

ROMAN CAMPAIGNS IN THE DANUBE REGION. THE OLIVE OIL SUPPLY FROM AUGUSTUS TO TRAJAN

Mariana Egri

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Argument

Since the publication of Van Berchem's analysis concerning the institution of *annona militaris*¹, the mechanisms of Roman military supply have generated consistent debates². A particular attention received the chronological development of this system, but almost all previous studies have taken into consideration mostly the writings of ancient authors, as well as the epigraphic evidence. Moreover, an important aspect, closely related to the development of this institution, concerns the range of foodstuffs included in the daily ration of the soldiers, and in this case the analysis of certain classes of archaeological artefacts may help identifying the mechanisms of military supply. For example, amphorae for olive oil are present on all military sites, which indicate that the foodstuff was regularly purchased by the Roman army. The olive oil was an important part of the Mediterranean diet, but was also used for many non-alimentary purposes³, which explains the significant demand.

Some recent studies investigated the patterns of olive oil consumption in Britannia⁴ or the Germanic provinces⁵, through the analysis of the distribution of Dressel 20 amphorae. However, the problem is far from being solved, as two rather different models of supply and distribution have been suggested for the Principate period. The first model is presuming the existence of a centralised supply system as early as the 1st century AD, based on the massive and continuous military demand for large quantities of certain goods, corroborated with the increasing control of imperial administration over the Baetican olive oil production⁶. The

¹ VAN BERCHEM 1937.

² Amongst the recent approaches see ADAMS 1979; BÉRARD 1984; LE ROUX 1995; ROTH 1999; WHITTAKER 2002.

³ BRUN 2003, 166–169.

⁴ CARRERAS MONFORT/FUNARI 1998.

⁵ REMESAL RODRIGUEZ 1986.

⁶ REMESAL RODRIGUEZ 1990; CARRERAS MONFORT 2002, 81.

second model of supply and distribution suggests that at least until the early Severan period, no centralised system was in function and each province, sometimes even the legions themselves, arranged for their own provisions⁷.

However, it should be observed that all these studies are mostly taking into consideration the epigraphic and archaeological evidence concerning various military units garrisoned in pacified and completely integrated provinces. Nevertheless, it was a significant difference between the needs of the units settled in a stable area, during a peaceful period, and the logistics required by an army in campaign, thus the supply mechanisms used in the first case may not be similar to those developed in the latter situation⁸. Therefore, it is worth analysing the patterns of olive oil amphorae distribution during a warfare period, including archaeological data provided by a series of sites used as operational bases for the Roman campaigns in the middle and lower Danube region. More precisely, the paper will bring into discussion the period between Octavian's Illyrian campaigns (35–33 BC) and Trajan's Dacian wars (AD 101–102 and 105–106), when the mentioned region was characterized by intense military activity, with many legions and auxiliary units often concentrated in strategic centres⁹.

The operational bases

The presence of such a large number of military units engaged in a series of military conflicts in the region, as well as in the territorial control, and often in the early administration of the new provinces, required warfare specific logistics. In this case, from the middle Republican period onwards, the Roman generals used a system of operational bases, usually settlements having reliable access to waterways, which were necessary to connect the sources of supplies with the army in campaign. Their main role was to collect and store foodstuffs and other goods, and distribute them to the legions and auxiliaries. Such bases were always equipped with ports, docks and warehouses¹⁰.

Octavian apparently used *Nauportus* as his main operational base for the Illyrian campaigns in 35–33 BC and the settlement very probably retained this role during the following decades, given the major military presence in southern Pannonia. This emporium, previously belonging to the Celtic tribe of Taurisci, was integrated in the territory of *Aquileia* and administered by representatives of the major commercial families from this town, usually freedmen¹¹. Around the middle of the 1st century BC and no later than the late Augustan – early Tiberian period, a fortified Roman settlement was built, with a market place, a port and large warehouses, in which goods brought from Italy probably by carts, have been transferred onto boats navigating downstream on the rivers Ljubljanica and Sava¹². Among the finds coming from the warehouses are significant quantities of fragmentary amphorae for wine coming from Italy and Dressel 6B for olive oil imported from the Istrian Peninsula¹³.

⁷ WHITTAKER 1994, 112; LE ROUX 1995, 410, note 31; ROTH 1999, 262–264.

⁸ LE ROUX 1995, 410; ROTH 1999, 15.

⁹ STROBEL 1984, 86–91, 153–154; 1989, 44–72; WILKES 1996, 550–553, 572–573.

¹⁰ ROTH 1999, 169–174.

¹¹ ŠAŠEL KOS 2002.

¹² HORVAT 1990; 1999, 219; MUŠIČ/HORVAT 2007.

¹³ HORVAT 1990, 226.

Another operational base that has to be discussed is Devin near nowadays Bratislava, opposite to *Carnuntum*, on the left bank of the middle Danube. From this late Celtic settlement come many Roman imports – Arretine sigillata, Italic bronze vessels, late Republican and Augustan coins and many fragments of amphorae for wine and olive oil¹⁴. Their dating, together with the rather narrow typological and functional range, indicates a significant import of a few categories of Italic commodities, during a limited period that corresponds to the beginning of the 1st century AD. Therefore, it was suggested that they are not the result of regular commercial exchanges, but remains of an operational base established for the campaign of Tiberius against Marobodus, planned for AD 6 but abandoned because of the outbreak of the Pannonian revolt¹⁵.

An early operational base, about which very little is known so far, was apparently settled at *Poetovio*. A series of warehouses have been excavated during the first decades of the 20th century, being dated in the first half of the 1st century AD¹⁶. Their structure is very similar to those from *Nauportus* and the inventory includes large quantities of fragmentary amphorae for wine and olive oil¹⁷, which unfortunately were not analysed. Tacitus (*Hist.* 3.1) mentions that *Poetovio* was used as headquarters for coordinating the Pannonian legions that supported Vespasian in AD 69. The settlement was chosen because of its strategic position at the crossroad of waterways and land routes connecting northern Italy with the Danube. At the same time, until the Claudian period, the area southward of the river Drava was dominated by an intensive military presence, with many legions garrisoned in key posts at *Poetovio*, *Sirmium* and *Siscia*¹⁸, thus the first site may have been the main operational base for the troops in southern Pannonia and along the Amber Route.

Other operational bases established during the period under discussion consist of an array of warehouses, docks and ports that have been discovered on the right bank of the Danube, in the Iron Gates sector, at Konopište, Kurvingrad, Boljetin, *Pontes*, *Taliata* and *Novae*. All were protected by forts or other smaller military structures, belonging either to some legionary detachments or to the auxiliary units, and their construction, or at least the phase corresponding to the end of the 1st century AD, has been connected with the campaigns of Domitian and Trajan against the Dacians¹⁹. Some of these warehouses are rather small, compared with those from *Nauportus* or *Poetovio*, but this can be a consequence of the local difficult topography, which is not allowing large structures. All of them have been very probably supported by other larger operational bases settled inside the territory of Upper Moesia, for example at *Horreum Margi*²⁰. At the same time, the headquarters of Domitian and Trajan might have served for the same purposes. The location of the former site is still a matter of debate – *Naissus*, *Scupi* or *Sirmium* being successively suggested²¹, whereas Trajan used *Viminacium* for his campaign of AD 101–102²².

¹⁴ PIETA 1996.

¹⁵ GABLER 1990–1991, 52–53; KOLNIK 1991, 71–75.

¹⁶ SCHMID 1935, 155–156, fig. 2.

¹⁷ HORVAT 1990, 212.

¹⁸ FITZ 2003, 50.

¹⁹ PETROVIĆ 1980, 62–63; VASIĆ 1982–83; POPOVIĆ 1996; POPOVIĆ 1982–83, 281.

²⁰ PETROVIĆ 1980, 62

²¹ DUŠANIĆ 1983, 18; STROBEL 1989, 45–48; GUDEA 1996, 116.

²² STROBEL 1984, 162; GUDEA 2001, 93.

The strategic importance of the Iron Gates region is underlined by the existence of a series of crossing points used by the Roman army to advance into Dacia, during both wars. For the first campaign, most troops crossed the Danube at *Lederata*, while another column probably came from *Viminacium*²³. On that moment, if not earlier, during the campaign of Domitian, both banks of the Iron Gates sector were under the Roman control, as the dating of the last level of destruction in the Dacian fortresses at Pescari and Divici would suggest²⁴. This tight control aimed to secure the vital supply route that connected the Black Sea with the Danubian provinces.

Returning to the line of warehouses and docks in the Iron Gates area, it has to be noted that in many cases the archaeological inventory includes significant quantities of amphorae, especially Dressel 6B containers for olive oil²⁵. Similar amphorae have been found in Upper Moesia almost exclusively on military sites alongside the Danube frontier, being dated between the last decades of the 1st century AD and the beginning of the Hadrianic period²⁶, which corresponds to the peak of the military activity in the region. As a consequence, the finds from the above-mentioned warehouses may be considered remains of the supplies brought in for the campaigns against the Dacians.

The mechanisms of supply

Next questions concern the administration of logistics as well as the organization of supply lines. During the Republican period, for each major campaign the Roman Senate appointed the high commander and designated the sources of supplies, the latter being obtained mainly through taxation, allied contributions and requisitions²⁷. The system gradually changed from the late Republic onwards, as different commanders seized more control over an increasingly permanent army. Under these conditions, the generals appointed trustworthy individuals for logistical duties and quite often they were not officers but someone familiarised with the region in which the army had to advance, for example Caesar chose C. Fufius Cita, a merchant, for his campaign in Gaul²⁸.

Augustus made another step by establishing a military treasury and introduced a centralised system to control the expenditures of the army, called *a rationibus*²⁹. Aside from that, an officer from the imperial entourage was still appointed for the logistical operations (*prosecutio*) concerning each campaign³⁰. This practice continued for a longer period, despite the increasing centralisation of the imperial administration, for example Claudius Alfenus Arignotus was in charge of supplying the army of Caracalla for the oriental expedition in AD 215–217³¹. Its survival over time may be explained by the common way of setting up a campaigning army with detachments or entire units drawn out usually from the nearest

²³ STROBEL 1984, 166–167, 212–213; DIACONESCU 1997, 21, fig. 5.

²⁴ RUSTOIU 2005, 67–76.

²⁵ Unfortunately, complete quantified ceramic reports have not been published.

²⁶ BJELAJAC 1996, 15–18.

²⁷ ROTH 1999, 158–165, 224–236.

²⁸ ROTH 1999, 251.

²⁹ VAN BERCHEM 1937, 143; ROTH 1999: 262.

³⁰ VAN BERCHEM 1937, 144–145; MITCHELL 1976, 130, note 163.

³¹ VAN BERCHEM 1937, 145; ROTH 1999, 270.

provinces, but also from the more distant ones. In the new conditions, the displaced troops were hardly able to maintain their usual supply lines. At the same time, the Roman army did not have a permanent service of intendency at central level³², ready to serve any sort of expeditionary force, no matter how large and where it was sent. The Roman state was in constant military offensive from the end of the Republic until the death of Trajan, having several armies usually engaged over the frontier. On the other hand, its administrative structures still resembled the Republican ones and were slowly transformed, thus were less able to cope with the new military situation. As a consequence, during the early Principate each campaign was an exceptional situation, which required different measures and solutions. The range of names given to the logistics officers by ancient authors or attested by epigraphic sources (*minister bello*, *praepositus copiarum*, *praepositus annonae expeditionis*, *procurator annonae*, etc)³³ is also indicating the ad hoc character of this function.

Such officers had to solve two main problems, first to collect all necessary supplies, then to transport them from the sources to the operational bases, from which were distributed further away to the troops. Therefore, it is not a coincidence that many officers were also appointed as *praefecti vehiculorum*³⁴. The supplies were collected and transported using waterways whenever possible, because it was much faster than conveying them overland. A military fleet was usually involved in these operations and sometimes extraordinary functions were created for major campaigns. For example, the authority of M. Arruntius Claudianus was extended by Domitian to control the Danube from the mouth of the river up to the middle of its course³⁵, whereas C. Manlius Felix, previously *praefectus fabrum* in charge with war preparations, was appointed by Trajan as commander of the combined Pannonian and Germanic fleets for the campaign in AD 101–102³⁶. However, in the case of the Illyrian campaigns, Octavian had to rely on river transportation using specially built boats³⁷ and very probably this system was later used for supplying the units in Pannonia and Upper Moesia with goods from the western Mediterranean, coming through *Aquileia*, at least until the stabilization of the middle Danube frontier during the Claudian period³⁸.

Nevertheless, the structures already created by the merchants involved in exchanges with the indigenous population must have been important for the major military campaigns in foreign territories, mainly because they had the necessary means of conveyance, adapted to the particularities of the region. At the same time, many written sources indicate that, from the late Republic onwards, the involvement of private contractors in the transportation of military supplies increased³⁹. Very probably the trading houses from *Aquileia* played an important role in provisioning the army of Octavian, as they already had commercial

³² LE ROUX 1995, 410, note 31; ROTH 1999, 262–264.

³³ ADAMS 1979, 136, note 36; ROTH 1999, 266–270.

³⁴ MITCHELL 1976, 131; ADAMS 1979, 136.

³⁵ BOUNEGRU/ZAHARIADE 1996, 10–16.

³⁶ STROBEL 1984, 79, note 125.

³⁷ ROTH 1999, 196–197. The fast flowing and shallow rivers from south-western Pannonia required boats with flat bottom and a small draught, like the one found in the Ljubljanska Marsh (GASPARI 1998, 222–224).

³⁸ FITZ 2003, 50.

³⁹ ROTH 1999, 255.

connections in the region, long before the Roman conquest⁴⁰. Therefore, it is not a coincidence that the emporium at *Nauportus* was chosen as the main operational base for the Illyrian campaigns.

Another aspect concerns the involvement of the elites from northern Italy, as well as that of the major producers of olive oil from Istria, in the military supply during the early Principate, given that both groups had close connections with the imperial entourage. As Tassaux pointed out, some senators from the close circle of Augustus and even members of his family owned large estates in the latter region, specialized in olive oil production⁴¹. As a consequence, it should not be surprising that Istria became the main source of olive oil for the army in the Danubian provinces, for the entire period of military offensive which ended with Trajan's Dacian wars⁴². The strategic and economic importance of this commodity is also underlined by the fact that the imperial administration took over all major estates and their production facilities from Istria, during the Flavian period⁴³.

The range of archaeological artefacts discovered at *Nauportus* and Devin indicates that almost all goods delivered to the army came from Italy or the Adriatic region, very probably imported via *Aquileia*. Different cargoes, consisting of basic foodstuffs and goods for the soldiers, were then transported to *Nauportus* by carts or loaded on packs of mules and donkeys. The goods were stored in warehouses, then probably combined in mixed consignments, up to the necessities of each unit, and sent by boats downstream on the rivers. Following the advance of the military operations along the Danube and after the construction of practicable roads, supplies were also sent along the Amber Route. In this context, it is significant that many representatives of the major trading houses from *Aquileia*, like Caesernii, Canii, Barbii or Valerii, were early installed alongside the main commercial routes in Pannonia⁴⁴. Very probably, the same merchants also supplied the operational base established by Tiberius across the Danube at Devin, since the range of goods discovered on this site has the same characteristics as the one from *Nauportus*.

The archaeological evidence from the Rhine frontier indicate that in some cases, preferential connections were established between the military units and certain producers from Baetica, who delivered olive oil, or from Gaul, the latter providing cargoes of wine. These relationships were established by wholesale merchants who obtained supplying contracts, exempted from custom duties⁴⁵. A similar system was probably used also on the Danube frontier. For example, the names of different legions inscribed on barrels and amphorae identified the military orders within mixed cargoes, as contractors used to bring along their own loads in order to reduce the transport costs and sometimes they even abused of this privilege⁴⁶. Five barrels found at *Aquincum* were marked with the name of the legion II Adiutrix⁴⁷, while a series of amphorae discovered at *Apulum*, *Aquincum*,

⁴⁰ MÓCSY 1974, 28–30.

⁴¹ TASSAUX 1983–84, 224–225.

⁴² BEZECZKY 1998.

⁴³ TASSAUX 1983–84, 226; BEZECZKY 1998, 4.

⁴⁴ ALFÖLDY 1964–65, 141–143; ZABEHLICKY-SCHEFFENEGGER 1985; ŠAŠEL 1992, 61–64.

⁴⁵ WHITTAKER 1994, 105–111.

⁴⁶ MITCHELL 1976, 127; WHITTAKER 1994, 112.

⁴⁷ BARATTA 1994, 252; BEZECZKY 1995, 165.

Boljetin, *Buridava*, *Carnuntum* and *Novae* bear the painted name of different legions from the Danubian frontier⁴⁸.

As concerning the patterns of olive oil consumption in Pannonia, Bezeczky has observed that, during the 1st century AD, the distribution of all types of amphorae, including the Dressel 6B ones, is mirroring the extension of the effective military control in the province (Fig. 1). During the first decades of the 1st century AD, amphorae were present almost exclusively southward of the Drava and alongside the Amber Route, while from the Claudian period onwards, they consistently reached the Danube frontier. He also suggested that the military consumption continuously diminished from the first decades of the 2nd century AD, as a consequence of the massive indigenous recruitment in the army. The local population preferred another diet, mostly based on animal fats, which may explain the limited interest in olive oil⁴⁹. However, an analysis of the estimated consumption of olive oil on military sites from Pannonia, up to the beginning of the 3rd century AD, indicates that, despite switching from the Istrian to the Baetican source, the legions maintained a rather constant level and only the consumption of the auxiliaries decreased, together with the civilian one⁵⁰. Therefore the question is whether such consumption patterns are exclusively a consequence of the ethnic composition of the army, or the supply system also played a role.

As mentioned above, between the period of Octavian and that of Trajan, the Danube region had known a series of military campaigns that required many troops, frequently displaced and concentrated in strategic places. As a consequence, an officer was always appointed for logistical duties, including the purchase of food supplies. Naturally this official was Roman, thus his concept of basic necessary foodstuffs was very probably influenced by his own Mediterranean background. In this case, all military units would have been regularly provided with rations resembling this type of diet, which included olive oil, regardless of their origin. At the same time, the core of any army of the early Principate consisted of legions – units of citizens, many of Mediterranean origin, who sought to maintain a distinct social status even in the case of their dietary preferences. An argument is the higher consumption of pork amongst the legionary soldiers, compared with that of the auxiliaries, for this was regarded as part of the genuine Roman tradition, thus was highly valued⁵¹. Some recent studies underline that in a strongly hierarchical and status-conscious social structure, certain foodstuffs were also used to underline the personal or the collective prestige⁵², and the army, especially the legions, formed a privileged group with a well-defined hierarchy. These features may explain the constant interest of the legions for regular olive oil supplies, as part of the Roman-style diet, regardless of their ethnic composition. On the other hand, the archaeological evidence indicate that as soon as a province was stabilised and integrated in the administrative and economic structures of the Empire, its army purchased many provisions from the local sources and this practice may explain the regional variations in the military consumption⁵³.

⁴⁸ EGRI/INEL 2006, with further bibliography.

⁴⁹ BEZECZKY 1995.

⁵⁰ EGRI 2007.

⁵¹ KING 1999, 182–183.

⁵² GARNSEY 1999, 113; DIETLER 2001, 70–73.

⁵³ LE ROUX 1995, 411–417; PEARCE 2002, 931–932.

Accordingly, during the military offensive period that lasted from the late Republic until the death of Trajan, the supply system of a Roman army in campaign continued to use older mechanisms and practices, which were flexible and able to adapt to the conditions from a foreign territory. At the same time, these mechanisms of provisioning may have played a consistent role in the olive oil consumption patterns from the Danube region during the discussed period. On the other hand, the regional supply structures were influenced by the incipient development stage of the Roman administration, as well as by the interdependence between the military, political and economic factors that marked the advance of the Roman state towards the Danube during the last decades of the Republic and the first century of the Principate.

Mariana Egri
University of Cambridge
marianaegri@yahoo.com

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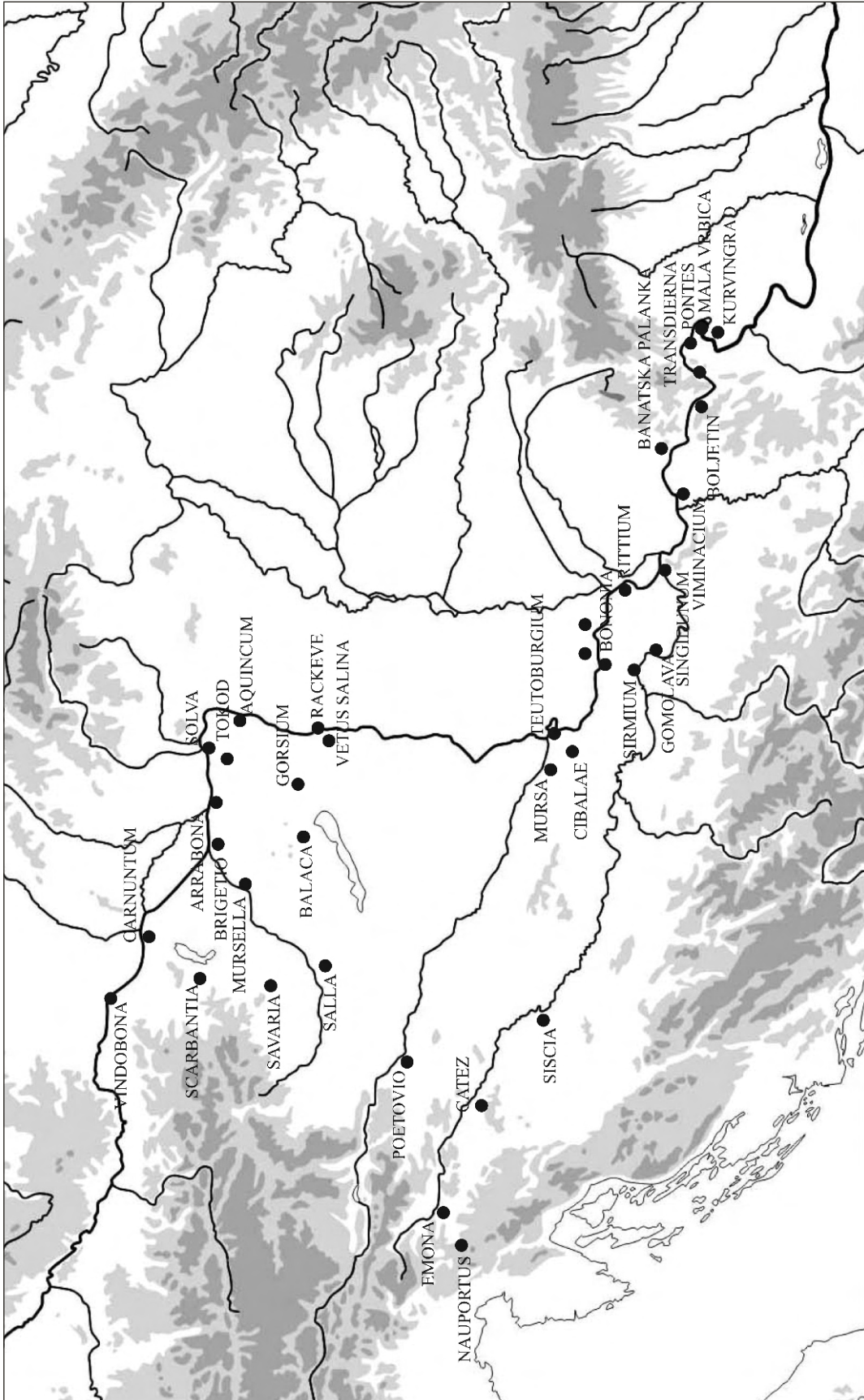


Fig. 1. The distribution of Dressel 6B amphorae in the middle and lower Danube region.