

DELIVERABLE D.T1.1.2

Title Identification Pilot Sites

Final version
02/2021

PP Country Germany

Pilot Site Gunzenhausen
Roman Watchtower "Am Vorderen Schloßbuck" WT 14/4 and the small fort
"Am Hinteren Schloßbuck"

Author(s) FAU
Boris Dreyer with Alexander Hilverda and Christina
Sponsel-Schaffner

Project ID DTP3-359-2.2

Contents

1. Basic Information on the Archaeological Site and its Location	2
2. Archaeological Remains.....	3
2.1. History of the Site.....	3
2.2. Composition and Appearance of the Archaeological Site	8
2.3. Architectural Structures.....	9
2.4. The Most Important Finds and their Message.....	9
2.5. Surrounding Area	10
2.6. Literary sources.....	10
3. Research History.....	11
4. Considerations for Touristic Exploitation	14
4.1. Practical Information.....	14
4.2. Presentation of the Site	15
5. Protection	15
6. Further Practical Information	16
6.1. International Cooperation	16
6.2. Information Relevant for Further Living Danube Limes Project Activities	16
7. Bibliography	16



1. Basic Information on the Archaeological Site and its Location*

Modern name of the site	Roman Watchtower "Am Vorderen Schloßbuck" WT 14/4 and the small fort "Am Hinteren Schloßbuck"
Roman name of the site, if known	
Country, Region	Germany, Bavaria, Mittelfranken
Municipality	Gunzenhausen
Type of the site (<i>e.g. fortification, settlement etc.</i>)	Fortification
Single site or multiple component site (cluster)	Multiple component site
Dating of the Roman site	140 CE
Dating of construction phases, if known	During the second century.
Area of the site [in ha]	1 ha
Elevation of the site [in m AA] ¹	483
Coordinates of the site using WGS84 = EPSG:4326 (<i>if your site covers a large area, indicate a single point its centre</i>)	49° 07' 01" N 10° 46' 17" E
Cover with building structures	<input type="checkbox"/> fully/partly covered with modern superstructures <input checked="" type="checkbox"/> not covered Short description: see text below
Site visibility	<input checked="" type="checkbox"/> underground remains not visible <input type="checkbox"/> underground remains uncovered and visible (excavated, conserved) <input checked="" type="checkbox"/> archaeological remains above surface until today <input type="checkbox"/> physical reconstructions above archaeological remains
State of research (<i>e.g. fully excavated, confirmed by geophysical surveys etc.</i>)	Foundation walls of the watchtower visible, outlines of the small fort marked in the forest floor. The Imperial Limes Commission carried out several excavations between 1878 and 1905: parts of the wall of the Gunzenhausen fort were revealed, a storage building and the apse of the commandant's building were explored asf. Excavations in 1980 led to a reconstruction of WT 14/4 and proved that there was no connection between the "Alamannic ring wall" (prehistoric) and the stone tower (WT 14/4). Furthermore a subsequently inserted intermediate wall inside was revealed.
Conservation status, if known	WT 14/4: conserved and partially reconstructed. Small fort: The foundation area of the small fort stands out partly very clearly in the forest.

* I would like to express my sincere thanks to Ms Christina Sponsel-Schaffner and Mr Alexander Hilverda for the improvements in form and content.

¹ m AA = metres above the Adriatic.

List of known remaining archaeological structures	WT 14/4: remains of the stone tower Limes-wall: stone remains near the tower forming the grounding structure Small fort: foundation area is visible
List of Roman military force stationed at the site (e.g. <i>LEGIO</i> , <i>COHORS</i> , <i>ALA</i>)	unsure
Access to the Danube in ancient times	<input checked="" type="checkbox"/> yes, via Altmühl <input type="checkbox"/> no
Access to the Danube today	<input checked="" type="checkbox"/> yes, via Altmühl and Rhine-Main-Donau Canal <input type="checkbox"/> no
Access to a tributary river in ancient times	<input checked="" type="checkbox"/> yes, see above <input type="checkbox"/> no If yes, please indicate the name: Altmühl
Access to Roman Road Network	<input checked="" type="checkbox"/> yes <input type="checkbox"/> no If yes, please indicate the name of the road: not known
UNESCO status	<input type="checkbox"/> Tentative List status <input checked="" type="checkbox"/> World Heritage status <input type="checkbox"/> application process still ongoing <input type="checkbox"/> no UNESCO status
Legal protection	<input checked="" type="checkbox"/> by national Monument Protection Law <input type="checkbox"/> by planning tools (e.g. protection of townscape, designation of areas, zoning etc.) <input type="checkbox"/> others Please list and describe:
Institutions involved in research on the site (today and in the past)	Imperial Limes Commission (Reichslimeskommission) / German Limes Commission (Deutsche Limeskommission); State Office for the Preservation of Monuments (Landesamt für Denkmalpflege)
Institutions and stakeholders involved in the presentation of the site	-German Limes Commission -State Office for the Preservation of Monuments -Limes expert advice (Limesfachberatung), district Mittelfranken -Tourist Information Centre Gunzenhausen (Tourist-Informationszentrum Gunzenhausen).

2. Archaeological Remains

2.1. History of the Site

The WP/WT (Wachtposten/Wachturm/watch tower) is located on route 14, which begins on the eastern bank of the Altmühl towards the east and extends to Kipfenberg for over 52 km.

The route division has already been made by the Imperial Limes Commission (Reichslimeskommission). Volunteer route commissioners have taken on the maintenance of the routes assigned to them. The routes along the Bavarian part of the Rhaetian Limes extend from the border of Baden-Württemberg (route 13, for 38 km), from WT 13/1 at the Mönchsroth-Eck road for 33.8 km to the eastern bank of the Altmühl near Gunzenhausen.

The town of Gunzenhausen passes the Altmühl to the west and then flows into the Altmühlsee, which was created in the 1980s as a water reservoir for the Rhine-Main-Danube Canal.

North of the town centre, where the Roman fort of Gunzenhausen also stood in the area of the Protestant church, without any remains of it being recognisable today due to overbuilding, the Limes first crosses the Altmühl on its flow to the northwest and also the town centre, about 500 m from the Roman fort, which measures 80x86 m, but is poorly explored.

In addition to WT 14/4 and the small fort, other watchtowers east of the Altmühl are explored with respect to WT 14 1-3 and quite well documented with WT 14/5 and 6. Here the Rhaetian Limes passes its northernmost point and then takes a southeasterly course to Kipfenberg.

The Limes thus includes an important natural communication route along the Altmühl valley to the north – it is not for nothing that a monastery was still located here later – with the fertile areas of the Nördlinger Ries.

The Roman fort of Gunzenhausen, which lies close to the Limes, is strategically related to the cohort camps of Gnotzheim to the southwest and Theilenhofen to the southeast, which are further back from the Limes. This defensive triangle, geographically organised within a "striking distance" (Schlagdistanz), not only obeys strategic considerations with remarkable clarity. It is the arrangement which is also optimised under supply aspects.

Gnotzheim, with the Roman name Mediana (Tabula Peutingeriana), 6.5 km from the Limes, was first occupied by the cohorts III Bracaraugustanorum until around 150 CE, then by the cohorts Thracum Romanorum civium Romanorum equitata bis torquata, i.e. probably partially mounted, i.e. by very mobile units. The camp itself, 500 m southwest of the modern village, commanded a pass over the Franconian Jura into the fertile Nördlinger Ries, and lay between two streams and could overlook the Limes over a wide field.

According to a building inscription, the aforementioned twice-decorated Thracian cohort had built their first stone camp here under Antoninus Pius (138-161), while a wooden camp is assumed to have been there since Domitian times. The excavations at this camp, which had been known since the 18th century, were carried out under the direction of the Imperial Limes Commission from 1878 to 1905. The camp extended over an area of 2.2 ha, 153x143 m in side length. During the excavations, a storage building and also the apse of the commandant's building were explored in addition to the fortification with four trenches (magnetometer). Other interior buildings can be interpreted as cavalry quarters.

Subsequent centuries have made use of the camp, which in aerial photographs even now appears to have had three pointed ditches: in the church of St. Michael at Gnotzheim, three stone inscriptions are found built in as spolia, important among other things for proving the

presence of troops in Mediana. The camp's vicus was hardly explored², until the excavations there in 1999 and the geophysical investigations of 2008 (Faßbinder) and 2010-2013 (Mischka) – which revealed, among other things, a large building (136x50 m) with accommodation and bath in the southwest on the road to one of the four camp gates³. A fire horizon testifies to a damaging fire (magnetometer). This was followed by the abandonment.

Theilenhofen, with the ancient name *Iciniacum*, is located about 700 m to the northwest of the village on a high plateau, about 2.5 km from the Limes, southeast of Gunzenhausen. About 10 watchtowers can be seen from there.

Excavations by the Reichlimeskommission between 1892 and 1895 revealed a circumference of 196x140 m, as well as the central building. Furthermore, a fort bath was excavated about 200 m to the west between 1968 and 1970⁴. The finds can be seen in the Museum for Pre- and Early History in Gunzenhausen. In the 1976 aerial photograph and through excavation sections, an older wooden fort could be verified to the west of the stone camp. Until now, the camp's vicus had only been discovered by chance finds, but by 2014, geophysical studies had yielded spectacular new findings about its extent and building stock⁵. The fort was last occupied by the cohorts III *Bracaraugustanorum*. A depot find from the stone camp had yielded considerable finds of an infantry helmet and an equestrian helmet, which are currently in the Archaeological State Collection in Munich and in the Germanic National Museum in Nuremberg⁶. The most recent coin minted by *Vibius Volusianus* dates to the years 251-3, so the camp was in use until the end of the Rhaetian Limes⁷.

In 1897, Eidam's excavations, with the means of the time and due to overbuilding, only revealed parts of the wall of the Gunzenhausen fort, 300 south of the Limes. The principia is partly overlaid by the evangelical town church. A wooden predecessor camp is not certain or not proven. The area of 0.7 ha was reinforced by 86x80 m long side walls. The presence of four gates is uncertain. The geographical, logistical and strategic connection with the described cohort camps of Gnotzheim and Theilenhofen is confirmed by the assumption that the garrison of Gunzenhausen, whose ancient name is unknown, was provided from there. The fort controlled the Altmühl and the passages to the north, at the northernmost point of the Rhaetian Limes. Little is known about the vicus, which was located in the area of the town market, for example about a bath there, except that a coin hoard, found in 1953, points to a terminus post quem of 241/43 CE. This is also the horizon of destruction of the fort, proven by burn marks

² Literature: Eidam (Nr. 70) 1929; Fabricius/Hettner/Sarwey (Strecke 13) 1935, 54ff.; Ulbert/Fischer 1983, 70ff.; Schönberger 1985, 472ff.; Braun/Fischer/Grabsch 1992, 41; Czysz/Dietz/Fischer 1995, 448f.; Baatz 2000, 277; Fischer/Riedmeier-Fischer 2008, 98.

³ Mischka/Obmann/Faßbinder 2015, especially about Theilenhofen and Gnotzheim 333-338 with conclusions on the settlement size of the camp/fort-village of about 5.7 ha, 333-335. About Gnotzheim see Ramstetter 2015.

⁴ See also Herrmann o.J., 28-31.

⁵ Mischka/Obmann/Faßbinder 2015, especially about Theilenhofen 337-338 with conclusions on the settlement size of the camp/fort-village of almost 10 ha. Geophysical investigations carried out in 2010 in the vicus to the east of the camp brought to light a theatre and a forum complex.

⁶ Literature: Eidam (Nr. 71a) 1914; Schönberger 1985, 472; Ulbert/Fischer 1983, 74ff.; Czysz/Dietz/Fischer et.al 1995, 522f.; Baatz 2000, 284f.; E. Grönke, *Die Fibeln vom Gebiet der römischen Kastelle und des Vicus in Theilenhofen Lkr. Weißenburg Gunzenhausen*, Bayer. Vorgesch. Bl. 70, 2005, p. 103-132; Fischer/Riedmeier-Fischer 2008, 105.

⁷ Sulz 2015, 111.

on the principia and by burnt wheat, and the end of the Roman positions on the Rhaetian Limes⁸.

The fort of Gunzenhausen as an advanced post of the military camps of Gnotzheim and Theilenhofen controls sections of the Limes with its guard posts and passages. Most of these – although still frequently recognisable in the 19th century – can either only be explored today or have at least been recorded by excavations, even if they are no longer recognisable today.

In our context, the guard posts in the nearer vicinity of Gunzenhausen come into consideration for the identification of the Pilote Site, whereby the WT 14/4 and the so-called small fort come into closer focus.

From the east, the Limes (as an asphalted road) crosses the Bundesstraße 466 southeast of the southernmost outlet of the modern Altmühlsee. There the WT 13/50 has been excavated, today no longer recognisable. As for most towers scientifically explored or still visible today, at least two phases of a wooden tower and then (offset) a stone version (from the middle of the second century) can be verified.

This also applies to WT 13/50. The stone tower had side lengths of 4.2 x 3.7 m. To the east of it, the remains of the tower's wooden posts have been identified, as well as, again further to the east, an approximately 8 m wide passage in the Limes wall. From here on, the signposting as a UNESCO World Heritage Site also begins⁹.

The remaining stretch to the Altmühl is followed by the WT 13/51 to 13/54. Of these, however, the WT 13/51 and 13/53 (near the main road 13)¹⁰ are only assumed. WT 13/52 (with a 3.15x2.8 m stone tower) and WT 13/54 (4x5.8 m) are both directly attached to the Limes wall and younger than the other towers. On this stretch, which is paved to follow the course of the Limes as far as the Altmühl valley, sections of the Limes wall have been rudimentarily rebuilt in three places, marked by signs. WT 13/54 is directly on the east bank of the Altmühl in the Altmühl valley, only a short distance away, which was also enough for a passage¹¹. The Limes crosses the Altmühl 60 m north of the present bridge, also marked by a sign. Remains of a paved road and wooden obstacles have also been found there.

West of the Altmühl, WT 14/1 is no longer visible. It was erected as a "blockhouse". WT 14/2 can only be assumed. These two towers lie in the middle of the city area and thus in the built-up area, south of which is the fort described above. Further west, as an extension of Krackerstraße to the west, one comes upon the remains of the Limes in the wooded area on the Schloßbuck, which is already recognisable as a prominent elevation from tower WT 13/50. An old memorial stone on the marked Limes path near a water reservoir refers to the "Teufelsmauer (author: this was the popular name of the Limes for a long time), Limes, Pfahlrain". Southwest of the water reservoir, WT 14/3 was visible in the "wooden version" as well as in stone in former times, today it is no longer visible (WT 14/3).

⁸ Eidam (Nr. 71) 1914; Fabricius/Hettner/Sarwey (Strecke 14) 1933, 51; Ulbert/Fischer 1983, 69f., 117; Schönberger 1985, 486; Braun/Fischer/Grabsch 1992, 41f.; Czysz/Dietz/Fischer et.al 1995, 456; Baatz 2000, 282; Ramstetter 2015a 105, 107.

⁹ Fischer/Riedmeier-Fischer 2008, p. 95 with fig. 55.

¹⁰ Fischer/Riedmeier-Fischer 2008, p. 96-97.

¹¹ Fischer/Riedmeier-Fischer 2008, p. 99 fig. 58.

On the "Vorderer Schloßbuck" one can visit the WT 14/4, restored in 1980, with a side length of 4.7x6.3 m and an unusual subsequently inserted intermediate wall inside¹². According to an inscription, the Bismarck Tower to the west of it was partly built from this and from the stones of the Limes wall in 1901. Both are at the highest point. The Roman stone tower, on the other hand, was originally located directly on the wall, while the wooden tower was cut by the stone wall further to the east, recognizable through the ditch. There is no connection between the so-called Alamannic ring wall, which actually dates from prehistoric times, and the stone tower, as the excavations in 1980 proved. To the west of the tower there was a passage in the Limes.

The course of the wooden palisade has been reconstructed with some trunks¹³. Here, as in the further course, there are detailed information boards. This area in particular is very interesting, because here the stone wall has come to rest as a whole block towards the front in the abyss and – since it has hardly been carried away – could thus be estimated to have an original height of 2.6 m.

At a distance of 165 m to the west of WT 14/4 lies WT 14/5 on the eastern slope of the "Vorderer Schloßbuck". It is partially restored on the foundation walls, with the piece of Limes wall that the stone tower replaced. Its dimensions are 5.5x7.4 m and it was subsequently inserted into the Limes wall. To do this, the Limes was torn down at this point. To the west of the tower, there was a passage in the palisade wall, but not in the later stone wall.

The Limes in the area of Gunzenhausen then leads further west on a footpath through a valley only partially still recognisable to the next slope of the "Hinterer Schloßbuck". After 500 m from WT 14/5, south of the recognisable rubble wall of the Limes – marked by a sign – are the remains of a small fort, 18 m from the Limes, measuring 20x20 m. Inside, there is a 19th century memorial stone with the inscription *Castrum Romanorum*. Superficial investigations inside revealed wooden buildings and a 3rd century soldier's fibula¹⁴. These investigations were supplemented in 2010 by geophysical studies by J. Faßbinder: a ditch is missing, but there were a casemate-like interior construction and fireplaces. The use of the site, which is also evidenced by a hinge-arm fibula, can be narrowed down to the second quarter of the 3rd century¹⁵.

Rhaetian Limes – traces of a wooden tower can again be made out, as well as a stone tower further to the west (WT 14/6). The wooden watchtower, again constructed as a "blockhouse", was overlaid by the later stone wall to the north, and the later stone tower was situated against the wall with sides 5.4x4.4 m long. From here on, the Limes follows a southeasterly course, still passing the camp of Theilenhofen, which lies 2.5 km to the south and from which the other towers (especially from WT 14/6 to WT 14/12, partly to WT 14/20) can still be seen clearly.

This described system of military buildings in the area of Gunzenhausen with the above-mentioned outstanding Roman memorial sites (WT 14/4 and small fort on the "Vorderer" and "Hinterer Schloßbuck") belong to a logistical and military functional context, coordinated with

¹² Fischer/Riedmeier-Fischer 2008, fig. 60, p. 101.

¹³ 1980 for the first time, renewed 2007 as round timber, laying on the original: Ulbert/Fischer 1983, 72; Fischer/Riedmeier-Fischer 2008, 29 fig. 7, 31, 101. – Furthermore, since 2013 a Roman and Alemanni playground at the Altmühlsee (Seezentrum Wald) has been a reminder of the Rhaetian Limes.

¹⁴ Fischer/Riedmeier-Fischer 2008, 103 with fig. 63.

¹⁵ Ramstetter 2015a, 107.

each other and effective for almost 150 years with subsequent improvements, i.e. until the abandonment of the Rhaetian Limes with the northernmost bulge near Gunzenhausen around 250 CE. The basic strategy therefore remained continuously in place and was expanded as soon as the position on the line traced here had been taken. Initially, a palisade wall with wooden watchtowers (with blockhouse construction and ditch) and forts had been occupied, which were then developed into stone walls, about 2.6 m high, stone towers and stone forts. The strategic location of the towers was obviously optimally related, for the stone towers were often built only a few metres away from them, sometimes directly against the stone Limes, which in some cases overlapped the earlier wooden towers. Even the new stone wall did not mean a fundamental correction of the course, as the palisade wall ran only a short distance away. The number and location of the passages were also kept almost the same. The Limes thus retained the same function as a demarcation line and a "membrane" controlling trade and contact with the neighbouring areas to the north, even after it was converted into more permanent stone structures, a policy which was also followed for the camps.

2.2. Composition and Appearance of the Archaeological Site

Since there is not much to see above ground of the fort of Gunzenhausen and the cohorts-forts of Gnotzheim and Theilenhofen – with the exception of the fort baths of Theilenhofen, which, however, are also not developed for tourism – the recognisable remains of the Limes near Gunzenhausen are a good choice, which are also already quite well developed for tourism. Along the route of the Limes runs an asphalted or at least well-trodden path, on which there is no road development or urban development. Signposts and site explanations give visitors a superficial introduction to the historical context. The museum of the town of Gunzenhausen, located in the town centre near the town hall, provides more in-depth knowledge. Important finds from the Roman period in the area, for example from the camp at Theilenhofen, are also presented there.

It is also interesting for the visitor to see the change in the way Rome's historical past has been dealt with since the 19th century. Signs and inscriptions from the German imperial period indicate the reception of a time when the Roman border was still interpreted as a linear defence system. One can also sense the change in the way the past was dealt with. Many of the towers that can still be explored or at least traced through excavations are no longer visible above ground. Even if this applies more to the route of the Limes to the west and east of Gunzenhausen, one can still speak of a specific prioritisation in Gunzenhausen at the beginning of the 20th century, when the Bismarck Tower was built from the stone wall of the Limes at the "Vorderer Schloßbuck" (cf. also the construction of the church in Theilenhofen from stones of the fort at the site also in the time before).

Today, on the other hand, one proceeds with the (also financially limited) means of a cautious, suggestive reconstruction. Thus palisades were erected at the section (as at another point east of Lake Dannelohe at WT 13/39 as a stone wall) also at the "Vorderer Schlossbuck", or three wall sections east of Lake Altmühl were indicated, as well as the foundation walls of the small fort at the "Hinterer Schloßbuck" and the guard posts WT 14/4 and WT 14/5. Furthermore, remains of the stone Limes can still be recognised on other sections as a rubble wall also east of the Altmühl and the built-up area of the town.

2.3. Architectural Structures

In the case of the Roman buildings primarily considered, i.e. WT 14/4 and the so-called small fort, only minor conclusions can be drawn in the latter case. The 20x20 m area has only been superficially investigated with regard to the internal buildings. We know of interior buildings made of wood and a central facility, where there is also a German Imperial period sign with the inscription *castrum Romanorum*. The relationship to the Gunzenhausen fort has not been solved.

In the case of WT 14/4, after excavation as late as 1980, reconstruction on the "Vorderer Schloßbuck" revealed a subsequently inserted intermediate wall inside, which cannot be easily explained¹⁶. Like others, the stone tower was built leaning against the wall. According to the inscription, the Bismarck Memorial was built from the stones of the wall there in 1901. As in other places – thus a typical picture that is often repeated and can therefore be regarded as exemplary for the entire Rhaetian Wall, which can be used to demonstrate many phases of construction, strategy and execution – the two-phase nature of the wall can also be demonstrated here, once the position and the course of the Limes had been reached with the reign of Hadrian. For here, too, we find a preceding wooden tower that can be accessed through the ditch. It is cut by the later stone wall. Thus the palisade wall (some wooden trunks reveal its course¹⁷) and the stone wall did not have exactly the same course, even if the strategy pursued remained the same. The passage in the Limes further west of the tower, which demonstrates the described character of the Limes as a "membrane", is also exemplary in the sense of a touristic utilisation.

The excavations in 1980 also proved that there is no connection between the tower and the so-called Alamannic rampart located there. Rather, the ring wall belongs to a different, namely prehistoric period.

2.4. The Most Important Finds and their Message

In addition to the described remains of Roman buildings (Limes wall, towers, forts) in situ, which are unfortunately only very rarely visible, but are remembered by information signs and reconstructive measures, individual finds are distributed among various museums. They are in the museums of Gunzenhausen (Museum of Prehistory and Early History) in the town centre, especially the finds in and near Gunzenhausen from Theilenhofen, further in the Archaeological State Collection in Munich and in the Germanic National Museum in Nuremberg two helmets, the equestrian helmet (Munich) and the infantry helmet (Nuremberg).

Furthermore, there are building inscriptions, approximately from the time of Antoninus Pius by the garrison of the cohort camp Gnotzheim, by the cohorts III Thracum civium Romanorum *equitata* to *torquata* with their commander, which have been incorporated with other inscriptions in the St. Michael in Gnotzheim. A soldier's fibula as well as a hoard find from the vicus of the fort of Gunzenhausen in the town area with the final date 241/3 CE have been found and are stored in the museum of Gunzenhausen.

¹⁶ Fischer/Riedmeier-Fischer 2008, 101 with fig. 60.

¹⁷ Fischer/Riedmeier-Fischer 2008, 29 fig. 7, 31, 101.

2.5. Surrounding Area

The course of the Limes, first to the north and after Gunzenhausen further to the southwest between WT 13/50 and 14/6, i.e. at the northernmost bulge of the Rhaetian Limes, includes the Franconian Jura and its easily controllable passes as well as the fertile Nördlinger Ries adjoining it to the south. Furthermore, the grouping of the forts and towers mentioned controls as far as possible the course of the Altmühl, which further to the south-east does not always lie within the Roman Empire, but is at least suitable for nearby supplies, today calculated for transports of up to 8 tons¹⁸. The Roman roads as well as the Altmühl valley are also secured as far as Gunzenhausen. This means that the strategically important areas as well as the fertile area to the north of it are part of the Roman Empire.

2.6. Literary sources

In addition to the building inscriptions mentioned above, which have survived for the Gnotzheim cohors-camp, the sentences of the historian Tacitus in his *Germania* (98 CE) offer some characteristics not so much of the Rhaetian Limes itself as of the area enclosed by the Upper Germanic and Rhaetian Limes: the so-called Decumatenland (*agri decumates*). In chapters 29 he describes the population of the Decumatenland, which was of various origins, and in chapter 41 the Germanic population beyond the Rhaetian Limes and north of the Danube, which included in particular the apparently privileged Hermunduri.

In the original it reads, chapt. 29:

non numeraverim inter Germaniae populos, quamquam trans Rhenum Danuviumque conserint, eos qui decumates agros exercent: levissimus quisque Gallorum et inopia audax dubiae possessionis solum occupavere; mox limite acto promotisque praesidiis sinus imperii et pars provinciae habentur.

This area between the upper reaches of the Rhine and the Danube, whose settlers Tacitus does not want to name individually, also because of their diverse origins, had previously been settled by the Celtic Helvetii. Oppida that were characteristic of Celtic settlement were more frequent in southern Germany until the first half of the 1st century BCE. Manching is a good example, where from the 1980s onwards a steady decline in settlement and at the end also a burnt horizon can be observed. In my opinion this belongs in the context of the extensive movements of the Germanic tribes from the Elbe region under the collective name of the Suebi, which can already be seen in Caesar's work and then also archaeologically. They drove the Helvetii first into the area around Basel, then also under Ariovist from this area – the reason for Caesar's expansion into the Gallic area with the known consequences.

After the expulsion of the Helvetii, whose remnants were later resettled in the Basel area by Caesar as a bulwark, the land in the Decumatenland, which was bordered by Vendilicia south of the upper course of the Danube – originally conquered in 19 BCE – was free of settlements, into which peoples of different provenance then seeped, according to Tacitus from Gaul

¹⁸ Kirchner/Zielhofer/Werther et al. 2018; Liebert 2015; Eckholdt 1980; Bremer 2001; Notes du général D 180.

because of the free availability or because of the hardship in their own country, they could cultivate the land and became part of the Roman Empire with the advancement of the border.

Chapt. 41:

et haec quidem pars Sueborum in secretiora Germaniae porrigitur: propior, ut, quo modo paulo ante Rhenum, sic nunc Danuvium sequar, Hermundurorum civitas, fida Romanis; eoque solis Germanorum non in ripa commercium, sed penitus atque in splendidissima Raetiae provinciae colonia. passim sine custode transeunt; et cum ceteris gentibus arma modo castraque nostra ostendamus, his domos villasque patefecimus non concupiscentibus. in Hermunduris Albis oritur, flumen inclutum et notum olim; nunc tantum auditur.

Beyond the Danube (from Regensburg), only the Hermunduri seem to have lived at first, with privileged access in trade and intermediate trade to the Roman Empire (Marcomanni and Quades then follow to the east (chapt. 42). The foreland to the Rhaetian Limes, on the other hand, does not seem to have been quite densely populated. At least there were trade and visitor traffic in both directions through the passages in the Limes, which was controlled by Roman troops.

Furthermore, there are documentary sources of the provincial administration of earlier and later times, but also of the life of soldiers in the legions, especially the cohortes and auxiliae and alae, but also of private individuals who formerly held high posts in the administration of Raetia, such as the former praeses provinciae of Raetia, Valerius Venustus¹⁹. This evidence comes from the entire period of Roman occupation south of the Rhaetian Limes, even after the retreat around 250 CE to the Danube-Ille-Rhine Limes.

3. Research History

150 years of excavation activity with the foundation of the Reichslimeskommission (German Imperial Limes Commission) can understandably not be summarised in a few lines, even if it were limited to the forts and the watchtowers in the area described and the actual excavation activity. Some research and excavation activities are already mentioned above. Additionally, a summary description of the history of research has to mention the fruitful activity of private initiative in the centuries before, which successively led to the identification of the Rhaetian Limes in its phases of formation and retreat.

Interest in the Limes, popularly known as the "Devil's Wall", dates back to the time of humanism in Germany, i.e. to the time when, through the rediscovery of the writings of antiquity (and this particularly includes Tacitus' Germania), those inhabitants of the Holy Roman Empire of the German Nation north of the Alps rediscovered their supposedly own "original Germanic", Germanic history, which could not only be demarcated against the hated heirs of Roman tradition, but whose alleged bearers even later overran the Roman Empire.

The first representative to describe the supposed Roman Limes at a land wall in Nassenfels in the district of Eichstätt in the context of the "Bayrisch Cronik" and in a work published in Latin

¹⁹ Riese 1914, no. 406-408; no. 425 (administration of earlier and later times), no. 1633, no. 1634; 1644 (of the cohortes), no. 1433 (of the alae and auxiliae), no. 1877a; no. 1880; no. 1881; no. 1896; no. 1906; no. 1934 (Evidence of troops originally stationed in Germania or south of the Danube), no. 2174 (from Zwiefalten in the Neckar region by Valerius Venustus, who had previously been praeses provinciae in Rhaetia).

until 1533, "Annales ducum Boiariae", also in its further course (although incorrectly dated), was Johannes Turmair (1477-1549), called Aventin. In the 17th/18th century, research resumed on a local basis. From the northernmost apex of the Rhaetian Limes in Gunzenhausen, the priest Christoph Wägemann correctly concluded that the Limes was the result of a long-term development. According to general opinion, Limes research really took off with Christian Ernst Hanßelmann. His investigations closed the gap between the Upper Germanic and Rhaetian Limes. In several stages, he dated the construction of the Limes, which he was the first to understand as a whole, most recently to a time between Augustus at the beginning of the 1st century and Maximian at the beginning of the 3rd century.

The contribution of Döderlein, a rector from Weißenburg in the first half of the 18th century, was that he was the first to trace and document the middle section of the Limes for his first Latin, then German Limes monograph. The local starting point of interest is also clear in the report of Abbot Werner of Weltenburg Monastery near Kehlheim, who reported on the eastern beginning of the Rhaetian Wall, as well as in the case of Professor Buchner of Regensburg, who lived until the 19th century and published his "Journey on the Devil's Wall" in 1818, and in the description of the Eichstätt city priest Dr. Mayer, who published his "Exact Description of the Roman Landmark Known by the Name of the Devil's Wall" by 1837. With him, the dating of the Limes to Hadrian as the end point of a multistage expansion was solidified.

Historical interest in the Limes continued to grow in the course of the 19th century, which was also marked by the emergence of historical associations and protection regulations on the part of the state. The Limes was also mapped precisely for the first time. But it was not until the unification of all the German states in 1871 in the German Empire that a supra-regional effort became possible, under the direction of the Reichslimeskommission in particular, which was decisively initiated by Theodor Mommsen in 1891. In a total of 15 volumes, "Der obergermanisch-rätische Limes des Römerreiches (ORL)", the old research and new excavations were published until 1939, when the Commission was dissolved.

During this time, the Limes was divided into its sections, which are still relevant today: The Upper Germanic Limes comprised Routes 1-10 (up to the Odenwald Limes), Routes 1-12 the part of the Rhaetian Limes in Baden-Württemberg and Routes 13-15 the Bavarian part. In these sections, the watchtowers (section 15, tower 1 = WT 15/1 ...), the Limes towers, were mapped individually. Volunteer excavators, route commissioners, were appointed for the routes.

The focus of the Reichslimeskommission until 1939 was on the Limes of the last expansion phase, while the Römisch-Germanische Kommission (Roman-Germanic Commission) in Frankfurt and the Spätromische Kommission (Late Roman Commission) of the Bavarian Academy in Munich and the branch offices of the Bayerischen Landesamt für Denkmalpflege (Bavarian State Office for the Preservation of Monuments) were responsible for the preliminary stages of the Upper Germanic-Rhaetian Limes from the Tiberian-Claudian period and for the retreat stage on the Danube-Ille-Rhine line. The district archaeologists of Kehlheim and Deggendorf and the city archaeologists of Straubing and Passau were responsible for the sections of the "wet Limes" to the east up to the Austrian border.

From the 1870s until the beginning of the 20th century, H. Eidam in particular was active in the excavations along the Limes for the towers and forts in the vicinity of Gunzenhausen²⁰. But even in the 1920s and 1930s, excavations and reports were still being made there on the basis

²⁰ For Gnotzheim e.g.: Eidam 1929; For Gunzenhausen: Eidam (Nr. 71) 1914; For Theilenhofen: Eidam (Nr. 71a) 1914.

of Eidam's excavations²¹. After the war, the Deutsche Limeskommission (German Limes Commission) and the Denkmalpflege devoted themselves in particular to research concentrated on single camps, until the first decade of the 21st century, but also the other institutions mentioned²². Anniversaries like the one in 1992 always offered the opportunity to take stock, also for the Rhaetian Limes and also in the sense of developing perspectives²³.

Especially, but not only, with the emergence of new scientifically supported investigation methods of aerial archaeology and geophysics, supraregional cooperation with powerful research institutions was necessary, some of which were and are to be found at universities such as Frankfurt, Würzburg, Erlangen-Nuremberg, Munich, Passau, often in cooperation with the prehistory and ancient history institutes there²⁴. And to this day, new evidence and findings are still emerging²⁵, even if not in the narrower area of Gunzenhausen. The vicus areas of the camps/forts at Gnotzheim, Gunzenhausen (most difficult there because of overbuilding) and Theilenhofen are most interesting to find, as has already been demonstrated²⁶. Furthermore, the development of the Limes is being traced in an increasingly differentiated manner²⁷ and concepts are being developed for communicating the Rhaetian Limes through reconstruction buildings and other forms of presentation²⁸.

In the run-up to the declaration of the Upper Germanic-Rhaetian Limes as a World Heritage Site in 2005, the Deutsche Limeskommission (German Limes Commission) was also established to coordinate research on the Upper Germanic-Rhaetian Limes. All these efforts, as well as the efforts to include the "wet border" of the Lower Germanic province and the river "border" along the Danube in the provinces of Raetia and east of it to the Black Sea in the Unesco World Heritage List, serve to protect the remains of the Roman heritage along these borders from the North Sea to the mouth of the Danube, which have already been damaged in many ways.

Just as research is recognisably conditioned by the political framework conditions, the research perspectives and the questions posed to the Limes are also determined by the prevailing political conditions. While research in the age of nation states in Europe tended to recognise

²¹ E.g. Gunzenhausen: Fabricius/Hettner/Sarwey (Strecke 14) 1933, 51; Gnotzheim: Fabricius/Hettner/Sarwey (Strecke 13) 1935, 54 ff.

²² For Gnotzheim: Ulbert/Fischer 1983, 70ff.; Schönberger 1985, 472ff.; Braun/Fischer/Grabsch 1992, 41; Czysz/Dietz/Fischer et.al 1995, 448f.; Baatz 2000, 277; Fischer/Riedmeier-Fischer 2008, 98. – For Gunzenhausen: Ulbert/Fischer 1983, 69f., 117; Schönberger 1985, 486; Braun/Fischer/Grabsch 1992, 41f.; Czysz/Dietz/Fischer et.al 1995, 456; Baatz 2000, 282. – For Theilenhofen: Schönberger 1985, 472; Ulbert/Fischer 1983, 74ff.; Czysz/Dietz/Fischer et.al 1995, 522f.; Baatz 2000, 284f.; Grönke 2005, 103-132; Fischer/Riedmeier-Fischer 2008, 105.

²³ Limes Sonderheft 1992 with contributions of Rainer Braun, Geschichte der Reichs-Limes-Kommission und ihre Forschungen, 9-32 (=Braun 1992); Claus-Michael Hüssen, Grabungen und Forschungen der letzten 40 Jahre im obergermanischen und rätischen Limesgebiet, 33-70 (=Hüssen 1992); Siegmund von Schnurbein, Perspektiven der Limesforschung, 71-88 (=von Schnurbein 1992); Dieter Plank, Der obergermanische-rätische Limes - Eine Aufgabe der Landesarchäologie, 89-98 (=Plank 1992).

²⁴ On the latest results from geophysical and aerial surveys see e.g. Valenta 2015, 377-383 and Kerscher/Krieger 2015, 385-394, both contributions in: Ber. Bayer. Bondendenkmalpflege 2015.

²⁵ Pircher 2017, 392-402.

²⁶ Mischka/Obmann/Faßbinder 2015, especially about Theilenhofen and Gnotzheim, 333-338, with Evidence on the settlement size of the camp villages; these new conclusions are also reflected in Matešić/Sommer 2015: Ramstetter 2015, 100-103; Ramstetter 2015a, 104-107; Sulk 2015, 108-111.

²⁷ For the closer and revised dating of the development of the Rhaetian Limes: Sommer 2011, 137-180; Sommer 2015, 321-328; Sommer 2018, in the first chapter: Recent Research on the Rhaetian Limes, especially 19-46. New impulses on the dating of the watchtowers are brought forward by Krieger 2018, 854-860.

²⁸ Becker/Obmann 2015, 409-443.

the dividing, linear aspects of the Roman border, research in the 1990s increasingly emphasised the communicative function of the Limes both along the river courses and at the advanced land fortifications. This perspective has tended to strengthen over the last 1.5 decades. It is not denied that the demarcation function gained the upper hand, especially in intensified phases of conflict from the end of the 2nd century onwards. But it is also recognised that the Limes over land and along the river courses also fulfilled a task of communication control and – as far as the river courses are concerned – also of faster communication and better transport. Along the land borders, too, specially constructed roads were not only built to relocate troops, but were also used for communication and transport. In my opinion, the term "membrane function" is apt, which appropriately encompasses both the separating and the flexible communicative, but also the ventilating function of the Limes in its history.

4. Considerations for Touristic Exploitation

4.1. Practical Information

Closest urban community / city	Gunzenhausen
Ownership	100 % public % private
Limits of use of or activities at the site (e.g. due to the presence of strategic complexes, factories, companies, military etc.)	<input type="checkbox"/> yes <input checked="" type="checkbox"/> no If yes, please describe.
Access to the site (<i>multiple choices possible</i>)	<input checked="" type="checkbox"/> open to the public <input type="checkbox"/> controlled <input type="checkbox"/> entry fee <input type="checkbox"/> closed to the public <input type="checkbox"/> restricted (e.g. only on request, in summer time etc.) <input type="checkbox"/> others. Please describe:
Site connected to modern road network and public transport	Road network: <input checked="" type="checkbox"/> yes <input type="checkbox"/> no Parking available: <input checked="" type="checkbox"/> yes <input type="checkbox"/> no Public transport: <input checked="" type="checkbox"/> yes <input type="checkbox"/> no Further connected via: <input checked="" type="checkbox"/> bicycle routes <input type="checkbox"/> ship cruises <input type="checkbox"/> others. Please indicate: Please give a short itinerary: The archaeological site is directly located in the town centre of Gunzenhausen.

Tourist and visitor infrastructure available	<input checked="" type="checkbox"/> yes <input type="checkbox"/> no
Tourist and visitor infrastructure planned	<input type="checkbox"/> yes <input type="checkbox"/> no
If there is an entrance fee to the site, indicate prices.	

4.2. Presentation of the Site

Site visualisation, presentation and conservation on-site	<input type="checkbox"/> physical reconstructions for presentation <input type="checkbox"/> virtual reconstructions for presentation <input checked="" type="checkbox"/> open air presentation <input type="checkbox"/> protections structures for architectural remains <input checked="" type="checkbox"/> museum <input checked="" type="checkbox"/> information boards <input type="checkbox"/> audio guides <input checked="" type="checkbox"/> guided tours <input type="checkbox"/> others. Please describe:
Service	<input type="checkbox"/> souvenir shop <input checked="" type="checkbox"/> restaurant <input type="checkbox"/> others. Please describe:
Festivals and events held on-site in the past. Please list.	
Future festivals and events planned to be organised on-site. Please list.	
Media appearance (please list past and upcoming TV/radio broadcasts, newspaper articles etc.)	
Social media appearance	

5. Protection

Potential threats caused by nature and human	
Existing Cultural Property Protection (CPP) strategies and emergency plans	<input type="checkbox"/> yes <input checked="" type="checkbox"/> no If yes, please list and describe them:
Existing cooperation with Emergency Responders (military, firefighters, civil protection etc.)	<input type="checkbox"/> yes <input checked="" type="checkbox"/> no If yes, please list and describe them:

6. Further Practical Information

6.1. International Cooperation

EU funded projects	
Research projects	
International schools / camps	
Other types of partnership	

6.2. Information Relevant for Further Living Danube Limes Project Activities

Possibility to berth the LDL ship at the end of the project	<input checked="" type="checkbox"/> yes <input type="checkbox"/> no
Site accessibility for visitors 2020-2022	<input checked="" type="checkbox"/> accessible <input type="checkbox"/> not accessible <input type="checkbox"/> not known
Site availability for public LDL events and project activities	<input checked="" type="checkbox"/> yes <input type="checkbox"/> no

7. Bibliography

Baatz 2000

D. Baatz, Der römische Limes. Archäologische Ausflüge zwischen Rhein und Donau (Berlin 2000).

Becker/Obmann 2015

Th. Becker/J. Obmann, Neubauten am Limes. In: Bericht der Bayerischen Bodendenkmalpflege. 56, 2015, 409-443.

Ber. Bayer. Bodendenkmalpflege 2015

Bericht der Bayerischen Bodendenkmalpflege 56, 2015.

Braun 1992

R. Braun, Geschichte der Reichs-Limes-Kommission und ihre Forschungen. In: Der Römische Limes in Deutschland, Archäologie in Deutschland. Sonderheft 1992, 9-32.

Braun/Fischer/Grabsch 1992

R. Braun/Th. Fischer/ J. Grabsch, Der römische Limes in Bayern. 100 Jahre Limesforschung. Ausstellungskatalog zur Ausstellung der Prähistorischen Staatssammlung München, Museum für Vor- und Frühgeschichte in Verbindung mit dem historischen Verein für Mittelfranken vom 24. Mai bis 26. Juli 1992 in Dinkelsbühl, vom 1. August bis 4. Oktober 1992 in Weißenburg i. Bay. und von März bis November 1993 im Burgmuseum Grünwald (München 1992).

Breeze/Jilek/Thil 2005

D. J. Breeze/S. Jilek/A. Thil, *Frontiers of the Roman Empire/Grenzen des Römischen Reiches/Fronières de l' Empire Roman* (Edinburgh/Esslingen/Wien 2005).

Bremer 2001

E. Bremer, *Die Nutzung des Wasserweges zur Versorgung der römischen Militärlager an der Lippe* (Münster 2001).

Czysz/Dietz/Fischer et.al 1995

W. Czysz/K. Dietz/Th. Fischer et.al, *Die Römer in Bayern* (Stuttgart 1995).

Eckholdt 1980

M. Eckholdt, *Schiffahrt auf kleinen Flüssen Mitteleuropas in Römerzeit und Mittelalter*. *Schriften des Deutschen Schiffahrtsmuseums* 14 (Hamburg, Oldenburg, München 1980).

Eidam (Nr. 70) 1929

H. Eidam, Nr. 70: *Das Kastell Gnotzheim*. In: E. Fabricius/F. Hettner/O. von Sarwey (ed.), *Der Obergermanisch-Rätische Limes des Römerreiches*. Abteilung B Kastelle, vol. 6: Nr. 63-70 (Berlin, Heidelberg, Leipzig 1929).

Eidam (Nr. 71) 1914

H. Eidam, Nr. 71: *Das Kastell Gunzenhausen*. In: E. Fabricius/F. Hettner/O. von Sarwey (ed.), *Der Obergermanisch-Rätische Limes des Römerreiches*. Abteilung B Kastelle, vol. 7: Nr. 71-75 (Berlin, Heidelberg, Leipzig 1914).

Eidam (Nr. 71a) 1914

H. Eidam, Nr. 71a: *Das Kastell Theilenhofen*. In: E. Fabricius/F. Hettner/O. von Sarwey (ed.), *Der Obergermanisch-Rätische Limes des Römerreiches*. Abteilung B Kastelle, vol. 7: Nr. 71-75 (Berlin, Heidelberg, Leipzig 1914).

Fabricius/Hettner/Sarwey (Strecke 13) 1935

E. Fabricius/F. Hettner/O. von Saarwey (ed.), *Der Obergermanisch-Rätische Limes des Römerreiches*. Abteilung A Strecken, vol. 6: Strecken 12-13 (Berlin, Heidelberg, Leipzig 1935).

Fabricius/Hettner/Sarwey (Strecke 14) 1933

E. Fabricius/F. Hettner/O. von Saarwey (ed.), *Der Obergermanisch-Rätische Limes des Römerreiches*. Abteilung A Strecken, vol. 7: Strecken 14-15 (Berlin, Heidelberg, Leipzig 1933).

Fischer/Riedmeier-Fischer 2008

Th. Fischer/E. Riedmeier-Fischer, *Der römische Limes in Bayern. Geschichte und Schauplätze entlang des UNESCO-Welterbes* (Regensburg 2008).

Fischer 2014

Th. Fischer, *Die Armee der Caesaren*. *Archäologie und Geschichte* (Regensburg 2014).

Flügel 2015

Christof Flügel, *Interpretation Frameworks. Besucherorientierte strategische Vermittlungsarbeit am Limes in Deutschland und Österreich*. In: *Sonius*. *Archäologische Botschaften aus Oberösterreich* 18, 2015/16, 19-22.

Flügel/Kuttner 2016

Ch. Flügel/E. Kuttner, *Danube Limes Interpretation Framework (DLIF) for Austria and Bavaria*. *The Danube Frontier: Frontline and Stronghold of the Roman Empire* (München/Enns 2016).

Grönke 2005

E. Grönke, Die Fibeln vom Gebiet der römischen Kastelle und des Vicus in Theilenhofen Lkr. Weißenburg Gunzenhausen. In: Bayerische Vorgeschichtsblätter 70, 2005, 103-132.

Herrmann o.J.

F.-R. Herrmann, Das römische Kastellbad von Theilenhofen, München o.J., 28-31.

Hüssen 1992

C.-M. Hüssen, Grabungen und Forschungen der letzten 40 Jahre im obergermanischen und rätischen Limesgebiet. In: Der Römische Limes in Deutschland, Archäologie in Deutschland. Sonderheft 1992, 33-70.

Kerscher/Krieger 2015

H. Kerscher/E. Krieger, Zur Erfassung des Raetischen Limes und seiner Wachtürme mit Hilfe von Airborne Laserscan-DGM-Daten. In: Bericht der Bayerischen Bodendenkmalpflege 56, 2015, 385-394.

Kirchner/Zielhofer /Werther et al. 2018

A. Kirchner/C. Zielhofer/L. Werther et al., A multidisciplinary approach in wetland geoarchaeology. Survey of the missing southern canal connection of the Fossa Carolina (SW Germany). Quaternary International 2017, 473, 2018, 3-20.

Krieger 2018

E. Krieger, Erste Ergebnisse zu den Wachtürmen am Rätischen Limes. In: S. Matešić/C. S. Sommer (ed.), Limes XXIII. Proceedings of the 23rd international Congress of Roman Frontier Studies Ingolstadt 2015/Akten des 23. Internationalen Limeskongresses in Ingolstadt 2015. Beiträge zum Welterbe Limes Sonderband 4/II (Mainz 2018), 854-860.

Liebert 2015

T. Liebert, Frühmittelalterliche Wassermühlen und Wasserbauwerke im Schwarzachtal bei Großhöbing. Materialhefte zur bayerischen Archäologie 101 (Kallmünz 2015).

Limes Sonderheft 1992

Der Römische Limes in Deutschland, Archäologie in Deutschland. Sonderheft 1992.

Mackensen 2020

M. Mackensen, Neue Festungsbauten an der nassen Grenze von Konstanz bis Passau. Der spätrömische Limes in den Provinzen Raetia Prima et Secunda. In: Der Limes 14/1, 2020, 29-33.

Matešić/Sommer 2015

S. Matešić/C.S. Sommer (ed.), Am Rande des Römischen Reiches. Ausflüge zum Limes in Süddeutschland. Beiträge zum Welterbe Limes. Sonderband 3 (Landshut 2015).

Matešić/Sommer 2018a

S. Matešić/C. S. Sommer (ed.), Limes XXIII. Proceedings of the 23rd international Congress of Roman Frontier Studies Ingolstadt 2015/Akten des 23. Internationalen Limeskongresses in Ingolstadt 2015. Beiträge zum Welterbe Limes Sonderband 4/I (Mainz 2018).

Matešić/Sommer 2018b

S. Matešić/C. S. Sommer (ed.), Limes XXIII. Proceedings of the 23rd international Congress of Roman Frontier Studies Ingolstadt 2015/Akten des 23. Internationalen Limeskongresses in Ingolstadt 2015. Beiträge zum Welterbe Limes Sonderband 4/II (Mainz 2018).

Mischka/Obmann/Faßbinder 2015

C. Mischka/J. Obmann/J. W. E. Faßbinder, Geophysikalische Prospektion der Zivilsiedlungen am Raetischen Limes in Bayern – Ergebnisse bis 2014. In: Bericht der Bayerischen Bodendenkmalpflege 56, 2015, 329-376.

Notes du général D 1801

1801, Notes du général D... sur un canal qui joindrait le Rhin au Danube. Gazette nationale, ou, Le moniteur universel, 1801, 624–626.

<<https://archive.org/details/gazettenationale18011panc/page/624>> [10. Januar 2021].

Pircher 2017

St. Pircher, Ripa Danuvii Raetiae et Norici. Eine kritische Beurteilung des Donaulimes in Bayern und Österreich [M. A. thesis Univ. Innsbruck 2017]

Plank 1992

D. Plank, Der obergermanische-rätische Limes - Eine Aufgabe der Landesarchäologie. In: In: Der Römische Limes in Deutschland, Archäologie in Deutschland. Sonderheft 1992, 89-98.

Ramstetter 2015

K. Ramstetter, Gnotzheim. In: S. Matešić/C.S. Sommer (ed.), Am Rande des Römischen Reiches. Ausflüge zum Limes in Süddeutschland. Beiträge zum Welterbe Limes (Landshut 2015), 100-103.

Ramstetter 2015a

K. Ramstetter, Gunzenhausen. In: S. Matešić/C.S. Sommer (ed.), Am Rande des Römischen Reiches. Ausflüge zum Limes in Süddeutschland. Beiträge zum Welterbe Limes (Landshut 2015), 104-107.

Riese 1914

A. Riese, Das Rheinische Germanien in den antiken Inschriften (Berlin 1914).

von Schnurbein 1992

S. von Schnurbein, Perspektiven der Limesforschung. In: Der Römische Limes in Deutschland, Archäologie in Deutschland. Sonderheft 1992, 71-88.

Sommer 2015

C.S. Sommer, Raetia – Rise and Development of the Military Province from the First to the Third Century AD, im ersten Kapitel: Recent Research on the Rhaetian Limes. In: S. Matešić/C. S. Sommer (ed.), Limes XXIII. Proceedings of the 23rd international Congress of Roman Frontier Studies Ingolstadt 2015/Akten des 23. Internationalen Limeskongresses in Ingolstadt 2015. Beiträge zum Welterbe Limes Sonderband 4/II (Mainz 2018), p. 19-70.

Sommer 2011

C.S. Sommer, Trajan, Hadrian, Antoninus Pius, Marc Aurel ...? – Zur Datierung der Anlagen des Raetischen Limes. In: Bericht der Bayerischen Bodendenkmalpflege 5, 2011, 137-180.

Sommer 2015

C.S. Sommer, Trajan, Hadrian Antoninus Pius, Marc Aurel ... ? Ein Nachtrag zur Datierung der Anlagen des Raetischen Limes. In: Bericht der Bayerischen Bodendenkmalpflege 56, 2015, 321-328.

Schönberger 1985

H. Schönberger, Die römischen Truppenlager der frühen und mittleren Kaiserzeit zwischen Nordsee und Inn. In: Ber.RGK 66, 1985 (1986), 321-497.

Sölter 1981

W. Sölter (ed.), Das römische Germanien aus der Luft (Bergisch-Gladbach 1981), Jochen Garbsch for Raetia and Noricum, 26-67.

Sulk 2015

S. Sulk, Theilenhofen. In: S. Matešić/C.S. Sommer (ed.), Am Rande des Römischen Reiches. Ausflüge zum Limes in Süddeutschland. Beiträge zum Welterbe Limes (Landshut 2015), 108-111.

Ulbert/Fischer 1983

G. Ulbert/Th. Fischer, Der Limes in Bayern von Dinkelsbühl bis Eining (Stuttgart 1983).

Valenta 2015

J. Valenta, Prospektionen am Limes: Moderne Methoden und alte Karten zusammengebracht. In: In Bericht der Bayerischen Bodendenkmalpflege 56, 2015, 377-384

Zsolt 2011: V. Zsolt (ed.), Romans on the Danube. The Ripa Pannonica in Hungary as a World Heritage Site/Rómaika a Dunánál. A Ripa Pannonica Magyarországon mint világörökségi helyszín (Pécs 2011).

Frontiers of the Roman Empire 2018

Frontiers of the Roman Empire – The Danube Limes, Vol. I – Nomination file chapters 1-9. World Heritage Nomination, Austria, Germany, Hungary, Slovakia (Sz.K. Stúdió Ltd. 2018).

Additional information provided by:

Donaulimes: Strategischer Vermittlungsplan/Interpretation Framework (DLIF) about the Donaulimes in Austria and Bavaria, esp. 34-55 German region.