

SWEDEN'S GHOST ROCKETS

FLYGVAPNET JUNKERS B 3 ELINT OPERATIONS, 1946

In the summer of 1946 Sweden experienced a proliferation of mysterious encounters in which unexplained projectiles hurtled to earth at astonishing speed. Dubbed “ghost rockets” by the Swedish press, were they experimental Soviet weapons fired from former German bases in the Baltic? UFOs? Natural phenomena? **LENNART ANDERSSON** probes an enduring Cold War mystery

SHORTLY BEFORE noon on July 19, 1946, a beautiful sunny summer’s day, a 16-year old girl and her mother were washing clothes on the shore of Lake K lmj rv, 130 miles (210km) west of  verkalix in northern Sweden. Suddenly a very loud, terrifying sound rang out and the mother cried to the girl to run to the house and close the windows. While running for her life, the girl looked back to get a glimpse of something that looked like a torpedo streak down from the sky and hit the water, creating a 50ft (15m) plume. The girl and her mother were terrified, neither of them ever having heard anything like it. Later, when they dared to go near the lake again, they saw mud and clay thrown up on to its banks, with seaweed and limp water lilies floating on the surface.

CLOSE ENCOUNTERS?

The above was just one of many such encounters experienced at points all over Sweden during the summer of 1946. The Lake K lmj rv incident led to a military investigation, which found that although it was obvious that something had hit the lake, searches with a metal-detector and Geiger counter revealed nothing. Newspapers started to describe these perplexing phenomena as “ghost rockets”. During May to October 1946 large numbers of these unidentified flying objects were observed, with 450 reports of sightings in August making it the peak month. Some of the sightings were eminently credible and several were witnessed by expert military personnel, including engineers and pilots.

On July 6, 1946, Sweden’s *F rsvarets radioanstalt* (FRA — National Defence Radio Establishment) was instructed to try and intercept any control signals being sent out to guide the flying objects, which were immediately suspected of being connected with ongoing Soviet rocket trials. It was well known that the Soviet Union had taken over large parts of Germany’s wartime rocket technology programme and its scientists in 1945, and it was feared that new weapons systems capable of reaching Swedish territory were being developed. It was thought that the German rocket test centre at Peenem nde on the Baltic Sea island of Usedom had been reactivated by the Soviets, and there were rumours of rocket experiments on the Estonian islands of Hiiumaa (Dag  to the Swedish) and Saaremaa ( sel) at the entrance to the Gulf of Riga. A special “flying-bomb” investigation committee was formed with representatives from the Defence Staff, Air Staff, Air Board, Navy Board, FRA and *F rsvarets forskningsanstalt* (FOA — Swedish National Defence Research Institute).

Since the end of the Second World War, elements of Sweden’s war plans had concentrated on a possible conflict with the Soviet Union, the so-called “War Case II”, and peacetime photo-reconnaissance was directed against ships and harbours along the eastern shores of the Baltic Sea. Established in June 1942, the FRA reported directly to the Swedish government and comprised three departments — administration, analysis and signals traffic. It was, and still is, shrouded in extreme secrecy.

In December 1945 the Commander of



Is it a bird? Is it a 'plane? Is it a V2-type ballistic rocket being tested by the Soviet Union from former German sites in the Baltic? This is the only known photograph to be taken of one of the numerous "ghost rockets" observed over Swedish territory during the summer of 1946.

VIA AUTHOR





LEFT Germany's V2 campaign began operationally in early September 1944, with more than 3,000 ultimately being fired on Allied targets, the last in March 1945. In the wake of Sweden's "ghost rocket scare" the following year, it was initially thought that the Soviets had reactivated the captured German rocket test centre at Peenemünde — but had they?

production was started by Saab, but was cut short prematurely after just 16 examples had been built. The type was used for bombing and reconnaissance during the war and saw service with F 17 Wing at Kallinge as a minelayer and torpedo-bomber as late as 1945. After the war the type was relegated to transport and other second-line duties.

ENTER BLONDIE

One B 3A, serial 150, was put at the disposal of the FOA and FRA from April 1, 1946. Given the name *Blondie*, after Chic Young's American cartoon character, the aircraft was often referred to as such rather than by its serial. Sergeant Stig Lindberg was detailed to fly the aircraft and he served as its pilot on all ELINT missions flown during 1946. Captain Karl-Erik Nittve, a trained pilot and observer, was in charge of the FOA's flying operations and participated personally on many of the flights. Engineer Sture Risberg was employed to take care of all technical issues. Initially, *Svenska Aktiebolaget Trådlös Telegrafi* (SATT) radar detectors ERD No 1 and ERD No 2 were borrowed from the Swedish Navy and tested, and equipment inherited from a top-secret wartime British signals intelligence (SIGINT) station at Ottenby on the Swedish island of Öland was also used.

Back in late August 1944 RAF personnel, under the command of Flt Lt W.H. Allen, had arrived in Sweden in civilian clothing, along with boxes containing state-of-the-art electronic intelligence-gathering equipment. They set up a station in a little cottage near Ottenby, and the resulting

Flygvapnet (Royal Swedish Air Force) asked if the FOA and FRA would be able to conduct electronic intelligence (ELINT) operations against radar stations and missile-control radio stations, while also developing some form of electronic countermeasures (ECM). Foreign radio communications were also to be intercepted.

The use of a *Flygvapnet* aircraft for "special duties" was accordingly requested, and on March 14, 1946, a Junkers Ju 86K bomber, Swedish designation B 3, complete with crew and technical personnel, was put at the FOA's disposal. It was to be detached from F 11 Wing at Nyköping, where the pre-war-vintage B 3s were still used in the long-range reconnaissance role.

The B 3 had entered *Flygvapnet* service in 1936 as its first twin-engined bomber, and a total of 40 were delivered from Germany. Licensed

During 1936–58 some 56 Junkers Ju 86Ks saw service with *Flygvapnet*, which designated the type B 3 (B for *Bombflygplan* — bomber aircraft), 16 of which were licence-produced by Saab. One example, serial 150, seen here, was used by Sweden's FOA and FRA agencies to investigate the 1946 spate of "ghost rocket" sightings.

SVENSK FLYGHISTORISK FÖRENING



“RADAR STATIONS HAD BEEN MADE OPERATIONAL AND A NUMBER OF OBSERVATIONS SEEMED TO CONFIRM EYEWITNESSES’ REPORTS OF ROCKETS. BY AUGUST 1946 SOME INTRIGUING SIGNALS HAD ALSO BEEN DETECTED ABOARD THE B 3 . . .”



SIGINT was reported back to the UK via the British Legation in Stockholm. In one of the team’s final reports it was concluded that much of the detected signals traffic comprised guiding signals for rocket tests, although it was known that the V2 rockets launched operationally had not been radio-guided. One possibility was that the *Wasserfall* anti-aircraft rocket tested at Peenemünde was radio-guided. When the British station was evacuated in April 1945, its equipment was sold to the Swedish authorities.

Blondie’s first operational flight was made on June 13, 1946, and lasted about three hours. The aircraft departed from F 11 Wing at Nyköping and flew on a course, via Visby on the island of Gotland, over the Baltic Sea. On June 20 a single flight was made from Bulltofta Airport at Malmö in southern Sweden, but most of the missions would depart from Visby, which was best suited for operations within the Baltic area. Normally the aircraft took off from Nyköping, flew to F 8 Wing at Barkarby to pick up the Stockholm-based FRA and FOA personnel and their equipment, before continuing to Visby, or sometimes F 17 Wing at Ronneby in the south-east of the country. On completion of the operation the aircraft would return to Nyköping via Barkarby.

During the “ghost rocket” committee’s first operational meeting on July 15, it was decided to conduct airborne ELINT operations targeting the islands of Hiiumaa and Saaremaa, and orders were issued to that effect. The codename *Frida* was assigned for this operation, but others, including *Sara*, were also used during 1946.

Meanwhile, radar stations had been made



VIA AUTHOR x 2

TOP & ABOVE *The aircraft used for SIGINT/ELINT missions in 1946 was B 3A (Ju 86K-4) serial 150, named Blondie, powered by a pair of 820 h.p. Nohab My III (licence-built Bristol Pegasus III) radial engines. The cylindrical excrescence on the underside of the fuselage just aft of the mainwheels in the top image is the radome for its crucial AN/APS-15 navigation radar.*

operational and a number of observations appeared to confirm eyewitnesses’ reports of rockets. By August 5 some intriguing signals had also been detected aboard the B 3. They were recorded on a wire-recorder installed in the aircraft and could be analysed thoroughly after the flight. One of the signal sources seemed to be located at Peenemünde but signals from the Hiiumaa area were detected as well.

Numerous missions were undertaken by *Blondie* until the last on December 11, 1946, the majority from Visby and Ronneby, most being of 2–4hr duration, normally during daylight hours. The Soviet Union’s four-nautical-mile (7.4km) territorial-waters limit served as a geographical restriction for the operations, which were directed within the whole area from the Åland



LEFT It was initially thought that the mysterious objects may have been coming from the former German research base at Peenemünde, more than 160 miles (250km) from the southern tip of Sweden. Map by MAGGIE NELSON.

BELOW Blondie was originally on strength with F 11 Wing at Nyköping, but was later transferred to F 1 Wing at Västerås before moving again to F 8 Wing at Barkarby, near Stockholm. The aircraft wore minimal markings, bearing only its name on the forward fuselage beneath the cockpit and a standard Flygvapnet roundel either side of the rear fuselage. It was later given the fin code number "50", when based at Bromma.

Islands in the north to the Fehmarn Sound between Germany and Lolland in Denmark in the south-west. This area included the Gulf of Finland, the Baltic, Poland and eastern Germany. When secret information about a prospective Soviet V2 rocket test on November 6 was received, the number of sorties was increased and two B 3s were used. The second aircraft was B 3D serial 125 of F 17.

PRIMITIVE CONDITIONS

Working conditions inside the B 3 for the three or four operators were rather primitive. The technicians sat on a simple wooden bench along one side of the narrow fuselage, with their equipment fixed, initially with leather straps only, on the opposite side. No direction-finding (DF) aerial was fitted; when a bearing was to be taken the whole aircraft had to be turned.

A pulse-analyser displayed the detected radio waves on an oscilloscope for analysis. The operators were expected to recognise different radar types by listening through their earphones to the humming tones and whines produced by the radar receivers. Each radar station had its own signature hum, and when this knowledge was later combined with information obtained from radio and wireless telegraphy

communication intercepts, it was possible to identify, for example, individual vessels of the Soviet Navy.

Notes were normally written by hand and sometimes, especially if radio communication was detected, a wire-recorder was used. Logs were maintained and the operator was expected to be able to analyse most signals contemporaneously. Notes were made of carrier frequency, pulse frequency, modulation rate and pulse length. High-frequency radio signals, typical for radar transmissions, were detected on some 100 occasions. However, knowledge about radar was still comparatively basic in Sweden at the time and it was later found that many of the observations made in 1946 may have originated from local medical equipment and other non-military transmission sources.

American ELINT equipment was obtained after a Swedish purchasing commission visited the USA in 1946, and both the FOA and FRA made several purchases from American surplus sources. The most common radar receiver set, the AN/APR-4, had been developed by the Radio Research Laboratory at Harvard University as the RRL Type D100, and it had been modified and produced by the Galvin Manufacturing Company for the US Navy



“ALTHOUGH THE SIGHTINGS HAD BEEN ATTRIBUTED TO ‘NATURAL PHENOMENA’, THE UFOs COULD NOT BE FULLY EXPLAINED . . .”

LEFT A poor-quality but extremely rare photograph of *Blondie’s* crew in 1946, with the B 3A in the background. From left to right: Stig Lindberg, pilot; Ulf Mide, observer; Sven-Uno Palmqvist (radio operator); unknown, and SIGINT/ELINT specialist Sture Risberg.

STURE RISBERG VIA AUTHOR



as the AN/APR-1 and by the Crosley Radio Corporation for the US Army Air Forces as the AN/APR-4. Later versions such as the AN/APR-5 were also acquired, as were the AN/ARR-2, AN/ARR-5 and AN/ARR-7 radio receivers. Owing to the similarity of the American designations to the Swedish word *apa*, plural *apor*, the receivers were known as “apes” by their Swedish operators.

NATURAL CAUSES?

When the ghost rocket committee finally completed its work on December 12, 1946, it recommended the acquisition of new and better radar stations, increased ELINT operations, and that contact with Western intelligence services be made. After analysis of the collected material, a report was sent to the American and British military attachés in Sweden. The committee concluded that the ELINT-gathering and other reconnaissance activities had produced little in the way of usable results, and that, although the majority of the sightings had by this time been attributed to “natural phenomena”, the unidentified flying objects could not be fully explained. Nothing had been found where witnesses had seen the mysterious objects hit the ground or water, but the majority of the sightings could still be explained as meteorites.

A number of British intelligence reports entitled *Investigation of Missile Activity over Scandinavia* were distributed to a large number of British and American defence organisations and came to the same conclusions. The psychological factor was stressed, and a comparison was made to numerous reports from 1939–40 about rays that stopped engines and other mysterious ideas.

Today it is known that the German rocket establishment at Peenemünde had already been relocated to Nordhausen in central Germany before the end of the war. Ramjet-powered V1-

type flying-bombs, designated “10Kh”, were designed and built in the Soviet Union in 1945, the testing of which continued into the 1950s; but according to available information these were never tested in the Baltic area.

In the autumn of 1946 a Soviet commission was set up to undertake practical tests with the V2, and a programme that included the launching of six rockets from Peenemünde was initiated. Preparations were well under way when Stalin suddenly decided to cancel the tests. The Americans had captured most of the technical documentation for the German rocket programme and the Soviet Union had to re-engineer the V2 before the production of parts and components for its own rocket programme could begin. The following year all materiel and personnel, including more than 300 German technicians, were transferred to Russia.

The first Soviet V2 rocket launch was finally made on October 18, 1947, but all testing took place at Kapustin Yar, north-west of Astrakhan by the Caspian Sea, more than 1,500 miles (2,400km) from the Baltic. The first tests with the Soviet-designed R-1, which was a development of the V2, were made in the autumn of 1948.

One might think that some findings may have been stamped “Top Secret” at the time and subsequently buried in the archives, but there is nothing that suggests that this is the case; certainly no such material exists in the Swedish archives. All UFO material was classified at the time but is freely available today, although the subject is still clearly a sensitive one.

Although the efforts made by the B 3 crews were inconclusive, their operations in 1946 represent the birth of Flygvapnet’s airborne ELINT capability over the Baltic. *Blondie* was a pioneer in her role and was joined by American B-17s and B-29s in 1947, and by British Lancasters and Mosquitoes from 1948.

