CollAn XII 2013 37-77

An Updated Assessment on Western Anatolian Middle Bronze Age Chronology in Light of Excavations of the Izmir Region

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Keywords: Western Anatolia, Middle Bronze Age, Chronology, Izmir Region, pottery

Anahtar Kelimeler: Batı Anadolu, Orta Tunç Çağı, kronoloji, İzmir Bölgesi, çanak-çömlek

I. Introduction[1]

The use of writing was limited to central Anatolia during the Middle Bronze Age. Consequently, the chronologies of regions in which writing had not been introduced were established according to stratigraphically retrieved findings.

Until recently, the stratification determined from the Troia excavations has been taken as the basis for all Bronze Ages in Western Anatolia. As suggested by Carl Blegen, the settlement strata of Troia IV to VIIa dated to the 2nd millennium BC. According to Blegen, settlement IV dated to the years 2050-1900 BC, settlement V to 1900-1800 BC, settlement VI to 1800-1300 and settlement VIIa to 1300-1260 BC (Blegen 1963: 174). Settlement VI, which extends over a long time, is further sub-categorized into the early, middle and late periods. Peter Pavuk suggested an approximate timeline of 1750-1450 BC for Settlement VI (Pavuk 2007: fig. 1). This date range was the result of comparing Troia with Crete, the Cyclades and some centres in continental Greece, which were dated in accordance with Egyptian chronology.

Alongside Troia, the 2nd millennium BC strata of Beycesultan were examined by Seton Lloyd and James Mellaart. Strata V and IVc-a were dated

1 This study is a follow-up of "İzmir Bölgesi Orta Tunç Çağı Seramiği," in *Belleten* LXXIV/269, published 2010.

to the Middle Bronze Age, while Strata III-I were dated to the Late Bronze Age (Lloyd – Mellaart 1965; Mellaart – Murray 1995). However, new stratigraphy resulted from the Beycesultan excavations, which resumed under the presidency of Eşref Abay in 2007. In the new studies, layer I was named the 4th layer, and layer II was named the 5th layer (Abay – Dedeoğlu 2012: 305, table). Abay has not named layers III-V, as the new era excavations have not yet been examined (Abay – Dedeoğlu 2012). In addition, C-14 dating carried out on grain samples obtained from the new era excavations' 5b layers has placed these strata at 1570-1530 BC (Abay – Dedeoğlu 2012: 315). These ongoing studies in Beycesultan will make a great contribution to determining the chronology of Western Anatolia.

However, a different dating method was subsequently implemented at the excavations of Miletus (Niemeier – Niemeier 1997: 229-240; Graeve 1997: 532) and Iasos (Momigliano 2000: 12; 2001: 15). Middle Bronze Age strata at these settlements were dated according to local pottery, along with Minoan, Cycladic and Helladic pottery examples retrieved from the strata.

In addition, excavations carried out within the scope of the Izmir Region Excavations and Research Project has revealed significant data for Anatolian archeology. This information has been obtained from settlements in various geographical locations such as Panaztepe, Liman Tepe, Bakla Tepe, Kocabaş Tepe and Çeşme Bağlararası within the scope of the project (Map 1). Comparison of these sites makes it possible to observe the roles of local factors in cultural development; for example, Middle Bronze Age layers were detected at the Panaztepe, Liman Tepe, Kocabaş Tepe and Çeşme Bağlararası excavations (Aykurt 2010: 1-5).

Panaztepe is located among a group of independent hills and 13 km west of Menemen in the Gediz Region. In the studies initiated there in 1985 under the presidency of Armağan Erkanal, which continue today, layers dating from 3000 BC until the Byzantine Period have been examined. The studies have been carried out at four main excavation sites in the settlement. The first of these is Acropolis, and two culture layers have been revealed during the excavations. The first culture layer dates to the Classical Era, and the two-phase second culture layer dates to 2000 BC. The second excavation site is the Workshops Area, which is located south of the Acropolis and was used in 2000 BC. The third excavation site is made up of what are called the first and the second graveyards; the first is located at the south end of the Akropol, and the second at the north end. Part of the graveyard dating to Late Helladic III A-B was used as a graveyard in the Islamic Period. The last excavation site

is the Liman Kent. At this excavation site located in the east of Panaztepe, cultural findings dating from 3000 BC to the Byzantine Period have been detected. The ceramic and small findings obtained both at the settlements and the graveyard are significant as they show the relationship of Panaztepe with western central and south Anatolia, continental Greece, the Aegean islands, Crete and Egypt (Aykurt 2010: 3).

In the studies initiated in 1979 by Güven Bakır and Çetin Anlağan at Liman Tepe across Karantina Island in the Iskele settlement of the Urla district of Izmir, prehistoric excavations were carried out by A. Erkanal and Hayat Erkanal. These studies were broken off in 1981 and resumed in 1992 under the presidency of H. Erkanal, continuing to the present day. These excavations have revealed that there were settlements at Liman Tepe from the Neolithic Age until the Roman Period. Layer I of the settlement dates to the Roman, Classical and Archaic Periods; layer II to Late Bronze Age; layer III to a four-phase Middle Bronze Age; later IV to Early Bronze Age III; layer V to Early Bronze Age II; layer VI to a five-phase Early Bronze Age I; layer VII to the Chalcolithic Period; layer VIII to the Neolithic Age. The ceramic and small findings obtained from these layers indicate close cultural ties with the neighboring regions since the early periods (Aykurt 2010: 2-3).

Kocabaş Tepe, another centre of excavation carried out within the scope of this project, is located 4 km north of Değirmendere town, south of Cumaovası. The plains areas suitable for settlement are mostly located along the southern slope of the hill, which extends nearly 1 km in a north-south direction. At the excavations under the presidency of the Izmir Archeology Museum and the scientific consultancy of H. Erkanal in 1997 and 1999, a three-phase settlement dating to the Middle Bronze Age was partly revealed (Aykurt 2010: 4).

Çeşme Bağlararası is the newest excavation of the project. It is located in the Bağlararası district at Çeşme Harbor. The findings from the excavations carried out between 2002 and 2005 under the presidency of the Çeşme Archaeology Museum and the scientific consultancy of H. Erkanal, and under the presidency of Vasıf Şahoğlu since 2009, date to Early Bronze Age II-III, and to the Middle and Late Bronze Ages. The first phase of the Middle Bronze Age culture layer dates to Middle Bronze Age III, and the two-phase second layer dates to Middle Bronze Age II (Aykurt 2010: 5).

II. The Chronological Chart According to Archaeological Material

During systematic excavations carried out in Izmir and its immediate surroundings over the last twenty years, Middle Bronze Age strata have been examined, resulting in a reliable chronology for the region. Comparing the Aegean and central Anatolia regions, with the Liman Tepe settlement taken as a basis, resulted in the revelation of a three-phase progression of the "Middle Bronze Age".

II.1. Middle Bronze Age I

New settlements from the start of the Middle Bronze Age were brought to light through the excavations carried out at Liman Tepe, Panaztepe and Kocabaş Tepe in Izmir. Strata dating to the start of the Middle Bronze Age were also identified at the excavations in Troia, Beycesultan and Miletus in western Anatolia. The data obtained from these sites centres around two main categories, local ceramics and imported pottery, and efforts have been made to create a chronology by comparing their findings with those of the neighboring cultural areas.

II.1.1. Local Pottery

II.1.1.A. Material and Technical Characteristics: When the clays of the ceramic samples from excavations of Middle Bronze Age settlements in Izmir are examined, it is observed that the northern, southern and inner areas of Izmir exhibit regional differences (Aykurt 2010: 8).

The northern part of the region beginning with Bayraklı in Gulf of Izmir is called the "North Izmir Region". The Bayraklı, Panaztepe and Larisa settlements in this region provide information about the era's ceramics. Plenty of mica in the clay and on the surface of the Middle Bronze Age ceramics obtained at these centres emerges as a characteristic of the region. In addition to the mica ink the clay, limestone, sand and stone are also present as additives (Aykurt 2010: 8).

The southern part of the gulf of Izmir starting from Bayraklı is called the "South Izmir Region". In this region, Liman Tepe and Çeşme Bağlararası settlements are characterized by the calcareous structures of the Middle Bronze Age ceramics. Stone and sand are present as additives, but not limestone (Aykurt 2010: 8).

The towns of Menderes and Torbalı in the interior areas of Izmir are called the "Inner Part of Izmir." The Kocabaş Tepe and Bademgediği Tepesi settlements in this region have different characteristics. The most apparent characteristic of the Kocabaş Tepe Middle Bronze Age ceramics is their calcareous, quartz and stony structure. Bademgediği Tepesi Middle Bronze Age ceramic samples draw attention with their micaceous clay structure. Also, as explained below, the ceramic samples from the Bademgediği Tepesi layer dating back to Middle Bronze Age III bear a resemblance to those from settlements in the north of the gulf, in terms of surface characteristics and ceramic mixture. They should thus be evaluated alongside the settlements of northern Izmir (Aykurt 2010: 8).

The Izmir Region Middle Bronze Age ceramics with the aforementioned clay structure were wheel-spun and oven-dried. The Middle Bronze Age I region ceramics feature a thick lining and a glazed surface, and can be categorized into six different ceramic groups (Aykurt 2010: 8). Differences between the dark red slipped ware, red slipped ware, buff slipped ware, gray ware, cream slipped ware and gold wash ware (Aykurt 2010: 9-12), and the frequency with which they appear are put forth. The red and light brown ceramics feature heavily among the ceramics at Liman Tepe, and the light brown ceramics are heavily represented at Kocabaş Tepe. The dark, cream and light brown lined ceramics in Panaztepe appear at nearly the same ratio (see Aykurt 2010: 9-12 for detailed information about this ceramic group).

II.1.1.B. Characteristic Forms: Among local pottery examples from the Izmir-region settlements of Liman Tepe's stratum III.4 (Günel 1999b: 51, 65, abb. 12:9), Kocabaş Tepe's 3rd stratum (Aykurt 2004: 79-80, pot type 19c, lev. 26c) and the Panaztepe workshop area's stratum Ib (Günel 1999a: 288, 296, lev. 45:2; 50:3-4), carinated bowls with everted rims (Günel 1999b: 51, 65, Abb. 12:9; Aykurt 2004: 79-80, pot type 19c, lev. 26c; Günel 1999a: 288, 296, lev. 45: 2; 50: 3-4), necked jars with thickened or fluted rims (Erkanal – Günel 1996: 308; Günel 1997: 240; 1999b: 70, abb. 10:2, 10:3, 12:9, 14:17; Erkanal 1999: 374; Aykurt 2004: 134, 135, lev. 58a, 59b. This information was obtained from Panaztepe excavation director Prof. Dr. Armağan Erkanal), and oval-bodied, short- and thick-necked trefoil jugs (Erkanal – Günel 1996: 308, res. 6; Aykurt 2004: 103, lev. 40a) were the pottery form predominantly retrieved. The concerned vessels are charateristic forms for Middle Bronze Age I settlements of the Izmir Region (Aykurt 2010: 55).

Carinated bowls with everted rims: It was revealed that among cone-bodied carinated bowls with everted rims, soft-bellied types were more common than sharp-bellied types (Aykurt 2010: 56). Furthermore, in one- or two-handled examples of these bowls, the handles are connected so as to be horizontal on the shoulder. These types of vessels were uncovered in Beycesultan stratum V (Lloyd – Mellaart 1965: 82-83, 86, fig. P.2: 1-13) and Troia settlement V (Pavuk 2002: 40, A56, fig. 1, fig. 2: 3-4) in Western Anatolia. The same kinds of bowls were also uncovered at excavations of Assyrian Trade Colony settlements in central Anatolia (Özgüç 1950: 68, şek. 209, 212, 214, 236, 479-480, 482-483; 1999: 26-27, fig. B. 22, 23, 25-28; Emre 1966: 90). Handles are connected vertically or horizontally to the shoulder in similar vessels retrieved from the Old Palace at Kültepe (Özgüç 1999: 26-27, fig. B. 22, 23, 25-28), stratum III of Acemhöyük (Emre 1966: 90) and stratum 8b the Northwest Slope of Boğazköy (Orthmann 1963: 40, Taf. 33: 282, 295).

Necked jars with thickened rims (Fig. 3-4): In addition to carinated bowls with everted rims, vast numbers of necked jars were uncovered in strata dating back to the start of the Middle Bronze Age. Thickened rim jars were found in greater numbers than fluted rim jars (Aykurt 2010: 56). These types of jars were retrieved from Kültepe's (Özgüç 1999: 13-14, 28, lev. 69:4; şek. A. 21-25, 70:1-2; fig. B. 53, 54, 56, 80; Emre 1989: 116) and Acemhöyük's (Emre 1966: 87, fig. 30-34) Assyrian Trade Colony-correlated stratum.

The forms concerned were described as vases with lids by Tahsin Özgüç (1950: 72). Özgüç (1999: 28) suggested that among vases with covers retrieved from the Old Palace at Kültepe, those with fluted thickened rims occurred less frequently. As mentioned, the situation in western Anatolia was similar.

Trefoil jugs (Fig. 5): As expressed previously, another vessel form characterizing settlements dating to the start of the Middle Bronze Age in Izmir are oval-bodied, short- and thick-necked trefoil jugs. Examples of this vessel form were found in stratum V of Beycesultan (Lloyd – Mellaart 1965: 87-89, 96, fig. P.7: 12-14).

II.1.2. Imported Pottery

In addition to examples of local pottery, examples of imported pottery from contemporary settlements also make it possible to compare the chronologies of surrounding cultural areas. According to the excavations in İzmir, imported pottery sherds have been found only in stratum III4 of Liman Tepe for now. These examples of mattpainted pottery, most being pithos, triangles

and traverses between horizontal and vertical thick strips were the dominantly observed motifs. Similar examples of mattpainted pottery are known to be found in strata VII-VIII of Aegina-Kolonna and strata Va-b of Lerna in Greece, dating to Middle Helladic I-II (Günel 1999b: 2004).

II.1.3. Conclusion (Tab. 1)

In accordance with the data provided above, it would be possible to date Middle Bronze Age I to roughly between 1950-1800 BC Liman Tepe III.4, Panaztepe workshops area Ib, Kocabaş Tepe 3rd stratum are contemporary with the Miletus III and Troia V settlements in the given period. In central Anatolia, stratum II of the lower city and the 8th stratum of the mound of Kültepe, the Büyükkale IVd early stratum, stratum 8b of the northwestern slope of Boğazköy (Orthmann 1963: 49), and stratum 11T (Mellaart 1957: 63) of Alişar are all dated to this period.

The samples obtained in Beycesultan from the balks of the palace complex, which were revealed among these centres in layer V date to 3450±150 BP (1920±150 B.C.) (Lloyd – Mellaart 1965: 73).

At Troia settlement IV, on the other hand, examples of imported, coloured pottery dating to Early Helladic III were uncovered (Blegen *et al.* 1951: fig. 170:10, fig. 185: EH-704). In stratum IV of Lerna, which is dated to Early Helladic III, pottery belonging to Troia III-IV was uncovered (Rutter 1995: 434, 463). In accordance with this data, Stuart W. Manning (1995: 103, 160) dates the end of Troia settlement IV to the Middle Minoan IA (2nd millennium BC). Dendrochronological analyses conducted on wood samples retreived from two graves at Troia settlement V date to (Korfmann *et al.* 2003: fig. 5) 1850-1770 BC. In light of all the available data, as well as the suggestion by Pavuk (2007: fig. 1), it would be more accurate to date the start of Troia V to 2000 BC and the end to approximately 1800 BC. Alongside these data, Wolf Dietrich Niemeier puts forward (Graeve – Niemeier 2002: 76) 1950 BC as the start of Miletus stratum III. A cylindrical handmade cup imported from Crete uncovered in this stratum is dated to Middle Minoan IA (Greaves 2003: 67), and Kamares style potteries originating from Crete are dated to Middle Minoan IB-Middle Minoan IIB (Graeve 1999: 585, res. 6; Graeve – Niemeier 2002: 76, res. 1; Niemeier – Niemeier 1997; Raymond 2005a: 94-104). Based on eponyms found at Kültepe, Klaas R. Veenhof suggests that stratum II of Karum is contemporary with Akkadian Kings Irišum I, Ikunum, Šarrukin, Puzur-Aššur II and Naramsin, and dates to 1920/1910-1840/1830 BC (Veenhof 2000: 137-138, 2003: 57; Özgüç 2001: 4); however, according

to Cahit Günbattı, it is contemporary with Ikunum, Šarrukin, Puzur-Aššur II, Naramsin and dates to 1927-1836 BC (Günbattı 2008: 15). In line with all these data, the 1920/1910-1800 BC dates could be suggested for Middle Bronze Age I.

II.2. Middle Bronze Age II

In the development of a comparative chronology regarding Middle Bronze Age II, local and imported pottery examples unearthed in Çeşme Bağlararası, Miletus, Panaztepe, Troia and Liman Tepe bear great importance.

II.2.1. Local Pottery

II.2.1.1. Material and Technical Characteristics: The domestic ceramic samples obtained from Middle Bronze Age II in Izmir resemble Middle Bronze Age I in terms of construction technique and clay characteristics, and it is observed that the lining is less intense than those of Middle Bronze Age I ceramics.

In addition to the ceramic groups from Middle Bronze Age I present in the region, silver micaceous ceramic samples were also found. The intensity of ceramic groups changes within the region. When examined by settlement, these ceramic groups are observed to have different distributions in Middle Bronze Age II. The findings from Liman Tepe and Bağlararası, located in the south of Gulf of Izmir, bear a resemblance to each other among these settlements. It may be said that red-lined ceramic samples are intense at Liman Tepe among Middle Bronze Age I findings. Red-lined ceramics and light brown-lined ceramics are found at the same rates, and the frequency with which grey ceramics appears is higher. Bağlararası, which did not reveal any Middle Bronze Age I settlements, but which was settled during Middle Bronze Age II, is similar to Liman Tepe in this way. The red and light brown tones, of the lined ceramic groups at Bağlararası, comprise the main layer material among lined ceramic groups, it is determined that the grey ceramics appear less frequently at Liman Tepe. At Panaztepe located in the north of the gulf, the ceramic groups found differ from those in the south. During this period, while grey ceramics comprise the main layer substance, red- and light brown-lined ceramics were less common. In Kocabaş Tepe located in the interior of the gulf, light brown-lined ceramics were heavily represented, with red-lined and grey ceramics less so, though increased from Middle Bronze Age I (Aykurt 2010: 34-35).

II.2.1.2. Characteristic Forms: The rates of various cup formations changed between Middle Bronze Age I and Middle Bronze Age II, and new cup formations were revealed:

Carinated bowls with everted rims: Carinated bowls with everted rims were also retrieved in Liman Tepe stratum III.3 (Erkanal – Günel 1995: 270), Çeşme Bağlararası stratum 2 (Erkanal – Karaturgut 2004: 159), Kocabaş Tepe stratum 2 (Aykurt 2004: 91, 95-96, lev. 33b, 35c), Panaztepe acropolis stratum IIb (Günel 1999a: 272, 279, 307-308, 312, 317, lev. 33:5, 38:3, 58:3-5, 59:1-2, 62:6, 67:3) and workshops area stratum Ia (Günel 1999a: 277-278, 299, lev. 37:3, 37:6, 53:2). However, it was also determined that soft-bellied examples of carinated bowls with everted rims became less frequent, whereas sharp-bellied examples were uncovered more often (Aykurt 2010: 56; Erkanal – Karaturgut 2004: 159; Aykurt 2004: 136, lev. 60g; Günel 1999a: 357, 359, 361, lev. 98:1, 98:7, lev. 100:3). Many examples of sharp-shouldered bowls were retrieved from Troia VIa (Pavuk 2002: 40, A56, fig. 1, fig. 2:2), Beycesultan IVc (Lloyd – Mellaart 1965: 101-102, fig. P.12:1, 12:2, 12:4), Boğazköy Büyükkale IVd (Fischer 1963: 143, taf. 105:940) and Kültepe (Özgüç 1999: 26, fig. B73).

Necked jars with thickened rim (Fig. 9-10): Beside the carinated bowls with everted rims, the necked jars with thickened rim were obtained in the same layers of the aforementioned settlements. The examples with thickened rims became less frequent while examples of one or two rows of flutes on thickened rims became more frequent (Aykurt 2010: 56). The same type of jar continued into the Late Colony period in central Anatolia at Kültepe (Özgüç 1999: 14, 28, fig. A.23) and Boğazköy (Fischer 1963: 135, taf. 69: 631-632).

Trefoil jugs (Fig. 11): It was revealed from excavations of the strata of Liman Tepe III.3 (Günel 1999b: 70, abb. 14:17), Çeşme Bağlararası 2 (Şahoğlu 2007: 315, fig. 4) and Panaztepe acropolis IIb (Günel 1999a: 367, lev. 106) in the Izmir region that trefoil jugs, which are characteristic of Middle Bronze Age I, continued to be used. Contemporary examples of these were also found in Troia stratum VIa (Blegen *et al.* 1953: 208, res. 380:29), Beycesultan stratum IVc (Lloyd – Mellaart 1965: 112, fig. 19.7) and the Northwest Slope of Boğazköy stratum 8a (Orthmann 1963: 44, taf. 34:354).

Bowl with concave rim (Fig. 12): In addition to the above-described forms, bowl with concave rim characteristic of western Anatolian indigenous pottery play an important role in positioning Middle Bronze Age II within the general chronology. The first examples of such bowls were unearthed in Liman Tepe III.3 (Liman Tepe excavation documentation), Kocabaş Tepe 2 (Aykurt

2004: 61-62, lev. 14c, 15d), Beycesultan IVc (Lloyd – Mellaart 1965: 103, 106, fig. P.14:4) and Panaztepe harbor city (Aykurt 2010: 38-39). In the settlement at Troia, such bowls were found in stratum VIb (Pavuk 2002: 44, 58, tip. A62).

"S" profile cups (Fig. 13): "S" profile cups are a characteristic feature of the settlements of this period. Most of these cups were determined to have been produced by grey pottery group. Examples of such cups were retrieved from Liman Tepe III.3 (Günel 1999b: 54, abb. 15:26-27), Kocabaş Tepe 2 (Aykurt 2004: 99, cup style 1, lev. 37:a-b) and stratum 1 of the Panaztepe harbor city settlement of the Middle Bronze Age (Erkanal 1999: 372-373).

Beak-spouted jugs: On the other hand, beak-spouted jugs uncovered at the Panaztepe acropolis IIb strata and Liman Kent strata dating to the mature phase of the Middle Bronze Age enable (Günel 1999a: 52, tip. GT III1, lev. 161: 1) comparison with surrounding cultural regions. Button-shaped hob-nails on both sides of the spouts of the pitchers were uncovered in sherds. Although there are examples of these ornamental pitchers with beaked spouts in Early Minoan III and Middle Minoan II in Crete, these are in fact characteristic of Middle Minoan II (Bossert 1921: fig. 174; Pendlebury *et al* 1939: 73, lev. 12: 524-626; Marinatos – Hirmer 1964: 71-72, lev. VIII; Matz 1962: 141). Additionally, a pitcher with a beaked spout unearthed in the Panaztepe workshop area's Ia stratum shows similarities with examples from central Anatolia (Günel 1999a: 52, tip. GTI1, lev. 105:3a-b, lev. 159:1a-b) with examples from central Anatolia. The closest example of this pitcher, which was uncovered in sherds only sufficient to form the rim, was found in Boğazköy-Ambarlıkaya. Franz Fischer reported that these sherds were uncovered in a stratum contemporary to Büyükkale's IVd stratum (Fischer 1963: 93-94, lev. 29).

Goblet (Fig. 14): Goblet-type cups, which were seen for the first time in western Anatolia during Middle Bronze Age II, also play an important role in dating. Such cup forms are among the characteristic forms of Minyan pottery. These cups were dated by Oliver T.P.K. Dickinson to the Matura Minyan Phase (Dickinson 1977: 19-24). Two types of such cups are represented in western Anatolia: Pteleon and Lianokladhi goblets. Both of these goblets are characteristic for Troia VIa and disappear after this phase (Pavuk 2002: 47-51, 58-59). On the other hand, most of the Pteleon goblets were uncovered in continental Greece. Categorized as 1FIb by Josep Maran, these goblets can be seen (Maran 1992: 86-87, 209-215) between Pevkakia strata 7-5. Many goblet examples were also retrieved in Pteleon (Verdelis 1952: 139-140, Eik. 9:10; Maran 1992: 280-281, taf. 148:1-3), Lerna V and Keos IV-V strata (Davis

1986: pl. 28: U76). In Mycenae, unearthed Pteleon goblets, however, are dated to Middle Helladic IIIb (Immerwahr 1971: pl. 18:275, 19:292; 70.275; Dietz 1991: 205, fig. 63: CB-2).

Lianokladhi goblets found at Troia excavations exhibit a variety of typologies (Pavuk 2002: 47-49, fig. 9). A similar example (Blegen *et al.* 1953: fig. 423:1) to one of these, as also reported by Pavuk (Dietz 1991: 77, 169, fig. 21:175-176, fig. 51: AD-11) is known from the Pevkakia 6-middle phase. Other types of Lianokladhi goblets are not present in Greece however. Besides Troia, Lianokladhi goblets were also retrieved from Liman Tepe III.3 (Günel 1999b: 55, abb. 16: 30-31), Çeşme Bağlararası 2 (Şahoğlu – Aykurt 2005) and Panaztepe-Acropolis stratum IIb (Günel 1999a: 66, lev. 146:3, 147:1). However, any Pteleon goblets were not found in excavations at these centres.

Kantharos (Fig. 15): Kantharos-type cups, like the goblets, were uncovered from Middle Bronze Age II in western Anatolia. Kantharos were uncovered in western Anatolia excavations. The first of these is flat- or ring-footed, vertebral-bodied, double vertical-handled; the second type is vertebral-bodied and simple-rimmed; the third type is ring-footed, spherical-bodied and simple-rimmed. Examples of kantharos in Panaztepe can be found in the IIb stratum of the acropolis. The first and second types of kantharos examples found in this stratum were produced by the grey and red Minyan groups (Günel 1999a: 65, lev. 145). Again, examples of the first and second types were retrieved from Liman Tepe stratum III.3. These examples are from the grey Minyan pottery group (Günel 1999b: 54, abb. 16:29). In the early stage of the Troia VI settlement the first and third types of kantharos were uncovered, while in the middle stage of this settlement, the second and third types were found. However, it is noteworthy that these were found in the late phase of settlement VI (Pavuk 2002: 52-53).

Horizontal handles are connected to the side of the rim (Fig. 16): Upon examination of the bowls belonging to this period retrieved from Liman Tepe III.3 (Liman Tepe excavation documentation), Panaztepe acropolis area IIb (Günel 1999a: 309, 311, 317, lev. 60:4, 61:4, 67:2), Çeşme Bağlararası 2 (Çeşme Bağlararası excavation documentation) and Kocabaş Tepe 2 (Aykurt 2004: 59, lev. 13d), some horizontal handles are seen to be connected in parallel to the side of the rim. These kinds of handles, which were not seen in Middle Bronze Age I, began to appear during this period. These handle arrangements, which were inspired by their metal equivalents, were also found in Troia VIa (Blegen *et al.* 1953: 47, 79, 134, 145, 157, 356:17, 359:2, 426:4)

and Beycesultan IVc (Lloyd – Mellaart 1965: 101-102, fig. P.12:12) stratum. Lloyd and Mellaart (Lloyd – Mellaart 1965: 101), in their published journal on Beycesultan, asserted that such handles appeared in the IVc stratum. Bowls with similar handles were also a dominant feature in Kültepe stratum Ib (Emre 1963: fig. 11: Kt g/k 53).

II.2.2. Imported Pottery

Other than the above-described pottery groups, Minoan pottery found in Çeşme Bağlararası is important evidence for placing this period in the chronology.

Mattpainted Pottery: Examples of mattpainted pottery were uncovered from this period. Mattpainted pottery examples from Middle Bronze Age I at Liman Tepe were also found in stratum dating to Middle Bronze Age II. However, these examples retrieved from Liman Tepe stratum III.3 were rather rare compared to the findings of previous periods (Günel 2004: 202-206).

Minoan Pottery (Fig. 17): Examples of Minoan pottery were also uncovered alongside mattpainted pottery in this period. Minoan pottery uncovered in Çeşme Bağlararası's 2nd stratum include a closed vessel dated to Middle Minoan III (Erkanal – Karaturgut 2004; Şahoğlu – Aykurt 2005).

It is useful to discuss the Minoan jug from Troia along with the sample from Çeşme Bağlararası. A Minoan jug found in the stone tomb of an infant in Troia, though its stratum is not very clear, bears chronological significance. Manfred Korfmann dates the stratum to between the Troia V and VI settlements. As Korfmann suggests, this Minoan pitcher in Crete, which is described as being in the Creamy-bordered Style, is dated by McGilliveray to Middle Minoan IIIa (Korfmann 1997: 9, 32-38, Abb. 31). On the other hand, Pavuk dated this tomb, perhaps most accurately, to between the end of Troia V and start of VI, which he in turn dated to 1750 BC (Pavuk 2007: 474). Çeşme Bağlararası stratum 2, which is dated to Middle Minoan III, is parallel with Liman Tepe stratum III.3 and Panaztepe acropolis stratum IIb. Furthermore, these two strata, in relation with kantharos and goblet-type vessels, are contemporary with Troia VIa. Should these be taken into consideration, it would be more accurate to date the pitcher and tomb to Middle Minoan IIIa, to Troia VIa. Consequently, it may be suggested that the start of Troia VI may not be dated to 1750 BC.

III.2.4. Conclusion (Tab. 1)

In light of these assessments, Liman Tepe III.3, Çeşme Bağlararası 2, Kocabaş Tepe 2, Panaztepe-Acropolis IIb workshop area Ia and Beycesultan stratum IVc must be contemporary with the Troia VIa settlement. In accordance with imported pottery examples retrieved from concerned centres, it may be suggested that Middle Minoan III is contemporary with Middle Helladic III. On the other hand, this period, which is contemporary with the Late Colony Age in central Anatolia, is roughly represented in the region by Kültepe mound stratum 7 and Karum stratum Ib alongside Boğazköy-Büyükkale late IVd, northwestern slope 8a (Orthmann 1963: 49) and Alişar 10Tc (Mellaart 1957: 63). Along with these results, a number of other findings have also contributed to the dating of Middle Bronze Age II, including layer Ib from Karum in Kültepe, a group of findings from the modern Acemhöyük Sarıkaya Palace and the C-14 samples obtained from the ruins of the palace. A group of artifacts obtained from Sarıkaya Palace in the central Anatolian Colony Age city of Acemhöyük play an important role in enabling a chronological comparison between Anatolian and Aegean cultures. The closest example of a conical vase (Öztan 1988: 395-396, res. 3-8, çiz. 2-8b) made of the rock crystal found in Sarıkaya Palace is known from Zakros Palace in Crete. This vase, which is dated to Middle Minoan III/Late Minoan I, is thought to have been imported (Hood 1978: 148). Seal stamps belonging to Assyrian king Šamši Adad I, Carchemish king Aplahanda and Yamhad king Yahdunlim were found. In accordance with these findings, the palace was dated (Özgüç 1977: 362; Öztan 1988: 406) to the 18th century BC. Additionally, upon dendrochronological analyses conducted on girder examples obtained from the palace, the date 1774 BC was determined (Kuniholm *et al.* 2005: 45). Taking the Zakros vase into consideration as well, the latest date of use for Sarıkaya Palace was suggested to be 1676 BC by Sturt W. Manning (1995: 353). Peter Kuniholm, who worked on the girder examples obtained from Waršama Palace in Kültepe stratum Ib, suggests the palace was built in 1832 BC and renovated 61 years later. It is unknown how much longer the palace was in use after the calculated renovation date of 1771 BC (Kuniholm *et al.* 2005: 45). Additionally, based on the seal stamp characteristics, Nimet Özgüç (2001: 4) suggests that stratum Ib is contemporary with Assyrian king Šamši Adad I (1809-1776 BC), Babylonian kings Hammurabi (1792-1750 BC) and the first ten years of Šamši Iluna (roughly comprising 1809-1740 BC) Veenhof (2000: 139; 2003: 50, 62) suggest that according the middle chronology, Šamši Adad I ruled between 1808-1776 BC and W. van Soldt (2000: 113) suggests

that Šamši Iluna ruled between 1653-1616 BC. Veenhof, taking these dendrochronological studies into account, dates Kültepe stratum II to 1795-1775 BC and the reconstruction to nearly 1765-1745 BC. Additionally, pointing out that matching the reconstruction dates of Kültepe and Sarıkaya Palaces cannot be coincidental, Veenhof, in light of available data, dates Kültepe stratum Ib to 1800-1730 BC (Veenhof 2000: 149) according to middle chronology. Günbattı, examining Eponyms, however, suggests that a 2-3 year gap exists between Kültepe strata II and Ib, and dates Ib to 1833/32-1719 BC (Günbattı 2008: 15). In accordance with this data, Middle Bronze Age II in the Izmir region can be estimated to have originated in 1800-1750/1730 BC.

II.3. Middle Bronze Age III

In western Anatolia, the last phase of the Middle Bronze Age is revealed through local and imported pottery examples retrieved from Çeşme-Bağlararası, Panaztepe, Liman Tepe, Kocabaş Tepe and Bademgediği Tepesi.

II.3.1. Local Pottery

II.3.1.A. Material and Technical Characteristics: When the ceramic samples obtained from settlements dating to Izmir's Middle Bronze Age III are examined generally, it is determined that the lining applied to the surface of the ceramics was thin, and applied in a lighter colour; this change in colours must have stemmed from the thinning of the lining.

While ceramics appeared in the region during Middle Bronze Age II, their amounts varied. These variations continued into Middle Bronze Age III (Aykurt 2010: 45-46). South of the gulf, in Liman Tepe and Bağlararası, the presence of light brown-lined ceramics increased while red-lined ceramics decreased. While grey ceramics are the main layer substance at Panaztepe, red-lined ceramics did increase. While light brown ceramics were found continuously in the interior at Kocabaş Tepe, the presence of red-lined ceramics increased and the presence of grey ceramics decreased. Just as at Panaztepe, grey ceramics were predominant at Bademgediği (Aykurt 2010: 46-47).

II.3.1.B. Characteristic Forms: While sharp-bellied examples of carinated bowls with everted rims (Fig. 18-19) (refer to Panaztepe: Günel 1999a, 419, lev. 141:1, 3; Kocabaş Tepe: Aykurt 2004: 79-80, 91, 95-96, Çanak Tip 19c, Çanak Tip 21b, 22b; Bademgediği Tepesi: Meriç 2003, 91, 96, no:60-61; Liman Tepe: Erkanal – Günel 1995, 270; Erkanal vd. 2003, 426, Beycesultan: Lloyd – Mellaart 1965: 120, 130, fig. P24: 1, 15-18, 20-21, 23, fig. P31: I-l; Troia: Blegen

et al. 1953: 45, 132, pl.423:33114; Pavuk 2002: 40, fig. 2:3-4, A56; Boğazköy: Fischer 1963: 143, taf. 106:943), necked jars with flutes on thickened rims (Fig. 20-21) (refer to Liman Tepe: Erkanal – Günel 1995, 270; Günel 1999a, 357, lev. 97:7; Çeşme Bağlararası: Erkanal – Karaturgut 2004, 154; Panaztepe and Kocabaş Tepe samples were taken excavation documentation of IRERP), goblets (Fig. 22) (refer to Toria: Pavuk 2002: 47-49, fig. 9; Liman Tepe and Çeşme Baglararası samples were taken excavation documentation of IRERP) and kantharos were cup forms used at the same rates in Middle Bronze Age II, rates of bowls with concave rims changed. Besides these cup forms, the rounded cups and conical cups found in the strata of this period play an important role in the formulation of the chronology.

Bowls with concave rims (Fig. 23): Bowls with concave rims were first seen in Middle Bronze Age II, becoming more frequent in Middle Bronze Age III (Aykurt 2010: 57). Examples of this outside Izmir were found in Beycesultan IVb (Lloyd – Blegen 1965: 118, 122, fig. P.25.17) and at an early settlement of the late phase of Troia VI (Pavuk 2002: 44, 58, tip. A62).

Rounded cups (Fig. 24): In Çeşme Bağlararası 1 (Şahoğlu – Aykurt 2005) and Bademgediği Tepesi VI (Meriç 2003: 96, no. 54, 63), which are among the Middle Bronze Age centres in Izmir, rounded cups were uncovered. These were the first examples of such cups. Similar vessels were obtained in Kommos in Crete, dated to Middle Minoan III (Betancourt 1985: pl. 13:E).

Conical cups (Fig. 25): In addition, Minoan-imitated conical cups uncovered in Kocabaş Tepe stratum 1 (Aykurt 2004: 100, lev. 38a), in all phases of the Troia VI settlement (Guzowska 2002: 587), in Miletus stratum IV (Niemeier – Niemeier 1997: abb. 67) and in the Iasos agora (Momigliano 2000: 12; 2001: 15) reveal a certain chronology, should their context be taken in consideration. Among these, cups uncovered in Kocabaş Tepe, Troia and Miletus are local while Nicoletta Momigliano (2001: 15) suggested conical cups uncovered in Iasos were the product of Miletus.

Censers and lamps (Fig. 26): Censers and lamps retrieved from Çeşme Bağlararası stratum 1 (Fig. 25) (Erkanal – Karaturgut 2004: 155, res. 6), Miletus stratum IV (Niemeier – Niemeier 1997: 237, abb. 71; Raymond 2005b: 186, pl. XLIVb-c) and Kömür Adası (Voigtlander 2004: 307, taf. 66:3, 67:4; fig. 56) also warrant comparison. These vessels, besides being frequently used (MacGillivray 1998: 86-87, lev. 47:147-149, 63:574, 79:401, 91:552, 92:553, 98:596-604; Catling *et al.* 1979: 34-35, res. 22:138, 23:161; Popham 1974: res. 8-9), were also depicted in Thera wall paintings (Doumas 1984: 30, res. XIII;

Marinatos 1972: 43, lev. J, K). Examples found in the western Aegean are dated to Middle Minoan III-Late Minoan I. These types of cups are also depicted in other wall paintings. Examples uncovered in these Anatolian settlements, as with other groups of findings, are also dated to Late Minoan IA.

II.3.2. Imported Pottery

It is evident that during Middle Bronze Age III in western Anatolia, imported pottery varied and increased in terms of quantity alongside local pottery. In addition to examples of local pottery from Çeşme Bağlararası and Bademgediği Tepesi, examples of imported pottery obtained were also made use of for creating the chronological table of the region.

Tortoise-shell ripple ware (Fig. 27): Tortoise-Shell Ripple Ware has an important place among the import ceramic samples. Samples were found in the 1st layer of Çeşme Bağlararası in Izmir (Erkanal – Karaturgut 2004: 155, fig. 5) and the at Bademgediği Tepesi stratum VI (Meriç 2003: 91, fig. 13). In addition, at the ongoing Miletus excavations in western Anatolia, the *Südabschnitt* and *Ostabschnitt* were determined to belong to layer IV (von Graeve – Niemeier 2002: 76), and at the excavations carried out at Residence 1 (Schiering 1959/60: 26, taf. 6.2b, Hommel 1959/60: 46, taf. 35.1b), as well as at Iasos, Agora (Laviosa 1978: 1098; Momigliano 2002: 18, fig. a; 2005: 220, pl. 57d) samples belonging to this ceramic group were found. Tortoise-shell ripple ware is considered to originate in eastern Crete origin; it is seen in Crete from Middle Minoan II to the end of Late Minoan IB (Betancourt 1984: 89-91, res. 2:C2578; 1985: 113-114; 1990: 107, 120-121, 179-180, 189, res. 27:582, 37:787, 38:797, 61:1799, 62:1801, 1815, 70:2028, lev. 30:582, 89:1801, 104:2028; Caskey 1972:392, lev. 92 G-3, G-13, Hatzaki 2008: 154-155, 163-166, 175-176, 178, fig. 5.1: 3; 5.4: 1-5, 8; 5.6: 1; 5.13: 2 right, 5.15: 3).

Polychrome Ware: Furthermore, polychrome ware originating from Crete (Schiering 1998: 72, 74, 159, lev. 42:3; MacGillivray 1998: 75-77, Tip 4-7; Caskey 1972: 392, lev. 92 G 24-30), which was uncovered in the same strata of Çeşme Bağlararası (Fig. 27) (Erkanal – Karaturgut 2004: 155, res. 5) and Miletus (Schiering 1959/60: 25-26, taf. 6:1a, 1c-f, 2a; Hommel 1959/60: 43, taf. 32:1a-d, 3a-b, 4a-d) is dated to Middle Minoan III-Late Minoan IA. Cycladic White Ware uncovered (Atkinson *et al.* 1904: lev. 20:1; Forsydke 1914: 191; Overbeck 1989: 76, lev. 52; Renfrew 1972: lev. 13:1; MacGillivray 1984: 153-158; Betancourt 1990: 101, no. 501) from the same stratum in Çeşme Bağlararası is Cycladic in origin (Erkanal – Karaturgut 2004: 155).

In the meantime it should be noted that Minoan potsherds were uncovered in Bademgediği Tepesi stratum VI dating to Middle Minoan III-Late Minoan IA (Meriç *et al.* 2004: 296; Meriç *et al.* 2005: 141; Meriç *et al.* 2007: 250).

Cycladic-Produced Minoan Pottery: In addition to these imported pottery groups from Çeşme Bağlararası, Cycladic-Produced Minoan Pottery are also of great importance (Erkanal – Karaturgut 2004: 155). These are thin and cream-, beige-, or brick-coloured, and have pulp-coloured slips. On the slip there are brown, reddish brown and similarly coloured sequential spirals and rarely plant decorations (Erkanal – Karaturgut 2004: 155, res. 3-4; Şahoğlu 2007: 318, fig. 12). These pottery examples exhibited material and technical similarities with product class with Keos and mika found in stratum IV of Keos (Bikaki 1984: 7-24). This pottery group found in Çeşme Bağlararası date to Late Minoan IA, along with other pottery from the same stratum. A group of pottery in Miletus described by Niemeier as Thera-coloured pottery should be considered within the context of the Cycladic white group (Niemeier – Niemeier 1997: 237, abb. 65). Both examples from Çeşme Bağlararası and Miletus are dated to Middle Minoan III-Late Minoan IA.

III.3.4. Conclusion (Tab. 1)

Assessments carried out herein reveal that Çeşme Bağlararası 1, Panaztepe-Acropolis IIa, Liman Tepe III.1-2, Kocabaş Tepe 1., Bademgediği Tepesi VI, Troia VIb-c, Miletus IVa, Iasos Saggio alongside of G area B building and Beycesultan IVb-a are roughly contemporary.

In light of the data provided above, it can be suggested that Middle Bronze Age III is contemporary with Middle Minoan IIIB-Late Minoan IA in Crete. Additionally, it was suggested by Niemeier (Graeve – Niemeier 2002: 77-78) that Miletus stratum IVa was discontinued due to destruction resulting from the volcanic eruption of Thera and eastward-drifting ash and lava slag by strong winds. In the same stratum where these Late Minoan IA dated pottery examples were found in Iasos, 20 cm-thick ash was found (Momigliano 2000: 12; 2001: 15) related with the eruption of Thera. According to recent examinations carried out on the subject, the volcanic eruption of Thera is estimated 1627-1600 BC (Friedrich *et al.* 2006: 548) or 1613 ± 13 BC (Friedrich – Heinemeier 2009: 56-63). Based on this, it can be suggested that the Middle Bronze Age in western Anatolia continued at least until the last quarter of the 17th century BC. The Middle Bronze Age is thus in parallel with the Middle Minoan IIIB-Late Minoan IA period, and in parallel with Late Helladic I in

continental Greece. In relation with the discontinuation of settlements caused by the major eruption of Thera, it can be estimated that the Middle Bronze Age II period in western Anatolia dates to 1750/1730-1610 BC. This period is represented (Mellaart 1957: 63) in central Anatolia by Kültepe-Karum Ia stratum and Alişar 10Tb-c stratum. These strata date to the start of the Old Hittite Period.

In addition to this data, mattpainted pottery samples at the Troia VIb-c settlement play a key role in dating Middle Bronze Age III. First appearing at Troia VIb, pale-coloured pottery continued to be found (Blegen *et al.* 1953: 13, 19, 137, 140, fig. 358:22, 25, 23, fig. 382:1-3, fig. 425:22) in increasing numbers during the subsequent period. Multi-coloured examples of these are vast in number and exhibit similarities (Blegen *et al.* 1953: 140, 171, fig. 358:22, 382:5) with the burial pit context in Mykenai. Blegen suggests (Blegen *et al.* 1953: 137, fig. 382.1) that one specific example rather that is less colourful than others may be related with Aegina. Examples of Aegina production reflect pottery characteristics related with the Late Helladic I period (Davis 1982).

Middle Bronze Age III can be dated between 1750/1730-1610 BC, in line with relations with the settlements at Izmir and neighboring culture areas.

III. Conclusion

With excavations and examinations carried out until recently, it was not possible to establish a Middle Bronze Age chronology reliable and valid for the whole of western Anatolia. However, excavations of Middle Bronze Age settlements within the IRERP project in Izmir in recent years and the material-based comparisons made between these centres and surrounding regions helped in the establishment of more accurate chronology. In this comparison, besides the local pottery that makes up the bulk of the findings, imported pottery also plays an undoubtedly important role. This way, dissemination of Middle Bronze Age cultures throughout the area, chronologies and relations with neighboring areas could be established more concretely. Comparisons made taking into account the class characteristics and vessel forms of Middle Bronze Age pottery were a three-phase development.

The Liman Tepe, Panaztepe and Kocabaş Tepe settlements provide detailed information about the ceramics of Middle Bronze Age I and play a key role in the dating of the period. In this period, during which local and import ceramics were found, it is determined that local ceramics had a thick

lining and glazed surface. It is seen that the local ceramics showed diversity, with red-lined, light brown-lined, cream, grey and gold micaceous ceramics all present. The great number of carinated bowls with everted rims, necked jars with thickened rims and trefoil jugs were found in the layers of settlements from this period are the characteristic cup forms of Middle Bronze Age I. In addition to local ceramics, flat painted ceramic samples with origins in continental Greece are seen as imports to Liman Tepe, have great importance in that they make up the first example of imported ceramics in the Middle Bronze Age. Drawing comparisons between import and local ceramic samples in the region, the late phase of strata V at Beycesultan and Troia in Middle Bronze Age I dates to the same period as strata III at Miletus. The aforementioned period contains layer II of the the Kültepe city centre in central Anatolia, the 8th layer of the mound, the IVd early layer of Büyükkale in Boğazköy, the 8b layers of the Northwest Slope, and the 11T layer of Alişar. As is seen, it is understood that Middle Bronze Age I runs parallel to the Early Colonial Age in central Anatolia. Nonetheless, it can be said that this period is concurrent with the Middle Helladic period in continental Greece, and in parallel to this, is understood to be concurrent with the Middle Minoan IB-II period in Crete based on flat painted ceramic samples.

The ceramic samples obtained at Bağlararası in addition to the settlements during Middle Bronze Age I have greatly contributed to the formulation of the chronology of the region in consideration of Middle Bronze Age II. When the local ceramic samples are examined, it is seen that the lining of the ceramic is thinner compared to samples from Middle Bronze Age I. The silver micaceous-lined ceramic samples are added to the ceramic groups used in Middle Bronze Age I. It is seen that soft-bellied examples of carinated bowls with everted rims and necked jars with thickened rims characterizing Middle Bronze Age I decreased, and that contrary to this sharp-bellied examples of carinated bowls with everted rims and necked jars with flutes on thickened rims increased. Besides these forms, while trefoil jugs appeared at the same rates, bowls with concave rims, S-profile cups, kantharos and goblet type cups characterized this period. Local ceramic samples from this period are concurrent with the VIb/a layer at Troia, the IVc/b layer of Beycesultan, the early phase of the IVa layer of Miletus, Ib layer of the Kültepe city centre, the 7th layer of the mound, the late IVd layer of Büyükkale in Boğazköy, the 8a layer of the Northwest Slope and the 10T layer of Alişar. When we consider the aforementioned settlements together, it is seen that Middle Bronze Age II runs concurrent with the Late Colonial Age of central Anatolia. With

the increase in relations among neighboring culture areas during this period, the variety of import ceramic samples in the region exhibited diversity. In addition to continental Greece-origin flat painted ceramic samples obtained as import ceramic samples, Crete-origin Minoan ceramics were also of great importance to the construction of a comparative chronology. In relation to import ceramic samples, it can be said that Middle Bronze Age II is concurrent with Middle Minoan III in Crete and the Middle Helladic III period in continental Greece.

In the Middle Bronze Age III, the last period of the Middle Bronze Age, Bademgediği Tepesi is added to the settlements of Middle Bronze Age II. During this period, the lining is thin in the majority of the region, and it is seen that the colour tones lightened in conjunction with this thinning of the lining. There is also a change in the presence of the local ceramic cup forms. The dominance of sharp-bellied examples of carinated bowls with everted rims and necked jars with flutes on thickened rims continued. Rounded cups and conical cups found in this period play a key role in the dating of the layers. There is an increase in the diversity of import ceramic samples of the region in Middle Bronze Age III. The import ceramic samples obtained at Panaztepe, Bağlararası and Bademgediği Tepesi are important in terms of relations with the neighboring culture areas. It is determined that the ceramic samples mostly obtained in Bağlararası are of Crete, the Cyclades and continental Greece. Tortoise-shell ripple ware and Polychrom ware made up Crete imports, Cyclades-origin Thera and Cyclades production are important in terms of creating a comparative chronology with the neighboring culture areas. Furthermore, the ash residue detected in the settlements along the south side of the western Anatolia is related to the volcanic explosion in Thera, and is important in terms of the dating of this period. It is understood that both the local ceramic samples and the import ceramic samples are concurrent with the VIc layer of Troia in the Middle Bronze Age III, the IVa layer of Beycesultan, the late phase of the IVa layer at Miletus, the Ia layer of the Kültepe city centre. The last phase of the Middle Bronze Age in western Anatolia which comprises this period is concurrent with the beginning of the Late Hittite Period in central Anatolia, and with Middle Minoan IIIB-Later Minoan IA through relations with Crete import ceramic samples.

It is estimated that the first phase of the Middle Bronze Age is dated to 1920/1910-1800 BC, the second phase is dated to 1800-1750/1730 BC and the third phase is dated to 1750/1730-1610. However, excavations to be

conducted in western Anatolia in the future will without doubt reveal new data regarding the chronology. It is inevitable that a more precise chronology will be established upon assessment of new data to be obtained in the future.

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İzmir Bölgesi Araştırmaları Işığında Batı Anadolu Orta Tunç Çağı Kronolojisi'nin Güncel Değerlendirmesi

Batı Anadolu'da yakın zamana kadar gerçekleştirilen kazı ve araştırmalarla, tüm batı Anadolu için geçerli olan güvenilir, ortak bir Orta Tunç Çağı kronolojisi oluşturulamamıştır. Ancak son yıllarda İzmir'de IRERP projesi kapsamında kazılan Orta Tunç Çağı yerleşmeleri ve bu yerleşmelerle çevre bölgeler arasında yapılan malzemeye dayalı karşılaştırmalar, daha sağlıklı bir kronolojinin saptanması yönünde önemli bir mesafe almamızı sağlamıştır. Bu karşılaştırmada hiç şüphesiz ki yoğun bir grubu oluşturan yerli seramiğin yanı sıra, ithal seramikte önemli bir rol oynamaktadır. Bu şekilde, bölgenin Orta Tunç Çağı kültürlerinin yayılım alanları, kronolojileri ve çevre bölgelerle olan ilişkileri daha sağlam bir zemine oturtulabilmiştir. Batı Anadolu MÖ 2. bin seramiğinin karakteristik mal grupları ve çanak çömlek formları dikkate alınarak yapılan karşılaştırmalar, Batı Anadolu'da Orta Tunç Çağı'nın üç aşamalı bir gelişim süreci içerdiğini ortaya koymuştur.

Batı Anadolu'da Orta Tunç Çağı I, genel anlamda, dışa kalınlaştırılmış dudaklı çanaklar, içe kalınlaştırılmış dudaklı boyunlu çömlekler ile kısa ve geniş boyunlu yonca ağızlı testiler karakterize etmektedir. Bunun yanı sıra bu dönemde görülen Kıta Yunanistan kökenli *mat boyalı seramik* örnekleri ile Girit kökenli *Kamares Stili Seramik* örnekleri karşılaştırmalı kronoloji oluşturması bakımından önem taşımaktadır.

Bölgede Orta Tunç Çağı II'de ise kantharos ve gobletler olmak üzere Batı Egeli kap formları görülmeye başlamıştır. Bu formların yanı sıra "S" profilli fincanlar ve keskin karınlı, dışa çekik ağızlı ve dışa kalınlaştırılmış ağızlı çanaklar gibi yerel üretim yeni formlarda bu dönemde ortaya çıkmıştır. Ayrıca seramik kaplar üzerine uygulanan metal taklidi kulpların da dönemi karakterize ettiği saptanmıştır. Bununla birlikte keskin profil veren çanaklar ve ağzının iç kısmı yivli – boyunlu çömlekler de Orta Tunç Çağı II'de yaygın olarak kullanılmıştır.

Orta Tunç Çağı III'de yerli seramik içinde konik gövdeli, yuvarlak omuzlu, düz ve basit dudaklı, tek kulplu fincanlar bu dönemde ortaya çıkmıştır. Keskin karınlı, dışa çekik ağzılı ve dışa kalınlaştırılmış ağızlı çanakların bu dönemde yaygınlaştığı görülmektedir. Bunun yanı sıra Batı Anadolu'nun

güney kısmının Girit ile sıkı ilişkiler içine girdiği görülmektedir. Yoğunlaşan bu ilişkilerle birlikte Giritli form olarak tanımkanan konik bardakların ve üç ayaklı kapların yaygın olarak kulanıldığı saptanmıştır. Bunun yanı sıra özellikle Girit kökenli *Tortoise-Shell Ripple Ware* olarak tanımlanan seramik örnekleri de Orta Tunç Çağı III yerleşimlerinin de bu dönemde görülmektedir. Ayrıca yine Batı Anadolu'nun güney kesimindeki yerleşimlerde saptanan kül kalıntıları, Thera'da meydana gelen volkanik patlamayla ilişkili olup, bu dönemin tarihlendirmesi açısından önem taşımaktadır.

Batı Anadolu'da üç aşama halinde gelişen Orta Tunç Çağ'nın birinci aşaması için MÖ 1920/1910-1800, ikinci aşaması için MÖ 1800-1750/1730 ve üçüncü aşaması için ise 1750/1730-1610 tarihleri öngörülebilir. Bununla birlikte, Batı Anadolu'da ilerleyen zamanlarda yapılacak kazılar, hiç şüphesiz ki kronoloji ile ilgili daha başka veriler verecektir. Söz konusu verilerin yeni bilimsel metotlar kullanılarak değerlendirilmesi sonucunda daha kesin kronolojinin oluşturulması kaçınılmazdır.

Bibliography

Abay, E. – F. Dedeoğlu
2012 "Beycesultan 2007-2010 Yılları Kazı Çalışmaları Raporu", *Kazı Sonuçları Toplantısı* 33/4: 303-30.

Aykurt, A.
1999 *Panaztepe Gri Minyas Seramiği,* Masters Thesis, Hacettepe Üniversitesi.

2004 *Kocabaş Tepe Orta Tunç Çağı Seramik Örneklerinin Ege Arkeolojisindeki Yeri ve Önemi*. PhD Thesis, Hacettepe Üniversitesi.

2010 "İzmir Bölgesi Orta Tunç Çağı Seramiği", *Belleten* 74/269: 1-69.

Atkinson, T. D. – R. C. Bosanquet – C. C. Edgar – A. J. Evans – D. G. Hogarth – D. Mackenzie – C. Smith – F. B. Welch
1904 *Excavations at Phylakopi in Melos*, London.

Betancourt, P. P.
1985 *The History of Minoan Pottery*. Princeton, New Jersey.

1990 *Kommos II. The Final Neolithic Through Minoan III Pottery*, Princeton.

Bikaki, A.
1984 *Keos IV: The Potter's Marks*, Mainz am Rhein.

Bilgen, N.
2011 *Seyitömer Höyük Kazısı Ön Rapor*u (2006–2010), Kütahya.

Blegen, C.
1963 *Troy and the Trojans*, London.

Blegen, C. – J. L. Caskey – M. Rawson.
1951 *Troy II: The Third, Fourth, and Fifth Settlements*, Princeton.

1953 *Troy III: The Sixth Settlement*, Princeton.

Bossert, H. Th.
1921 *Alt-Kreta: Kunst und Kunstgewerbe im* ägä*ischen Kulturkreise*, Berlin.

Caskey, J. L.
1972 "Investigations in Keos. Part II: A Conspectus of the Pottery", *Hesperia* 41: 357-401.

Catling, E. A. – H. W. Catling – D. Smyth
1979 "Knossos 1975: Middle Minoan III and Late Minoan I Houses by the Acropolis", *The Annual of the British School at Athens* 74: 1-80.

Çınardalı-Karaaslan, N.
2006 "Panaztepe'den Bir Sunu Kabı ve Düşündürdükleri", A. Erkanal – E. Özgen – S. Günel – H. Hüryılmaz, *et al.* (eds.), *Hayat Erkanal'a Armağan. Kültürlerin Yansıması*, İstanbul: 225-36.

Davis, J. L.
1982 "The Earliest Minoans in the South Eastern Aegean: A Reconsideration of the Evidence", *Anatolian Studies* 32: 33-42.

1986 *Keos V. Ayia Irini: Period V*, Mainz.

Dietz, S.
1991 *The Argolid at the Transition to the Mycenaean Age. Studies in the Chronology and Cultural Development in the Shaft Grave Period*, Copenhagen.

Dickinson, O. T. P. K.
1977 *The Origins of Mycenaean Civilisation.* Studies in Mediterranean Archaeology 49, Göteborg.

Doumas, C. G.
1984 *Thera Pompei of the Ancient Aegean. Excavations at Akrotiri 1967-1979*, London.

Emre, K.
1963 "The Pottery of the Assyrian Colony Period According to the Building Levels of the Kanish Karum", *Anadolu* 7: 87-99.

1966 "Acemhöyük Seramiği", *Anadolu* 10: 53-98.

Erkanal, A.
1999 "1997 Panaztepe Kazısı Sonuçları", *Kazı Sonuçları Toplantısı* 20/1: 371-381.

2000 "1998 Panaztepe Kazısı Sonuçları", *Kazı Sonuçları Toplantısı* 21/1: 279-286.

Erkanal, H. – S. Günel
1996 "1994 Liman Tepe Kazıları" *Kazı Sonuçları Toplantısı* 17/1: 305-27.

1997 "1995 Yılı Liman Tepe Kazıları", *Kazı Sonuçları Toplantısı* 18/1: 231-60.

Erkanal, H. – E. Karaturgut
2004 "2002 Yılı Çeşme Bağlararası Kazıları", *Kazı Sonuçları Toplantısı 25/2*: 153-64.

Fischer, F.
1963 *Die hethitische Keramik von Boğazköy*, Berlin.

Forsydke, E. J.
1914 "The Pottery Called Minyan Ware", *Journal of Hellenique Studies* 34: 126-167.

Friedrich, W. L. – B. Kromer – M. Friedrich – J. Heinemeier – T. Pfeiffer – S. Talamo
2006 "Santorini Eruption Radiocarbon Dated to 1627-1600 BC: Further Discussion", *Science* 312 (5773): 548.

Friedrich W. L. – J. Heinemeier
2009 "The Minoan Eruption of Santorini Radiocarbon Dated to 1613 ± 13 BC", in D. A. Warburton (ed.), *Time's Up! Dating the Minoan Eruption of Santorini* (*Monographs of the Danish Institute at Athens* 10), Athens 2009: 56-64.

von Graeve, V.
1997 "1994/95 Yılı Milet Çalışmaları", *Kazı Sonuçları Toplantısı* 18/1: 529-54.

1999 "1996/1997 Yılı Milet Çalışmaları", *Kazı Sonuçları Toplantısı* 20/1: 583-605.

Graeve, V. von – W. D. Niemeier
2002 "1998–2000 Yılı Milet Çalışmaları", *Kazı Sonuçları Toplantısı* 23/2: 75-88.

Greaves, A. M.
2003 *Miletos, Bir Tarih*, İstanbul.

Guzowska, M.
2002 "Traces of Minoan Behavioural Patterns in the North-East Aegean" R. Aslan – S. Blum – G. Kastl – F. Schweizer – D. Thumm (eds.), *Festschrift für Manfred Korfmann: Mauerschau*, Remshalden-Grunbach: 585-594.

Günbattı, C.
2008 "An Eponym List (KEL G) from Kültepe", *AoF* 35: 1-30.

Günel, S.
1999a *M.Ö. 2. Bine Tarihlendirilen Panaztepe Seramiklerinin Batı Anadolu Arkeolojisindeki Yeri ve Önemi*, Ankara.

1999b "Vorbericht über die Mittel – und Spätbronzezeitliche Keramik vom Liman Tepe", *Istanbuler Mitteilungen* 49: 41-82.

2004 "Orta Hellas Dönemi Mat Boyalı Seramiği ve Liman Tepe'de Ele Geçen Mat Boyalı Seramiğin Ege Arkeolojisi Kültürel Gelişimindeki Önemi", *TÜBA-AR* VII: 197-214.

2008 "Çine Tepecik Kazıları ve Bölge Arkeolojisine Katkıları", A. Erkanal – S. Günel – U. Deniz, (eds.), *Batı Anadolu ve Doğu Akdeniz Geç Tunç Çağı Kültürleri Üzerine Yeni Araştırmalar*, Ankara: 129-39.

Hatzaki, E.
2008 "Neopalatial (MM IIIB-LMIB): KS 178, Gypsades Well (Upper Deposit) and Sex North House Groups", N. Momigliano (eds.). *Knossos Pottery Handbook. Neolithic and Bronze Age (Minoan).* London: 150-196.

Hommel, P.
1959/60 "Der Abschnitt östlich des Athena Tempels", *Istanbuler Mitteilungen* 9/10: 31-62.

Hood, S.
1978 *The Art in Prehistoric Greece*, Middlesex.

Immerwahr, S. A.
1971 *The Neolithic and Bronze Ages. The Athenian Agora XIII*, Princeton.

Korfmann, M.
1997 "Troia-Ausgrabungen 1996", *Studia Troica* 7: 1-71.

Korfmann, M. – B. Krommer – P. Jablonka
2003 "Heidelberg Radiocarbon Dates for Troia I to VIII and Kumtepe", G.A. Wagner – E. Pernicka – H. P. Uermann (eds.), *Troia and the Troad. Scientific Approaches*. Berlin-Heidelberg, New York: 43-54.

Kuniholm, P. I. – M. W. Newton – C. B. Griggs – P. Sullivan
2005 "Dendrochronological Dating in Anatolia: The Second Millennium BC", *Der Anschnitt* 18: 41-47.

Laivosa, C.
1978 "Les Fouilles de Iasos", E. Akurgal (ed.), *The Proceedings of the Xth International Congress of Classical Archaeology vol.II, Ankara-İzmir 23-30/IX/1973*. Ankara:1093-1099.

Lloyd, S. – J. Mellaart
1965 *Beycesultan Vol .II. Middle Bronze Age Architecture and Pottery*, London.

MacGillivray, J. A.
1998 *Knossos. Pottery Groups of the Old Palace Period*, London.

Manning, S. W.
1995 *The Absolute Chronology of the Aegean Early Bronze Age. Archaeology, Radiocarbon and History*. Monographs in Mediterranean Archaeology 1, Sheffield.

Maran, J.
1992 *Die deutschen Ausgrabungen auf der Pevkakia-Magula in Thessalien III: Die Mittlere Bronzezeit*, Bonn.

Marinatos, S. P.
1972 *Excavations at Thera V. 1971 Season*, Athens.

Marinatos, S. P. – M. Hirmer
1964 *Kreta und das mykenische Hellas*, Berlin.

Matz, F.
1962 *Kreta und frühes Griechenland*, Baden-Baden.

Mellaart, J.
1957 "Anatolian Chronology in the Early and Middle Bronze Age", *Anatolian Studies* 7: 55-89.

1970 "The Second Millennium Chronology of Beycesultan", *Anatolian Studies* 20: 55-67.

Mellaart, J. – A. Murray
1995 *Beycesultan Vol. III. Late Bronze Age and Phrygian Pottery and Middle and Late Bronze Age Small Objects*, London.

Meriç, R.
2003 "Excavations at Bademgediği Tepe (Puranda) 1999–2002 A Preliminary Report", *Istanbuler Mitteilungen* 53: 79-98.

Meriç, R. – P. Mountjoy
2002 "Mycenaean Pottery from Bademgediği Tepe (Puranda) Ionia: A Preliminary Report", *Istanbuler Mitteilungen* 52: 79-98.

Meriç, R. – A. K. Öz – A. E. Meriç – G. Uluşans
2004 "Metropolis 2002 Yılı Raporu", *Kazı Sonuçları Toplantısı* 25/2: 293-301.

Meriç, R. – A. K. Öz – A. E. Meriç
2005 "Metropolis Kazıları 2003", *Kazı Sonuçları Toplantısı* 26/2: 137-46.

Meriç, R. – A. K. Öz – A. E. Meriç – S. Aybek – E. Güngör
2007 "2005 Yılı Metropolis Kazıları", *Kazı Sonuçları Toplantısı* 28/2: 243-52.

Momigliano, N.
2000 "Bronze Age Iasos", *Anatolian Archaeology* 6: 12.

2001 "Bronze Age Iasos", *Anatolian Archaeology* 7: 15.

Niemeier, B. – W. D. Niemeier
1997 "Milet 1994–1995. Projekt minoisch–mykenisches bis protogeometrisches Milet: Zielsetzung und Grabungen auf dem Stadionhügel und am Athenatempel", *Archäologischer Anzeiger* 1997: 189-248.

Omura, S.
1999 "A Preliminary Report on the Ninth Excavation at Kaman Kalehöyük in Turkey (1994)", *Essays on Anatolian Archaeology 1999. Bulletin of the Middle Eastern Culture Center in Japan*, Vol. 9: 87-134.

2000 "1998 Yılı Kaman Kalehöyük Kazıları", *Kazı Sonuçları Toplantısı* 21/1: 217-228.

2003 "2001 Yılı Kaman Kalehöyük Kazıları", *Kazı Sonuçları Toplantısı* 24/1: 11-16.

2008 "2003–2006 Yılları Kaman Kalehöyük Kazıları", *Kazı Sonuçları Toplantısı* 29/3: 1-16.

Orthmann, W.
1963 *Frühe Keramik von Boğazköy: Aus den Ausgrabungen am Nordwesthang von Büyükkale*, Berlin.

Overbeck, R. C.
1989 *Keos VII: Ayia Irini Period IV, Stratigraphy and Find Deposit*, Mainz am Rhein.

Özgüç, N.
1977 "Acemhöyük Saraylarında Bulunmuş Olan Mühür Baskıları", *Belleten* XLI/162: 357-81.

2001 "Mühürlü Kil Bullalar – Sealed Clay Bullae", N. *Özgüç* – Ö. Tunca (eds.*), Kültepe Kanis, Mühürlü ve Yazıtlı Kil Bullalar*, Ankara: 1-253.

Özgüç, T.
1950 *Kültepe Kazısı 1948 – Ausgrabungen in Kültepe 1948,* Ankara.

1955 "Kültepe Hafriyatı 1954 Ib Katı Eserleri", *Belleten* 19/79: 55-63.

1986 *Kültepe-Kaniş II. Eski Yakındoğunun Ticaret Merkezinde Yeni Araştırmalar,* Ankara.

1999 *Kültepe – Kaniš/Neša Sarayları ve Mabetleri*, Ankara.

Özgüç, T. – N. Özgüç
1953 "Kültepe'de 1950 Yılında TTK Adına Yapılan Kazılar Hakkında Ön Rapor", *Belleten* 17/65: 101-108.

Öztan, A.
1988 "Acemhöyük Taş Kapları", *Belleten* 52/203: 393-406.

Pavuk, P.
2002 "Troia VI and VIIa. The Blegen Pottery Shapes: Towards a Typology", *Studia Troica* 12: 35-71.

2007 "New Perspectives on Troia VI Chronology", M. Bietak – E. Czerny (eds.), *Synchronisation of Civilisations in the Eastern Mediterranean in the Second Millennium B.C. III, Proceedings of the SCIEM 2000- 2nd EuroConference Vienna, 28th of May-1st of June 2003*. Wien: 473-8.

Pendlebury, H. W. – J. D. S. Pendlebury – M. B. Money-Coutts
1939 "Excavations in the Plain of Lasithi I: The Cave of Trapeza", *The Annual of the British School at Athens* 36: 5-131.

Popham, M. F.
1974 "Trial KV (1969), A Middle Minoan Building at Knossos" *The Annual of the British School at Athens* 69: 181-94.

Raymond, A.
2005a *Miletus in the Middle Bronze Age and Minoan Presence in the Eastern Aegean,* PhD Thesis, Ancient Studies Programme, University of Toronto.

2005b "Importing Culture at Miletus: Minoans and Anatolians at Middle Bronze Age Miletus", R. Laffineur – E. Greco (eds.), *Aegaeum 25: Emporia. Aegeans in the Central and Eastern Mediterranean. Proceedings of the 10th International Aegean Conference/10 Rencontre égéenne internationale Athens, Italian School of Archaeology, 14–18 April 2004*, 185-191. Université de Liège Histoire de l'art et archéologie de le Grèce Antique, University of Texas at Austin Program in Aegean Scripts and Prehistory.

Renfrew, C.
1972 *The Emergence of Civilization the Cyclades and the Aegean in the Third Millennium B.C.* London.

Rutter, J. B.
1993 "Review of Aegean Prehistory II: The Prepalatial Bronze Age of the Southern and Central Greek Mainland", *American Journal of Archaeology* 97: 745-797.

1995 Lerna. *A Preclassical Site in the Argolid. Results of Excavations Conducted by the American School of Classical Studies at Athens, 3. The Pottery of Lerna IV*, American School of Classical Studies at Athens, vol. 3. Princeton.

Schiering, W.
1959/60 "Südabschnitt", *Istanbuler Mitteilungen* 9/10: 4-30.

1998 *Minoische Töpferkunst. Die Bemalten Tongefäße der Insel des Minos*, Mainz am Rhein.

Shelmerdine, C. W.
1997 "Review of Aegean Prehistory VI: The Palatial Bronze Age of the Southern and Central Greek Mainland", *American Journal of Archaeology* 101: 537-585.

Sullivan, D. G.
1990 "Minoan Tephra in Lake Sediments in Western Turkey: Dating the Eruption and Assessing the Atmospheric Dispersal of the Ash", D.A. Hardly (ed), *Thera and the Aegean World 3*. London: 114-119.

Şahoğlu, V.
2007 "Çeşme-Bağlararası: A New Excavation in Western Anatolia", F. Felten – W. Gauss – R. Smetana (eds.), *Middle Helladic Pottery and Synchronisms*, *Proceedings of the International Workshop held at Salzburg October 31–November 2, 2004*. Wien: 309-322.

Şahoğlu, V. – A. Aykurt
2005 "Middle and Late Bronze Age Pottery from Çeşme Bağlararası", *Pottery Workshop: Fabrics and Decorative Styles Interregional Interactions Between Troia, the Aegean Region and the Coasts of Asia Minor in the Middle Bronze Age and in the Beginning of the Late Bronze Age. Troia, 4–6 August 2005.*

van Soldt, W.
2000 "Syrian Chronology in the Old and Early Middle Babylonian Periods", *Akkadica* 119-120: 103-16.

Veenhof, K. R.
2000 "Old Assyrian Chronology", *Akkadica* 119-120: 137-150.

2003 *The Old Assyrian List of Year Eponyms from Karum Kanish and Its Chronological Implications*, Ankara.

Verdelis, N.M.
1952 "Αναοχαφαι έοευναι εν Τεσσαλία", Ποαχττα ιης Αοχαχαιογιχης Αιαιοείας 1951: 129-63.

Voightländer, W.
2004 *Teichiussa. Näherung und Wirklichkeit, Rahden in Westfalen*.

Warren, P. – W. Hankey
1989 *Aegean Bronze Age Chronology*, Bristol.

DATE	WESTERN ANATOLIA	CENTREL ANATOLIA	CRETE	CYCLADES	MAINLAND GREECE	Liman Tepe	Çeşme Bağlararası	Panaztepe		Kocabaş Tepe	Bademgediği Tepesi	Bayraklı	Troia	Milet	Çine Tepecik	Beycesultan	Kusura	Seyitömer	Demircihöyük	Kültepe		Boğazköy			Acemhöyük	Kaman Kalehöyük	Alişar	Lerna	Aegina	Euboia Lefkandi	Ayia Irini	Phylakopi
								Acr.	Wrk.											M	LC	LC	NW S	BK								
																							9							3		
2000												4				VI												VA	VI			I iii
			MM IA			IV 1																				IVa	12T					
																							8c-d	V					VII			
1950				MH I	MH I							5															11T	VB	VIII	4		
			MM IB									6																				
1920				MC Early																												
1900		Early Colonoy Age											Vd																			
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			MM IIA																			5										
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	MBA II		MM IIIA			III3		IIb	Ia	2			VIa			IVc				7	Ib		8a				10T c	VD	X		V	II iii
1750				MC Late			2a										C															
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														IVa													10T a-b					
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	MBA III		LM IA			III1-2	1	IIa		1	VI		VIb-c			IVb-a																
1650		Old Hittite																														
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			LM IB											IV b																		
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ACR: Acropolis **WRK: Workshop** **M: Mount** **LC: Lower City** **BK:Büyükkale** **NWS: North West Slopes**

Aykurt 2004: tab.1; Bilgen 2011: 380-480; Fischer 1963: abb. 22; Greaves 2003; Günel 1999b: tab. 1; 2008; Kuniholm et al. 1990: Mellaart 1957: 63; 1970: 66; Meriç 2003; Omura 2003: 12; 2008: 5; Orthmann 1963: 49; Pavuk 2007: fig. 1; Rutter 1993: tab. 2; Shelmerdine 1997: tab. 1; Veenhof 2000; von Graeve and Niemeier 2002; Warren and Hankey 1989.

Table 1

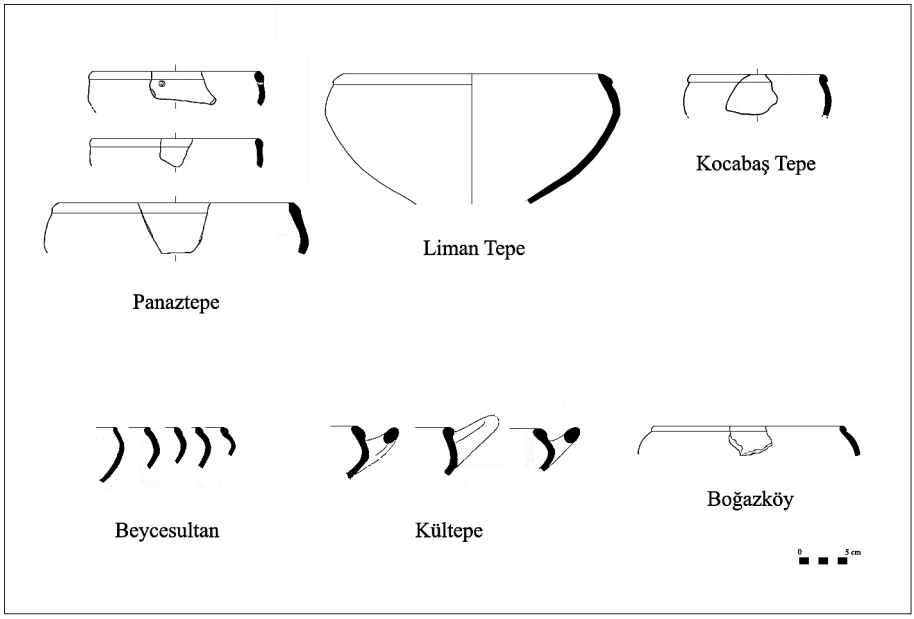
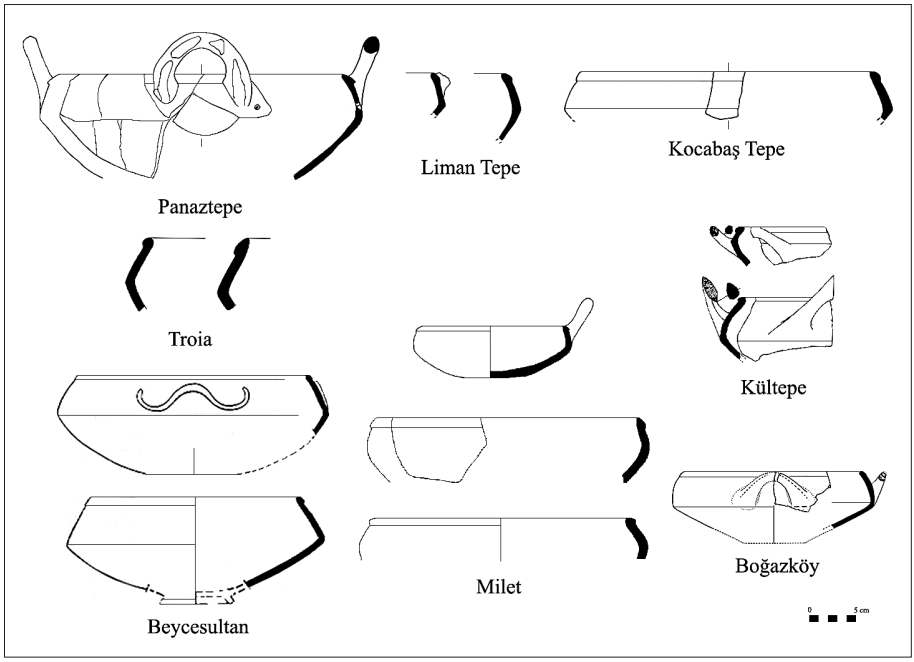

Panaztepe
Liman Tepe
Kocabaş Tepe
Beycesultan
Kültepe
Boğazköy
0 5 cm

Fig. 1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Troia
Kültepe
Milet
Boğazköy
Beycesultan
0 5 cm

Fig. 2

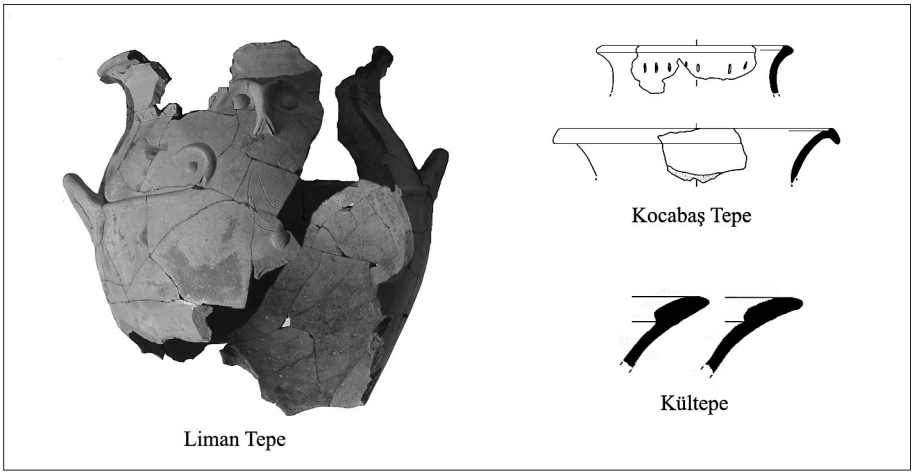
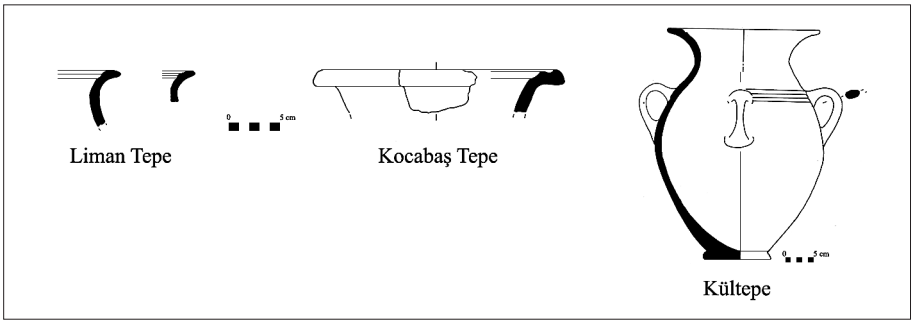


Fig. 3



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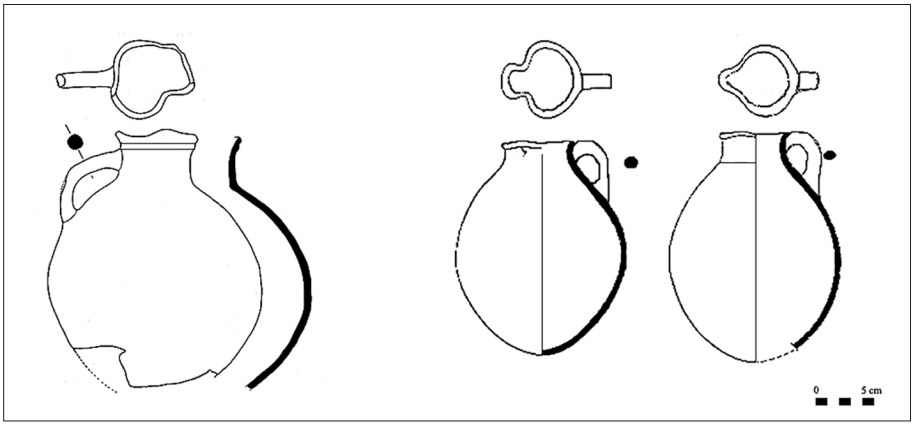

Fig. 5

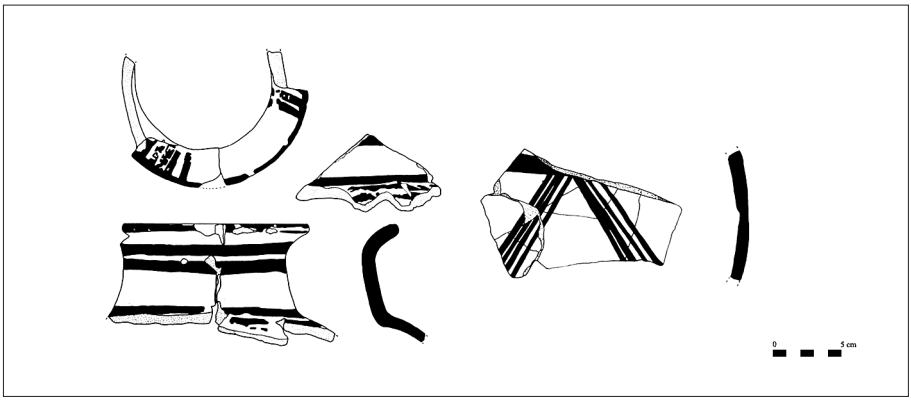
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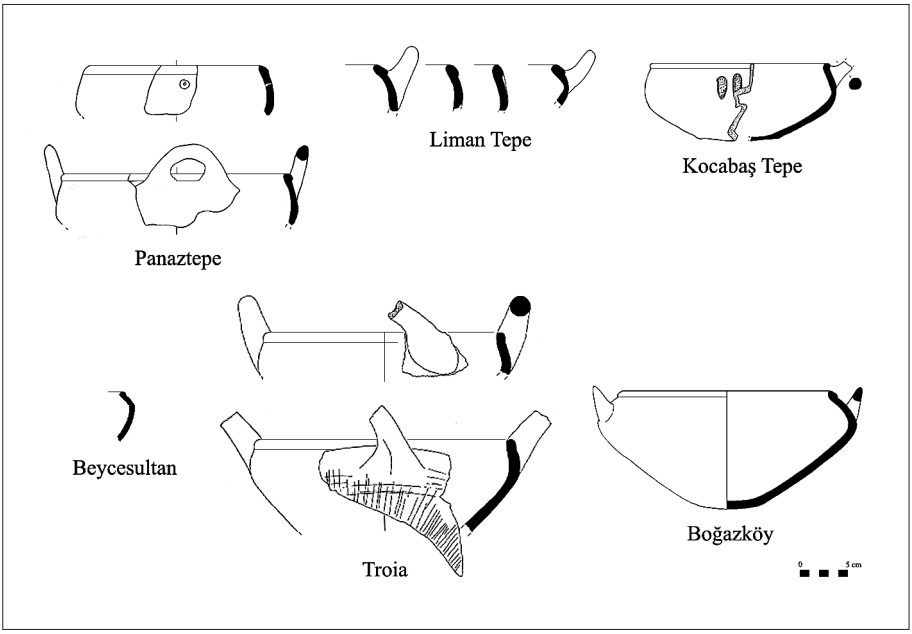
Fig. 6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Kocabaş Tepe
Panaztepe
Beycesultan
Troia
Boğazköy
0
5 cm

Fig. 7

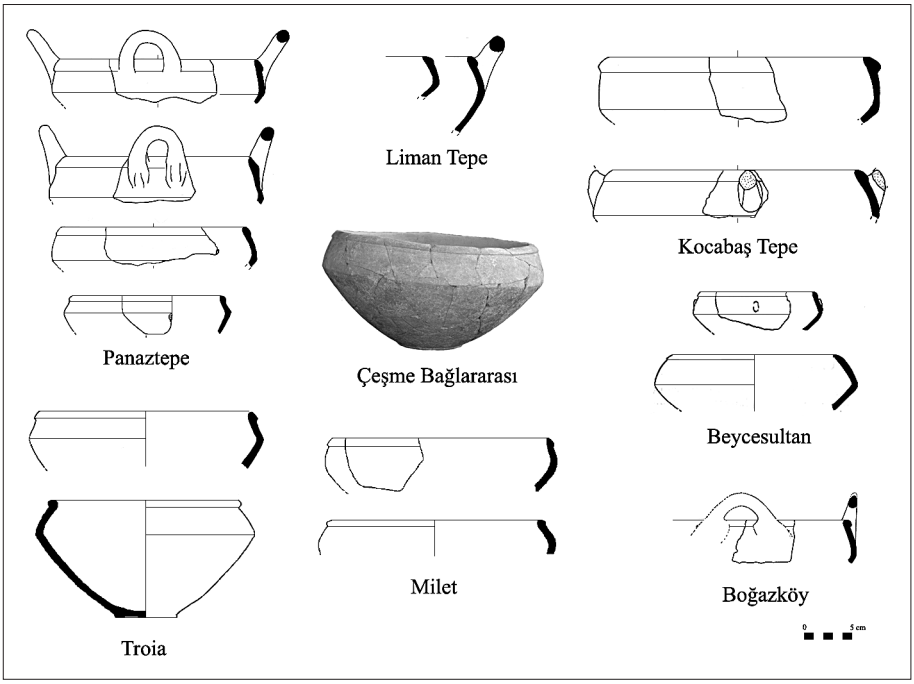
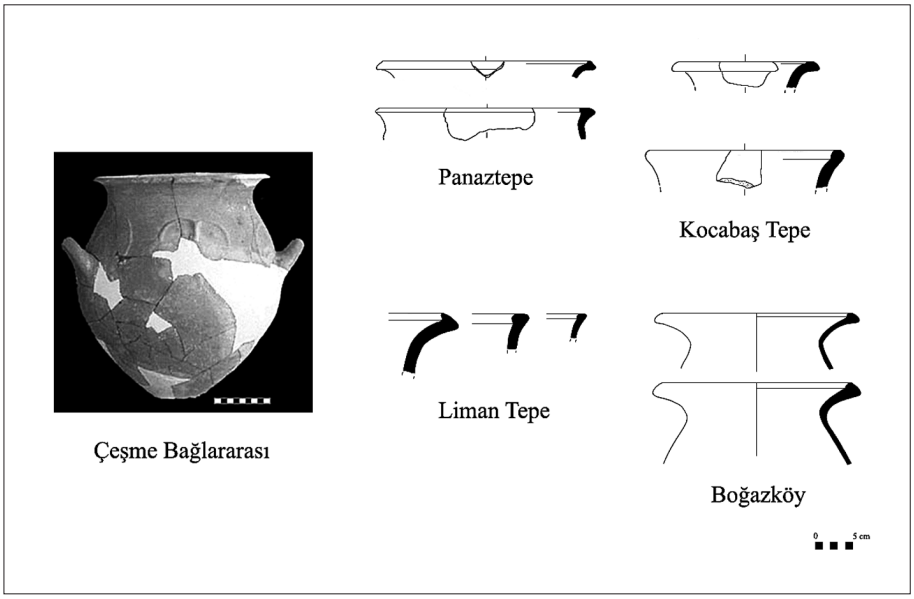

Liman Tepe
Kocabaş Tepe
Panaztepe
Çeşme Bağlararası
Beycesultan
Troia
Milet
Boğazköy
0
5 cm

Fig. 8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Liman Tepe
Boğazköy
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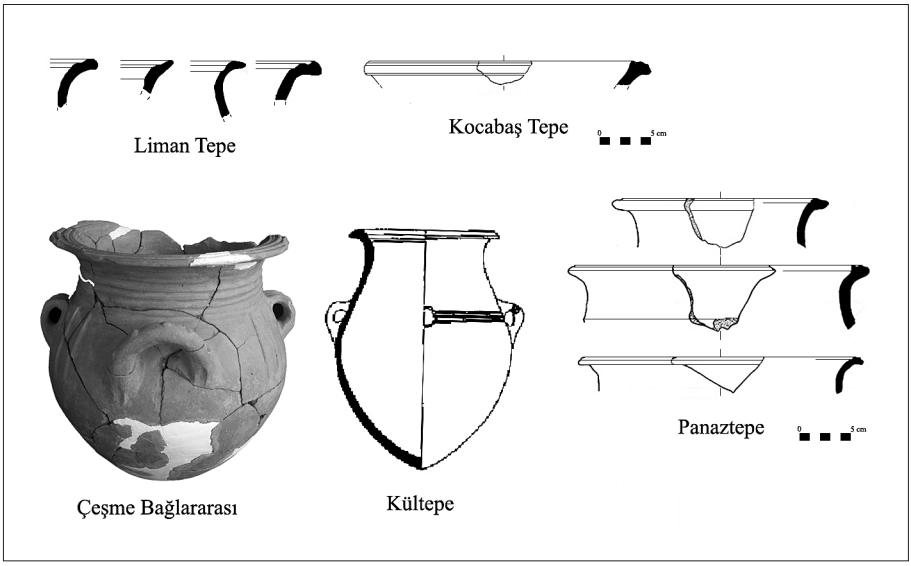
Fig. 9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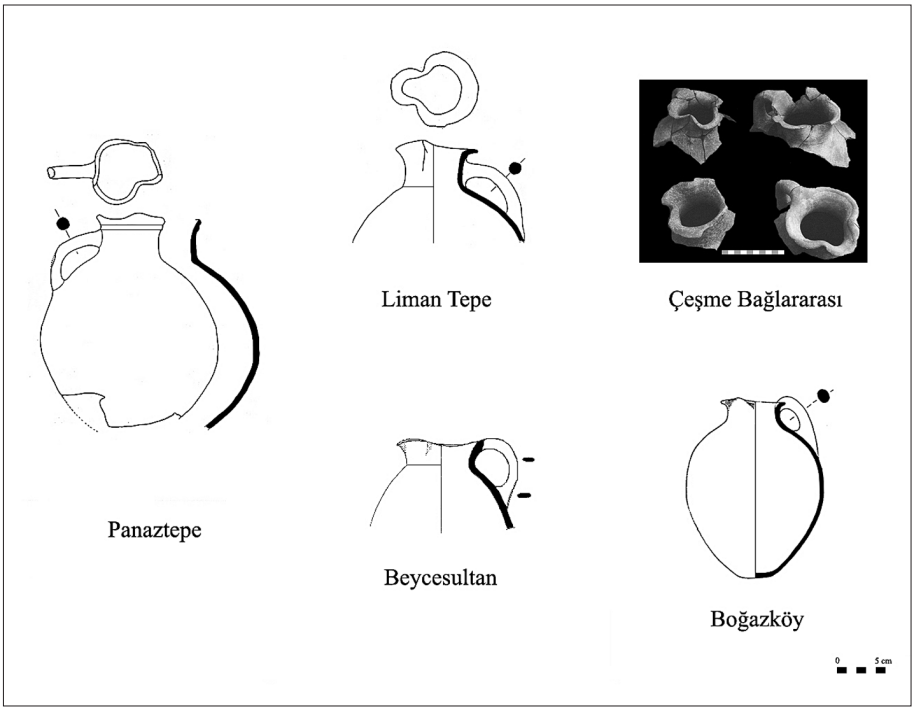
Kültepe
Panaztepe
0 5 cm

Fig. 10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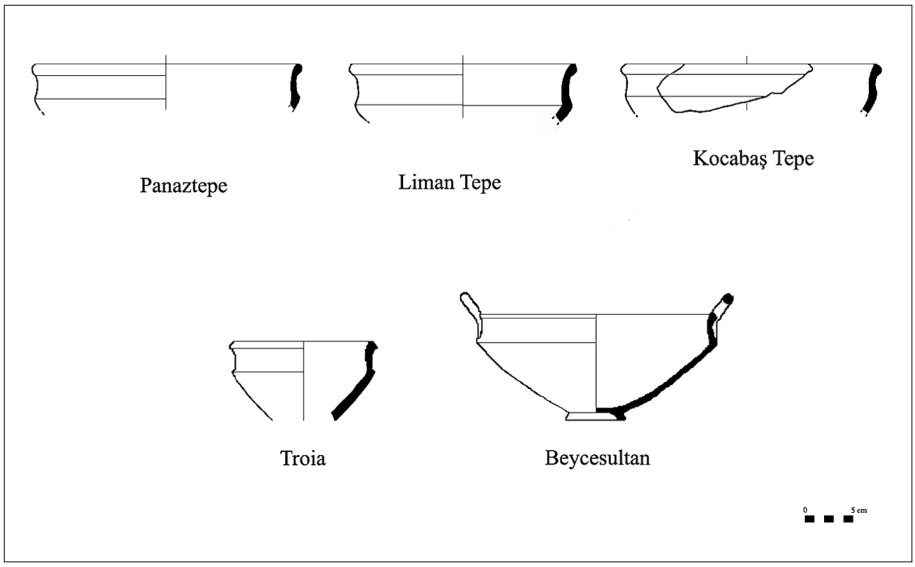
Beycesultan
Boğazköy
0 5 cm

Fig. 11



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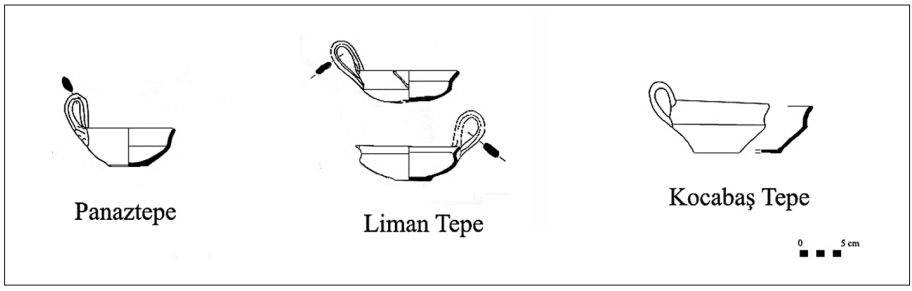


Fig. 13

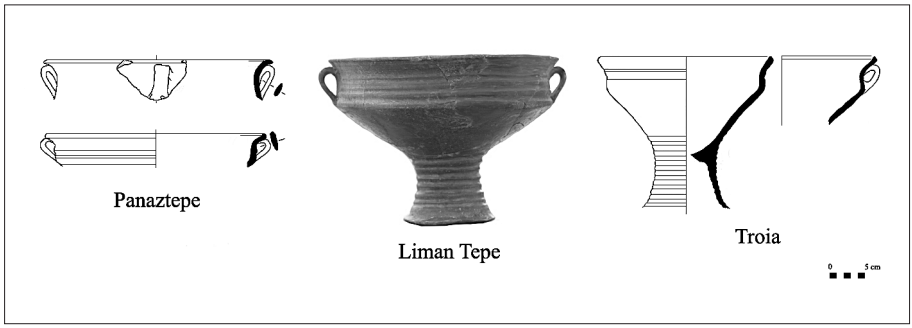


Fig. 14

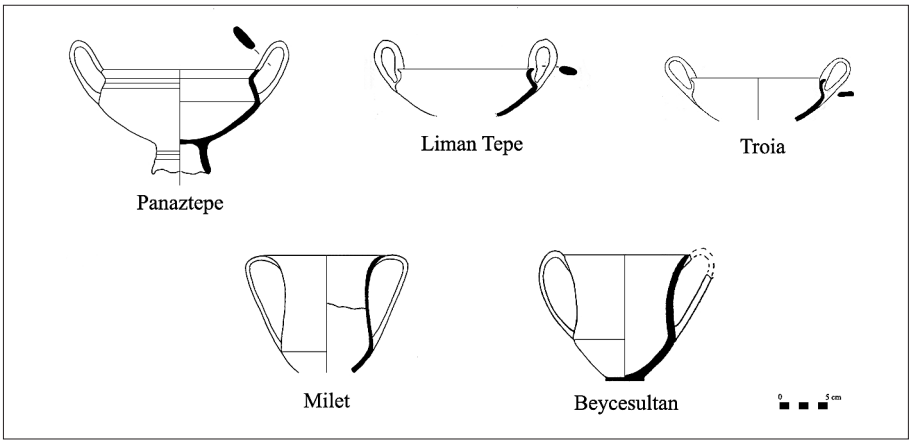


Fig. 15

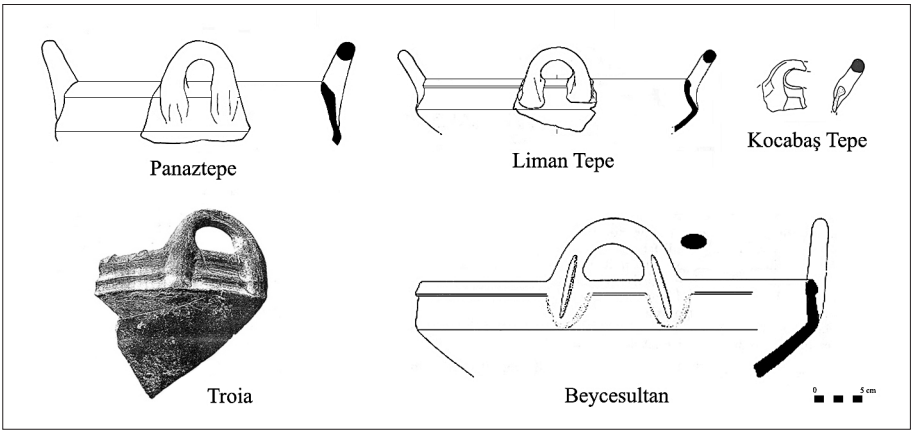


Fig. 16

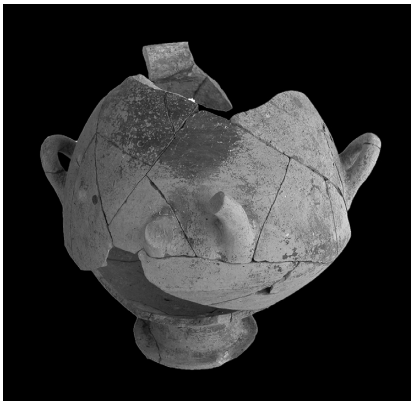


Fig. 17

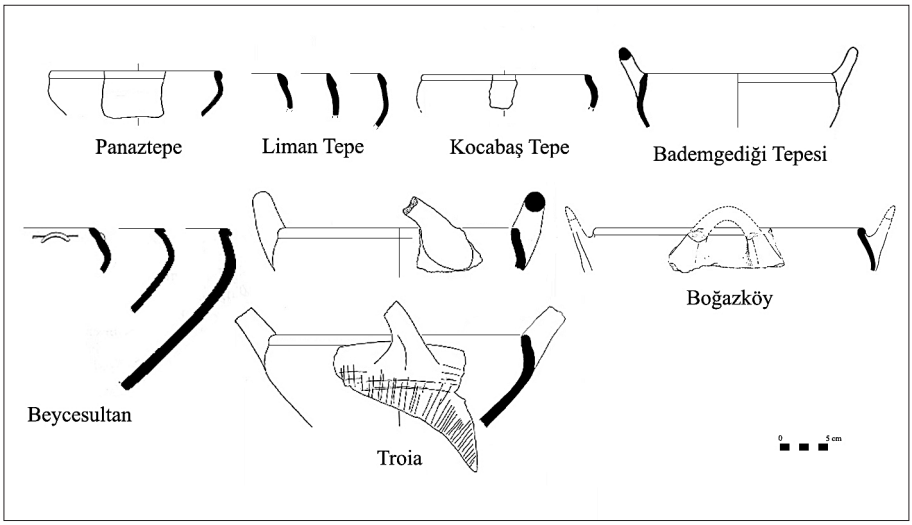
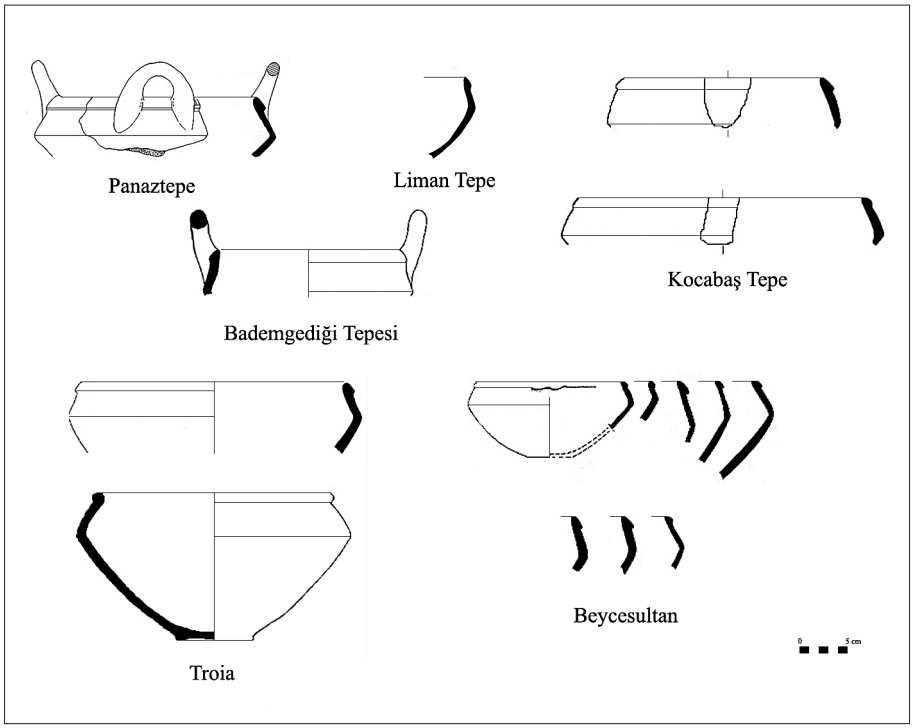

Panaztepe
Liman Tepe
Kocabaş Tepe
Bademgediği Tepesi
Boğazköy
Beycesultan
Troia
0
5 cm

Fig. 18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Liman Tepe
Kocabaş Tepe
Bademgediği Tepesi
Troia
Beycesultan
0
5 cm

Fig. 19

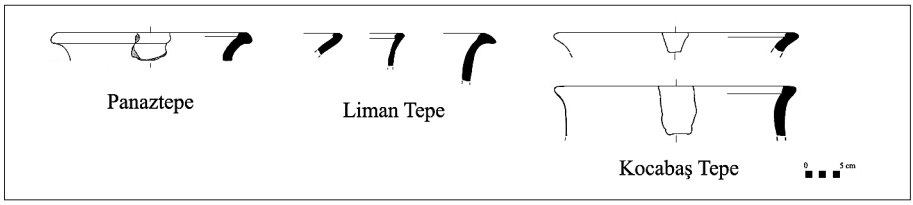

Fig. 20

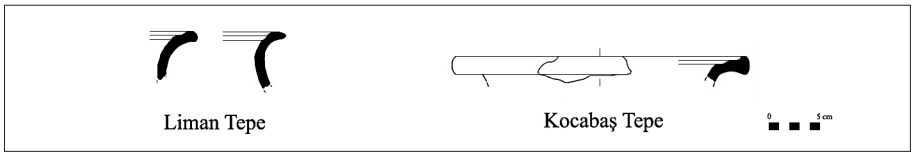

Fig. 21

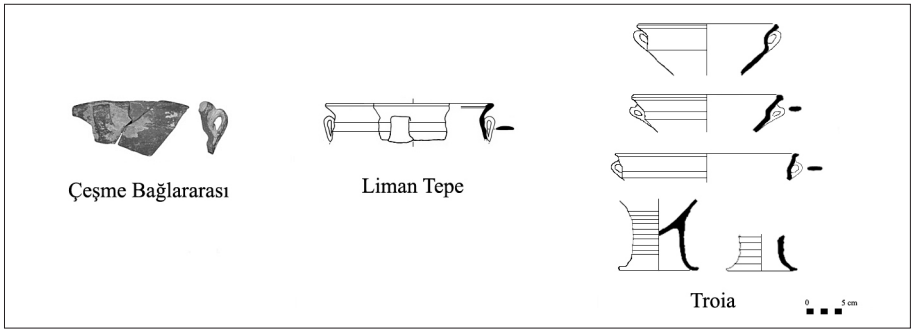

Fig. 22

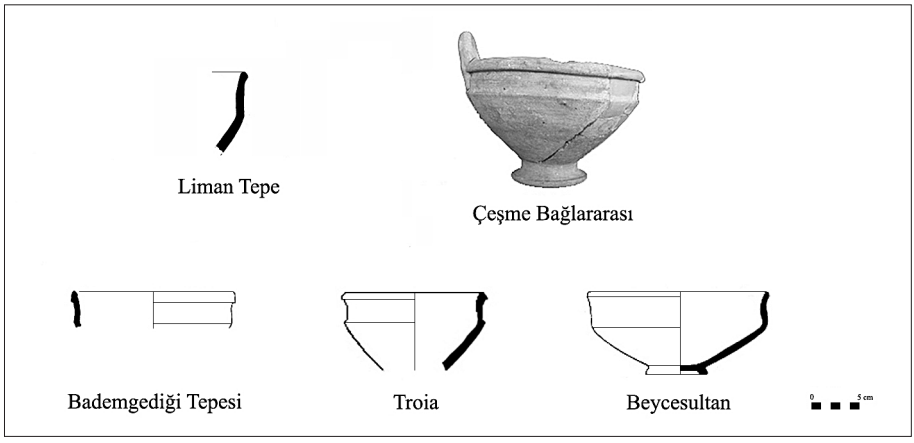

Fig. 23

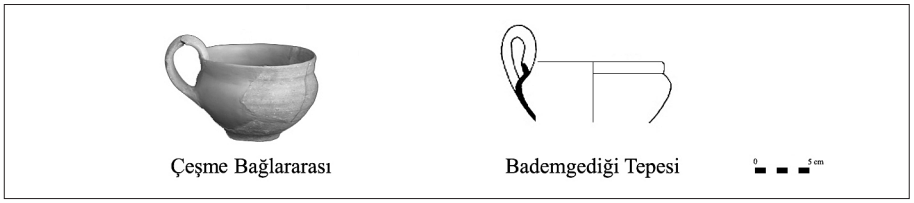

Fig. 24

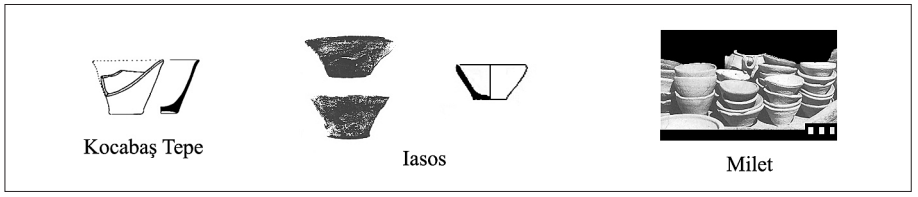

Fig. 25

Fig. 26

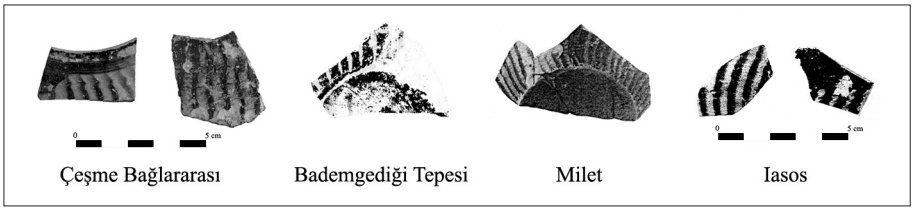

Fig. 27

Fig. 28