



Gölyazı (photo: J.R. Snyder 2016)

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## The ancient infrastructure of Apollonia ad Rhyndacum: Gölyazı Survey 2019

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The ancient town of Apollonia ad Rhyndacum is located around 35km west of Bursa and dates back to at least the second century BC. It is now the modern town of Gölyazı, located on a peninsula and associated seasonal island on Lake Apolyont (Ulubat) between the Sea of Marmara and Uludağ. Until quite recently, little detailed attention had been given to the town's rich history and extensive archaeological remains. Multiple surveys were carried out between 2002 and 2010 (Aybek, Öz 2004; Aybek, Dreyer 2016), but this work has not significantly expanded our knowledge of the ancient city beyond written accounts from 19th-century travellers such as Philippe Lé Bas and Salomon Reinach (1847). In 2017, however, under the direction of the Bursa Museum and Uludağ University, systematic archaeological excavations began on features such as the Temple of Apollo on neighbouring Kız Adası, the theatre and the numerous tombs of the necropolis.

Nonetheless, only one recent publication has included even a limited discussion of the fortification structures of the ancient town, and this is primarily concentrated on discussion of the reused decorative stone elements and inscriptions that were incorporated into the circuit wall and 'kastro' (Aybek, Dreyer 2016). Many questions remain about changes to Apollonia ad Rhyndacum's urban layout over time and how such changes affected its infrastructure. How and when were the multiple phases of the town's fortifications built? Did the changes in urban layout and geographical constraints dictate the nature of the fortifications as well as the water-supply system over time? What do the physical remains of this urban infrastructure tell us about the town's evolution, particularly in late antiquity and the so-called 'dark ages'? How did these changes coincide with events at neighbouring settlements in Mysia and wider Anatolian settlements?

Newly planned fieldwork, which it is hoped to commence in the summer of 2019, aims to address these questions. The project will carry out an intensive archaeological survey of the fortification walls and associated structures, including both the circuit walls of Gölyazı Merkez and the walls and gate surrounding Zambaktepe (St George Hill), as well as the remains of the water-supply system. These archaeological features present a complex formation of numerous building phases and a range of reused building materials dating from the Hellenistic to the Byzantine period. A detailed survey of their remains, in conjunction with the excavations being carried out by Uludağ University and Bursa Museum, will provide the documentation needed to preserve and present the important history of Gölyazı to both the academic community and the wider general public.

The documentation of these features will be conducted using a variety of methods. For the walls and associated fortifications, all available remains of the walls will be photographed and measured in conjunction with the collection of GPS data. The latter will be integrated into a geographic information system (GIS). The approach to the aqueduct will be similar to that of the walls. Based on the state of current preservation, GIS work will be conducted using topographical data from the surrounding environment to pinpoint the path of the water-supply system. Furthermore, the fieldwork will entail identifying possible locations of the natural springs that would have fed the aqueduct as well as exploring how water might have been distributed within the city.

Architectural and epigraphic elements incorporated in the walls of Gölyazı will be identified and recorded for the purpose of reconstruction through 3D models. In the first season of fieldwork, we will conduct a pilot study using photo-based 3D scanning, in order to test the suitability of this method. We will use the collected survey data to identify phases of construction and rebuilding within the archaeological remains. This will include investigating the earliest date for the wall, based on its foundations, as well as identifying the provenance of spoliated materials used in subsequent phases. Furthermore, stone building materials and decorative elements used in the construction of the walls and aqueduct will be compared with the local bedrock geology to differentiate between local and imported resources.

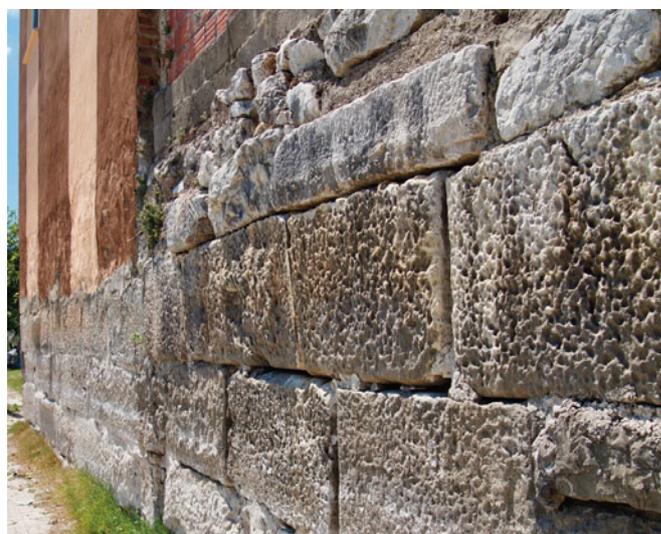
During this survey, we intend to investigate how urbanisation over the past few decades has affected the remains of the walls and how these structures form part of the collective identity of the local community. This information can be used both as a tool to inform heritage management and as a means of understanding the changing urban demography of Gölyazı. Işıl Gürsu from the British Institute at Ankara will lead this aspect of the project, and in the first year will build the foundations for future anthropological fieldwork, which will involve discussions with longstanding members of the local community and those who live in domestic spaces integrated into these archaeological features.

With this research, we hope to shed light on the urban transformation of Gölyazı, especially in the late antique and Byzantine periods, through an exploration of the relationship between the fortification walls and the built environment within them. This is particularly important in building an understanding of the city's changing importance through time and its relationship to other settlements in the wider region, such as ancient Bursa and Iznik.

In addition to the authors, the team consists of Mustafa Şahin, Derya Şahin, Gonca Gülsefa, Nur Deniz Ünsal and Hazal Çıtakoğlu, from Uludağ University, Ayşe Dalyancı-Berns, from Technische Universität Berlin, and Işıl Gürsu from the British Institute at Ankara.

#### References

- Aybek, S., Dreyer, B. 2016: *Der archäologische Survey von Apollonia am Rhyndakos beim Uluabat-See und der Umgebung Mysiens in der nordwest-Türkei 2006–2010*. Münster
- Aybek, S., Öz, A.K. 2004: 'Preliminary report of the archeological survey at Apollonia Ad Rhyndacum' *Anatolia* 27, 1–25
- Lé Bas, M.P., Reinach, S. 1847: *Voyage archéologique en Grèce et en Asie Mineure*. Paris



Blocks from the ancient city walls of the 'kastro' used in the construction of modern houses (photo: J.R. Snyder 2016).