

METAL WEAPONS AT MOTYA

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Metal weapons discovered in Motya, across 150 years of excavations, are hereby presented according to typological-functional aspects and with respect to the contexts of discovery. Framing their diffusion and use in the broader panorama of the Mediterranean weaponry between 15th and 4th century BC.

Keywords: Motya; metal weapons; necropolis; copper; iron

1. PROLEGOMENA TO THE METAL WEAPONS AT MOTYA: CORPUS FORMATION AND STATE OF ART

Weapons in Motya are documented since the first archaeological exploration of the island in October 1875 by H. Schliemann who found, perhaps at the North Gate, a pyramidal arrowhead defined by the archaeologist as ‘Carthaginian’.¹

Subsequently, J.I.S. Whitaker collected numerous bronze arrowheads of the same type and iron weapons on the island of Motya, and at the sites of Birgi and Lillibeum. These are currently part of the Collection of the G. Whitaker Museum.²

The repertoire expanded considerably thanks to the research of B.S.J. Isserlin in the 60s of the last century.³ Moreover, to these excavations belongs the first systematic study of Motyan weapons by A.M. Snodgrass.⁴

Also, in the 60s of the Twentieth century is dated the excavation of the necropolis by P. Cintas who found three more javelins.⁵

The following decade saw the resumption of the excavations of the necropolis, by V. Tusa in 1972, and the publication of equipment and contexts found in this sector and at the fortifications, signed by V. Tusa in 1978 and A. Ciasca in 1979.⁶

The first typological-functional study with technological reflections is that of A. Termini in 2005, focused on arrowheads. After this, the paper by M.L. Famà in 2006 proposes an analysis of the most recently found weapons in Motya, excluding precisely the arrowheads.

The corpus of Motyan weaponry, the study of the Collection of the G. Whitaker Museum and related analyses were then increased by research and excavations carried on by the archaeological expedition of the Sapienza University of Rome which has been active on the island continuously since 2002.⁷

The present study attempts to offer, therefore, an overall review of the metal weapons found in Motya, their typological and functional classification, chronology and technology, in the light of new studies and recent discoveries, starting from such a fragmented corpus.

¹ Schliemann 1880, 76, 123; De Vido - Cutroni Tusa - Tusa 1993, 85.

² Whitaker 1921, 227, 244, 340-343.

³ Isserlin - du Plat Taylor 1974.

⁴ Snodgrass 1964a, 127-129.

⁵ Cintas-Jully 1980, 35-37, 39-40

⁶ Respectively: Tusa 1978, 13-64; Ciasca 1979, 207-227.

⁷ Bernabale *et al.* 2019; 2021; 2022a; 2022b; 2023a; 2023b; Nigro - Spagnoli 2017; Nigro *ed.* 2004; 2005; Nigro *et al.* 2020.

2. THE WEAPONS OF MOTYA: AN OVERVIEW

The weaponry of Motya is composed exclusively of offensive weapons, i.e. there are no attestations of shields, armors, or protective devices. The datum is relevant but not surprising, since the materials of which defense devices were usually built are perishable, such as wood and leather, and the small metal parts, such as plaques, scales, and knobs, are fragile and were frequently reused and remelted. Moreover, many of the contexts of discovery are represented by tombs, where the lack of attestations of offensive weapons appears consistent with contemporary horizons, and can therefore reflect a shared regional tradition, as it is testified by the necropolis of Palermo.⁸

Therefore, the classes of weapons documented at Motya are those for long-range combat, such as arrowheads (§ 3.) and javelins (§ 4.), those for close combat, such as spears (§ 5.) and swords (§ 6.), and those for hand-to-hand combat, such as daggers (§ 7.).

The earliest attestations are dated to the 15th century BC and are represented by two long bronze daggers of “Thapsos type”.⁹ The most recent attestations are dated to the 4th century BC and are represented by numerous bronze arrowheads.

3. ARROWHEADS

The arrowheads of Motya belong to the bilobed, trilobed and conical types (fig. 1),¹⁰ and are bronze made by casting.¹¹

The most common type of arrowhead is the trilobed one (fig. 1: MC.03.261), pyramidal in shape and with triangular cross-section;¹² this kind frequently shows a variant with three asymmetrical wings and conical socket.

The second most attested type is the bilobed one (fig. 1: MC.04.315), lanceolate in shape, with central ridge and wings.¹³

The peculiar type of Motya is the simple conical one (fig. 1: MM.79.61), made with a bronze sheet wrapped around itself.¹⁴ On the basis of recent archaeometric studies,¹⁵ the bronze alloy used for their production seems to be the most resistant among those analyzed, despite a simplified production. These could represent the arrowheads of the Motyan militia in the 4th century BC, as already suggested by A. Termini.¹⁶

The bilobed, trilobed and conical arrowheads of Motya are dating back to the 4th century BC and their presence on the northern and southern fortification lines is eminently traced back to the war event par excellence in the history of the island, the siege of Dionysius of Syracuse in 397/6 BC.

⁸ Tisseyre 1998, 360; Di Stefano 2009, 44.

⁹ Ns. 3067-3068, Whitaker 1921, 340-341, fig. 114; Nigro 2016, 346, fig. 9; Sandars 1961; 1963, 132-133; Jung - Mehofer 2013; Veca 2016, 34.

¹⁰ Following the classification of Termini 2005 (654-665), respectively types A, B, C, D.

¹¹ Bernabale *et al.* 2021.

¹² This type corresponds to the C1 type of Termini's typology (Termini 2005, 660), also called Shiite and is the one defined by Schiliemann as Carthaginian.

¹³ This type corresponds to the A1 type of Termini's typology (Termini 2005, 655-656), also called Cretan due to the numbers of findings in the island (Snodgrass 1963, 57, fig. 35).

¹⁴ This type corresponds to the D1 type of Termini's typology, it can find some comparisons at Imera and Segesta and especially in the Eastern Mediterranean (Termini 2005, 662, fn. 21).

¹⁵ Bernabale *et al.* 2021, 151.

¹⁶ Termini 2005, 663.

4. JAVELINS

The javelins of Motya have a bipartite structure composed of a wooden pole surmounted by an iron metal tip (fig. 2).¹⁷ The metal weapon has an average length of about 25 cm, and consists of a socket and a blade, which can have a rhomboid or leaf shape.

In most cases, the socketed tang is very long, compared to the length of the blade, and develops up to half of the metal blade itself, to give greater balance in the aerial phase. In fact, this type of javelin could cover a range around thirty-five – fifty meters.¹⁸

Iron javelins with rhomboid blade and socketed tang (fig. 2: 3069)¹⁹ have been found in the necropolis of Motya and are dated to the 7th century BC. Direct comparisons are with the necropolis of Oliveto Citra, and Pontecagnano (Salerno).²⁰

Then there are the javelins with leaf-shaped blades, dating back to the 9th-6th century BC, also found in funerary contexts, of larger and narrow types.

Two larger leaf javelins have a blade about 7 cm wide, a tapered tip and a socketed handle.²¹ One of these has at the end of the blade two horizontal elements, called ‘harpoons’, with a slightly curved profile. There are comparisons from a tomb of Forentum (Potenza) and Monte Andranone (Agrigento), which cover a chronological span ranging from the 8th to the 4th century BC.²²

Two javelins with leaf-shaped blades are distinguished by narrow blades with a little marked central rib and with a small, socketed tang.²³ Comparisons with the necropolis of Rachgoun (Algeria) and the necropolis of Vitsi (Greece) suggest a chronology ranging from the 9th-8th to the 6th century BC.²⁴

Three javelins of the leaf-shaped type with socketed tang, have lenticular cross-sections.²⁵ These can be compared with specimens from the necropolis of Murge di Strongoli (Crotone), from the princely Tomb 928 of Pontecagnano and from the necropolis of Alianello (Matera).²⁶ This type spread over a chronological span ranging from the 8th to the 6th century BC.

Among the leaf-shaped javelins there is also the case²⁷ of the javelin with a strongly tapered tip, socketed tang and a square cross-section (fig. 2: 3059), found in the necropolis of Motya and which can find a match with a javelin found near the temenos of the temple of Santa Venera (Messina), in a context dating back to the last decades of the 7th century BC.²⁸

¹⁷ Bernabale *et al.* 2023b.

¹⁸ Snodgrass 1991, 105-107; Martinelli 2004, 99-102; Fields 2013, 59-60.

¹⁹ Ns. 3061, 3062, 3069, 3070 (Bigini 2017, 14-15, pls. I-II, IV-V, ns. 1-2, 4-5), MM.78.120 (Tomb 166; Ciasca 1979, pl. LXXII:7); cf. D’Agostino 1964, fig. 6; D’Agostino 1977, 15, fig. 17:R38.

²⁰ D’Agostino 1964, 40-99; 1977; De Natale 2016.

²¹ Ns. 3060 (Famà 2006, 244, fig. 49), 7457 (Tomb 11; Cintas-Jully 1980, 39, pl. IV:2.). Bigini 2017, 15-16, ns. 7-8, pls. VII-VIII.

²² Bottini-Fresa 1991, 43, pl. CXVI:T.600-63.

²³ Ns. 4057, 2465 (Bigini 2017, 16-17, pls. IX-X).

²⁴ Vuillemot 1965, 82, fig. 26; Sannibale 1998, 95, n. 113; Vokotopoulou 1986, 170, 369, fig. 100:β, fig. 271:β.

²⁵ Ns. 3375, MT.67.160/53 (Tophet), 3066 A (Bigini 2017, 17, pls. 11-13, ns. 11-13).

²⁶ Sabbione 1988, 197-202; de La Genière 1991, 82, fig. 10; D’Agostino 1977, 14, fig. 17:R51; Loprete 1996, 151, n. 2.11.48; Bianco 1996a.

²⁷ N. 3059 (Famà 2006, 244, fig. 48; Bigini 2017, 15, pl. VI).

²⁸ Lentini 2000, 156-157, n. 8, figs. 13, 16.

Then there are some particularly corroded javelins for which a conical blade and socketed tang with a circular section can be reconstructed.²⁹ One of them provides information about the fastening technique in the final part of the socket by means of a bronze band decorated with parallel lines. This reinforcement element is also documented in the necropolis of Palermo.³⁰

5. SPEARHEADS

The spear is a tripartite weapon composed of a lower element, called pike, a long central wooden pole and a tip, the actual metal spearhead.

The pike was produced by casting in a mold, it had mainly the function of counterbalancing the tip, and, in case of need, could be used as a reserve weapon.³¹

The pole was generally made of ash-wood, beech or boxwood, and had a length more than two meters and a diameter between two and three centimeters.³² The fixing of the spearhead to the pole was guaranteed by a socketed handle.

The metal tip of the spear, made of iron by casting in mold, is composed by a blade, which generally represents approximately 2/3 of the total length, and by a socket for the remaining length. The blade could have a triangular or leaf shape, frequently with a central rib, and could be large and reach 2 kg of weight.³³

This kind of weapon, descending from Near Eastern and Aegean prototypes of the final phase of the Late Bronze Age,³⁴ had to be held with two hands in close combat, considering the overall dimensions, and only in some cases thrown, because of the short range due to weight and size.³⁵

The spearheads of Motya (fig. 3) have a leaf-shaped blade, both narrow and wide, sometimes with a central ridge, and a socketed tang, with a conical or cylindrical profile; their length in some cases exceeds 50 cm.

Spearheads with a narrow and elongated blade, a little marked ridge and socketed handle were found in funerary contexts dating from the last quarter of the 8th to the beginning of the 6th century BC (fig. 3: 3063).³⁶ This typology is also attested in the Magna Graecia area, especially in the temple of Temesa (Cosenza),³⁷ in the necropolis of Murge of Strongoli

²⁹ Ns. 3071, 3057, MM.78.12/18 (Bigini 2017, 17-18, pls. XIV-XVI).

³⁰ Tisseyre 1998, 360; Martinelli 2004, 85.

³¹ The pike can also be stuck in the ground. For this reason in most cases it was made of bronze, being this alloy more resistant to corrosion than iron (Snodgrass 1991, 108; Martinelli 2004, 86).

³² Snodgrass 1991, 108-109, 128; Martinelli 2004, 88-89, Di Niro 2007, 45-46.

³³ Martinelli 2004, 89.

³⁴ De Maigret 1976, 144-150.

³⁵ Amico-Cappugi 2007, 38; Fields 2013, 54-56.

³⁶ Ns. MM.78.151/8 (Tomb 174; Ciasca 1979, 216, pl. LXXVI:1); 3064 (Bigini 2017, pl. XVIII; MM.78.162/15 (Tomb 172; Ciasca 1979, 215, pl. LXXV:2); T.161-3074 (Tomb 161, Tusa 1978, 61; Tusa 2012, 136, fig. 10-11); 3063 (Bigini 2017, pl. XXI); 7456 (Tomb 1, Cintas 1980, 37, fig. 4.2, pl. II:4). Tombs 172 and 174 represent the only two cases in which there are more weapons in one funerary set, respectively two spears and a dagger, and a spear and a dagger.

³⁷ The material examined comes from the excavations of room C of the temple of Temessa (Cosenza), cfr. La Torre 2002, 2011; Mollo 2012.

(Crotona),³⁸ in the funerary complex of the acropolis of Forentum (Potenza), in the necropolis of Palermo³⁹ and in the necropolis of Chiaromonte (Potenza).⁴⁰

The wide leaf-shaped type has a blade width above 5 cm, with low and rounded shoulders, conical or cylindrical socket; the central rib is present just in some cases (fig. 3: 3379).⁴¹

This typology finds comparisons in the necropolis of Vitsi and covers a wide chronological span ranging from the 8th to the 4th century BC.⁴²

6. SWORDS

Two bronze swords (ns. 3067-3068), funerary offerings in a sarcophagus found in the necropolis of Birgi by Whitaker in 1910,⁴³ represent the earliest known weapons of Motya. They belong to the “Thapsos type” and are characterized by a blade with parallel edges and dovetail handle with three rivets.⁴⁴ Sword 3067 is broken to about two-thirds of its original length (approx. 30 cm).⁴⁵ Sword 3068 is almost completely preserved (approx. 28 cm), except for the tip.⁴⁶

The sarcophagus where the swords were found is dating back to the 7th century BC and these weapons, dated to the 15th century BC, are memorabilia offered as a funerary equipment.⁴⁷

Moreover, two iron swords⁴⁸ from funerary contexts, 3073⁴⁹ from a sarcophagus at Birgi, and 3065 (fig. 4: 3065) found in the necropolis of Motya, exhibit a blade with parallel edges, central ribbing and ‘grip-tongue’ handle with rivets. This typology has a wide diffusion throughout the Mediterranean,⁵⁰ and in the Near East,⁵¹ with wide chronological span ranging from the last centuries of the 2nd millennium until the 4th century BC.

A third iron sword (MM.78.160),⁵² found in Tomb 172, has parallel margins, a central rib and two lateral veins, with a rectangular peduncular tang. The length exceeds forty-seven centimeters. This sword finds comparisons in the site of Larino (Campobasso) and belongs to a type widespread between the 10th and 7th centuries BC.⁵³

³⁸ Sabbione 1988, 197-202.

³⁹ Spatafora 2005, 10-18.

⁴⁰ Bianco 1996a.

⁴¹ Ns. 3379 (Bigini 2017, pl. XXIII); T.108-6804 (Tomb 108; Tusa 1978, 40; Tusa 2012, 135, fig. 9); 3346 (Bigini 2017, pl. XXV); 3055 (Trench II, Tophet; Bigini 2017, pl. XXVI).

⁴² Vokotopoulou 1986, 42, 370, 351-354 fig. 57:γ, fig. 106:δ

⁴³ Whitaker 1921, 340-341, fig. 114; Nigro 2016, 345-349, fig. 9.

⁴⁴ Veca 2017.

⁴⁵ The features of the rivets and the shape of the blade allow to classify the specimen in Type Ei of the Mycenaean swords (Sandars 1961; 1963, 132-133). On the spread of these weapons in the West, see also Jung - Mehofer 2013. Similar swords have a wide diffusion also in the Levant in the 2nd millennium BC where they probably originated (Nigro 2016, 346).

⁴⁶ Papadopoulos 1998, 13, pl. 9:65.

⁴⁷ Nigro 2016, 345.

⁴⁸ Ns. 3073 (Bigini 2017, 26, pl. XXXVII), 3065 (Bigini 2017, 26, pl. XXXVIII).

⁴⁹ On the blade of n. 3073 there are a large number of wooden remains that were most likely part of the scabbard.

⁵⁰ Snodgrass 1964b; Vuillemon 1965; Bianco Peroni 1970, 1974; De Hoffmeyer 1972; Saulnier 1980; Bottini 1982; Giorgi *et al.* 1988; Bottini - Fresa 1991; Càssola Guida - Zucconi Galli Fonseca 1992; Bianco 1996a, 1996b; Martinelli 2004; Guzzone 2006; Spatafora 2011.

⁵¹ Guy 1938; Dyson 1964; Haerincq 1988; Shalev 2004.

⁵² Ciasca 1979, 215, pl. LXXV:1.

⁵³ De Felice 1994, 137-138, n. 27, fig. 168.

The iron sword MM.81.105/2 (fig. 4: 105/2)⁵⁴ has a triangular blade with curvilinear profile, curved hilt, with rivets for fastening.⁵⁵ According to its features, this sword seems to represent a type in between the *kopis* and the Iberian *falcata* that finds comparisons in the necropolis of Chiaromonte (Potenza) dated to the mid-6th century BC.⁵⁶

7. DAGGERS

Motyian daggers are made of iron, they usually have an elongated triangular blade with a flattened lenticular cross-section, pronounced shoulders, straight or sloping, which separate the blade from the peduncular tang. The latter is secured to the handle of wood, bone, or other perishable material, by means of rivets. Daggers have an average total length of around 25 centimetres.⁵⁷

They are mostly dating back between 750 and 650 BC and can be compared to those found in the necropolises of Pontecagnano (Salerno),⁵⁸ Gibil Gabib (Caltanissetta),⁵⁹ e San Montano (Ischia).⁶⁰

Moreover, daggers similar to those of Motya are found in Tharros, Othoca and Bitia, in Sardinia, and the origin of this type of daggers is Aegean, with Mycenaean prototypes.⁶¹

One specimen (MM.78.161/1)⁶² is characterized by a tapering curved blade with textile incrustation.

Dagger 3072⁶³ exhibits a cylindrical handle with a rectangular and a slightly arched pommel melted in one piece with the blade. This specimen is dating between 13th and 10th century BC, and finds comparisons with some daggers from Luristan,⁶⁴ and Gilan.⁶⁵

⁵⁴ Bigini 2017, 27, pl. XXXIX.

⁵⁵ This was found in a layer with coals of a phase of destruction, probably related to the destruction of the city in the mid-6th century BC.

⁵⁶ Loprete 1996, 140, n. 2.9.52.

⁵⁷ Ns. T.105-7381 (Tomb 105; Tusa 1978, 39, pl. XXVI:4), 3066 B (Bigini 2017, 23, pl. XXVI), MO.95-2191 (Area E; Famà 2006, 246, fig. 55), MM.78.152/9 (Tomb 174; Ciasca 1979, 216, pl. LXXVI:2), 3396 (Bigini 2017, 23, pl. XXXI), 3058 (Bigini 2017, 24, pl. XXXII), T.66-3035 (Tomb 66; Tusa 1978, 20, pl. IX:4), T.85-6993 (Tomb 85; Tusa 1978, 19; Tusa 2012, 133, fig. 3).

⁵⁸ De Natale 2016, 79-80, pl. 82:33.

⁵⁹ Miccichè-Panvini 2003, 31, Tomb 2, n. E.

⁶⁰ Buchner-Ridgway 1993, Tomb 546, pls. 162:546.3, 163:552.3, 190:678.13.

⁶¹ Talocchini 1942, 20-23, 49-51, 77; 1944.

⁶² Tomb 172; Ciasca 1979, 215, pl. LXXV:1. Cf. Bianco Peroni 1976, 66, pl. 55:517.

⁶³ Bigini 2017, 24, pl. XXXIV.

⁶⁴ Ternbach 1964, 49, pl. XIII:3.

⁶⁵ Haerinck 1988, pl. 65:3-4.

8. METAL WEAPONS OF MOTYA: FINAL REMARKS

Motyian metal weapons, such as javelins, spears, daggers and swords, are made of iron, except for the two bronze swords (ns. 3067-3068), that represent the earliest evidence. Arrowheads dating back to the 4th century BC, on the other hand, are made of bronze.

Most of the weapons found in Motya belong to the funerary realm, such as necropolis and Tophet. Just in a few cases they were found near the fortifications to the North and to the South of the island, especially arrowheads, and in one instance a weapon is from the dwelling quarter, namely the dagger MO.95-2191.

In the case of the necropolis, weapons such as spears, javelins and daggers have been found in incineration tombs, particularly in cinerary amphorae placed in pits dug into the rock, with a ceramic equipment composed mainly of local and imported common ceramics, only to a lesser extent of proto-Corinthian ceramics,⁶⁶ mostly dating back to the 8th-7th century BC.⁶⁷

Moreover, according to the data collected, the weapons in tombs at Motya did not undergo defunctionalization interventions, a common practice for the Phoenicians as seen also in the necropolis of Bitia and Othoca,⁶⁸ but they were laid intact.

The presence of weapons in tombs shows up as part of an enrooted tradition, shared in the Mediterranean, and of Eastern remembrance, as demonstrated also by the choice of types offered.⁶⁹

Beyond the specimens here at issue, there is the single case of the double-looped socketed bronze axe of probable Sardinian manufacture and Iberian imitation found in the House of the Mosaics and dated to the 10th century BC, already studied and analyzed,⁷⁰ which testifies to exchanges in the Mediterranean at the beginning of the Iron Age.

More generally, the weapons found in Motya are representative of types widely attested in the Mediterranean during the 1st millennium BC, and find punctual comparisons also with specimens widespread in Southern Italy, thus highlighting a link with regard to trade, products and technology, in particular iron, as already noted by Antonia Ciasca,⁷¹ in direct connection with Phoenician expansion to the West.⁷²

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⁶⁶ Tusa 1978, 20, 30, 39-40, 61.

⁶⁷ Tusa 2012, 76-85.

⁶⁸ Bartoloni 1983, 59; Nieddu-Zucca 1991, 115.

⁶⁹ Nigro 2017, 69

⁷⁰ Bernabale *et al.* 2019; Nigro *et al.* 2020.

⁷¹ Ciasca 1990, 120-121.

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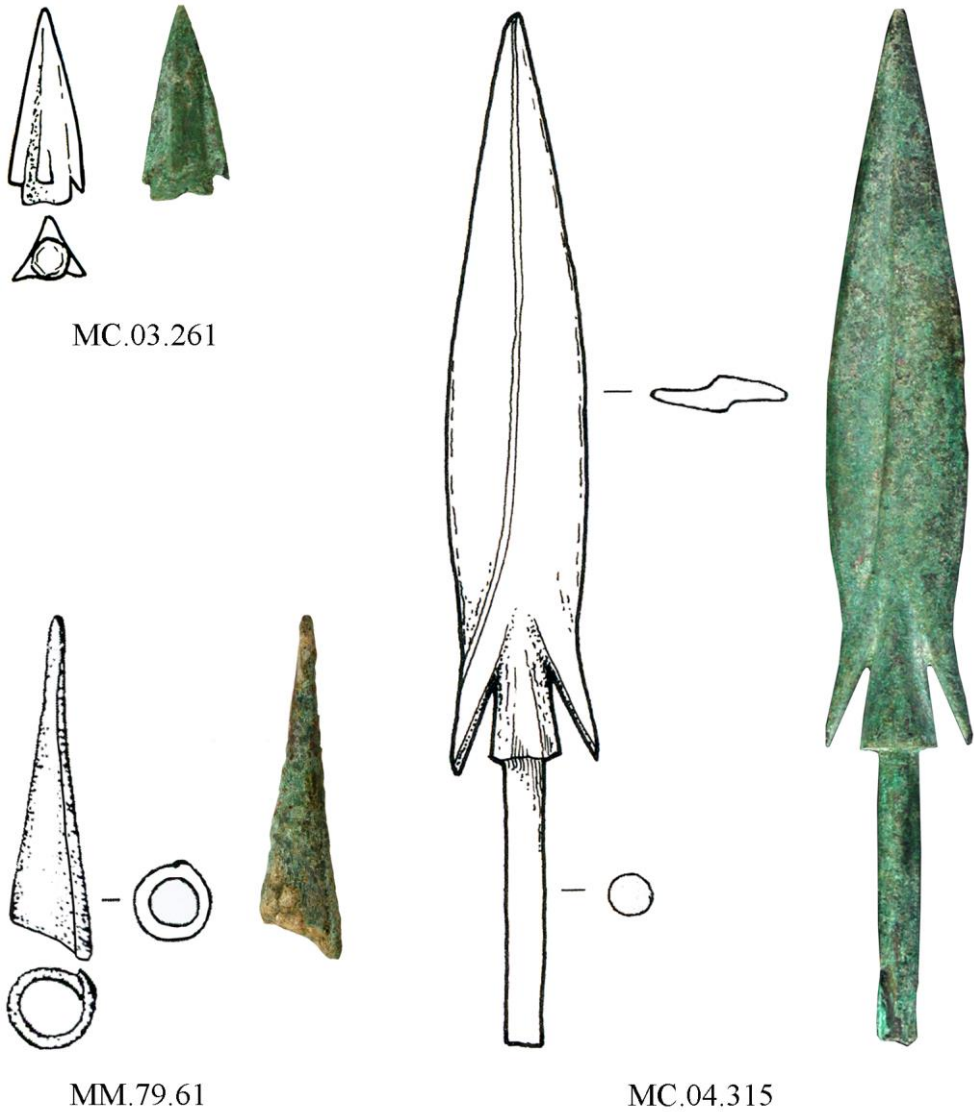


Fig. 1 - Copper arrowheads from Motya of trilobed, MC.03.261, bilobed, MC.04.315 (Nigro ed. 2006, pls. XXIII, XLVIII) and conical types.

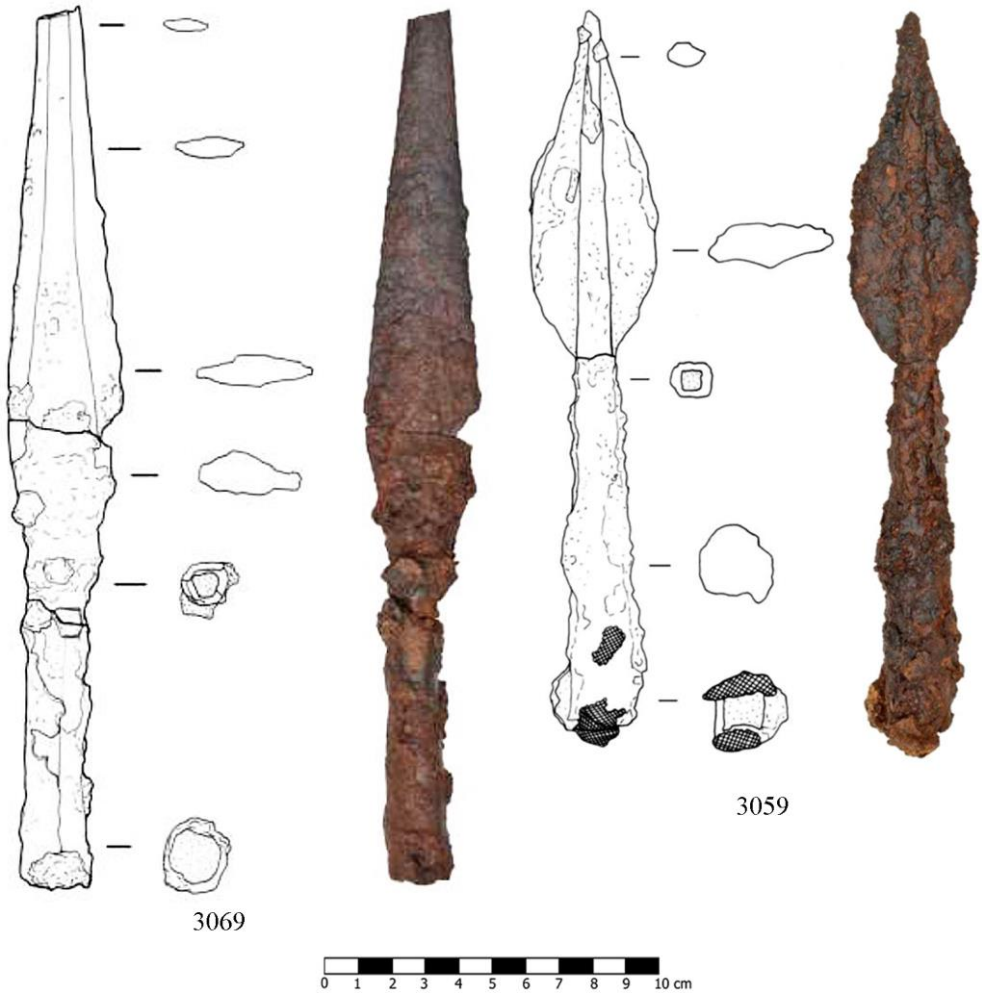


Fig. 2 - Iron javelin with rhomboid blade and socketed tang, n. 3069 (Bigini 2017, pl. IV), and leaf-shaped iron javelin, n. 3059 (Bigini 2017, pl. VI), from Motya.

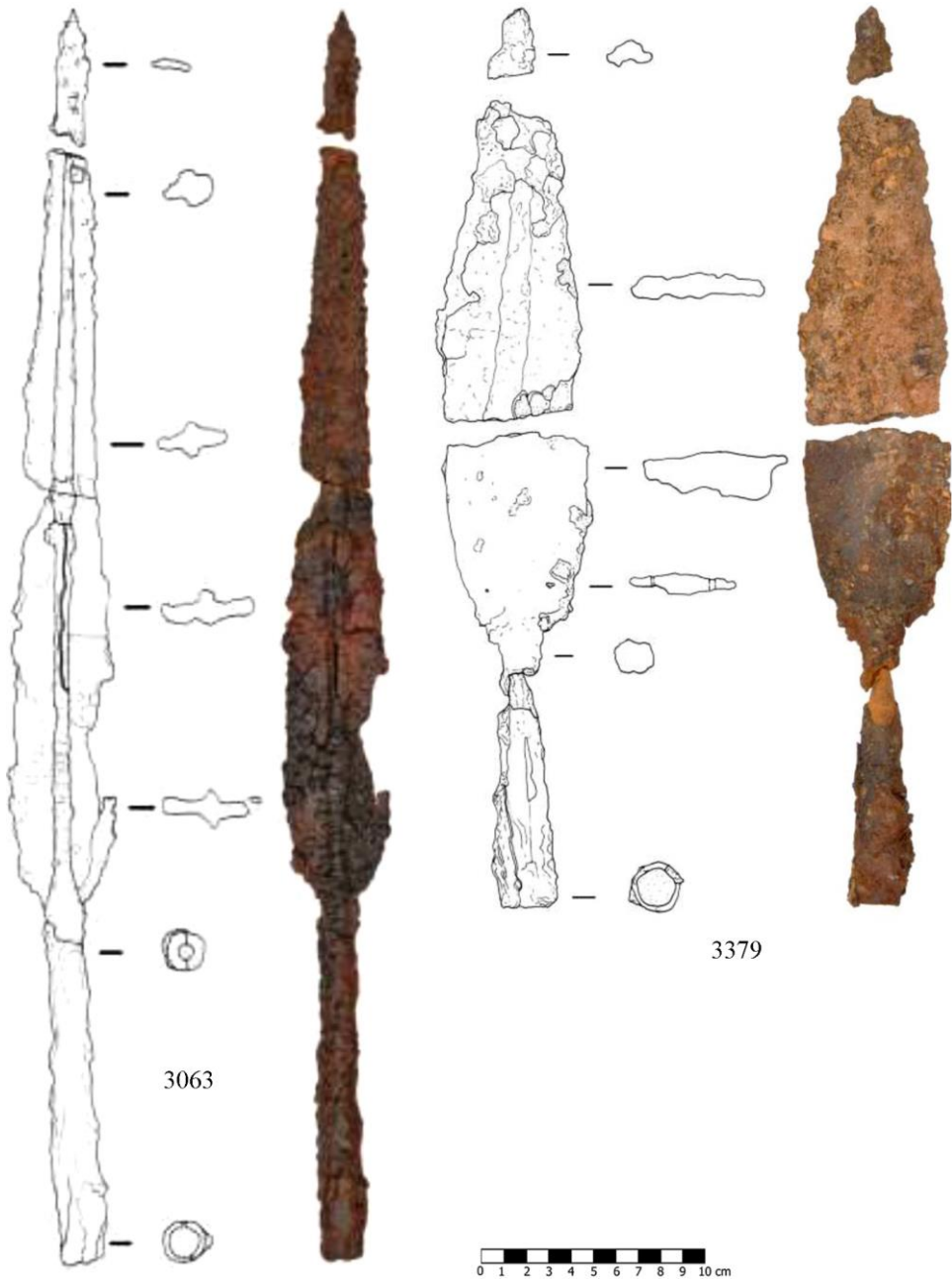


Fig. 3 - Iron spearheads with leaf-shaped blade and socketed tang from Motya (Bigini 2017, pls. XXI, XXIII).

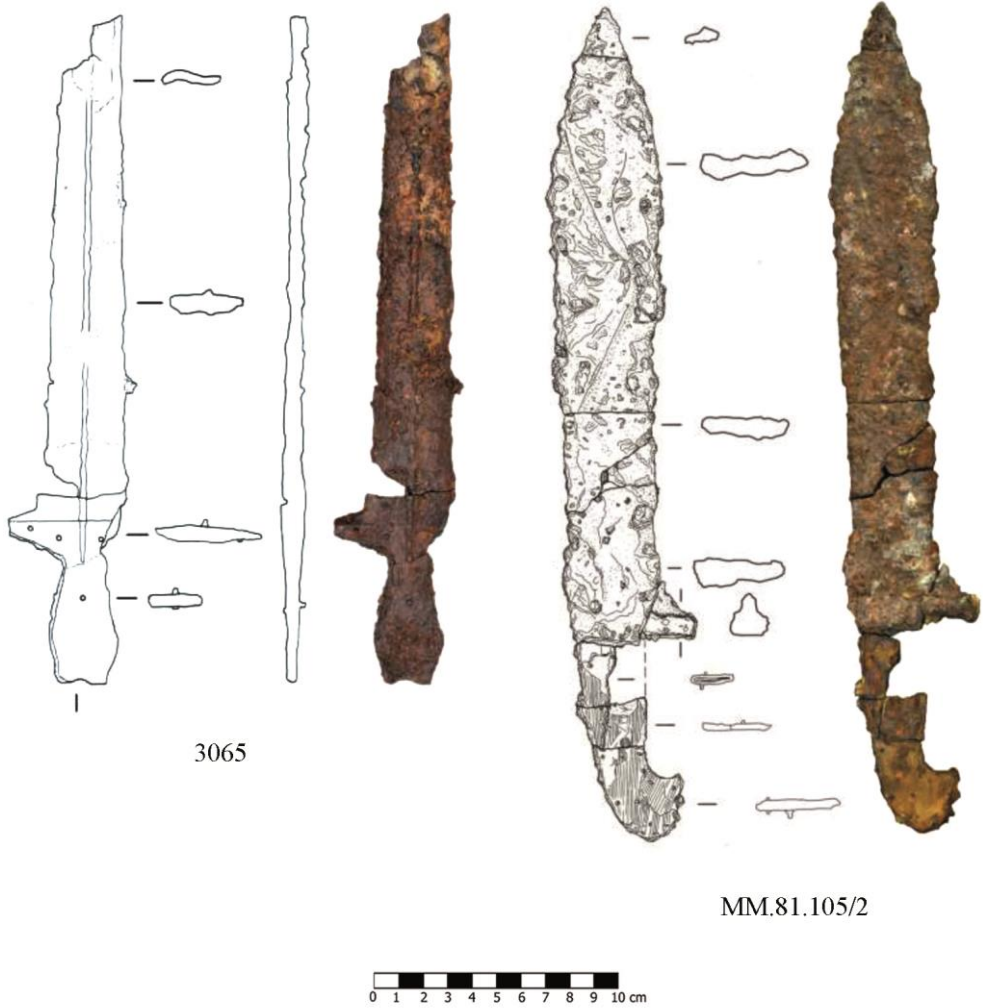


Fig. 4 - Iron swords from Motya (Bigini 2017, pls. XXXVIII-XXXIX).

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IN ANCIENT MEDITERRANEAN
(1600-500 BC)

EDITED BY LORENZO NIGRO

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