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NOVEL ARCHAEOBOTANICAL INSIGHTS AND NEW AMS C14 DATING FROM THE SANCTUARY OARȚA DE SUS-GHIILE BOTII (MARAMUREȘ COUNTY, ROMANIA)

Abstract: The Oarța de Sus-Ghiile Botii archaeological site offers a comprehensive view into the ritual and agricultural practices of the Middle Bronze Age Wietenberg II and III cultures. Located in a strategically significant hilly terrain, the site consists of a unique sanctuary characterized by a circular ditch, numerous pits, and an external trench likely purposed for defence. Among the artefacts found in pits are ceramics, metal objects, osteological remains, but also an impressive quantity of charred seeds.

Two pits offer particularly compelling data. Pit no. 18 contained 3.486 kg of carbonized seeds, and 10 % of whole sample was *Claviceps purpurea* (ergot), a potentially lethal harvest season. Pit no. 22, which also yielded the skeleton of a 4-year-old infant, contained a massive 10.590 kg of collected material. The charred grains from both pits are believed to have been burned intentionally, likely as ritualistic offerings. Such practices resonate with the broader religious and cultural contexts of the Bronze Age, specifically within the Wietenberg culture. They reflect a range of potential ritualistic intentions- from spiritual communication and purification to symbolic remembrance - thereby greatly enhancing our understanding of the socio-cultural and spiritual life of the communities inhabiting the region during the Bronze Age.

Keywords: Bronze Age, charred seeds, Oarța de Sus, pits, sanctuary.

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INTRODUCTION

This article aims to examine the charred vegetal macroremains from Oarța de Sus- *Ghiile Botii*, focusing on the detailed analyses of Pit no. 18 and Pit no. 22¹. We concentrated on the specie identification and their potential significance in ritualistic practices, contextualizing these discoveries within the broader religious and cultural landscape of the Bronze Age Wietenberg culture. We hope to shed light on the possible meanings behind these ancient practices and offer a more nuanced understanding of life during this period of paste communities.

The *Ghiile Botii* site, serves as a remarkable testimony to the evidences of the Middle Bronze Age, particularly as it relates to the Wietenberg II and III

¹ KACSO 2011, 408; KACSO 2013, 111; KACSO 2015, 428; KACSO 2020, 123-124.

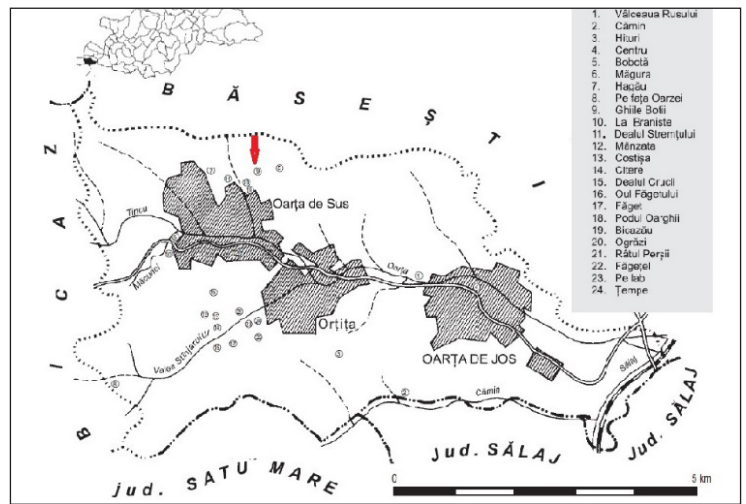
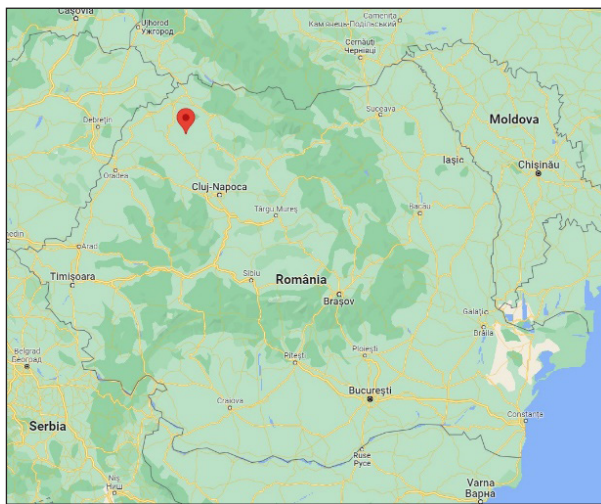


Fig. 1. Site location on the map Romania (left map is generated by Google maps). Map of Oarța Village (right map is apud KACSO 2015/II, 48).

cultures. Discovered during a surface survey in 1979 the site has been subjected to extensive archaeological excavations in the next years that have revealed an array of intriguing features, including a sanctuary comprising a circular trench, a multitude of pits, and a secondary defensive trench².

In many of the ritual pits at Oarța de Sus-*Ghiile Botii*, specific quantities of charred seeds have been found. So far, the collected material analysed, revealed multiple species of wheat and barley³. Remarkably, these charred seeds often appear together with stone grinders. This isn't coincidental; the same pattern appears in Bronze Age burial sites in northern Transylvania, such as Lăpuș and Libotin, showing the practice of ritual grinding⁴.

This ritual is known in different times and across a wide area⁵. Similarly, various kinds of ritual ditches, some simple and some more complex, are found in many places and periods, including the cult site at Oarța de Sus.

These rituals are often part of a bigger ceremony and may include sacrifices. The practice of grinding is just one example. Some rituals are hard to identify today, while others, like the funeral feast, are inferred or proven. All of these practices help us understand the beliefs and rituals of the Bronze Age communities in the eastern Carpathian Basin. The grinding ritual, for instance, indicates that these communities were part of larger, Indo-European religious practices⁶.

GEOGRAPHICAL LOCATION

The village of Oarța de Sus is located in the South-West of Maramureș County, at the foot of Măgura Hill, part of the Codru Ridge (Făgetului). Spanning an area of 1359 hectares, the village stretches along three valleys: Valea Măgurii, Valea Perilor, and Valea Bobotii. Neighboring localities include Orțița to the east and southeast, Stremț to the north, Bicz commune to the west, and the villages of

Giurlatecul Hododului and Hodod (Satu Mare County) (Fig. 1) to the south⁷.

SITE DESCRIPTION

Oarța de Sus- *Ghiile Botii* is an archaeological site located near the village of Oarța de Sus in Maramureș County, Romania. The site is situated in a hilly area, in the northern region of the country, close to the Eastern Carpathians. *Ghiile Botii* is about 1.5 kilometers north of Oarța de Sus, bordering the locality of Stremț. The site can be traced back to the Middle Bronze Age, with most of its structures and artifacts aligned with the Wietenberg II culture, although some are linked to Wietenberg III⁸. Its location in a hilly area suggests it was strategically chosen, offering a good vantage point over the surroundings (Fig. 2). This can be considered within the defensive or cultural systems of the time. Even though the *Ghiile Botii* hill is not the highest in the area, it offers perfect visibility in all directions. Its southern and western slopes are steep, while the northern and northwestern ones are gentler; towards the east, it connects through a long, relatively wide saddle to Bobota Hill⁹.

SITE HISTORY

The site was discovered during a surface survey by researcher Carol Kacso in 1979, along with G. M. Iuga. Between 1980 and 1985, as well as in 1990, extensive archaeological excavations were carried out, which partially uncovered a unique Wietenberg sanctuary¹⁰. This consists of a circular trench and a large number of pits of various sizes located both within and outside the trench. Some are near it, while others are farther away. The excavations also indicated the existence of another trench outside the central arrangement, which likely was part of the site's defence system, as was a large embankment (Fig. 3). Both the central trench and nearby pits served as deposition sites for human

² KACSO 2011, 411.

³ KACSO 2004, 60; CARCIUMARU 1996, 93.

⁴ KACSO 2004, 61.

⁵ KACSO 2004, 61.

⁶ KACSO 2004, 61.

⁷ https://ro.wikipedia.org/wiki/Oar%C8%9Ba_de_Sus,_Maramure%C8%99 (accessed 20.09.2023)

⁸ KACSO 2020, 124.

⁹ KACSO 2020, 123.

¹⁰ KACSO 2013, 111; KACSO 2015, 428, 43. KACSO 2020, 124;



Fig. 2. Oarța de Sus-Ghiile Botii Hill (apud KACSÓ 2013, 127 photo C. Kacso).

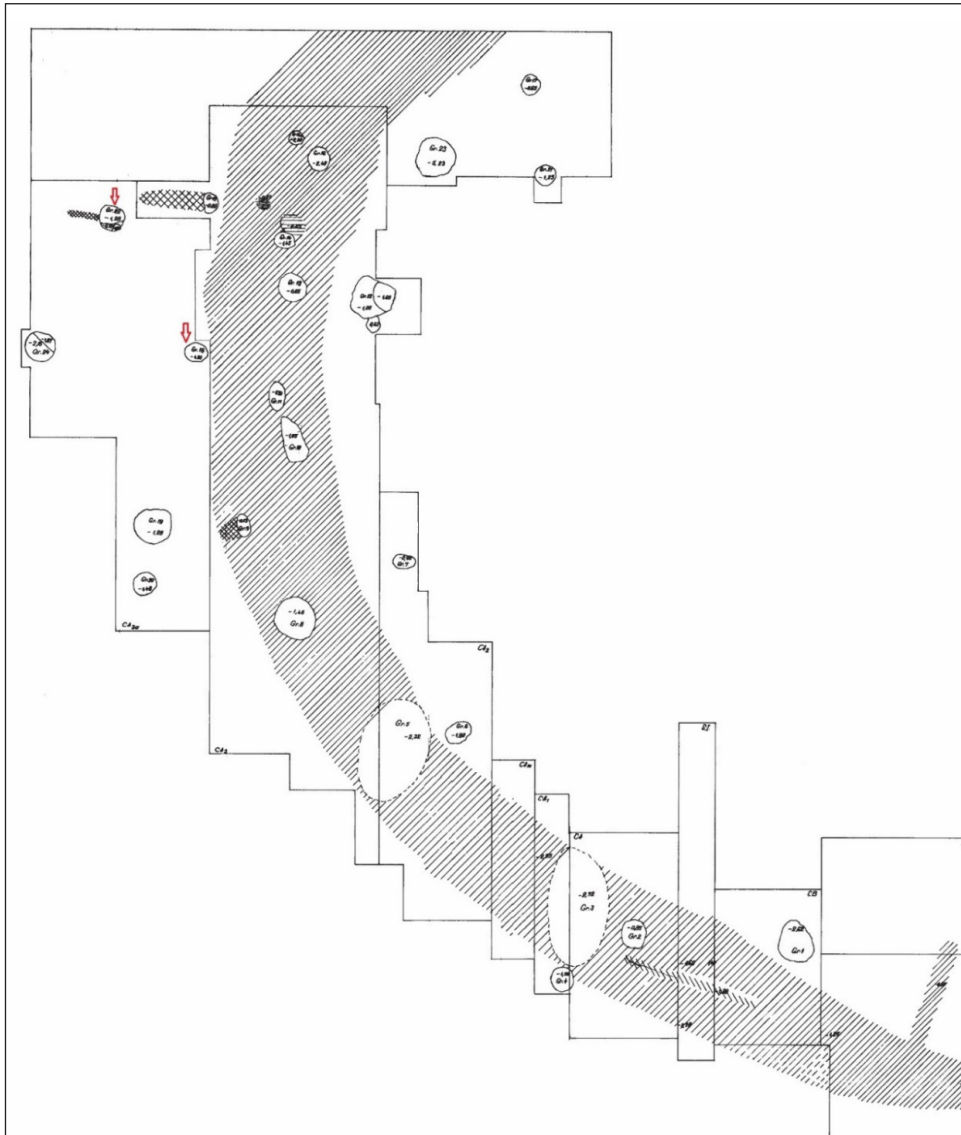


Fig. 3. Oarța de Sus-Ghiile Botii. Plan of the Cultic trench (apud KACSO 2020, 125).

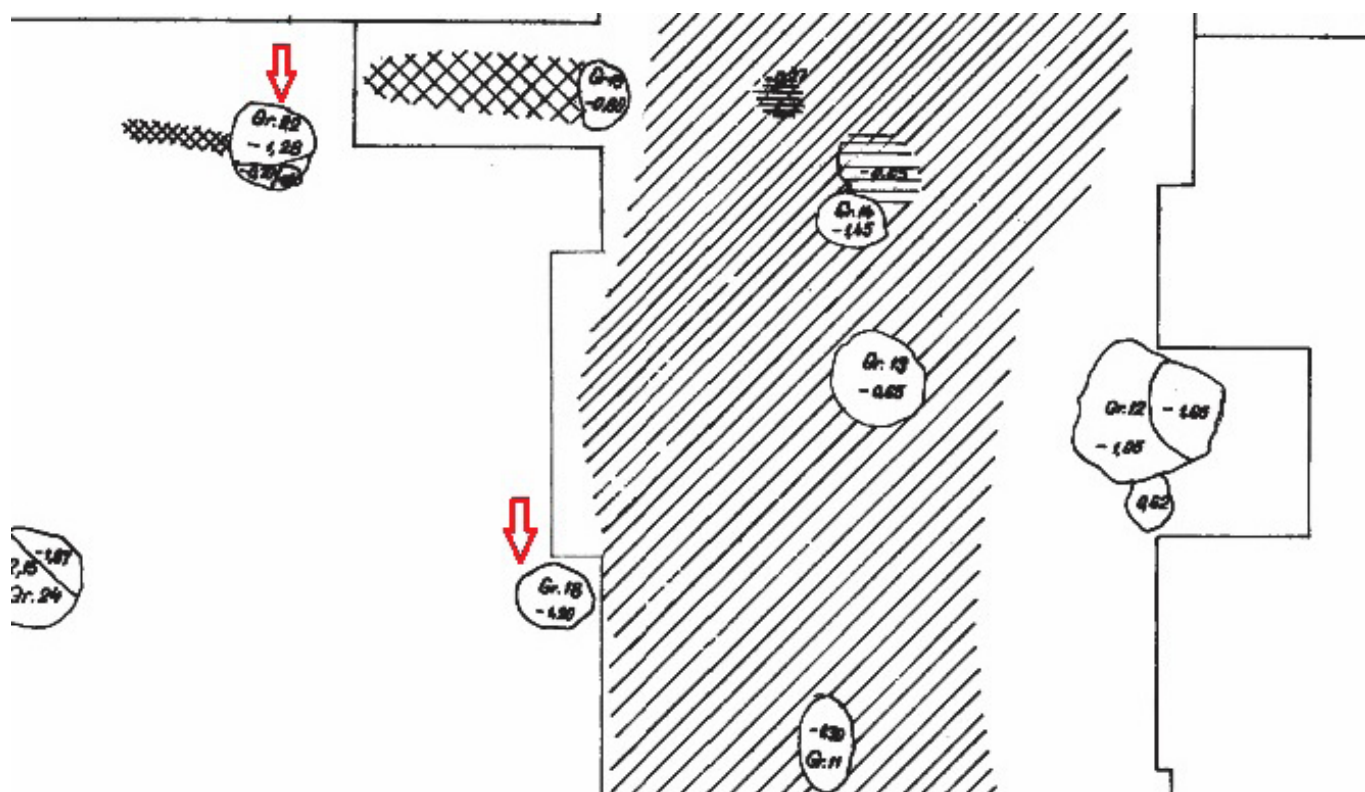


Fig. 4. Detail with pits 18 and 22 on the plan (crop from trench plan from fig. 3/apud KACSO 2020, 125).



Fig. 5. Oarta de Sus- *Ghiile Botii* sanctuary. View to the hill (apud KACSO 2015/II, 206).

and animal offerings, along with a rich and diverse inventory of ceramics, metal objects (bronze, gold, silver), casting molds, other items related to bronze casting, and pieces of bone, horn, stone, and fired clay¹¹.

The sanctuary likely operated continuously over an extended period, in two distinct chronological stages corresponding to phases two and three of Wietenberg

culture evolution (Fig. 5). All the cult pits detected belong to the Wietenberg II phase, while Wietenberg III remains were found only in the upper, yet substantial, fill of the cult trench and the fill of the outer trench¹².

Archaeological research at *Ghiile Botii* offers significant contributions to attempts of reconstructing the belief systems and cult practices of Bronze Age communities

¹¹ KACSO 2015, 428.

¹² KACSO 2015, 428.

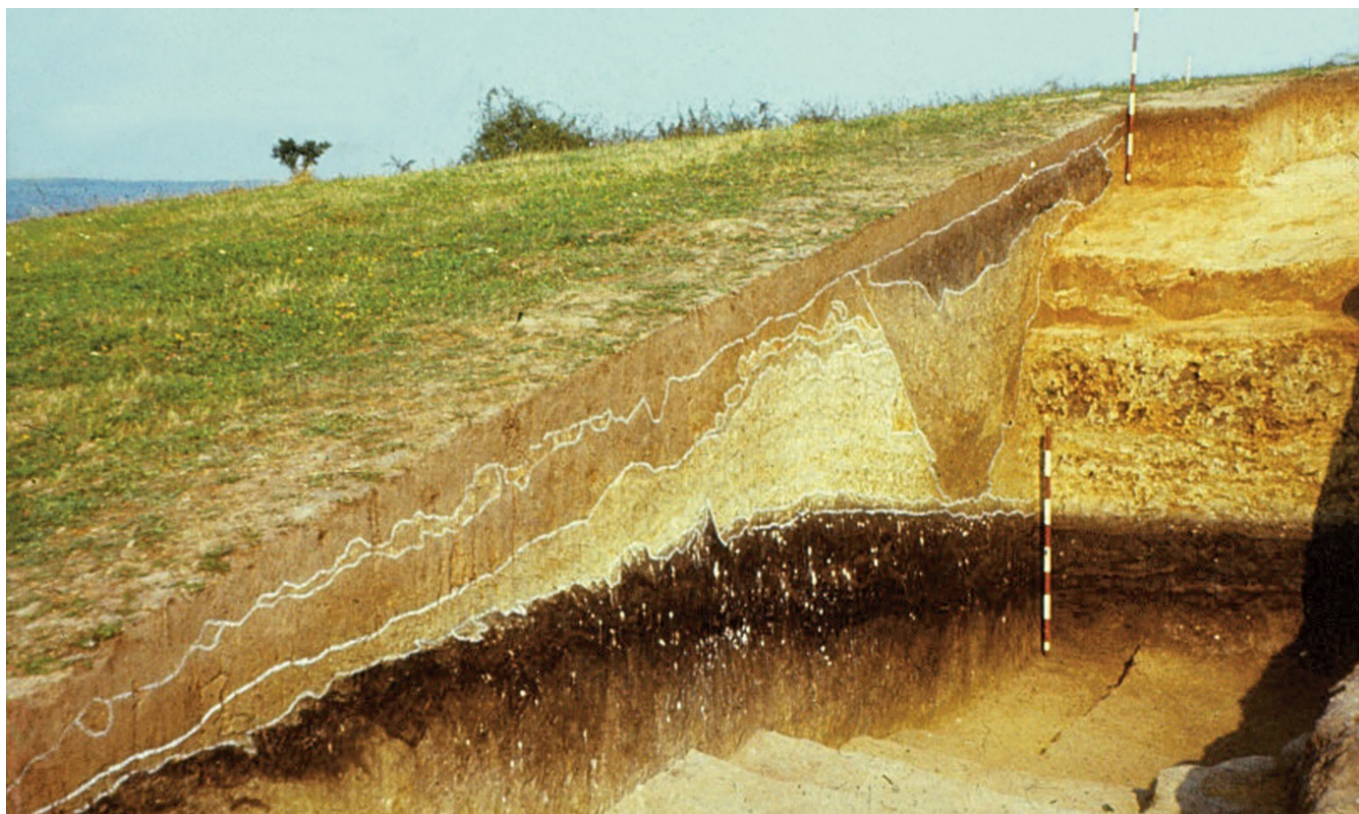


Fig. 6. Oarta de Sus-Ghiile Botii. Cultic trench profile: stage 1985 (apud KACSO 2020, 126).

in the eastern Carpathian Basin, which, as evidenced by the cult trench practice (Fig. 6) were part of a religious system indigenous to Indo-European peoples¹³.

ARCHAEOBOTANICAL DATA AND C14

Old Analyses

In several of the cult pits, varying amounts of charred seeds of wheat, barley, and others were present. The species *Triticum dicocum*, *Triticum monococum*, *Triticum aestivum*, *Hordeum vulgare*, *Hordeum vulgare nudum*, etc., were identified¹⁴.

Few charred seeds from pit no. 22 were used as samples for chronological determinations based on C14. At

the Lyon laboratory (analysis Ly-9190), a C14 date of 3265 +/- 30 BP was obtained, calibrated date of 1610-1445 BC, with a maximum probability of 1589 – 1518 – 1469 BC. At the Berlin laboratory (analysis Bln-5626), a C14 date of 3507 +/- 37 BP was obtained, calibrated date of 1890 – 1750 BC (probability 68.2%), 1930-1730 BC (probability 93.8%), 1710-1690 BC (probability 1.6%)¹⁵. Although performed on identical samples from the same context (Fig. 7), the analyses led to significantly different dating¹⁶.

Researcher Marin Cârciumaru has formerly analysed paleobotanical samples containing burnt seeds from the *Oarta de Sus-Ghiile Botii* site. Over the course of three campaigns: 1980, 1981, 1984. The results were published in his 1996 book

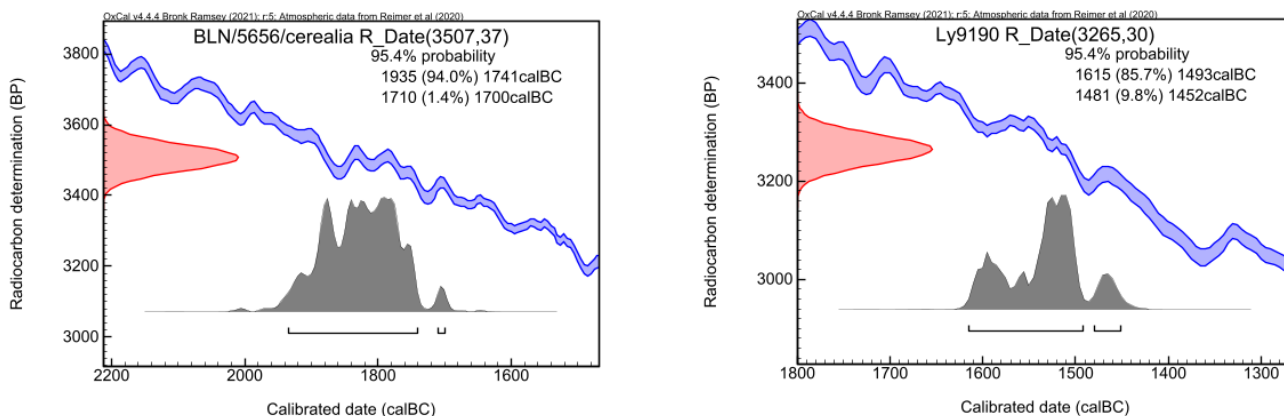


Fig. 7. Previous C14 data for Pit 22 (Berlin and Lyon results /simulation with Ox Cal online program).

¹³ KACSO 2015, 429.

¹⁴ CARCIUMARU 1996, 93; KACSO 2011, 432; KACSO 2015, 412.

¹⁵ KACSO 2011, 432; KACSO 2015, 412.

¹⁶ KACSO 2011, 432 ; KACSO 2015, 412.

Paleoethnobotany¹⁷. As he mentions, the archaeological research from 1981 led to the discovery of other samples of charred seeds, among which the predominant species is barley (96.4%), followed by *Triticum dicoccum* (2.6%). In 1984, other charred seeds were discovered at Oarța de Sus. The analysis of these seeds revealed the presence of multiple species of grains cultivated by people of that time. From about 5 kg, 575 specimens were identified. The main species identified were: *Triticum monococcum* (0.9%), *Triticum dicoccum* (22.5%), *Triticum aestivum* (7.3%), *Triticum cf durum* (0.9%), *Triticum spelta* (11.8%) *Hordeum vulgare* (43.2%), and *Hordeum vulgare nudum* (0.2%), *Secale cereale* (0.2%). Also identified were seeds of other ruderal-segetal plants such as *Chenopodium* sp (12%), *Galium* cf. *spurium* (0.2%), *Poa* sp (0.5%), and *Rumex* cf. *acetosa* (0.3%). Given that only a small fraction of the 5 kg of material consisted of seeds, the majority being burnt soil, ash, and pebbles, as well as the fact that they were discovered in a pit where all kinds of debris were thrown, we can assume that the majority of the species are due to this cause and do not represent the grain components of the area. This means that the pit collected residues from the threshing of grains from multiple lots¹⁸.

ARCHAEOBOTANICAL DATA AND AMS DATING C14 (INEDITED DATA)

The samples containing burnt seeds which are the subject of this article were originally collected during archaeological campaigns of 1984 and 1985. These were brought to me at the end of 2017¹⁹. Surprisingly, they were in excellent condition, considering they were sampled more than 30 years ago. This can be attributed to the fact that they were carefully placed in paper bags, which were then stored in cardboard boxes and kept in a dry environment, thus preserving them exceptionally well.

AMS ¹⁴ C Lab Code	Sample prep. Nr.	Sample ID/name	Sample material	Conventional ¹⁴ C age (yrs BP) (± 1σ)	Calibrated calendar age (cal AD/BC) (2σ)
DeA-43905	I/3467/1	Bone sample	charred bone*	3273 ± 44*	BC 1630 – 1430*
DeA-43828	I/3467/2	Charred seed Cerealia	charcoal	3469 ± 20	BC 1880 – 1690

Fig. 8. Table with new C14 result from Pit 18 and Pit 22. (performed in AMS Laboratory, ISOTOPTECH-ATOMKI Debrecen, Hungary).

The archaeobotanical material was sampled directly from two ritual pits located outside the cultic ditch that delineates the actual sanctuary²⁰. The pits were situated at short distance from each other: pit no.18 and pit no.22 (Fig. 4). Bone samples from pit no. 18 and cereal grains from pit no. 22 were sent for C14 dating (Fig. 7). Charred grains are ideal for radiocarbon dating as they are short-lived samples (with life spans of a few months) and it is presumed that they cannot be much older than their context (long-term preservation before deposition would normally be excluded). The context from Oarța de Sus is also ideal: a ritual pit (Pit 22) with characteristic Wietenberg II pottery and a large quantity of grains²¹, meaning that the radiocarbon dates obtained for the grains are very close to the moment of ritual deposition of the grains and pottery and therefore relevant for the dating of the associated pottery. It is unclear why the two results obtained for grains from the same pit are so different that they do not even overlap at a confidence level of 95.4%. Nevertheless, there are no clear methodological grounds to reject either of the two dates obtained for these grains.

The C14 data generated by AMS laboratory in Debrecen (Hungary) have provided dates that chronologically correspond to the period under study. For comparison, we used two samples. From pit no. 18, we sent osteological material, while from pit no. 22, we submitted Cerealia seeds (Fig. 8-11) for analysis²².

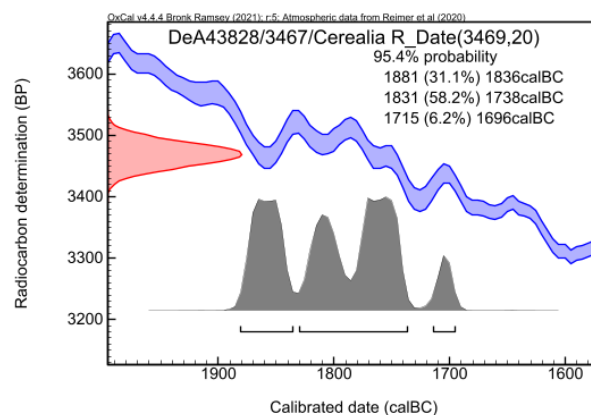
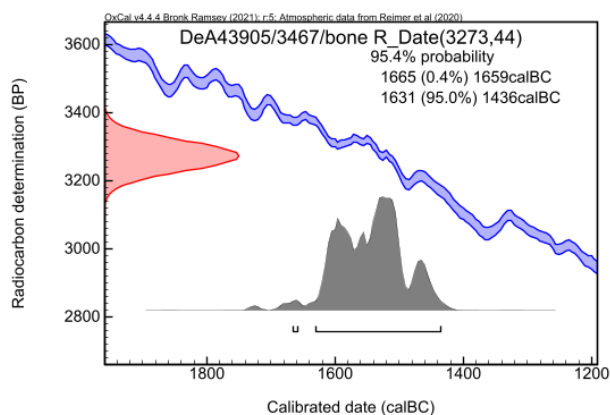


Fig. 9.

¹⁷ CARCIUMARU 1996, 93.

¹⁸ CARCIUMARU 1996, 93.

¹⁹ by courtesy of PhD researcher Bogdan Bobină at that time employed at The Maramures County Museum of History and Archaeology from Baia Mare.

²⁰ Kind Information Carol Kacso.

²¹ KACSÓ 2011, 432.

²² MOLNAR et alii 2013.

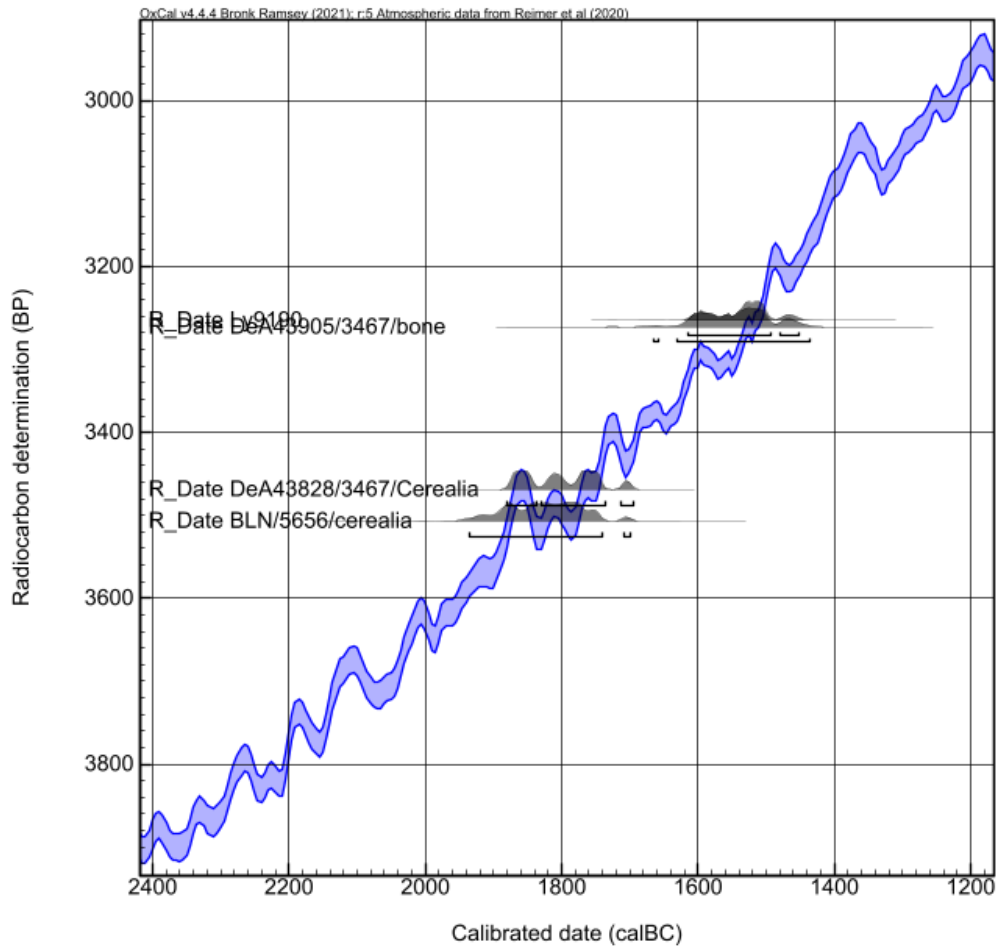


Fig. 10.

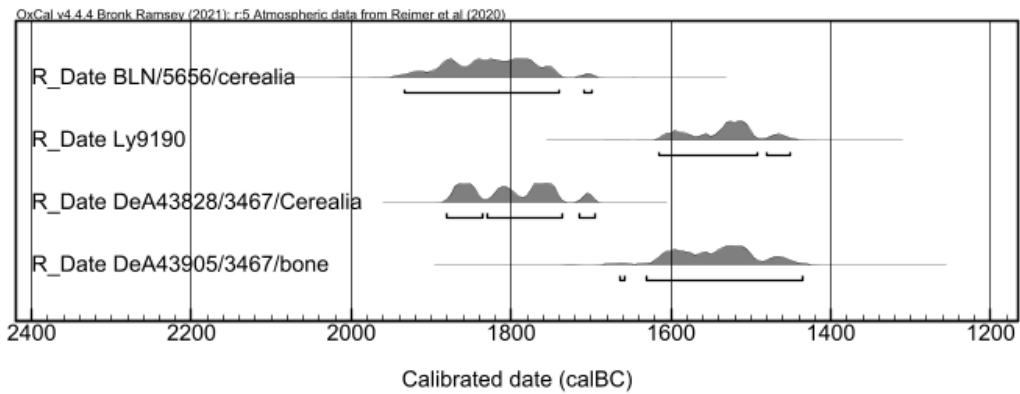


Fig. 11.

Fig. 9-11. Reveal the calibrated ages of four C14 analysis. The dates were calibrated with OxCal v4 (RAMSEY 2021) and (REIMER *et alii* 2020) in order to view overlapping data.

**ARCHAEOBOTANICAL METHODOLOGY:
COLUMN SEPARATION/DRY SIEVING**

After separating the carbonized seeds from ash and charcoal within the samples, using a sieve column with a 300mm diameter and mesh sizes of 0.5mm, 1mm, 2mm, and 3.15mm, aimed at separating the seeds from other inclusions (burnt soil, ash, pebbles, or osteological remains), we managed to obtain clean samples required for species identification process (Fig. 12).

For identification, we followed Stefanie Jacomet’s “Identification of Cereal Remains from Archaeological Sites” (2nd edition, 2006)²³. For comparative analysis, we used the Digital Atlas of Economic Plants in Archaeology (2012) by Reinder Neef and Jerome Carpenter²⁴. Latin names followed the nomenclature in “Domestication of Plants in

²³ JACOMET 2006.

²⁴ NEEF/CARPENTER 2012.



Fig. 12. Column Separation/dry sieving (photo B. Ciuta).

the New World²⁵” (Zohary and Hopf, 2012). We also used the reference collection from the Archaeobotany Laboratory at UAB Alba Iulia for identification.

Pit no. 18

Pit no. 18 had a depth of 1.20m from which 6 samples of different sizes were taken (Fig. 13). However, they were

all taken from the same context, so we treated them as a single sample weighing 6.197 kg of carbonized seeds. After dry sieving, 3.486 kg of burnt seeds remained, the rest being ash, burnt soil, many fragments of charcoal, straw, and osteological remains.

In order to obtain an estimated amount of seeds from sample we applied to mathematical calculations. We calculated the weight for:



Fig. 13. Pit no. 18 (apud KACSO 2015/II, 209-210).

²⁵ ZOHARY/HOPF 2012.

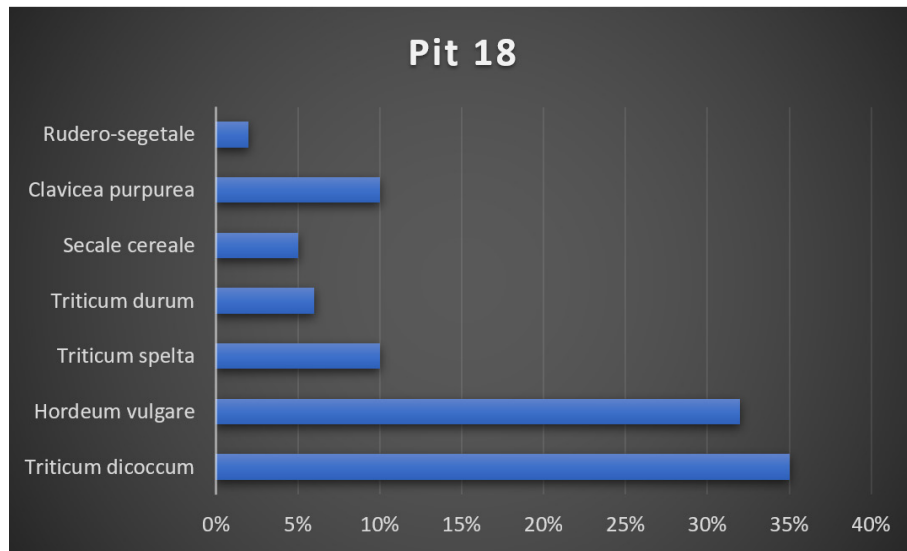


Fig. 14. Graph illustrating the percentage distribution of species from pit no. 18.

- 1 seed = 0.016 grams
- 10 seeds = 0.165 grams
- 100 seeds = 1.853 grams
- 150 seeds = 2.640 grams
- 200 seeds = 3.443 grams

The average weight of a seed, based on all these samples, would be the arithmetic mean of these five values. The average weight per seed was calculated as approximately 0.017169 grams/seed. We then used this average weight to estimate the number of seeds in 3 kg (or 3,000 grams): Estimated number of seeds = 0.017169 grams/seed x 3,000 grams = approximately 174,686 which can be rounded to 170,000 seeds.

Final Result: Pit 18 = 170,000 seeds

Pit 18 contained a mixture of seeds predominantly being *Triticum sp.* and *Hordeum sp.*

Species breakdown list as it follows (Fig. 14):

- Triticum dicoccum 35%
- Hordeum vulgare 32%
- Triticum spelta 10%
- Triticum durum 6%
- Secale cereale 5%
- Clavicea purpurea 10%
- Other ruderal-arable species: *Galium sp.*, *Polygonum sp.*, 2%

An extremely interesting discovery is the presence of *Claviceps purpurea* (ergot), a significant intrusive species. Its massive presence in the sample may be a sign of an infested harvest due to a wet and rainy season. Ergot is extremely dangerous for humans if it is consumed in a certain quantity, causing death (known as St. Anthony's Fire in the medieval

period). It can also be used in smaller amounts as a hallucinogen, but that's another story that needs thorough analysis.

Pit no. 22

Pit no. 22 had a depth of 1.28 m. Eleven samples of different sizes were taken from it, but we can consider them as a single sample as they come from the same context. A substantial amount of 17.545 kg was collected, and after dry sieving, 10.590 kg of burned seeds remained; the rest were ash, burnt soil, and pebbles. The archaeological complex is not yet published therefore we do not have a picture of it.

We used the same mathematical method for calculations as for Pit no. 18.

- 1 seed: 0.016 grams/seed
- 10 seeds: 0.165 grams/10 = 0.0165 grams/seed
- 100 seeds: 1.853 grams/100 = 0.01853 grams/seed
- 150 seeds: 2.640 grams/150 = 0.0176 grams/seed
- 200 seeds: 3.443 grams/200 = 0.017215 grams/seed

It's worth mentioning that a skeleton of an infant, around 4 years old, was also found in Pit 22 placed in the incineration urn²⁶. The number of seeds was calculated using 0.016 grams/seed with a total weight of 10.590 grams. This yields an estimated 662,125 seeds. Considering a margin of error, we can round this to 660,000 seeds.

Final Result: Pit 22 = 660,000 seeds

The sample from Pit 22 contained seeds of a clean and healthy harvest, predominantly consisting of *Triticum dicoccum*.

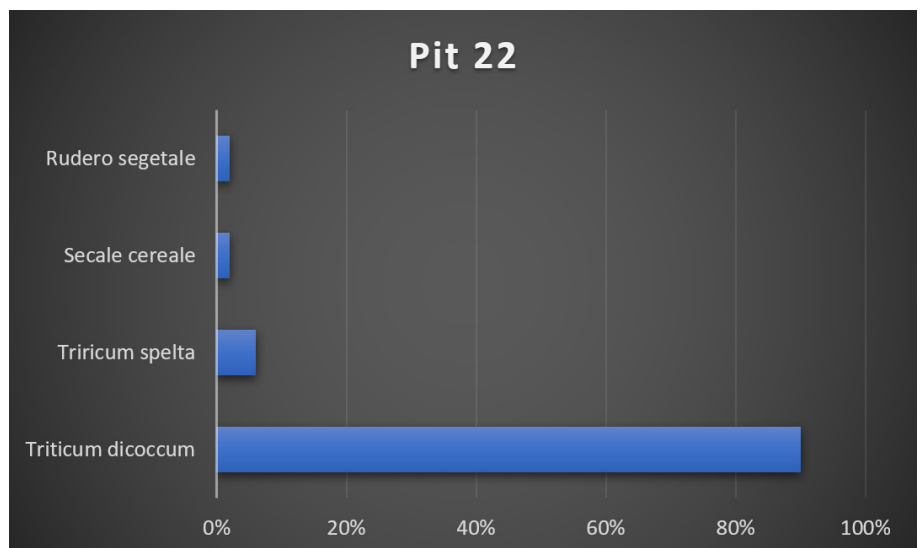


Fig. 15. Graph illustrating the percentage distribution of species from pit no. 22.

²⁶ KACSO 2015, 432.

Species breakdown list (Fig. 15).

Triticum dicoccum 90%

Triticum spelta 6%

Secale cereale 2%

Other ruderal-arable species: *Bromus sp.*, *Galium sp.*, *Rumex sp.*, *Polygonum*, 2%

DISCUSSION

In prehistoric times, emmer was cultivated for its seeds which mainly were ground to produce *flour* or boiled to be consumed as *porridge* for inclusion in their daily diet²⁷.

Additionally, this wheat was also used in religious rituals and ceremonies²⁸, as well as offerings at graves²⁹, suggesting its significant cultural and spiritual importance.

A key aspect of emmer's role in prehistory is its versatility. The plant can be grown in a variety of environments and climatic conditions³⁰, facilitating its spread³¹.

In archaeobotanical studies, the discovery of emmer³² seeds at archaeological sites is often considered an indicator of the agricultural practices³³ and diet of the respective communities. The seeds can be analysed to determine cultivation patterns, harvesting practices, and processing methods, thereby providing a detailed picture of the agricultural and cultural life of prehistoric populations³⁴.

According to Carol Kacso, the Bronze Age specialist, who conducted the archaeological excavations from Oarta de Sus-*Ghiile Botii*, the *Cerealia* seeds were deposited directly in the pits and were burned as part of a deliberate human action, very possible as part of a ritual. The sanctuary could play a role in connecting these aspects with the ritual practices of the Wietenberg culture, amplifying the cultural and spiritual significance of the entire site³⁵.

The species *Triticum dicoccum* was also revealed in a similar ritual pit (Cehăluț-Hajdubagos culture) from the Late Bronze Age at Simleul Silvaniei site (Sălaj County)³⁶.

In this context, it is worth emphasizing another discovery we analysed and published from the site at Vlaha Pad (Cluj County)³⁷ where a ritual pit was revealed containing a wooden barrel full of burnt seeds of *Hordeum vulgare*³⁸ (Wietenberg culture).

The *Hordeum vulgare* species has been identified in multiple settlements belonging to the Bronze Age in Hungary³⁹, Croatia, Austria⁴⁰ and Slovakia⁴¹.

Another ritualistic find worth remarking comes from a tumulus at Susani (Timiș County). In this case, the grains were subjected to an intense fire, leading to a significant alteration in soil coloration, with layers turning reddish and blackish up to a depth of 10 cm⁴².

Bronze Age scholar specialist Fl. Gogâltan, in the article „Drinking with gods”, analysed the situation of ritual pits, describing multiple contexts of pit depositions from Transylvania area⁴³.

The practice of burning offerings after their deposition is a common aspect in many cultures and historical periods and can have various meanings and reasons⁴⁴. As for the cultures of the Bronze Age, including the Wietenberg culture, there are several possible explanations for this practice:

Communication with the spiritual world: Burning the offerings could be considered as a means of communicating with the spiritual world or with the gods. Fire has often been associated with the sky and with the divine realm, so burning offerings could be seen as a way to send gifts to the deities or to create a bridge between the human world and the spiritual one.

Transformation and purification: Fire has the ability to transform and purify. Burning the offerings could be seen as a process of transforming materials into something more subtle or spiritual, as a way to purify the gifts before offering them to the gods.

Transcendence and liberation: In many cultures, burning has been associated with liberation or transcendence. By burning the offerings, these could be “freed” from the material world and integrated into the spiritual sphere, offering a connection between the two planes.

Symbolic recording: Through burning, the offerings could be symbolically “recorded” in the memory or attention of the gods. Thus, the gesture could be seen as a form of respect and gratitude towards the deities.

Representation of the life cycle: Burning can be seen as a reflection of the natural cycle of life and death. By burning the offerings, the symbolic passage from life to death could be evoked, and by extension, rebirth or transcendence.

CONCLUSIONS

The sanctuary at Oarța de Sus-*Ghiile Botii* was, without a doubt, a religious, and perhaps also a political centre for a large area and for an extended period of time⁴⁵. Information about the ritual practiced within the sanctuary at Oarța de Sus provides significant contributions to understanding the belief system and cult customs of the Wietenberg communities, and the analysis of discovered artefacts allows for a deeper understanding of the material culture specific to these communities⁴⁶. The latter statement is especially true in regard to ceramics, as a very large number of whole or restorable vessels were unearthed at Oarța de Sus, substantially enriching data concerning the Wietenberg ceramic repertoire.

²⁷ ZOHARY/HOPF/WEISS 2012, 20-74.

²⁸ ZOHARY/HOPF/WEISS 2012, 20-74; JELINEK 2012, 209; AUSSERLECHNER 2021, 155.

²⁹ KACSO 2004, 62.

³⁰ ZOHARY/HOPF/WEISS 2012, 20-74; FILATOVA *et alii* 2018, 177.

³¹ GYULA 2010, 100-102; REED *et alii* 2022, 110.

³² STIKA/HEISS, 2013, 83-84; MONCKTON 2002, 2-3.

³³ ZOHARY/HOPF/WEISS 2012, 20-74; MESSENGER *et alii* 2015, 220.

³⁴ ZOHARY/HOPF/WEISS 2012, 20-74.

³⁵ KACSO 2015, 433.

³⁶ CIUTA/BEJINARIU 2012, 156.

³⁷ GOGÂLTAN/NÉMETH/APAI 2011, 163-164; GOGÂLTAN/NAGY 2012, 105-106.

³⁸ CIUTA/GOGÂLTAN 2022, 89-90; GOGÂLTAN 2014, 37.

³⁹ GYULA 1993, 45-47.

⁴⁰ STIKA/HEISS, 2013, 83-84.

⁴¹ REED *et alii* 2022, 109.

⁴² STRATAN/VULPE 1977, 46.

⁴³ GOGÂLTAN 2014, 45.

⁴⁴ JELINEK 2012, 226.

⁴⁵ KACSO 2011, 413; KACSO 2015, 433.

⁴⁶ GOGÂLTAN 2014, 45.

It's important to recognize that exact meanings can vary depending on the cultural, religious, and symbolic context of each culture and era⁴⁷. In the case of the Wietenberg culture or other Bronze Age cultures, there might be multiple combined reasons for the practice of burning offerings, each reflecting their unique understanding of the relationship between the human and spiritual world⁴⁸.

The choice of Bronze Age populations to settle in the area of Oarta de Sus-*Ghiile Botii* may be influenced by several geographical, cultural, and strategic factors. While we do not have specific information about the exact reasons, we can speculate that some important considerations contributed to the choice of this area.

As for the sanctuary from *Ghiile Botii* and its connection to the ritual practices of the Wietenberg culture, it may play a significant role within their belief and ritual system. The sanctuary, located at the highest point of the hill, could be associated with the sky and the divine, providing the population with a special place for their religious practices⁴⁹.

Moreover, the findings of *Clavicea purpurea* (ergot/pit no. 18) and the infant skeleton (pit no. 22) add complexity to the discoveries.

Ergot's presence could indeed suggest an environmental backdrop, as we pointed out, possibly affecting the agricultural yield. Its hallucinogenic properties also open up another avenue for speculation - perhaps ritualistic or shamanic.

The infant skeleton in pit no. 22 adds an emotional and poignant aspect to the rituals, signalling perhaps an offering or an attempt to secure a safe passage for the deceased. Analogies can be found in the Únětice Culture in southern Moravia, at Cezavy Hill⁵⁰

Our research try not only illuminates the botanical practices of the Wietenberg culture but potentially also shines a light on their spiritual and social lives.

Examination of botanical macro remains from Bronze Age sites in Romania yields fresh insights into the role of plants in both funerary and non-funerary ritual practices. These findings are explored through both a semiotic lens and an emotional framework, enriching our understanding of the possible ceremonies involving plants that led to the formation of these archaeobotanical collections. This includes cases of both literal and symbolic plant sacrifices, as well as the deliberate charring of plant materials for ritualistic purposes. The consistent presence of intentionally charred plant substances, along with species typically found in daily life, suggests that fire played a crucial role in these plant-based rituals and that these plant remains were part of both domestic and ceremonial social interactions.

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⁴⁷ GOGÂLTAN 2014, 46

⁴⁸ GOGÂLTAN 2014, 52.

⁴⁹ AUSSERLECHNER 2021, 155.

⁵⁰ JELINEK 2012, 209-210.

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