

COMMUNITY ARCHAEOLOGY IN THE RESEARCH OF WORLD WAR II EVENTS The locating and interpretation of the crash site of a Consolidated B-24 Liberator bomber in the vicinity of Fehérvárcsurgó

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Since 2025, the archaeological investigation of military heritage has been subject to regulation in Hungary. In the same manner as archaeological finds, characteristics of such features—including traces of World War II, their age and the parts preserved in situ—are now subject to investigation. Through the examination of the crash site of a B-24 Liberator bomber near Fehérvárcsurgó, this study provides insight into a highly specialized field of archaeology: the distinctive methodology of aviation archaeology, including aspects accessed using community-archaeology approaches. Dynamic battlefield processes, extensive debris fields, and incomplete archival records require complex interpretation. The comparison of field evidence, archival data, and personal recollections enable the identification of the aircraft, a task that entails particular responsibility, since—unlike in earlier archaeological periods—at every site, the material remains are associated not only with specific individuals but also with descendants seeking information about them.

Keywords: Fehérvárcsurgó, aviation archaeology, World War II, community archaeology, military archaeology

The concept of elements of military heritage that are amenable to archaeological investigation had already been included in previous cultural heritage protection legislation. As of September 1 this year, however, this field is no longer in the ‘gray zone’, i.e., it is no longer listed as part of Hungarian cultural heritage while lacking implementation. Instead, it has become a regulated component of the subsurface material records of our history, to be excavated and documented in the same manner as archaeological-age phenomena (i.e., those from before 1711 AD). Within this framework, our research conducted at the crash site of an American four-engine bomber, a B-24 Liberator, may be treated as a case study in a specialized subfield, namely aviation archaeology. This study aligns with the series of articles initiated in this journal by József Laszlovszky and contributes to the examination of historical periods that have been generally neglected by Hungarian archaeology (LASZLOVSZKY 2023; KULCSÁR & POLGÁR 2023; POLGÁR, MÁTYÁSSY & KULCSÁR 2024).

With regard to the subject matter, we also wish to introduce some considerations that require a different research approach than the examination of classical archaeological features. One of the main differences demanded of the researcher in this field is to apply an expanded perspective in interpretation and narrative construction. An archaeological-age building, cemetery, or series of settlement features may be described as static; their interpretation depends on the specific location and their immediate environment. The narrative that can be derived is tied to fixed points and to known places, anchored in objects that are stably bound to a location. Battlefields, by contrast—especially datasets derived from the material traces of weapons and military equipment—are dynamic elements of the historical record. The investigation of large areas is required to map and understand a combat event, particularly a major battle, a rather difficult task in the case of World War II ground vehicles. With air forces, the difficulty increases exponentially, since the archaeologically identifiable crash site is often located at a considerable distance from the preceding aerial combat—sometimes as far as hundreds of kilometers away. With bombers, interpretation is further complicated by the fact that damaged aircraft trying to return to base frequently jettisoned any non-essential weight during flight; as a result, their scattered material may further complicate the interpretation of field data.

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*Fig. 1. Steel plates sewn into a flak suit
(Photo: László György, Hungarian National Museum,
National Archaeological Institute)*

in the ground traces left by aircraft. These include aircraft that crashed vertically, creating an impact crater; aircraft that exploded in mid-air, resulting in multiple debris fields belonging to the same machine; aircraft that struck the ground at an angle and burrowed in; belly landings; belly landings followed by explosion; forced landings on the landing gear followed by explosion; aircraft damaged or destroyed in takeoff accidents; and aircraft destroyed on the ground, to mention only the principal event types. In most cases, some trace of these events can also be found in the often highly fragmentary surviving documentation; thus, assigning the phenomenon to a precise category may further refine the identification. The principal elements of positive identification include the manufacturer's data plate, engine serial numbers, weapon serial numbers, and personal items linked to the crew, or unequivocal documentary evidence connected to them. Such evidence may include gendarmerie reports, death registry entries, photographic documentation, or any written source that explicitly names deceased or captured crew members. Publications that may assist in reconstructing events by providing the necessary data include studies of a national scope (e.g., PATAKY, ROZSOS & SÁRHIDAI 1992; B. STENGE 2016; PUNKA, SÁRHIDAI & ZSÁK 2018), regionally focused studies (e.g., MAGÓ 2018; TÁLOSI 2002; SARKADY 2019; CSIZEK 2025), papers addressing specific subtopics (e.g., PUNKA 1995; BERNÁD & PUNKA 2013; BERNÁD & PUNKA 2014; HORVÁTH 2013), personal memoirs and biographies (e.g., TOBAK 1989; KRASCSENICS 1990; IRÁNYI 1994; CZIRÓK 2014), as well as peer-reviewed articles dealing with individual sites (e.g., TÓTH 2015; NAGY 2020; TÁLOSI 2000; PÁLFFY & HORVÁTH 2025).

However, a large number of particularly relevant

One classic example is the flak suit—the protective vest worn by waist gunners—which can effectively be interpreted as twentieth-century plate armor. The vest, padded with 5 × 5 cm steel plates, was intended to protect gunners positioned in the open sides of the aircraft from shrapnel from anti-aircraft shells (Fig. 1). When such items are found in the context of some other wreckage, there is a strong likelihood that the aircraft involved was a B-24 or B-17. If, however, these objects are recovered in isolation and without any contextual association, they most probably represent traces of a damaged aircraft flying low when attempting to return home—one that may have crashed in Hungary or somewhere along the route back to Italy, or that, although damaged, successfully returned to its base in the Foggia area. In such cases, identification is not possible.

A wide range of variations can also be observed



*Fig. 2. The first piece that started the research
(Photo: Csaba Dömötör)*



Fig. 3. A piece from the wing, clearly displaying the primer coating indicative of American manufacture (Photo: László György, Hungarian National Museum, National Archaeological Institute)



Fig. 4. This component, marked with the code GK32P1089, comes from a bracket near one of the engine controls (Photo: László György, Hungarian National Museum, National Archaeological Institute)



Fig. 5. Recovery of one of the larger fragments on the first day of fieldwork (Photo: Attila Papp)

sources have neither been digitized nor incorporated into library networks, resulting in a body of specialist literature with very limited accessibility. In conjunction with domestic and foreign archival materials and items accessible from known private collections, comparing these sources with field evidence usually enables the identification of the aircraft. This is of critical importance, as the material remains are associated with names, faces, and living descendants; therefore, the responsibility inherent in this research is immense—considerably greater than with archaeological-age phenomena. One might say that this is a particularly sensitive subject.

In the Fehérvárcsurgó case, the first recovered fragments were collected in 2023, after which a farmer cultivating the land reported additional pieces (Fig. 2). During field surveys extending to the northern side of the road, formerly known as the Papharaszti Road (KURUCZ 1989, 38), aircraft components that could be collected by visual inspection alone were encountered, sufficient to establish the first points of identification. The aluminum aircraft parts, the quality and style of the riveting, the ALCLAD marking, and the color of the zinc chromate primer clearly indicated American manufacture (Fig. 3). A stamped marking beginning with the code “GK32” on one of the components further demonstrated that it was a B-24 bomber (Fig. 4). In cooperation with the King St Stephen Museum of Székesfehérvár, we carried out a metal-detector survey on both sides of the road that were scattered with fragments of the aircraft.

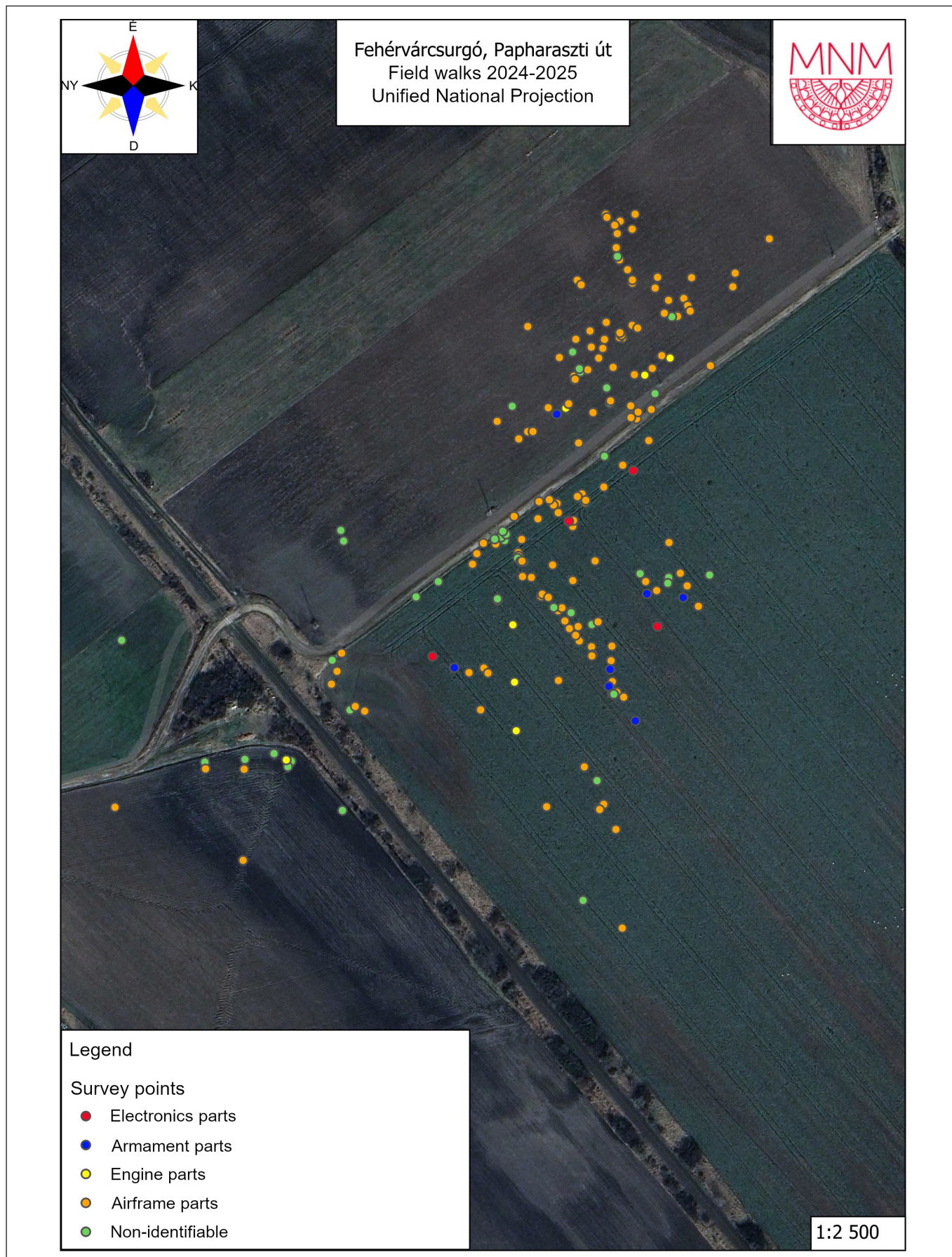


Fig. 6. Spatial distribution map of the finds. Red: electronics parts; blue: armament parts; yellow: engine parts; orange: airframe parts; green: non-identifiable

Due to seasonal differences in land use, the survey was conducted on two separate occasions, during which the aircraft's debris distribution zone was delineated on both affected parcels (Fig. 5). For this purpose, we used the QField application, which is regularly employed by the museum's community archaeology program, recording each component with an on-site interpretive classification system divided into several categories (i.e., airframe, engine, armament, electronics, other), along with photographic documentation and unique coordinates (Fig. 6). Owing to local agricultural practices—in our case, prolonged stubble retention followed by disking and rapid reseeding—very short time windows were available for field work, and only a small number of metal-detecting volunteer workers could be mobilized at short notice. As a result, our primary objective was to delineate the impact and debris zone through systematic scanning.

Of the approximately 300 metal objects recovered, more than 80% could be associated with the aircraft; the remainder consisted of traces of agricultural activity and modern refuse. Despite the known archaeological sensitivity of the area, no archaeological-period metal artifacts were present, indicating that the area had been heavily stripped. The collected material—although not in every case—may provide additional information on the aircraft's attitude at ground impact, flight direction, and related factors. Among the finds, there were several pieces of melted aluminum, indicating intense, high-temperature burning (Fig. 7). Unfortunately, larger and more visually distinctive components were no longer present, due to contemporary removal, continuous agricultural activity, and the earlier looting of Roman-period sites in the Móri Valley. Nevertheless, a significant quantity of aircraft-related material has been recovered. The debris field covers approximately 5.6 hectares; although part of this distribution has been altered by plowing, a reasonably accurate picture of the dispersal pattern could still be reconstructed. The largest *in situ* fragment was a piece identified as part of an aileron, shown in Fig. 3. The type-specific distribution pattern of the finds closely corresponds with data obtained through oral history, according to which the aircraft was flying in a southeastward direction over the Móri Valley, already descending steeply over the timber yard in Bodajk, and crashed from low altitude while turning eastward along the line of Fehérvárcsurgó. The aileron fragments recovered at the northwestern end of the debris field, as well as engine-related components found closer to the center of the zone, further corroborate these recollections. The precise identification of individual components in this context also requires specialized technical knowledge. In the present research, we rely on the expertise of Tibor Szilágyi, an aviation history researcher with in-depth familiarity with the aircraft type and an active participant in community archaeology programs.

Historical research on the aircraft has yielded information consistent with the field evidence. As a first step, we consulted local sources, which, fortunately, were preserved in a local history manuscript collecting oral histories in the Bodajk library. The relevant excerpt reads:

“On February 22, Hungarian anti-aircraft gunners shot down a four-engine Liberator. The aircraft hit was circling and stumbling lower and lower, until it finally crashed in the Sárréti field. Nine parachutists were observed floating in the air, while the pilot was burned inside the plane. The Hungarians shot it down, and the Germans captured the crew when they reached the ground. They were English, aged 18–20. The Germans took their watches, rings, and other valuables.”

The mission and the aircraft's history is reconstructed as follows: by February 1945, the strategic goal of the Allied air forces was the complete disruption of German supply lines and railway hubs in Southeast Europe. As part of this campaign, on February 21, 1945, the U.S. 15th Air Force carried out a large-scale



Fig. 7. The melted aluminum fragment indicates exposure to high-temperature burning (Photo: László György, Hungarian National Museum, National Institute of Archaeology)

12359 MISSING AIR CREW REPORT 22813

1. ORGANIZATION: Location Torretta, Italy Command of Air Force XV Air Force
 Group 461st Bombardment Group (H) Squadron 766th Bomb. Sq. (H)

2. SPECIFY: Place of departure Torretta, Italy Course 308°
 Target Vienna, Austria Type of mission Combat

3. WEATHER CONDITIONS AND VISIBILITY AT TIME OF CRASH OR WHEN LAST REPORTED:
CAVE

4. GIVE: (a) Date 21 Feb 45 Time 1335 Last known position Vienna, Austria
 (b) Specify whether: (X) Last sighted, () Forced down, () Seen to crash,
 () Last contacted by radio, () No information.

5. AIRCRAFT (LOST) ##### AS A RESULT OF: () Enemy anti-aircraft, (X) Other Mechanical difficulties
 () Enemy aircraft, () Enemy anti-aircraft, (X) Other Mechanical difficulties

6. AIRCRAFT: Type, model & series B-24E AAF Serial Number 42-58408

7. NICKNAME OF AIRCRAFT none

8. ENGINES: Type, m.no. & series R-1830-43 AAF Serial Number (a) 42-38668
 (b) 42-65145 (c) CP-12693 (d) 41-43073

9. INSTALLED WEAPONS: (Make, type and serial number.)
 (a) IN 1243099 (e) IP 978501 (i) IF 1248825
 (b) IN 1242796 (f) IP 1243105 (j) IF 1248714
 (c) IF 1243225 (g) IP 9776594 (k) IF 1248714
 (d) RU 1249008 (h) RI 978380 (l) IF 1248825

10. PERSONNEL LISTED BELOW REPORTED AS: (X) Battle Casualty, () Non-Battle Casualty.

11. NUMBER OF PERSONS ABOARD AIRCRAFT: Crew 10; Passengers 0; Total 10
 (If more than 12 persons aboard aircraft, use separate sheet.)

POSITION	RANK	SERIAL NUMBER	FULL NAME (Last, first, initial)	CURRENT STATUS	NEXT OF KIN AND ADDRESS	RELATIONSHIP
DEA (1)	Pilot		HOOPER, Josiah R.	2d Lt. MIA	Glenwood P. Hooper (father) Barrans Road, Milford, New Jersey	
RIP (1)	Co-Pilot		WAG DONALD III, Charles A.	MIA	James A. Judie (Grandfather)	
DEA (3)	Bombdr.		BERNSHOFF, Frederick G.	2d Lt. MIA	1515 E. Jefferson Blvd., South Bend, Ind. Doris M. Bernshoff (wife)	
DEA (4)	Navigator		BRACH, H.B. (TO)	2d Lt. MIA	920 Virginia St., Graham, Texas. H.B. Brach Jr. (father)	
DEA (5)	R. Waist		Taylor, Everett G.	Sgt. MIA	3658446 Kingsley, Michigan Mable Taylor (mother)	
DEA (6)	L. Waist		Wolff, James R.	Sgt. MIA	Mr. George G. Wolff (father) 959 So. 56th St., West Allis, Wisconsin	
RIP (7)	Top Gun		Schmitt, Robert C.	Sgt. MIA	Battie Schmidt (mother) Fairtown, New Jersey	
DEA (8)	Ball Tm		Emmons, Jr. W.W.D.	Sgt. MIA	Gore E. Emmons (mother) 2117 Holmes Street, Dallas, Texas	
DEA (9)	Ball Tm		Wiemann, James	Sgt. MIA	Giovanna DeLanzo (mother)	
DEA (10)	Wing		Wiemann, James R.	Sgt. MIA	Duella Gen. (mother) Rt. #5, 1285 Venice Court, Pontiac, Michigan	

12. IDENTIFY BELOW THOSE PERSONS WHO ARE BELIEVED TO HAVE LAST KNOWLEDGE OF AIRCRAFT AND CHECK APPROPRIATE (one only) COLUMN TO INDICATE BASIS FOR SAME:

NAME IN FULL	RANK	SERIAL No.	BY RADIO	CONTACTED LAST	SAW	FORCED
(1) MITCHELL F. HALL JR.	2d Lt.	0-823363			X	
(2) FREDERICK G. WIEMANN	2d Lt.	0-825726			X	
(3) CHARLES T. COURTNEY	2d Lt.	0-696722			X	

13. IF PERSONS ARE BELIEVED TO HAVE SURVIVED, CHECK ONE OF THE FOLLOWING:
 () Parachutes were used. () Persons were seen walking away from the scene of the crash.
 (X) Other reasons (specify) Plane was still in flight when last seen

14. ATTACH PHOTOGRAPH, MAP OR SKETCH SHOWING LAST KNOWN LOCATION OF AIRCRAFT.
 15. ATTACH EYEWITNESS DESCRIPTIONS OF CRASH, FORCED LANDING, OR OTHER CIRCUMSTANCES.
 16. ATTACH A DESCRIPTION OF EXTENT OF SEARCH, IF ANY, AND GIVE NAME, RANK AND SERIAL NUMBER OF OFFICER IN CHARGE OF SEARCH HERE.

Incl 1 - Sketch Date 24 February 1945
 Incl 2 - Stat of Lt. Hall
 Incl 3 - Stat of Lt. Wiemann
 Incl 4 - Stat of Lt. Courtney

ROBERT A. FRECCIARO, Capt. AG
 Signature of reporting officer

Fig. 8. The Missing Air Crew Report (MACR), a key document used for investigating downed American aircraft. Source: NARA, <https://catalog.archives.gov/id/91125340?objectPage=2> Accessed 1 December 2025

attack against Vienna and its surroundings, one of the most coordinated aerial operations in the region during the war. The 461st Bombardment Group participated, completing the 180th mission in its history that day. All available bomber commands of the Air Force took part in the operation. The various formations targeted key points of the railway infrastructure in the Vienna Basin, including the Central Marshalling Yard, the Southern Railway Station area, ammunition depots around Vienna, and several alternate targets, such as Sopron, Wiener Neustadt, and Bruck (Mission data: MAHONEY 2013, 337–338). Due to dense fog and bomb clouds, the formations used radar bombing equipment (PFF), although this was not always sufficient for accurate target identification. Anti-aircraft fire (flak) was significant, particularly in the Moosbierbaum area, which most bombers had to traverse. For the 461st, the day proved especially critical. The group began the mission under challenging conditions: it overshot the initial point (IP) designated at Michelbach—the starting point from which the bombardier

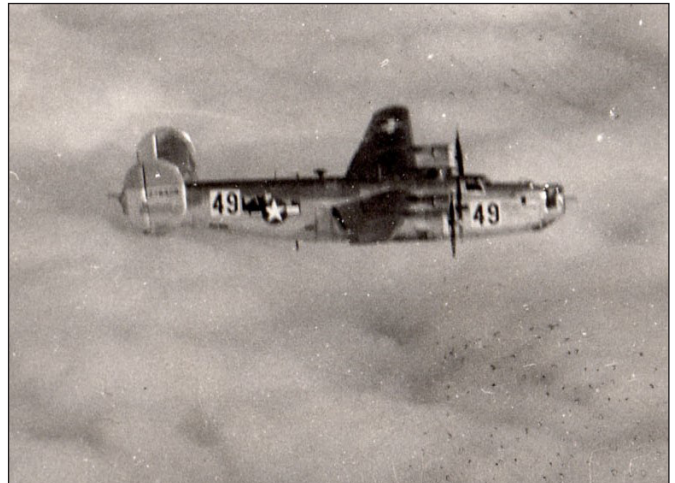


Fig. 9. The only known photograph of the aircraft. Source: <https://461st.org/Aircraft/Nose%20Art/images/49-large.jpg> Accessed 1 December 2025



Fig. 10. The only known photograph of the pilot, Josiah R. Hooper. Source: <https://www.findagrave.com/memorial/56373076/josiah-russell-hooper#source> Accessed 1 December 2025



Fig. 11. Present condition of the aircraft crash site (Photo: Attila Papp)

controls the aircraft until bomb release—thus entering the Moosbierbaum flak zone. Bombs from the first flight fell over the Danube, beyond the target, due to incorrect speed correction. The second flight did not follow the first flight's correction and, on an independent trajectory, mistakenly bombed the Wiener Neudorf aircraft engine plant. From a strategic perspective, the February 21, 1945 mission of the 15th Air Force was successful, as it paralyzed the Vienna railway network for several days and inflicted severe damage on multiple German supply points. For the 461st Bombardment Group, however, the operation came at a tragic cost. A combination of navigational errors, poor visibility, and extremely strong anti-aircraft fire caused the loss of three aircraft from the formation—including the plane piloted by the group commander, Major Robert N. Baker, and the aircraft that is the subject of this study.

The aircraft nicknamed Flying Fool, with the serial number 42-78408, was a B-24G-16-NT Liberator assigned to the 766th Bombardment Squadron of the 461st Bombardment Group. (The MACR [Missing Air Crew Report – Fig. 8] associated with this loss incorrectly recorded the aircraft number as 42-58408 due to an administrative error, which later led to some confusion in subsequent research.) On June 27, 1944, the aircraft arrived at the 460th Bombardment Group, from which it was shortly reassigned to the 461st to replace losses. Identification of the aircraft's nickname is challenging, as no clear source confirms its status after joining the 766th Squadron. Some sources indicate that its nickname was 408 and its side number was 49 (Fig. 9). Its pilot was Second Lieutenant Josiah R. Hooper (Fig. 10), who joined the unit on December 12, 1944. On the day of the mission, the aircraft was already experiencing mechanical problems, as multiple eyewitnesses recalled. Based on the reports of crews from three different aircraft, the sequence of events can be reconstructed as follows: After bomb release, Hooper's aircraft gradually fell behind the formation. Engine No. 1 was operating at idle, and shortly thereafter, engine No. 4 began smoking heavily and appeared to be on fire. At this stage, the aircraft remained controllable, and it fol-



Fig. 12. The yellow marking, which identified the 766th Squadron within the Bombardment Group (Photo: László György, Hungarian National Museum, National Archaeological Institute)

lowed the return route with a slow loss of altitude. Radio contact was attempted, but Hooper only repeated the call sign without providing any additional information. The aircraft was last observed moving away in the direction of the Soviet lines. All ten crew members perished.

According to eyewitness accounts, Hooper's aircraft remained controllable until the very end, and the crew almost certainly attempted to reach the nearest safe area—the territory behind the Soviet lines (*Fig. 11*). Béla Németh's memoirs indicate that they fell just a few kilometers short of this goal, as Soviet units were already positioned on the eastern side of the Móri Valley. It is also confirmed in all U.S. sources that nine of the crew parachuted from the aircraft, while one crew member, Second Lieutenant Charles A. MacDonald III, the co-pilot, died in the plane. He was initially buried in the ground near a railway guardhouse and later exhumed in the second half of 1945; this allows us to associate the specific aircraft with an identified crew member (DELANZO 1989–1990). While in this case the identification would be only indirect without a named crew member, another piece of evidence supports it: a yellow-painted skin panel, whose color matches the engine-ring color code used by the 766th Squadron to identify its aircraft (*Fig. 12*). Research regarding the fate of the nine parachuting crew members is ongoing. Their movements can be traced up to their capture and transfer to a POW camp, after which their trail is lost; they are officially recorded as missing to this day.

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We would like to thank Orsolya Keresztyény for locating, digitizing, and making available the unique manuscript of Béla Németh. We are also grateful to Charles Randall Morgan, a researcher of the 461st Bombardment Group, for providing data on the specific aircraft that is otherwise accessible only on microfilm.

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