

## ARCHAEOBOTANICAL DATA FROM THE ANCIENT TOWN OF APOLONIA

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### ABSTRACT

*The earliest data about appearance of inhabitants in the area of Sozopol are for about 6000 years back in time. A prehistoric settlement has existed at the end of the 5<sup>th</sup> millennium, Varna culture, located around the local bay. The level of the Black Sea then has been with 8-10 meter lower than nowadays. The archaeological digging in the hills around Sozopol show that in the middle of the 2<sup>nd</sup> millennium BC the territory of the contemporary town has been inhabited by people with a culture typical for the Thracians – Skirnyanin. The archaeological materials in consideration come from the necropolis located outside the town, to the south of Sozopol in the so-called 'Harrmanite' area. According to Dr. Kristina Panayotova, who has lead the diggings, the necropolis is dated 4 – 2<sup>nd</sup> century BC and it has stayed in use for about 300-350 years. The archaeobotanical materials from the ancient necropolis Apolonia give us interesting information about the flora in the ancient times. On one side on the basis of the results of the studied wooden remains we could guess the paleo-environment during the studied period – most probably the climate has had more moisture than now. But the lack of more data does not allow us at that stage to present a more precise idea of the palaeoecological conditions in the studied site. On the other side, the found import types of plants are unquestionable proof of an animated trade during the Ancient Times as well as they show a continuity and transfer of the rituals in regard of the funeral donations, namely: fruits, vessels, pottery and other objects with ritual use.*

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### **Archaeological Data and Geographic Location of the Site**

The earliest data about appearance of inhabitants in the area of Sozopol (i.e. Apolonia) are for about 6000 years back in time. A prehistoric settlement has existed at the end of the 5<sup>th</sup> millennium, Varna culture, located around the local bay. The level of the Black Sea then has been with 8-10 meter lower than nowadays. The archaeological digging in the hills around Sozopol show that in the middle of the 2<sup>nd</sup> millennium BC the territory of the contemporary town has been inhabited by people with a culture typical for the Thracians – Skirnyanin. The ancient authors announced that in 11<sup>th</sup> century BC a group of re-settlers originating from the Asia Minor polis Miletos and from the city of Phokaia have founded on the land of the Sozopol peninsula a new polis called by them Apolonia. It was named after the God Apollon who had been worshiped here as curer. And by the V<sup>th</sup> century BC the territory of Apolonia has expanded from the cape of Atiya alongside Meden Rid till the cape named Maslen Noss and alongside the Bourgass sea coast till the nowadays town of Pomorie, where a new settlement, called Anhialo, was founded. Small Appolonian settlements were found also in the lands of the nowadays tourist villages of Ahtopol and Kiten and near Maslen Noss and Atiya (Dimitrov 2004:18).

The archaeological materials in consideration come from the necropolis located outside the town, to the south of Sozopol in the so-called 'Harrmanite' area. According to Dr. Kristina Panayotova, who has lead the diggings, the necropolis is dated 4 – 2<sup>nd</sup> century BC and it has stayed in use for about 300-350 years. The graves are in 7 consequent players.

Among the graves where corps was layed predominant were the grave pits, digged in sandy or in clay-sandy lands. In most cases the corps was buried straightened, on their back. Most richly provided are the children graves. Among the funeral donations traditionally dominant are different aroma vessels. Majority of them are 'lekit's – local or Athic production. The funeral inventory comprises also different vessels for fluids of the kind of amphoras, local black-fimis and black-figured jars and onchoeta-s. And of the small number of metal things the bronze and iron needles, fibulas, strigallas, mirrors, ear-rings, coins, rings are predominant. Big part of the necropolis findings have been founded outside the graves. Those are single whole or fragmented pottery.

The studied in 2004 - 2006 27 rituals fire places have oval form. The ritual by them has taken place in a shallow pit. It is often there to be found bones of animals, charred nuts, and astragaloses. The ceramic complex comprises the traditional form pottery, used by exercising those post-funeral rituals, the almost obligatory ichtius, grills for fishes, black-figured lechanets and ackoses, pots and bowls (Панайотова 2004:146).

### Archeobotanical Analyses

The archaeobotanical studies are done in several consecutive years. They represent charred plant remains, in most cases ritual food, placed in the graves of the dead people. Unfortunately most of the soft fruits and other organic remains burn so that no information about them could be achieved. And that is why of unquestionable significance are those which have been well conserved. Different from other archaeological sites here the character of the contexts requires the collection of the material to be manually done from each ritual fireplace. And often in them except fruit remains some fragments of charred wood are also to be found.

The material is collected from the contexts as follows: fire places, graves, content of vessels/pottery, fragments of burned piles. The data are to be seen in Table 1.

### Results

The results show big variety of flora remains in the form of fruits and charred wood. 11 wood species have been found, among which 7 are of fruit trees: *Quercus f.c.*; *Ulmus sp.*; *Carpinus sp.*; *Pinus sylvestris*.

Considering the wood species the dominet one is the oak - *Quercus petraea* L.; *Quercus robur* L. It is the most oftenly met specie of tree in the archaeobotanical materials.

The common English elm is the second specie of tree found in the necropolis. It is the specie to be found in the lower part of the forest as it requires more water. It develops in the conditions of mediate-continental and more damp climate. That specie prefers deeper and damper soils. It inters into the content of the mezophile mixed forests growing alongside rivers.

The third tree specie is the hornbill it develops well in the light and humidity, and grows well on clay soils. It enters into the complex of the mixed oak and beech. The species found are the constituent elements of the deciduous forests. This association is typical for a more damp and warm climate.

The Black Sea phito-geographical area covers the Black sea coast line where the transfer-Mediterranean deciduous flora with falling leaves is often found. Here are to be met well developed longoses as well as Pointious relict plants are also to be met. The Southern coastline of Bulgaria experiences a significant influence of the Mediterranean. The flora species found confirm the availability of that species of flora which requires a damper climate.

The other group archaeobotanic remains presents tree fruits, found predominantly in the ritual fire places. Those are: *Pyrus sp.*, *Cerasum avium*, *Coryllus avellana*, *Pinus pinea*, *Pistacia vera*, *Phoenix dactilifera*, *Vitis vinifera*. They could be divided into two groups: fruit trees which are to be met and grow in the territory of the country and such which have import character. To the first group are to be listed the found in Sozopol (Apolonia) stone of apples, pear and hazel.

In the Bronze Age olives, grapes and figs appeared to be the main triad belonging to the grain and leguminous plants in the Mediterranean region, the Aegean including. Some new species were added like *Amygdalus communis* - almond; *Malus nigra* - apple; *Punica granatum* - pomegranate (Zohary/Hopf 1998:128).

The Antiquity is marked by a high increase in the number of species.

### **Apple Tree**

Pliny mentioned the existence of apples without seeds in Belgium Gaul, a region located between the Seine and the Rhine. S. Papinius supplied a peculiar type of apple from Africa. According to the information provided by Pliny the Elder, Columella and Macrobius, the apple varieties amounted to 27, and the pear varieties – to 57. According to the Latin authors, the Roman gardeners successfully introduced the new varieties of fruit trees. The apple was a species familiar also to the ancient Egyptians. It is mentioned in Harri's papyrus (XX dynasty), where instructions about its preservation in granaries are given.

### Cherry Tree

In Bulgaria fruits of cherries have been found in the village of Durankulak (Popova/Bojilova 1989/1990: 27); cherries and pears in the village of Dyadovo (Popova 1992: 239); plums in the village of Madrets (Popova 1995: 264); apples in Varna (Popova/Bojilova 1989/1990: 27).

The cherry occurs in a state of nature in our country too. Its wild form has been well-known since 8000 BC in Anatolia, as well as in some pile dwellings in Switzerland. The wild variety "avium" is considered to be related to it and stones from the latter were found during excavations of settlements from the Neolithic and the Bronze Age (Popova 1995: 265; Popova/Bojilova 1998: 384).

According to Franke and Hammer (1976: 108) the cultured cherry most probably originates from areas close to the Black Sea region from where it was imported in Italy in 74 BC after L. Lucullus' march. Around 73 BC L. Lucullus was the first to import the morello-tree from the coasts of Pontus. Marcus Vitellius brought some varieties of fig and peanut trees from Syria. According to the evidence of Cato (the first half of the 2<sup>nd</sup> century BC) African and Spanish figs were cultivated in Italy at that time (Блаватский 1976: 176).

The information provided by Theophrastos about the specific flora from the various regions reveals: "...so in Tmolos and Moesian Olympus there are many walnuts, chestnuts, as well as grapevines, apples, pomegranates. Some of these plants do not grow in Ida, and others can be rarely found there, some of them grow in Macedonia and Piraeus Olympus, others not. It is written at some other point that: "...the following vegetation species are typical of the Macedonian mountains and they grow in the fields ... wild fig...walnut...bird's cherry, wild pear, apple. ...about the "wild" and "ordinary" pear and cherry he says that "in the field they have not only better fruits, but also better trees, while in the mountain they are small, sour and covered with thorns".

Herodotos describes the special care taken of cherry trees. In winter they were wrapped in felting.

To the second group the next listed types of plants are to be listed: *Pinus pinea* *Pistacia vera*, *Peoenix dactilifera*, which are exotic plants and they are not met in the territory of Bulgaria as they have a typical Mediterranean areal and need special climatic conditions.

All of them give absolute evidence of animated trade in the studied period.

### **Pinia (*Pinus pinea*)**

The *Pinus pinea* or the so-called umbrella-pine is a typical Mediterranean plant which is to be found in natural circumstances from Syria to Portugal.

In Bulgaria fruits of this pine have been already found in 4 archaeological sites. Most numerous are the findings in the ancient necropolis Apolonia in Sozopol (Popova in press), it is found also in the Roma castle Abritus (1-4<sup>th</sup> century) (Popova 2000: 57), Kabile and in the Gyaur Hill near Karnobat (Popova inpubl.data). These findings represent separate kernels of the cone, but there are also found whole parts and whole cones. That brings us to the conclusion that there has been a regular practice of transfer of whole cones and already in place here their manipulation have had taken place. Most probably it has been a more comfortable way to preserve them from moisture etc. and also of preservation from rodents.

The collection of cones with fruits seems to have been quite often in the Near East as well as in Cyprus and in Greece. Many Roma authors such as Plino, Columela, and Paladius have mentioned the consuming of these fruits with likable taste. Apicius, who is the author of many cooking receipts (1<sup>st</sup> century BC) uses the *Pinea* fruits quite often.

Eaten raw or roasted like peanuts, pignolia nuts are a traditional ingredient of certain Italian dishes. In fact, the tree is native to southwest Europe around the Mediterranean to Greece and Asia Minor, and remains of the cones have been discovered in Roman camps in Britain attesting to their long – time popularity. The findings of pinia in the archaeological contexts in the Mediterranean regions are dated nearly during the whole Roma time. It has been often presented in barrefels.

The *Pinea* is connected with ritual treating. Evidence of it provides it's repeatedly findings in graves. And, judging of the context of the found remains, some of them in graves, it is obvious that it has had such significance locally as well.

An interesting example of import is the discovered stone-pine (*Pinus pinea*) in *Abritus* (1-4<sup>th</sup> Century), *Cabyle* and Gyaurska Mogila near Karnobat. The discovered nuts from the necropolis in Karnobat represent separate fruits, but also there are whole parts of the cones. This proves the existence of a definite practice for the transference of entire cones and of the fact that their processing took place on site. Probably, this was a more-convenient way of preservation from dampness and other influences, as well as from rodents.

The gathering of cones was probably a widespread activity in the Middle East, as well in Cyprus and Greece. The discovered remains of a shipwreck found in Uluburun (along the Turkish coast) are dated to the Bronze Age (ca. 3200 BC). The ship transported an enormous amount of stone-pine fruits, which proves the significant presence of this fruit in trade (Marinval 2001: 188). The tree was widely spread even before Antiquity, especially in Italy, and was used for culinary, decorative and even ritual purposes (Marinval 2002: 205). Many authors like Pliny, Columella and Palladius provided information about its consumption. It is frequently mentioned in Apicius' recipes (1<sup>st</sup> century BC). These finds mark the entire Roman epoch in Western Europe.

The stone-pine grows in warm and dry conditions. In the north it acclimatizes and bears fruits with greater difficulty. Therefore, it is logical that it was transferred to the interior from the Mediterranean areas. The finds in Pompeii or Herculaneum confirm the frequent consumption of this species. The fruits were burned in tombs during ritual acts related to fertility. The recurrence of the finds in the tombs indicates their significance as ritual fruits related to the life of the deceased. Judging by the context of the discovered remains, it is obvious that on the territory of the country it was used both for consumption and rituals.

#### **Date-palm (*Phoenix dactilifera*)**

Remains of date stones have been found only in one of the fire places in Apolonia. The endocarp is not well preserved. Similar fruits but already later dated have been found also in another site – Vetren, Silistra region, from grave number 1. They give proof of the import of this specie are the dates found in *Abritus* (1-4<sup>th</sup> Century) (Popova/Marinova 2000: 56), Vetren (1<sup>st</sup> Century) (Попова 1990: 251), as the habitat of the date palm is located far away from us.

It is obvious that in this case we have a ritual funeral). The second finding is related to the 1-4<sup>th</sup> century and it has been found in the Roma castle Abritus.

The date is an ancient cultured plant, which had been known to people even before 7000 BC in Sumerian and Assyria. It is the first fruit tree grown by the people in the Near East. The origin of this plant from Northern Africa and Southwest Asia has not been entirely elucidated. In comparison with other classical plants like the olive, the date and the grape it needs a considerably warm and damp climate, which is of great significance for the fruit-bearing of the tree. The earliest finds date from 6000-5000 BC in Egypt, Iran and Pakistan. Finds have been discovered also in Jordan - 3700-3500 BC (Zohary/Hopf 1998: 146).

The date palm is also mentioned in a number of Sumerian texts. From Egypt it reaches North Africa and Europe. It was discovered in Pompeii and Herculaneum, as well as in Gallo-Romanic sites during later periods. Its numerous images on Babylonian and Egyptian reliefs clearly show that it was well known even in antiquity.

Its numerous representations on Babylon and Egypt reliefs give evidence that it has been known in the ancient times. There was an ancient practice of employing artificial pollution – to hang parts of male racemes together with female racemes. And we know of the usage of palm leaves as a symbol of peace nearly in all the religions.

The Greeks called the date palm "*phoenyx*", because the Phoenicians often depicted it on their coins.

The most famous dates were those from Syria as they were consumed every day. It was a common practice to wrap them in a golden paper as a delicacy for the poor for the celebration of the New Year. While preparing dishes they were added to pary, fish or seafood. Very often they substituted honey or were used for the production of wine through fermentation.

#### **Pisatacio (*Pistacia vera*, *Pistacia atlantica*)**

In the necropolis of Apolonia fruits of that kind are often to be found. For the territory of the country the earliest findings are dated back from the Bronze Epoch in the village of Tatul, as well as of the town of Yambol. Some lare



findings known are those of Sveshtari site, Malak Preslavetz site, Karnobat – mainly from the Roman Epoch.

Findings with significantly earlier dating are known on the territory of Greece - Sesklo (Renfrew 1979:254) and Castanas from the Bronze Epoch (Kroll 1983: 51) and also in Turkey – 5000-4000 BC.

And it is logical as the *Pistacia vera* is also nowadays a typical plant in the territories.

The pistacio or *Pistacia vera* is a typical Mediterranean plant that produces nitschell fruits. This bush is found everywhere in the Mediterranean areas. *Pistacia vera* is a wild bush in Western Iran, Afganistan, Turkmenistan, Kazakhisitana – in the steppe-forest regions. The wild growing forms have smaller fruits and they are consumed by the nomads. The earliest findings have been found in the region of Kerman in Iran. Among the early findings are also those of Tepe Yahya (Bronze Age). The data of some authors come to show that this plant has started to be grown by people comparatively late as most of the cultural forms refer to the Roman Epoch.

The genus *Pistacia* (family *Anacardiaceae*) has four Mediterranean species *Pistacia atlantica*, *P. khinjuk*, *P. lentiscus* and *P. terebinthus*, all of which may have been available in the past for the production of resin. *Pistacia* resin is also known as mastic, Chios (sometimes Chio or Chian) turpentine, Cyprus balsam or terebihth. Today, the resin is commercially produced on the island of Chios, and is used for chewing gum, varnish, sweets and cordials. Although there has been some debate about precise species identification and ancient use of cultivated forms (Padulosi/Caruso/Barone 1996: 326; Serpico 2000: 432) only *P. khinjuk* is native to modern Egipt. However, the resin – producing capability of these species varies, and it is thought that the most abundant source would have been *P. atlantica*. Today, only the resin from the cultivated *P. lentiscus* is still commercially produced in large quantities.

One of these kinds has been used in the production of turpentine from the ancient times. Interesting example of it is the pottery found in Amarna site.

One site with unusually well preserved material is Amarna, located in Middle Egipt. This site, dated to the 18<sup>th</sup> dynasty of the New Kingdom, was largely occupied for a single generation under the Pharaoh Akhenaten (1364-

1347 BC). Many pottery sherds from the recent excavations still show evidence of visible residues, often of a resinous appearance. Study of these sherds has indicated that the resin is often present as a deposit adhering to bowls traditionally associated, from pictorial evidence, with incense burning (Stern/Serpico et al. 2003: 402).

### **Conclusion**

The archaeobotanical materials from the ancient necropolis Apollonia give us interesting information about the flora in the ancient times. On one side on the basis of the results of the studied wooden remains we could guess the paleo-environment during the studied period – most probably the climate has had more moisture than now. But the lack of more data does not allow us at that stage to present a more precise idea of the palaeoecological conditions in the studied site. On the other side, the found import types of plants are unquestionable proof of an animated trade during the Ancient Times as well as they show a continuity and transfer of the rituals in regard of the funeral donations, namely: fruits, vessels, pottery and other objects with ritual use.

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**Table N 1:** Archaeobotanical remains from Apolonia

|                           | No.<br>Fire places |           |          |           |           |           |           |           |
|---------------------------|--------------------|-----------|----------|-----------|-----------|-----------|-----------|-----------|
| taxons                    | 7                  | 3         | 1        | 9         | 12        | 11        | 8         | 2         |
| <i>QUERCUS a.f.c.</i>     | 30                 | 17        | 6        | 2         |           |           | 7         | 33        |
| <i>Ulmus sp.</i>          | 5                  |           |          |           |           |           |           |           |
| <i>Carpinus sp.</i>       | 3                  |           |          |           |           |           | 2         |           |
| Pinaceae                  | 6                  |           |          |           | 3         | 5         |           | 1         |
| <b>TOTAL</b>              | <b>44</b>          | <b>17</b> | <b>6</b> | <b>2</b>  | <b>3</b>  | <b>5</b>  | <b>9</b>  | <b>34</b> |
| fruits                    |                    |           |          |           |           |           |           |           |
| <i>Corylus avellana</i>   |                    |           |          | 17        | 5         | 28        |           | 12        |
| <i>Pistacia vera</i>      |                    |           |          |           |           |           |           |           |
| <i>Pomum sp.</i>          |                    |           |          |           |           |           |           |           |
| <i>Pyrus sp.</i>          |                    |           |          |           |           | 1         |           |           |
| <i>Cerasum avium</i>      |                    |           |          |           |           |           |           |           |
| <i>Pinus pinea</i>        | 4                  |           |          |           | 5         | 1         |           |           |
| <i>Vitis vinifera</i>     |                    |           |          |           | 3         | 2         |           | 3         |
| <i>Ficus carica</i>       |                    |           |          | fragments | 2         | fragments | fragments |           |
| <i>Phanyx dactilifera</i> |                    |           |          |           | fragments |           |           |           |
| <i>Pyrus amigdalus</i>    |                    |           |          |           |           | 1         |           |           |
| <b>TOTAL</b>              | <b>4</b>           |           |          | <b>17</b> | <b>15</b> | <b>33</b> |           | <b>15</b> |



Fig. 1

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