creighton Ivan Nutbrown, all members of the RCAF. Between them they claimed nine Japanese aircraft destroyed and one probably destroyed, but in fact, the 21 pilots of 30 Squadron shot down only six enemy aircraft. None of the seven Canadians were killed or wounded.

38. NA, AIR 27/1530, 30 Squadron ORB.

39. Shores and Cull, *Bloody Shambles*, 398; and *Casualty Lists of the Royal Navy and Dominion Navies, World War 2, 1<sup>st</sup> – 30<sup>th</sup> April 1942*, accessed September 23, 2014, <http://www.naval-history.net/xDKCas1942-04APR.htm>. 803 and 806 Squadrons had 12 Fulmars each. As noted, 6 Fulmars from 803 Squadron were patrolling between Bentota and Pottuvri, so there were probably 18 Fulmars at Ratmalana when the raid arrived. It is not known why only 6 took off, but presumably the lack of warning had a great deal to do with it.

40. Tagaya, *Aichi 99 Kanbaku*, 56; and Shores and Cull, *Bloody Shambles*, 402–3. The latter source indicates that six *Zuikaku* Vals were damaged on 5 April but does not say if any of the six were from the group of five which attacked the harbour.

41. 258 Squadron ORB.

42. Translated excerpts from the relevant *kodochosos* were kindly provided to the author by Osamu Tagaya.

43. Tagaya, *Aichi 99 Kanbaku*, 56; and Shores and Cull, *Bloody Shambles*, 399–401.

44. Some sources say 258 Squadron lost nine aircraft. The author has put its probable losses at eight Hurricanes shot down and two badly damaged after examining multiple sources, including the unit’s ORB and various volumes by James J. Halley listing the serial numbers and ultimate fate of RAF aircraft.

45. Tagaya, *Aichi 99 Kanbaku*, 56; and translated excerpts from the carriers’ *kodochosos* and other information provided to the author by Osamu Tagaya, May–June 2014. It has not been determined which Japanese aircraft sank the Norwegian tanker *Soli* and damaged the British freighter *Clan Murdoch*. It is possible that one or both of them were attacked by *Shokaku*’s Vals or by the Kates. The author is greatly indebted to Mr. Tagaya for his insights.

46. The crew of QL-A was taken aboard the destroyer *Isokaze*. Birchall recounted in a speech in Canada in October 1945 that they told the Japanese that they “had just arrived in Colombo and had taken off immediately.” See “the Japanese Ceylon Attack,” *The Empire Club of Canada*, accessed September 23, 2014, <http://speeches.empireclub.org/details.asp?r=vs&ID=60830&number=2>. After they were interrogated, *Isokaze* reported to *Akagi*, the flagship, late on 4 April that QL-A “had taken off from Bombay on 28 March, arrived at Colombo after an overland transfer flight on 3 April, and was immediately employed to conduct recon flights from that location.”