

# PROVENANCE STUDY OF LATE 16TH CENTURY BARRELS FOUND IN KLAIPĖDA

MINDAUGAS BRAZAUSKAS

## Abstract

The article examines trading conditions in medieval Klaipėda (Memel) and reports the results of the latest dendrochronological dating of oak found in the Old Town.

Key words: dendroprovenancing, dendrochronology, oak chronology, Hanseatic League, timber trade, urban archaeology, barrels, Baltic Sea region.

## Dendroprovenancing: new opportunities for archaeological research

The use of the dendrochronological method in archaeology has advanced significantly over the last few decades. This method of timber dating has disclosed quite a few facts about historical events never mentioned in written records, it has shed a light on the daily routines of the remote past, and uncovered processes never before heard of in the archaeology of settlements and towns.

From the standpoint of the present, it is easy to understand the significance to West European dendrochronologists of identifying and dating Baltic timber exported via Gdansk and other Baltic ports. Due to the timber trade, a huge amount of wood of Baltic origin spread all over Western Europe between the 14th and 17th centuries, and Western dendrochronologists find it difficult to date the wood because of the shortage of Baltic region oak chronologies. In turn, due to the international trade, certain amounts of timber of “exotic” provenance (coming, for example, from Norway, the Netherlands, England or France) had to settle in the archaeological context of the towns of the Baltic region. Local dendrochronologists are faced with the task of identifying, dating and establishing the provenance of the timber.

The potential of dendrochronological dating has not been fully exploited, despite the fact that one of the initial targets of dendrochronological dating was merely the designing of chronologies suitable for the precise dating of construction or archaeological wood that no thorough archaeological research could do without.

It would currently be correct to say that the dendrochronological method, doomed to function merely as an auxiliary branch of archaeology, has outgrown itself. In the history of dendrochronology, dendrolabs

appeared in Denmark, Germany, England and Sweden throughout the Sixties and Seventies of the 20th century, with the aim of accumulating samples of wood, dating them, and designing chronologies of wood to cover the period from the Stone Age to the present.

We can probably now talk about the current maturity of the method, as a wide circle of researchers occupied in the field have mastered the principles of establishing the date of woodcutting and of interpreting the results obtained. Establishing dates became a routine and obvious goal of dendrochronology. However, due to personal contacts and the exchange of data, new problems surfaced in dendrochronological research. Next to the question when the tree was cut (with the aim of designing chronologies of softwood and hardwood, covering the period from the present to prehistoric times, and precise dating methods), new ones arose: where and when the tree was cut. Next to the chronology, the precise time and place of cutting the tree became of interest (the specific wood, the terrain, and the region, such as northern France or Finland). This new branch of dendrochronology became known as “dendroprovenancing” (Bonde et al 1995: 202).

## A short review of Klaipėda’s trade in the late medieval period

After the foundation of Klaipėda (Memel) in 1252, it would periodically attract the glow of the Hanseatic towns. As early as the spring of 1261, the vice-master of Livonia, in his letter to Lübeck merchants, informed them about the conditions for colonists to settle in Klaipėda and asked them to come before winter started (Žukas 2005: 71). The newborn city was even awarded Lübeck trading rights; however, it lost them in the late 15th century due to developments unfavourable to the city.

Because of this historical change in its history, Klaipėda's name appeared in Hanseatic records less and less frequently. That was only natural: Hanseatic towns, such as Danzig (currently Gdansk), Königsberg (currently Kaliningrad), Riga, and a number of other towns which had at least trading stations of Hanseatic merchants, overshadowed Klaipėda as a member of trade relationships. Klaipėda was reluctantly excluded from the current network of dendroprovenancing research because, as early as the 14th century, the River Prieglius was linked with the Curonian Lagoon by a canal, and from that time on, Gdansk was the chief commercial port of the Grand Duchy of Lithuania (Wazny 1992: 331). A stereotype was formed by which, in the 15th to the 17th centuries, in terms of the level of trade, Klaipėda was a small and insignificant coastal town, but not a trading partner or even a supplier of raw materials. However, it was not exclusively exports from the Grand Duchy of Lithuania that were served by the Prieglius–Curonian Lagoon canal: goods travelled by this route from Klaipėda to Königsberg and vice versa all year round (in winter, the overland route down the Curonian Spit was used) (Žulkus 2005: 74).

The minor importance of the port of Klaipėda cannot be disputed; however, it would be incorrect to state that from 1252, the year when the town was founded, no effort was made to exploit the harbour and the huge commercial potential of the River Nemunas and the western region of the Grand Duchy of Lithuania. There was at least one good reason preventing boats from by-passing Klaipėda, and that was its favourable location: from the Aistmares Strait to the entrance of the Curonian Lagoon next to Klaipėda, for a stretch of 150 kilometres, and north of Klaipėda to Liepaja, for around 75 kilometres, there was not a single safe haven or a safe anchorage for boats during a storm (Žulkus 2002: 102).

In historical records, the activities of brokers (in German *Lieger*) in Klaipėda in the early 16th century have not been sufficiently covered. Brokers were part of the Order's trade network managed by the Order's officials residing in Marienburg and Königsberg (Žulkus 2002: 102). These brokers, although they did not have the rights of town citizens, started buying up local goods in Žemaitija, the west of Lithuania, and shipping them to different European ports. As early as the second half of the 16th century, boats sent by them would sail to Lübeck, the Netherlands, Holland, England and Scotland, while the population of Klaipėda had direct trading relationships almost exclusively with Danzig (Zembrickis 2002: 82–83).

Unfortunately, data on the volume of timber leaving the Klaipėda area does not seem to exist; however, the

fact of the existence of timber exports is witnessed by a document from 1468, with reference to a shipment of fish and timber being forfeited in Lübeck and sold (Willoweit 1969, cited in: Žulkus 2002: 111).

It is highly probable that the major boom in timber exports from Klaipėda coincided with the beginning of the shipbuilding industry there. For dendrochronology, this is an important fact, as it narrows the area of provenance of some of the timber to the city's environs. The first ship was built in Klaipėda in 1517 (Žulkus 2002: 107). This date symbolises a special stage in its development as a maritime city and a centre for maritime trade. Ensuing events in the development of the town testify to its economic growth.

In the early 16th century, the town settled in a new location, a planned structure of streets formed, and craftsmen's guilds appeared in the late 16th century. Slowly but surely, the commercial and economic potential of the town was gaining strength. The fact of a new and dangerous trading competitor becoming established on the eastern Baltic is witnessed by Königsberg merchants' complaints and protests against the trade and shipping in Klaipėda (Žulkus 2005: 83).

#### Dendrochronological analysis of barrel heads found in the Old Town of Klaipėda

A rather interesting trading situation in Klaipėda in the middle of the 16th century was disclosed in the analysis of construction timber and barrel remains on the site of number 3 Žvejų Street, in the Old Town (Fig. 1). The main point of interest is the possibility of establishing trading contacts in the 16th century with the help of dendroprovenancing, and producing tangible proof via timber analysis, and not merely on the basis of historical records or imported articles found in the process of archaeological excavations.

In 2005, exploratory archaeological excavations on the site of number 3 Žvejų Street took place under the supervision of R. Jarockis. The place presented special interest, as in a city map/drawing of 1670, there was a building with the inscription "WAGE" next to it. The site was merely 20 metres away from the 16th-century course of the River Danė that served as a port at that time. Archaeological articles found on the site were scarce and not very informative. Therefore, dendrochronological examination became a basic part of the whole project that contributed to a more precise reconstruction of the development of that particular part of the Old Town.



Fig. 1. A model of 17th-century Klaipėda/Memel (photograph by V. Žulkus). The arrow shows the place of the 2005 excavations (number 3 Žveju Street)

Pine (*Pinus sylvestris*) and oak (*Quercus robur*) were examined. The present article shall focus exclusively on oak.

Three pieces of oak were taken for examination from the construction of the building.

- Key code Zvej3 S3: 148 tree rings. The date of the last ring is 1544. The later wood had four rings. The estimated date is c.1544.
- Key code Zvej3 S2: 153 tree rings. The date of the last ring is 1521. The later wood has not survived. The estimated date is c.1535 or later.
- Key code Zvej3: 146 tree rings. The date of the last ring is 1519. The later wood has not survived. The estimated date is c. 1533 or later.

The general scale obtained embraced a period of 154 years, from 1373 to 1526.

Table 1. Number 3 Žveju Street, Klaipėda: coefficients of individual curve correlation

		TBP*	THO**
Zvej3 S2	Zvej3 S3	4,212	4,528
Zveju3	Zvej3 S3	3,948	3,143
Zveju3	Zvej3 S2	3,488	4,008

\* Transformation Baillie/Piltcher  
 \*\* Transformation Holstein

It should be noted that timber samples from the site excavated demonstrated excellent overlapping with one another (Table 1), and also with the mean value curves of the archaeological/construction timber in Klaipėda Old Town and Baltic 1 (the results of synchronisation are presented in Table 2).

Table 2. The site at number 3 Žveju Street, Klaipėda: correlation coefficients of individual oak samples with Baltic 1 and Klaipėda (Memel) oak chronology

	Baltic 1		Memel	
	TBP*	THO**	TBP*	THO**
Zvej3 S2	4,70	4,19	8,30	7,57
Zveju3	3,89	4,25	6,74	8,50
Zvej3 S3	4,55	4,53	4,85	4,96
Zvej Mean	<b>5,63</b>	<b>5,62</b>	<b>8,15</b>	<b>9,33</b>

\*Transformation Baillie/Piltcher  
 \*\*Transformation Holstein

The correlation coefficient between Klaipėda (Memel) archaeological architectural oak wood chronology and the samples from the site at number 3 Žveju Street is sufficiently high (TBP: 4.84–8.3). There is no doubt that the timber used for construction on that site is of local provenance. This fact is not contradicted by historical data or the charter of 1475, by which the Lübeck trading rights in Klaipėda were substituted for Kulm Rights; the inhabitants of Klaipėda were allowed to cut wood for construction and shipbuilding, as well as to build ships; however, they were not allowed to sell them (Žulkus 2002: 107).

The dated oak samples from the archaeological site at number 3 Žveju Steet were included in the Klaipėda (Memel) oak wood scale presented in Table 4.

A different dendrochronological context came up when parts of barrels found on the site were examined. Five pieces of oak barrel heads were taken for examination:

Table 3. Coefficients of correlation of barrel sample individual curves with Baltic oak wood master chronologies

	Baltic1		Baltic2		E. Pomerania		Memel	
	TBP*	THO**	TBP*	THO**	TBP*	THO**	TBP*	THO**
Stat1	<b>6,57</b>	<b>6,22</b>	2,57	2,734	3,08	3,49	<b>6,06</b>	<b>5,23</b>
Stat2	2,73	2,55	1,14	1,27	3,25	<b>3,55</b>	3,23	<b>3,55</b>
Stat3	2,18	1,5	3,25	3,40	1,90	1,15	<b>3,98</b>	3,40
Stat4	<b>8,78</b>	<b>8,93</b>	<b>3,94</b>	<b>3,84</b>	<b>4,88</b>	<b>4,77</b>	<b>5,26</b>	<b>3,61</b>
Stat5	<b>3,54</b>	<b>3,75</b>	<b>4,09</b>	3,15	3,36	2,70	1,45	1,94

\*Transformation Baillie/Piltcher  
 \*\*Transformation Holstein

Table 4. Medieval oak master chronology of Klaipėda

MEMEL	1288	324	285	Untitled							
MEMEL	1290	115	96	70	56	86	79	89	93	101	115
MEMEL	1300	115	115	113	104	97	103	91	80	82	74
MEMEL	1310	94	106	134	148	106	124	76	112	105 122	
MEMEL	1320	97	136	141	110	120	122	95	104	105 106	
MEMEL	1330	118	116	98	87	99	84	142	106	112	96
MEMEL	1340	108	117	96	84	86	117	99	130	105	108
MEMEL	1350	104	106	96	92	102	120	106	53	66	100
MEMEL	1360	127	128	152	137	113	96	100	95	86	74
MEMEL	1370	94	110	68	116	121	112	133	102	119	96
MEMEL	1380	108	103	106	96	112	94	100	106	100 108	
MEMEL	1390	106	107	124	130	102	94	98	77	102	103
MEMEL	1400	107	104	120	92	118	100	107	94	114	114
MEMEL	1410	107	92	105	92	82	90	94	116	101	96
MEMEL	1420	76	102	98	64	114	118	116	104	87	83
MEMEL	1430	82	89	107	114	100	111	88	105	98	98
MEMEL	1440	90	138	96	99	110	112	98	96	99	84
MEMEL	1450	93	101	116	86	109	124	116	129	88	92
MEMEL	1460	115	77	70	63	108	88	102	106	136	114
MEMEL	1470	97	102	108	77	80	108	105	89	98	72
MEMEL	1480	105	100	88	102	130	100	112	126	114	100
MEMEL	1490	110	90	76	86	78	93	90	106	95	94
MEMEL	1500	113	136	108	92	82	80	88	96	109132	
MEMEL	1510	116	106	112	110	82	96	95	70	110	95
MEMEL	1520	105	100	111	88	106	92	106	99	102	96
MEMEL	1530	91	86	94	101	107	114	96	96	105	102
MEMEL	1540	108	96	88	101	95	104	99	98	110	110
MEMEL	1550	83	94	92	124	82	109	95	78	92	120
MEMEL	1560	116	98	98	98	82	121	87	99	88	112
MEMEL	1570	112	73	103	104	112	102	98	102	98	90
MEMEL	1580	97	999								

• Key Code Stat 1: 293 tree rings. The date of the last ring is 1580. The later wood had nine rings. The final estimated date is c. 1585.

• Key Code Stat 2: 151 tree rings. The date of the last ring is 1547. The later wood has not survived. The final estimated date is c. 1579 or later.

• Key Code Stat 3: 136 tree rings. The date of the last ring is 1563. The later wood has not survived. The final estimated date is c. 1579 or later.

• Key Code Stat 4: 114 tree rings. The date of the last ring is 1564. The later wood has not survived. The final estimated date is c. 1578 or later.

• Key Code Stat 5: 68 tree rings. The date of the last ring is 1539. The later wood has not survived. The final estimated date is c. 1553 or later.

The primary results of synchronisation prove that the oak used for the barrels does not come from the same

Table 5. Individual tree ring series of barrel heads from Klaipėda (number 3 Žvejų St.)

STAT	1	1288									324	285
STAT	1	1290	115	96	70	56	86	79	89	93	101	115
STAT	1	1300	115	115	113	104	97	103	91	80	82	74
STAT	1	1310	94	106	134	148	106	124	76	101	77	102
STAT	1	1320	96	97	111	97	86	110	79	95	84	105
STAT	1	1330	115	120	80	94	72	74	144	116	123	81
STAT	1	1340	116	91	93	77	95	123	92	120	112	95
STAT	1	1350	76	106	101	95	105	148	92	50	55	84
STAT	1	1360	110	120	123	127	108	97	101	102	92	78
STAT	1	1370	93	119	61	114	111	102	139	72	106	87
STAT	1	1380	101	99	119	106	104	95	92	113	89	88
STAT	1	1390	107	83	118	125	93	81	94	63	108	99
STAT	1	1400	102	102	121	87	127	93	106	89	115	101
STAT	1	1410	112	86	109	93	89	85	99	132	115	92
STAT	1	1420	69	102	98	49	134	122	120	101	101	83
STAT	1	1430	83	88	92	116	90	116	63	112	100	99
STAT	1	1440	86	169	93	85	106	112	87	106	93	76
STAT	1	1450	89	98	113	72	115	122	121	136	97	90
STAT	1	1460	112	64	73	62	112	83	112	109	147	114
STAT	1	1470	89	89	97	85	85	121	97	89	101	69
STAT	1	1480	102	105	83	101	131	100	110	117	111	92
STAT	1	1490	106	97	80	92	83	91	93	117	101	92
STAT	1	1500	122	143	107	86	72	70	81	88	116	151
STAT	1	1510	119	94	106	111	71	103	90	49	136	102
STAT	1	1520	117	107	118	78	112	78	107	99	112	100
STAT	1	1530	91	91	88	118	108	106	88	84	101	101
STAT	1	1540	124	94	74	93	98	102	92	101	117	142
STAT	1	1550	93	104	85	110	76	105	95	85	100	114
STAT	1	1560	116	97	103	103	82	121	87	99	88	112
STAT	1	1570	112	73	103	104	112	102	98	102	98	90
STAT	1	1580	97									
STAT	2	1397								162	169	142
STAT	2	1400	192	134	156	123	146	138	136	97	115	100
STAT	2	1410	70	60	63	78	47	94	115	100	177	96
STAT	2	1420	106	136	97	106	143	120	92	110	67	47
STAT	2	1430	37	59	99	143	121	146	112	112	81	72
STAT	2	1440	98	94	87	119	105	120	114	100	102	137
STAT	2	1450	69	134	107	86	72	101	98	54	91	127
STAT	2	1460	84	65	62	74	99	97	101	87	96	118
STAT	2	1470	86	113	102	92	116	149	126	131	63	40
STAT	2	1480	95	100	116	96	100	91	104	119	105	108
STAT	2	1490	147	103	69	75	93	70	152	91	102	123
STAT	2	1500	97	111	92	41	52	123	99	99	100	115
STAT	2	1510	106	110	106	101	110	113	128	118	143	112
STAT	2	1520	90	93	113	81	107	82	98	85	72	75
STAT	2	1530	73	85	103	127	115	86	58	93	102	109
STAT	2	1540	79	114	103	103	100	106	113	999		
STAT	3	1429										169
STAT	3	1430	151	110	141	86	91	81	124	134	149	92
STAT	3	1440	99	86	103	73	100	68	94	116	116	85
STAT	3	1450	140	104	104	104	108	56	82	67	91	99
STAT	3	1460	137	151	123	63	87	105	83	102	117	121
STAT	3	1470	75	77	67	91	80	124	137	135	84	90
STAT	3	1480	82	92	100	117	99	105	111	112	88	108
STAT	3	1490	90	93	74	106	88	121	111	106	99	114
STAT	3	1500	75	106	90	108	96	99	112	102	102	103
STAT	3	1510	112	91	91	92	108	119	103	91	101	88
STAT	3	1520	72	83	111	105	127	95	115	97	111	90
STAT	3	1530	90	95	91	109	106	87	87	121	95	110
STAT	3	1540	101	84	115	97	91	85	117	89	114	116
STAT	3	1550	90	79	81	130	104	124	103	77	72	110
STAT	3	1560	99	105	110	103						
STAT	4	1451		184	130	125	132	108	113	103	87	89
STAT	4	1460	128	113	103	74	108	93	89	110	99	101
STAT	4	1470	87	96	125	120	82	92	108	110	105	75
STAT	4	1480	108	108	89	77	69	86	123	130	125	124
STAT	4	1490	117	104	79	75	68	92	102	98	96	82
STAT	4	1500	103	125	109	100	83	103	98	117	96	97
STAT	4	1510	94	92	99	79	120	151	124	89	69	82
STAT	4	1520	74	126	115	108	97	106	97	106	99	83
STAT	4	1530	85	107	91	110	116	87	103	104	85	92
STAT	4	1540	113	90	100	103	112	110	103	82	104	115
STAT	4	1550	75	98	111	133	82	111	91	73	97	88
STAT	4	1560	115	108	98	101						

STAT	5	1472	229	172	188	110	86	72	79	87		
STAT	5	1480	113	117	123	118	104	69	77	96	121	118
STAT	5	1490	112	90	71	129	101	120	84	61	94	117
STAT	5	1500	99	120	168	111	69	69	81	90	86	118
STAT	5	1510	121	122	86	73	94	126	94	92	86	84
STAT	5	1520	88	152	151	107	86	73	79	101	96	91
STAT	5	1530	112	101	71	87	105	102	113	114	103	98

area, although there is no doubt that the samples are of the same age. Klaipėda (Memel) oak wood chronology applies to merely two cases: Stat 1 and 4, that present local, or at least Baltic, provenance. The rest of the wood clearly came from another region. The results obtained are not final. The dendrochronological dates established are not reliably validated by the statistical T values (Table 3). Great attention was paid to the visual similarity, as well as to the existence of a not very significant, but recurring, signal on the chronologies of Klaipėda, Baltic 1 and Baltic 2 (Hillam, Tyers 1995: 402-403), eastern Pomerania (see Wazny) and Hamburg (see Eckstein).

The material presented for examination – parts of barrel heads – do not seem to belong to one and the same barrel. Probably the site examined (number 3 Žvejų Street, Klaipėda) was a place where no longer used barrels were discarded. Again, we have to remember that the plot was close to the presumed cargo handling area and the town scales essential for trading activity.

It needs to be added that the synchronisation results among individual curves was very low, except for Stat 3 and Stat 4 (TBP-5.50, THO-3.79). The correlation of Stat 2 was negative.

The correlation of Stat 1 implies wood coming from Klaipėda's environs. A high coefficient of correlation with Klaipėda construction wood and Vilnius Lower Castle was observed (Pukienė 2002:106): TBP-2.68, THO-3.31, as well as a high coefficient of similarity (GL 60.7). Ultimately, the Baltic 1 scale adds to the probability of the said supposition.

In accordance with the synchronisation data, Barrel 4 represented a typical sample of Baltic region wood. The correlation with Baltic region chronologies was excellent, while the negative result in the case of the Plateiai scale implied the provenance of the wood being the northern part of the former Prussia, from Klaipėda to Gdansk. The position of Stat 3 was essentially validated by its relationship with the curve of Stat 4. The scales overlapped with a rather high coefficient (TBP-5.50, THO-3.79); however, in the case of other scales, it was only the Klaipėda scale that indicated a reliability of correlation. Evidently, the sample had to be reexamined with respect to other master chronologies.

The most complicated situation occurred in the case of samples Stat 2 and Stat 5. The scales available at the

moment of examination did not produce a reliable signal on the accessible scales. Baltic 1 and Baltic 2 scales allow us to presume that the material examined was oak wood from the Baltic region; however, the scales of eastern Pomerania and Klaipėda suggest a provenance of regions adjacent to the Baltic Sea area. One of the reasons to believe that the barrels came from places far beyond the boundaries of the Baltic Sea region is the following: Klaipėda was visited by boats coming from Holland, France, Sweden (Gotland), Norway, Stralsund, Danzig, Lübeck, Kolberg, Königsberg, ports of the River Šventoji, and from Curonia (Žulkus 2002: 106). Herring from Norway would arrive at Klaipėda in barrels; beer, wine, mead and pipes were transported in barrels, too. Salt was brought from Baye (France), from Flanders (Žulkus 2002: 111), and from Luneburg via Lübeck.

The facts presented suggest that the barrel dating results have to be reexamined by dendrochronologists of Western Europe, by comparing the curves of the barrels with the 16th-century oak wood chronologies of England, Norway, Holland and France.

## Conclusions

In accordance with the dendrochronological analysis of construction wood found on the site at number 3 Žvejų Street in Klaipėda, we can state that construction work first started there around 1560 (the estimated date of the latest sample is c. 1554). The dating of barrel heads, given the dates established, would be c. 1553 or later, c. 1561 or later, c. 1579 or later, c. 1578 or later, and c. 1585. A lath survived in only one, the last sample (c. 1585). It is currently difficult to establish how long the wood had been stored and dried before the barrels were produced. There is also no answer to the question as to the period of time that the barrels served as containers for goods, or whether that was their secondary use. On the basis of the latest established data, the barrels most likely appeared in the archaeological context of the Old Town in the period between c. 1560 (the first construction work in the area) and 1590 (the latest ring in the wood of 1585).

Ultimately, the issue whether this dating of barrel parts is correct, given the low statistical T value, remains open. It is only possible to confirm or deny the dating results by comparing the established figures with other

West European chronologies (at the time the present article was being written, they were not accessible). For this reason, a series of annual growth found in the individual barrel samples (Table 5), as well as a chronology of Klaipėda archaeological oak wood (Table 4), is published with the article.

## References

- Bonde, N., Tyers, I., Wazny, T., Where does the timber come from? Dendrochronological evidence of timber in Northern Europe. *Archaeological Sciences* 1995, 201–204.
- Pukienė, R., 2002. Paprastojo ąžuolo metinio radialiojo priaugio kaitos chronologija nuo 1208 iki 1408 metų. *Dendrologia Lithuaniae*, 6, 102–107.
- Hillam, J., Tyers, I., 1995. Reliability and repeatability in dendrochronological analysis: tests using the Fletcher archive of panel-painting data. *Archaeometry* 37 (2), 395–405.
- Wazny, T., 1992. Historical timber trade and its implications on dendrochronological dating. In: T.S. Bartholin, B.E. Berglund, D. Eckstein, F.H. Schweingruber, O. Eggertsson (eds.), *Tree Rings and Environment: Proceedings of the International Symposium, Ystad, South Sweden, 3-9 September, 1990*. Lundqua Report (Department of Quaternary Geology, Lund University, Sweden) 34, 331–333.
- Zembrickis, J., 2002. *Klaipėdos karališkojo Prūsijos jūrų ir prekybos miesto istorija*, I t. Klaipėda, 2002.
- Žulkus, V., 2002. *Viduramžių Klaipėda. Miestas ir pilis. Archeologija ir istorija*. Vilnius: Žara.

Mindaugas Brazauskas  
 Klaipėda University  
 Institute of Baltic Sea Region  
 History and Archaeology  
 Tilžės g. 13, LT-91251 Klaipėda, Lithuania

Received: 2006

## XVI A. ANTROSIOS PUSĖS STATINIŲ, RASTŲ KLAIPĖDOS SENAMIESTYJE, KILMĖS TYRIMAS

**Mindaugas Brazauskas**

### Santrauka

Dendrochronologijos taikymo archeologijoje plėtra pastaraisiais dešimtmečiais yra ženkliai pažengusi į priekį. Šis medienos datavimo metodas papildė nemažą istorijos šaltiniuose nutylėtų praeities faktų, nušvietė kasdienybę ir padėjo iširti daugelį archeologijos moksle nežinomų gyvenvietėse bei miestuose vykusių procesų.

Suklestėjus medienos prekybai XIV–XVII a., po Vakarų Europą pasklido nemažas kiekis baltiškos kilmės medienos, kurios datavimą Vakarų Europos dendroch-

ronologams sunkina Baltijos regiono ąžuolo chronologijų nepakankamumas. Savo ruožtu nemaža kitų regionų kilmės medienos (pvz., iš Norvegijos, Anglijos, Prancūzijos) turėjo nusėsti į Baltijos regiono miestų archeologinį kontekstą. Šiuo atžvilgiu ne ką mažiau svarbesniu uždaviniu vietos dendrochronologams tapo tokios medienos identifikacija, datavimas bei kilmės nustatymas.

Gana įdomi XVI a. vidurio Klaipėdos miesto prekybos situacija atsiskleidė analizuojant 2005 m. vykdytų žvalgomųjų archeologinių tyrimų metu Žvejų g. 3 (Klaipėda) sklype paimtas ąžuolo medienos nuopjovas (konstrukcinė architektūrinė mediena bei statinių liekanos). Domino klausimas, ar galima dendrochronologiškai atskleisti XVI a. prekybos kontaktus ir gauti jų apčiuopiamą įrodymą per medienos tyrimus, neapsiribojant vien istoriniais šaltiniais ar importuotais dirbiniais, rastais archeologinių tyrimų metu.

Remiantis Žvejų g. 3 sklype aptiktos konstrukcinės medienos dendrochronologinėmis datomis galima teigti, kad pirminis apstatymas šioje senamiesčio dalyje susiformavo apie 1554–1560 metus.

Pirminiai sinchronizacijos rezultatai parodė, kad statinių gamybai naudota mediena nėra iš to paties arealo, nors jų vienalaikiškumas neabejotinas. Klaipėdos ąžuolo medienos chronologija tik dviem atvejais tiko medienai datuoti. Tuo tarpu kita dalis medienos yra aiškiai kito regiono kilmės. Statinių datavimas, atsižvelgiant į gautas datas, būtų: apie 1553 m. ar vėliau, apie 1561 m. ar vėliau, apie 1579 m. ar vėliau, apie 1578 m. ar vėliau, apie 1585 m. Tik viename vėliausiame mėginyje buvo išlikusi balana (apie 1585 m.). Labai sunku pasakyti, kiek laiko mediena buvo sandėliuojama, džiovinama iki gaminant statines. Tuo labiau nežinoma, kiek metų statinės buvo naudojamos kaip prekių tara, ar jos naudotos antrą kartą. Remiantis kol kas turima vėliausia data, tikėtina, kad statinės į senamiesčio archeologinį kontekstą pateko intervale nuo maždaug 1560 metų (pirminis apstatymas) iki maždaug 1590 metų (vėliausia statinės rievė 1585 m.).

Galiausiai klausimas, ar tokios dabar pateiktos statinių dalių datavimo datos yra teisingos, atsižvelgiant į gana žemą statistinį rodiklį, lieka atviras. Datavimo rezultatų patvirtinimas ar paneigimas įmanomas vien tik nustatytą medienos augimo poziciją palyginus su kitomis Vakarų Europos ąžuolo chronologijomis (straipsnio rašymo metu jos nebuvo prieinamos). Dėl šios priežasties čia publikuojamos statinių lentučių dendrochronologinės skalės bei Klaipėdos archeologinio ąžuolo medienos skalė.

